

# CURRICULUM VITAE



## CARLO LOUBSER

Lecturer in Hydraulics, Hydrology and Water Services (Stellenbosch University Civil Engineering Department)

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### PROPOSED POSITION IN PROJECT TEAM

Project Manager / Design Lead

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### DATE AND PLACE OF BIRTH

6 Julie 1972 - Bellville

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### PROFESSIONAL AND ACADEMIC QUALIFICATIONS

B Eng (Civil)  
M Eng (Civil)

University of Stellenbosch (1994)  
University of Stellenbosch (1997)

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### MEMBERSHIP OF PROFESSIONAL SOCIETIES

Pr Eng (Reg. No. 20020231)  
South Africa Institution of Civil Engineers

Engineering Council of South Africa  
Member

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### AECOM SA (PREVIOUSLY BKS) EMPLOYMENT HISTORY

2015 – ongoing  
2011 – 2014  
2008 – 2011

Executive  
Associate Engineer  
Chief Engineer

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### PREVIOUS EMPLOYMENT HISTORY

First African Signs (now First African Holdings), 2006 – 2008  
Geustyn Loubser Streicher (now GLS / EOH), 1998 – 2006  
Liebenberg & Stander (now Bergstan), 1997 – 1998

Production Manager  
Engineer  
Junior Engineer

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**PROFESSIONAL CAPABILITY**

- Leader of multi-disciplinary engineering design teams
  - Design and construction of specialist firefighting networks and –systems
  - Design and construction of large water and wastewater pipelines (up to 1000 mm diameter)
  - Pre-stressed concrete reservoir construction
  - Drainage design and project management for projects in Qatar
  - Water reticulation network analysis and master planning
  - Wastewater reticulation network analysis and master planning
  - Water demand management
  - Production Management at a large signage manufacturing company
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**RELEVANT PROJECT EXPERIENCE***FIRE WATER PROJECTS*

- **Port of Ngqura – New Fire Deluge System for the Conveyors at the proposed Manganese Export Terminal (2015 – 2016)**

He was the Design Lead for the design and potential implementation of a new fire deluge system for the conveyors at the proposed Port of Ngqura. The aim of the project is to implement an automated fire deluge system to prevent or extinguish fires that may occur on the proposed manganese ore conveyor belts at the Port of Ngqura. The project was stopped in March 2016, reportedly due to a problem with the procurement of the identified land parcel for the stockyard.

- **Port of Cape Town – New Fire Fighting System for the Oil Tanker Terminals (2013 – 2016)**

He acted as the Design Lead as well as Project Manager for AECOM on the design and implementation of a new firefighting system for the oil tanker terminals in the Port of Cape Town. It is a complicated multi-disciplinary project with several construction packages, being implemented in a very challenging environment. Valuable experience was gained in the NEC3 form of construction contract. The project was taken over by Transnet Capital Projects in February 2016, to complete in-house.

- **Port of Saldanha – New Fire Deluge System for the yard conveyors (2013 – ongoing)**

He is the Design Lead for the design and potential implementation of a new fire deluge system for the yard conveyors at the Port of Saldanha. The aim of the project is to implement an automated fire deluge system to prevent or extinguish fires that may occur on the iron ore conveyor belts at the Port of Saldanha.

- **Chevron Fire Water Replacement Programme (2012 – ongoing)**

He is the Project Engineer and head of AECOM's engineering team appointed to systematically replace and upgrade the existing fire water networks and firefighting systems on Chevron's Cape Town Refinery and the adjoining Killarney Tank Farm.

*DRAINAGE ENGINEERING PROJECTS*

- **Qatar Contract 2 – Several Drainage Design Projects (2013 – 2014)**

His involvement in Qatar required him to spend 7 weeks in Qatar in 2013, during which time he acted as the Drainage Design Lead on the Contract 2 suite of projects. He was required to manage several drainage projects for areas located south of the capital, Doha. During this time he

managed to secure engineering design work for his South African office, of which the fee value exceeded R2 million.

#### *WATER INFRASTRUCTURE PROJECTS*

- **Cogmanskloof Irrigation Board pipeline relocation (2014 – ongoing)**

He is currently involved as the design lead on water pipelines for the relocation of several water pipelines, including the main 600 mm diameter Cogmanskloof Irrigation Board pipeline, as part of the Rehabilitation of 13.4 km of the TR 31 from Ashton to Montagu, through Cogmanskloof.

- **Quaggaskloof Development Project (2014 – ongoing)**

He is currently involved in the Quaggaskloof Development project as the potable water design lead. He also provides assistance on the water license application process, investigating potential additional water sources, an inland marina, negotiations with DWA, water treatment options, and re-use of treated water effluent for irrigation of the proposed golf course.

