WATER SECTOR

2025

On-site sanitation works, Freetown and Western Area

Project description

To tackle the critical issue of access to sanitation services in urban areas, the Guma Valley Water Company (GVWC) has outlined a comprehensive master plan. This plan includes a programme for on-site sanitation provision, sewage pipe renewal and the establishment of wastewater treatment plants. The total cost of the programme is estimated to be US$432 million over a span of 15 years. Currently, we are seeking funding for the initial phase, which aims to provide sanitation for more than 160,000 households, benefiting approximately 640,000 people. Additionally, this phase will involve the construction of four wastewater treatment plants with a combined capacity to treat up to 9000 m^3 of wastewater per day.



Key facts

The details of the project are shown below:

S/N	Intervention for wastewater and onsite sanitation	Total (US$)
1	Elimination of uncontrolled open defecation (29,471 households); provision of household toilets to 29,500 households	35,350,000
2	Design and construction of school and communal toilets (40 No. x 10-seater average capacity)	12,500,000
3	Supply of vacuum emptiers and other equipment	4,000,000
7	Public sensitisation on appropriate sewage disposal	150,000
11	Detailed assessment of proposed sites for a wastewater treatment plant and faecal sludge and septage treatment plant (FSSTP)	150,000
13	Organise and train artisans for the construction of onsite facilities	100,000
16	Development of clear strategy for public-private partnership in sewage and faecal sludge management	150,000
18	Conduct detailed waste characterisation study	150,000

S/N	Intervention for wastewater and onsite sanitation	Total (US$)
20	Elimination of uncontrolled open defecation (20,060 households); provision of household toilets to 20,060 households	24,100,000
21	Upgrade of pit latrines to ventilated improved pits (about 115,000 households)	81,980,000
22	Upgrade to pour flush (about 26,000 households)	18,310,000
23	Construction of Goderich FSSTP (240m^3/d)	2,100,000
24	Construction of Kingtom FSSTP (480m^3/d)	4,200,000
25	Construction of Waterloo FSSTP (200m^3/d)	2,000,000
26	Sewer network repairs	1,000,000
27	Sewer network rationalisation, pumping and package plant at Government Wharf (1,000 m^3/day)	5,000,000
	Total	**191,240,000**

The project has been segmented into five procurement packages:

- Onsite works (Package 1)
- Sewer works (Package 2)
- Related sanitation services (Package 3)
- Soft measures (Package 4)
- Treatment works (Package 5)

Investment proposition

The project is currently in the pre-feasibility stage and is a crucial part of the GVWC master plan. The initial phase will involve detailed design and feasibility studies to facilitate an investment of US$191.24 million by 2030.

The primary aim of this investment is to enhance the health status of the Western Area's population, rather than solely focusing on revenue generation from the facilities and services. However, there will be some revenue from fees and levies charged to faecal sludge and septage trucks for depositing at the faecal treatment plant and for the use of vacuum trucks for dislodgement services. It is estimated that this revenue will start at US$102,773 and rise to over US$49 million by 2035.

A comprehensive financial analysis was conducted on wastewater and onsite sanitation intervention packages using the net present value (NPV) method at 4%, 5% and 6% discount rates. The analysis presented a mix of results for the short- and medium-term. At a 6% discount rate, all packages showed positive NPVs in the long term, with Package 5 demonstrating positive NPVs for both the short- and long-term.