

CURRICULUM VITAE

Environmental

Company	Arcus GIBB
Name	Jaana-Maria BALL
Nationality	South African
Date of birth	22.12.1969
Profession	Environmental Scientist and Botanist/MBA
Position	Director
Specialisation	Project management, integrated environmental management including environmental impact assessments, environmental management programmes, botanical investigations, revegetation and rehabilitation programmes, integrated development planning; public facilitation, environmental auditing; and public private partnership advisory services
Start date with Arcus GIBB	1997 – Permanent full-time staff member

Key experience

An environmental scientist with a Masters Degree in Business Administration and with 16 years of experience, Jaana-Maria Ball specialises in various environmental disciplines:

Her key experience includes:

- **Business administration and development** providing leadership and management of two business units (Environmental and Support Services) including strategic planning, financial performance, workload and resource planning, human resource management, quality management, review of projects and proposals, quality management and administration. Environmental Services comprises integrated environmental planning, hydrological and waste management services. Support services comprises human resources, information technology and marketing services
- **Project management** of various medium and large-scale infrastructural and environmental projects
- **Environmental advisory services and strategic environmental management** including Strategic Environmental Assessments and environmental scans
- **Environmental impact assessment (EIA)** of small, medium and large-scale infrastructure projects, including public participation processes
- **Environmental management programmes (EMP)** for the construction and operational phases of infrastructure developments
- **Environmental sensitivity and land-use suitability analyses** for various projects and biomes
- **Environmental management programme reports (EMPR) and mining permit applications** for borrow areas and mines in terms of the Mineral and Petroleum Resources Development Act of 2002
- **Vegetation studies** for ecologically sensitive areas within the Fynbos, Afromontane and Succulent Karoo Biomes
- **Rehabilitation and landscape plans** for various developments, particularly mining operations
- **Environmental auditing** including due-diligence, ISO 14001, legal compliance and waste audits
- **Integrated development planning (IDP)** including the management, facilitation and development of integrated development plans

- **Integrated Water Use Licensing Applications and General Authorisations for Water Use** to meet the requirements of the Department of Water Affairs and Forestry, and
 - **Public Private Partnership Advisory Services** in the procurement and delivery of infrastructure
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Qualifications and Registrations/Certifications

Bachelor of Science in Botany and Zoology : University of Cape Town, 1990
Bachelor of Science (Honours) in Botany : University of Cape Town, 1991
Master of Science in Botany (Ecology) : University of Cape Town, 1995
Integrated Environmental Management - Theory and Practice : University of Cape Town, 1996
Business Management Diploma : Damelin College, 1996
Project Management (post-graduate course) : University of Cape Town, 2001
Master of Business Administration (MBA) : University of Cape Town, 2003 (Full-time) and ESADE (Barcelona, Spain) (Full-time)
Professional Member of the South African Council for Natural Scientists, 1998 to date
PriSciNat No : 400049/98
Professional Member, South African Institute of Ecologists and Environmental Scientists, 1998 to date
Professional Member, South African Association of Botanists, 2000 to date
Certified Environmental Impact Assessment Practitioner, Interim Certification Board, 2006 (application in process)
Associate Environmental Auditor with Institute of Environmental Management and Assessment, 2006 (registration in process)

