

# **CURRICULUM VITAE**

## **KAREN JODAS**

### **SAVANNAH ENVIRONMENTAL (PTY) LTD**

Profession	:	Environmental Consultant
Specialisation	:	Strategic environmental assessment and advice; project management and co-ordination of environmental projects; environmental compliance advise and monitoring; Environmental Impact Assessment; environmental management; peer review; policy, strategy and guideline formulation; renewable energy projects; water management
Work experience	:	Fourteen (14) years in the environmental assessment and management field

### **VOCATIONAL EXPERIENCE**

Provide technical input for projects in the environmental management field, specialising in strategic evaluation, Environmental Impact Assessment studies, Environmental Management Plans, integrated environmental management, environmental compliance monitoring (ECO role); peer review of EIA reports and processes, strategy and guideline development, and public participation. Key focus on overall Project Management, integration of environmental studies and environmental processes into larger engineering-based projects, strategic assessment, and the identification of environmental management solutions and mitigation/risk minimising measures.

Undertaking studies requiring all environmental-related disciplines has allowed for considerable experience to be gained in the environmental assessment and management fields. A specialist area of focus is on management and assessment of multi-faceted projects, including electricity generation and transmission projects (with a strong focus on the renewable energy sector), linear developments (roads and power lines), bulk infrastructure and supply (e.g. WTWs, pipelines, landfills), the mining industry, urban, rural and township developments, environmental aspects of IDPs, EMFs, SoERs, as well as environmental planning, development and management.

Working knowledge of environmental legislation, strategies, guidelines and policies. Compilation of the reports for environmental studies are in accordance with the all relevant environmental legislation, including the National Environmental Management Act, EIA Regulations and the Minerals and Petroleum Resources Development Act.

### **SKILLS BASE AND CORE COMPETENCIES**

- Fourteen years experience in the environmental management and impact assessment field
- Thirteen years experience in Project Management - Project management of large environmental assessment and management projects
- Strategic and compliance advise for all aspects of environmental assessment and management
- External and peer review of EIA reporting and EIA process
- Working knowledge of environmental planning policies, regulatory frameworks and legislation
- Identification and assessment of potential environmental impacts and benefits
- Development of practical and achievable mitigation measures and management plans and evaluation of risk to project execution
- Experienced in environmental compliance advise, monitoring and reporting for construction projects
- Compilation and review of the reports in accordance with all relevant environmental legislation
- Public participation/involvement and stakeholder consultation
- Environmental strategy, policy and guidelines development
- Experienced in assessments for both linear developments and nodal developments
- Key experience in the assessment of impacts associated with renewable energy projects
- Wide range of experience for public and private sector projects
- Completed projects in all nine Provinces of South Africa, as well as Zambia and Lesotho

## EDUCATION AND PROFESSIONAL STATUS

### Degrees:

- B.Sc Earth Sciences, majoring in Geography and Zoology, *Rhodes University, Grahamstown*, 1993
- B.Sc Honours in Geography (in Environmental Water Management), *Rhodes University, Grahamstown*, 1994. Major subjects included Water Resources Management, Streams Ecology, Fluvial Geomorphology and Geographic Information Systems.
- M.Sc in Geography (Geomorphology), *Rhodes University, Grahamstown*, 1996

### Short Courses:

Water Quality Management, *Potchefstroom University*, 1998

Environmental Law Course, *Aldo Leopold Institute*, 2002

WindFarmer Wind Farm Design course, *Garrad Hassan*, 2009

### Professional Society Affiliations:

Registered with the South African Council for Natural Scientific Professions as a Professional Natural Scientist: *Environmental Scientist (400106/99)*

### Other Relevant Skills:

Xtrack Extreme – Advanced Off-Road Driving Course (2003)

## EMPLOYMENT

*2006 - Current:* Director of *Savannah Environmental (Pty) Ltd.* Independent specialist environmental consultant and advisor

*Jan 1997 – September 2005:* Associate of *Bohlweki Environmental (Pty) Ltd.* Environmental Management Unit: Manager; Principle Environmental Scientist focussing on Environmental Management and Project Management.

