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## Curriculum Vitae: SP (Stephan) Schutte

### PERSONAL INFORMATION

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Name : Stephanus Philippus Schutte  
Date of Birth : 30 August 1972  
Marital Status : Married  
Nationality : South African  
Current Position: Civil Engineer  
Languages : English, Afrikaans  
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### QUALIFICATIONS

- Matric Certificate (Standard 10) : Technical High School, Springs – 1990
- B. Eng (Civil) : University of Pretoria, 1999

### PROFESSIONAL AFFILIATIONS

- Engineering Council of South Africa (ESCA) - Professional Engineering Registration in process;
- South African Road Federation (SARF) – EC Committee – Vice-chair;
- Bridge Management System (Struman) – User Group Member with SANRAL and CSIR.

### SUMMARY OF RECENT POST GRADUATE SHORT COURSES & SEMINARS :

- Oct 2015 – NQF 7 – Labour Intensive Construction (LIC) Accredited Training (EPWP)
- Sept 2015 – Engineering for Road Safety – SARF / SANRAL Workshop
- Jun 2014 – Winter Seals on Surfaced Roads (SAT and SANRAL)
- May 2014 – Road Pavement Failure Rehabilitation (SARF)
- Apr 2013 – Foundation Engineering and Slope Stability Principles (by Geopile Africa and Ductus)
- Feb 2013 – Fibre Reinforced and Self Compacting Concrete (SCC) (by CSSA)
- Nov 2012 – Water hammer (Surge 2012) and ARI Valve course, by Dr Srinivasa Lingireddy (KY Pipes)
- Feb 2011 – Road Traffic Signs Manual : SADC-RTSM (presented by SARF);
- Nov 2010 – Bridge and Culvert Visual Assessment and BMS (presented by SANRAL / CSIR)
- Oct 2010 – Soil reinforcement and SANS 207 (by Maccaferri)
- July 2010 - Bridge and Culvert Inspection and Maintenance (presented by Dr Roderick Rankine Pr.Eng)
- Mar 2010 – Repair and Corrosion Damaged Reinforced Concrete Structures, CSSA
- Nov 2009 - Coastal and Harbour Engineering Course (presented by Mr Keith P Mackie Pr.Eng)
- Oct 2009 – Concrete Diagnostics and Repair Methods (by CSSA and Echo Spec-Tech)
- Aug 2009 - Urban Road and Stormwater Course (presented by SARF)
- Feb 2009 - Port Engineering (presented by Stellenbosch University)
- Oct 2008 – Introduction to Geo-synthetics (by Kaytech)
- Sept 2008 – Concrete Retaining Walls and Geo-synthetics in Reinforced Soil (by CMA)
- April 2008 - Project Management and the Law (presented by SAICE)
- Mar 2008 – Geo-synthetic Engineering (by Kaytech)

Details of all courses listed as well as courses prior to this period are available on request.

### PUBLISHED ARTICLES :

- 1998 2<sup>nd</sup> Qtr – SAICE Journal : “Hydraulic Resistance of Segmentally Lined Water Tunnels”, with Prof JM Jordaan.

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## WORK EXPERIENCE

### **Afri Coast Consulting Engineers SA, Port Elizabeth (1 February 2008 to present)**

#### **Water Related Projects**

- 2008 - 2010: Part-time site supervision as Resident Engineer for 14 months Contract, construction drawings, contractual management, measurements and payments for new 17MI **post-tensioned reinforced concrete reservoir**, at Coegakop, PE;
- 2009 - 2012: Assisted with the updated Bulk Water Master Plan for the Nelson Mandela Bay Municipality performed detail hydraulic analysis of bulk water supply systems from Grassridge Reservoir to Chelsea Reservoir with design alternative for Booster Pump Station, for High Pressure and Low Pressure Supply Zones.
- 2012 – 2014: Assisted with the 30MI/day Coega Return Effluent Scheme, route assessment and detail Bulk Pipeline design and costing. Hydraulic Design with Water hammer analysis with Surge / Pipe 2000 software.

