

DOCUMENT OF THE INTER-AMERICAN DEVELOPMENT BANK

NICARAGUA

PROJECT FOR THE IMPROVEMENT AND SUSTAINABLE MANAGEMENT OF DRINKING WATER AND SANITATION SERVICES IN URBAN AND PERIURBAN AREAS

(NI-L1145)

LOAN PROPOSAL

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ABBREVIATIONS

AWP	Annual work plan
EBITDA	Earnings before interest, taxes, depreciation, and amortization
ENACAL	Empresa Nicaragüense de Acueductos y Alcantarillados [Nicaraguan Water and Sewer Company]
ESA	Environmental and Social Assessment
ESMF	Environmental and Social Management Framework
ESMP	Environmental and Social Management Plan
ESMR	Environmental and Social Management Report
GPI	Gerencia de Proyectos e Inversiones [Projects and Investments Division]
ICAS	Institutional Capacity Assessment System
INAA	Nicaraguan Water and Sewer Institute
INIDE	National Development Information Institute
OC	Ordinary Capital
NRW	Non-revenue water
PEDI	Plan Estratégico de Desarrollo Institucional de ENACAL [ENACAL Strategic Institutional Development Plan]
PMR	Progress Monitoring Report
PNDH	National Human Development Plan
UNICEF	United Nations Children's Fund
W&S	Water and sanitation
WHO	World Health Organization

PROJECT SUMMARY

NICARAGUA PROJECT FOR THE IMPROVEMENT AND SUSTAINABLE MANAGEMENT OF DRINKING WATER AND SANITATION SERVICES IN URBAN AND PERIURBAN AREAS (NI-L1145)

Financial Terms and Conditions				
Borrower: Republic of Nicaragua	Source	%	Amount (US\$)	%
	IDB (Regular Ordinary Capital (OC)):	60	43,200,000	59.1
	IDB (Concessional OC):	40	28,800,000	39.4
	IDB:	100	72,000,000	98.5
Executing agency: Nicaraguan Water and Sewer Company (ENACAL)	Local:		1,100,000	1.5
	Total:		73,100,000	100.0
	Regular OC (Flexible Financing Facility) ^(a)	Concessional OC		
Amortization period:	25 years	40 years		
Disbursement period:	5 years			
Grace period:	5.5 years	40 years		
Interest rate:	LIBOR-based	0.25%		
Credit fee:	(b)	N/A		
Inspection and supervision fee:	(b)	N/A		
Weighted-average life:	15.25	N/A		
Currency of approval:	United States dollars			
Project at a Glance				
Program objective and description: The program’s general objective is to upgrade the drinking water and sanitation (W&S) services provided by ENACAL in urban and periurban areas of Managua and intermediate municipios. The specific objectives are to: (i) increase the coverage of sanitary sewerage and wastewater treatment in urban and periurban areas of intermediate municipios; (ii) improve the performance of drinking water services in Managua and intermediate municipios; and (iii) upgrade ENACAL’s operational, technical, and commercial management (Altamira).				
Special contractual conditions precedent to the first loan disbursement: (i) the project’s Operating Regulations (optional electronic link 7) will have entered into force under terms previously agreed with the Bank (paragraph 3.2); and (ii) see the Fiduciary Agreements and Requirements in Annex III.				
Special contractual conditions for execution: (i) see the Environmental and Social Management Report (ESMR) (required electronic link 3) on the special contractual conditions; (ii) prior to the call for tenders for the first of the contracts envisaged in Component II, the delegation for the geographical area currently covered by the “Altamira Branch” in Managua will have been formally established, and the Delegate appointed (paragraph 3.3); (iii) see the Fiduciary Agreements and Requirements in Annex III; and (iv) if ENECAL’s audited financial statements show that income is insufficient to cover the administration, operation, and maintenance requirements of ENACAL systems, the borrower agrees to meet with the Bank and executing agency within 180 days following the Bank’s request to draw up a plan of action to make funding available to cover at least operating and maintenance (O&M) costs (paragraph 3.8).				
Exceptions to Bank policies: None				
Strategic Alignment				
Challenges: ^(c)	SI	X	PI	<input type="checkbox"/>
			EI	<input type="checkbox"/>
Crosscutting issues: ^(d)	GD	<input type="checkbox"/>	CC	X
			IC	X

^(a) Under the Flexible Financing Facility (document FN-655-1), the borrower has the option of requesting changes to the amortization schedule, as well as currency and interest rate conversions. The Bank will take operational and risk management considerations into account when reviewing such requests.

^(b) 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 policies.

^(c) SI (Social Inclusion and Equality); PI (Productivity and Innovation); and EI (Economic Integration).

^(d) GD (Gender Equality and Diversity); CC (Climate Change and Environmental Sustainability); and IC (Institutional Capacity and Rule of Law).

I. DESCRIPTION AND RESULTS MONITORING¹

A. Background, problem addressed, rationale

- 1.1 The Republic of Nicaragua has an estimated population of 5.7 million, of whom 56% live in urban areas.² Over the last 20 years, the total population has increased by 37%, while the urban population has grown by 48.5%, reflecting the pressure the government is facing to meet the burgeoning demand for drinking water and sanitation (W&S) services.³ Projections by the National Development Information Institute (INIDE) see the country's total population doubling over the next 25 years, which accentuates the need for the government not only to make up for investment shortfalls, but also overcome shortcomings in the organizational development, financial strengthening, and operational management of W&S providers. This operation will finance investments in W&S infrastructure (paragraph 1.23) as well as actions to upgrade the operational and financial management of urban W&S providers (paragraph 1.25) in cities and municipal seats (paragraphs 2.3 and 2.4), where the absence of sewer networks, compounded by poor management of the drinking water service, has impacts⁴ on health, well-being (paragraph 1.4) and the environment, disproportionately affecting the poorest people.
- 1.2 **Coverage of W&S services.** There are shortfalls in access to W&S services in Nicaragua. In 2010, improved sanitation facilities⁵ were available to 52%⁶ of the population, the lowest rate after Haiti, with significant regional inequalities: 37% in rural areas compared to 63% in urban areas.⁷ In 2012, only 40% of urban households in Nicaragua were connected to sanitary sewer networks,⁸ while the rest of urban households had individual systems⁹ under precarious maintenance,¹⁰ which pose a health risk¹¹ that disproportionately impacts the

¹ See bibliographic references in [optional electronic link 8](#).

² INIDE 2012 (<http://www.inide.gob.ni/>).

³ ENACAL Strategic Plan for Institutional Development (PEDI) 2013-2017.

⁴ Considering the limited availability of indicators, the national list was drawn up by local authorities based on their knowledge of the situation in each locality.

⁵ A hygienically improved sanitation system prevents human contact with human excreta (WHO, 2012).

⁶ Progress on Drinking Water and Sanitation: 2012 Update Report. World Health Organization/United Nations Children's Fund (WHO/UNICEF) Joint Monitoring Programme for Water Supply and Sanitation.