Career summary

- Oct 2009
Present **Arcus GIBB** – Discipline Leader and Director: Environmental Services; Organisational Manager Environmental Services North; Environmental Technical Director; Director: Systems Efficiencies; North Regional Co-ordinator; PPP Advisory Services; Corporate Strategy Roll Out Team
- Jan 2008 to
Sept 2008 **Arcus GIBB** – Discipline Leader and Director: Environmental Services; Organisational Manager Environmental Services North; Environmental Technical Director; Director: Support Services (IT, HR, Marketing, Knowledge Management); PPP Advisory Services; Corporate Strategy Roll Out Team
- Oct 2006 to
Dec 2007 **Arcus GIBB** – Discipline Leader and Director: Environmental Services; Director; Support Services (IT, HR, Marketing); PPP Advisory Services; Committee Member: Arcus GIBB Employment Equity Committee; Head: Arcus GIBB Corporate Strategy Roll Out Team; Chair: Arcus GIBB Remuneration Committee; Member: Arcus GIBB Bursary Committee
- April 2005 to
Sept 2006 **Arcus GIBB** – Director; National Group Manager of Environmental Services Division, Member: Arcus GIBB Operational Management Team; Member: Arcus GIBB Employment Equity Committee, PPP Advisory Services
- April 2004 to
April 2005 **Arcus GIBB** – Senior Associate; National Group Manager of Environmental Services Division, Member of Operational Management Team, PPP Advisory Services
- Jan 2003 to
April 2004 **UCT and ESADE's (Barcelona, Spain) Business School's Full-time Master of Business Administration (MBA) and Exchange Programme**
- April 2002 to
Jan 2003 **Arcus GIBB** – Associate; Division Manager of Environmental Services Division Cape Town; Business Development Manager, Southern Region
- Jan 2000 to
Mar 2002 **Arcus GIBB** – Associate; Division Manager Environmental Division Cape Town
- April 1998 to
Dec 1999 **GIBB Africa** – Principal Environmental Scientist
- Feb 1997 to
March 1998 **GIBB Africa** – Environmental Scientist

Key projects include:

Strategic Advisory Studies

- Project director as part of the Strategic Advisory Team to the Airports Company South Africa for the proposed Midfield Development at OR Tambo International Airport
- Project director as part of the Strategic Environmental Technical Support Team to the Gauteng Provincial Government for the R20 million Gautrain Project. Technical support will be provided during the construction and operational phases of this flagship transport service

Strategic Environmental Assessments

- Project director for the Strategic Environmental Assessment (SEA) and Integrated Waste Management Plan for the Greater Port Harcourt, Nigeria

- Project director for the George Municipality Strategic Environmental Assessment (SEA) for 1 068 km² municipal area in support of the Spatial Development Framework and seven Strategic Development Plans
- Project director for the Strategic Environmental Assessment (SEA) of the one million ha Heritage Park. This ecologically sensitive, socio-economically complex Park will encompass Pilansberg and Madikwe Nature Reserve and cross the border between South Africa and Botswana
- Project director for the Strategic Environmental Assessment (SEA) of the Vaalkop Dam Provincial Nature Reserve. This proposed nature reserve will encompass the Vaalkop Dam and surrounding area and link up with the Pilansberg Nature Reserve
- Project director for the Strategic Environmental Assessment (SEA) for the Magaliesberg and Mulderdrift Regions for Eskom. The SEA considers the environmental attributes of the study area and suggests an environmental planning framework specific to the needs of Eskom Distribution

Environmental Studies (including Land-Use and Sensitivity Analyses)

- Project director for the environmental scans for the Baralink Commuter Rail Corridor in the City of Johannesburg Metropolitan Municipality. The environmental scan involved the identification of environmentally sensitive areas in close proximity to the proposed Rail Corridor and the suggestion of recommendations for the preliminary design stage of the project
- Project director for the environmental scans for the PWV 10 (Metro Boulevard) in the City of Johannesburg Metropolitan Municipality. Sensitive environmental features were identified spatially and these areas were incorporated into the preliminary design of the road
- Project manager for the environmental study to investigate the proposed irrigation schemes within Olifants/Doring River catchment. The Western Cape Olifants/Doring River Irrigation Study (WODRIS) is a comprehensive study for the Provincial Administration of the Western Cape (PAWC) and is in line with government objectives of integrated river basin management and human settlement
- Project manager for the biophysical assessment of the Spier Development. A development planning process was initiated with the two local authorities, the Stellenbosch Municipality and the Winelands District Council. The proposed development consists of building, recreational and agricultural development types. ARCUS GIBB was appointed to undertake a biophysical assessment and land-use planning exercise as part of the scoping study for the Master Vision of the Spier Development
- Project manager for the environmental sensitivity analysis for Elandsjagt Farm, at the western end of the Du Toit's Kloof valley. ARCUS GIBB was appointed by Intersite Property Management Services to undertake an opportunities and constraints study in order to determine the viability of developing the site for commercial purposes
- Project manager for the environmental sensitivity analysis for proposed development at Grotto Bay on the West Coast. ARCUS GIBB was appointed to compile an environmental sensitivity analysis report to guide the planning process for development. This analysis involved the assessment of the baseline biophysical conditions of the site, the identification of the main environmental issues that could affect the proposed development of the study site and recommendations for mitigation measures