- **Vergeleë new 15 Mℓ reservoir (2009 – 2012)**

He acted as the Project Engineer on the new Vergeleë 15 Mℓ reservoir project. This project comprised the construction of a new 15 Mℓ reservoir at the Vergeleë reservoir site, as well as some large diameter inlet and outlet pipelines constructed very deep below ground level, concomitant with large reinforced concrete chambers housing control and cut off valves, meters, and diversions.

- **Vergeleë bulk water supply pipeline to Velddrif (2009 – 2012)**

He acted as the Project Engineer on the new bulk water supply pipeline from Vergeleë in the direction of Velddrif. The project comprised the construction of a new 300 mm diameter bulk water pipeline, from the Vergeleë reservoir in the direction of Velddrif, over a distance of 7.1 km.

- **Vergeleë bulk water supply pipeline rehabilitation (2009 – 2011)**

He acted as the Project Engineer on the Vergeleë bulk water supply pipeline rehabilitation project. The project comprised the relaying of a section of a 1000 mm diameter pipeline, incorporating a new connection and a scour valve, both housed in a new valve chamber, as well as removing of a localised restriction.

- **Alternative bulk water supply to the Greater Hermanus Area (2012)**

He acted as the Project Engineer on this study/project. The project comprised a technical analysis of various potential pipeline route alternatives from Mariasdal WTW and from the Palmiet River to the Greater Hermanus Area. It also included investigation of the Palmiet River as a potential bulk water source to the Greater Hermanus Area, taking cognisance of its environmental water requirements, statistical run-off and the Greater Hermanus Area future water demand.

- **Mamre (Atlantis): Water Reticulation Network Improvement (1998)**

This project involved the installation of water meters and small-scale cross-connections to improve the water reticulation network of the small town of Mamre.

*WATER SUPPLY RETICULATION NETWORK MODELLING AND MASTER PLANNING*

- **Kwahlokhloko rural network model (2013)**

He acted as the design lead on this study, which comprised the compilation and modelling of a rural water reticulation network for Kwahlokhloko, situated in the KwaZulu Natal midlands. The study was complicated by the drastic variation in elevation and eventually necessitated the use of a significant number of break pressure tanks. A series of complex modelling queries were compiled to simplify modelling.
- **City of Cape Town Future Growth Options: Bulk Infrastructure Review (2011 - 2012)**

The study comprised a technical analysis of the required bulk infrastructure for future growth development options for the City of Cape Town. His involvement included both water and wastewater high level master planning and modelling.
- **Saldanha IDZ Technical Analysis (2011)**

The study comprised a technical analysis of the bulk infrastructure requirements of the proposed Saldanha Industrial Development Zone.
- **Kampala Water (April 2011 – March 2012)**

The study comprised investigation of the general water supply situation in the City of Kampala, Uganda, including evaluating a set of proposed emergency measures and assisting in drafting a Terms of Reference document for appointment of a consultant to perform a multidisciplinary contract to address all water supply related problems in Kampala. He spent two weeks in Kampala investigating their reticulation network drawings, visiting their reservoir sites and interrogating their operational staff.
- **Chevron Fire Water Master Plan (2009 – 2011)**

This project comprised modelling of and proposing improvements to the existing fire water networks as well as firefighting system on Chevron's Cape Town Refinery and the adjoining Killarney Tank Farm.
- **Khayelitsha Bulk Water Supply Pipeline (2009 – 2010)**

The project involved performing a feasibility study for the potential construction of a new bulk water supply pipeline from the Faure 2400 mm diameter bulk supply pipeline, along Baden Powel Road, to the existing eastern reticulation networks of Khayelitsha.
- **City of Tshwane Management Information System (2003-2006)**

This project included all aspects of the water master planning such as compiling models, analysing and master planning of 35 + separate water supply zones in Pretoria. These zones included pumping stations, reservoirs, water towers and direct connections to Rand Water's system. He performed the majority of this modelling while employed as an Engineer at GLS. This service was rendered over a period of three years and required extensive and long-term involvement on all levels of a water supply management information system.
- **Cape Town Bulk Water Supply System - Computer model and Master Planning (1998-2003)**

This study involved compiling a computer model of the Bulk Water Reticulation System of the City of Cape Town, analysing the system for present and potential future water demand and drawing up a detailed master plan report. He performed all of this modelling while employed as an Engineer at GLS.

- **Various other water reticulation networks (1999-2006)**

Water reticulation network studies and master planning projects were also completed for Tygerberg Central, Tygerberg West, Tygerberg South, KaNyamazane (Nelspruit) and Buffalo City Municipality, while in the service of GLS.

#### *SEWERAGE INFRASTRUCTURE PROJECTS*

- **Khayelitsha Sewer Sand and Rag Trap (2009 – 2012)**

This project comprised design and construction of a specialised in-line structure, on an existing 400 mm diameter bulk sewer pipeline located at great depth, to remove sand and rags from the sewer system. He designed the structure as well as acted as the Engineer during the implementation phase.