⁷ Progress on Sanitation and Drinking Water: 2010 Update Report. WHO/UNICEF Joint Monitoring Programme for Water Supply and Sanitation.

⁸ Nicaraguan Demographic and Health Survey (ENDESA) 2011/12 ([link](#)).

⁹ A socioeconomic survey conducted by the Bank in 2017 found no network sanitation service in the cities of Niquinohomo, Catarina, and San Juan de Oriente in the department of Masaya; and Tola, Moyogalpa, and Altagracia in the department of Rivas. Twenty-one percent of homes have a latrine and 75% have a sump drain.

¹⁰ Ninety-eight percent of households with individual solutions do not use tanker trucks to evacuate their cesspits; 53% of households discharge their gray water on to the street (IDB, 2017).

¹¹ Lack of sanitation and hygiene causes over 4.6 million episodes of illness or infections and nearly 500 premature deaths annually (World Bank, 2013) ([link](#)).

poorest,¹² and also risk polluting urban sources of drinking water.¹³ Except for the Department of Managua where 55.1% of households are connected to a sewer network, the coverage rate is less than 20%¹⁴ in the rest of the country. Moreover, sewer networks are nonexistent in several urban localities, such as Niquinohomo, Catarina, and San Juan de Oriente in the department of Masaya; Tola, Moyogalpa, and Altagracia in the department of Rivas, Wiwili in Jinotega, Quilalí in Nueva Segovia, and Las Sabanas in Madriz—the beneficiaries of this operation.¹⁵ In the case of wastewater treatment, less than 12% of urban centers in Nicaragua have a treatment plant, and most of those that exist do not operate properly and fail to attain the treated-effluent quality mandated by the country's environmental standards.¹⁶

- 1.3 **Drinking water.** In 2011, 82.1% of households nationwide had access to the drinking water service,¹⁷ representing roughly 2.8 million people. The service is supplied through 541,825 home connections, of which only 52% have networks in good condition.¹⁸ In the urban areas listed above, drinking water coverage is between 77% and 100%. Nonetheless, most piped water services in Nicaragua are intermittent,¹⁹ except in Managua, where 83% of households connected to a drinking water network receive a continuous service. In the other departments, more than 50% of households have service,²⁰ for a few hours per day and only on certain days of the week,²¹ which puts the quality of the water distributed and consumed by the population at risk.
- 1.4 **W&S access and well-being.** The deficit in access to services (paragraph 1.2) is an indicator of health risk exposure, which is aggravated by the fact that it

¹² The health effects and costs associated with the lack of sanitation and hygiene impact the poor disproportionately. The estimated annual cost per capita ranges from 160 córdobas (C\$160) in the departments with low poverty rates (Managua) to over C\$400 in those with high rates (North Caribbean Coast Autonomous Region) (World Bank, 2013).

¹³ Nearly 320 million m³ of water were produced in 2010 with a disinfection cost reported by ENACAL of about C\$20 million (US\$1 million) per year, of which 75% could be avoided if there was no risk of contamination from sewage (World Bank, 2013) ([link](#)).

¹⁴ INIDE (2006-2007).

¹⁵ The localities of Corinto in Chinandega and San Juan del Sur in Rivas have network sanitation coverage of 27% and 71%, respectively. In Corinto there is no treatment, but in San Juan del Sur 100% of the collected water is treated.

¹⁶ General diagnostic assessment of 35 ENACAL wastewater treatment systems (German Agency for International Cooperation, 2016).

¹⁷ Latest data available (PEDI, 2013-2017).

¹⁸ PEDI, 2013-2017.

¹⁹ In general, water companies do not have service continuity indicators, and a monitoring network is needed. Emerging and Sustainable Cities Initiative Study, CID Gallup Latin America, 2013 ([link](#)).

²⁰ In Pueblos Blancos, no household connected to the water supply has continuous access, according to field data collected by ENACAL.

²¹ PEDI, 2013-2017.

coincides with the municipios that have higher poverty rates.²² This is particularly relevant since there is a positive²³ link between environmental quality,²⁴ health,²⁵ and access to W&S. The probability of contracting water-borne diseases falls when there is a W&S service,²⁶ and this has a direct impact in terms of reducing infant mortality.²⁷ Moreover, the economic losses caused by the lack of sanitation and hygiene in Nicaragua were estimated at US\$95 million in 2009;²⁸ of this amount, 75% (US\$70.3 million) related to deteriorating health; 13% (US\$12.1 million) to international tourism; and 9% (US\$8.7 million) to the extra time spent making up for the limitations arising from access to precarious sanitation systems; while 3% (US\$2.9 million) represented the extra expense incurred by a person to consume drinking water (treatment of a contaminated source).

- 1.5 **Provision of W&S services in Nicaragua.** Service delivery in urban areas is the responsibility of ENACAL, a state public service entity with legal status and its own capital. ENACAL manages 161 drinking water systems in 178 localities, together with 35 sanitary sewer systems. The municipios provide the drinking water service in 42 localities.²⁹ Rural systems are the responsibility of the Social Investment Fund and the Drinking Water and Sanitation Committees,³⁰ with control and monitoring by the Nicaraguan Water and Sewer Institute (INAA) with ENACAL's support.³¹
- 1.6 **ENACAL's performance in Managua.** A 2013 survey³² found that 85% of the population holds a positive opinion of the W&S service provided by ENACAL. Although the service provided by ENACAL is rated satisfactory overall, the company faces significant challenges to ensure supply in the metropolitan area of Managua and to maintain the institution's financial sustainability. These include:

²² According to INIDE's *Reporte de Pobreza y Desigualdad - Encuesta de Medición de Nivel de Vida - 2016* ([link](#)) [Poverty and Inequality Report – Standard of living measurement survey 2016], the national poverty rate is 24.9%, and the extreme poverty rate is 6.9%. Using 2005 Census data, the Nicaraguan Poverty Map 2015 ([link](#)), shows that in the Municipio of Managua the extreme poverty rate is 13.5%. In the project's targeted municipios, it ranges from 74.7% in Wiwili to 20.6% in San Juan de Oriente; or a weighted average of 40%; and these have the highest relative poverty rate ([optional electronic link 1](#)).

²³ Documented in numerous studies, as summarized by A. Brenneman and M. Kerf (2002). Other studies include: Annette Prüss-Ustün et al (2014) and Miguel Kremer and Alix Peterson Zwane (2007).

²⁴ Evidence of the effectiveness of actions on environmental quality: Evaluation of the Belém-Pará Project. Longitudinal Study of the Una river basin, 2004 ([link](#)); Ampla. 2006. Ex post evaluation of project 649/OC-BR ([link A](#) and [link B](#)).

²⁵ Evidence of effectiveness in reducing the incidence of waterborne diseases: Galiani et al. (2009) examined the effects of water network expansion in urban settlements in Argentina and found reductions in the presence, frequency, and severity of childhood diarrhea ([link](#)). M.L. Mascarini, et al. (2009) found similar reductions in intestinal parasitosis in children ([link](#)).

