

DOCUMENT OF THE INTER-AMERICAN DEVELOPMENT BANK

GUYANA

GEORGETOWN SANITATION IMPROVEMENT PROGRAM

(GY-L1025)

LOAN PROPOSAL

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ELECTRONIC LINKS	
REQUIRED	
1.	POA http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=35328254
2.	Monitoring & Evaluation Arrangements http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=35328217
3.	ESMR http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=35328296
4.	Procurement Plan http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=35328227
5.	Safeguard and Screening Form for Screening and Classification of projects (SSF) http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=35328208
OPTIONAL	
1.	Technical options and design http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=35328264
2.	Socioeconomic Analysis http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=35328289
3.	Financial Analysis http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=35328229
4.	Institutional Analysis http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=35328292
5.	Prevalence Reduction in Water Related Diseases NTD http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=35328261

ABBREVIATIONS

AOP	Annual Operating Plans
CIPD	Capital Investment and Planning Department
CRew	Caribbean Regional Fund for Wastewater Management Project
EA	Executing Agency
ESA	Environmental and Social Analysis
EIA	Environmental Impact Assessment
EPA	Environmental Protection Agency
ESMP	Environmental and Social Management Plan
ESMR	Environmental and Social Management Report
ESS	Environmental and Social Strategy
FSO	Fund for Special Operations
GEF	Global Environment Facility
GWl	Guyana Water Incorporated
GOG	Government of Guyana
ICAS	Institutional Capacity Assessment System
ICB	International Competitive Bidding
LF	Lymphatic filariasis
MDG	Millennium Development Goals
MH&W	Ministry of Housing and Water
NRW	Non Revenue Water
NTD	Neglected Tropical Diseases
NFWM	National Revolving Fund for Wastewater Management
OC	Ordinary Capital
OM	Operations manual
O&M	Operation and Maintenance
PMR	Progress Monitoring Report
POD	Proposal for Operation Development
PUC	Public Utilities Commission
SSF	Safeguard and Screening Form for Screening and Classification of Projects
TAP	Turnaround Plan
TC	Technical Cooperation
UNEP	United Nations Environment Programme
UNICEF	United Nations Children's Fund

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Financial Terms and Conditions			OC	FSO
Borrower: Co-operative Republic of Guyana		Amortization Period:	30 years	40 years
Executing Agency: Guyana Water Incorporated (GWI)		Grace Period:	6 years	40 years
Source (US\$)	Amount	Disbursement Period:	5 years	5 years
IDB (OC)	US\$ 4,750,000	Supervision and Inspection Fee:	*	N/A
IDB (FSO)	US\$ 4,750,000	Interest Rate:	LIBOR based	0.25%
Local	US\$ 500,000	Credit Fee:	*	N/A
			US Dollar (Single Currency Facility)	US Dollar
Total	US\$ 10,000,000	Currency:		
Project at a Glance				
Project Objective/Description: The proposed program aims to: (i) improve the operational performance of the Georgetown sewerage system through the reconstruction of its most critical components; (ii) strengthen Guyana Water Incorporated (GWI) operational and financial performance by improving asset management and decreasing energy consumption; and (iii) limit the transmission of the water-related diseases lymphatic filariasis and intestinal helminthiasis.				
Special contractual clauses: Special contractual conditions for the first disbursement will be: (i) evidence that GWI has designated a Program Manager from its staff (¶3.6); and (ii) evidence that the Operations Manual for the program is approved by the Board of GWI and has entered into effect (¶3.6). Special condition for disbursements related to the activities of Component 4 will be: signature of an inter-institutional implementation agreement between GWI and the Ministry of Health (¶3.6). Special contractual conditions for execution will be: compliance with the Environmental and Social Management Plan (ESMP) and the GWI Corporate Environmental Guidelines (¶3.6).				
Exceptions to Bank policies: None				
Project consistent with Country Strategy:	Yes [X]	No []		
Project qualifies for: SEQ[X] PTI [] Sector [] Geographic [] Headcount []				
Procurement: The procurement of works, goods and consulting services will be done in accordance with the Bank's new procurement policies and procedures (documents GN-2349-7 and GN-2350-7).				

(*) The credit fee and inspection and supervision fee will be established periodically by the Board of Executive Directors as part of its review of the Bank's lending charges, in accordance with the applicable provision of the Bank's policy on lending rate methodology for ordinary capital loans. In no case will the credit fee exceed 0.75% or the inspection and supervision fee exceed, in a given six-month period, the amount that would result from applying 1% to the loan amount divided by the number of six-month periods included in the original disbursement period

I. DESCRIPTION AND RESULTS MONITORING

A. Background, Problem Addressed, Justification

- 1.1 **Institutional and legal framework.** Established in 2002, Guyana Water Inc. (GWI) is the public utility owned by the Government of Guyana (GOG) that is responsible for the design, construction, operation and maintenance of the water supply systems in Georgetown and the coastal area and for community water supply systems in the hinterland regions. GWI is also responsible for operation and maintenance of the existing sewerage systems in Georgetown. GWI operates in accordance with the regulations outlined in the Water & Sewerage Act 2002, under a license issued by the Ministry of Housing and Water (MH&W). This Ministry is in charge of sector policies and, along with the Public Utilities Commission (PUC), monitors the services provided by GWI. The PUC, a multi-sectoral regulatory body, has oversight for tariffs and quality of service provided by all public utilities.
- 1.2 Shortly after the creation of GWI, the GOG hired a British international consulting firm, Severn Trent Water International, to run GWI under a performance management contract. However, in December 2006, in a situation of deteriorating water and sewerage services, the GOG decided to terminate the contract and re-assumed the management of GWI. After the termination of the contract, GWI prepared a “Turnaround Plan” (TAP) to address the challenges faced by the utility, focusing on reduction of non-revenue water (NRW) and improvement of the Georgetown sewerage system. The TAP remains the guiding document to improve GWI’s performance, but a new strategic version of the TAP is presently under discussion. GWI has also been charged with achieving the Millennium Development Goals (MDG) adopted by GOG for the sanitation sector.
- 1.3 **Sector indicators.** In 2008 94% of the population in Guyana used an improved drinking water source (98% in urban areas and 91% in rural areas), as compared to 89% in 2000. These statistics also indicate that about 81% of the population used improved sanitation facilities (85% in urban areas and 80% in rural areas).¹ Despite these improvements, the sewerage and water services face constant operational, maintenance, financial, and institutional challenges, as described below.
- 1.4 **GWI indicators.** GWI is composed of nine departments and has a total of 525 staff. The largest department is Operations and consists of 321 staff. Total water