#### **Transport, Road and Storm Water related Projects**

- 2008-2009 : Assisting with detail design, drawings, tender documentation and cost estimates for **Upgrading and Re-construction of Newbolt Street** (R15m) and a section of Kempston Road (R55,0m) Korsten;
- 2009 - 2010: Assisting with detail design, drawings, tender documentation, cost estimates and construction management for Re-construction of Newbolt Street (Phase 1);
- 2010 - 2012: Assisting with detail design, drawings, tender documentation and cost estimates for Re-construction of Newbolt Street (Phase 2);
- 2011 – current : **Routine Road Maintenance (RRM) Programme Management** of all Provincial Main and District Gravel Roads in the Nxuba (Bedford & Adelaide) and Nkonkobe (Fort Beaufort & Alice) Local Municipal Areas – approx. 1450km of roads, for a 3-year period.
- 2013 : Tamarin, **Mauritius** - Traffic Investigation Assessment (**TIA**) **Study** for Re-alignment of A3 freeway and new residential and commercial developments.
- 2013: Transport Route Report for Gibson Bay Wind Farm from Ngqura Harbour to Oyster Bay.
- 2014 - current: Road Rehabilitation work for 22km of Surfaced Roads and SANPARKS in the Karoo National Park, Beaufort West.
- 2015 – current: Assessments of all Surfaced Provincial Roads in the Kouga & Kou-Kamma Local Municipality areas the Saarha Baartman (former Cacadu) District Municipality, Dept of Roads & Public Works, EC.

#### **Bridge Related Projects**

- 2008 – 2011 : Assisting with the management of the Bridge and Culvert Management Systems (BMS) and compile updated reports from the **BMS and CMS** investigations, ranking priorities and costs based on the **CSIR Struman software**, for the NMBM;
- 2008 – 2012 : Assisting with the detail design, technical project specifications, Tender Documentation and Project Management for the **Bridge Rehabilitation Work** required at the **Mount Road Interchange** on the M4 Settlers Way – R40m. Project runs over 3 Financial Years, completed June 2012;
- 2009 - 2010: Assisted with detail design aspects and part-time construction inspections during construction stage for the Upgrading and Rehabilitation of **Bushmansriver Bridges and Kariega Bridge** on the R72 at Bushmansriver and Kenton-on-Sea towns (R52m).

- 2011 – 2014: Concrete condition assessment report, Detail Design and Project Implementation of the **Concrete Rehabilitation and Upgrading of Humewood Promenade** 230m elevated structure at Marine Drive, Port Elizabeth.
- 2014 – current: Detail Inspections, Data Capturing, Struman Software Analysis and Reporting for Top 40 Bridges and Top 20 Culverts for NMBM Bridges and Culverts Infrastructure Upgrade.
- 2014 – current: Assisting with planning on Rehabilitation of bridges : Mount Road & Albany Road Interchange, Vd Kempskloof Bridge, Target Kloof Bridge.

