

Project Experience

2017

Ntaruka A Hydropower Project 2.4 MW

Team Lead

Aurecon South Africa

Ngali Energy Ltd.

Rwanda

15 months

05/2016 - 07/2018

Aurecon was appointed for professional engineering services, including the design, procurement and construction supervision of the Ntaruka A Hydropower project in Rwanda. The scheme includes a small earthdam, desanding chamber, conveyance canal, forebay, single penstock and power station housing a 2.4 MW vertical Kaplan turbine.

Responsibilities and Experience

Leadership

- Led a diverse 11 person team to successfully deliver all tender documentation

Technical

- Design of the desanding works and costing optimisation of the conveyance canal
- Site visits and investigations
- Design Report
- Monthly Progress Report

Management

- Integration of all engineering teams; electrical, electro-mechanical and hydro-mechanical
- Compilation of the specifications and bills of quantities.
- Contract document, liaising with the legal team
- Liaising with the client and presentations to the funding agency

Bankable feasibility study (BFS) for the Sisi Hydropower project 5 MW

Lead Civil Engineer

Aurecon South Africa

responsAbility Renewable Energy Holdings (rAREH)

Eastern Uganda

3 months

05/2017 - 07/2017

Aurecon was appointed to undertake the bankable feasibility study (BFS) and environmental and social impact assessment (ESIA) for the 5 MW Sisi Hydropower Project.

Responsibilities and Experience

Leadership

- Led a 4 person team to successfully deliver an innovative Pre-feasibility Report and Analysis

Technical

- Pre-feasibility design and costing of the intakes works, canal conveyance, desanding works, forebay and or surge tank of 164 scenarios
- Monthly Progress reports for the client
- Feasibility report

Management

- Conducted a 5 day design sprint around the delivery of the pre-feasibility report, used to present to the client in a short 2 week period
- Compiling of drawings and bills of quantities

Bankable feasibility study (BFS) for the Simu Hydropower project 5 MW

Lead Civil Engineer

Aurecon South Africa

responsAbility Renewable Energy Holdings	Eastern Uganda	3 months	05/2017 - 07/2017
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Aurecon was appointed to undertake the bankable feasibility study (BFS) and ESIA for the 5 MW Simu Hydropower Project.

Responsibilities and Experience

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|-------------------|--|
| Leadership | <ul style="list-style-type: none"> Led a 4 person team to successfully deliver a Desktop Study Report and Analysis |
| Technical | <ul style="list-style-type: none"> Desktop study design and costing of the intake and desanding works, canal conveyance, forebay and or surge tank for a total of 16 scenarios Report writing of the design and route selection Innovative Inception Report Monthly Progress Reports Pre-feasibility report |
| Management | <ul style="list-style-type: none"> Compiling of drawings and costing |

Mkhondvu-Ngwavuma water augmentation feasibility study

Civil Engineer

Aurecon South Africa

Swaziland Water and Agricultural Development Enterprise (SWADE)	Swaziland	2 months	03/2017 - 05/2017
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SWADE appointed Aurecon to undertake a feasibility study of the Mkhondvo-Ngwavuma Water Augmentation Scheme (MNWAS).

Responsibilities and Experience

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|-------------------|---|
| Technical | <ul style="list-style-type: none"> Preliminary design and costing of pipes and canals, balancing dam and pump selection. Pre-feasibility Report |
| Management | <ul style="list-style-type: none"> Compiling of drawings and costing |

2016

Lower Usuthu II extension downstream development - Irrigation

Civil Engineer

Aurecon South Africa

Swaziland Water and Agricultural Development Enterprise (SWADE)	Swaziland	12 months	10/2015 - 07/2017
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Aurecon was appointed to assist in the planning and implementation of the Lower Usuthu II extension downstream development, including the Lower Usuthu Smallholder Irrigation Project (LUSIP) II area. The infrastructure must convey 7.3 m³/s to irrigate an additional 11 500 ha of mainly sugar cane.

Responsibilities and Experience

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|-------------------|--|
| Leadership | <ul style="list-style-type: none"> Led client workshop EPA SWIMM hydraulic model of the entire 75 km conveyance system |
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|-------------------|---|
| Technical | <ul style="list-style-type: none"> • Design review of the conveyance canal from a BRL Feasibility Study • Design Review Report • Re-design, cost optimization in Civil 3D, drawings and bill of quantities for the tender document of the redesign of the LUSIP 33 km canal as part of the LUSIP II irrigation scheme • Design, drawings and costing of infield earth-filled dam • Design Report |
| Management | <ul style="list-style-type: none"> • Presentations to the client |

Stortemelk Hydropower Project

Temp Site Engineer

Aurecon South Africa

Renewable Energy Holdings
(REH)

Free state
Province,
South Africa

1 months

02/2016

Aurecon was appointed as the EPCM Contractor by Stortemelk Hydro (Pty) Ltd, a SPV owned by Renewable Energy Holdings (Pty) Ltd. As the EPCM Contractor, Aurecon was responsible the entire detailed design, construction supervision, ECO monitoring, contract administration and programming, as well as the Health & Safety oversight.