¹ World Health Organization/UNICEF Joint Monitoring Programme on Water Supply and Sanitation: "Progress on sanitation and drinking-water – 2010 Update". An improved drinking-water source is defined as one that, by nature of its construction or through active intervention, is protected from outside contamination, in particular from contamination with fecal matter. An improved sanitation facility is defined as one that hygienically separates human excreta from human contact.

production stood at 109,197,895 m³ in 2009 and serves over 90% of the population in Guyana, with a customer base of 165,316. Annual billing in 2010 (January – July) stood at US\$8,185,943, as compared with US\$11,782,420 for the same period in 2009. The decrease in billing is an improvement for GWI as it represents more accurate billing, based on actual meter readings rather than estimated consumption. Collection rate has improved from 46% in 2008 to about 60% in 2009, still below industry standards. Metered customers only account for 28.4% of the total customer base, but GWI is currently implementing a meter installation program, which will result in a higher percentage of metered customers. GWI is operating at 3.13 staff per 1000 connections.²

- 1.5 **Georgetown sanitation service.** The city of Georgetown has a population of approximately 175,000 people, which is about 23% of the country's total population.³ The sewerage system, a conventional network of sewers constructed between 1924 and 1929, serves only 48,000 citizens (1,160 acres) in central Georgetown.⁴ A satellite sewer network located in Tucville serves approximately 3,000 residents. The two systems are connected via a trunk main which originates at the Tucville septage receiving facility and terminates within the central sewer system. A third smaller system serves the University of Guyana, which owns and operates it. In areas not served by the sewerage systems in Greater Georgetown, septic tanks and pit latrines are used for wastewater disposal with more than 90% of the housing units served by septic tanks.
- 1.6 Due to the flat topography, the sewerage system was divided into 24 sub-basins to permit gravity flows within each sub-basin. Each area flows into a dedicated pumping station that delivers the untreated wastewater into a common ring force main before discharging it through an outfall at the mouth of the Demerara River. Except for reparation works, the main components of the sewerage system remain largely unaltered since its construction about 80 years ago.
- 1.7 The main problems of the sewerage system in Central Georgetown are: i) pipe deterioration due to age; ii) underground and surface leaks, detected in the force main and external trench-crossing pipes; iii) insufficient depth of the force main pipes in relation to drinking water distribution network; and iv) instability of electricity supply at the pumping stations. Additionally, operation and maintenance activities of the system need to be better planned and executed. As a

² In its 2008 report, the Association of Water and Sanitation Regulatory Entities of the Americas reported an average for utilities in the region of about 4 staff per 1,000 connections, with a maximum of 10.5 and a minimum of 1.3. A high ratio often indicates inefficient use of staff. A low ratio may indicate high operational efficiency or, as in the case of Guyana, an understaffed organization. The low proportion of labor costs relative to total expenses and other operating costs (see paragraph 2.10), suggests that staff numbers could be increased without impacting significantly on overall costs.

³ Population and Housing Census of Guyana 2002.

⁴ The service area is bounded by the Demerara River in the West, Vlissengen Road in the East, the Atlantic Ocean in the North and Sussex Street in the South.

consequence, the system suffers from frequent blockages, interruptions and ruptures.

- 1.8 These problems lead to risks of wastewater overflows into the drainage canals and backs-up onto streets and backyards, which pose significant health risks. Inadequate operation and lack of maintenance of sewerage infrastructure can also facilitate the proliferation of Lymphatic Filariasis (LF) vectors and other water-related Neglected Tropical Diseases (NTD), such as intestinal helminthiasis.⁵ In 2001, a GOG national mapping exercise revealed a high prevalence of LF in the more densely populated regions of Guyana especially in the Georgetown area and its surroundings. At that time, it was estimated that about 20% of the population in Region 4⁶ was infected. Since then, no comprehensive interventions have been implemented to address the issue.
- 1.9 **Potable water service.** GWI water supply systems currently provide service to about 90% of the coastal population and about 40% of the hinterland population. Service on the coast is generally through individual connections to GWI distribution systems, while in the hinterland areas, service is primarily through community based water supply systems. GWI currently operates 17 water purification plants and 120 wells with their respective pumping stations. These systems generally suffer from inadequate maintenance and high energy costs. It is estimated that electricity accounts for nearly 60% of GWI's annual operating expenses. NRW is estimated to be between 50 and 70%.
- 1.10 **Tariff structure.** The tariffs are set by the PUC. The regulatory oversight in the water sector was added to PUC's responsibilities in 2003. To date, the PUC still lacks the resources and expertise to properly perform its functions as the regulator. In addition, since its establishment in 2002 GWI had to maintain both sets of tariffs from the Guyana Water Agency and the Georgetown Sewerage and Water Commissioners, resulting in 27 separate tariff categories.⁷ The last tariff adjustment took place in 2005, but it was only a rate increase exercise and not a restructuring of the tariff system. A study financed by the Department for International Development on tariff harmonization was prepared in 2009. In terms of sewerage charges in the sewered areas, only the non-domestic metered customers are charged a sewerage charge based on consumption, while the other customers pay a flat rate. GWI does not maintain separate accounts for the sanitation department and it is not currently possible to determine if the tariffs are sufficient to meet the cost of operating and maintaining the sewerage systems.

⁵ These include trichuriasis, ascariasis and hookworm infection, the three so-called "Soil-Transmitted Helminthiasis" (STH).

⁶ Guyana is divided into 10 administrative regions. The Demerara-Mahaica Region, or Region 4, extends East of the Demerara River to the Western bank of the Mahaica River and includes Georgetown.

⁷ Up to 2002, water and sewerage services were provided by the Guyana Water Agency (GUYWA) and the Georgetown Sewerage and Water Commissioners (GS&WC). GWI was established in 2002 when the GOG decided to merge GUYWA and GS&WC.