²⁶ A study in Argentina found that lack of access to sewer services increases the probability of contracting water-borne diseases by 11% to 24%, depending on the type of disease, Halcrow, 2013 ([link](#)).

²⁷ Formal studies by Leipziger et al. (2003), Wagstaff and Claeson (2004), Newman et al. (2009), and Gamber-Rabintan et al. (2010) found that access to clean water and sanitation infrastructure helps reduce child mortality at level similar in magnitude to those associated with health interventions ([link](#)).

²⁸ *Nicaragua – Costo del saneamiento inadecuado*, World Bank, June 2013 ([link](#)).

²⁹ The largest town is Río Blanco with 16,000 inhabitants; and the smallest is San Juan de Nicaragua with a population of 1,530.

³⁰ In specific cases, rural systems are operated by ENACAL through its regional delegations.

³¹ Law 722 of May 2010 and its Regulatory Decree 50-2010 of September 2010.

³² Emerging and Sustainable Cities Initiative Study, CID Gallup Latin America, Managua, 2013.

- (i) high rates of water loss (paragraph 1.9); (ii) high operating costs (paragraph 1.8); (iii) low revenue collection rates; (iv) lack of specialized personnel; and (v) deteriorating infrastructure.³³
- 1.7 ENACAL obtains 52%³⁴ of its billing revenues from Managua, which means it relies mainly on the services billed in Managua to guarantee the sustainability of service delivery in the poorest areas of the country (cross-subsidies, which do not imply transfers of budgetary funds³⁵).
- 1.8 **Operating balance.** ENACAL's financial statements show that the firm's operating balance has improved. Between 2014 and 2016, operating revenues grew by 57% in real terms (from US\$62 million to US\$97 million),³⁶ while operating costs declined by 7% (from US\$96 million to US\$89 million), thereby significantly improving earnings before interest, taxes, depreciation, and amortization (EBITDA). The reduction in operating costs partly reflects the implementation of a new energy rate for ENACAL facilities, since late 2015. Nonetheless, high energy costs represent 42.3% of operating expenses on average nationally and over 55% in some delegations. This is due to the fact that W&S systems are mostly operated by pumping, deficiencies in the operation and maintenance of electromechanical equipment, the payment of power factor surcharges, and the purchase of intermediated energy.
- 1.9 **Non-revenue water (NRW).** Following a period in which the indicator improved,³⁷ non-revenue volumes have grown³⁸ by 16.4 million m³ in the last three years. In 2016, ENACAL's NRW index in Managua was 54.9%, which means that for every 100 liters produced only 45.1 liters are billed.³⁹ The causes of water losses are both technical (weak operational control, a low rate of macro-metering (just 60%),⁴⁰ obsolescent and damaged network infrastructure), and also commercial, with a low revenue collection rate (arrears spanning more than 10 billing cycles),⁴¹ the lack of micro-metering (50.5% of connections with meters as of 2011),⁴² illegal

³³ PEDI, 2013-2017.

³⁴ *Informe de gestión comercial* [Business management report], ENACAL, 2016.

³⁵ The rate structure establishes four classifications: (i) subsidized rate; (ii) household rate; (iii) residential rate; and (iv) rate for businesses, industry, and government. Users in categories (iii) and (iv) generate the subsidies and are concentrated in Managua.

³⁶ The increase in revenues is due mainly to: (i) an increase in the volumes measured and therefore billed as a result of installing micrometers; and (ii) rate adjustments that reflect the costs of producing and distributing drinking water.

³⁷ The NRW indicator is a synthetic indicator that measures management efficiency of a water company. Non-revenue water index (%) = 1 - (Volume billed/Volume produced).

³⁸ The increase in NRW is mainly due to an increase in production. This improves service quality (continuity + pressure) but at the same time increases breakdowns, the flow from leaks, and consumption by users billed at a fixed rate (i.e. unmetered consumption).

³⁹ According to the 2013 Annual Report of the Regional Working Group on Benchmarking (GRTB), in nine Latin American countries the average value of the NRW index is 41.5%, with 30% rated as good management and 50% as weak management.

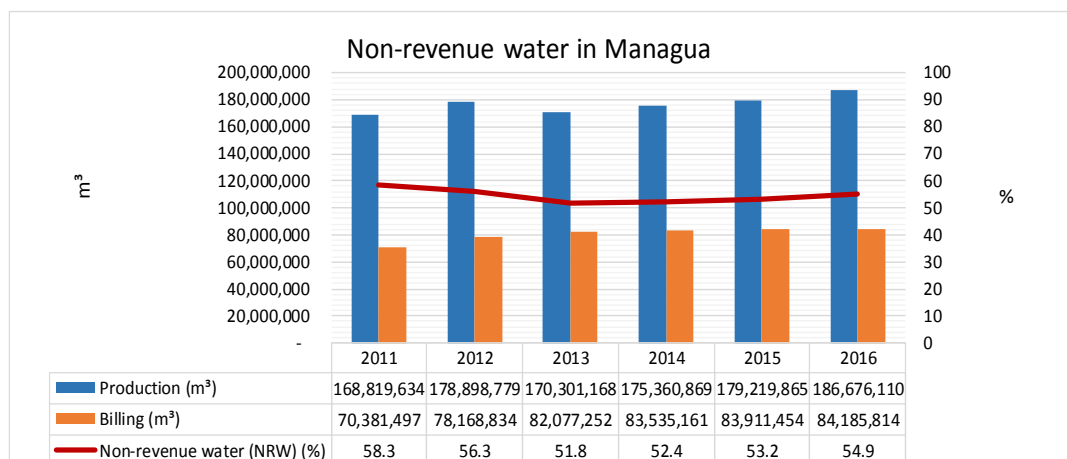
⁴⁰ PEDI, 2013-2017.

⁴¹ *Diagnóstico y Recomendaciones para la Sostenibilidad Financiera de ENACAL* [Diagnosis and recommendations for financial sustainability of ENACAL] Interagency Commission, October 2012. MHCP, Central Bank, and ENACAL.

⁴² PEDI, 2013-2017.

connections and under-metering owing to the obsolescence of the meters installed.

Figure 1. Trend of volumes produced, billed, and NRW index in the city of Managua*



Source: ENACAL.

* Baseline study - Project to Strengthen NRW Management Capacity in Managua, May 2017. CTI Engineering Internacional, Nihon Suido Consultants. The national NRW index is 52.5% for the same reasons as in Managua.