- Project scientist for the Swartklip Environmental Study. A division of DENEL (Pty) Ltd, Swartklip Products, plan to redevelop portions of their 540 ha site near Khayelitsha in Cape Town. Arcus GIBB undertook an environmental analysis of the site to determine which parcels of land were suitable for development purposes

Environmental Impact Assessments (EIA)

- Project director for the Basic Assessment processes for the Basic Assessment processes for nine proposed Co-generation Power Plants for the Promethium-Exxaro Joint Venture. This project includes nine cogeneration power plants, to be installed at mines and industrial facilities across South Africa, for the generation of electricity from waste gas. The projects will enable the project initiator to earn Carbon Credits through the Clean Development Mechanism in terms of the Kyoto Protocol under the United Nations Framework Convention on Climate Change.
- Project director for the Environmental Impact Assessment for the proposed Mulilo Coal Fired Power Station and associated infrastructure as well as associated power lines and substations in the Musina area of the Limpopo Province
- Project director for the EIA and EMP for the proposed Transmission Lines (Bantamsklip – Kappa 765 kV and Bantamsklip – Bacchus, Bacchus - Kappa and Bacchus – Muldersvlei 400 kV) for a conventional nuclear power station and associated infrastructure at the Bantamsklip site in the Western Cape (Nuclear 1). The project proponent is the Transmission Division of Eskom Holdings Limited. The EIA includes the screening and selection of suitable corridors, as well as a scoping process and detailed environmental impact assessment. The project includes detailed specialist studies, including social, economic, visual and biophysical, EIA process, public consultation and legal
- Project reviewer (internal) for the EIA and EMP for the proposed upgrade to the Sani Pass, Kwa-Zulu Natal. The project proponent is the Department of Transport. The EIA includes a scoping process and detailed environmental impact assessment, including specialist studies
- Project director and lead reviewer for the Strategic Process Review of the EIA to be undertaken for the Medupi Integration Project in the Limpopo Province including transmission lines and substations for Savannah Environmental
- Project director for the EIA and EMP for the construction of two runways (comprising a new re-aligned runway and second parallel runway) and the Basic Assessment for the upgrade of the access roads at the Cape Town International Airport, for the Airports Company of South Africa (ACSA)
- Project director for the George Western Bypass Road EIA for a 13 km bypass road linking the Outeniqua Pass to the National Road near the George Airport. The proposed road passes through a sensitive socio-economic area comprising 40 small rural properties. Provincial Government of Western Cape
- Project director for the EIA and EMP for the proposed construction, operation and decommissioning of the Pebble Bed Modular Reactor and associated infrastructure in the Western Cape. The project proponent is the Generation Division of Eskom Holdings Limited. The EIA includes a detailed environmental impact assessment. The project includes detailed specialist studies, including social and biophysical, EIA process, public consultation, legal and nuclear technology studies

