

Who is the Independent Environmental Representative for the CBD and South East Light Rail project?

Each stage of the project had a nominated ER and alternate, as follows:

Stage 1 (complete) – range of early works as enablers for the main construction works – Alice Pryke and alternate Jo Robertson of Healthy Buildings International.

Stage 2 – Main construction works from Circular Quay to Randwick and Kingsford - Gillian Lehn of AQUAS with alternate ER Joseph Cacdac of AQUAS.

Stage 3 (complete) – design and construction of a new access lane of Arthur Street and construction of replacement car parking for the Langton Centre, Randwick - Alice Pryke and alternate Jo Robertson of Healthy Buildings International.

Stage 4 works (complete) design and construction of replacement facilities for Randwick Racecourse - Gillian Lehn of AQUAS with alternate Joseph Cacdac of AQUAS.

From time to time other individuals have been nominated for short periods of time to cover leave taken by the ERs.

a. What is their biography?

CVs for nominated ERs at the time of their nominations are attached.

b. How were they appointed?

Transport for NSW submitted requests in accordance with Condition B87 of the Minister's approval on 1 August 2014 for Stage 1, 25 February 2015 for Stages 2 and 4, and on 28 June 2016 for Stage 3 (see attached). The requests were approved by the Secretary's delegate.

c. What criteria was used to select them?

Condition B87 regulates their appointment. Their selection was a matter for Transport for NSW.

d. How many applications were received for the role?

Transport for NSW nominated one ER and alternate ER for each of the requests for Stage 2, 3 and 4 referred to in (b) above.

e. How much are they paid?

Matter for Transport for NSW.

f. Who pays them?

Matter for Transport for NSW.

01 August 2014

Ms Carolyn McNally
Secretary NSW Department of Planning & Environment
Attention: Karen Jones, Director Infrastructure Projects
Development Assessment Systems and Approvals
GPO Box 39
SYDNEY NSW 2001

Dear Ms McNally,

RE: Nomination of Environmental Representative for Stage 1 of the CSELR Project (SSI-6042)

In accordance with Condition of Approval B87, Transport for NSW (TfNSW) would like to nominate Ms Alice Pryke of Health Buildings International as Environmental Representative for Stage 1 of the CBD and South East Light Rail Project (SSI 6042). TfNSW is of the opinion that Ms Pryke is suitably qualified and experienced to fulfill the role and is independent of the design and construction personnel for Stage 1 of the project.

Please find attached Ms Pryke's curricula vitae for your consideration and approval.

If you have any queries or feedback, please contact Shannon Blackmore, Environment and Planning Manager, on _____ or at _____

Yours sincerely,

Louise Sureda
Principal Manager Planning & Development
Planning & Environment Services
Transport Projects, Transport for NSW

Copy: Ingrid Ilias, Felicity Greenway and Karen Harragon



ALICE PRYKE

Senior Environmental Consultant

Years of Experience

12

Language(s)

English

Education

Bachelor of Science (Botany & Ecology), Victoria University of Wellington, NZ, 1998

Diploma of Horticulture (Landscape Design), Ryde TAFE College, Sydney, 2002

Masters of Environmental Law, Macquarie University, Sydney, 2010

Professional Affiliations/Accreditations

RABQSA Qualified Lead Auditor

Bonded Asbestos Removal (Course Code 9055)

Effective Communication, Australian Institute of Management

Certified in Rail Industry Safety Induction (RISI)

Rail Safety Worker (On Site Track Easy)

Occupational Health and Safety General Induction for Construction Work in NSW

Employment History

2010 – present	Healthy Buildings International
Jan 2010 – Dec 2010	NSW Parliament
2006 – 2009	Leighton Contractors
2004 – 2005	Abigroup Leighton Joint Venture
2003 – 2004	Kelly Services
2001 – 2002	Pittendrigh Shinkfield Bruce
2000 – 2001	Betz Dearborn

KEY AREAS OF EXPERTISE

Government experience

Alice has had experience in working closely with local and state government stakeholders through on-site roles, for example as Environment Manager, in which ongoing interaction and co-operation with regulatory authorities such as TfNSW, Office of Environment and Heritage, Roads and Maritime Service and local councils has been vital.

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Alice has also worked at the other end of the governmental spectrum as a research and policy advisor to a Member of the NSW Legislative Council. This role involved researching key environmental issues and their current management in order to provide general policy and legal advice, undertaking consultation with key non-governmental and business stakeholders in order to inform the development of private members bills and assessing government and private members bills in order to provide policy and legal advice on the potential implications of changes to existing legislation, including researching and preparing response to these bills, for example *the National Parks and Wildlife Amendment (Visitors and Tourists) Bill 2010*, the *Coastal Protection and Other Legislation Amendment Bill 2010 (No.2)* and the *Nature Conservation Trust Amendment Bill 2010*. This has given Alice a holistic view of the framework in which Government policies and laws are developed and then applied

Legislative and regulatory frameworks

Alice has recently completed a Masters in Environmental Law which has provided a strong foundation in the development and principles of environmental legislation in New South Wales, other Australian jurisdictions and the international arena. Her time working as a research and policy advisor for a Member of the NSW Legislative Council involved assessing government and private members bills in order to provide policy and legal advice on the potential implications of changes to existing legislation. On a number of construction projects in NSW, Alice has also developed an understanding of how to determine which environmental laws and regulations relate to the activities of a specific project, and to then develop strategic and targeted management measures to be put in place to meet the legislative requirements.

Further to this experience, Alice has a sound practical understanding of how environmental and occupational health and safety legislation, standards, codes of practice and guidelines are applied in the day to day activities of construction sites and office environments.

Environmental management in construction

Alice has held a number of site based construction positions that have involved the development and management of project environmental systems, including compliance tracking and reporting. This has included development of environmental management plans, sub plans and associated processes and protocols such as monitoring records, undertaking site inspections to verify actual activities against approved documentation and legislative obligations, managing environmental sub-consultants performance, providing support, information and training to project teams on community relations and environmental requirements, processes and protocols, and conduct audits of project and subcontractor environmental management performance.

Alice has had a number of roles as an independent Environmental Management Representative or Environmental Representative on infrastructure projects in NSW, including on the Sydney Light Rail Project, on the TCA Revesby Commuter Car Parks Project and the TCA Glenfield to Leppington Rail Line. She is also the Department of Planning and Infrastructure approved Environmental Representative for the Port Kembla Cement Grinding Facility Project.

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Environmental impact assessment

Alice has been involved in the assessment and review of environmental and social impacts of proposed bridge construction works in order to determine how works should proceed, including targeted community and environmental stakeholder consultation as part of out of hour's works approvals.

Alice has recently been working in independent environmental management representative roles which again require a sound understanding of how an environmental impact assessment fits into the overarching project approval and ongoing compliance framework.

Community consultation

Alice has had a number of construction based community relations roles on infrastructure projects in New South Wales. These roles have required the ability to employ appropriate communication techniques to ensure that the target audience, whether it is a group or individual, understands the message being provided and is therefore able to engage with the project in a meaningful way. She understands that effective communication skills are vital to ensuring the meaningful engagement of government, business and community stakeholders.

Alice has proven strong communication skills that have been honed through the development and dissemination of written communications such as newsletters, information packs, media releases and environmental assessment documents to verbal skills such as door-knocking, presentations to community groups and consultation with key stakeholders such as local councils, state government agencies and other private corporations. Communication of key project environmental and community management aspects to construction personnel has also required an understanding of how best to disseminate this information to internal stakeholders.

Risk assessment, due diligence, compliance management and auditing

Alice has worked on and reviewed risk assessments and associated management measures for construction projects as both a construction contractor and as an independent Environmental Management Representative or Environmental Representative (FMR/ER). When working as a contractor this has involved undertaking an analysis of risks arising from the environmental assessment process as well as site specific and corporate risk profiles. In EMR/ER roles this has required an understanding of likely risks, their consequences and potential impacts to ensure that both governmental clients and contractors are adequately assessing their risks, and providing advice on scope of assessment and associated management measures where necessary.

Alice holds skills and experience in undertaking and recording due diligence for construction projects through auditing of environmental management systems, tracking and reporting on project compliance, reviewing management strategies and plans, and assessing risk aspects and impacts in organisational, project and operational facility settings.

Alice has been involved in the development and implementation of a corporate environmental management system for a large construction corporation to ensure that all operations and projects across Australia were operating to a consistent standard while still meeting all relevant legislative requirements within each jurisdiction.

KEY PROJECT EXPERIENCE

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Project	Inner West Light Rail
Client	TfNSW
Value of project	\$350,000
Duration of project	2012 - present
Role on project	Environmental Representative (alternate then lead)
Duration of role	2012 - present
Details of role	The project involved the construction and operation of an extension of the light rail between the existing Lilyfield light rail stop and the new Dulwich Hill Interchange stop. The project also involved the construction of nine new light rail stops and associated streetscapes works. As Environmental Representative Alice was responsible for undertaking regular environmental site inspections and monitoring and reporting on the project's Conditions of Approval and other relevant environmental obligations. In the early stages of the project, Alice was involved in reviewing the contractor's environmental management documentation prior to submission to the Department of Planning for approval. Throughout the project, Alice was responsible for reviewing and endorsing out of hours works applications within the scope of the Environmental Representative role.

Project	Wynyard Walk
Client	TfNSW
Value of project	\$145,000
Duration of project	2013 - present
Role on project	Environmental Representative (alternate)
Duration of role	2013 - present
Details of role	Wynyard Walk will provide a fully accessible pedestrian link between Wynyard Station and the developing CBD western corridor and Barangaroo. The walkway will allow pedestrians to get from Wynyard transport hub to the Barangaroo waterfront. As the alternate Environmental Representative Alice was involved in the initial review of the contractor's environmental management documentation prior to submission for endorsement by the client.

Project	Sydney Opera House VAPS Project
Client	Sydney Opera House Trust
Value of project	\$27,000
Duration of project	2013 - present
Role on project	Environmental Auditor and Site Inspector (joint role)
Duration of role	2013 - present
Details of role	The Vehicle and Pedestrian Safety (VAPS) Project has been designed to address the long standing objectives of separating heavy vehicles from pedestrian traffic on the Forecourt of the Sydney Opera House thereby improving public safety; improving the visitor's experience and views to the Sydney Opera House; as well as improving the functioning of the site as a performing arts venue. As the joint Environmental Auditor and Site Inspector Alice was involved in undertaking a review of the project's environmental management documentation and approvals, regular systems audits and site inspections.

Project	Sydney Opera House Environmental Risk Review
Client	Sydney Opera House Trust
Value of project	\$13,000
Duration of project	2013
Role on project	Senior Environmental Consultant
Duration of role	2013
Details of role	The Sydney Opera House engaged HBI to undertake a review of current environmental risk management within certain areas of operation, including food and beverage, incident management, building maintenance, legal compliance management and events. Interviews with key staff were also undertaken to identify current practices and understanding of environmental risk management within the organisation. A gap analysis was then undertaken to identify key areas of strength and suggestions for improvement.

Project	Port Kembla Cement Grinding Facility Project
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Client	Cement Australia/Ammjohn
Value of project	\$180 million AUD
Duration of project	January 2012 - ongoing
Role on project	Environmental Representative
Duration of role	January 2012 - ongoing
Details of role	A joint venture between Cement Australia and Ecocem for the construction of a grinding mill on the Outer Harbour of Port Kembla to provide a significant portion of the cement required for the NSW market capable of grinding 1,100,000 tonnes of cementitious product per annum. The project itself includes installation of a grinding mill, materials storage, clinker storage, site infrastructure and a silo bank for storage and despatch of finished product. The project site is located within the Wollongong Local Government Area, in the Outer Harbour of the port of Port Kembla. The ER role is set out in the Conditions of Approval for the project, and involves: • overseeing the implementation of all construction-related environmental management plans and monitoring programs required under this approval, and advise the Proponent upon the achievement of these plans/programs • liaising with the Environmental Representative(s) for the Outer Harbour Development with regard to any relevant site wide management plans and compliance obligations • considering and advising the Proponent on its compliance obligations against all matters specified in the requirements of this approval, relevant management plans and all other applicable permits, approvals and licences required and obtained in relation to the project • having the authority and independence to recommend to the Proponent reasonable steps to be taken to avoid or minimise unintended or adverse environmental impacts associated with the construction of the project • having the authority to recommend to the Proponent cessation of activities if there is a significant risk that adverse environmental impacts are likely to occur

Project	Glenfield to Leppington Rail Line
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Client	TfNSW
Value of project	\$600 million AUD
Duration of project	2010 - ongoing
Role on project	Environmental Representative (alternate)
Duration of role	2010 - ongoing
Details of role	The role of the Environmental Representative, as specified by the project documentation, is to Independently oversee the implementation of all environmental management plans and monitoring programs, independently advise the Proponent (TCA) on its compliance obligations against all relevant requirements of the Concept Plan, Project Approval and Statement of Commitments, permits and licenses and have the authority and independence to require reasonable steps to be taken to avoid or minimise unintended or adverse environmental impacts. The Environmental Representative undertakes a range of regular inspection, reporting and auditing tasks to ensure the project is meeting the required environmental compliance. The Environmental Representative is also engaged to provide expert advice regarding measures to improve environmental performance on site and to identify and assist in managing high risk work activities.

Project	Revesby Commuter Car-park
Client	Transport Infrastructure Development Corporation
Value of project	\$22 million AUD
Duration of project	2010 - 2012
Role on project	Environmental Representative (alternate)
Duration of role	2010- 2012
Details of role	Alice was the alternate Environmental Management Representative (EMR) for the construction of this multi storey car park at Revesby NSW. This role was to meet the specific requirements for an EMR as established by the development consent for the project, including weekly environmental site inspections and monitoring and reporting on compliance with the Conditions of Approval and other relevant environmental obligations.

Project	Sydney Light Rail (Stage 1)
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Client	TfNSW
Value of project	Unknown
Duration of project	2010 - 2011
Role on project	Environmental Representative (alternate initially then lead)
Duration of role	2010 - 2011
Details of role	The project involved the construction and operation of a 5.6 kilometre extension of the light rail between the existing Lilyfield light rail stop and the proposed Dulwich Hill Interchange stop. The extension is located within the disused Rozelle goods line corridor. The project also provided for nine new light rail stops. As Environmental Representative Alice was responsible for undertaking regular environmental site inspections and monitoring and reporting on the project's Conditions of Approval and other relevant environmental obligations.

Project	Kingsgrove to Revesby Quadruplication
Client	Transport Infrastructure Development Corporation
Value of project	\$500m AUS
Duration of project	2007 – ongoing
Role on project	Community Relations Systems Manager
Duration of role	2007 - 2008
Details of role	During the environmental assessment and site investigation phases on the Kingsgrove to Revesby Quadruplication Project, Alice worked as part of a team accountable for managing community relations with local stakeholders. She was responsible for the provision of support, information and training to the community relations team and the wider project team with regard to community and stakeholder relations requirements, processes, protocols and systems. Specifically Alice's role was to act as a representative on the project Sustainability Working Group; act as a member of Noise Wall Steering Committee (responsible for transparent decision making for the final noise wall design); provide input into the development of the Environmental Assessment and Statement of Commitments; coordinate and attend Community Liaison Meetings during the environmental assessment phase; develop and disseminate external written communications; manage the community relations contact database; develop and disseminate community relations processes and protocols, and sustainability training and awareness for the community relations and wider project teams; provide strategic advice and support to the community relations team regarding the construction environment;

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	participate in the development of specific environmental controls and traffic control plans; liaise with communities adjacent to the project corridor, including investigation of complaints; provide feedback into client stakeholder groups and assist in the development and delivery of internal communications.
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Project	Macdonaldtown Stabling Project
Client	Transport Infrastructure Development Corporation
Value of project	\$22m AUS
Duration of project	2006 - 2007
Role on project	Environment and Community Relations Manager
Duration of role	2006 - 2007
Details of role	The project involved constructing new stabling facilities adjacent to Macdonaldtown Station. The construction of a stabling facility close to the city significantly reduces empty train movements on the metropolitan network, which in turn reduces congestion and improves reliability on the Airport, South, Bankstown and Campbelltown Express lines. As the Community Relations and Environmental Manager this project, Alice was responsible for the development and implementation of both environmental management and community relation strategies during the construction phase. This involved preparation and implementation of the project Environmental Management Plan and 8 associated sub-plans to meet the project specific Part V planning approval, the TIDC Clearway Environmental Protection Licence, and RailCorp's Environmental Protection Licence, as well as the internal environmental management system requirements of TIDC and Leighton Contractors; undertaking environmental site inspections and monitoring to ensure project compliance; coordination with the independent Environmental Management Representative; development and implementation of site environmental documentation; advising and training the project team on environmental management planning and controls; responding to environmental incidents; recording and reporting on project environmental compliance; conducting environmental audits; liaising with community and other stakeholders and the client communications team; managing and reporting on community contacts; attending and presenting at monthly Community Liaison Group meetings.