- 1.10 To reverse the trend in the NRW index, ENACAL needs to implement activities and undertake works (paragraph 1.25) in the city of Managua and other urban centers to become more efficient. Physical interventions (works, micro- and macro-metering installations,⁴³ sectorization, replacement of pumps)⁴⁴ can be sustainable only if ENACAL reengineers the organization of the institution to enable it to train its staff, improve planning and technical and commercial processes, reduce operating costs, and create a service quality focus.
- 1.11 **Link between climate change and reducing NRW.** The Global Climate Risk Index, published by GermanWatch, ranked Nicaragua⁴⁵ fourth among countries most affected by climate change between 1994 and 2014. Water levels in the Las Sierras aquifer, which ENACAL began monitoring in 2014, have fallen by 0.8 meters per year.⁴⁶ As the city of Managua is supplied from the Laguna de Asososca and from 168 wells distributed in the surrounding cities and areas, all of which depend on the Las Sierras aquifer, and considering the trend of groundwater levels and the potential negative effects of climate change, the monitoring of these water sources needs to be strengthened to prevent overexploitation. Better management with respect to NRW will make it possible to reduce physical losses (leaks and overflows from tanks) and reduce extravagant consumption, thereby

⁴³ Evidence of effectiveness: N.R. Da Silva, 2008 ([link](#)), and Final Evaluation Report 2048/OC-AR ([optional electronic link 14](#)) show that micrometering produced a 10% reduction in average monthly consumption.

⁴⁴ Evidence of effectiveness: A, Rizzo, et al., 2004 ([link](#)).

⁴⁵ <http://germanwatch.org/en/download/13503.pdf>.

⁴⁶ *Informe Especial – Monitoreo del acuífero de las Sierras* [Special report – Monitoring of the Las Sierras aquifer] ENACAL, 2014 – 2017.

enabling the system to reduce production and adapt to the effects of climate change.⁴⁷

- 1.12 **Deconcentration of management.** In line with ENACAL's strategic objectives⁴⁸ for organizational development and improved operational efficiency, new management processes need to be implemented, including a redefinition of staff positions and functions. This could generate internal resistance, contributing to operational and commercial inefficiencies (paragraph 1.6), thereby undermining its financial performance (paragraph 1.8). In the MaJiCo project, the German credit bank Kreditanstalt für Wiederaufbau (KfW)⁴⁹ financed the creation of the autonomous delegations of Matagalpa and Jinotega, including the reengineering of those branches. Fifteen years on, these delegations report a NRW rate of 32.9% and 28.1% respectively, thereby demonstrating effective management of change⁵⁰ through operational deconcentration.
- 1.13 Based on this experience, and given the complexity of the water production and distribution system and the number of inhabitants to be supplied (1.5 million), ENACAL's Managua Delegation faces the greatest challenge in implementing a program to improve management indicators and, consequently, reduce the NRW index. Based on experience with deconcentration in Matagalpa and Jinotega, and with a view to reducing NRW, it is planned to create a delegation in the Altamira area in Managua, which will serve approximately 25% of the population and have its own technical, commercial, and human resources management autonomy. The project will provide the new delegation with all the tools needed to fulfill its mission, and plans to update of technical and commercial information (paragraph 1.25), which will make it possible to operate the delegation's area of influence as a controllable water system.

⁴⁷ Climate Change, Water, and the Economy. World Bank, 2016 ([link](#)).

⁴⁸ PEDI, 2013-2017.

⁴⁹ W&S investment project in Matagalpa and Jinotega.

⁵⁰ Change Management as an Indispensable Component when Planning for NRW Control ([link](#)).

Figure 2. Boundaries of intervention of the new “Altamira Delegation”



Source: ENACAL

- 1.14 **Bank support in the Sector.** The Water Supply Program for Managua (2471/BL-NI), completed in 2016, financed the construction of infrastructure to renovate and optimize the W&S network, energy efficiency, and ENACAL's institutional strengthening. With funds from the Spanish Cooperation Fund for Water and Sanitation in Latin America and the Caribbean administered by the Bank and cofinanced by the European Union (EU/LAIF), it is currently implementing the Drinking Water Project in the City of Bilwi (Puerto Cabezas) (GRT/WS-14822-NI).
- 1.15 **Coordination with other donors and projects.** The European Union delegation in Nicaragua agreed to formalize a €10 million project complementary to this operation, to finance actions related to Component II (paragraph 1.25). These funds would be managed directly by ENACAL; the actions would be implemented by the same executing agency (paragraph 3.1); and they would finance the replacement of obsolete segments of the drinking water network in the new Altamira Delegation's area of influence (paragraph 1.13). This operation also complements and will be closely coordinated with the Multisector Program to Address Determinants of Health in the Dry Corridor (NI-L1143) currently in preparation, targeting urban centers in the three municipios served by this program.
- 1.16 **Bank knowledge on the sector – lessons learned.** This project draws on the lessons identified in the evaluation of previous operations executed by ENACAL, in particular projects NI-L1017 (1787/SF-NI), NI-L1029 (2471/BL-NI) ([optional electronic link 9](#)), and NI-G1002 (GRT/WS-14822-NI). The key lessons include the importance of: (i) having advanced engineering projects reduces costs during works execution; (ii) separately tendering the most important equipment (pipelines, pumps, etc.) of works contracts makes it possible to speed up works execution processes; (iii) ensuring job stability for the project team and thus reduce staff turnover; (iv) ensuring coordination between ENACAL's different investment

management departments, in particular the engineering department and the works department; (v) guaranteeing a sufficient stock of meters before embarking on large-scale installations; (vi) strengthening social engineering and financing mechanisms to enable beneficiaries to connect to a sanitary sewer network; and (vii) overseeing the performance of works supervisors and verifying their knowledge of engineering and works contracts.

- 1.17 **Government strategy.** The National Human Development Plan (PNDH) 2012-2016⁵¹ aims to increase effective coverage in the W&S sector, improve service quality, promote rational water use, and ensure the maintenance of existing systems and networks. The five-year goals of the PNDH target coverage rates of 91% in urban water supply and 46.3% in urban sanitation.
- 1.18 **Rationale and proposed actions.** The operation will finance actions to increase the coverage of W&S services by improving quality through greater efficiency and operational management in ENACAL, together with actions to reduce consumption. This operation also contributes to the urban W&S coverage goals of the PNDH. The effectiveness of the proposed interventions is demonstrated in several studies in similar contexts (paragraph 1.4). The actions to strengthen ENACAL's management are in line with a strategy linked to public utilities provision that meets citizens' demands, with management tools and models that create incentives to improve the quality of W&S services, reduce costs, and make access more equitable (PEDI, 2013-2017).
- 1.19 **Strategic alignment.** This operation is consistent with the IDB Country Strategy with Nicaragua (2012-2017) (document GN-2683), which aims to deepen dialogue in the W&S sector and contributes to the objective of promoting inclusive economic and social development in Nicaragua, specifically improvements in basic health conditions and early childhood care (paragraph 1.4). The operation is consistent with the Update to the Institutional Strategy 2010-2020 (document AB-3008); and it is directly aligned with the challenge of social inclusion and equality, since its actions are focused on expanding and improving W&S services in areas with the highest poverty rates (paragraph 1.4) and the lowest levels of access to public utilities (paragraph 1.2). The operation is also aligned with the crosscutting areas of: (i) institutional capacity and the rule of law, since it finances activities to improve ENACAL's management capacity; and (ii) climate change and environmental sustainability, through the financing of wastewater treatment plants and actions to reduce water losses and extravagant consumption, as well as monitoring groundwater levels in the Las Sierras aquifer (paragraph 1.25).
- 1.20 Roughly 24.76% of the operation's funds are invested in climate change mitigation and adaptation activities, according to the [multilateral development banks' joint methodology for estimating climate finance](#). These funds contribute to the IDB Group's goal of increasing climate change-related project financing to 30% of all approvals by the end of 2020. In addition, the program will contribute to the Corporate Results Framework 2016-2019 (document GN-2727-6) through the following output indicators: (i) households with new or upgraded access to drinking water; (ii) households with new or upgraded access to sanitation; and (iii) households with wastewater treatment. The operation is also aligned with the

⁵¹ National Government. November 2012 [\(link\)](#). The PNDH (2017-2021) is currently being prepared.