- 1.11 **IDB Assistance.** A US\$14.7 million “Georgetown Water Supply and Sewer Program” (LO-1047/SF-GY) was completed in 2010. Although the project amount had been reduced from US\$27 million as part of the international debt write-off, the program managed to deliver about 60% of the works originally planned. With the support of the loan, GWI has achieved significant improvements in its operating efficiencies in Georgetown (as seen in overall improvements in pressure, hours of service, and quality of water). Previously, the Bank financed a “Georgetown Sewerage and Water Master Plan” (ATN/SF/JF-3640-GY), which was completed in 1994; and a project for “Remedial Maintenance for Georgetown Sewerage and Water Supply Systems” (909/SF-GY), which was completed in 2002. These last projects focused mainly on the improvement of the water supply system, dedicating only limited resources to the rehabilitation of the 24 sewerage pumping stations and to the construction of a septage receiving station in Tucville.
- 1.12 The Bank is currently financing: (i) “Financial and Institutional Strengthening of GWI” (ATN/SF-11904-GY; US\$500,000 IDB-FSO funding and US\$50,000 local contribution), aimed at improving GWI operating procedures and accounting system; and (ii) “Preparation for the Water and Sanitation Upgrade Program” (ATN/OC-11805-GY; US\$650,000 IDB-AquaFund funding and US\$50,000 local contribution), aimed at updating the 1995 sewerage master plan, preparing final designs for priority interventions on the sewerage system and determining an appropriate tariff to ensure financial sustainability. These two Technical Cooperation (TC) operations are instrumental in defining the elements of this operation. A key element for the preparation of the TCs and the proposed operation was the “Water and Sanitation Sector Strategic Plan” (GY-P1061), completed in 2009 as part of the Bank’s Water and Sanitation Initiative.
- 1.13 The Bank’s involvement in the Guyana sanitation sector is also complemented by RG-X1011 “Caribbean Regional Fund for Wastewater Management Project” (CReW). Under the CReW, financed by the Global Environment Facility (GEF), the Bank is partnering with the United Nations Environment Programme (UNEP) to implement pilots in different countries, with the goal of mobilizing investments in wastewater management in the wider Caribbean region. Guyana has been selected as one of the pilot locations whereby \$3 million is allocated for a National Revolving Fund for Wastewater Management (NFWM). Individual wastewater projects would be funded through the NFWM, based on financially sustainable principles, impact to the coastal waters that feed into the Caribbean Sea, and with engagement from both the public and private sector entities.
- 1.14 The GOG, through the MH&W, has also confirmed its interest in another investment operation, to be approved in 2011, that would focus on drinking water supply in intermediate cities.
- 1.15 **Lessons Learned.** Past projects in Guyana indicate that to ensure successful implementation, the following aspects need to be considered: (i) GWI high staff turnover and lack of experience with complex civil works suggest that

construction supervision needs to be carried out by qualified individuals or firms that will transfer knowledge to the operating institution; (ii) institutional support needs to be provided to ensure the financial and operational sustainability of all capital investments through capacity building and training; and (iii) resources need to be allocated to collect baseline data, develop proper indicators and allow frequent follow up and monitoring.

- 1.16 **Link to Bank's Country Strategy.** The proposed program is in line with the Bank's Country Strategy for Guyana (2008-2012) that aims to support the Government's vision to accelerate economic growth through economic diversification and targeted social development. In particular, the Strategy stresses the importance of carrying out significant additional work in order to increase access to potable water and adequate sanitation, and contemplates the Bank support for the improvement in the water sector. This program is also consistent with the Bank's Water and Sanitation Initiative as it contributes to the goals set under its "100 Cities" and "Efficient and Transparent Utilities" programs.
- 1.17 The proposed program is also well in line with Government priorities and objectives of increasing the portion of the population accessing quality services in water and sanitation, and with the Government's commitment to achieve the Millennium Development Goals.
- 1.18 **Program rationale and alternatives considered.** The need for investments in the water and sanitation sector in Guyana is extensive. While the water sector has received more consistent support from the Bank, the sewerage system in Georgetown has been neglected over the years. This has resulted in a series of accidents, notably on July 11, 2010, when there was a rupture in a section of the ring main which damaged the pavement of the road above; and on July 20, 2010, when a break in a sewer line occurred in the center of town. These accidents have inconvenienced the population, and increased health and environmental risks. In consultation with the GOG, it was decided to address this emergency situation with a much needed rehabilitation intervention of key assets of the Georgetown's sewerage system, which covers a densely populated area thriving with markets and businesses. The proposed designs for all civil works were selected after a careful consideration of a range of alternative investment approaches, as specified in the ([Technical Options and Design link](#)). The water quality at the outfall will be regularly assessed through a monitoring program agreed with GWI (see paragraph 2.2). Besides preparing the sewerage master plan, the ATN/OC-11805-GY mentioned above will investigate the need to add a wastewater treatment facility for Central Georgetown, and also prepare the preliminary designs for the facility. The CReW⁸ is being considered by the GOG as a possible source of financing.

⁸ A condition prior to the execution of the grant agreement is the ratification of the Convention for the Protection and Development of the Marine Environment (known as the Cartagena Convention), according to which the contracting parties shall take all appropriate measures in conformity with international law and in accordance with this Convention and its protocols to prevent, reduce and control pollution and to ensure sound environmental management.