### **Renewable Energy Projects**

- 2008 - 2009: Assisted with the Planning, Site Development Plan and Detail Design, as well as compiling Tender Documentation and Construction Supervision of the **first commercial Wind Turbine Generator (WTG)** in South Africa at the Coega IDZ for Electrawinds, Belgium. A Vestas V90 – 1,8MW turbine with hub-height of 95m was constructed;
- 2010 – 2013 : Assisting with the Micrositing, Preliminary Planning, Site Development Plan (SDP) and Construction Tender Stage of the **36MW Coega West Wind Farm at Coega IDZ** (zones 4, 5 and 9) for Electrawinds;
- 2011 – 2013 : Assisting with the Micrositing, Preliminary Planning, Site Development Plan (SDP) and Construction Tender Stage of the **36MW Coega Sonop Wind Farm at Coega IDZ** (zones 9 and 10) for Electrawinds;
- 2009 - 2013: Assisting with the Planning, Micrositing, Detail Design and Project Management of the **27MW Metrowind Wind Farm** at Van Stadens.. Assisting with geo-technical investigations and technical input to the EIA process. Conduct detail **Transport Load Route Assessment Report**. Assisting with construction stage, commenced end Nov 2012.
- 2009 – 2012: Assisting with the Planning and Micrositing of the **80MW Kouga Wind Farm** at the St Francis and Oyster Bay Areas. Assisting with technical input to the EIA process. Conduct detail Transport Load Route assessment.
- 2012 – 2014: Assisting with the Planning and Micrositing of the **140MW Gibson Bay Wind Farm** at the St Francis and Oyster Bay Areas. Conduct detail **Transport Load Route Assessment Report**, preliminary internal road and platform layout and designs.
- 2011 – 2012 : Assisting with the Micrositing, Preliminary Planning and Design, Site Development Plan (SDP) and Tender Stage of the **27MW Wesley Wind Farm** near Port Alfred for Electrawinds.
- 2012 – 2013 : Assisting with the Micrositing, Preliminary Planning and Design, Site Development Plan (SDP) and Tender Stage of the **24MW Seeland Wind Farm** near St Helena Bay for Electrawinds.
- 2012 : Assisting with the Micrositing, Preliminary Planning and Design, Site Development Plan (SDP) and Tender Stage of the **90MW Caledon (Vleytjies) Wind Farm** for Electrawinds.
- 2013 : Dobbin **Solar Farm** – Site Development, New Road Access applications, Railway crossings, internal road preliminary designs.
- 2014 : Assisting with Development Stage, Permitting and Planning for Roads, Platforms and Turbine Locations : Preliminary designs, Transport Route and Costing (CBoP) for various New Wind Farm Developments.
- 2014 – current: Preliminary planning of access roads and turbine positions with platforms, Site Development layout, input to EIA impacts, Flood line determination and Stormwater Management for WULA Application and preliminary Geo-technical Investigations for the **140MW Roodeplaat Wind Farm** near Uitenhage.

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### Coastal Rehabilitation Projects

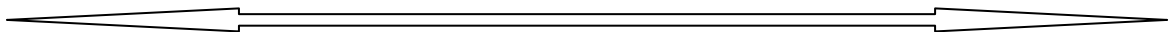
- 2008 / 2009 : Planning, Design and Supervise construction of dune rehabilitation work in Jeffreys Bay with Enviro-Rock Geo-container Bags for several private residential properties in Co-operation with Kouga Municipality.
- 2008 – 2010: Assisted with various small coastal and dune rehabilitation projects at St Francis Bay, Port Alfred, Cannon Rocks and Pollock Beach.

### Urban Renewal and Local Spatial Development (LSD) Studies

- 2008 : Compile detailed Status Quo report for all engineering services in Helenvale township;
- 2008 : Assisting in Floodline study and engineering services for Soweto-on-Sea areas along Chatty river;
- 2008 – 2009 : Assisting in LSDF studies for Zanenvula areas, Uitenhage / Despatch / Jaghtvlakte areas, Cape Road (Newton Park) areas as well and MBDA Mandate Area in co-operation with Urban Dynamics;
- 2008 – 2010 : Assisted with Status Quo Analysis for engineering services for the Greater Happy Valley Development in Port Elizabeth.