IDB Infrastructure Strategy: Sustainable Infrastructure for Competitiveness and Inclusive Growth (document GN-2710-5) in the priority area of Promoting Access to Infrastructure Services; and with the Sector Strategy: Institutions for Growth and Social Welfare (document GN-2587-2), since it strengthens the public expenditure management by improving the State's capacity to provide public services that reduce inequality in access to W&S services (paragraph 1.18). In addition, the operation is consistent with the objectives of the Water and Sanitation Sector Framework Document (document GN-2781-3), under Dimension of Success 1: "Countries achieve universal access to water and sanitation while improving service quality."

- 1.21 **Compliance with the Public Utilities Policy.** This operation and the national sector-level objectives are consistent with the principles of the Bank's Public Utilities Policy (document GN-2716-6) and satisfy its financial sustainability and economic evaluation conditions, insofar as a monitoring and dialogue mechanism will be established for financial sustainability (paragraph 3.8), thus ensuring that ENACAL maintains the positive EBITDA margin for the projection period, covering administration, operation, and maintenance costs with its operating revenues (paragraph 2.16); and the works to be financed are socioeconomically viable (paragraph 2.14). For projects not included in the sample, the corresponding eligibility criteria (paragraph 3.4) are included to ensure compliance with the conditions of this policy.⁵² ENACAL's institutional organization (policy formulation, regulation, and service provision) is adequate (paragraph 1.5); and its rate schedule includes a social rate to ensure access for vulnerable populations (paragraph 2.15) [\(optional electronic link 6\)](#).

B. Objectives, components, and cost

- 1.22 **Program objective.** The objective is to upgrade the W&S services provided by ENACAL in urban and periurban areas of Managua and intermediate municipios. The specific objectives are to: (i) increase the coverage of sanitary sewerage and wastewater treatment in urban and periurban areas of intermediate municipios; (ii) improve the performance of drinking water services in Managua and intermediate municipios; and (iii) upgrade ENACAL's operational, technical, and commercial management (Altamira).
- 1.23 **Component I: Priority investments in urban and periurban sanitation (US\$55.94 million).** This component seeks to expand the coverage of sanitation and wastewater treatment, increase the density of network connections, and improve the management of drinking water services. The following activities will be financed: (i) construction of sewer networks; (ii) construction of wastewater treatment plants; (iii) implementation of a social intervention and behavioral change strategy⁵³ associated with the use of and connection to sanitation systems (paragraph 2.9); and (iv) rehabilitation works for drinking water production and distribution infrastructure to improve service continuity and reduce NRW. As a

⁵² All services in the intervention areas are managed by ENACAL. Therefore, each project is considered financially viable if the company can, as a whole, cover its administration, operation, and maintenance costs.

⁵³ Based on a diagnostic assessment of the determinants of behavior, it will supplement ENACAL's social intervention methodology with the design and implementation of campaigns and activities enabling changes in hygiene habits and promoting the improvement of in-house sanitary facilities.

result, approximately 65,000 people will directly benefit from an improved water service, and 31,000 people with a connection to sewer services in municipios that have above-national-average poverty rates (paragraph 1.4).

- 1.24 The implementation of network sanitation solutions in small and medium-sized cities poses a challenge in terms of investment costs and operating capacity, and also in terms of connecting households to the network. The absence of economies of scale requires solutions such as condominial sewerage,⁵⁴ which reduces investment costs and increases connection rates. In terms of treatment, technologies such as lagooning⁵⁵ which involve small investments and produce an effluent quality that allows for its productive use, reduce sanitary risks with a simple, cost-effective operation (paragraph 2.12).
- 1.25 **Component II: Improvement of technical and commercial management and rapid impact works (US\$10.2 million).** This component seeks to improve the management of ENACAL in Managua. The following activities will be financed: (i) procurement and installation of equipment to measure the production of groundwater levels and pressures in water production centers; (ii) sectorization works⁵⁶ in the “Altamira” water zone and repair of unattended leaks; (iii) updating of the registries of networks and customers in “Altamira” and the targeted cities; and (iv) creation of the “Altamira” delegation in Managua with institutional reengineering. These actions should enable ENACAL to improve its NRW index. Execution of the component envisages actions including: (i) the contracting of activities to update commercial and technical information, including the development of computer tools for ENACAL; and (ii) international technical assistance to design and support the reengineering. As a result, the component will indirectly benefit some 375,000 people living in the Altamira area of Managua.
- 1.26 Financing will also be provided for financial and administrative expenses, supervision, evaluations, external financial audits, and contingencies.
- 1.27 **Cost.** The total cost of the project is US\$73.1 million, of which the Bank will finance the equivalent of up to US\$72 million (US\$28.8 million from Concessional Ordinary Capital funds and US\$43.2 million from Regular Ordinary Capital). The Government of Nicaragua will contribute counterpart funding equivalent to US\$1.1 million. The program costs are set out in Table I.1.

⁵⁴ Condominial sewerage, INAA 2013 ([link](#)).

⁵⁵ <http://www.wikiwater.fr/a21-technicas-de-lagunaje.html>.

⁵⁶ Sectorization consists of reorganizing the distribution network so that it can be operated by water sector.

Table I.1 – Program Cost (US\$ million)

	IDB	Local contribution	Total	%
Component I: Priority investments in urban and periurban sanitation	55.85	0.09	55.94	76.50
Component II: Improvement of technical and commercial management and rapid impact works	10.00	0.20	10.20	14.00
Administration, monitoring, evaluation, and audit	0.51	0.81	1.32	1.80
Financial expenses	3.7	0	3.7	5.00
Contingencies and escalation	1.94	0	1.94	2.70
Total	72.00	1.10	73.10	100.0
%	98.50	1.50	100.0	

C. Key results indicators

- 1.28 The program's outputs and outcomes are included in the Results Matrix (Annex II). Table I.2 presents the main indicators.

Table I.2. Main Expected Results

Outcome indicator	Unit of measure	Baseline (2016)	End of project
Households with new or upgraded access to sanitation*	Households	3,986	12,200
Households whose wastewater is treated		2,500	12,200
Non-revenue water in the Altamira Delegation	%	54.9	40

* The networks will make it possible to connect 7,960 households. Given the amount of the investments that households must make in their homes, it is expected that 69% of homes will be connected by the end of the project.