B. Objective, Components and Cost

- 1.19 The proposed program aims to: (i) improve the operational performance of the Georgetown sewerage system through the reconstruction of its most critical components; (ii) strengthen GWI operational and financial performance by improving asset management and decreasing energy consumption; and (iii) limit the transmission of the water-related diseases lymphatic filariasis and intestinal helminthiasis. It is proposed that the program be comprised of four components as outlined below.
- 1.20 **Component 1: Rehabilitation of Georgetown's Sewerage System.** This component will finance the civil works and equipment necessary to address the major infrastructure and operational shortcomings in the Georgetown sewerage system. It will include: (i) complete replacement of the 5.5 Km sewerage ring main in Georgetown, including the necessary allowances for the future connection to a wastewater treatment facility; (ii) replacement of all the delivery mains; (iii) purchase and installation of additional pumps for the 24 existing pumping stations, to ensure adequate pressure and operational reliability, and improvement of the electrical connection to the grid; (iv) assessment and emergency rehabilitation of street sewers in selected areas; and (v) purchase of maintenance and operating equipment.
- 1.21 **Component 2: Institutional Strengthening of GWI.** This component will address the need to strengthen GWI's Wastewater Management Division and GWI's Energy Efficiency Group, and will include: (i) development of an asset management implementation strategy, focusing mainly on operation and maintenance of physical assets; (ii) knowledge transfer and staff training programs on wastewater operation and maintenance practices and energy use; and (iii) public awareness campaigns, specifically targeted towards schools and business owners (hotels and restaurants in particular).
- 1.22 **Component 3: Energy Efficiency Pilot Project.** This component is based on the results of the recently completed energy audit financed through the regional TC "Energy Efficiency for Caribbean Water and Sanitation Companies" (ATN/OC-11286-RG), and will address the need to improve energy use within GWI facilities. It will include: (i) purchase of portable measuring equipment; (ii) replacement of inefficient pumping equipment and operational improvements of electric motors in 12 selected locations; and (iii) hydraulic efficiency modeling of two distribution systems.
- 1.23 **Component 4: Prevalence Reduction in Water Related Diseases:** The component will address the need to control and, where feasible, eliminate water-related NTDs in Region 4. It will include: (i) baseline mapping exercises to assess the prevalence of the diseases; (ii) Mass Drug Administration activities (Diethylcarbamacin and Albendazole) to interrupt transmission and decrease the prevalence of NTDs; (iii) community mobilization and communication for

behavioral change; (iv) monitoring activities; and (v) component management activities.

C. Key Results Indicators

1.24 The indicators are described in more detail in the Results Framework of the program in Annex II. The main outcomes are presented in Table I-1.

Table I-1

Key Results	Baseline	Year 1	Year 2	Year 3	Year 4	Year 5	Target
People serviced by an improved sewerage system (#)	0	-	-	-	34,000	52,000	52,000
Staff- hours spent on preventive maintenance activities per year (# of hours)	8,017	-	-	9,220	10,602	12,193	12,193
Energy consumption in 12 pilot facilities (MWh/year)	3,300	-	3,000	2,900	2,700	2,600	2,600
Prevalence of LF infection (microfilariae)–	20	5	-	2	-	<1	<1

II. FINANCING STRUCTURE AND MAIN RISKS

A. Financing Instruments

2.1 The total cost for the program is US\$10 million. Of that amount, US\$4.75 million will be drawn from the Single Currency Facility of the Bank's Ordinary Capital resources (OC), US\$4.75 million from Fund for Special Operations (FSO), and US\$0.5 million from local counterpart contributions. The following table provides a breakdown by investment category in US\$.

Table II-1

Category	IDB	Local	Total
1- Project Administration			
1.1 Project Management	250,000		250,000
2- Direct Costs			
2.1 Rehabilitation of Georgetown's sewerage system	7,341,000		7,341,000
2.2 Institutional strengthening of GWI	342,000		342,000
2.3 Energy efficiency pilot project	272,000		272,000
2.4 Water related diseases	285,000		285,000
3- Concurrent Costs			
3.1 Auditing	120,000		120,000
3.2 Monitoring and Evaluation	60,000		60,000
4. Unallocated			
4.1 Contingencies	735,000	431,000	1,166,000
4.1 Financing charges	95,000	69,000	164,000
Total	9,500,000	500,000	10,000,000

B. Environmental and Social Safeguard Risks

- 2.2 By improving sanitation and institutional efficiency this operation will contribute to the health and well being of Guyana's population, and particularly its capital, Georgetown, especially in preventing illnesses due to water-related diseases and improving overall environmental conditions. Also, the energy efficiency component will decrease GWI energy consumption (for a total of approximately 700 MWh/yr) and contribute to greenhouse gas emission reduction. Overall the program is not expected to have any large scale, significant and/or irreversible negative environmental or social impacts. Negative expected impacts and risks related to sewerage infrastructure construction works include noise, dust, waste generation, traffic interferences and occupational risks. During the operation of the rehabilitated sewerage system, a potential negative impact could be derived from the discharge, through the existing outfall, of a slightly increased volume of untreated wastewater into the mouth of the Demerara River. Preliminary water quality analyses indicate that the impact is manageable by the natural environment due to the high dilution factor provided by river flows and ocean currents at this point. However, this effect will be further investigated and regularly monitored by GWI during the program execution.
- 2.3 Because of the potential impacts, which are considered minor to moderate but readily manageable through the implementation of mitigation measures, the program has been classified as Category "B" under IDB's Environmental Policy (OP-703). Specific IDB Policies and Directives applicable to the program include OP-703, especially B.6 "Consultation", B.11 "Pollution Prevention and Abatement" and OP-102 "Disclosure Policy". Guyana is subject to droughts and floods (most recent floods were experienced in 2005 and 2006). Earthquakes and cyclones are not prominent. Actions will be taken to ensure compliance with IDB's Disaster Risk Management Policy (OP-704), exploiting potential synergies with the ongoing TC "Preparation of the Integrated Management Plan for Natural Disasters" (ATN/OC-11718; GY-T1050).
- 2.4 "Environmental Guidelines for Construction Projects" and "Corporate Environmental Guidelines" were prepared by GWI in January 2005. In August 2010 GWI disclosed a draft Environmental and Social Assessment (ESA) for the program, including an Environmental and Social Management Plan (ESMP). GWI Environmental Guidelines define the basic environmental and social considerations to be addressed during the program planning and design phases, as well as during construction activities, the process for the Environmental Impact Assessment (EIA) preparation and the Environmental Protection Agency (EPA) approval process and supervision during construction for all GWI activities. This program ESA/ESMP has been based on the GWI Corporate Environmental Guidelines. The draft ESA/ESMP will be updated to include more detailed information on (i) water effluent standards and the dilution factor at the waste water outfall; (ii) detailed budget for implementation of the ESMP; and (iii) the assessment of the capacity of GWI to implement the ESMP. A consultation process will take place on the revised version and the document will be disclosed

by October 2010. An Environmental Assessment and Environmental Permit will be required prior to start of the construction works on the sewerage ring main.

- 2.5 Long term impacts untreated wastewater discharges can only be mitigated by appropriate treatment and disposal methods. As mentioned above, while ATN/OC-11805-GY is currently investigating the need to add a wastewater treatment facility, which would serve Central Georgetown, the CReW is being considered by the GOG as a possible source of financing. The proposed rehabilitation program will seek to facilitate the connection to a future treatment facility. Other wastewater treatment activities would be financed through the CReW, which will be finalized in the coming months. For further details see ([ESMR link](#)).