- Project manager for the EIA and EMP for the proposed construction, operation and decommissioning of a conventional nuclear power station and associated infrastructure in the Western Cape (Nuclear 1). The project proponent is the Generation Division of Eskom Holdings Limited. The EIA includes the screening and selection of a suitable site for the nuclear plant, as well as a scoping process and detailed environmental impact assessment. The project includes 20 detailed specialist studies, including social and biophysical, EIA process, public consultation, legal and nuclear technology studies
- Project director for the EIA and EMP for the proposed expansion of the Morupule Power Station, Botswana. The EIA includes a detailed environmental impact assessment. The project includes detailed specialist studies, including social, air quality, noise impact studies and public consultation
- Project director for the Environmental Impact Assessment for the route determination of the proposed Metro Boulevard, Gauteng Province
- Project director for the Environmental Impact Assessment for the proposed N1/20 Metro Boulevard Interchange, Gauteng Province
- Project director for the Environmental Impact Assessment for the Westgate – Tarlton – Kromdraai 132 kV Sub-Transmission line and associated infrastructure, Gauteng Province
- Project director for the Basic Assessment for the proposed Watershed – Mmabatho 88kV Power line. North West Province
- Project director for the EIA and Public Consultation Process for the 260 km 765 kV transmission powerline between Hydra to Perseus substations (Northern Cape and Free State), the 13 km 765 kV transmission power line between Beta and Perseus substations and associated infrastructure. This study involved a detailed impact assessment with extensive public consultation and specialist investigations
- Project director for the EIA for the proposed reclamation and treatment of Gaborone (Botswana) wastewater for potable use. This study involved a number of specialist studies and extensive public consultation
- Team leader for the EIA, Public Consultation Process, EMP, Water Use Licensing Applications, General Authorisation for Water Use and the Department of Mineral and Energy Affairs Applications for the R10 billion Eskom Braamhoek Pumped Storage Scheme in the Drakensberg. The proposed scheme comprises two reservoirs, interconnected by enclosed tunnel systems, with pump turbine units with a potential generation capacity of approximately 1 333 MW
- Project director for the EIA and Public Consultation Process for the City of Johannesburg's flagship Strategic Public Transport Network R250 million project which aims to provide public transport priority measures for 300 km of road network in Johannesburg
- Project director for the EIA and Public Consultation Process for the upgrade to Staatsartillery Road in Pretoria West
- Project director for various residential housing development EIAs in the Tshwane Metropolitan Municipality and Ekurhuleni Metropolitan Municipality
- Project director for the EIA, EMP and Public Consultation Process for the proposed Selebi – Pikwe Water Master Plan, Botswana. The aim of this infrastructure development is to be able to meet the water needs of the rapidly expanding town of Selebi Pikwe

- Project director for the EIA and Public Consultation Process for the closure of Chlookop Landfill site, Kempton Park
- Project director for the EIA and Public Consultation Process for the proposed generation expansion at Morupule Power Station (currently 118 MW), Botswana. The alternative of increasing power imported under a revised agreement with Eskom was evaluated. A number of specialist studies informed the EIA
- Project manager for the EIA of a proposed upgrade to the Blanco Boulevard, a major arterial road in George. This EIA has involved the evaluation of the archaeological, ecological, socio-economic, traffic, traffic noise, and the town and regional planning impacts of the proposed road link. This project has also entailed a public participation process
- Project manager for the EIA for the proposed Francistown Water Master Plan – Immediate Works, Botswana. The aim of this R250 million water infrastructure development is to be able to meet the development water needs of the rapidly expanding Francistown to year 2021. The project includes an EIA with extensive specialist studies and public participation
- Project manager for the EIA for the new restaurant complex at the Kirstenbosch National Botanical Gardens. The scoping report and EMP formed part of the National Botanical Institute's application for a permit to build within the Cape Peninsula Protected Natural Environment
- Project manager for the environmental studies undertaken at Fisantekraal Industrial Estate, Durbanville. This involved the undertaking of an EIA (including specialist studies) development and implementation of an EMP and rehabilitation specifications, and appointment and management of an Environmental Control Officer
- Project manager on the EIA for the proposed upgrade of the Rooisand Nature Reserve, within the Kogelberg Biosphere, Kleinmond. This project included the facilitation of the public participation process, specialist engineering, hydrogeological, archaeological and botanical studies, the development of an EMP for both the construction and operational phases and input into an opportunities and constraints plan
- Project manager for the environmental services undertaken for Helderberg Reservoirs (8, 5, 3 and 2 MI), Somerset West. This involved the undertaking of an EIA (including public facilitation) development and implementation of an EMP and rehabilitation specifications, and appointment and management of an Environmental Control Officer
- Project Scientist for the EIA of the Waste-tech Vissershok Uitspan hazardous waste disposal site at Vissershok, 24 km north of Cape Town. This project involved the evaluation of the biological, physical, air quality, health, social and economic impacts of the location of two hazardous waste sites at Vissershok. In addition, two extensive public participation processes were undertaken as part of the EIA studies. The EIA studies were undertaken in fulfilment of the Minimum Requirements for Waste Disposal by Landfill published by the Department of Water Affairs and Forestry in 1994
- Project scientist for the EIA of a proposed road link between the Outeniqua Pass the National Road 2 (N2) near George. This project entails a road link to the Outeniqua Pass and N2 that will relieve the increasing traffic pressure on the road network of central George. This EIA has involved the evaluation of the archaeological, agricultural, ecological, socio-economic, traffic, traffic noise, and the town and regional planning impacts of the proposed road link. This project has also entailed a public participation process