Project	Westlink M7
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Client	NSW Roads and Traffic Authority
Value of project	\$1.5B AUD
Duration of project	2002 - 2005
Role on project	Environmental Officer (Compliance) (in addition to existing community role)
Duration of role	March 2005 – December 2005
Details of role	The Westlink M7 is a 40 km motorway linking the M2, M4 and M5 motorways. It comprises of seventeen interchanges along the motorway provide access to the communities of Liverpool, Fairfield, Blacktown and Baulkham Hills, improving transport options to these areas. Thirty-eight underpasses and overpasses maintain local access for pedestrians, cyclists and motorists along the full length of the motorway. In March 2005, Alice's role on the Westlink M7 was expanded to also include responsibility environmental compliance across the project, as well as her existing role in community relations. Specifically her role in environmental compliance was to: • Monitor and report on compliance with the project Minister's Conditions of Approval in relation to community relations and environmental obligations, including undertaking environmental site inspections during construction adjacent to a National Park and to Potential Aboriginal Deposit sites and developing documentation to show project compliance prior to commencement of the operational phase • Manage environmental sub-consultants performance against contractual and legal obligations • Coordinate development of environmental site rehabilitation and re-vegetation plans for post-construction, including rehabilitation of land used for concrete batching plant during construction and landscaping of road corridor with plants from locally native species • Assess and review environmental and social impacts of proposed construction works in order to determine how works should proceed, including targeted community and environmental stakeholder consultation as part of out of hours works approvals, particularly in relation to critical bridge construction works • Liaise with key environmental stakeholders such as National Parks and Wildlife and local Councils • Liaise with independent community relations and environmental representatives • Manage the Community Contact Database • Review and manage email communications of the Community Relations team • Community Relations Officer duties as below



Project	Westlink M7
Client	NSW Roads and Traffic Authority
Value of project	\$1.5B AUD
Duration of project	2002 - 2005
Role on project	Community Relations Officer
Duration of role	January 2004 – March 2005
Details of role	The Westlink M7 is a 40 km motorway linking the M2, M4 and M5 motorways. It comprises of seventeen interchanges along the motorway provide access to the communities of Liverpool, Fairfield, Blacktown and Baulkham Hills, improving transport options to these areas. Thirty-eight underpasses and overpasses maintain local access for pedestrians, cyclists and motorists along the full length of the motorway. On commencement of the Community Relations Officer position, Alice was responsible for community liaison along 10 kilometres of the southern section of the 40 kilometre Westlink M7 motorway alignment, this area of responsibility was increased to 22 kilometres in July 2004. This role provided Alice with a strong background in the issues associated with a major “linear” construction project. Specifically her role was to: • Liaise with communities adjacent to the project corridor, including investigation of complaints • Monitor and coordinate responses to complaints, including overseeing and reviewing noise and vibration monitoring undertaken by both internal and external project representatives to investigate complaints received and demonstrate compliance with relevant construction noise limits and vibration buffer zones, investigating drainage complaints by way of on-site inspections and coordination of external advice on design and mitigation requirements • Consult with internal design and construction teams to determine key impacts on relevant communities and the environment and implementing appropriate mitigation measures, this included ensuring that connections between existing residences and the new road corridor met community requirements for adequate drainage, pedestrian and vehicular access, providing input into reinstatement of vegetation on completion of construction works, coordinating approvals related to tree and vegetation removal prior to construction works, including undertaking on-site inspections prior to removal, monitoring compliance with environmental approvals for out of hours works in relation to community impacts • Develop communication activity plans reflecting key project messages • Draft written materials to inform local communities of



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	construction activities • Answer the Community Contact Line and recording calls on the Community Contact Database • Staff and maintain public display centres
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OTHER KEY EMPLOYMENT EXPERIENCE

Role	Research and Policy Advisor to The Honorable Ian Cohen, Member of the Legislative Council, NSW Parliament (part-time)
Organisation	NSW Parliament
Duration of role	January 2010 – December 2010
Details of role	In this role Alice worked with the full-time Policy Advisor to The Hon. Ian Cohen in the following areas: • Assessing government and private members bills in order to provide policy and legal advice on the potential implications of changes to existing legislation, including researching and preparing response to these bills, for example the National Parks and Wildlife Amendment (Visitors and Tourists) Bill 2010, the Coastal Protection and Other Legislation Amendment Bill 2010 (No.2) and the Nature Conservation Trust Amendment Bill 2010 • Researching key environmental issues and their current management in order to provide general policy and legal advice • Undertaking consultation with key non-governmental and business stakeholders • Preparing speeches to introduce and table select committee reports with Parliament, for example tabling of the General Purpose Standing Committee No. 5 report into rural wind farm development • Researching and writing questions to be addressed to members of the NSW Government during Question Time • Reviewing submissions and reports to parliamentary select committees in order to provide questions and responses for debates and committee sessions • Reviewing governmental budgetary information in order to develop questions for budget estimates hearings • Writing and disseminating media releases

Role	Landscape Technician/Office Assistant
Organisation	Pittendrigh Shinkfield Bruce
Duration of role	2001 - 2002
Details of role	• Providing environmental and horticultural support to Landscape Architectural projects, including input into plant selection and maintenance requirements • Involvement in preparation of environmental management, landscape architecture and urban design reports associated with providing specialist arborist advice, visual impact studies, and environmental site rehabilitation works • A representative on the internal Green Wall Development Team, looking at the viability of applying landscaping structure and planting to vertical surfaces. This involved developing a conceptual paper, undertaking a physical construction and planting

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	experiment and writing up results in a format that was then presented at industry conferences • Managing product and trade literature library • Implementing quality assurance systems • Providing secretarial and receptionist support
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14 August 2014

Ref: 3659751_1

Ms Carolyn McNally
Secretary NSW Department of Planning & Environment
Attention: Karen Jones, Director Infrastructure Projects
Development Assessment Systems and Approvals
GPO Box 39
SYDNEY NSW 2001

Dear Ms McNally,

RE: Nomination of Environmental Representative for Stage 1 of the CSELR Project (SSI-6042)

In accordance with Condition of Approval B87, Transport for NSW (TfNSW) would like to nominate Ms Jo Robertson of Health Buildings International as Back-Up Environmental Representative for Stage 1 of the CBD and South East Light Rail Project (SSI 6042) to undertake the role of Environmental Representative when Ms Alice Pryke is not available. TfNSW is of the opinion that Ms Roberston is suitably qualified and experienced to fulfill the role and is independent of the design and construction personnel for Stage 1 of the project.

Please find attached Ms Robertson's curricula vitae for your consideration and approval.

If you have any queries or feedback, please contact Shannon Blackmore, Environment and Planning Manager, on _____ or at _____

Yours sincerely,

 Louise Sureda
Principal Manager Planning & Development

Copy: Ingrid Ilias, Felicity Greenway and Karen Harragon



HBI Healthy Buildings International Pty Ltd

JO ROBERTSON

Managing Director

Principal Environmental Engineer and Senior Project Manager

Certified Greenstar Professional



Years of Experience

22

Date of Birth

7 July 1969

Residence

Australia

Languages

English

Education

Bachelor of Science (Chemistry and Microbiology), University of Sydney, 1991;

Master of Engineering Studies, University of Sydney 1997;

Graduate Diploma of Management (Technology), Deakin University;

Master of Business Administration (Technology Management), Deakin University 2001.

RABQSA-AU Management Systems Auditing Certificate 10572-2007

RABQSA-EM- Environmental Management Systems Certificate 10572-2007

RABQSA-TL-Leading Management Systems Audit Teams Certificate 10572-2007

SAI GLOBAL Lead Auditor in Environmental Management Systems Certificate 10572

Guest Lecturer at Macquarie University 2010 – Environmental Health

Professional Affiliations/Accreditations

Certified GreenStar Professional

Infrastructure Sustainability Accredited Professional

Member – Australian Institute of Refrigeration, Air Conditioning and Heating

Member – Facility Management Association, Australia

Certified in Rail Industry Safety Induction (RISI)

Rail Safety Worker (On Site Track Easy)

Occupational Health and Safety General Induction for Construction Work in NSW

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Career Overview

Jo is a principal environmental engineer with over 22 years of experience in pollution control, environmental protection, and project management. Jo's professional history has given her skills in a broad range of technical areas, and she has operated across a range of sectors and organisational types including state government, environmental consultancies, and contractors.

Over the last eight years in her role as Principal Environmental Consultant and Director at HBI, Jo has direct responsibility for the satisfactory delivery of the ER services HBI provides to major projects and is known for her personal commitment and investment in the success of every project she is involved in. Prior to this, Jo worked as the Principal Environmental Consultant (and Manager) at Parsons Brinckerhoff (formerly PPK/Rust PPK) during which time she worked on unique and challenging planning and environment projects including the Homebush Bay Remediation project EIS (Thiess Services), Intensive Phase II investigations at HMAS Platypus (Department of Defence), and environment director for a land capability assessment and preparation of a master plan for the Hornsby Quarry (Hornsby Council).

For approximately six years, Jo worked at the NSW Environmental Protection Authority with roles including Dangerous Goods and Hazardous Waste officer, Contaminated Sites Officer, and Ministerial Liaison Officer (the interface between the EPA and the Office of the NSW Minister for the Environment). Jo commenced her career with experience with NSW Waste Service (organic chemist), EML Laboratories (microbiological analyst), Pickford Consulting (asbestos and hazmat services) and Healthy Buildings International (junior consultant).J

Jo has substantial experience in multifaceted studies that integrate environment and engineering programs. Highly skilled in project management and team development, Jo understands how to create synergy through effective coordination of multiple parties.

Jo's areas of expertise include: environmental representative, project management and strategic environmental management; strategic planning including environmental impact assessment; environmental audits; construction and operational environmental management plans; the development of environmental management systems; community consultation; risk assessment; soils, sediment and salinity investigations; waste management and planning; the storage, transport, handling and disposal of hazardous chemicals and wastes; contaminated site assessment and remediation; emergency response; environmental monitoring including air, noise and waters; groundwater management, asbestos management; and occupational health and safety.

Jo's experience includes working previously as Environmental Protection Officer with the NSW Environment Protection Authority, in audit and compliance roles on a range of industry projects, and more recently working as the Environmental Representative or Environment and Planning Manager on several state significant infrastructure projects. Jo has a strong understanding of the current and past environmental legislation. Through practical on site application, and industry and regulator legislative forums, Jo has ensured her knowledge of the legislative framework has remained current.

Jo has been intimately involved in project compliance during the design, construction and operational phases of infrastructure projects. In addition to her substantial experience in the rail and civil construction industry as detailed elsewhere in this proposal, examples include environmental and design compliance aspects for the Lane Cove Tunnel project (groundwater, flooding and drainage and contaminated lands); compliance reporting for the Roads and Traffic Authority to meet specific conditions of consent in relation to the ventilation stack locations for the Cross City Tunnel project; the preparation of the planning approvals (EIS) and licensing for the Lednez site and Homebush Bay remediation projects.

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Jo also has a keen interest in sustainable urban development focusing on the realities of maximising land use potential with a return for both the client and the environment. She is familiar with aspects of triple bottom line reporting as it relates to environmental performance. Jo has worked closely with cost planners and project team designers to determine "whole of life best for project value solutions for major infrastructure projects. In the last five years, Jo has honed her unique combination of building and construction experience, her environmental skill set (including life cycle analysis) and management skills towards adding real, rather than tokenistic, value to projects when considered from a whole of life perspective.

Jo is eligible for registration as an accredited lead environmental auditor as per AS/NZS ISO 14012:2004.

Due Diligence, Compliance and Audit Services (Environmental Management Systems, Management Plans, Licencing and Permits)

- Undertook pre-purchase Phase 1 environmental site audit, BHP Australia. Involved auditing sheet metal "cut and coil" facility in regard to potential contamination as a result of past land uses and current and past management practices.
- Prepared Phase 1 environmental site assessment for Concord City Council prior to sale of asset.
- Conducted an environmental due diligence audit on the Lower Molonglo Waste Water Treatment Facility, Canberra on behalf of the ACT Electricity and Water Commission (ACTEW). This was a component of a full operational and environmental audit prior to purchase by AGL.
- Prepared an environmental audit for the RAAF air base at Richmond in NSW to assess any adverse impacts resulting from the aircraft washing areas, in particular the Corrosion Control Facility. In particular, the potential for impacts on the local soil and groundwater were assessed.
- Prepared an environmental due diligence audit for Tubemakers Pty Ltd prior to divestment of facility.
- One of three primary consultants for the Commonwealth Bank of Australia for pre-finance due diligence audits. The bank requires all customers to obtain this environmental audit prior to re-finance approval.
- Prepared due diligence audit for Gem Engines, Chipping Norton including the audit of an on-site full scale waste water treatment plant.
- Prepared an environmental site audit for Apple Computers, USA, generally in accordance with ASTM standards; E1527-93 and 1528-93.
- Undertook an environmental due diligence of a commercial premise located in the centre of Sydney, NSW. The audit involved a comprehensive assessment of all environmental aspects of the site and buildings.
- Prepared environmental audits for both the Bellambi and Goulburn Roads and Traffic Authority Depots. Issues included noise, air emissions, discharge to sewer and stormwater, environmentally hazardous materials/dangerous goods storage, site contamination, and waste minimisation and management.
- Selected as an Airport Environment Officer, Confidential Clearance (reserve). This project involved the administration of the Airports Act and Regulations at Sydney, Bankstown,

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Hoxton Park and Camden Airports on behalf of the Commonwealth Government's Department of Transport and Regional Development.

- Undertook 2004 due diligence audit of landfill gas to energy facilities for Landfill Management Services. This audit was required by the Commonwealth Bank of Australia as part of pre financing investigations for establishment of operations at Swanbank, Rochedale and Ipswich landfills. Aspects included confirmation that the gas extraction projections were achievable, assessment of the field operations and response procedures, review of contractual obligations, review of the technology to be used on each project, in particular the engine performances and costs, review of the technical inputs to the financial model, and review of the regulatory framework.
- Complete a due diligence assessment for AV Jennings to identify environmental risks and recommended measures prior to involvement in a sensitive urban development project. The review assessed the existing reports on environmental factors such as heritage, contamination, remediation, endangered species, hazardous materials and geotechnical constraints. The first stage of the risk assessment was to identify the risk events that may occur to AV Jennings and to quantify these in terms of the consequence and the likelihood. Consequences were assessed in terms of project management, project costs, marketing potential, construction management and legislative compliance. The results indicated a number of key areas that required attention and subsequent recommendations, including cost and time estimates, were made to assist AV Jennings in their project management.
- Undertook 2005 due diligence audit of landfill gas to energy facilities for Landfill Management Services. This audit was required by the Commonwealth Bank of Australia as part of pre financing investigations for establishment of operations at South Cardup, Atlas, Darwin, Tweed and Wollert landfill. Aspects included confirmation that the gas extraction projections were achievable, and review of the gas projections to the extent that these influenced the LMS financial model.
- Undertook a due diligence assessment of the new UR3R putrescible waste processing facility located at the Eastern Creek landfill in western Sydney. The technology employed at this facility was being considered for the establishment of ten similar operations in Lancashire, England. The assessment highlighted key aspects of the operation, discussed some of the significant issues that have arisen during the commissioning phase, and identified some of the potential risks to be considered if this facility was to be transferred to England.
- Completed a compliance review of the consent conditions for the Clarence Valley and Coffs Harbours Regional Water Supply project. The review was commissioned by the project Inter-Agency Review Committee established for the project. Key tasks included a gap analysis to determine if the project implementation had been in accordance with the project determination and concurrence conditions; and to provide recommendations for improvements to the current compliance assurance procedures utilised by the project managers, the Department of Commerce.
- Undertook audits for input environmental management systems for the NSW Roads and Traffic Authority to address the environmental aspects of their various operations, with a view to achieving accreditation against ISO14000.
- Audited environmental, health and safety aspects of various Freightcorp facilities including all six of the Metropolitan Yards and Terminals and several regional facilities. The audit was conducted to assess the effectiveness of the implementation of Freightcorp's internally developed EH&S system.



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- Project managed and prepared an initial environmental review (IER) as the Stage 1 component for the preparation of an environmental management plan, Defence Estate Organisation (Department of Defence). The IER was prepared for four defence sites, namely the Holsworthy site, the RAAF Air Base at Richmond (and the Londonderry Drop Zone associated with this site), Victoria Barracks, and the Orchard Hills Ammunitions Facility.
- Prepared and reviewed several environmental management plans to control off site impacts during site assessment, remediation and construction works, for example, review of the construction environmental management plan prepared for the Tingha Sewerage Scheme
- Project managed the preparation of management plans and sub plans for the Lane Cove Tunnel project relevant to contaminated land, acid sulphate soils, flooding and drainage and groundwater.
- Technical review of construction and operational waste management plans for multistory residential/commercial development proposed at Bondi, NSW.
- Technical review of Environmental Management System Framework developed as part of an assessment of the current environmental management systems operating at Railcorp. The project examined three independent systems (historically operated by Rail Access Corporation, State Rail Authority, and Rail Services Australia) and collated aspects of each currently being employed by Railcorp. An environmental management system development plan was then prepared detailing the tasks required to successfully integrate and adopt a singular management system.
- Developed a licence assurance process for Railcorp to assist this organisation to manage risks associated with potential regulatory non-compliance. A systematic robust process was developed, in consultation with key stakeholders, which could be applied across a range of different functional business units in Railcorp. A key requirement of this system was to ensure that sufficient accurate information was available concerning potential or actual non-compliances so that Annual Report required by the NSW Department of Environment and Conservation could be completed in a timely and technical correct manner.
- Review of the Environmental Protection Licence for Transport Development Infrastructure Corporation (TIDC) in relation to its Rail Clearways program and subsequent development of an incident reporting system for integration with the TIDC internal environmental management system (EMS).

Construction Environmental Management

- Project director and technical review for the preparation of vegetation/landscape management, soil and water management, and noise management plans for the upgrade of Patrick Stevedores Port Botany facility. Ongoing aspects include environmental monitoring, community consultation and regulatory reporting for licence compliance/variations.
- Prepared, obtained approval for, and implemented during construction activities, environmental management strategy and sub plans for the construction of a 100 metre long boat ramp and associated access road at Cattai on the Hawkesbury River. The plans prepared were to satisfy the integrated development consent requirements specified by the Department of Planning, Infrastructure and Natural Resources, the Department of Land and Water Conservation, the Department of Fisheries, as well as other stakeholders including Baulkham Hills Shire Council, and the Hawkesbury Nepean Catchment Management Trust. Approvals also included obtaining Part 3A permits to excavate within 40 metres of protected waters.

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- Environmental Representative for the North West Rail Line identified by the NSW Government as a key priority railway transport infrastructure project. The North West Rail project provides eight new stations and associated services 23 kilometres of new rail infrastructure to the Sydney rail network. ER services were provided across the major works packages, namely the Tunnel and Station Civil project (\$1.5 b), the Station and Viaduct works (\$360 m), and the Operations, Trains and Systems projects (estimated at \$5.5 b).
- Provision of Environmental Management Representative (EMR) services to the Transport Development Infrastructure Corporation (TIDC) for the MacDonalddown Stabling Yard Project. This role was to meet the specific requirements for an EMR as established by the development consent for the project. The primary function of this role is endorse and then assess compliance of the designated contractors with Contractor developed environmental plans of management to meet environmental protection licence conditions, conditions of consent, and other licences and permits as required for the project.
- Developed an Operational Environmental Management Plan, and various sub plans for the operation and maintenance phase of the Albury to Wodonga National Highway Upgrade Project for Abigroup.
- Directed the preparation of the project environmental management documentation for the Newcastle Rail Corridor Project, a joint venture between TIDC and the United Group. The project included the upgrade of three existing train platforms – Civic, Wickham and Hamilton. Ongoing role as project director to support site inspection and compliance manager, including audit and close out phases.
- As proposed Environment and Planning Manager for the Southern Sydney Freight Line, HBI prepared the environmental bid strategy and associated documentation, workshops and presentations necessary to win the project. As a key member of the Alliance Management Team, the role would establish the project direction during planning across arrange of project elements including design, pre construction, construction (civil), construction (rail) and commissioning. Advance awareness and planning was considered critical the success of the project when arranging relevant licence variations, or approval modifications to ensure continuous compliance; and to minimise the risk exposure to all parties involved in the project from potential or actual environmental incidents. The role also included responsibility to obtain licences and permits for construction, ensure compliance with consents, train staff, including the environment team, the wider project team, and subcontractors in the project rules and standards and other environmental management activities and liaise with client and authority stakeholders.
- On 23 September 2011, approval was granted to the Australian Rail Track Corporation (ARTC) to construct and operate for the project known as the Nundah Bank Third Track Project (the Project). The ARTC has created the Upper Hunter Valley Alliance (UHVA) to undertake a program of works to deliver this and other rail projects in the Hunter Valley. The project involves provides for construction and operation of a third rail track approximately 4km in length and ancillary infrastructure adjacent to the Main North Line between the towns of Singleton and Camberwell in the NSW Hunter Valley. Jo was the alternate Environmental Representative for this project, standing in when he other HBI environmental representative was unavailable.
- Environment and Planning Manager for bid team for the Auburn Stabling project. The Auburn Stabling Project forms part of the South West Rail Link (SWRL), delivered by the NSW government (Transport Construction Authority). The project is to construct a train stabling facility to the north-west of Auburn Station to which respond to issues of reliability and passenger growth in south-west Sydney. The Auburn Stabling Project provides stabling for 16

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eight-car suburban train sets, together with associated facilities such as offices, staff amenities, roads, walkways, fencing, lighting and others necessary for the operation of an effective stabling yard. The stabling yard would enable trains to be stored in a suitable location to service the predicted growth in passenger demand in Sydney's west and south-west. Routine activities such as interior cleaning, minor exterior cleaning, train inspections and garbage removal would also be undertaken at the stabling yard. The Auburn Stabling Project also included the remediation of existing contaminated land present on the site.