C. Fiduciary Risk

- 2.6 The Bank and GWI conducted the Institutional Capacity Assessment System (ICAS) analysis on GWI, whereby all areas of its operations, including human resource management, fiduciary and financial management, and internal and external controls were evaluated and analyzed. No notable fiduciary issues are foreseen, provided that an acceptable accounting system and procurement mechanisms are implemented coupled with the confirmation of procurement staff in substantive positions (see chapter III.A, Summary Implementation Arrangements).

D. Other Key Issues and Risks

- 2.7 **Institutional Viability.** The ICAS evaluation indicated that GWI has seen significant improvements in certain areas such as internal management and controls, reporting requirements, and better understanding of the Bank's Procurement of Goods and Services policies and procedures. However, there are still changes that will be necessary for GWI to improve its performance. These would include the implementation of a performance-driven evaluation for staff and improvements in inventory control and operations planning to allow for better planning and cost control. A series of strengthening activities have been discussed and agreed upon with GWI and those activities will be initiated during the preparation of the program with the support of the Bank's representation in Guyana.
- 2.8 **Technical Viability.** The proposed technical solutions fully meet the needs for the improvement of the wastewater collection services of GWI in the most critical areas of operation. The works defined satisfy the technical requirements for this type of works which is supported by the following reasons:
- a. An engineering study was carried out that contemplated different options and configurations for the projects;

- b. The costs of these options were estimated and compared to make an economic-feasibility appraisal considering local unit prices, technologies and services;
 - c. The sizing criteria and parameters are fully compatible with local and international design standards;
 - d. The materials and technology are known in Guyana and have been used in other projects by GWI;
 - e. GWI is reasonably familiar with the operation of the assets that will be acquired under the program but needs to improve its maintenance programs and practices. These will be supported under the institutional strengthening component.
- 2.9 **Financial Viability.** GWI's annual operating revenue from 2006–2008 stood at about US\$10,429,700, US\$14,106,000 and US\$26,363,850 respectively. The 87% growth in revenue from 2007 to 2008 was due mainly to the 163% growth in measured water supply in 2008. Consistent with this observation is the changing ratio between revenue generation from measured water supply and from unmeasured water supply. In 2006, measured water supply revenue accounted for less than 40% of overall operational revenue, whereas in 2008 it accounted for almost 60% of total operating revenue. In terms of collections, GWI recorded US\$5,732,880 in bad debts in 2008, accounting for 21.7% of total operating revenue. In addition, GWI has, in 2008, created an increase in provision for bad debt account totaling about 10% of the bad debt realized. Accounts receivable have remained chronically high, growing to US\$36,527,720, 1.4 times the operating revenue realized in 2008.
- 2.10 On the expenditure side, GWI's largest cost center is with energy costs, which from 2006 to 2008 accounted for an average of 57% of total operational costs. In contrast, labor cost only accounted for 16% of total expenses and supplies for 9.7%. Annual operating expense for GWI exceeded operating revenue in 2006 and 2007, only decreasing from 144% of operating revenues in 2007 to about 72.6% of operating revenues in 2008. From the onset, GWI seem to have little flexibility in reducing its costs as the three top cost centers, including labor, energy and supplies, account for nearly 88% of the costs and are largely fixed.
- 2.11 Overall, GWI has been able to cover its operations and maintenance costs and its financial position has been improving steadily since 2007. However, it remains necessary for GWI to improve its financial position in the medium to long term. Due to the highly fixed cost structure, the short term focus to improve GWI's financial position will include measures to reduce the accounts receivables and by association reduce the delinquency rate. Medium to long term solutions will

include the reduction in fixed costs in order to maintain the 27% EBITDA⁹ achieved in 2008.

- 2.12 **Socio-economic Viability.** A cost-benefit analysis was performed for Component 1 (Rehabilitation of Georgetown's sewerage system). The program is economically viable, showing an Economic Rate of Return of 13.02% and an Economic Net Present Value of US\$366,607. This analysis was complemented by appropriate sensitivity and risk assessments ([Socioeconomic link](#)).
- 2.13 The average charge for sewerage services is approximately US\$2.10 per month per household. Based on data obtained from the socioeconomic survey conducted in the program area, this charge represents 0.52% of the average household income. For those families in the poorest quintile, the charge represents less than 1.5 % of their income, which is below the internationally accepted level.
- 2.14 A cost-benefit analysis was also performed for the energy efficiency component. Each individual project was evaluated separately. All the proposed projects were economically feasible. The aggregate net present value, using a discount rate of 12%, was US\$1,001,399, with and rate of return of 76.7% ([Socioeconomic link](#)).
- 2.15 **Poverty Reduction and Equity Enhancement.** The program is classified as a Poverty Reduction and Equity Enhancement operation, as described in the Report on the Ninth General Increase in Resources of the Inter-American Development Bank (document AB-2764 of May 2010).
- 2.16 **Bank Policies compliance.** A number of Bank Sector Policies are particularly relevant under this program, including: OP-708 (Public Utilities), OP-745 (Basic Environmental Sanitation), and OP-742 (Public Health). The proposed operation is in compliance with these policies.

III. IMPLEMENTATION AND MANAGEMENT PLAN

A. Summary Implementation Arrangements

- 3.1 The Borrower for the proposed operation is the Cooperative Republic of Guyana, who will be legally responsible to the Bank for the loan repayment. The Executing Agency (EA) will be GWI through the Capital Investment and Planning Department (CIPD), which will be responsible for the overall administration of the proposed operation, including planning, budgeting, and implementation. The financial management will be the responsibility of GWI's Finance Department. Appropriate staff, including at least a program manager, two engineers, a financial/accounting officer and a procurement officer, will be designated by GWI and assigned to the execution of the program.