- Project Scientist for the EIA of the location of the National Road 2 bypassing Knysna. The Department of Transport required an EIA to assess the impacts of a bypass road on Knysna. A number of alternative routes were investigated during the course of this project. Public participation was required to obtain the views of the I&APs along the proposed route
- Project scientist for the \$2 billion Maputo Iron and Steel EIA. The Industrial Development Corporation of SA (IDC) proposed to construct an iron and steel plant in Maputo, Mozambique, using iron ore stockpiled in Phalaborwa, South Africa. The iron ore (6 million tonnes) would be transported via rail or pipeline from Phalaborwa to Maputo. The iron and steel plant would produce direct reduced iron and steel slab (approximately 3.5 million tonnes). Arcus GIBB undertook the EIA for this project
- Project scientist for the Preliminary EIA of alternative locations (Phalaborwa and Maputo) for an iron and steel plant and routes for a proposed slurry pipeline. An international consortium commissioned a study to investigate the feasibility of an iron ore mill in South Africa. Arcus GIBB was commissioned to investigate the environmental feasibility of this large-scale industrial project

Environmental Management Plans (EMP)

- Project director for the compilation of an Environmental Management Plan (EMP) for the construction and operational phases of the Perseus-Gamma, and Hydra-Gamma 765 kV transmission power lines, extension to the Hydra Substation, turn-ins of the Beta-Hydra 765 kV transmission power line to Perseus and upgrading of the Perseus Substation
- Project manager for the Generic Environmental Management Programme for Johannesburg City Parks (JCP). The Generic EMP was developed as a tool for managing the activities of all contractors employed to undertake construction work in the Public Open Spaces within the jurisdiction of the JCP
- Project manager for the Alien Vegetation Management Programme for the implementation of the Working for Water Programme (WWP) for the 300 ha Knysna River catchment. This included the generation of plans from data collected using a helicopter-borne Global Positioning System (GPS) as well as from interested and affected parties, and processed using the Arcinfo/ArcView range of GIS software, provision of recommendations on the time needed to clear the existing infestations and undertake follow-up clearing and setting of measurable goals and indicators against which the success in achieving the objectives of the WWP can be measured
- Project manager for the EMP for the proposed Neptune Interchange Coega Industrial Development Zone (IDZ) in Port Elizabeth. This R1.4 million project will provide the Port Elizabeth area with new industrial opportunities. This project involved the development and implementation of an EMP for the Neptune Interchange contract and Environmental Management Programme (EMPR) for borrow areas for the entire IDZ
- Project manager for the EMP for the proposed construction of Trunk Road 1/1, between George and the Outeniqua Pass. This project involved the upgrading and widening of the 20 km mountain pass, which required environmental input during both the design and construction phases. The appointment included an EMP for the construction phase of the project