## PROJECT EXPERIENCE

Experience includes projects associated with electricity generation and transmission, wastewater treatment facilities, mining and prospecting activities, property development, and national roads, as well as strategy and guidelines development. Current and recently concluded projects include:

### Strategic and Regional Assessments

- Strategic Regional Assessment for the Environmental Suitability of Wind Energy Facilities for the entire Western Cape Province (for DEA&DP)
- Regional Assessment for wind energy developments within an identified area in the Overberg Area of the Western Cape Province (for BioTherm Energy)
- Regional Assessment for wind energy developments within an identified area in the Sutherland Area of the Northern and Western Cape Province (for Investec Bank Limited)
- Regional Assessment for wind energy developments within an identified area on the West Coast of the Western Cape Province (for Investec Bank Limited)
- Regional Assessment for wind energy developments within an identified area on the West Coast of the Western Cape Province (for Eskom Holdings Limited)
- Five Regional Assessment for wind energy developments within five identified area across South Africa (for Eskom Holdings Limited)

### Energy Sector Projects

*Renewable power generation projects: wind energy facilities*

- Environmental Impact Assessment and Environmental Management Plan for the proposed Sere Wind Energy Facility on the West Coast in the Western Cape (for Eskom Generation)
- Environmental Impact Assessment and Environmental Management Plan for the proposed Wind Energy Facility at Hopefield, Western Cape (for Umoya Energy)
- Environmental Impact Assessment and Environmental Management Plan for the proposed Wind Energy Facility at Cookhouse, Eastern Cape (for African Clean Energy Developments)
- Environmental Impact Assessment and Environmental Management Plan for the proposed Flagging Trees Wind Energy Facility at Middelburg, Eastern Cape (for African Clean Energy Developments)

- Environmental Impact Assessment and Environmental Management Plan for the proposed ABS Wind Energy Facility near Indwe, Eastern Cape (for Rainmaker Energy)
- Environmental Impact Assessment and Environmental Management Plan for the proposed Dorper Wind Energy Facility near Molteno, Eastern Cape (for Rainmaker Energy)
- Environmental Impact Assessment and Environmental Management Plan for the proposed Amakhla Emoyeni Wind Energy Facility near Cookhouse, Eastern Cape (for Windlab Developments)
- Environmental Impact Assessment and Environmental Management Plan for the proposed Gouda Wind Energy Facility near Gouda, Western Cape (for VentuSA)
- Environmental Impact Assessment and Environmental Management Plan for the proposed Riverbank Wind Energy Facility near Wesley, Eastern Cape (for Just Energy)
- Environmental Impact Assessment and Environmental Management Plan for the proposed Suurplaat Wind Energy Facility near Sutherland, Northern and Western Cape (for Moyeng Energy)
- Environmental Impact Assessment and Environmental Management Plan for the proposed Wind Energy Facility near Britannia Bay, Western Cape (for TerraPower Solutions)
- Environmental Impact Assessment and Environmental Management Plan for the proposed Karoo Renewable Wind and PV Solar Energy Facility near Victoria West, Northern & Western Cape (for SARGE)
- Basic Assessments for wind monitoring masts at various sites and locations in the Western and Northern Cape Provinces (for various developers)
- Regional Assessments for site identification and/or assessment for several wind energy Developers across the Western and Northern Cape
- Strategic Regional Assessment for the Environmental Suitability of Wind Energy Facilities for the entire Western Cape Province for DEA&DP

*Renewable power generation projects: solar energy facilities*

- Regional Assessment as a siting tool for CSP projects in Limpopo Province
- Environmental Impact Assessment and Environmental Management Plan for the proposed Upington CSP Energy Facility near Upington, Northern Cape (for Abengoa Solar South Africa)
- Environmental Impact Assessment and Environmental Management Plan for the proposed Pofadder CSP Energy Facility near Pofadder, Northern Cape (for Abengoa Solar South Africa)
- Environmental Impact Assessment and Environmental Management Plan for the proposed Kathu & Sishen PV Solar Energy Facility near Kathu, Northern Cape (for REISA & VentuSA)
- Environmental Impact Assessment and Environmental Management Plan for the proposed Wagnbietjiespan PV Solar Energy Facility near Boshoff, Free State (for VentuSA)
- Environmental Impact Assessment and Environmental Management Plan for the proposed De Aar CSP Energy Facility at De Aar, Northern Cape (for African Clean Energy Developments)
- Environmental Impact Assessment and Environmental Management Plan for the proposed PV Solar Energy Facility near De Aar, Northern Cape (for Solar Capital)