#### *SEWER RETICULATION NETWORK MASTER PLANNING*

- **Various sewer reticulation system analysis and master planning (2006)**

Sewer reticulation network analyses and master planning were completed for Kungwini, Silver Lakes, Doornkloof, Irene Glen, Bronkhorstspuit and Zithobeni, Ekangala and Ekandustria, Rethabiseng, Tweespruit, Nokeng, Rayton, Refilwe, Cullinan, Kekana Gardens, and Wallmansthal.

- **Re-Use of Treated Wastewater Effluent (2002)**

This study for the City of Cape Town comprised evaluating the existing level of re-use of treated wastewater effluent in the City of Cape Town and evaluating the potential for expansion of existing systems.

#### *OTHER WATER SERVICES*

- **Overstrand Laboratory Services (2008)**

This project involved professional assistance with appointment of a professional services provider for performing laboratory services in the Overstrand Municipal Area. To this end he liaised with water quality experts and several laboratories and compiled the tender document required to engage the services of a competent laboratory.

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#### **PRODUCTION MANAGER EXPERIENCE**

- **First African Signs (2006 – 2008)**

He was employed as Production Manager at First African Signs. During his involvement large, as well as small scale signage were manufactured for a number of commercial clients, including:

- Engen
- Caltex
- BP
- Total
- Sasol (including Exel)
- Continental
- Sonangol
- Toyota
- FNB

- Foshini Group (Matrix, Sterns)
- Steers
- Citi Bank

First African Signs occupied a working space of 4000 m<sup>2</sup> and the facility housed offices, stores, a steel workshop, a fibreglass press and trimming area, a sanding and spray-painting area, a curing area, a routing area, an acrylic manufacturing and moulding area, a vinyl room, an electrical area, an assembly area and dispatch. The Production Manager had to oversee the entire production and quality management process, he had to constantly liaise with procurement, he had to make production targets set by the project managers, and he had to manage the entire work force including overtime work and several HR-related matters. He was also included in management meetings and had to report on all financial implications related to production activities.

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### **WATER RESEARCH COMMISSION PROJECTS**

He was involved in the following Water Research Commission studies:

- WRC Report 1819/1/10: Strategic assessment of household on-site water as supplementary resource to potable municipal supply, March 2011.
  - WRC Project Number K5/2007/3: Understanding sewer pump stations, October 2012.
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### **COURSES AND SEMINARS**

He compiled and presented papers at the following courses and seminars:

- Water Network Analysis (University of Stellenbosch): *Kampala Water Network, Uganda*, June 2012
  - Sewer Systems Course (University of Stellenbosch): *Trapping the problems*, June 2011.
  - Water Network Analysis (University of Stellenbosch): *Rainwater use at household level*, March 2010.
  - Sewer Systems Planning and Design (University of Stellenbosch): *Specialised sand trap design – City of Cape Town*, June 2009.
  - Third International Seminar on River Flood Hydraulics (University of Stellenbosch in collaboration with HR Wallingford): *A New Structure for Discharge Measurement in Sediment Laden Rivers*, 1997.
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### **EXTERNAL EXAMINER**

He acted as the external examiner for the following Stellenbosch University students' Master Degree theses:

- Mr AJ (Bertu) Bester, 2010
  - Ms HM (Erina) Myburgh, 2012
  - Mr J (Joubert) Tulleken, 2012
  - Mr JL (Louis) Strijdom, 2016
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**OTHER / LEADERSHIP POSITIONS**

- Chairman of Kontiki Property Owners Association (2015 – ongoing)
  - Secretary of Kontiki Property Owners Association (2010 – 2014)
  - Powerpoint operator at Helderberg Dutch Reformed Church (2012 – ongoing)
  - Western Province Canoe Union Development Officer (1996 – 1998)
  - Western Province Canoe Union EXCO member (1996 – 1998)
  - Eendrag Primarius (1995)
  - Eendrag House Committee (1994 – 1995)
  - Students Council, Stellenberg High School (1990)
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**SPORT AND HOBBIES**

- Marathon canoeing
  - Offshore and estuary fishing
  - Overlanding and camping
  - Surf-skiing
  - Water-skiing
  - Running
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**NARRATIVE**

He is a self-motivated and driven team player who strives to maintain a high standard in all that he is involved in. He possesses above average interpersonal skills and excels in building relationships within the organisation and with clients. In addition, he enjoys interacting with people and is able to provide proper guidance to the members in his team. As part of AECOM's structured mentoring programme, he has won countrywide Mentoring Partnership of the year in both 2013 and 2014, and in 2014 he also won the countrywide Mentor of the Year award. He has excellent communication and writing abilities in both English and Afrikaans.

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**REFERENCES**

- Dr A du P (Aldu) le Grange  
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