- Lead Manager of a five person environmental management team and Alliance Management Representative (AMT) for the Cronulla Rail Line Alliance, a significant rail infrastructure project for Transport Development Infrastructure Corporation (TIDC) on behalf of the NSW Government. The Cronulla Rail Line Duplication and Upgrade involved the upgrade and duplication of 14 kilometres of track, construction of numerous overbridges, construction of 8 lane stabling facility, upgrade to State Heritage Listed Cronulla Railway Station, vegetation clearing to enable works, installation of drainage structures, installation of bridges and associated road and footpath pavement works, pedestrian management and implementation, and protection and subsequent biodiversity offsets of Sydney Turpentine Ironbark Forest and River Flat Eucalypt Forest remnants. Appointed to the position when an Alliance was formed to save flailing design and construct project, Jo faced significant hurdles to bring the environmental management and planning on this project into compliance. Her role including identifying environmental and planning risks to the project and developing procedures and processes that could be implemented to close out such issues and bring the project up to the high standards demanded by TIDC as both client and statutory authority.
- Environmental Representative (ER) for the Kingsgrove to Revesby Quadruplication project (K2RQ). This project involved the construction of two additional railway tracks between Kingsgrove and Revesby stations passing Beverly Hills, Narwee, Riverwood and Padstow stations. It also included an upgrade of Revesby Station. K2RQ involves construction of approximately 7.1 kilometres of Up Main rail tracks, and approximately 7.1 kilometres of Down Main rail tracks, track, crossovers and turnouts at Revesby to connect into the current Revesby Turnback. Associated cutting and embankment formation widening, maintenance access, retaining walls, slope stabilisation, stormwater drainage and culvert extensions. It also involved construction of approximately 7 km of noise barriers and other ancillary works. Jo gained substantial experience in the development of practical environment management plans and built environment sustainability initiatives. This role involved close liaison with the project team in the development of effective project performance indicators in relation to environment and sustainability. A key KPI for this project was the use of the project as a pilot for the Green Building Infrastructure Council. This project received a grant from the then DECCW to trial solar panels within the rail environment, in this case specifically on noise walls following the progress made by Transport NSW and TCA alike to incorporate sustainability initiatives into building fabrics, and operational schemes (via energy savings and water strategies).
- Revesby Commuter Car Park- Jo was the Environmental Management Representative (EMR) for the construction of this multi storey car park at Revesby NSW. This 18 month role was to meet the specific requirements for an EMR as established by the development consent for the project.
- The Glenfield to Leppington Rail Line is the second stage the delivery of the South West Rail Link (SWRL). The project forms part of the response of the NSW Government to issues of reliability and passenger growth on the metropolitan network. The project incorporates a new twin track passenger rail line approximately 11 km in length from Glenfield to Leppington and associated infrastructure, including construction of two new stations at Leppington and

Edmondson Park, construction of a train stabling facility and construction of ancillary facilities including power supply, substations, sectioning huts, signalling structures, access roads and other infrastructure. The role of the ER is specified in Contract Clause 9.4, Concept Plan Approval Condition 5.1, Project Approval Condition 4.1(b) vii) and TSR E1 (Clauses 1.1, 3.3.5 and 3.3.6) as follows:

- ✓ Independently oversee the implementation of all environmental management plans and monitoring programs required under the Concept Plan Approval, the Project Approval and Statement of Commitments and advise the Proponent (TCA) upon achievement of the outcomes of these plans/programs.
 - ✓ Independently advise the Proponent (TCA) on its compliance obligations against all relevant requirements of the Concept Plan, Project Approval and Statement of Commitments, permits and licenses.
 - ✓ Have the authority and independence to require reasonable steps to be taken to avoid or minimise unintended or adverse environmental impacts.
 - ✓ Review environmental risk assessments of early design investigation works undertaken by John Holland and ensure that only those works determined to be of low environmental risk and within the definition of pre-construction activities under the Planning Approval.
 - ✓ Carry out regular site inspections to evaluate the implementation and effectiveness of environmental controls and identify areas for improvement.
 - ✓ Review and approve Environmental Control Maps and Environmental Design Constraint Maps.
 - ✓ Approve out of hours works not otherwise subject to an Environment Protection Licence.
- Rozelle Goods Line - Rail Track Maintenance and Reconstruction. Jo has recently completed the role as ER for Stage 1 of the Light Rail project for Transport – the rail track Maintenance and Reconstruction of the Rozelle Goods Line. Appointed to the position in 2010, Jo successfully conducted her ER duties in conjunction with Transport NSW and Railcorp to undertake rail track maintenance and reconstruction of the existing track between Lilyfield and Dulwich Hill (approximately 5.6km) in former freight rail corridor. No maintenance of the track had been undertaken for at least two years. Now completed the rail track is in a condition suitable for future rail operations, including light rail. As ER for the project, Jo developed "street cred" and strong working relationships with both Transport NSW and Railcorp personnel. She is intimate with the nature of the corridor having walked up and down many times. This firsthand knowledge is vital to be across issues of construction in a tight corridor, in a highly urbanised environment. The proximity of the Aqueduct (the canal), a range of built and social heritage, bush care sites, the integration with the Greenway project, the potential presence of the long-nosed bandicoot, and limited, constricted access to the site add complexity to this valuable project.
 - Environmental Representative for the Sydney Light Rail Extension (Inner West) project. The project involved the construction and operation of a 5.6 kilometre extension of the light rail between the existing Lilyfield light rail stop and the proposed Dulwich Hill Interchange stop. The extension is located within the disused Rozelle goods line corridor. The project provided for nine new light rail stops — Leichhardt North, Hawthorne, Marion, Taverners Hill, Lewisham West, Waratah Mills, Arlington, Dulwich Grove and Dulwich Hill Interchange. Supporting works included modifications to the existing Lilyfield stop and surrounding track to tie-in new track and overhead wiring infrastructure with the existing light rail, modifications to

the existing light rail stabling and maintenance facility located at Pyrmont, modifications to local streetscape areas to accommodate kiss and ride, revised traffic configurations and additional parking, and the raising of the existing bridge over Parramatta Road whilst full operational.

Community Consultation

- Lead technical consultant in the Community Reference Group established for the remediation of Homebush Bay and the adjacent, former Union Carbide facility. This highly sensitive remediation attracted significant attention and interest from environmental groups, state government, local government and local, interstate and international communities. The process, and PB's involvement in it, received substantial recognition and acclaim as an example of best practice community consultation.
- Participated in and provided technical presentations to a community consultation committee for the HMAS Platypus divestment program, Department of Defence. Strategic input into consultation program.
- Co-hosted stakeholder and community consultation program for proposed landfill development. Given the nature of the proposal the community was initially openly hostile about the project. Over the period of consultation, the views of the majority of the community changed after the provision of accurate information that dealt with their concerns and fears.
- Independent representation as Environmental Management Representative (EMR) services for Transport Development Infrastructure Corporation (TIDC) for the Revesby Turnback Project.
- Independent representation as Environmental Management Representative (EMR) services for Transport Development Infrastructure Corporation (TIDC) for the MacDonaltdown Stabling Yard Project.

Specialist Sustainability Projects

- Developed sustainable development outcomes as part of tender preparation for the redevelopment of the former Prince Henry Hospital at Little Bay in NSW. This included coordinating a team of specialist expertise in architecture, water sensitive urban design, energy management, to produce a compilation of cost effective ESD initiatives so that the bid team could demonstrate compliance with various Landcom ESD and Triple Bottom Line reporting requirements, and Environment Australia's triple bottom line requirements.
- Project Director for NSW Landcom Performance Improvement Review (PIR) Auditor. In this role, conducted reviews of Landcom's civil and building contractors to ensure the contract environmental conditions are effectively implemented and to encourage the use of correct environmental management techniques. Contractors receive a score for their overall performance. Actions to improve environmental performance are recommended for any performance below the minimum 75% score. The results of all contractor Performance Improvement Reviews contribute to Landcom's overall environmental performance, which is reported in the Annual Sustainability Report.
- As the ESD and WoL specialist during the design process for the Holsworthy Special Working Group Accommodation redevelopment, Jo was responsible for developing in conjunction with the technical discipline sub consultants for mechanical, electrical, hydraulic and structural building elements, ecologically sustainable initiatives that could be incorporated into the design of the new facilities. Key initiatives considered for this project included the option of

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passive ventilation against the more traditional mechanical ventilation, alternative use of building materials, and options to re-use/recycle waters on this typically dry site. To complete the ESD aspects, Jo also performed the role of Accredited Green Star Professional and led the documentation process for this project.

- The RAAF East Sale (ESL) Redevelopment project provided Defence an opportunity to improve the functionality and capability of East Sale and at the same time, upgrade or replace ageing infrastructure. RAAF Base East Sale (ESL) is located in South East Victoria, approximately 225km from Melbourne. The Base is located on the eastern edge of the regional centre of Sale, at the end of Aerodrome Road, approximately 5km from the centre of the town. Jo was engaged as the specialist Whole of Life Subconsultant for the project. The aim of Whole of Life approach during the planning, design and construction phase was to achieve a functional asset, with minimal whole of life costs. This was achieved by working with the design team to identify innovative and practical options that differ from business as usual to manage whole of life costs. A qualitative assessment was completed on design options that were mutually exclusive (i.e. by choosing one option all other options being considered are excluded) with whole of life implications, or that were value-adding or innovative design solutions. A quantitative analysis of the whole of life costs associated with those options requiring further analysis was then completed. This approach was designed to provide value to Defence within the limitations of functional and other requirements. As a result of the assessment a number of opportunities were incorporated into the design, reducing the potential whole of life costs of the works and adding functional value to the project.
- The RAAF College Relocation project. The project involved relocation of the 1Recruit Training Unit relocation from RAAF Edinburgh to RAAF Wagga Wagga and the relocation of the Officer Training School from RAAF Base Williams to East Sale. Scope included the design and construction of defence accommodation, working accommodation facilities, officer training facilities, armouries, lecture theatre, combined mess, medical and dental facilities, clothing stores, confidence course, four lane running track and ground defence facilities. Engaged through the managing contractor, this project involved facilitating and documenting whole of life initiatives included in the design of facilities for the development of the range and associated facilities. This assessment included a qualitative and quantitative analysis of value for money in terms of whole of life for a range of design features including built form aspects, proposed building services and site supporting infrastructure. Elements recommended for adoption included bore water supply, sub metering, AAA rated fixtures and fittings, auto flush urinals/auto flow washbasins, solar assisted gas fired water heating, natural ventilation with evaporative cooling assistance (training building), packaged air cooled split system ducted reverse cycle air conditioning units (1RTU), overhead fans, good building orientation and solar shading, overhead fans, good building orientation and solar shading, combination of reverse cycle and hydronic heating, both centralised and individual air supply, BMS supplemented in training areas with users control function, carbon dioxide management in Mess areas, and evaporative cooling in selected areas.
- Whole of Life (WoL) consultant for the new Marksmanship Training Range project for the Department of Defence at Kapooka in NSW. Engaged through the managing contractor Thiess Pty Ltd, this project involved facilitating and documenting whole of life initiatives included in the design of facilities for the development of the range and associated facilities. Jo's role in this project involved facilitating and documenting whole of life initiatives included in the design of facilities for the development of the range and associated facilities. This assessment included a qualitative and quantitative analysis of value for money in terms of "whole of life" for a range of design features including the built form, proposed building services (such as HVAC, lighting and water management) and site supporting infrastructure

to provide a value for money solution that met the end user requirements within the constraints of a operational firing range. Significant value added to project in terms of whole of life for contamination aspects and surface water management.

- Whole of Life (WoL) consultant for HMAS Albatross. The HMAS Albatross Stage 3 Redevelopment project was to upgrade and refurbish existing facilities and infrastructure for the command, training, maintenance, operation support and administration functions to meet projected base operational and support capabilities for at least the next 20-30 years. The whole of life approach during the planning, design and construction phase is to achieve a functional asset, with minimal whole of life costs. This is done by the whole of life consultant working with the design team to identify innovative and practical options that differ from business as usual to manage whole of life costs. A qualitative assessment was completed on design options that were mutually exclusive with whole of life implications, or that were value-adding or innovative design solutions. A quantitative analysis of the whole of life costs associated with those options requiring further analysis was then completed. This approach was designed to provide value to Defence within the limitations of functional and other requirements. As a result of this assessment a number of opportunities were been incorporated into the design, reducing the potential whole of life costs of the works and adding functional value to the project. This included quantitative analysis of HVAC and renewable energy options which was completed during schematic design.
- The Point Wilson Waterside Infrastructure Remediation project was comprised of the remediation of the waterside infrastructure at Point Wilson Explosives Area (PWEA) located in Geelong Victoria delivered under the Department of Defence's Major Capability Fund (MCF) program; and the support infrastructure for safe mooring and berthing of the Amphibious Assault Ship (LHD) for EO loading and un- loading activities at PWEA, delivered through the Defence Materiel Organisation's Project. The aim of the whole of life approach during the planning, design and construction phase was to achieve a functional asset, with minimal whole of life costs. This has been completed by working with the various disciplines of the design team to identify innovative and practical options that differ from business as usual to manage whole of life costs. In the Concept Design Phase (CDR) the whole of life assessment was undertaken both qualitatively and quantitatively on design options to assess which options posed the best whole of life value for money for the project. During the Schematic Design Phase (SDR), the whole of life assessment was again undertaken on the services component of the design as the fundamental structural elements for the Infrastructure remediation (i.e.: the wharf, jetty, link span and dolphins) had been rigorously assessed during the CDR phase. Options assessed during the SDR phase were only assessed qualitatively as it became obvious that the specific nature of the Point Wilson Wharf site, the nature of its use, and in particular, the current and proposed frequency of use meant that design solution options available to the design team were very limited. During the development of concept design at Point Wilson, the opportunity to change the useful life of the project was evaluated to achieve best value for money over the life of the asset in terms of capital, operational and maintenance costs and end of useful life costs (eg: disposal)
- Assessment of the operational indoor air environment of the 6 Star Green Star building at 40 Albert Road, Melbourne to assess building performance against indoor air quality criteria given the use of passive ventilation, night air flushing, low VOC materials, and alternate building services systems.
- HQO, Honeysuckle Precinct, Newcastle: HQO is a proposed mid-scaled commercial development with a NLA of approximately 14,000 square metres. The building was targeting an ABGR of 4 stars and a Greenstar Office-As-Built rating of 4 stars. Jo worked with the

design and construction team to ensure that the integrity of the ESD design elements is maintained and that the building achieves its targeted ratings.

Strategic Planning

- Technical engineering and environment director for a land capability assessment and preparation of a master plan for the Hornsby Quarry. The multidisciplinary project covered a range of environmental and engineering aspects each having bearing on the envelope of land available for future use. Key technical studies undertaken to identify constraints included geotechnical, hydrogeological, infrastructure, contaminated land, bushfire, heritage and flora and fauna. Visual, traffic and urban planning capabilities were also important aspects in the development of the master plan. Options investigated included open space, residential, recreational, and small scale commercial land uses.
- Project managed and provided strategic direction for the preparation of an environmental impact statement for the remediation of the Homebush Bay and the adjacent former Union Carbide site, for NSW Waterways, and a private client. The operations of the former Union Carbide facility have led to contamination of the bay, and the adjacent land sites, through reclamation of land using spent materials resulting from the chemicals manufacture process. Typically chemicals include highly carcinogenic compounds such as DDT, DDE, dioxins and furans. This is a remediation project that will occur over a five year period. Some 400,000 cubic metres of material is to be excavated, remediated and re-used beneficially. The material requiring treatment is to be processed through a thermal treatment plant. Staged release of the land following remediation means that residential development and possibly occupation will occur in the same period as the earthworks. Seen as highly sensitive, this project is ongoing and is closely monitored by stakeholders including Greenpeace, a plethora of government departments, the community and international technical bodies.
- Project managed a multifaceted team for the preparation of an environmental impact statement for the development of a proposed waste management centre to be located in the Hunter Valley, NSW, private client. This project proposed re-use of a mine site void as putrescible landfill space. It had significant design and consultation components which were managed in an integrated fashion to ensure that the concerns raised by key stakeholders were considered, and where appropriate, incorporated into the design of the facility. The EIS covered all aspects of the economic, environmental and social issues associated with the development of a facility of this nature. Aspects of particular interest included the influence of filling the void on regional hydrogeological conditions, the potential for dust and odour to be generated, and the impact on traffic on access roads.
- Prepared a review of environmental factors for a modification to the approved consent for the Cross City Tunnel project for the Roads and Traffic Authority of NSW. The proposed relocation of the western ventilation stack for the tunnel was proposed as a solution to address impacts of the approved location on regional air quality, and local issues such as traffic/transport issues, construction noise and vibration, water quality and flooding, settlement and groundwater, acid sulphate soils, visual amenity, and urban design.
- Prepared a draft environmental impact statement for a development of a wool scouring facility, private client. Assessed the impacts of developing a wool scouring facility in the Wollongong region. Key aspects included the impacts from odour, traffic and waste water management.
- Prepared a Section 96 modification to the Homebush Bay and Lednez site remediation project in relation to a change in the thermal treatment technology and the approach to remediation of sediments in Homebush Bay. Key technical issues included modification to

night time operational noise levels and regulatory goals, impact of air emissions on adjacent receivers (particularly dioxins and particulate matter) and the impact or otherwise on carcinogenic and non carcinogenic health risks.