### Private Developments

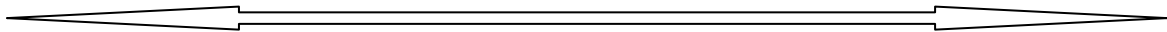
- 2008 - 2010: Compiled Engineering Service Report for residential **Eco-Estate Development** at Lakefarm. Detail design of all Engineering services.
- 2008 : Compiled detailed Engineering Service Report, Traffic Impact Assessment **(TIA) Study** and preliminary planning for Fairview Private Hospital.
- 2008 - 2009: Assisted with preliminary planning and cost estimates of **Access Roads and traffic impact**, Bulk water and sewerage systems for Farm Florida, 12 000 residential development.
- 2012 – current: Assisted with preliminary planning and Engineering input to EIA process, Traffic Impact Assessment **(TIA) Study**, Storm water master Plan and Engineering Scope overview, for the multi-purpose **Giant Flag Development**, Graaff-Reinett.
- 2013 : Wings Park Airfield Development, input to EIA investigation, Project Management, Site Development and civil engineering preliminary designs.
- 2014 - current: Upgrading North End Lake and Korsten Dry Lake Precinct for the Nelson Mandela Bay Stadium. Construction of Stormwater Gabion Filter Ponds and Environmental Management.
- 2015 – current: Lakefarm Lifestyle Residential and Care Facility property development.
- 2015 – current: Development of Motherwell Learn 2 Swim Facility for NMB Aquatics.
- 2015 – current: Upgrading of the Dan Qeqe Sport Stadium for Access Management.



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**Sigodi Marah Martin Development Consultants, Port Elizabeth (1 Oct 2007 to 31 Jan 2008)  
{4 months Contract Basis}**

- 2007 – 2008 : Detail design, drawings, tender documentation and cost estimates for New Brighton and Cleary Park Modal Interchanges;
- 2007 – 2008 : Planning and design report, contractual admin, site inspections and monthly progress reports for Ladismith Waste Water Treatment Plant, Western Cape DWAF support programme;
- 2007 – 2008 : Assisting with concrete rehabilitation inspections, planning and scoping reports for various reservoirs in the Nelson Mandela Bay Metro, as well as at the Churchill Waste Water Treatment Plant;
- 2007 – 2008 : Assisting with Bulk Services proposal for Coega Industrial Zone 6;



**Afri Infra Group (Pty) Ltd, Middelburg (1 July 2001 to 30 Sept 2007)**

**Water Supply Projects and Treatment Plants**

- 2001 : Detail design, compilation of tender documentation and drawings, project cost estimate and Contract management as well as part time site supervision of **bulk water supply and internal water reticulation** network in eThandakukhanya, Piet Retief, Mpumalanga.
- 2001 : Assist with detail design, compilation of tender documentation and drawings, project cost estimate and Contract management of **bulk water supply** to Tweefontein Housing Development, Mpumalanga – 500 stands.
- 2001 : Assist with detail design, compilation of tender documentation and drawings, project cost estimate and Contract management of **bulk water supply** to Siyabuswa Housing Development, Mpumalanga.
- 2001-2002 : Detail design, compilation of tender documentation and drawings, project cost estimate and Contract management as well as part time site supervision of Bulk water supply infrastructure to new Driepan RDP Housing Development, Piet Retief, Mpumalanga, which includes the construction of a **1,5MI pre cast panel concrete reservoir, water purification plant and elevated steel tank** – R 3,2m.
- 2001-2002 : Detail design, compilation of tender documentation and drawings, project cost estimate and Contract management as well as part time site supervision of **Bulk and internal water supply to Driefontein** rural community, Piet Retief, Mpumalanga, Phase 3 and 4 – R 4,6m.
- 2002-2003 : Detail design, compilation of tender documentation and drawings, project cost estimate and Contract management as well as part time site supervision of **Bulk and internal water supply**, including drilling of boreholes to Pankop rural community, Mpumalanga, – R 2,35m.
- 2002-2003 : Supervise detail design, compilation of tender documentation and drawings, project cost estimate and Contract management of **internal water reticulation** network to Belgrade rural area, Kwazulu Natal - R2,6m.
- 2003 – 2007 : Detail design, compilation of tender documentation and drawings, project cost estimate and Contract management as well as part time site supervision of **high pressure 5,5km 250mmø and 200mmø Ductile Iron Bulk Water Supply** line for Simdlangentsha region, Northern Natal – R 34,5m
- 2004 – 2007 : Detail design, compilation of tender documentation and drawings, project cost estimate and Contract management as well as part time site supervision of **Bulk Water Supply Scheme** at Heyshope dam for Kwangema rural community, 12km – 250mmø / 17km 200mmø with booster pump station and 2,0 MI and 1,7 MI reinforced concrete reservoirs – R35m.