- 1.29 **Characterization of the beneficiaries.** The beneficiaries will be all households in the cities of Catarina, San Juan del Oriente, Niquinohomo (Pueblos Blancos), Tola, Moyagalpa, Altigracia, San Juan del Sur, Wiwili, Quilalí, Las Sabanas, and Corinto. These cities have populations of between 2,500 and 20,000 and poverty levels above the national average (paragraph 1.4). Their well-being and quality of life will increase, thanks to access to new or upgraded W&S services and environmental improvements achieved through appropriate wastewater treatment, as well as households in Managua whose water service will be improved.

II. FINANCING STRUCTURE AND MAIN RISKS

A. Financing instruments

- 2.1 **Financing modality and structure.** The project is presented as a multiple-works investment loan, since it contains independent W&S projects under eligibility criteria, and includes a representative sample for evaluation and execution.
- 2.2 **Execution and disbursement period.** The expected execution period is five years (see Table II.1), with disbursements being made on the basis of liquidity needs. Disbursement requests will be accompanied by an expenditure program for the activities of the annual work plan (AWP) for the next 180 days ([required electronic link 1](#)). Project execution processes and supporting documentation for disbursement requests will be subject to ex ante review.

Table II.1. Disbursement Schedule (US\$ million)

Financing	Year 1	Year 2	Year 3	Year 4	Year 5	Total
IDB	4.19	15.50	20.40	22.73	9.18	72.00
Cumulative %	6%	27%	56%	87%	100%	
Local	0.2	0.30	0.2	0.20	0.2	1.1
Total	4.4	15.8	20.6	22.9	9.4	73.1
Cumulative %	6%	28%	56%	87%	100%	

2.3 Representative sample. Based on the analysis of the program eligibility criteria (paragraph 3.4), ENACAL has presented the following as a representative sample of W&S interventions in: (i) the localities of Catarina, San Juan del Oriente, Niquinohomo (called Pueblos Blancos), Wiwili, and Tola, which will enable the conveyance and treatment of wastewater from 100% of the homes in these localities, together with safe drinking water supply ([optional electronic link 1](#)) with solutions meeting the eligibility criteria (paragraph 3.4); and (ii) procurement of metering equipment and technical assistance in Managua. The cost of all these interventions totals US\$22 million ([optional electronic link 2](#)), representing 30% of the project's funds.

2.4 Potential projects. The localities of Moyogalpa, Altagracia, San Juan del Sur, Quilalí, Las Sabanas, and Corinto were identified on a preliminary basis using the same sample identification process, as eligible for funding, provided they satisfy both the program objective (paragraph 1.22) and the eligibility criteria (paragraph 3.4), as well as the Bank's policies. The final scope of the projects will be determined during execution, based on the results of specific technical, economic, and environmental studies.

B. Environmental and social risks

2.5 Environmental and social considerations. The proposed solutions for water supply and sanitation will entail significant improvements in the quality of life and the environment of the beneficiary municipios. In accordance with the Bank's Environment and Safeguards Compliance Policy (Operational Policy OP-703), the program has been classified as a Category "B" operation. Given the characteristics of the interventions, localized adverse socioenvironmental impacts could be generated, for which mitigation measures are included in the environmental and social management plans (ESMPs) ([optional electronic link 10](#)) and the Environmental and Social Management Framework (ESMF) ([optional electronic link 11](#)). At the present time, environmental and social assessments (ESAs) have been produced along with ESMPs for the projects included in the representative sample of this multiple-works operation: for the Tola sanitation and for the Pueblos Blancos supply and sanitation projects, and also for the Wiwili de Jinotega wastewater treatment plant. The remaining projects not included in the sample will meet the requirements specified in the ESMF.

2.6 ENACAL held meaningful consultations for the projects in Tola (22 September 2017, with 57 participants), Pueblos Blancos (27 September 2017, with 62 participants), and Wiwili de Jinotega (19 September 2017, 136 participants). The results of all the consultations are included in the final versions of the sample projects' ESAs and ESMFs, in addition to the complete reports showing that the consultations were significant. The participants were in favor of the project, raising a number of comments and proposals that have been introduced into the final

versions of the ESAs and in the mitigation measures included in the ESMPs. In terms of risks, the area is subject to seismic, hurricane, and flood threats, and various mitigation measures have been included in the ESMPs and ESMFs. On gender, various activities were included in the ESMPs to promote inclusive participation by women in the consultations, to ensure job creation and gender equity. Guidelines for promoting the inclusive participation of vulnerable populations and ensuring gender equity have been developed in the ESMF.

- 2.7 In its “Legal Requirements” section ([required electronic link 3](#)), the ESMR specifies the special environmental and social contractual conditions applicable to all projects included in this operation. All ESAs, ESMPs, and ESMFs were posted online on the [Bank’s website](#).
- 2.8 **Fiduciary risks.** As executing agency, ENACAL’s fiduciary capacity for financial management and procurement was analyzed using the institutional capacity assessment system (ICAS) methodology; this reported medium risk. Shortcomings in technical and administrative capacity were also identified as a medium risk for execution. All mitigation activities are detailed in Annex III, particularly an update of bidding procedures and documents, the safeguarding of information, and the development and implementation of a new safeguards regulation to certify the knowledge and understanding of the executing agency staff involved.
- 2.9 **Other risks.** The construction of sanitary sewer networks entails two high risks. The first is related to the misuse of the networks by the beneficiaries which could cause operating problems in the systems; the second is that households might not connect to the system. To mitigate these risks, the project will finance a social intervention and behavioral change plan (paragraph 1.23), with external support from a specialized institution and sustained social engineering.
- 2.10 Another medium risk associated with Component I concerns acquisition of the land where the treatment plants will be located. To mitigate this risk, prior to putting each works project out to bid, ENACAL will submit evidence that it holds ownership and/or possession rights for the land where the respective works will be built.
- 2.11 Management improvements will involve changes in the company, so there is a medium risk of internal resistance. This will be mitigated by implementing a staff evaluation system⁵⁷ in the new Altamira Delegation to boost productivity and create incentives for change. The availability of financial resources was also identified as a medium risk for works sustainability; and the cost coverage ratio⁵⁸ (paragraph 3.8) will be monitored as a mitigation measure.

C. Special considerations

- 2.12 **Technical viability.** The works proposed for the projects in the cities comprising the sample (paragraph 2.3) were evaluated. Based on the technical viability analysis ([optional electronic link 2](#)), the projects are considered to adequately meet

⁵⁷ A Performance Management System similar to the system used in the delegations of Matagalpa and Jinotega will be implemented. This will enable the annual identification of professionals’ potential and areas for improvement.

⁵⁸ The measures of a potential action plan to ensure financial sustainability could include: (i) energy efficiency measures to save energy costs; (ii) measures to make repairs more efficient so as to lower operating costs; and (iii) gradual rate adjustment plan.