Strategic Waste Planning

- The project development of expression of interest and supporting technical documentation for the continued operation and redevelopment of the Albert Street Waste Management Facility, St Peters. The starting point was a review of all technical factors affecting on going operations, and the redevelopment of the site including an assessment of sustainable waste management technologies. At the time, the Albert Street Waste Management Facility in St Peters had been used for landfilling for some years. It is surrounded on all sites by a mixed of industrial and residential lands. The site had significant constraints on its viability for uses other than then currently approved activities. The performance of the landfilling activities also needed review to ensure that the current land use would continue to be viable against tightening regulatory requirements, for example, the discharge of waters off-site.
- Prepared a feasibility study for the establishment of a materials recovery facility for construction and demolition wastes and materials within the former Inner Sydney Waste Board region. The scope of work included consultation, data collection and management, nomination and assessment of potential sites, conceptual design of the facility, and economic feasibility analysis.
- Prepared a feasibility study for the establishment of a putrescible waste transfer station within the former Southern Sydney Waste Board region. The scope of work included consultation, data collection and management, nomination and assessment of potential sites, conceptual design of the facility, and economic feasibility analysis.
- Provided expert technical assessment to the former Western Sydney Waste Board in the Evaluation of Tenders for the establishment of a putrescible Waste Pre-Treatment Facility to be located at the South Windsor landfill. This involved a key role as the waste industry technical and maintenance expert. This assessment included evaluation of technical issues within a build, own, operate contract model with subsequent decommissioning.

Asbestos and other Dangerous Goods, Hazardous Chemicals, and Emergency Response

- Assisted client in contractor compliance review and selection for major asbestos removal. Over 600 square metres of bonded asbestos pegboard needed to be removed from a high public-use building in Sydney. Aspects included liaison with potential contractors, provision of advice and recommendations for selection, management of stakeholders, and provision of on-going air monitoring advice and monitoring services.
- Asbestos audit and survey for over 150 railway stations for ADT (a division of TYCO) for prior to commencement of invasive and non-invasive works for the installation, upgrade and general management of the CCTV racks.
- Asbestos audit and survey for over 20 railway stations for New Era prior to the installation and upgrade of the SPI (system passenger information) screens in the station buildings.
- Asbestos survey at the former Riggers Room at the Rocks Sydney NSW, managed by the Sydney Harbour Foreshore Authority (SHFA).



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- Hazardous materials audit at the heritage protected former Mariners Church building in the Rocks, Sydney managed by the Sydney Harbour Foreshore Authority (SHFA). Materials audit includes asbestos, synthetic mineral fibres, polychlorinated biphenyl's (PCBs), and lead.
- Asbestos survey and subsequent preparation of asbestos register and associated management procedures for North Sydney Council
- Asbestos survey and subsequent preparation of asbestos register and associated management procedures for Goulburn Mulwaree Council
- Asbestos survey, sample management of dusts at various major shopping centres in NSW
- Asbestos air monitoring program for Holden Australia
- As an Environmental Protection Officer with the former NSW Environment Protection Authority, provided appropriate technical and policy advice to industry and the community in relation to waste disposal and general waste management matters. This included the evaluation of applications for the disposal of solid and liquid hazardous wastes.
- Heavily involved in the preparation of legislation associated with the introduction of infringement notices under the Dangerous Goods Act, 1975. In particular, the Regulatory Impact Statement prepared to meet legislative requirements. A key element of this task was consultation with industry and other affected parties.
- Prepared NSW Environment Protection Authority industry guidelines on the transport of dangerous goods.
- Reviewed and provided comments in regard to the transport of dangerous goods for several Environmental Impact Statements including those for the M5 motorway and the Caltex Distribution Centre at McGraths Hill, Sydney.
- Assessed the testing of new designs of vessels to be used for the purpose of transporting dangerous goods.
- Developed effective systems for the control of dangerous goods transport within NSW by liaising with competent authorities from interstate, Environment Protection Authority regions and other authorities to investigate requirements and prepare procedures for vehicle inspection systems.
- Coordinated and participated in compliance auditing (on-road enforcement blitzes) with Police Service NSW, NSW Roads and Traffic Authority and Environment Protection Authority Motor Vehicles Section for breaches relating to both dangerous goods and environmental legislation in regard to transport and storage.
- On call 24 hours-per-day as part of the NSW Environment Protection Authority After-Hours Incident Service to provide technical advice and assistance to NSW Fire Brigades with regard to the properties of dangerous goods and their safe management and disposal. This support extended to internal staff as well in both routine and emergency circumstances.
- Developed and ran training courses related to the road transport of dangerous goods, Police Service NSW.
- Provided appropriate technical advice to industry and the community in relation to waste disposal/management matters. This included the evaluation of applications for the disposal of solid and liquid hazardous wastes.
- Reviewed and assessed waste management/minimisation plans for industrial waste generators.

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- Design of leachate trials whilst working at the Waste Recycling and Processing Service (trading as Waste Service, NSW) as an analytical chemist.
- Practical handling experience of hazardous liquid wastes as a chemist with Waste Service, NSW.
- Revised, researched and re-wrote Sydney's "Hazardous Waste Management Strategy" (1992).

Site Assessment and Remediation

- Project managed and supervised intensive Phase II investigations at HMAS Platypus and RANTME Naval Facilities, Kirribilli, NSW for the Department of Defence. This site was historically used as a gasworks facility. This project involved providing technical support with respect to contamination issues to the project planning team, the client, and to the community consultation forums. Responsible for the development and assessment of remedial options for the site. Significant issues included stability and water management concerns associated with the excavation and remediation of contaminated fill from areas adjacent to the seawall and beneath groundwater level, and the management of potential impacts such as dust, odour, and stormwater typically generated by such works. Provided the client with advice in the selection of the appropriate strategy.
- Prepared work plans for further site investigations to be undertaken on the naval stores depot at Rydalmere in NSW for the Department of Defence. Project managed and provided client and auditor liaison during and after the implementation of the work plan. Designed the remedial strategy for the site. Remediated to low to medium density residential standards.
- Project managed and supervised the decommissioning of underground storage tanks on various sites, including warehouses, commercial and industrial sites and Sydney International Airport. Clients included Harcourt Brace and Co, Longworth Constructions, Federal Airports Commission, Walker Civil Engineering and John F. Taylor and Sons.
- Prepared the remedial action plan for the redevelopment of the historic Grace Brothers site, Broadway, NSW. The plan was prepared after project managing and supervising the Phase II environmental site assessment to assess the nature and extent of contamination on the site. Supervised and project managed the validation of the site after implementation of the plan. Guided negotiations with the NSW Environment Protection Authority and local government to ensure smooth passage of project.
- Undertook a Phase II environmental site assessment for 582–586 Parramatta Road, Croydon, NSW, private client. This site lies adjacent to the infamous AWA site. Prepared the remedial action plan for this site. Was involved in substantial negotiations between the NSW Environment Protection Authority, local council and potential purchasers. Remedial action provided for a "cap and contain" approach.
- Prepared a remedial action plan for containment of contaminated fill in an impermeable clay cell under a proposed medium density residential development in Marrickville, NSW, private client.
- Undertook sampling and analysis program for Energy Australia to determine if off-site contamination was occurring from the site adjacent to one of its substation sites.
- Undertook sampling and analysis program to verifying nature and origin of waste received at landfill from the remediation of a former paint production facility located at Cabarita.

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- Review of quarterly monitoring reports detailing collection of environmental samples, testing and results for various clients. Substantial input into strategic modifications to the sampling program to ensure that the objectives and requirements of the clients' NSW Environment Protection Authority licence were met.
- Undertook contamination investigations for Briggeton Constructions Pty Ltd at three different sites as part of the development application process. The sites were at Greystanes, Blacktown and Concord.
- Prepared the soil study technical paper for contamination for the environmental impact assessment for the Replacement Nuclear Research Facility for the Australian Nuclear Science and Technology Organisation.
- Project managed and provided technical input into intensive site investigations involving air monitoring, soil vapour surveys, soil sampling and analysis, and groundwater (deep and perched) sampling and analysis at a former gas works site located in the north western NSW, private client. The project involved interaction with the client, the community, the auditor and the Environment Protection Authority. This site was subject to a Section 36 Notice under the NSW Environmentally Hazardous Chemicals Act.
- Project managed and technically reviewed a contamination assessment of the sediments in Neutral Bay, Sydney NSW. The sediment study included sampling of sediment cores, logging and splitting of cores, selection of core samples for analysis and technical review of analytical results to determine the contamination concentrations present in the bay sediments. The information is currently being assessed to determine if the bay has been impacted by industry historically located on the foreshores of Neutral Bay.
- Technical review of chemical reduction efficiencies in contaminated soils following processing through a pilot direct thermal treatment facility located in Newcastle.
- Was employed by the NSW Environment Protection Authority for approximately five years. A portion of this time was spent in the Contaminated Sites Section, Sydney. Experience included:
 - ✓ critical review of over twenty environmental site assessments and remediation reports prepared for third party review. These included former service station sites, former market garden sites and land rezoning proposals (commercial to commercial and commercial to residential);
 - ✓ applying legislation relating to contaminated sites effectively and practically with the goal of ensuring that these sites did not pose unacceptable environmental or public health risks; and
 - ✓ provision of practical, accurate and timely advice and support regarding the management of contaminated sites to Environment Protection Authority, officers, consultants, land owners, industry, developers and other government departments.

Hazardous Risk Assessment

- Quantitative risk analysis undertaken for the transport of Class 3 dangerous goods by road and rail over the Blue Mountains, Sydney, NSW.
- Preliminary hazard analysis for a light organic solvent timber treatment facility. The analysis involved both qualitative and quantitative aspects of risk assessment.
- Prepared the hazard and risk assessment Technical Paper for the construction and operation of the proposed Southern Sydney Freight Line. This assessment qualitatively reviewed risks

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associated with the transport and storage of dangerous goods along the proposed bi-directional track, and included identification of risks, an assessment of the potential consequence of such risk, the likelihood of an event occurring and determination of the overall risk in terms of individual, societal and environmental risk.

Ambient Environmental Monitoring

- Project Director for the three year occupational health and safety, and environmental monitoring package for the remediation of the former Union Carbide (Lednez) site, and sediments of Homebush Bay, Rhodes, NSW for Thiess Services. These services were provided to ensure that the project was compliant with regulatory and operational systems and targets. Of key importance was the safety of site workers, public safety and the protection of the environment. Accordingly early warning systems were built into the project environmental management systems to flag early exceedences and promote first response actions.
- Prepared an indoor air quality monitoring plan for the monitoring of contaminant levels in indoor air in relation to a former gasworks site located at Forbes, NSW.
- Prepared groundwater monitoring program for two former gasworks sites, one located in Forbes, the other in a high profile Sydney location.
- Installation of "nested" and single monitoring wells on a variety of projects through various geological strata

Indoor Environments – Indoor Air Quality, Legionella Testing, Potable Water, Lighting

- Regular site inspections and monitoring of indoor air quality and the systems responsible for delivering adequate fresh clean air to a buildings occupant at over 300 buildings around Australia. Major clients include:
 - ✓ Lend Lease (now Bovis Lend Lease),
 - ✓ Jones Lang La Salle,
 - ✓ AMP Capital,
 - ✓ Tabcorp,
 - ✓ Qantas,
 - ✓ Perth Water,
 - ✓ Attorney Generals Department,
 - ✓ Commonwealth Law Courts,
 - ✓ Royal North Shore Hospital,
 - ✓ QBE,
 - ✓ Sydney Markets.
- Undertook a series of urgent investigations on site at a NSW Court House property to assess the quality of air within the building(s), and to determine the source of the contamination which is causing a sharp odour in the New Registry Building. The odour was reported to be causing significant irritated throats and headaches. The building had previously been emptied of staff over concerns of impacts to staff health and safety. The cause of the problem was



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tracked to a source flowing into the sub drainage of the site from an adjacent excavation and into the basement of the building. Air from the basement was part of the make up supply air thus causing the volatile vapours from the source contaminant to be distributed around the building. The source material was removed as part of a remediation process conducted as part of this job, the area validated and clearance given so that staff could continue to work safely within the court and adjacent buildings.

- Undertook an inspection of environmental conditions associated with reported illnesses in a NSW Public School in north western NSW for the Department of Education and Training. Potential adverse environmental health sources were identified in accordance with National Environmental Protection Measure (1999) in respect of both site history and usage, and current usage as a means of identifying potential sources. This process included the identification of potential exposure pathways relating to indoor air, soils and fill, surface or groundwater. The scope included:
 - ✓ Stakeholder consultation with the affected parties to understand better their concerns and the manner in which they interact with the school environment (building usage, timing, etc) resulting in the development of a staff survey document.
 - ✓ Consultation with the local and regional health services to determine if similar circumstances have been recorded or reported in this environment.
 - ✓ A site inspection to assess any likely contributors to the condition of the employees.
 - ✓ An assessment of the likely level of risk to employees in the school given the information obtained from usage patterns and the site inspection.

Occupational Health and Safety

- Prepared various occupational health and safety plan as project manager responsible for the health and safety staff and subcontractors on various projects.
- Reviewed occupational health and safety plan for Walker Civil Engineering for the remediation of a former power station site.
- Prepared an occupational health and safety plan for Transfield Constructions Pty Ltd for chemical clean up and sampling at a former solvent recycling facility located at Wilberforce, NSW which burnt down in mid 1998. As the site is now classified as an "orphan" site, the clean up is being funded by the NSW Environment Protection Authority from the NSW Environmental Trust Fund.

Commission of Inquiry

- Represented client at Commission of Inquiry for the remediation of the former Lednez site and a portion of Homebush Bay as project manager and key author of the environmental impact statement, as coordinator of the technical team, and as technical expert associated with risks and hazards.

Professional History

2005 – present Healthy Buildings International
1996 – 2005 Parsons Brinckerhoff (formerly PPK/Rust PPK)
1992 – 1996 New South Wales Environment Protection Authority
1991 – 1992 New South Wales Waste Recycling and Processing Service (NSW Waste Service)

Leaders in Environmental Consulting



HBI	Healthy Buildings International Pty Ltd
1990 – 1991	EML Laboratories (Microbiological Analysis)
1989 – 1991	Healthy Buildings International
1989	Pickford Consulting (Asbestos Services)

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20 February 2015

Ref: 4046591

Ms Carolyn McNally
Secretary NSW Department of Planning & Environment
GPO Box 39
SYDNEY NSW 2001

Attention: Karen Jones, Director Infrastructure Projects

Dear Ms Jones,

**RE: CBD and SE Light Rail Project (SSI-6042)
Nomination of Environmental Representative for Stage 2**

In accordance with Condition of Approval B87, Transport for NSW (TfNSW) nominate for the approval of the Secretary Ms Gillian Lehn and Mr Joseph Cacdac of AQUAS as Environmental Representative and alternate Environmental Representative, respectively, for Stage 2 of the CBD and South East Light Rail Project (SSI 6042). TfNSW is of the opinion that Ms Lehn and Mr Cacdac are suitably qualified and experienced to fulfill the role and are independent of the design and construction personnel for Stage 2 of the project.

Please find attached Ms Lehn's and Mr Cacdac's curricula vitae for your consideration.

If you have any queries or feedback, please contact Justin Perrott, Senior Manager Environment, on [redacted] or [redacted] or at [redacted]

Yours sincerely,

Justin Perrott
Senior Manager Environment
Planning & Environment Services
Transport Projects, Transport for NSW

Copy: Ingrid Ilias, Felicity Greenway and Karen Harragon



CURRENT POSITION
Management Consultant, AQUAS

QUALIFICATIONS
BE (Environmental)
University of Wollongong (1996)
RABQSA Registered OHS Auditor (011509)
Internal Environmental Auditor,
ISO14001, ETRS

MAJOR PROJECTS

- ✓ Conduct of Environmental and OHS audits of major infrastructure projects
- ✓ Conduct of ISO 14001 Certification Audits
- ✓ Environmental Management Representative for:
 - Richmond Line Duplication
 - Auburn Stabling Project Stage 1
 - North Sydney Station Upgrade Project
 - Homebush-Lidcombe Upgrade Projects
 - Darling Anabranh Infrastructure Project
 - Glenfield Transport Interchange Project including Glenfield Southern Junction and
 - Commuter Carpark Program for the following carparks: Quakers Hill, Wollongong, Waterfall, Woonona.
- ✓ Development of Integrated Management Systems for consultant and construction organisations

EXPERIENCE, SKILLS AND CORPORATE FOCUS

Gillian's environmental engineering skills have been augmented by working on a diverse range of projects, from conducting environmental and safety audits of numerous road and building construction sites, to the development of management systems for certification to AS4801, ISO14001 and ISO9001.

Gillian has extensive experience in the design, documentation and implementation of quality, OHS&R and environmental management systems and the associated management plans for a particular project.

Gillian has been the Environmental Management Representative for a number of Railway Station Upgrade Projects, which involved ensuring Contractors Compliance with the Conditions of Approval for major infrastructure projects.

Gillian has provided assistance in the development and implementation of environmental audit programmes for infrastructure projects throughout NSW

Gillian is a registered auditor with RABQSA and has used these skills during numerous projects, covering all aspects of civil infrastructure and building works.

1999 to Present: Australian Quality Assurance & Superintendence (AQUAS)

Project Engineer

Gillian's role at AQUAS has primarily been in the area of environment and occupational health and safety. Some of the engagements Gillian has undertaken include:

- ✓ Environmental Management Representative for the following Infrastructure Projects:
 - Richmond Line Duplication.
 - Commuter Carpark Program for the following carparks: Quakers Hill, Wollongong, Waterfall, Woonona.
 - Glenfield Transport Interchange Project including Glenfield Southern Junction.
 - Auburn Stabling Project Stage 1.
 - Darling Anabranch In-stream Infrastructure Project
 - North Sydney Station Upgrade Project
 - Homebush-Lidcombe Upgrade Projects
 - Parramatta Interchange (Assistant to designated EMR)
 - Chatswood Interchange (Assistant to designated EMR)
- ✓ Consulting advice in the development of management systems for certification to AS4801:2001, ISO14001:2004 and ISO9001:2000 for Clients including:
 - JBS Environmental
 - Cessnock City Council
 - Events Project Management
- ✓ Conduct of site audits against the requirements of AS4801:2001 and NSW OHS Act and Regulations;
- ✓ Certification audits and surveillance's of construction companies on behalf Global-mark certification services.
- ✓ Regular on-site compliance audits and inspections and initial desk top reviews of management systems for the following major construction projects:
 - Yelgun to Chinderah
 - Howlong Bridges Stage 2
 - Oak Flats Interchange
 - Tandy's Lane Upgrade
- ✓ Conduct of a series of desktop reviews, audits and inspections for Sydney Airport Corporation Limited of their subcontractors against the OHS requirements of their contracts.

1996 – 1999: Pioneer Road Services

- ✓ Ensure company policy, procedures and systems comply with statutory and legal requirements and any licence conditions;
- ✓ Develop site/project specific environmental and safety management plans that reflect actual site practice and comply with specification requirements as well as ensuring licence conditions are addressed;
- ✓ Ongoing development of Company's training, safety and environmental systems
- ✓ Auditing of Company systems and procedures
- ✓ Monitor changes in legislation that effect the business
- ✓ Training of staff in safety and environmental related procedures and issues
- ✓ Coordinate improved safety performance
- ✓ Work Cover accredited Rehabilitation Coordinator
- ✓ Compile safety and environmental statistics and monitor incident reporting and investigations.