- 2004 / 2006 : Supervise detail design and assistance with Contract management as well as part time site supervision of **Bulk Water Supply Scheme** at Groblersdal for Motetema community, 8,5km – 250mmø with booster pump station.
- 2004 – 2007 : Detail design, compilation of tender documentation and drawings, project cost estimate and Contract management as well as part time site supervision of **500mmø GRP Bulk Water Supply** line for Clewer, Witbank – Phase 1.
- 2006 – 2007 : Supervise / assist with detail designs for various internal water reticulation networks for communities in northern Mpumalanga, i.e. Tweefontein J and N, Mapotla, Doornkop.

### Sewerage Infrastructure Projects

- 2002 : Detail design, compilation of tender documentation and drawings, project cost estimate and Contract management as well as part time site supervision of **outfall sewerage infrastructure and pump station** in eThandakukhanya, Piet Retief, Mpumalanga – 1,55km – 250mmø and 1,0km – 300mmø.
- 2001-2002 : Assist with detail design, compilation of tender documentation and drawings, project cost estimate and Contract management of **outfall sewerage infrastructure and two pump stations** in Ncotshane, Pongola, Kwazulu Natal – 0,75km – 160mmø and 1,95km – 200mmø.
- 2003 : Assist with detail design, compilation of tender documentation and drawings, project cost estimate and Contract management and part time site supervision of **internal sewerage network** in Tokologo – Phase 2 Middelburg, Mpumalanga – 7,5km – 160mmø.
- 2005 - 2007 : Detail design, compilation of tender documentation and drawings, project cost estimate and Contract management as well as part time site supervision of **outfall sewerage infrastructure and 7m deep reinforced pump station** in Tweefontein K : 5,2km / 250mmø to 355mmø – R 3,2m.
- 2003 – 2006 : Assist with detail design, compilation of tender documentation and drawings, project cost estimate and Contract management as well as part time site supervision of the **Groblersdal Waste Water Treatment Plant**.

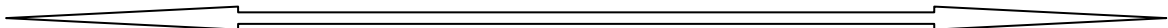
### Road Construction and Stormwater Drainage

- 2001 : Detail design for **Gravel link road (Road D3505)** between Marulaneng to Sebege, Limpopo Province.
- 2001-2002 : Detail design, compilation of tender documentation and drawings, project cost estimate and Contract management as well as part time site supervision of **Cape seal bitumen Access Roads** in eThandakukhanya, **Piet Retief**, Mpumalanga – 2,3km.
- 2001 – 2002 : Detail design, compilation of tender documentation and drawings, project cost estimate and Contract management as well as part time site supervision of **Cape seal bitumen Access Roads and culvert bridges** in Kwathandeka, **Amsterdam**, Mpumalanga – 3,25km (Phase 1 and 2).
- 2001-2003 : Detail design, compilation of tender documentation and drawings, project cost estimate and Contract management as well as full time site supervision of **double seal bitumen Bus and Taxi Routes in Vlaklaagte** ext 2, Mpumalanga – 5,4km (Phase 1 and 2).
- 2002 : Detail design, compilation of tender documentation, project cost estimate and Contract management of **double seal Bus and Taxi Route in Vaalbank**, Mpumalanga – 1,1km
- 2002 : Detail design, compilation of tender documentation, project cost estimate and Contract management of **double seal Bus and Taxi Route in Kameelpoort**, Mpumalanga – 1,25km.
- 2002 : Detail design, compilation of tender documentation and drawings, project cost estimate and Contract management as well as part time site supervision of **double seal bitumen Access Roads in Kwadela**, Mpumalanga – 0,95km / R 1,5m.
- 2002 / 2003 : Detail design, compilation of tender documentation and drawings, project cost estimate and Contract management as well as part time site supervision of **construction and surfacing of District Roads 2901 and 2740** near Rust de Winter dam – Phase 1 : 2,6km for European Commission Funding.