- the cities' needs and priorities in terms of the size and characteristics of the proposed works. Wastewater collection and treatment in Catarina, San Juan de Oriente, and Niquinohomo was concentrated in a single system. Similarly, for the cities of Tola and Wiwili, a set of four lagoons connected in a series was the chosen treatment alternative. This technology has the lowest investment and operating cost, and is the simplest operation and design best suited to the capacities of these cities. The final quality of the treated water would allow unrestricted reuse, even for irrigation, by complying with the most demanding fecal coliform parameters. Final disposal will be a flexible system in which wastewaters that are not intended for reuse will be filtered. The rate of reuse is expected to increase steadily as new users are added to the system.
- 2.13 The interventions affecting drinking water supply were designed to ensure a continuous supply and to achieve indicators that demonstrate management efficiency.
- 2.14 **Socioeconomic viability.** A cost-benefit evaluation was conducted on a sample of projects (paragraph 2.3). The evaluation includes an analysis of the cost-effectiveness of technological treatment alternatives. The economic benefits of the sanitation projects were quantified using the willingness-to-pay (WTP) values calculated using the contingent valuation methodology with data obtained from socioeconomic surveys between July and August 2017. The benefits of the drinking water projects were quantified using the mean cost of production and distribution of drinking water and the mean cost of repairs. The costs considered were incremental investment and O&M costs, valued excluding taxes and other charges (social prices). The results of the analysis show that the operation is viable, with an internal rate of return (IRR) above 12%. The analysis was supplemented with a sensitivity analysis ([optional electronic link 1](#)). For unevaluated projects, an analysis will be conducted using evaluation methodologies accepted by the Bank; and only socioeconomically viable projects will be eligible for financing.
- 2.15 **Ability to pay.** It was found that the monthly bill for the service represented less than 5% of family income among the beneficiary population, considering current ENACAL rates and a residential consumption of drinking water of 24 m³ per month. Moreover, ENACAL's rate schedule includes a social rate for poor and vulnerable populations.
- 2.16 **Financial viability.** The financial analysis of ENACAL was based on a review of financial statements and operating information for the last three years, together with financial projections based on the entity's assumptions. This analysis noted the following: (i) in recent years, ENACAL has been able to achieve better financial results, as reflected in the notable improvement in its EBITDA margin from -54.1% in 2014 to +8.1% in 2016; (ii) ENACAL may maintain the positive EBITDA margin for the projection period, covering AO&M costs with operating revenues; and (iii) the company has relied on government transfers to fund its investment program.
- 2.17 **Institutional viability.** The executing agency has been successively executing several Bank-financed programs, 1787/SF-NI, 2471/BI-NI, and GRT/WS-14822-NI. Its institutional capacity was reassessed through an ICAS update. This raised the executing agency's score compared to the 2014 assessment, and reports a medium level of development, which entails a medium risk for program execution

and subsequent works management. The project's Operating Regulations will be prepared. To strengthen its capacity for the management, administration, monitoring, and control of investment programs and projects, ENACAL is developing a Financial Management System, and the Bank plans to support its completion with technical cooperation funding (paragraph 2.8).

III. IMPLEMENTATION AND MANAGEMENT PLAN

A. Summary of implementation arrangements

- 3.1 **Borrower and executing agency.** The Republic of Nicaragua will be the borrower, and ENACAL will serve as executing agency, acting through its Project and Investment Division (GPI). The GPI will be responsible for fulfillment of the operation's objectives and management of the funds. The GPI reports hierarchically to the Executive Presidency and has the following units: Preinvestment Management, Project Execution, Monitoring and Control, Procurement, and Financial Management of Projects and Investments.
- 3.2 **Project Operating Regulations.** ENACAL will send the Bank evidence of the entry into force of the Operating Regulations, in accordance with the terms previously agreed upon with the Bank, including the following: (i) description of the program; (ii) execution arrangements; (iii) institutional framework, organization, and functions; (iv) processes and requirements for procurement execution; (v) financial management processes; (vi) eligibility criteria and prioritization of projects. It will also include the environmental and social requirements referred to in ESMR for monitoring and control; and (vii) socioenvironmental considerations, including compliance with the conditions specified in the program's ESMR and ESMF, which will be included as an annex to the Operating Regulations. **A special contractual condition precedent to the first loan disbursement requires the Operating Regulations to have entered into force, under terms previously agreed upon with the Bank,** as necessary to ensure project execution.
- 3.3 The following special contractual condition for execution will also apply: prior to the call for tenders of the first of the contracts envisaged under Component II (paragraph 1.25), the delegation for the geographical area currently covered by the "Altamira Branch" in Managua will have been formally established, and the Delegate appointed. This condition is necessary for interventions in that specific area.
- 3.4 **Eligibility criteria.** The projects to be financed will have the Bank's no objection and fulfill each of the following criteria, included in the Operating Regulations: (i) be located in neighborhoods of urban and periurban areas of intermediate municipios that do not have a sewer system and present levels of poverty higher than the national average; (ii) projects that are legally, technically, socially, environmentally, and financially viable; (iii) be socioeconomically viable in accordance with the methodologies accepted by the Bank; (iv) be classified as category B or C operations, according to the Bank's Operational Policy OP-703 and with the provisions of the ESMR ([required electronic link 3](#)); and (v) implement the technically and economically most cost-effective treatment solution.
- 3.5 **Procurement.** Procurement of works, goods, and consulting services financed with project funds will be carried out in accordance with the Bank's Policies for the Procurement of Works and Goods Financed by the Inter-American Development

Bank (document GN-2349-9) and the Policies for Selection and Contracting of Consultants Financed by the Inter-American Development Bank (document GN-2350-9). Procurement processes will be reviewed according to the method specified in Annex III and the procurement plan approved by the Bank.

- 3.6 **Advances of funds.** Disbursements will be made in the form of advances of funds based on actual liquidity needs for a maximum period of six months, in accordance with the investment schedule and the required flow of funds, as specified in the Financial Management Guide for IDB-financed Projects (document OP-273-6) and the Financial Management Operational Guidelines for IDB-financed Projects (document OP-274-2) as described in Annex III.
- 3.7 **Audit.** During the disbursement period, the project's and ENACAL's audited financial statements will be submitted annually within 120 days after each financial year-end and the project's statements within 120 days after the end of the disbursement period or extensions thereof. External audits will be performed by a firm of independent auditors acceptable to the Bank, in accordance with International Standards on Auditing (ISA). The project's annual financial statements will be prepared as part of the financial statements of the Comprehensive Water and Human Sanitation Sector Program in Nicaragua (PISASH) under terms of reference previously agreed upon with the Bank (Annex III).
- 3.8 **Financial sustainability.** To ensure the financial sustainability of ENACAL and W&S services in the targeted areas, the share of administration, operation, and maintenance costs that are covered by ENACAL's operating revenues will be monitored through the firm's audited financial statements. For this purpose, a special condition for execution will require the borrower to meet with the Bank and the executing agency on a date no later than 180 days following the Bank's request, if the audited financial statements show that income is insufficient to cover the administration, operation, and maintenance needs of ENACAL systems, in order to draw up a plan of action to make funding available to cover those costs at a minimum.