⁹ Earnings Before Interest, Taxes, Depreciation and Amortization

- 3.2 GWI is knowledgeable of the Bank's procurement and financial policies and procedures as it executed LO-1047/SF-GY, and is executing the AquaFund financed ATN/OC-11805-GY and the FSO financed ATN/SF-11904-GY. The pace of execution has improved significantly in the last two years.
- 3.3 Specific responsibilities of GWI will include: (i) preparation, implementation and coordination of the Annual Operating Plans (AOPs); (ii) preparation of budgets, project accounting, and requests to advance project funds; (iii) preparation of the project's Annual Procurement Plan, the procurement of goods and services for the project; (iv) coordination of the preparation of technical reports, periodic and end-of-year financial reports; (v) monitoring of the progress of program activities, environmental and social safeguards compliance and analysis of variances of actual results against plans; (vi) procurement of the external audit and ensuring that the relevant recommendations are implemented; (vii) facilitation of external evaluations and ensuring that the recommendations are implemented; and (viii) serving as a liaison for the project with the Bank. Details of this arrangement will be elaborated in the Operations Manual (OM).
- 3.4 The program will be executed following the AOP that will include for each programmed annual activity: its goals, terms of reference, budget, source of funding, and responsibility for its execution. The AOPs will be prepared according to guidelines established in the project's OM, which will set forth the details regarding project execution including coordination of activities amongst the different offices. Changes to the AOP will require the non-objection of the Bank. The overall need to update the OM will be assessed yearly during program implementation.
- 3.5 Component 4 will be sub-executed by the Ministry of Health, through an internal unit coordinated by the Chief Medical Officer, and comprising of a logistic coordinator, a doctor, a nurse, a lab technician, and an accountant (who will be trained on the Bank's procurement procedures). However, any official exchange with the Bank (e.g., disbursement requests, request of non-objections, etc) would come through GWI, the only EA of the proposed program. Additional details on the components are provided in ([Technical Options and Design link](#)).
- 3.6 **Special contractual conditions for the first disbursement will be: (i) evidence that GWI has designated a Program Manager from its staff; (ii) evidence that the Operations Manual for the program is approved by the Board of GWI and has entered into effect.** Special condition for disbursements related to the activities of Component 4 will be: signature of an inter-institutional implementation agreement between GWI and the Ministry of Health. Special contractual conditions for execution will be: compliance with the Environmental and Social Management Plan (ESMP) and the GWI Corporate Environmental Guidelines.
- 3.7 During program execution, GWI will deliver the program's audited financial statements on an annual basis as described in ¶3.12.

- 3.8 **Operation and Maintenance (O&M).** O&M manuals will be prepared by the end of the fourth year of execution by GWI benefitting from the capacity building activities financed through component 2. In order to ensure sustainability and continuity, the O&M plan will include also the infrastructure works completed during the previous loan (LO-1047/SF-GY). After the approval of the O&M manual, an O&M report will be submitted every six months during the program execution period and for the following five years.
- 3.9 **Construction Supervision.** The supervision of the civil works needs to be carried out by qualified individuals or firms that will transfer knowledge on proper construction practices to the operating institution. For this reason, budget has been allocated to ensure proper monitoring of the construction progress, including the timely application of environmental and social mitigation measures.
- 3.10 **Procurement.** The procurement of works, goods and consulting services will be conducted in accordance with the Bank's procurement policies and procedures for the Procurement of Goods and Works (GN-2349-7) and for the Selection and Contracting of Consultants (GN-2350-7). The thresholds for International Competitive Bidding (ICB) will be US\$100,000 for goods contracts, US\$1 million for civil works, and US\$100,000 for consulting services. Procurement of goods, works and consulting services will be reviewed using ex-ante methodology. This review methodology will be periodically assessed through procurement inspection visits and performance reviews and procurement plan activities may be amended accordingly, by agreement between the executing agency and the Bank's Country Office in Guyana, provided the executing agency is in compliance with Bank requirements for the specific review method. Annex II includes details on program procurement. The executing agency will update the procurement plan in the course of its semiannual reports and its annual operating plan.

B. Summary of Arrangements for Monitoring Results

- 3.11 GWI through CIPD will be in charge of monitoring the program performance and progress throughout the execution period, as described in ([Monitoring and Evaluation Arrangements link](#)). Program monitoring will be based on the Results Framework, the Progress Monitoring Report (PMR), and the AOP. GWI will submit two semi-annual progress reports throughout program execution, within 90 days after the end of the calendar year or half year.
- 3.12 Using loan's resources, independent evaluators will be hired to conduct: i) a midterm evaluation at the end of 30 months from the date of the loan contract or after 50% commitment of the resources, whichever comes first, and ii) a final evaluation of the program, after 90% of loan resources have been committed. An external audit of the program will be performed by a firm of independent auditors acceptable to the Bank. The cost of the audits will be financed with program resources. Standard financial reporting requirements of the Bank will apply.

- 3.13 **Disbursement Timetable.** The disbursement period for the program is five years. The contemplated disbursement schedule is as follows:

Table III-1 Disbursement schedule (US\$ millions)

Year	1	2	3	4	5	Total
IDB	0.5	3.0	3.0	2.0	1.0	9.5
GOG	-	-	-	0.25	0.25	0.5
Total	0.5	3.0	3.0	2.25	1.25	10
Percentage	5%	30%	30%	22.5%	12.5%	100%

- 3.14 **Advance of Funds.** The Bank will advance funds based on the program's true liquidity needs, supported by signed commitments or anticipated with a high level of certainty for a period agreed upon with GWI. The funds will be transferred to GWI and be managed in a separate bank account in the program's name. The funds will be used as per Bank policy, for the procurement of goods and services and will be based on the terms agreed for each individual contract. Disbursement will be done in accordance with the Bank Project Disbursement Guide approved in December 2009.

C. Significant Design Activities Post Approval

- 3.15 As mentioned above, the Bank is currently financing the "Designs for Improvements in Water and Sanitation Infrastructure" (ATN/OC-11805-GY), which will contribute to the preparation of the main projects and studies related to the loan. Together with the final designs for selected priority interventions, the consultancy firm contracted through the TC will update the 1995 master plan and prepare a detailed and calibrated computer model of the sewerage network that will be used as a tool to evaluate future interventions with due consideration to capital and operating costs as well as choice of technology and materials. The firm will also prepare a preliminary design of a wastewater treatment plant. All these products will be completed after the approval of the proposed operation, and will be made available for execution and future planning.