CURRENT POSITION

Consultant

QUALIFICATIONS

Masters of Environmental Law,
University of Sydney Law School
MAppSc Remote Sensing
University of NSW
BSc Mining Engineering
University of the Philippines

MAJOR ACHIEVEMENTS

- ✓ Environmental Management
- ✓ Environmental Impact Assessment
- ✓ Mine Environment Studies
- ✓ Remote Sensing/GIS
- ✓ Contaminated Site Assessment and Remediation

EXPERIENCE SUMMARY

Joseph has over 25 years industry experience including 14 years in environmental and engineering consulting. Joseph has worked on environmental impact assessments and environmental management for a wide range of projects including infrastructure, manufacturing, energy, mining, and telecommunications, taking on both project management and technical specialist roles.

Joseph has been involved in the independent design and construction verification of major infrastructure projects, Joseph covers the environmental management verification, including management plan reviews and construction site surveillance.

Joseph has also been the environment discipline leader in road design projects, preparing and reviewing environmental assessments, developing environmental management plans, and reviewing contract specifications relevant to environmental protection.

Joseph has also been involved in contaminated sites work, including field supervision and engineering support in site remediation and Phase I and II environmental site assessments.

Joseph has undertaken technical assessments of various mine development projects, including pipeline route selection, deep-sea tailings placement, process plant design and mine rehabilitation.

Joseph has degrees in environmental law (MEL), remote sensing (MAppSc) and mining engineering (BS). He is a member of the Institution of Engineers, Australia.

EXPERIENCE HISTORY

Environmental Management

- Airport Link Project, Brisbane QLD – Member, Independent Verifier's Team (On-site verification of environmental management compliance by D&C contractor, review and audit of environmental plans and construction method statements, construction surveillance, quality records review)
- Energex 110kV South Pine to Hays Inlet Overhead Transmission Line, , Brendale QLD – Construction team environmental officer (preparation of environmental management plans, site environmental inspections and audits)
- Minimbah Bank Project, Singleton NSW – RTA Construction Works Verifier (review of construction quality records, release of hold points, site surveillance, liaison with RTA Project Manager)
- Lane Cove Tunnel Project – Member, Independent Verifier's Team (On-site verification of environmental management compliance by D&C contractor, review and audit of environmental plans and construction method statements, construction surveillance, quality records review, construction completion review, Works-As-Executed drawings review)
- RTA-URS Design Alliance for the Camden Valley Way Upgrade between Cobbitty Road and Narellan Road, Narellan – Environment Discipline Leader (Preparation of REF, preparation of PEMP and environment specifications (G36, G38, G40); Design management support by way of project services program)
- RTA-URS Design Alliance for the Camden Valley Way Upgrade between Bernera Rd and Cowpasture Rd, Horningsea Park – Environment Discipline Leader (Review of REF, preparation of PEMP and environment specifications, Design management support by way of project services program)
- RTA-URS Design Alliance for the Cowpasture Road Upgrade between M7 Westlink and North Liverpool Road – Environment Discipline Leader (Review of REF, preparation of Addendum REF, PEMP and environment specifications, Design management support by way of project services program)
- RTA Great Western Highway Upgrade, Woodford to Hazelbrook Section – Environment Discipline Leader
- RTA Windsor Road Upgrade, Acres Rd to Old Windsor Rd – Environment Discipline Leader
- M5 East – Surface Water Monitoring and Reporting
- Caltex Clean Fuels Project Construction Environmental Management Plan
- TransGrid 132kV Molong to Manildra Transmission Line Construction Environmental Management Plan
- Sydney Catchment Authority Rectification Action Plan (RAP) for the Wingecarribee Sub-catchment

Contaminated Sites Assessment and Remediation

- AGL's Mortlake Rehabilitation Project – field supervision and engineering support for site remediation activities
- Remediation of Telstra sites, Northern Territory - technical review of remediation and validation reporting
- various industrial sites -- soil, surface water and groundwater investigations; odour monitoring

Environmental Impact Assessment

- Sydney Ports Corporation's Port Botany Expansion Project, Botany Bay NSW (EIS)
- Transfield Collector Wind Farm – Environmental Assessment under Part 3A EP&A Act
- RTA Camden Valley Way Upgrade, Narellan to Cobbitty – REF

- Integral Energy Access Track Re-establishment Program – Environmental assessment and access track works planning
- Macquarie Generation's Gas Fired Power Station Project, Tomago NSW (EIS)
- Caltex Clean Fuels Project (New Benzene Saturation Unit and Upgrade of Diesel Hydrotreater), Kurnell NSW (Statement of Environmental Effects)
- Caltex Flare Replacement Project, Kurnell NSW (Statement of Environmental Effects)
- TransGrid 132 kV Molong to Manildra Transmission Line Project, Molong NSW (Review of Environmental Factors)
- Capral Aluminium Extrusion Plant, Smeaton Grange NSW (EIS)
- Department of Defence's Introduction of the Hawk Lead-In Fighter Jet Trainer for RAAF Base Williamtown (EIS)
- Armidale Dumaesq Council's Former Gasworks Site Remediation Project, Armidale (EIS)
- Telstra Mt Keira Cable Replacement Project, Mt Keira NSW - Preliminary environmental and statutory planning assessment
- UECOMM Overhead Fibre Optic Cable Rollout, Fairfield and Holroyd, NSW (Statement of Environmental Effects)
- EPBC Determination – various Telstra cable installation projects
- Taiwan Overseas Mining (Phils.) Co.'s Integrated Little Baguio Coal Project, Zamboanga, Philippines (EIS)

Mine Environment Studies

- Mindex's Mindoro (Laterite) Nickel Project (Philippines) – rapid environmental appraisal and EIS scoping study
- Lafayette Volcanogenic Massive Sulphide Exploration Project (Philippines) - formulation of an environmental support program; evaluation of an Acid Rock Drainage problem.
- Copper-Gold Exploration Project (client confidential) (Philippines) – development of a baseline data-gathering program to support the environmental permitting of the project.
- Philnico's Nonoc (Laterite) Nickel Project (Philippines) - Environmental Impact Assessment and Environmental Risk Assessment
- QNI Submarine Tailings Placement Preliminary Studies for various sites (Philippines)
- International Pursuit Philippines Inc.'s Hinoba-an Copper Project (Philippines) - initial assessment for a submarine tailings disposal system (porphyry copper).
- Minoro Mining and Exploration Corp.'s proposed reopening of Atlas Consolidated's Cebu Copper Operations, Cebu, Philippines - environmental assessment (porphyry copper)
- Lepanto Consolidated Mining Corp., Mankayan Philippines - environmental, health and safety, and community relations assessment

Professional History

APP Corporation Pty Ltd, Senior Project Manager, 2010-present

URS Australia Pty Ltd, Senior Associate Environmental Engineer, 1999-2010

Dames & Moore Manila (Philippines), Engineering and Geoscience Manager, 1997-1999

Natural Resources Development Corp., Philippines, Department Manager, 1995-96

ADA Precious Metals, Philippines, Process Engineer, Mar-Dec 1993

Taurus Minerals & Research Corp., (Gold Recovery Plant), Phils, Process Manager, 1990-1992

Sanwa Minerals & Research Corp. (Gold Recovery Plant), Phils, Operations Manager, 1987-1990

Supra Systems (Phils.), Inc., Philippines, Project Engineer, 1986-1987

Supra Process and Engineering Supplies, Philippines, Technical Sales Assistant, 1980-1981

June 28, 2016

5258344

Ms Carolyn McNally
Secretary
Department of Planning and Environment
GPO Box 39
SYDNEY 2001

Dear Ms McNally

CBD and South East Light Rail (CSELR) (SSI-6042) - Nomination of Environmental Representative for the CSELR Project (SSI-6042)

Ward Civil has been appointed by Transport for NSW (TfNSW) as the Principal Contractor to design and construct the alternative access for impacted properties fronting High Street in Randwick and the alternative parking for the Langton Centre Parking in Surry Hills. These works will be outlined as Stage 3 in the Staging Report, yet to be submitted to the Department of Planning and Environment (DPE).

In accordance with Condition of Approval B87, Transport for NSW (TfNSW) would like to nominate Ms Alice Pryke of Healthy Buildings International (HBI) as Independent Environmental Representative for the design and construction of the Stage 3 works. Ms Jo Robertson of HBI is nominated as the alternate independent Environmental Representative in the event that Ms Pryke is not available for two weeks or more.

Ms Pryke and Ms Robertson were approved as the primary and alternate independent Environmental Representatives by the Secretary of DPE (13/08339-10) for Stage 1 of the CSELR Project and is suitably qualified and experienced to fulfill the role as Independent Environmental Representative for the above mentioned works.

Please find attached Ms Pryke's and Ms Robertson's curricula vitae for your consideration and approval.

If you have any queries or comments, please contact me directly on _____ or at _____

Yours sincerely

Stephanie Mifsud
Senior Manager Planning and Environment

Copy: Lisa Mitchell, Team Leader, Transport Assessments
Karen Harragon, Director Social and other projects

ALICE PRYKE

Senior Environmental Consultant

Years of Experience

12

Language(s)

English

Education

Bachelor of Science (Botany & Ecology), Victoria University of Wellington, NZ, 1998

Diploma of Horticulture (Landscape Design), Ryde TAFE College, Sydney, 2002

Masters of Environmental Law, Macquarie University, Sydney, 2010

Professional Affiliations/Accreditations

RABQSA Qualified Lead Auditor

Bonded Asbestos Removal (Course Code 9055)

Effective Communication, Australian Institute of Management

Certified in Rail Industry Safety Induction (RISI)

Rail Safety Worker (On Site Track Easy)

Occupational Health and Safety General Induction for Construction Work in NSW

Employment History

2010 – present	Healthy Buildings International
Jan 2010 – Dec 2010	NSW Parliament
2006 – 2009	Leighton Contractors
2004 – 2005	Abigroup Leighton Joint Venture
2003 – 2004	Kelly Services
2001 – 2002	Pittendrigh Shinkfield Bruce
2000 – 2001	Betz Dearborn

KEY AREAS OF EXPERTISE**Government experience**

Alice has had experience in working closely with local and state government stakeholders through on-site roles, for example as Environment Manager, in which ongoing interaction and co-operation with regulatory authorities such as TfNSW, Office of Environment and Heritage, Roads and Maritime Service and local councils has been vital.



Alice has also worked at the other end of the governmental spectrum as a research and policy advisor to a Member of the NSW Legislative Council. This role involved researching key environmental issues and their current management in order to provide general policy and legal advice, undertaking consultation with key non-governmental and business stakeholders in order to inform the development of private members bills and assessing government and private members bills in order to provide policy and legal advice on the potential implications of changes to existing legislation, including researching and preparing response to these bills, for example *the National Parks and Wildlife Amendment (Visitors and Tourists) Bill 2010*, the *Coastal Protection and Other Legislation Amendment Bill 2010 (No.2)* and the *Nature Conservation Trust Amendment Bill 2010*. This has given Alice a holistic view of the framework in which Government policies and laws are developed and then applied

Legislative and regulatory frameworks

Alice has recently completed a Masters in Environmental Law which has provided a strong foundation in the development and principles of environmental legislation in New South Wales, other Australian jurisdictions and the international arena. Her time working as a research and policy advisor for a Member of the NSW Legislative Council involved assessing government and private members bills in order to provide policy and legal advice on the potential implications of changes to existing legislation. On a number of construction projects in NSW, Alice has also developed an understanding of how to determine which environmental laws and regulations relate to the activities of a specific project, and to then develop strategic and targeted management measures to be put in place to meet the legislative requirements.

Further to this experience, Alice has a sound practical understanding of how environmental and occupational health and safety legislation, standards, codes of practice and guidelines are applied in the day to day activities of construction sites and office environments.

Environmental management in construction

Alice has held a number of site based construction positions that have involved the development and management of project environmental systems, including compliance tracking and reporting. This has included development of environmental management plans, sub plans and associated processes and protocols such as monitoring records, undertaking site inspections to verify actual activities against approved documentation and legislative obligations, managing environmental sub-consultants performance, providing support, information and training to project teams on community relations and environmental requirements, processes and protocols, and conduct audits of project and subcontractor environmental management performance.

Alice has had a number of roles as an independent Environmental Management Representative or Environmental Representative on infrastructure projects in NSW, including on the Sydney Light Rail Project, on the TCA Revesby Commuter Car Parks Project and the TCA Glenfield to Leppington Rail Line. She is also the Department of Planning and Infrastructure approved Environmental Representative for the Port Kembla Cement Grinding Facility Project.



Environmental impact assessment

Alice has been involved in the assessment and review of environmental and social impacts of proposed bridge construction works in order to determine how works should proceed, including targeted community and environmental stakeholder consultation as part of out of hour's works approvals.

Alice has recently been working in independent environmental management representative roles which again require a sound understanding of how an environmental impact assessment fits into the overarching project approval and ongoing compliance framework.

Community consultation

Alice has had a number of construction based community relations roles on infrastructure projects in New South Wales. These roles have required the ability to employ appropriate communication techniques to ensure that the target audience, whether it is a group or individual, understands the message being provided and is therefore able to engage with the project in a meaningful way. She understands that effective communication skills are vital to ensuring the meaningful engagement of government, business and community stakeholders.

Alice has proven strong communication skills that have been honed through the development and dissemination of written communications such as newsletters, information packs, media releases and environmental assessment documents to verbal skills such as door-knocking, presentations to community groups and consultation with key stakeholders such as local councils, state government agencies and other private corporations. Communication of key project environmental and community management aspects to construction personnel has also required an understanding of how best to disseminate this information to internal stakeholders.

Risk assessment, due diligence, compliance management and auditing

Alice has worked on and reviewed risk assessments and associated management measures for construction projects as both a construction contractor and as an independent Environmental Management Representative or Environmental Representative (EMR/ER). When working as a contractor this has involved undertaking an analysis of risks arising from the environmental assessment process as well as site specific and corporate risk profiles. In EMR/ER roles this has required an understanding of likely risks, their consequences and potential impacts to ensure that both governmental clients and contractors are adequately assessing their risks, and providing advice on scope of assessment and associated management measures where necessary.

Alice holds skills and experience in undertaking and recording due diligence for construction projects through auditing of environmental management systems, tracking and reporting on project compliance, reviewing management strategies and plans, and assessing risk aspects and impacts in organisational, project and operational facility settings.

Alice has been involved in the development and implementation of a corporate environmental management system for a large construction corporation to ensure that all operations and projects across Australia were operating to a consistent standard while still meeting all relevant legislative requirements within each jurisdiction.

KEY PROJECT EXPERIENCE



Project	Inner West Light Rail
Client	TfNSW
Value of project	\$350,000
Duration of project	2012 - present
Role on project	Environmental Representative (alternate then lead)
Duration of role	2012 - present
Details of role	The project involved the construction and operation of an extension of the light rail between the existing Lilyfield light rail stop and the new Dulwich Hill Interchange stop. The project also involved the construction of nine new light rail stops and associated streetscapes works. As Environmental Representative Alice was responsible for undertaking regular environmental site inspections and monitoring and reporting on the project's Conditions of Approval and other relevant environmental obligations. In the early stages of the project, Alice was involved in reviewing the contractor's environmental management documentation prior to submission to the Department of Planning for approval. Throughout the project, Alice was responsible for reviewing and endorsing out of hours works applications within the scope of the Environmental Representative role.

Project	Wynyard Walk
Client	TfNSW
Value of project	\$145,000
Duration of project	2013 - present
Role on project	Environmental Representative (alternate)
Duration of role	2013 - present
Details of role	Wynyard Walk will provide a fully accessible pedestrian link between Wynyard Station and the developing CBD western corridor and Barangaroo. The walkway will allow pedestrians to get from Wynyard transport hub to the Barangaroo waterfront. As the alternate Environmental Representative Alice was involved in the initial review of the contractor's environmental management documentation prior to submission for endorsement by the client.



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Project	Sydney Opera House VAPS Project
Client	Sydney Opera House Trust
Value of project	\$27,000
Duration of project	2013 - present
Role on project	Environmental Auditor and Site Inspector (joint role)
Duration of role	2013 - present
Details of role	The Vehicle and Pedestrian Safety (VAPS) Project has been designed to address the long standing objectives of separating heavy vehicles from pedestrian traffic on the Forecourt of the Sydney Opera House thereby improving public safety; improving the visitor's experience and views to the Sydney Opera House; as well as improving the functioning of the site as a performing arts venue. As the joint Environmental Auditor and Site Inspector Alice was involved in undertaking a review of the project's environmental management documentation and approvals, regular systems audits and site inspections.

Project	Sydney Opera House Environmental Risk Review
Client	Sydney Opera House Trust
Value of project	\$13,000
Duration of project	2013
Role on project	Senior Environmental Consultant
Duration of role	2013
Details of role	The Sydney Opera House engaged HBI to undertake a review of current environmental risk management within certain areas of operation, including food and beverage, incident management, building maintenance, legal compliance management and events. Interviews with key staff were also undertaken to identify current practices and understanding of environmental risk management within the organisation. A gap analysis was then undertaken to identify key areas of strength and suggestions for improvement.

Project	Port Kembla Cement Grinding Facility Project
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Client	Cement Australia/Ammjohn
Value of project	\$180 million AUD
Duration of project	January 2012 - ongoing
Role on project	Environmental Representative
Duration of role	January 2012 - ongoing
Details of role	A joint venture between Cement Australia and Ecocem for the construction of a grinding mill on the Outer Harbour of Port Kembla to provide a significant portion of the cement required for the NSW market capable of grinding 1,100,000 tonnes of cementitious product per annum. The project itself includes installation of a grinding mill, materials storage, clinker storage, site infrastructure and a silo bank for storage and despatch of finished product. The project site is located within the Wollongong Local Government Area, in the Outer Harbour of the port of Port Kembla. The ER role is set out in the Conditions of Approval for the project, and involves: • overseeing the implementation of all construction-related environmental management plans and monitoring programs required under this approval, and advise the Proponent upon the achievement of these plans/programs • liaising with the Environmental Representative(s) for the Outer Harbour Development with regard to any relevant site wide management plans and compliance obligations • considering and advising the Proponent on its compliance obligations against all matters specified in the requirements of this approval, relevant management plans and all other applicable permits, approvals and licences required and obtained in relation to the project • having the authority and independence to recommend to the Proponent reasonable steps to be taken to avoid or minimise unintended or adverse environmental impacts associated with the construction of the project • having the authority to recommend to the Proponent cessation of activities if there is a significant risk that adverse environmental impacts are likely to occur

Project	Glenfield to Leppington Rail Line
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Leaders in Environmental Consulting



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Client	TfNSW
Value of project	\$600 million AUD
Duration of project	2010 - ongoing
Role on project	Environmental Representative (alternate)
Duration of role	2010 - ongoing
Details of role	The role of the Environmental Representative, as specified by the project documentation, is to Independently oversee the implementation of all environmental management plans and monitoring programs, independently advise the Proponent (TCA) on its compliance obligations against all relevant requirements of the Concept Plan, Project Approval and Statement of Commitments, permits and licenses and have the authority and independence to require reasonable steps to be taken to avoid or minimise unintended or adverse environmental impacts. The Environmental Representative undertakes a range of regular inspection, reporting and auditing tasks to ensure the project is meeting the required environmental compliance. The Environmental Representative is also engaged to provide expert advice regarding measures to improve environmental performance on site and to identify and assist in managing high risk work activities.