- Project manager for the EMP for Thesen Island remediation, Knysna. This R10 million project includes the investigation and remediation of a timber processing plant including creosote and CCA contaminated land. This management involved the development and implementation of an EMP and rehabilitation specifications, and appointment and management of an Environmental Control Officer
- Project scientist for the EMP for Chapman's Peak Drive, Cape Peninsula. The Provincial Administration of the Western Cape commissioned Arcus GIBB to develop an EMP for the rehabilitation of the Chapman's Peak Drive
- Project scientist and rehabilitation specialist for the EMP for the Armaments Testing Facility at Rooiels. Somchem (Pty) Ltd commissioned Arcus GIBB to compile and implement an EMP for decommissioning soil remediation, rehabilitation, revegetation and long term monitoring of 11 ha armaments testing facility in the Kogelberg Biosphere Reserve
- Project scientist for the EMP for the Table Mountain Aerial Cableway upgrade, Cape Town. The National Parks Board commissioned Arcus GIBB to compile an EMP for the construction and operational phase of the R60 million upgrade of the cableway on this internationally renowned landmark. This management plan involved the compilation of environmental specifications to control the activities of the contractor and his staff, thus preventing unnecessary damage to the environment during the construction and operational phase of the project

Integrated Development Planning (IDP)

- Project manager for the compilation of an Integrated Development Plan (IDP) for the Buffalo City Municipality, Eastern Cape. This R2.5 million involved the formulation of issues, strategies, projects and budgets for the next five years through consultation with stakeholders in six Municipal Directorates

Botanical Studies/Rehabilitation Programmes**Succulent Karoo Biome:**

- Project manager for the botanical study for the R250 million Industrial Development Corporation Silicon Metal Project. The project comprised specialist botanical input, GIS mapping and development of an EMP for prospecting that was incorporated into the feasibility study for the establishment of a silicon mine and metal smelter and the prospecting permit application for the proposed mine
- Project manager on specialist environmental input for proposed prospecting and mining by Namakwa Diamond Company (NDC). This project included the provision of specialist botanical input into the Environmental Management Programme Report (EMPR) and Environmental Impact Assessment (EIA) for prospecting and mining of a concession area (2 km wide and 30 km long directly adjacent to the Admiralty Strip) between the Olifants River Mouth and the Namaqua Sands Mine on the West Coast near Lutzville
- Project manager for the specialist environmental input for proposed prospecting and mining Trans Hex. This project included a botanical specialist and rehabilitation study of their surf-zone and Admiralty Strip mining concessions, located between Jakkalshok and Dorningbaai along the Cape West Coast. Phase 1 of the study will comprise a broad vegetation assessment and mapping of the concession area and development of a rehabilitation programme, while Phase 2 will comprise area specific vegetation surveys of the proposed areas to be mined

Fynbos Biome:

- Project manager for the specialist botanical study for the proposed development of a regional landfill facility on the Karweyderskraal site, near Hermanus. The proposed site is approximately 100 ha in size. The aim of this specialist study was to survey the site and assess the potential effects of the proposed landfill would have on the flora present on site
- Project manager for the specialist botanical study for the proposed development of social housing at Meerlust Bosbou. The Winelands District Council initiated this development in order to provide social housing for 422 families
- Project manager for the specialist botanical study of the Cape International Airport (CIA) site for the Airports Company of South Africa. This project involves the extension of the existing CIA northwards to cover the entire 350 ha site within the next 35 to 50 years. The environmental input will be incorporated into the planning phase of the proposed developments at CIA and as baseline information for the environmental management system for CIA
- Project manager for the specialist botanical study for the proposed extension of the Zandvliet or Macassar Wastewater Treatment Works and associated infrastructure. The proposed extensions are required to meet the present and future wastewater capacity problems experienced in the Cape Metropolitan Area. Potential impacts of development and recommendations for their mitigation were made
- Project manager for the specialist botanical study for Phases 1 - 3 of the proposed Blaauwberg City development, potential of development and recommendations for their mitigation were made. A Global Positioning System (GPS) was used to map remnant vegetation
- Project manager for the specialist botanical study for phase 7 of the existing Sunset Beach residential development. This project involves the extension of Sunset Beach northwards and comprises the final phase of the Milnerton Estate's developments, potential environmental impacts of development and recommendations for their mitigation were made