*Power generation projects*

- Environmental Impact Assessment and Environmental Management Plan for the proposed Ankerlig OCGT to CCGT Conversion project, and the associated 400 kV transmission power line between Ankerlig and the Omega Substation, Western Cape (for Eskom Generation)
- Environmental Impact Assessment and Environmental Management Plan for the proposed Gourikwa OCGT to CCGT Conversion project, and the associated 400 kV transmission power line between Gourikwa and the Proteus Substation, Mossel Bay (for Eskom Generation)
- Basic Assessment for a new raw water reservoir and pipeline for the Medupi Power Station, Limpopo Province (for Eskom Generation)

*Transmission line projects*

- Environmental Impact Assessment and Environmental Management Plan for the proposed Steelpoort Integration Project, Limpopo Province (for Eskom Transmission)
- Environmental Impact Assessment and Environmental Management Plan for the proposed Kyalami/Midrand Substation and 3 Transmission lines, Gauteng (for Eskom Transmission)

**Compliance Advise and Monitoring**

- Project development compliance advise, and implementation and compliance monitoring of the Cookhouse Wind Energy Facility Environmental Authorisation and Environmental Management Plan (for ACED Renewables Cookhouse)
- ECO compliance monitoring for the construction of the De Hoop Dam (ORWRDP) as well as the diversion of the R555, Limpopo Province (5-year contract for DWA)
- Environmental Management Plan and ECO for existing and future development at Tiffindell Ski, Eastern Cape Province (for Tiffindell Ski (Pty) Ltd)
- Environmental Management Plan and ECO for construction for the upgrade of Prince Alfred Park Stadium, Nelson Mandela Bay, Eastern Cape (for Nelson Mandela Metropolitan Municipality)

### **Strategic Advice**

- Review the effectiveness and efficiency of the environmental impact management (EIA) system in South Africa, and formulate an environmental impact management strategy and action plan for National DEA
- Drafting a Position Paper: Project Financing and Environmental Risk Management (considering IFC Performance Standards & Equator Principles) for Standard Bank Group Limited
- Advice regarding environmental compliance of existing and future development at Tiffindell Ski, Eastern Cape Province (for Tiffindell Ski (Pty) Ltd)
- Advice regarding environmental compliance for operations at Salberg Concrete Products factory, Gauteng (for Salberg Concrete Products)

### **Peer/external EIA review**

- Review of 13 EIAs submitted in terms of the ECA for the Northern Cape Department of Tourism, Environment and Conservation (for DEAT) – acting as an agent for Northern Cape DTEC
- Peer Review of EIA process and reporting for the Malelane Substation and Komatipoort-Marathon 275kV Transmission Line turn-in (for SiVEST / Eskom Transmission)

### **Environmental Management Tools**

- Compilation of a comprehensive site-specific Environmental Management Plan (EMP) for the construction and operation of the Eskom Braamhoek Integration Project, Free State and KwaZulu-Natal Provinces (for Eskom Transmission)
- Development of an Environmental Impact Management System for Water Services-related projects for Limpopo Province (for DWAF Limpopo Province)
- Environmental Risk Analysis for Salbro-owned properties, Gauteng (for Salbro Property Holdings)
- Compilation of Provincial Guidelines for off-road routes in the Western Cape (for DEA&DP)
- Project integration and compilation of a Strategy for Sustainable Development for Gauteng Province (for GDACE)

### **Site Development and Construction Projects**

- Environmental Impact Assessment and Environmental Management Plan for the proposed Groot Letaba River Water Resource Development Project (EIA drafting team for Iliso Consulting)
- Basic Assessment for the proposed Stormwater Outfall from Zones 1 and 2 of the Coega IDZ, Eastern Cape Province (for Coega Development Corporation)
- Environmental risk analysis and compliance advice for Leopard's View guest lodge, Mpumalanga

### **Mining Sector Projects**

- Environmental Impact Assessment and Environmental Management Programme in terms of the MPRDA for the proposed Elitheni Coal Mine near Indwe, Eastern Cape Province (for Elitheni Coal)

Projects listed below include those projects undertaken at when employed at *Bohlweki Environmental*.