Project	Revesby Commuter Car-park
Client	Transport Infrastructure Development Corporation
Value of project	\$22 million AUD
Duration of project	2010 - 2012
Role on project	Environmental Representative (alternate)
Duration of role	2010- 2012
Details of role	Alice was the alternate Environmental Management Representative (EMR) for the construction of this multi storey car park at Revesby NSW. This role was to meet the specific requirements for an EMR as established by the development consent for the project, including weekly environmental site inspections and monitoring and reporting on compliance with the Conditions of Approval and other relevant environmental obligations.

Project	Sydney Light Rail (Stage 1)
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Leaders in Environmental Consulting



Client	TfNSW
Value of project	Unknown
Duration of project	2010 - 2011
Role on project	Environmental Representative (alternate initially then lead)
Duration of role	2010 - 2011
Details of role	The project involved the construction and operation of a 5.6 kilometre extension of the light rail between the existing Lilyfield light rail stop and the proposed Dulwich Hill Interchange stop. The extension is located within the disused Rozelle goods line corridor. The project also provided for nine new light rail stops. As Environmental Representative Alice was responsible for undertaking regular environmental site inspections and monitoring and reporting on the project's Conditions of Approval and other relevant environmental obligations.

Project	Kingsgrove to Revesby Quadruplication
Client	Transport Infrastructure Development Corporation
Value of project	\$500m AUS
Duration of project	2007 – ongoing
Role on project	Community Relations Systems Manager
Duration of role	2007 - 2008
Details of role	During the environmental assessment and site investigation phases on the Kingsgrove to Revesby Quadruplication Project, Alice worked as part of a team accountable for managing community relations with local stakeholders. She was responsible for the provision of support, information and training to the community relations team and the wider project team with regard to community and stakeholder relations requirements, processes, protocols and systems. Specifically Alice's role was to act as a representative on the project Sustainability Working Group; act as a member of Noise Wall Steering Committee (responsible for transparent decision making for the final noise wall design); provide input into the development of the Environmental Assessment and Statement of Commitments; coordinate and attend Community Liaison Meetings during the environmental assessment phase; develop and disseminate external written communications; manage the community relations contact database; develop and disseminate community relations processes and protocols, and sustainability training and awareness for the community relations and wider project teams; provide strategic advice and support to the community relations team regarding the construction environment;



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	participate in the development of specific environmental controls and traffic control plans; liaise with communities adjacent to the project corridor, including investigation of complaints; provide feedback into client stakeholder groups and assist in the development and delivery of internal communications.
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Project	Macdonaldtown Stabling Project
Client	Transport Infrastructure Development Corporation
Value of project	\$22m AUS
Duration of project	2006 - 2007
Role on project	Environment and Community Relations Manager
Duration of role	2006 - 2007
Details of role	The project involved constructing new stabling facilities adjacent to Macdonaldtown Station. The construction of a stabling facility close to the city significantly reduces empty train movements on the metropolitan network, which in turn reduces congestion and improves reliability on the Airport, South, Bankstown and Campbelltown Express lines. As the Community Relations and Environmental Manager this project, Alice was responsible for the development and implementation of both environmental management and community relation strategies during the construction phase. This involved preparation and implementation of the project Environmental Management Plan and 8 associated sub-plans to meet the project specific Part V planning approval, the TIDC Clearway Environmental Protection Licence, and RailCorp's Environmental Protection Licence, as well as the internal environmental management system requirements of TIDC and Leighton Contractors; undertaking environmental site inspections and monitoring to ensure project compliance; coordination with the independent Environmental Management Representative; development and implementation of site environmental documentation; advising and training the project team on environmental management planning and controls; responding to environmental incidents; recording and reporting on project environmental compliance; conducting environmental audits; liaising with community and other stakeholders and the client communications team; managing and reporting on community contacts; attending and presenting at monthly Community Liaison Group meetings.

Project	Westlink M7
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Leaders in Environmental Consulting



Client	NSW Roads and Traffic Authority
Value of project	\$1.5B AUD
Duration of project	2002 - 2005
Role on project	Environmental Officer (Compliance) (in addition to existing community role)
Duration of role	March 2005 – December 2005
Details of role	The Westlink M7 is a 40 km motorway linking the M2, M4 and M5 motorways. It comprises of seventeen interchanges along the motorway provide access to the communities of Liverpool, Fairfield, Blacktown and Baulkham Hills, improving transport options to these areas. Thirty-eight underpasses and overpasses maintain local access for pedestrians, cyclists and motorists along the full length of the motorway. In March 2005, Alice's role on the Westlink M7 was expanded to also include responsibility environmental compliance across the project, as well as her existing role in community relations. Specifically her role in environmental compliance was to: • Monitor and report on compliance with the project Minister's Conditions of Approval in relation to community relations and environmental obligations, including undertaking environmental site inspections during construction adjacent to a National Park and to Potential Aboriginal Deposit sites and developing documentation to show project compliance prior to commencement of the operational phase • Manage environmental sub-consultants performance against contractual and legal obligations • Coordinate development of environmental site rehabilitation and re-vegetation plans for post-construction, including rehabilitation of land used for concrete batching plant during construction and landscaping of road corridor with plants from locally native species • Assess and review environmental and social impacts of proposed construction works in order to determine how works should proceed, including targeted community and environmental stakeholder consultation as part of out of hours works approvals, particularly in relation to critical bridge construction works • Liaise with key environmental stakeholders such as National Parks and Wildlife and local Councils • Liaise with independent community relations and environmental representatives • Manage the Community Contact Database • Review and manage email communications of the Community Relations team • Community Relations Officer duties as below



Project	Westlink M7
Client	NSW Roads and Traffic Authority
Value of project	\$1.5B AUD
Duration of project	2002 - 2005
Role on project	Community Relations Officer
Duration of role	January 2004 – March 2005
Details of role	The Westlink M7 is a 40 km motorway linking the M2, M4 and M5 motorways. It comprises of seventeen interchanges along the motorway provide access to the communities of Liverpool, Fairfield, Blacktown and Baulkham Hills, improving transport options to these areas. Thirty-eight underpasses and overpasses maintain local access for pedestrians, cyclists and motorists along the full length of the motorway. On commencement of the Community Relations Officer position, Alice was responsible for community liaison along 10 kilometres of the southern section of the 40 kilometre Westlink M7 motorway alignment, this area of responsibility was increased to 22 kilometres in July 2004. This role provided Alice with a strong background in the issues associated with a major “linear” construction project. Specifically her role was to: • Liaise with communities adjacent to the project corridor, including investigation of complaints • Monitor and coordinate responses to complaints, including overseeing and reviewing noise and vibration monitoring undertaken by both internal and external project representatives to investigate complaints received and demonstrate compliance with relevant construction noise limits and vibration buffer zones, investigating drainage complaints by way of on-site inspections and coordination of external advice on design and mitigation requirements • Consult with internal design and construction teams to determine key impacts on relevant communities and the environment and implementing appropriate mitigation measures, this included ensuring that connections between existing residences and the new road corridor met community requirements for adequate drainage, pedestrian and vehicular access, providing input into reinstatement of vegetation on completion of construction works, coordinating approvals related to tree and vegetation removal prior to construction works, including undertaking on-site inspections prior to removal, monitoring compliance with environmental approvals for out of hours works in relation to community impacts • Develop communication activity plans reflecting key project messages • Draft written materials to inform local communities of



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	construction activities • Answer the Community Contact Line and recording calls on the Community Contact Database • Staff and maintain public display centres
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OTHER KEY EMPLOYMENT EXPERIENCE

Role	Research and Policy Advisor to The Honorable Ian Cohen, Member of the Legislative Council, NSW Parliament (part-time)
Organisation	NSW Parliament
Duration of role	January 2010 – December 2010
Details of role	In this role Alice worked with the full-time Policy Advisor to The Hon. Ian Cohen in the following areas: • Assessing government and private members bills in order to provide policy and legal advice on the potential implications of changes to existing legislation, including researching and preparing response to these bills, for example the National Parks and Wildlife Amendment (Visitors and Tourists) Bill 2010, the Coastal Protection and Other Legislation Amendment Bill 2010 (No.2) and the Nature Conservation Trust Amendment Bill 2010 • Researching key environmental issues and their current management in order to provide general policy and legal advice • Undertaking consultation with key non-governmental and business stakeholders • Preparing speeches to introduce and table select committee reports with Parliament, for example tabling of the General Purpose Standing Committee No. 5 report into rural wind farm development • Researching and writing questions to be addressed to members of the NSW Government during Question Time • Reviewing submissions and reports to parliamentary select committees in order to provide questions and responses for debates and committee sessions • Reviewing governmental budgetary information in order to develop questions for budget estimates hearings • Writing and disseminating media releases

Role	Landscape Technician/Office Assistant
Organisation	Pittendrigh Shinkfield Bruce
Duration of role	2001 - 2002
Details of role	• Providing environmental and horticultural support to Landscape Architectural projects, including input into plant selection and maintenance requirements • Involvement in preparation of environmental management, landscape architecture and urban design reports associated with providing specialist arborist advice, visual impact studies, and environmental site rehabilitation works • A representative on the internal Green Wall Development Team, looking at the viability of applying landscaping structure and planting to vertical surfaces. This involved developing a conceptual paper, undertaking a physical construction and planting



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	experiment and writing up results in a format that was then presented at industry conferences • Managing product and trade literature library • Implementing quality assurance systems • Providing secretarial and receptionist support
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JO ROBERTSON

Managing Director

Principal Environmental Engineer and Senior Project Manager

Certified Greenstar Professional



Years of Experience

22

Date of Birth

7 July 1969

Residence

Australia

Languages

English

Education

Bachelor of Science (Chemistry and Microbiology), University of Sydney, 1991;

Master of Engineering Studies, University of Sydney 1997;

Graduate Diploma of Management (Technology), Deakin University;

Master of Business Administration (Technology Management), Deakin University 2001.

RABQSA-AU Management Systems Auditing Certificate 10572-2007

RABQSA-EM- Environmental Management Systems Certificate 10572-2007

RABQSA-TL-Leading Management Systems Audit Teams Certificate 10572-2007

SAI GLOBAL Lead Auditor in Environmental Management Systems Certificate 10572

Guest Lecturer at Macquarie University 2010 – Environmental Health

Professional Affiliations/Accreditations

Certified GreenStar Professional

Infrastructure Sustainability Accredited Professional

Member – Australian Institute of Refrigeration, Air Conditioning and Heating

Member – Facility Management Association, Australia

Certified in Rail Industry Safety Induction (RISI)

Rail Safety Worker (On Site Track Easy)

Occupational Health and Safety General Induction for Construction Work in NSW



Career Overview

Jo is a principal environmental engineer with over 22 years of experience in pollution control, environmental protection, and project management. Jo's professional history has given her skills in a broad range of technical areas, and she has operated across a range of sectors and organisational types including state government, environmental consultancies, and contractors.

Over the last eight years in her role as Principal Environmental Consultant and Director at HBI, Jo has direct responsibility for the satisfactory delivery of the ER services HBI provides to major projects and is known for her personal commitment and investment in the success of every project she is involved in. Prior to this, Jo worked as the Principal Environmental Consultant (and Manager) at Parsons Brinckerhoff (formerly PPK/Rust PPK) during which time she worked on unique and challenging planning and environment projects including the Homebush Bay Remediation project EIS (Thiess Services), Intensive Phase II investigations at HMAS Platypus (Department of Defence), and environment director for a land capability assessment and preparation of a master plan for the Hornsby Quarry (Hornsby Council).

For approximately six years, Jo worked at the NSW Environmental Protection Authority with roles including Dangerous Goods and Hazardous Waste officer, Contaminated Sites Officer, and Ministerial Liaison Officer (the interface between the EPA and the Office of the NSW Minister for the Environment). Jo commenced her career with experience with NSW Waste Service (organic chemist), EML Laboratories (microbiological analyst), Pickford Consulting (asbestos and hazmat services) and Healthy Buildings International (junior consultant).J

Jo has substantial experience in multifaceted studies that integrate environment and engineering programs. Highly skilled in project management and team development, Jo understands how to create synergy through effective coordination of multiple parties.

Jo's areas of expertise include: environmental representative, project management and strategic environmental management; strategic planning including environmental impact assessment; environmental audits; construction and operational environmental management plans; the development of environmental management systems; community consultation; risk assessment; soils, sediment and salinity investigations; waste management and planning; the storage, transport, handling and disposal of hazardous chemicals and wastes; contaminated site assessment and remediation; emergency response; environmental monitoring including air, noise and waters; groundwater management, asbestos management; and occupational health and safety.

Jo's experience includes working previously as Environmental Protection Officer with the NSW Environment Protection Authority, in audit and compliance roles on a range of industry projects, and more recently working as the Environmental Representative or Environment and Planning Manager on several state significant infrastructure projects. Jo has a strong understanding of the current and past environmental legislation. Through practical on site application, and industry and regulator legislative forums, Jo has ensured her knowledge of the legislative framework has remained current.

Jo has been intimately involved in project compliance during the design, construction and operational phases of infrastructure projects. In addition to her substantial experience in the rail and civil construction industry as detailed elsewhere in this proposal, examples include environmental and design compliance aspects for the Lane Cove Tunnel project (groundwater, flooding and drainage and contaminated lands); compliance reporting for the Roads and Traffic Authority to meet specific conditions of consent in relation to the ventilation stack locations for the Cross City Tunnel project; the preparation of the planning approvals (EIS) and licensing for the Lednez site and Homebush Bay remediation projects.



Jo also has a keen interest in sustainable urban development focusing on the realities of maximising land use potential with a return for both the client and the environment. She is familiar with aspects of triple bottom line reporting as it relates to environmental performance. Jo has worked closely with cost planners and project team designers to determine “whole of life best for project value solutions for major infrastructure projects. In the last five years, Jo has honed her unique combination of building and construction experience, her environmental skill set (including life cycle analysis) and management skills towards adding real, rather than tokenistic, value to projects when considered from a whole of life perspective.

Jo is eligible for registration as an accredited lead environmental auditor as per AS/NZS ISO 14012:2004.

Due Diligence, Compliance and Audit Services (Environmental Management Systems, Management Plans, Licencing and Permits)

- Undertook pre-purchase Phase 1 environmental site audit, BHP Australia. Involved auditing sheet metal “cut and coil” facility in regard to potential contamination as a result of past land uses and current and past management practices.
- Prepared Phase 1 environmental site assessment for Concord City Council prior to sale of asset.
- Conducted an environmental due diligence audit on the Lower Molonglo Waste Water Treatment Facility, Canberra on behalf of the ACT Electricity and Water Commission (ACTEW). This was a component of a full operational and environmental audit prior to purchase by AGL.
- Prepared an environmental audit for the RAAF air base at Richmond in NSW to assess any adverse impacts resulting from the aircraft washing areas, in particular the Corrosion Control Facility. In particular, the potential for impacts on the local soil and groundwater were assessed.
- Prepared an environmental due diligence audit for Tubemakers Pty Ltd prior to divestment of facility.
- One of three primary consultants for the Commonwealth Bank of Australia for pre-finance due diligence audits. The bank requires all customers to obtain this environmental audit prior to re-finance approval.
- Prepared due diligence audit for Gem Engines, Chipping Norton including the audit of an on-site full scale waste water treatment plant.
- Prepared an environmental site audit for Apple Computers, USA, generally in accordance with ASTM standards; E1527-93 and 1528-93.
- Undertook an environmental due diligence of a commercial premise located in the centre of Sydney, NSW. The audit involved a comprehensive assessment of all environmental aspects of the site and buildings.
- Prepared environmental audits for both the Bellambi and Goulburn Roads and Traffic Authority Depots. Issues included noise, air emissions, discharge to sewer and stormwater, environmentally hazardous materials/dangerous goods storage, site contamination, and waste minimisation and management.
- Selected as an Airport Environment Officer, Confidential Clearance (reserve). This project involved the administration of the Airports Act and Regulations at Sydney, Bankstown,



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Hoxton Park and Camden Airports on behalf of the Commonwealth Government's Department of Transport and Regional Development.

- Undertook 2004 due diligence audit of landfill gas to energy facilities for Landfill Management Services. This audit was required by the Commonwealth Bank of Australia as part of pre financing investigations for establishment of operations at Swanbank, Rochedale and Ipswich landfills. Aspects included confirmation that the gas extraction projections were achievable, assessment of the field operations and response procedures, review of contractual obligations, review of the technology to be used on each project, in particular the engine performances and costs, review of the technical inputs to the financial model, and review of the regulatory framework.
- Complete a due diligence assessment for AV Jennings to identify environmental risks and recommended measures prior to involvement in a sensitive urban development project. The review assessed the existing reports on environmental factors such as heritage, contamination, remediation, endangered species, hazardous materials and geotechnical constraints. The first stage of the risk assessment was to identify the risk events that may occur to AV Jennings and to quantify these in terms of the consequence and the likelihood. Consequences were assessed in terms of project management, project costs, marketing potential, construction management and legislative compliance. The results indicated a number of key areas that required attention and subsequent recommendations, including cost and time estimates, were made to assist AV Jennings in their project management.
- Undertook 2005 due diligence audit of landfill gas to energy facilities for Landfill Management Services. This audit was required by the Commonwealth Bank of Australia as part of pre financing investigations for establishment of operations at South Cardup, Atlas, Darwin, Tweed and Wollert landfill. Aspects included confirmation that the gas extraction projections were achievable, and review of the gas projections to the extent that these influenced the LMS financial model.
- Undertook a due diligence assessment of the new UR3R putrescible waste processing facility located at the Eastern Creek landfill in western Sydney. The technology employed at this facility was being considered for the establishment of ten similar operations in Lancashire, England. The assessment highlighted key aspects of the operation, discussed some of the significant issues that have arisen during the commissioning phase, and identified some of the potential risks to be considered if this facility was to be transferred to England.
- Completed a compliance review of the consent conditions for the Clarence Valley and Coffs Harbours Regional Water Supply project. The review was commissioned by the project Inter-Agency Review Committee established for the project. Key tasks included a gap analysis to determine if the project implementation had been in accordance with the project determination and concurrence conditions; and to provide recommendations for improvements to the current compliance assurance procedures utilised by the project managers, the Department of Commerce.
- Undertook audits for input environmental management systems for the NSW Roads and Traffic Authority to address the environmental aspects of their various operations, with a view to achieving accreditation against ISO14000.
- Audited environmental, health and safety aspects of various Freightcorp facilities including all six of the Metropolitan Yards and Terminals and several regional facilities. The audit was conducted to assess the effectiveness of the implementation of Freightcorp's internally developed EH&S system.