Environmental Audits

- Project director and lead auditor for compliance audits of Eskom's Gourikwa and Atlantis Gas Turbine Power Stations
- Project director for a due-diligence audits of a number of bottling facilities for an international client
- Project director for waste management audits of the Linbro and Marie-Louise waste sites, Johannesburg
- Project manager for the environmental audit for the operation of the Table Mountain Cableway (TMC). The Table Mountain Aerial Cableway Company (TMACC) developed an environmental management system (EMS) for the operation of TMC in accordance with the requirements of ISO 140001. Arcus GIBB were appointed to undertake an external audit. The audit aimed to assess the current status of the EMS for the operation of the TMC and recommend improvement opportunities based on TMACC's EMS

Other Studies

- Project director for the Application for Mining Permits for borrow pits required for the Medupi Coal Fired Power Station, Limpopo Province

JM BALL C V SHEET 11

Environmental

- Project director for the Water Use Authorisation process for identified Water Uses at the Portland Cement Company's Jupiter Cement Plant in terms of the National Water Act
- Project director and manager for the 5-year Strategic Plan for the Department of Water Affairs and Forestry Chief Directorate: Water Resources and Information Management
- Head of Arcus GIBB's corporate strategy implementation team which is responsible for the overall implementation of Arcus GIBB's 5-year Corporate Strategy both at Company and business unit level
- Project manager for the corporatisation of the National SMME Fishing Forum. The National SMME Fishing Forum was established in 1999 to represent small, medium and micro entities, defend their interests and rights, as well as promote their development and participation within the industry. Arcus GIBB were appointed by the Forum to assist with the corporatisation of the organisation in order to maximise on investment and development opportunities that are currently available
- Project manager and institutional advisor on the identification of three candidate sites within each of the 20 identified 'search centres' in or around the Cape Metropolitan Area and the environmental audits preparation of 'site acquisition reports' for Ericsson

Oct 1995 to
Feb 1997

University of Cape Town (Institute for Plant Conservation) - Consultant

Responsible for the planning and execution of specialist vegetation studies in ecologically sensitive areas. Key projects include:

- Developing guidelines for sustainable harvesting of thatching reed
- Environmental assessment of a ecologically rich site on the Southern Cape Coast due to be rezoned and subdivided
- Specialist input relating to the impacts on vegetation within the sites affected by:
 - The upgrades to the Table Mountain aerial cableway system
 - A large entertainment complex on the Cape Peninsula
 - A residential development along the sensitive Cape Peninsula coastline
 - A housing development in the Tygerberg area
 - Three proposed Olympic competition venues in the Cape Peninsula
 - A large multi-purpose community facility in the Cape Peninsula
 - A road upgrade in the Cape Peninsula, and
 - A development corridor in the Cape Peninsula
- Specialist input relating to the management of vegetation within:
 - A sensitive wetland area surrounded by a large entertainment/office park
 - Private nature reserves and
 - A natural area managed for provision of water resources
- Botanical surveys of:
 - A large river catchment area in the Western Cape and
 - A community parkland in the Cape Peninsula

JM BALL C V SHEET 12**Environmental**

Jan 1992 to
Sept 1995

University of Cape Town (Department of Botany) - Post-Graduate Student

Completed Masters degree in Botany (Ecology), and was involved in practical classes for undergraduate students and supervision of project assistants

Professional and other Affiliations

Committee member (1997 to 2003) and member (2003 to present), International Association for Impact Assessment

Member, Environment Sub-Committee, Cape Peninsula Protected Natural Environment Sub-committee and General Committee (Portfolio – Environment), Mountain Club of South Africa, 1997 - 2003

Member, Botanical Society of South Africa, 1996 to present

Language capability

	Speaking	Reading	Writing
English	Excellent	Excellent	Excellent
Afrikaans	Fair	Fair	Fair
Spanish	Basic	Basic	Basic

Signature

Date