### **Electricity Sector projects**

#### **Power Generation Projects**

- Project Manager for the environmental impact assessment for the site selection for a new coal-fired power station (Matimba B) in the Limpopo Province
- Project Manager for the Public Participation Process for the proposed Return-to-Service of the Komati Power Station, Mpumalanga Province
- Project Manager for the Public Participation Process for the proposed Return-to-Service of the Grootvlei Power Station, Mpumalanga Province
- Project Manager for the Detailed Environmental Scoping Study for the proposed Capacity Increase Project at Arnot Power Station, Mpumalanga Province
- Project Manager for the Public Participation Process for the proposed Return-to-Service of the Camden Power Station, Mpumalanga Province
- Project Manager for the Environmental Pre-Scoping Study for the proposed Solar Thermal Power Plant, in the Northern Cape Province

#### **Electricity Transmission Projects**

- Project Director for the EIA for the proposed 765kV Transmission Powerline between Hydra Substation (near De Aar) and the proposed Gamma Substation (near Victoria West), Northern Cape Province
- Project Manager for the Environmental Impact Assessment for the 3<sup>rd</sup> 400 kV Transmission line

- between the Poseidon and Grassridge Substations in the Eastern Cape Province
- Project Manager for the Environmental Impact Assessment for the proposed new 400 kV Transmission line between Matimba and Witkop Substations, Limpopo Province
- Project Manager for the Environmental Impact Assessment for the proposed new Ikaros Substation and associated 400 kV Transmission line infrastructure, North West Province
- Project Manager for the Detailed Environmental Scoping Study for the Redhill Strengthening Project: proposed new Redhill Substation and associated new 132 kV Distribution line
- Project Manager for the Detailed Environmental Scoping Study for the Breyten Strengthening Project: proposed new Breyten Substation and associated 88 kV Distribution line
- Project Manager for the Environmental Impact Assessment for nine new 132 kV powerlines between the Grassridge Substation and the Coega Industrial Development Zone, Eastern Cape
- Project Manager for the Environmental Impact Assessment and Environmental Management Plan for the proposed Eiland Rural Substation, and the associated 132 kV distribution line, North West Province
- Project Manager for the detailed Environmental Scoping Study and EMP for the proposed Everest Substation, and the 132 kV powerline between Simplon and Everest Substations, Mpumalanga
- Environmental scoping study and environmental management plan for the proposed establishment of Eskom infrastructure for the C-Cut Project at Premier Mine, Cullinan
- Project Manager for the Environmental Impact Assessment for the proposed Eskom 2<sup>nd</sup> 400 kV Transmission line between Grassridge and Poseidon Substations, Eastern Cape

### ***Specialist projects***

- Development of an Integrated Environmental Policy for the City of Tshwane Metropolitan Municipality (CTMM)
- Ad hoc advice to ERWAT regarding the implementation of Module 4 at the Waterval Wastewater Treatment Works, Gauteng Province.
- Review of the State of the Environment Report for the North West Province
- Development of a Flood Warning System and Flood Notification Procedures for No 7 Dam at Premier Mine, Cullinan for De Beers.
- Detailed specialist environmental impact assessment of water supply and liquid waste disposal infrastructure options associated with a proposed hotel development site at the Victoria Falls, Zambia for Sun International
- Contributing to the drafting of the draft White Paper on Integrated Pollution Control and Waste Management for the Department of Environment Affairs and Tourism (DEAT) and the Department of Water Affairs and Forestry (DWAF), as well as being Project Committee Secretary for the project
- Acting as Project Committee Secretary for the inception phase of the formulation of the National Waste Management Strategy funded by DANCED
- Preparation of a summary document for a Ministerial Briefing for the rehabilitation of the Pomfret Military Base areas polluted by Asbestos
- Monitoring landfill gas at Pretoria-North landfill for final rehabilitation of the site