Development Effectiveness Matrix Summary

Indicator	Score	Maximum Score
I. Strategic Relevance	High	
1. IDB Strategic Development Objectives	5.5	10
Country Diversification	2.0	2
Corporate Initiatives	2.5	2.5
Harmonization and Alignment	0.0	3.5
Beneficiary Target Population	1.0	2
2. Country Strategy Development Objectives	9.6	10
Country Strategy Sector Diagnosis	6.0	6
Country Strategy sector objective & indicator	3.6	4
II. Development Outcomes - Evaluability	Satisfactory	
3. Evidence-based Assessment & Solution	8.6	10
4. Evaluation & Monitoring Plan	4.6	10
5. Cost-Benefit or Cost-Effectiveness	7.0	10
6. Risks & Mitigation Monitoring Matrix	7.5	10
III. IDB's Role - Additionality		
7. Additionality	7.0	10
Technical Assistance provided prior the project	3.0	3
Improvements in management of financial, procurement, monitoring or statistics internal controls	4.0	4
Improvements in environmental, health and labor performance	0.0	3

I. Strategic Relevance: This is an investment project that will take place in Guyana, classified as a group D country. The program falls under the Bank's infrastructure and water and sanitation priority areas. This project is aligned with the Country Strategy objective and the indicator for the sector. It is classified as an SEQ operation.

II. Evaluability: The problems being addressed through the program are clearly defined and its diagnosis is empirically based. The main factors that contribute to these problems are clearly specified, but not the interrelationship among factors and the magnitudes of their deficiencies. The program's outcomes and outputs are clearly stated and show vertical logic.

Except for the outcome indicator related to the GWI institutional strengthening component, all indicators provide solid metrics to measure changes resulting from the project. All indicators have targets and sources of information but not all outcomes indicators have baselines. Not all indicators are SMART. Some outcome indicators are not specific, such as for example "improved sewerage system" in which there are no specific variables to measure this improvement. In addition, the indicator does not measure the sewerage situation before and after the project, it only measures the number of people with "improved" sewerage systems as a result of the project.

The program has a monitoring and evaluation plan, but there is no separate budget allocated for each activity. The program will be evaluated using a reflexive methodology. Some of the components of the program were analyzed using a cost-benefit analysis which generated rates of return above 12%. The risks of the operation are identified and classified and present mitigation measures, however, no indicators, baselines or targets are included to monitor these measures.

III. Additionality: A technical cooperation was provided to the GWI to increase the likelihood of the program's success. In addition, it will improve the operational and financial management of the entity.

Results Framework Georgetown Sanitation Improvement Program (GY-L1025)								
Objective	The proposed program aims to: (i) improve the operational performance of the Georgetown sewerage system through the reconstruction of its most critical components; (ii) strengthen GWI operational and financial performance by improving asset management and decreasing energy consumption; and (iii) limit the transmission of the water-related diseases lymphatic filariasis and intestinal helminthiasis.							
	Baseline	Year 1	Year 2	Year 3	Year 4	Year 5	Target	Comments/ Means of verification
Component 1. Rehabilitation of Georgetown's sewerage system								
Outputs								
Ring main replaced (Km)	0	-	2	2	1.5	-	5.5	GWI approved construction supervision reports, GWI's monthly Board Reports, Semi-annual reports to IDB
Delivery mains replaced (Km)	0	-	2	2	2	-	6.0	GWI approved construction supervision reports, GWI's monthly Board Reports, Semi-annual reports to IDB
Sewerage pumps purchased and installed (#)	0	-	-	-	24	-	24	GWI's monthly Board Reports, Semi-annual reports to IDB
Existing sewerage pumps installed (#)	15	-	9	-	-	-	24	GWI's monthly Board Reports, Semi-annual reports to IDB
Gravity street sewers assessed (basins)	0	-	-	1	-	-	1	GWI's monthly Board Reports, Semi-annual reports to IDB
Pumping stations rehabilitated (#)	15	-	9	-	-	-	24	GWI's monthly Board Reports, Semi-annual reports to IDB
Gravity street sewers rehabilitated (m)	0	-	-	-	100	100	200	GWI approved construction supervision reports, GWI's monthly Board Reports, Semi-annual reports to IDB
Outcomes								
People served by an improved sewerage system (#)	0	-	-	-	34,000	52,000	52,000	GWI statistics
Component 2. Institutional strengthening of GWI								
Outputs								
Asset management strategy developed (#)	0	-	1/4	1/4	1/2	-	1	Consultant's report, GWI's monthly Board Reports, Semi-annual reports to IDB

Number of training sessions performed within GWI on wastewater management and energy efficiency (#)	0	-	2	5	3	-	10	Attendance records; Course outlines and materials, GWI's monthly Board Reports, Semi-annual reports to IDB
Schools where awareness campaign has been completed (# of schools)	0	-	5	5	5	5	20	Attendance records, GWI's monthly Board Reports, Semi-annual reports to IDB
Seminars for hotel and restaurant owners (# of seminars)	0	-	2	3	3	2	10	Attendance records, GWI's monthly Board Reports, Semi-annual reports to IDB
Outcomes								
Staff- hours spent on preventive maintenance activities per year (# of hours)	8,017	-	-	9,220	10,602	12,193	12,193	GWI work order sheets, GWI's monthly Board Reports, Semi-annual reports to IDB (Information provided by Sanitation Department)
% of population targeted by awareness campaign properly using sanitation infrastructure (%)	n.a.	-	-	70	70	70	70	Customers' survey (part of the public awareness campaign contract)
Component 3. Energy efficiency pilot project								
Outputs								
Units of portable measuring equipment purchased (#)	0	-	9	-	-	-	9	Receipts, GWI's monthly Board Reports, Semi-annual reports to IDB
Hydraulic efficiency models completed (#)	0	-	-	2	-	-	2	Consultant Report, GWI's monthly Board Reports, Semi-annual reports to IDB
Pumps, motors and/or other accessories purchased and pumping stations optimized (#)	0	-	6	6	-	-	12	Consultant Report, GWI's monthly Board Reports, Semi-annual reports to IDB
Outcomes								
Energy consumption in 12 pilot facilities (MWh/year)	3,300	-	3,000	2,900	2,700	2,600	2,600	GWI's Station Consumption Report, GWI's monthly Board Reports, Semi-annual reports to IDB
Component 4. Neglected Tropical Diseases								
Outputs								
Baseline survey of LF and STH prevalence carried out (#)	0	1	-	-	-	-	1	Ministry of health report of prevalence assessments
Follow up LF and STH prevalence surveys	0	-	-	1	-	1	2	Ministry of health report of prevalence