- 2003 : Detail design, compilation of tender documentation and drawings, project cost estimate and Contract management as well as part time site supervision of **Block Paved Internal Streets** in Greenside, Mpumalanga – 1,0km.
- 2004 - 2005 : Detail design, compilation of tender documentation and drawings, project cost estimate and Contract management as well as part time site supervision of **Surfaced Bus routes** in Tembalethu, Mpumalanga (Phase 1 and 2) – 2,5km.
- 2005 : Detail design, compilation of tender documentation and drawings, project cost estimate and Contract management as well as part time site supervision of **Surfaced Bus routes** in Vezubuhle, Mpumalanga - 1,3km.
- 2005 - 2006: Detail design, compilation of tender documentation and drawings, project cost estimate and Contract management as well as part time site supervision of **Surfaced Bus routes** in Tweefontein N and Tweefontein C, Mpumalanga – 0,9km and 1,6km respectively.
- 2006 / 2007 : Investigation, Assessment Study, Prelim & Detail design, Tender Documentation and Cost Estimate of **Road P30/2 (R38) between Bethal and Standerton** – 15,2km / R32m.

### Structural Related Projects

- 2002 : Detail design, compilation of tender documentation and drawings, project cost estimate and Contract management of **New Sport Stadium** with ablution, pavilion and sport fields in eDumbe, Paul Pietersburg, Kwazulu Natal.
- 2002 : Assisted in design, compilation of project documentation and drawings, project management and part time site supervision of **New Council Chamber and Offices for Mkhondo Municipality**, Piet Retief.
- 2002 – 2003 : Detail design, compilation of tender documentation and drawings, project cost estimate and Contract management of **New 2,0MI Reinforced Concrete Storage Reservoir** for Moloto region, Mpumalanga.
- 2003 : Assisted in design, compilation of project documentation and drawings, project management and part time site supervision of **New 10,0MI Reinforced Concrete Storage Reservoir** for Ermelo, Mpumalanga.
- 2003 – 2007 : Assist with detail design, compilation of tender documentation and drawings, project cost estimate and Contract management as well as part time site supervision of **broad crest weir across Monzana river, abstraction channels and high pressure booster pump station** for Simdlangentsha region, Northern Natal.
- 2006 – 2007 : Detail design, compilation of tender documentation and drawings, project cost estimate and Contract management of new **Vehicle testing and Licensing Centre** with testing equipment and Administration office building for Siyabuswa Local Municipality – R 4,0m.



**Kwezi - V3 Consulting Engineers, Pretoria (1 Aug 1995 to 30 June 2001)**  
**(currently Worley Parsons Engineers)**

### Water Reticulation Network Projects

- 1996 : Detail design for upgrading of **Potgietersrus old town existing water reticulation** network and detail site investigation.
- 1996 – 1998 : Detail design of Mahwelereng, Lekalakala, Sekgakgapeng and Madiba townships (Potgietersrus) **water reticulation networks**, including provision for standpipes and pre-paid meters. Part time construction supervision and Contract Administration.
- 2000 - 2001 : . Detail design, Compiling Tender Documentation and perform full-time site supervision for installation of new **water reticulation networks and water meters** and replacing old water reticulation network for approximately 840 stands in Atteridgeville, Pretoria.
- 2000 : Detail design and compiling Tender Documents for **new water reticulation networks** for 410 households in eKuthuleni, Springs – part of Housing Subsidy Developments.
- 2001 : Investigation and Preliminary Engineering designs for new and upgraded water reticulation **networks for 13 000 households** in Palm Ridge, Germiston and Kathlehong – part of Housing Subsidy Scheme.