### ***Environmental Management Plans***

- Environmental Management Plan for the proposed N2 Wild Coast Toll Road between East London (Eastern Cape) and Durban (KwaZulu-Natal)
- Environmental Management Plan for repairs of portions of the N3 and N1, Gauteng
- Environmental Management Plan for the Proposed C-Cut Development at Premier Mine, Cullinan
- Environmental Management Plans for various Eskom Distribution powerlines within South Africa

### ***Property development projects***

- Environmental Scoping Study for upgrading and extensions at Tiffindell Ski Resort, Eastern Cape
- Exemption application for the establishment of a township development at Eden Park, for Alberton Town Council
- Detailed Environmental Scoping Study for the Thaba ya Batswana Development on portions of the Farm Rietvlei 101 IR, Gauteng

### ***EIAs for Technology projects***

- Project Manager for the Environmental Impact Assessment for the proposed Alternative Fuels and Resources Project at the Holcim South Africa Plant in Dudfield, North West Province
- Project Manager for the Environmental Impact Assessment for the establishment of a Waste Blending Platform within the Gauteng Province to produce alternative fuels for use by cement kilns (a Holcim South Africa and EnviroServ Joint Venture)
- Project Manager for the Environmental Impact Assessment for the proposed Alternative Fuels and

### ***Water Resources projects***

- Project Manager for the Environmental Impact Assessment for the establishment of three new DWAF gauging weirs at 1 site on the Vaal River and 2 sites on the Orange River, Northern Cape Province
- Environmental exemption application for the construction of an emergency water supply pipeline from Mamelodi to Ekandustria via Cullinan, Gauteng Province for Rand Water
- Environmental Scoping Report for the construction of a water reclamation plant at Southern Wastewater Treatment Works, Durban for OTV France
- Environmental impact assessment of new regional water care infrastructure in the DD5A sub-drainage district in Eastern Gauteng (adjacent to the Blesbokspruit Ramsar Site) for the East Rand Water Care Company (ERWAT)
- Environmental impact assessment of the old Klipspruit and Goudkoppies Wastewater Treatment Works and the Goudkoppies Landfill Site for the Greater Johannesburg Metropolitan Council
- Environmental evaluation of six preferred wastewater disposal options for Durban Metropolitan Council Wastewater Management Department, as well as contributing to the integrated assessment of these preferred options
- Department of Water Affairs & Forestry Water License Applications for operations at the Holcim South Africa Dudfield Plant, North West Province
- Preparation of a Water Quality Management Report (WQMR) and an Environmental Scoping Assessment for the proposed extension to Dassenhoek Wastewater Treatment Works, Durban
- Assisting in the final preparation of the Water Management Plan for the Free State Goldfields and Lower Vet River Catchment for DWAF

### ***Mining sector projects***

- Mining license application and EMPR for the Majuba Power Station underground coal gasification site, Mpumalanga Province for Eskom TSI
- Project Manager for a Social Impact Assessment for Kimberley Mines, for De Beers
- Environmental Management Programme Report (EMPR) for the proposed formalisation of small-scale clay mining for a brick-making enterprise pilot project in QwaQwa, Free State Province for Mintek
- Environmental Management Programme Reports (EMPR) for the proposed formalisation of seven small-scale sandstone mining sites in QwaQwa, Free State Province for Mintek
- Environmental Management Programme Report (EMPR) for prospecting activities within the Premier Mine Game Farm, Cullinan for De Beers Consolidated Mines Limited
- Project Manager for the environmental studies for the C-Cut Development at Premier Mine, Cullinan for De Beers Consolidated Mines Limited: Environmental Scoping Report (ESS); Environmental Impact Assessment (EIA); Environmental Management Plan (EMP); and Environmental Management Programme Report (EMPR)