carried out (#)								assessments
Knowledge Attitudes and Practices surveys carried out (#)	0	1	-	1	-	1	3	Ministry of health report of KAP survey
% of eligible individuals who ingest the drug (%)	0	80	80	80	80	80	80	Ministry of health report of validation survey
Surveys to validate reported drug coverage (#)	0	1	1	1	1	1	5	Ministry of health report of validation survey
NDCs in which social mobilization and health education workshops are carried out (#)	0	15	15	5	5	5	15	Ministry of health report of social mobilization strategy activities
Age-groups specifically targeted for mass media (including new media) campaigns in urban areas of Region 4 (#)	0	4	4	4	4	4	4	Ministry of health report of social mobilization strategy activities
Outcomes								
STH and LF prevalence estimate obtained	0	1	-	1	-	1	3	Ministry of health report of prevalence assessments
Prevalence of LF infection – (% of population infected)	20 ¹	5	-	2	-	<1	<1	Ministry of health report of prevalence assessments
Prevalence of STH infection (Kato Katz) – (% population infected)	25	25	-	16	-	10	10	Ministry of health report of prevalence assessments
% of surveyed individuals who know key facts about the diseases (e.g. their causes and symptoms) and about MDA (e.g. that it is harmless, free, targeted at the entire population etc.)	n.a.	40	-	60	-	80	80	Ministry of health report of KAP survey

n.a. = not available

¹ As mentioned in paragraph 1.8 of the POD, the 2001 GOG mapping exercise revealed that, at that time, in Region 4 20% of the population was infected. Before starting any activities related to this component, the baseline will be estimated again to reflect the current situation. Additional details on this estimation process are provided in the electronic link.

**GEORGETOWN SANITATION IMPROVEMENT PROGRAM (GY-L1025)
SUMMARY PROCUREMENT TABLE**

Description of the contract and estimated cost of procurement	Price	Procurement method ¹	Review (ex-ante or ex-post)	Source of financing and percentage		Prequalification (Yes/No)	Estimated dates		Status (pending, in process, awarded, cancelled)	Comments
				IDB %	Local/ other %		Publication of specific procurement notice	Completion of contract		
1. <u>Goods</u>										
Purchase and installation of 24 sewerage pumps	2,000,000	ICB	Ex-ante	100		No	Jun 2013	Dec 2014	Pending	
Purchase of suction and jetting truck	150,000	ICB	Ex-ante	100		No	Sept 2011	Mar 2012	Pending	
Purchase of 9 portable measuring devices, 12 pumps, motors and/or other accessories. This includes training on calibrating the equipment.	242,218	ICB	Ex-ante	100		No	Sept 2011	Dec 2012	Pending	
Yearly purchase of drugs for preventive chemotherapy for LF and STH	25,000	PC	Ex-ante	100			Aug 2011	Dec 2015	Pending	
Yearly purchase of diagnostic testing kits (ICT cards for LF, Kato-Katz for STH)	25,000	PC	Ex-ante	100			Aug 2011	Dec 2015	Pending	
Purchase of equipment and implements for administration and training, including equipment for disease prevalence surveys and social mobilization	60,000	NCB	Ex-ante	100			Aug 2011	Jan 2012	Pending	
2. <u>Non-Consulting Services</u>										
Wastewater public awareness campaign materials and services	50,000	NCB	Ex-ante	100			Sept 2011	Dec 2014	Pending	

¹ **Goods and Works:** **ICB:** International competitive bidding; **LIB:** limited international bidding; **NCB:** national competitive bidding; **PC:** price comparison; **DC:** direct contracting; **FA:** force account; **PSA:** Procurement through Specialized Agencies; **PA:** Procurement Agents; **IA:** Inspection Agents; **PLFI:** Procurement in Loans to Financial Intermediaries; **BOO/BOT/BOOT:** Build, Own, Operate/Build, Operate, Transfer/Build, Own, Operate, Transfer; **PBP:** Performance-Based Procurement; **PLGB:** Procurement under Loans Guaranteed by the Bank; **PCP:** Community participation procurement.

Consulting Firms: **QCBS:** Quality- and Cost-Based Selection **QBS:** Quality-Based Selection **FBS:** Selection under a Fixed Budget; **LCS:** Least-Cost Selection; **CQS:** Selection based on the Consultants' Qualifications; **SSS:** Single-Source Selection.

Individual Consultants: **NICQ:** National Individual Consultant selection based on Qualifications; **IICC:** International Individual Consultant selection based on Qualifications

Description of the contract and estimated cost of procurement	Price	Procurement method ¹	Review (ex-ante or ex-post)	Source of financing and percentage		Prequalification (Yes/No)	Estimated dates		Status (pending, in process, awarded, cancelled)	Comments
				IDB %	Local/ other %		Publication of specific procurement notice	Completion of contract		
Parasitological and KAP surveys	54,000	NCB	Ex-ante	100			Aug 2011	Dec 2015	Pending	
Water-related diseases public awareness campaign	100,000	NCB	Ex-ante	100			Aug 2011	Dec 2015	Pending	
3. Consulting Services										
Hydraulic efficiency modeling for 2 distribution systems	30,000	QCBS	Ex-ante	100			June 2012	Dec 2013	Pending	
Asset management strategy, including selected condition assessment of street sewers and O&M training	350,000	QCBS	Ex-ante	100			Sept 2011	Dec 2014	Pending	
Energy efficiency management training	32,000	QCBS	Ex-ante	100			Sept 2011	Dec 2013	Pending	
Energy efficiency O&M training	60,000	SSS	Ex-ante	100			June 2011	Dec 2013	Pending	
Construction Supervision and mentoring services for reconstruction of the pressurized ring main.	600,000	QCBS	Ex-ante	100			June 2011	June 2015	Pending	
Mapping exercises and analysis of morbidity aspects	21,000	NICQ	Ex-ante	100			Aug 2011	Dec 2015	Pending	
4. Civil works										
Reconstruction of pressurized ring main and replacement of delivery mains. This includes the purchase of pipes, valves and other accessories.	3,890,000	ICB	Ex-ante	100		No	June 2011	Dec 2014	Pending	
Rehabilitation of 9 pump stations and installation of 9 existing pumps.	250,000	ICB	Ex-ante	100		No	Sept 2011	Dec 2012	Pending	
Replacement of selected street sewers	300,000	ICB	Ex-ante	100		No	July 2013	Dec 2015	Pending	