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- Project managed and prepared an initial environmental review (IER) as the Stage 1 component for the preparation of an environmental management plan, Defence Estate Organisation (Department of Defence). The IER was prepared for four defence sites, namely the Holsworthy site, the RAAF Air Base at Richmond (and the Londonderry Drop Zone associated with this site), Victoria Barracks, and the Orchard Hills Ammunitions Facility.
- Prepared and reviewed several environmental management plans to control off site impacts during site assessment, remediation and construction works, for example, review of the construction environmental management plan prepared for the Tingha Sewerage Scheme
- Project managed the preparation of management plans and sub plans for the Lane Cove Tunnel project relevant to contaminated land, acid sulphate soils, flooding and drainage and groundwater.
- Technical review of construction and operational waste management plans for multistory residential/commercial development proposed at Bondi, NSW.
- Technical review of Environmental Management System Framework developed as part of an assessment of the current environmental management systems operating at Railcorp. The project examined three independent systems (historically operated by Rail Access Corporation, State Rail Authority, and Rail Services Australia) and collated aspects of each currently being employed by Railcorp. An environmental management system development plan was then prepared detailing the tasks required to successfully integrate and adopt a singular management system.
- Developed a licence assurance process for Railcorp to assist this organisation to manage risks associated with potential regulatory non-compliance. A systematic robust process was developed, in consultation with key stakeholders, which could be applied across a range of different functional business units in Railcorp. A key requirement of this system was to ensure that sufficient accurate information was available concerning potential or actual non-compliances so that Annual Report required by the NSW Department of Environment and Conservation could be completed in a timely and technical correct manner.
- Review of the Environmental Protection Licence for Transport Development Infrastructure Corporation (TIDC) in relation to its Rail Clearways program and subsequent development of an incident reporting system for integration with the TIDC internal environmental management system (EMS).

Construction Environmental Management

- Project director and technical review for the preparation of vegetation/landscape management, soil and water management, and noise management plans for the upgrade of Patrick Stevedores Port Botany facility. Ongoing aspects include environmental monitoring, community consultation and regulatory reporting for licence compliance/variations.
- Prepared, obtained approval for, and implemented during construction activities, environmental management strategy and sub plans for the construction of a 100 metre long boat ramp and associated access road at Cattai on the Hawkesbury River. The plans prepared were to satisfy the integrated development consent requirements specified by the Department of Planning, Infrastructure and Natural Resources, the Department of Land and Water Conservation, the Department of Fisheries, as well as other stakeholders including Baulkham Hills Shire Council, and the Hawkesbury Nepean Catchment Management Trust. Approvals also included obtaining Part 3A permits to excavate within 40 metres of protected waters.



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- Environmental Representative for the North West Rail Line identified by the NSW Government as a key priority railway transport infrastructure project. The North West Rail project provides eight new stations and associated services 23 kilometres of new rail infrastructure to the Sydney rail network. ER services were provided across the major works packages, namely the Tunnel and Station Civil project (\$1.5 b), the Station and Viaduct works (\$360 m), and the Operations, Trains and Systems projects (estimated at \$5.5 b).
- Provision of Environmental Management Representative (EMR) services to the Transport Development Infrastructure Corporation (TIDC) for the MacDonalddown Stabling Yard Project. This role was to meet the specific requirements for an EMR as established by the development consent for the project. The primary function of this role is endorse and then assess compliance of the designated contractors with Contractor developed environmental plans of management to meet environmental protection licence conditions, conditions of consent, and other licences and permits as required for the project.
- Developed an Operational Environmental Management Plan, and various sub plans for the operation and maintenance phase of the Albury to Wodonga National Highway Upgrade Project for Abigroup.
- Directed the preparation of the project environmental management documentation for the Newcastle Rail Corridor Project, a joint venture between TIDC and the United Group. The project included the upgrade of three existing train platforms – Civic, Wickham and Hamilton. Ongoing role as project director to support site inspection and compliance manager, including audit and close out phases.
- As proposed Environment and Planning Manager for the Southern Sydney Freight Line, HBI prepared the environmental bid strategy and associated documentation, workshops and presentations necessary to win the project. As a key member of the Alliance Management Team, the role would establish the project direction during planning across arrange of project elements including design, pre construction, construction (civil), construction (rail) and commissioning. Advance awareness and planning was considered critical the success of the project when arranging relevant licence variations, or approval modifications to ensure continuous compliance; and to minimise the risk exposure to all parties involved in the project from potential or actual environmental incidents. The role also included responsibility to obtain licences and permits for construction, ensure compliance with consents, train staff, including the environment team, the wider project team, and subcontractors in the project rules and standards and other environmental management activities and liaise with client and authority stakeholders.
- On 23 September 2011, approval was granted to the Australian Rail Track Corporation (ARTC) to construct and operate for the project known as the Nundah Bank Third Track Project (the Project). The ARTC has created the Upper Hunter Valley Alliance (UHVA) to undertake a program of works to deliver this and other rail projects in the Hunter Valley. The project involves provides for construction and operation of a third rail track approximately 4km in length and ancillary infrastructure adjacent to the Main North Line between the towns of Singleton and Camberwell in the NSW Hunter Valley. Jo was the alternate Environmental Representative for this project, standing in when he other HBI environmental representative was unavailable.
- Environment and Planning Manager for bid team for the Auburn Stabling project. The Auburn Stabling Project forms part of the South West Rail Link (SWRL), delivered by the NSW government (Transport Construction Authority). The project is to construct a train stabling facility to the north-west of Auburn Station to which respond to issues of reliability and passenger growth in south-west Sydney. The Auburn Stabling Project provides stabling for 16



eight-car suburban train sets, together with associated facilities such as offices, staff amenities, roads, walkways, fencing, lighting and others necessary for the operation of an effective stabling yard. The stabling yard would enable trains to be stored in a suitable location to service the predicted growth in passenger demand in Sydney's west and south-west. Routine activities such as interior cleaning, minor exterior cleaning, train inspections and garbage removal would also be undertaken at the stabling yard. The Auburn Stabling Project also included the remediation of existing contaminated land present on the site.

- Lead Manager of a five person environmental management team and Alliance Management Representative (AMT) for the Cronulla Rail Line Alliance, a significant rail infrastructure project for Transport Development Infrastructure Corporation (TIDC) on behalf of the NSW Government. The Cronulla Rail Line Duplication and Upgrade involved the upgrade and duplication of 14 kilometres of track, construction of numerous overbridges, construction of 8 lane stabling facility, upgrade to State Heritage Listed Cronulla Railway Station, vegetation clearing to enable works, installation of drainage structures, installation of bridges and associated road and footpath pavement works, pedestrian management and implementation, and protection and subsequent biodiversity offsets of Sydney Turpentine Ironbark Forest and River Flat Eucalypt Forest remnants. Appointed to the position when an Alliance was formed to save flailing design and construct project, Jo faced significant hurdles to bring the environmental management and planning on this project into compliance. Her role including identifying environmental and planning risks to the project and developing procedures and processes that could be implemented to close out such issues and bring the project up to the high standards demanded by TIDC as both client and statutory authority.
- Environmental Representative (ER) for the Kingsgrove to Revesby Quadruplication project (K2RQ). This project involved the construction of two additional railway tracks between Kingsgrove and Revesby stations passing Beverly Hills, Narwee, Riverwood and Padstow stations. It also included an upgrade of Revesby Station. K2RQ involves construction of approximately 7.1 kilometres of Up Main rail tracks, and approximately 7.1 kilometres of Down Main rail tracks, track, crossovers and turnouts at Revesby to connect into the current Revesby Turnback. Associated cutting and embankment formation widening, maintenance access, retaining walls, slope stabilisation, stormwater drainage and culvert extensions. It also involved construction of approximately 7 km of noise barriers and other ancillary works. Jo gained substantial experience in the development of practical environment management plans and built environment sustainability initiatives. This role involved close liaison with the project team in the development of effective project performance indicators in relation to environment and sustainability. A key KPI for this project was the use of the project as a pilot for the Green Building Infrastructure Council. This project received a grant from the then DECCW to trial solar panels within the rail environment, in this case specifically on noise walls following the progress made by Transport NSW and TCA alike to incorporate sustainability initiatives into building fabrics, and operational schemes (via energy savings and water strategies).
- Revesby Commuter Car Park- Jo was the Environmental Management Representative (EMR) for the construction of this multi storey car park at Revesby NSW. This 18 month role was to meet the specific requirements for an EMR as established by the development consent for the project.
- The Glenfield to Leppington Rail Line is the second stage the delivery of the South West Rail Link (SWRL). The project forms part of the response of the NSW Government to issues of reliability and passenger growth on the metropolitan network. The project incorporates a new twin track passenger rail line approximately 11 km in length from Glenfield to Leppington and associated infrastructure, including construction of two new stations at Leppington and



Edmondson Park, construction of a train stabling facility and construction of ancillary facilities including power supply, substations, sectioning huts, signalling structures, access roads and other infrastructure. The role of the ER is specified in Contract Clause 9.4, Concept Plan Approval Condition 5.1, Project Approval Condition 4.1(b) vii) and TSR E1 (Clauses 1.1, 3.3.5 and 3.3.6) as follows:

- ✓ Independently oversee the implementation of all environmental management plans and monitoring programs required under the Concept Plan Approval, the Project Approval and Statement of Commitments and advise the Proponent (TCA) upon achievement of the outcomes of these plans/programs.
 - ✓ Independently advise the Proponent (TCA) on its compliance obligations against all relevant requirements of the Concept Plan, Project Approval and Statement of Commitments, permits and licenses.
 - ✓ Have the authority and independence to require reasonable steps to be taken to avoid or minimise unintended or adverse environmental impacts.
 - ✓ Review environmental risk assessments of early design investigation works undertaken by John Holland and ensure that only those works determined to be of low environmental risk and within the definition of pre-construction activities under the Planning Approval.
 - ✓ Carry out regular site inspections to evaluate the implementation and effectiveness of environmental controls and identify areas for improvement.
 - ✓ Review and approve Environmental Control Maps and Environmental Design Constraint Maps.
 - ✓ Approve out of hours works not otherwise subject to an Environment Protection Licence.
- Rozelle Goods Line - Rail Track Maintenance and Reconstruction. Jo has recently completed the role as ER for Stage 1 of the Light Rail project for Transport – the rail track Maintenance and Reconstruction of the Rozelle Goods Line. Appointed to the position in 2010, Jo successfully conducted her ER duties in conjunction with Transport NSW and Railcorp to undertake rail track maintenance and reconstruction of the existing track between Lilyfield and Dulwich Hill (approximately 5.6km) in former freight rail corridor. No maintenance of the track had been undertaken for at least two years. Now completed the rail track is in a condition suitable for future rail operations, including light rail. As ER for the project, Jo developed “street cred” and strong working relationships with both Transport NSW and Railcorp personnel. She is intimate with the nature of the corridor having walked up and down many times. This firsthand knowledge is vital to be across issues of construction in a tight corridor, in a highly urbanised environment. The proximity of the Aqueduct (the canal), a range of built and social heritage, bush care sites, the integration with the Greenway project, the potential presence of the long-nosed bandicoot, and limited, constricted access to the site add complexity to this valuable project.
 - Environmental Representative for the Sydney Light Rail Extension (Inner West) project. The project involved the construction and operation of a 5.6 kilometre extension of the light rail between the existing Lilyfield light rail stop and the proposed Dulwich Hill Interchange stop. The extension is located within the disused Rozelle goods line corridor. The project provided for nine new light rail stops — Leichhardt North, Hawthorne, Marion, Taverners Hill, Lewisham West, Waratah Mills, Arlington, Dulwich Grove and Dulwich Hill Interchange. Supporting works included modifications to the existing Lilyfield stop and surrounding track to tie-in new track and overhead wiring infrastructure with the existing light rail, modifications to



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the existing light rail stabling and maintenance facility located at Pyrmont, modifications to local streetscape areas to accommodate kiss and ride, revised traffic configurations and additional parking, and the raising of the existing bridge over Parramatta Road whilst full operational.

Community Consultation

- Lead technical consultant in the Community Reference Group established for the remediation of Homebush Bay and the adjacent, former Union Carbide facility. This highly sensitive remediation attracted significant attention and interest from environmental groups, state government, local government and local, interstate and international communities. The process, and PB's involvement in it, received substantial recognition and acclaim as an example of best practice community consultation.
- Participated in and provided technical presentations to a community consultation committee for the HMAS Platypus divestment program, Department of Defence. Strategic input into consultation program.
- Co-hosted stakeholder and community consultation program for proposed landfill development. Given the nature of the proposal the community was initially openly hostile about the project. Over the period of consultation, the views of the majority of the community changed after the provision of accurate information that dealt with their concerns and fears.
- Independent representation as Environmental Management Representative (EMR) services for Transport Development Infrastructure Corporation (TIDC) for the Revesby Turnback Project.
- Independent representation as Environmental Management Representative (EMR) services for Transport Development Infrastructure Corporation (TIDC) for the MacDonalddown Stabling Yard Project.

Specialist Sustainability Projects

- Developed sustainable development outcomes as part of tender preparation for the redevelopment of the former Prince Henry Hospital at Little Bay in NSW. This included coordinating a team of specialist expertise in architecture, water sensitive urban design, energy management, to produce a compilation of cost effective ESD initiatives so that the bid team could demonstrate compliance with various Landcom ESD and Triple Bottom Line reporting requirements, and Environment Australia's triple bottom line requirements.
- Project Director for NSW Landcom Performance Improvement Review (PIR) Auditor. In this role, conducted reviews of Landcom's civil and building contractors to ensure the contract environmental conditions are effectively implemented and to encourage the use of correct environmental management techniques. Contractors receive a score for their overall performance. Actions to improve environmental performance are recommended for any performance below the minimum 75% score. The results of all contractor Performance Improvement Reviews contribute to Landcom's overall environmental performance, which is reported in the Annual Sustainability Report.
- As the ESD and WoL specialist during the design process for the Holsworthy Special Working Group Accommodation redevelopment, Jo was responsible for developing in conjunction with the technical discipline sub consultants for mechanical, electrical, hydraulic and structural building elements, ecologically sustainable initiatives that could be incorporated into the design of the new facilities. Key initiatives considered for this project included the option of



passive ventilation against the more traditional mechanical ventilation, alternative use of building materials, and options to re-use/recycle waters on this typically dry site. To complete the ESD aspects, Jo also performed the role of Accredited Green Star Professional and led the documentation process for this project.

- The RAAF East Sale (ESL) Redevelopment project provided Defence an opportunity to improve the functionality and capability of East Sale and at the same time, upgrade or replace ageing infrastructure. RAAF Base East Sale (ESL) is located in South East Victoria, approximately 225km from Melbourne. The Base is located on the eastern edge of the regional centre of Sale, at the end of Aerodrome Road, approximately 5km from the centre of the town. Jo was engaged as the specialist Whole of Life Subconsultant for the project. The aim of Whole of Life approach during the planning, design and construction phase was to achieve a functional asset, with minimal whole of life costs. This was achieved by working with the design team to identify innovative and practical options that differ from business as usual to manage whole of life costs. A qualitative assessment was completed on design options that were mutually exclusive (i.e. by choosing one option all other options being considered are excluded) with whole of life implications, or that were value-adding or innovative design solutions. A quantitative analysis of the whole of life costs associated with those options requiring further analysis was then completed. This approach was designed to provide value to Defence within the limitations of functional and other requirements. As a result of the assessment a number of opportunities were incorporated into the design, reducing the potential whole of life costs of the works and adding functional value to the project.
- The RAAF College Relocation project. The project involved relocation of the 1Recruit Training Unit relocation from RAAF Edinburgh to RAAF Wagga Wagga and the relocation of the Officer Training School from RAAF Base Williams to East Sale. Scope included the design and construction of defence accommodation, working accommodation facilities, officer training facilities, armouries, lecture theatre, combined mess, medical and dental facilities, clothing stores, confidence course, four lane running track and ground defence facilities. Engaged through the managing contractor, this project involved facilitating and documenting whole of life initiatives included in the design of facilities for the development of the range and associated facilities. This assessment included a qualitative and quantitative analysis of value for money in terms of whole of life for a range of design features including built form aspects, proposed building services and site supporting infrastructure. Elements recommended for adoption included bore water supply, sub metering, AAA rated fixtures and fittings, auto flush urinals/auto flow washbasins, solar assisted gas fired water heating, natural ventilation with evaporative cooling assistance (training building), packaged air cooled split system ducted reverse cycle air conditioning units (1RTU), overhead fans, good building orientation and solar shading, overhead fans, good building orientation and solar shading, combination of reverse cycle and hydronic heating, both centralised and individual air supply, BMS supplemented in training areas with users control function, carbon dioxide management in Mess areas, and evaporative cooling in selected areas.
- Whole of Life (WoL) consultant for the new Marksmanship Training Range project for the Department of Defence at Kapooka in NSW. Engaged through the managing contractor Thiess Pty Ltd, this project involved facilitating and documenting whole of life initiatives included in the design of facilities for the development of the range and associated facilities. Jo's role in this project involved facilitating and documenting whole of life initiatives included in the design of facilities for the development of the range and associated facilities. This assessment included a qualitative and quantitative analysis of value for money in terms of "whole of life" for a range of design features including the built form, proposed building services (such as HVAC, lighting and water management) and site supporting infrastructure



to provide a value for money solution that met the end user requirements within the constraints of a operational firing range. Significant value added to project in terms of whole of life for contamination aspects and surface water management.