Responsibilities and Experience

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|-------------------|---|
| Management | <ul style="list-style-type: none"> • Supervision of dry commissioning of the emergency gate on site • Site instructions and reinforcement supervision |
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Polokwane wastewater treatment works (WWTW) upgrade

Civil Engineer

Aurecon South Africa

Polokwane Municipality

Limpopo
Province,
South Africa

3 months

02/2015 – 12/2016

The design of the extension works and upgrades of the Polokwane wastewater treatment works (WWTW) to source an additional 6 Ml/day for Anglo America Platinum's mine operations.

Responsibilities and Experience

- | | |
|------------------|---|
| Technical | <ul style="list-style-type: none"> • Responsible for the detailed design, tender documentation and construction methodology for live construction of inlet works upgrade and bill of quantities (BoQ) of all pipelines |
|------------------|---|

2015

K1287 plant-wide stormwater and infrastructure

Civil Engineer

Aurecon South Africa

Anglo Platinum

Sishen, Northern
Cape, South Africa

9 months

01/2015 - 09/2015

Provision of infrastructure to manage the separation of clean and dirty water in three different drainage areas and channel the water to the various pollution control and treatment.

Responsibilities and Experience

- Technical**
- Design, drawings and bills of drainage area infrastructure
 - Design, drawings and bills of pollution control dam and three pump stations
 - Design Report

- Management**
- Project Co-ordinator and client liason

Bankable feasibility study (BFS) for Nithi hydropower scheme **Civil Engineer** Aurecon South Africa

Frontier Investment Management (Denmark) Kenya 12 months 04/2015 - 04/2016

Aurecon was appointed by Nithi Hydro Power Ltd, a special purpose vehicle created by Frontier Investment Management (Denmark), to carry out a bankable feasibility study (BFS) for hydropower development on the Nithi River in central Kenya. The project comprises the feasibility study and ESIA of the site. The estimated output of the plant is 5.6 MW.

Responsibilities and Experience

- Technical**
- Detailed design, drawings and quantities of the weir, intake, canal and desilting works
 - Assist client with presentations to funders
 - Feasibility report

- Management**
- Assist client with presentations to funders

Lower Magaduzza hydropower plant **Civil Engineer** Aurecon South Africa

Swaziland Electricity Company (SEC) Swaziland 1 month 01/2015

A feasibility study of a 6.6 MW hydropower plant along the banks of the Lusufthana River.

Responsibilities and Experience

- Technical**
- Detailed design, drawings and quantities of the weir, intake, canal and desilting works
 - Feasibility report

2014

Pre-feasibility and feasibility study of proposed Nyamagasani II hydropower site **Civil Engineer** Aurecon South Africa

Frontier Investment Management (Denmark) Uganda 8 months 02/2014 – 12/2014

Aurecon was appointed by Nyamagasani II HPP Ltd, a special purpose vehicle created by Frontier Investment Management (Denmark) and a local partner to assess a hydropower site at the foot of the Rwenzori Mountains in southwest Uganda. The project included the feasibility study and ESIA. The estimated output of the plant is 10 MW.

Responsibilities and Experience

- Technical**
 - Responsible for all detailed design, drawings and quantities of weir, intake, forebay, canal and desilting works
 - Pre-feasibility report

Mogalakwena wastewater treatment works (WWTW)

Civil Engineer

Aurecon South Africa

Mogalakwena Municipality

Limpopo Province
South Africa

3 months

03/2014 - 07/2014

The upgrading of the existing Mokopane wastewater treatment works (WWTW) and construction of new bulk drainage lines to the new 10 MI/day Mogalakwena WWTW. This included a new inlet works, bioreactor, secondary settling tank, chlorine dosing building, dewatering facility as well as numerous pump stations.

Responsibilities and Experience

- Leadership**
 - Responsible for hydraulic pipeline co-ordination of all the structures and pipes for the sewer plant
- Technical**
 - Building of entire 3D plant model used for co-ordination
 - Provision of animations to the client