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-mechancial
- Compliation of the specifications and bills of quantities.
- Contract document, liasing 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-feasibilty 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

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

Responsibilities and Experience

Leadership
- Led a 4 person team to successfully deliver a Desktop Study Report and Analysis

Technical
- 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
- 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

SWADE appointed Aurecon to undertake a feasibility study of the Mkhondvo-Ngwavuma Water Augmentation Scheme (MNWAS).

Responsibilities and Experience

Technical
- Preliminary design and costing of pipes and canals, balancing dam and pump selection.
- Pre-feasibility Report

Management
- 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

*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 m^3/s to irrigate an additional 11 500 ha of mainly sugar cane. The project consists of seven tasks including water management study, design review, detailed design and construction supervision for the design of bulk water infrastructure, secondary distribution networks and infield drainage systems.*

Responsibilities and Experience

Leadership
- Led client workshop
- EPA SWIMM hydraulic model of the entire 75 km conveyance system

Technical

- 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

- 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 EPCM Contractor, Aurecon was responsible the entire detailed design, construction supervision, ECO monitoring, contract administration and programming, as well as the Health & Safety oversight. The Stortemelk project received the 2017 Mosonyi Award for Excellence in Hydropower from the International Hydropower Association (IHA).

Responsibilities and Experience

Management

- Supervision of dry commissioning of the emergency gate on site
- Site instructions and reinforcement supervision

Polokwane wastewater treatment works (WWTW) upgrade

Civil Engineer

Aurecon South Africa

Polokwane Municipality	Limpopo Province, South Africa	3 months	02/2015 – 12/2016

The project dealt with 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

- 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

The project provisions 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 environmental and social impact assessment (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 Magaduza hydropower plant

Civil Engineer | Aurecon South Africa

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

The project entails 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 partne,r to assess a hydropower site at the foot of the Rwenzori Mountains in

southwest Uganda. The project included the feasibility study and environmental and social impact assessment. 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 project entails the upgrading of the existing Mokopane wastewater treatment works (WWTW) and construction of new bulk drainage lines to the new 10 Ml/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