- Whole of Life (WoL) consultant for HMAS Albatross. The HMAS Albatross Stage 3 Redevelopment project was to upgrade and refurbish existing facilities and infrastructure for the command, training, maintenance, operation support and administration functions to meet projected base operational and support capabilities for at least the next 20-30 years. The whole of life approach during the planning, design and construction phase is to achieve a functional asset, with minimal whole of life costs. This is done by the whole of life consultant working with the design team to identify innovative and practical options that differ from business as usual to manage whole of life costs. A qualitative assessment was completed on design options that were mutually exclusive with whole of life implications, or that were value-adding or innovative design solutions. A quantitative analysis of the whole of life costs associated with those options requiring further analysis was then completed. This approach was designed to provide value to Defence within the limitations of functional and other requirements. As a result of this assessment a number of opportunities were been incorporated into the design, reducing the potential whole of life costs of the works and adding functional value to the project. This included quantitative analysis of HVAC and renewable energy options which was completed during schematic design.
- The Point Wilson Waterside Infrastructure Remediation project was comprised of the remediation of the waterside infrastructure at Point Wilson Explosives Area (PWEA) located in Geelong Victoria delivered under the Department of Defence's Major Capability Fund (MCF) program; and the support infrastructure for safe mooring and berthing of the Amphibious Assault Ship (LHD) for EO loading and un- loading activities at PWEA, delivered through the Defence Materiel Organisation's Project. The aim of the whole of life approach during the planning, design and construction phase was to achieve a functional asset, with minimal whole of life costs. This has been completed by working with the various disciplines of the design team to identify innovative and practical options that differ from business as usual to manage whole of life costs. In the Concept Design Phase (CDR) the whole of life assessment was undertaken both qualitatively and quantitatively on design options to assess which options posed the best whole of life value for money for the project. During the Schematic Design Phase (SDR), the whole of life assessment was again undertaken on the services component of the design as the fundamental structural elements for the Infrastructure remediation (i.e.: the wharf, jetty, link span and dolphins) had been rigorously assessed during the CDR phase. Options assessed during the SDR phase were only assessed qualitatively as it became obvious that the specific nature of the Point Wilson Wharf site, the nature of its use, and in particular, the current and proposed frequency of use meant that design solution options available to the design team were very limited. During the development of concept design at Point Wilson, the opportunity to change the useful life of the project was evaluated to achieve best value for money over the life of the asset in terms of capital, operational and maintenance costs and end of useful life costs (eg: disposal)
- Assessment of the operational indoor air environment of the 6 Star Green Star building at 40 Albert Road, Melbourne to assess building performance against indoor air quality criteria given the use of passive ventilation, night air flushing, low VOC materials, and alternate building services systems.
- HQO, Honeysuckle Precinct, Newcastle: HQO is a proposed mid-scaled commercial development with a NLA of approximately 14,000 square metres. The building was targeting an ABGR of 4 stars and a Greenstar Office-As-Built rating of 4 stars. Jo worked with the



design and construction team to ensure that the integrity of the ESD design elements is maintained and that the building achieves its targeted ratings.

Strategic Planning

- Technical engineering and environment director for a land capability assessment and preparation of a master plan for the Hornsby Quarry. The multidisciplinary project covered a range of environmental and engineering aspects each having bearing on the envelope of land available for future use. Key technical studies undertaken to identify constraints included geotechnical, hydrogeological, infrastructure, contaminated land, bushfire, heritage and flora and fauna. Visual, traffic and urban planning capabilities were also important aspects in the development of the master plan. Options investigated included open space, residential, recreational, and small scale commercial land uses.
- Project managed and provided strategic direction for the preparation of an environmental impact statement for the remediation of the Homebush Bay and the adjacent former Union Carbide site, for NSW Waterways, and a private client. The operations of the former Union Carbide facility have led to contamination of the bay, and the adjacent land sites, through reclamation of land using spent materials resulting from the chemicals manufacture process. Typically chemicals include highly carcinogenic compounds such as DDT, DDE, dioxins and furans. This is a remediation project that will occur over a five year period. Some 400,000 cubic metres of material is to be excavated, remediated and re-used beneficially. The material requiring treatment is to be processed through a thermal treatment plant. Staged release of the land following remediation means that residential development and possibly occupation will occur in the same period as the earthworks. Seen as highly sensitive, this project is ongoing and is closely monitored by stakeholders including Greenpeace, a plethora of government departments, the community and international technical bodies.
- Project managed a multifaceted team for the preparation of an environmental impact statement for the development of a proposed waste management centre to be located in the Hunter Valley, NSW, private client. This project proposed re-use of a mine site void as putrescible landfill space. It had significant design and consultation components which were managed in an integrated fashion to ensure that the concerns raised by key stakeholders were considered, and where appropriate, incorporated into the design of the facility. The EIS covered all aspects of the economic, environmental and social issues associated with the development of a facility of this nature. Aspects of particular interest included the influence of filling the void on regional hydrogeological conditions, the potential for dust and odour to be generated, and the impact on traffic on access roads.
- Prepared a review of environmental factors for a modification to the approved consent for the Cross City Tunnel project for the Roads and Traffic Authority of NSW. The proposed relocation of the western ventilation stack for the tunnel was proposed as a solution to address impacts of the approved location on regional air quality, and local issues such as traffic/transport issues, construction noise and vibration, water quality and flooding, settlement and groundwater, acid sulphate soils, visual amenity, and urban design.
- Prepared a draft environmental impact statement for a development of a wool scouring facility, private client. Assessed the impacts of developing a wool scouring facility in the Wollongong region. Key aspects included the impacts from odour, traffic and waste water management.
- Prepared a Section 96 modification to the Homebush Bay and Lednez site remediation project in relation to a change in the thermal treatment technology and the approach to remediation of sediments in Homebush Bay. Key technical issues included modification to



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night time operational noise levels and regulatory goals, impact of air emissions on adjacent receivers (particularly dioxins and particulate matter) and the impact or otherwise on carcinogenic and non carcinogenic health risks.

Strategic Waste Planning

- The project development of expression of interest and supporting technical documentation for the continued operation and redevelopment of the Albert Street Waste Management Facility, St Peters. The starting point was a review of all technical factors affecting on going operations, and the redevelopment of the site including an assessment of sustainable waste management technologies. At the time, the Albert Street Waste Management Facility in St Peters had been used for landfilling for some years. It is surrounded on all sites by a mixed of industrial and residential lands. The site had significant constraints on its viability for uses other than then currently approved activities. The performance of the landfilling activities also needed review to ensure that the current land use would continue to be viable against tightening regulatory requirements, for example, the discharge of waters off-site.
- Prepared a feasibility study for the establishment of a materials recovery facility for construction and demolition wastes and materials within the former Inner Sydney Waste Board region. The scope of work included consultation, data collection and management, nomination and assessment of potential sites, conceptual design of the facility, and economic feasibility analysis.
- Prepared a feasibility study for the establishment of a putrescible waste transfer station within the former Southern Sydney Waste Board region. The scope of work included consultation, data collection and management, nomination and assessment of potential sites, conceptual design of the facility, and economic feasibility analysis.
- Provided expert technical assessment to the former Western Sydney Waste Board in the Evaluation of Tenders for the establishment of a putrescible Waste Pre-Treatment Facility to be located at the South Windsor landfill. This involved a key role as the waste industry technical and maintenance expert. This assessment included evaluation of technical issues within a build, own, operate contract model with subsequent decommissioning.

Asbestos and other Dangerous Goods, Hazardous Chemicals, and Emergency Response

- Assisted client in contractor compliance review and selection for major asbestos removal. Over 600 square metres of bonded asbestos pegboard needed to be removed from a high public-use building in Sydney. Aspects included liaison with potential contractors, provision of advice and recommendations for selection, management of stakeholders, and provision of on-going air monitoring advice and monitoring services.
- Asbestos audit and survey for over 150 railway stations for ADT (a division of TYCO) for prior to commencement of invasive and non-invasive works for the installation, upgrade and general management of the CCTV racks.
- Asbestos audit and survey for over 20 railway stations for New Era prior to the installation and upgrade of the SPI (system passenger information) screens in the station buildings.
- Asbestos survey at the former Riggers Room at the Rocks Sydney NSW, managed by the Sydney Harbour Foreshore Authority (SHFA).



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- Hazardous materials audit at the heritage protected former Mariners Church building in the Rocks, Sydney managed by the Sydney Harbour Foreshore Authority (SHFA). Materials audit includes asbestos, synthetic mineral fibres, polychlorinated biphenyl's (PCBs), and lead.
- Asbestos survey and subsequent preparation of asbestos register and associated management procedures for North Sydney Council
- Asbestos survey and subsequent preparation of asbestos register and associated management procedures for Goulburn Mulwaree Council
- Asbestos survey, sample management of dusts at various major shopping centres in NSW
- Asbestos air monitoring program for Holden Australia
- As an Environmental Protection Officer with the former NSW Environment Protection Authority, provided appropriate technical and policy advice to industry and the community in relation to waste disposal and general waste management matters. This included the evaluation of applications for the disposal of solid and liquid hazardous wastes.
- Heavily involved in the preparation of legislation associated with the introduction of infringement notices under the Dangerous Goods Act, 1975. In particular, the Regulatory Impact Statement prepared to meet legislative requirements. A key element of this task was consultation with industry and other affected parties.
- Prepared NSW Environment Protection Authority industry guidelines on the transport of dangerous goods.
- Reviewed and provided comments in regard to the transport of dangerous goods for several Environmental Impact Statements including those for the M5 motorway and the Caltex Distribution Centre at McGraths Hill, Sydney.
- Assessed the testing of new designs of vessels to be used for the purpose of transporting dangerous goods.
- Developed effective systems for the control of dangerous goods transport within NSW by liaising with competent authorities from interstate, Environment Protection Authority regions and other authorities to investigate requirements and prepare procedures for vehicle inspection systems.
- Coordinated and participated in compliance auditing (on-road enforcement blitzes) with Police Service NSW, NSW Roads and Traffic Authority and Environment Protection Authority Motor Vehicles Section for breaches relating to both dangerous goods and environmental legislation in regard to transport and storage.
- On call 24 hours-per-day as part of the NSW Environment Protection Authority After-Hours Incident Service to provide technical advice and assistance to NSW Fire Brigades with regard to the properties of dangerous goods and their safe management and disposal. This support extended to internal staff as well in both routine and emergency circumstances.
- Developed and ran training courses related to the road transport of dangerous goods, Police Service NSW.
- Provided appropriate technical advice to industry and the community in relation to waste disposal/management matters. This included the evaluation of applications for the disposal of solid and liquid hazardous wastes.
- Reviewed and assessed waste management/minimisation plans for industrial waste generators.



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- Design of leachate trials whilst working at the Waste Recycling and Processing Service (trading as Waste Service, NSW) as an analytical chemist.
- Practical handling experience of hazardous liquid wastes as a chemist with Waste Service, NSW.
- Revised, researched and re-wrote Sydney's "Hazardous Waste Management Strategy" (1992).

Site Assessment and Remediation

- Project managed and supervised intensive Phase II investigations at HMAS Platypus and RANTME Naval Facilities, Kirribilli, NSW for the Department of Defence. This site was historically used as a gasworks facility. This project involved providing technical support with respect to contamination issues to the project planning team, the client, and to the community consultation forums. Responsible for the development and assessment of remedial options for the site. Significant issues included stability and water management concerns associated with the excavation and remediation of contaminated fill from areas adjacent to the seawall and beneath groundwater level, and the management of potential impacts such as dust, odour, and stormwater typically generated by such works. Provided the client with advice in the selection of the appropriate strategy.
- Prepared work plans for further site investigations to be undertaken on the naval stores depot at Rydalmere in NSW for the Department of Defence. Project managed and provided client and auditor liaison during and after the implementation of the work plan. Designed the remedial strategy for the site. Remediated to low to medium density residential standards.
- Project managed and supervised the decommissioning of underground storage tanks on various sites, including warehouses, commercial and industrial sites and Sydney International Airport. Clients included Harcourt Brace and Co, Longworth Constructions, Federal Airports Commission, Walker Civil Engineering and John F. Taylor and Sons.
- Prepared the remedial action plan for the redevelopment of the historic Grace Brothers site, Broadway, NSW. The plan was prepared after project managing and supervising the Phase II environmental site assessment to assess the nature and extent of contamination on the site. Supervised and project managed the validation of the site after implementation of the plan. Guided negotiations with the NSW Environment Protection Authority and local government to ensure smooth passage of project.
- Undertook a Phase II environmental site assessment for 582–586 Parramatta Road, Croydon, NSW, private client. This site lies adjacent to the infamous AWA site. Prepared the remedial action plan for this site. Was involved in substantial negotiations between the NSW Environment Protection Authority, local council and potential purchasers. Remedial action provided for a "cap and contain" approach.
- Prepared a remedial action plan for containment of contaminated fill in an impermeable clay cell under a proposed medium density residential development in Marrickville, NSW, private client.
- Undertook sampling and analysis program for Energy Australia to determine if off-site contamination was occurring from the site adjacent to one of its substation sites.
- Undertook sampling and analysis program to verifying nature and origin of waste received at landfill from the remediation of a former paint production facility located at Cabarita.



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- Review of quarterly monitoring reports detailing collection of environmental samples, testing and results for various clients. Substantial input into strategic modifications to the sampling program to ensure that the objectives and requirements of the clients' NSW Environment Protection Authority licence were met.
- Undertook contamination investigations for Briggeton Constructions Pty Ltd at three different sites as part of the development application process. The sites were at Greystanes, Blacktown and Concord.
- Prepared the soil study technical paper for contamination for the environmental impact assessment for the Replacement Nuclear Research Facility for the Australian Nuclear Science and Technology Organisation.
- Project managed and provided technical input into intensive site investigations involving air monitoring, soil vapour surveys, soil sampling and analysis, and groundwater (deep and perched) sampling and analysis at a former gas works site located in the north western NSW, private client. The project involved interaction with the client, the community, the auditor and the Environment Protection Authority. This site was subject to a Section 36 Notice under the NSW Environmentally Hazardous Chemicals Act.
- Project managed and technically reviewed a contamination assessment of the sediments in Neutral Bay, Sydney NSW. The sediment study included sampling of sediment cores, logging and splitting of cores, selection of core samples for analysis and technical review of analytical results to determine the contamination concentrations present in the bay sediments. The information is currently being assessed to determine if the bay has been impacted by industry historically located on the foreshores of Neutral Bay.
- Technical review of chemical reduction efficiencies in contaminated soils following processing through a pilot direct thermal treatment facility located in Newcastle.
- Was employed by the NSW Environment Protection Authority for approximately five years. A portion of this time was spent in the Contaminated Sites Section, Sydney. Experience included:
 - ✓ critical review of over twenty environmental site assessments and remediation reports prepared for third party review. These included former service station sites, former market garden sites and land rezoning proposals (commercial to commercial and commercial to residential);
 - ✓ applying legislation relating to contaminated sites effectively and practically with the goal of ensuring that these sites did not pose unacceptable environmental or public health risks; and
 - ✓ provision of practical, accurate and timely advice and support regarding the management of contaminated sites to Environment Protection Authority, officers, consultants, land owners, industry, developers and other government departments.

Hazardous Risk Assessment

- Quantitative risk analysis undertaken for the transport of Class 3 dangerous goods by road and rail over the Blue Mountains, Sydney, NSW.
- Preliminary hazard analysis for a light organic solvent timber treatment facility. The analysis involved both qualitative and quantitative aspects of risk assessment.
- Prepared the hazard and risk assessment Technical Paper for the construction and operation of the proposed Southern Sydney Freight Line. This assessment qualitatively reviewed risks



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associated with the transport and storage of dangerous goods along the proposed bi-directional track, and included identification of risks, an assessment of the potential consequence of such risk, the likelihood of an event occurring and determination of the overall risk in terms of individual, societal and environmental risk.

Ambient Environmental Monitoring

- Project Director for the three year occupational health and safety, and environmental monitoring package for the remediation of the former Union Carbide (Lednez) site, and sediments of Homebush Bay, Rhodes, NSW for Thiess Services. These services were provided to ensure that the project was compliant with regulatory and operational systems and targets. Of key importance was the safety of site workers, public safety and the protection of the environment. Accordingly early warning systems were built into the project environmental management systems to flag early exceedences and promote first response actions.
- Prepared an indoor air quality monitoring plan for the monitoring of contaminant levels in indoor air in relation to a former gasworks site located at Forbes, NSW.
- Prepared groundwater monitoring program for two former gasworks sites, one located in Forbes, the other in a high profile Sydney location.
- Installation of “nested” and single monitoring wells on a variety of projects through various geological strata

Indoor Environments – Indoor Air Quality, Legionella Testing, Potable Water, Lighting

- Regular site inspections and monitoring of indoor air quality and the systems responsible for delivering adequate fresh clean air to a buildings occupant at over 300 buildings around Australia. Major clients include:
 - ✓ Lend Lease (now Bovis Lend Lease),
 - ✓ Jones Lang La Salle,
 - ✓ AMP Capital,
 - ✓ Tabcorp,
 - ✓ Qantas,
 - ✓ Perth Water,
 - ✓ Attorney Generals Department,
 - ✓ Commonwealth Law Courts,
 - ✓ Royal North Shore Hospital,
 - ✓ QBE,
 - ✓ Sydney Markets.
- Undertook a series of urgent investigations on site at a NSW Court House property to assess the quality of air within the building(s), and to determine the source of the contamination which is causing a sharp odour in the New Registry Building. The odour was reported to be causing significant irritated throats and headaches. The building had previously been emptied of staff over concerns of impacts to staff health and safety. The cause of the problem was



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tracked to a source flowing into the sub drainage of the site from an adjacent excavation and into the basement of the building. Air from the basement was part of the make up supply air thus causing the volatile vapours from the source contaminant to be distributed around the building. The source material was removed as part of a remediation process conducted as part of this job, the area validated and clearance given so that staff could continue to work safely within the court and adjacent buildings.

- Undertook an inspection of environmental conditions associated with reported illnesses in a NSW Public School in north western NSW for the Department of Education and Training. Potential adverse environmental health sources were identified in accordance with National Environmental Protection Measure (1999) in respect of both site history and usage, and current usage as a means of identifying potential sources. This process included the identification of potential exposure pathways relating to indoor air, soils and fill, surface or groundwater. The scope included:
 - ✓ Stakeholder consultation with the affected parties to understand better their concerns and the manner in which they interact with the school environment (building usage, timing, etc) resulting in the development of a staff survey document.
 - ✓ Consultation with the local and regional health services to determine if similar circumstances have been recorded or reported in this environment.
 - ✓ A site inspection to assess any likely contributors to the condition of the employees.
 - ✓ An assessment of the likely level of risk to employees in the school given the information obtained from usage patterns and the site inspection.

Occupational Health and Safety

- Prepared various occupational health and safety plan as project manager responsible for the health and safety staff and subcontractors on various projects.
- Reviewed occupational health and safety plan for Walker Civil Engineering for the remediation of a former power station site.
- Prepared an occupational health and safety plan for Transfield Constructions Pty Ltd for chemical clean up and sampling at a former solvent recycling facility located at Wilberforce, NSW which burnt down in mid 1998. As the site is now classified as an "orphan" site, the clean up is being funded by the NSW Environment Protection Authority from the NSW Environmental Trust Fund.

Commission of Inquiry

- Represented client at Commission of Inquiry for the remediation of the former Lednez site and a portion of Homebush Bay as project manager and key author of the environmental impact statement, as coordinator of the technical team, and as technical expert associated with risks and hazards.

Professional History

2005 – present Healthy Buildings International
1996 – 2005 Parsons Brinckerhoff (formerly PPK/Rust PPK)
1992 – 1996 New South Wales Environment Protection Authority
1991 – 1992 New South Wales Waste Recycling and Processing Service (NSW Waste Service)



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1990 – 1991	EML Laboratories (Microbiological Analysis)
1989 – 1991	Healthy Buildings International
1989	Pickford Consulting (Asbestos Services)