### **Bulk Water Supply Projects**

- 1995 : Compiled a **Water Master Plan Report** (IDP) for the Greater Potgietersrus / Mahwelereng bulk water supply scheme.
- 1996 : Detail design of **bulk water supply pipelines** for Greater Potgietersrus area (8,2 km — 400 mm diameter : R5,1 m / 3,0 km — 250 mm diameter : R0,65 m / 4,5 km — 450 mm diameter : R3,1 m).
- 1996 – 1997 : Assisted in designing bulk water supply pipelines for **Tours Dam Water Scheme** (32 km varying diameter 90 mm to 350 mm : R9,8m).
- 1999 : Assisted in compiling **Water Master Plan for Greater Germiston** Council, incl. Bedfordview and Katlehong.
- 1999 - 2000 : Compiling a **Water Services Development Plan for Thabazimbi** TLC, according to Water Act regulations.
- 2000 : Investigation and design for the upgrading of Davel / Kwadela existing **bulk water supply** scheme.
- 2000 : Assist in the **Northern Cape Water Management Study**, working with the national Water Balance Model.
- 2000 : Seconded to WRP Consultants for 2 months to assist in the **Water Management Study for the Eastern Vaal - Water Management Study** (Lower Vaal / Usutu Catchment Scheme).

### **Sewerage Infrastructure Projects**

- 1995 – 1996: Detail design of sewer connection line, including **12 m road bore section, Charles Street, Pretoria**, including on site survey and construction supervision.
- 1997 : Involved in a new **residential upper-class development in Centurion** (all civil services). Project includes 3 months full-time supervision and Contract management.
- 1998 : Detail design of **bulk outfall sewerage line for industrial area** - Tunney development, Germiston (1,7 km — 250/300 mm diameter, including 32 m — 1 200 mm diameter pipe jacking section).
- 1998 – 1999 : Detail design of **Ivory Park, Midrand sewerage networks**, Phase 5 to service **440 stands** with new water borne flush toilets and standpipes (4,5 km network pipelines). Project includes 5 months full-time site supervision and Contract Management.
- 1999 : Detail design for the upgrading of **three sewerage pump stations in Clayville, Midrand**. Project includes 3 months part time supervision and contract administration.
- 1999 : Detail design of a **new sewerage measuring station** on the Commercial outfall sewer line, Midrand. Project includes 2 months part time supervision and contract administration.
- 2000 : Detail design and compiling Tender Documents for **new sewerage network** system for 410 households in eKuthuleni, Springs – part of Housing Subsidy Developments.



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2000 – 2001 : Detail design of **Ivory Park, Midrand sewerage networks**, Phase 10 to service **1250 households** with new water borne flush toilets and standpipes (11,9 km network sewer pipelines : R6,0 m). Project includes 8 months Contract management and part-time site supervision with PDI Consultants full time on site.

#### **Dams and Related Infrastructure Projects**

1997 – 1998 : Assisted in compiling **Dam Safety Reports** for Golden Harvest Park Dam, Randburg and Duivelskloof Dam, Tzaneen.

1998 : Assisted in design of **Dumbe Dam spillway structure**, Paul Pietersburg.

1998 : Assisted in design for upgrading the **outlet works for Nwanedi and Luphephe dams**, Northern Province.

#### **Stormwater Drainage Projects**

1994 : Assisted in designing the stormwater network and special grid inlets for **Menlyn Retail Park** shopping complex parking areas with part time construction supervision.

1998 : Designed **surface stormwater systems** (canals / culverts) for rural townships : Gakgapane, Tzaneen and Madombidzha, Louis Trichardt.

1999 : Designed 27,5 m<sup>3</sup>/s concrete - **Armorflex stormwater canal** and outlet structure for Midrand MLC, including part time construction supervision.

#### **Consent:**

I also confirm that above information is a correct brief of my working experience.

Signature : \_\_\_\_\_ Date : \_\_\_\_\_