### ***Transportation projects***

- Project Manager for the Environmental Impact Assessment and Environmental Management Plan for the proposed N2 Wild Coast Toll Road between East London (Eastern Cape) and Durban (KwaZulu-Natal) (approximately 550km)
- Environmental Impact Assessment for the proposed Platinum Highway from Warmbaths via Pretoria to Skilpadhek (on the South Africa-Botswana border), including the application for all relevant permits, for the Bakwena Consortium
- Environmental Management Plan for repairs of portions of the N3 and N1, Gauteng
- Environmental Opportunities and Constraints Assessment for the Wonderboom Airport
- Considerations of environmental aspects for the Denneboom Local Integrated Transport Plan

## **CURRICULUM VITAE**

**Steven Ingle**

Profession : Senior Environmental Consultant  
Specialisation : Environmental Impact Assessment and Environmental Risk  
Years experience : 7 years

### **KEY RESPONSIBILITIES**

- Lead consultant / client liaison responsible for authorisations under NEMA, Mining Act, Water Act and Waste Act.
- Project management and compilation of EIAs and EMPs in application for Environmental Authorisations for large scale infrastructure, mining and property development projects.
- Advising on compliance to legislation and industry norms and best practice.
- Public participation processes and stakeholder consultation and mediation.
- Government authorities consultation.
- Internal implementation of quality management systems.

### **SKILLS BASE AND CORE COMPETENCIES**

- Environmental Authorisations and Licensing
- Environmental Monitoring and Auditing
- Environmental Liability Determination
- Strategic Environmental Assessment
- Geographic Information Systems and mapping

### **EDUCATION AND PROFESSIONAL STATUS**

#### ***Degrees:***

Bachelors Degree in Environmental Management (University of South Africa)

#### ***Courses:***

- Rehabilitation of mining impacted land
- Environmental legal training
- Presentation skills

#### ***Professional Society Affiliations:***

None

### **EMPLOYMENT**

- Savannah Environmental (Pty) Ltd: March 2013 to present
- Marsh Environmental Services (Marsh Risk Consulting): July 2007 to February 2013
- KWP Landscape Architects and Environmental Consultants: February 2006 to July 2007
- Urban Econ Development Economists: 1 September 2003 to January 2006

## **PROJECT EXPERIENCE**

### **Environmental Authorisations and Licensing**

- EIA and IWULA applications for a proposed Coal Mine in Mpumalanga.
- MPRDA, EIA and IWULA application for a proposed zinc and lead mine in the North West Province.
- Various EIA's for commercial and residential development of mining impacted sites in the West Rand and East Rand of Gauteng.
- Waste Management Licensing at Nampak Recycling and Tissue for all operations.
- EIA for a proposed incinerator at the North West University Mafikeng Campus.
- EIA for proposed effluent treatment plants at Ford Silverton and L'oreal Midrand.

### **Environmental Monitoring and Auditing**

- Compilation of an EMP on behalf of the Ekurhuleni Municipality for the upgrade and environmental management of the Grootvaly Blesbokspruit Wetland Reserve, Springs.
- Environmental Control Officer for contracts involving the construction of roads and stormwater infrastructure at Bramfischerville and Lakeside of behalf of the City of Johannesburg.
- Environmental Control Officer for various property developments within Gauteng and Mpumalanga
- Lead auditor on environmental compliance at grain and feed storage sites nationally.

### **Environmental Liability Determination**

- Auditing and reporting resource as part of an Environmental Due Diligence investigation for a waste management company to determine legal and operational environmental liabilities.
- Auditing and reporting resource as part of an Environmental Due Diligence investigation for a cement company to determine compliance against the Equator Principles and International Finance Corporation Standards.
- Site selection and environmental risk determination at various mining impacted sites on the West Rand and East Rand to inform the feasibility of township establishment.

### **Strategic Environmental Assessment**

- Reporting and mapping resource as part of the project team involved in the compilation of a Strategic Environmental Assessment for the Royal Bafokeng Nation.
- Reporting resource as part of the project team involved in the compilation of the North West Environmental Outlook.