B. Summary of arrangements for monitoring results

- 3.9 Monitoring will be performed using the Bank's supervision instruments, including: the multiyear execution plan and the annual work plan ([required electronic link 1](#)), the procurement plan ([required electronic link 4](#)), the Results Matrix (Annex II), the PMR ([optional electronic link 5](#)) and the Risk Assessment. ENACAL will submit semiannual reports on the progress made, the results obtained, the ENACAL management indicators for Managua and the affected localities, and a plan of action for the next six months, within 60 days after the end of each six-month period.
- 3.10 The monitoring and evaluation arrangements include a data collection plan and its budget ([required electronic link 2](#)). ENACAL will be responsible for the monitoring and evaluation of the projects, for which it may contract independent consulting services as agreed upon with the Bank. During program execution, an independent midterm evaluation, to include environmental and social considerations, will be undertaken 36 months after the effective date of the program or when at least 60% of the loan proceeds have been disbursed, whichever occurs first. The final evaluation will be performed within 90 days after the date of the last disbursement,

and will include an evaluation of results and an ex post socioeconomic evaluation, taking into account the ex ante evaluation, but with possible adjustments, as detailed in the monitoring and evaluation plan ([required electronic link 2](#)). The evaluation report will be part of the project completion report.

Development Effectiveness Matrix		
Summary		
I. Corporate and Country Priorities		
1. IDB Development Objectives	Yes	
Development Challenges & Cross-cutting Themes	-Social Inclusion and Equality -Climate Change and Environmental Sustainability -Institutional Capacity and the Rule of Law	
Country Development Results Indicators	-Households with new or upgraded access to drinking water (#)* -Households with new or upgraded access to sanitation (#)* -Households with wastewater treatment (#)*	
2. Country Development Objectives	No	
Country Strategy Results Matrix		
Country Program Results Matrix		The intervention is not included in the 2017 Operational Program.
Relevance of this project to country development challenges (If not aligned to country strategy or country program)		This operation is consistent with the IDB Country Strategy with Nicaragua (2012-2017), which aims to deepen the dialogue with the country in the water and sanitation sector.
II. Development Outcomes - Evaluability	Evaluable	
3. Evidence-based Assessment & Solution	9.1	
3.1 Program Diagnosis	2.4	
3.2 Proposed Interventions or Solutions	4.0	
3.3 Results Matrix Quality	2.7	
4. Ex ante Economic Analysis	10.0	
4.1 The program has an ERR/NPV, a Cost-Effectiveness Analysis or a General Economic Analysis	4.0	
4.2 Identified and Quantified Benefits	1.5	
4.3 Identified and Quantified Costs	1.5	
4.4 Reasonable Assumptions	1.5	
4.5 Sensitivity Analysis	1.5	
5. Monitoring and Evaluation	6.6	
5.1 Monitoring Mechanisms	2.5	
5.2 Evaluation Plan	4.1	
III. Risks & Mitigation Monitoring Matrix		
Overall risks rate = magnitude of risks*likelihood	Low	
Identified risks have been rated for magnitude and likelihood	Yes	
Mitigation measures have been identified for major risks	Yes	
Mitigation measures have indicators for tracking their implementation	Yes	
Environmental & social risk classification	B	
IV. IDB's Role - Additionality		
The project relies on the use of country systems		
Fiduciary (VPC/FMP Criteria)	Yes	Financial Management: Budget, Treasury, Accounting and Reporting. Procurement: Information System, Contracting Individual Consultant.
Non-Fiduciary		
The IDB's involvement promotes additional improvements of the intended beneficiaries and/or public sector entity in the following dimensions:		
Gender Equality		
Labor		
Environment	Yes	The Program improves environmental and sanitary conditions by providing wastewater collection and treatment systems. Additionally, the institutional strengthening component seeks to reduce unaccounted-for water, reduce sumptuous consumption, and thus reduce irrational use of water resources.
Additional (to project preparation) technical assistance was provided to the public sector entity prior to approval to increase the likelihood of success of the project	Yes	Technical Cooperation NI-T1247 supported the design and implementation of two projects for the improvement and sustainable management of potable water and sanitation services in urban, peri-urban and rural areas (NI-L1145 and NI-L1143).
The ex-post impact evaluation of the project will produce evidence to close knowledge gaps in the sector that were identified in the project document and/or in the evaluation plan		

Note: (*) Indicates contribution to the corresponding CRF's Country Development Results Indicator.

The Project for the Improvement and Sustainable Management of Potable Water and Sanitation Services in Urban and Periurban Areas of Nicaragua seeks to improve the environmental and sanitary situation in urban and periurban areas of Managua by improving coverage and quality of water and sanitation services. To this end, it will carry out activities aimed at expanding and improving water and sanitation infrastructures, as well as improving the operational, technical and commercial management of the aqueduct and sewerage management company (ENACAL). Sanitation interventions focus on 11 peri-urban areas, where 8,000 households are expected to be benefitted. ENCAL's performance-enhancing interventions focus on Managua and peri-urban areas, where it is expected to improve the percentage of non-billed water and improve service continuity.

The project presents a cost-benefit analysis for a sample of localities that supports the economic viability of the proposed activities. The logical framework of the program presented in the loan proposal is consistent, covering inputs, products, results and impacts at the sanitary level. The document makes a diagnosis of the problems of sanitation coverage, and presents solid evidence of the effectiveness that sanitation programs have in health variables. However, it does not present evidence of the health situation of the population in the area of intervention. The results matrix includes indicators for the main outputs and outcomes of the program, although it is not intended to monitor final impacts. The indicators in the results matrix generally meet the SMART criteria, however, some output indicators are not specific.

ENACAL will be responsible for the monitoring and evaluation of projects under the supervision of the Bank. Monitoring and evaluation activities have been budgeted and planned. The sources of data for monitoring include progress reports, reports of fiscalization, inspection visits and management reports. The program does not plan to conduct an impact evaluation and will measure the attribution of its results through a retrospective analysis supported by the vertical logic of the program and evidence of program effectiveness found on the literature. An intermediate and a final performance evaluation is proposed, where the progress of the output and outcome indicators will be measured, and a socio-economic evaluation will also be included. In this sense, the M & E Plan would benefit from greater clarity in the description of the evaluation plan.

RESULTS MATRIX

Project objective	The program's general objective is to upgrade the drinking water and sanitation (W&S) services supplied by the Nicaraguan Water and Sewer Company (ENACAL) in urban and periurban areas of Managua and intermediate municipios. The specific objectives are to: (i) increase the coverage of sanitary sewerage and wastewater treatment in urban and periurban areas of intermediate municipios; (ii) improve the performance of drinking water services in Managua and intermediate municipios; and (iii) upgrade ENACAL's operational, technical, and commercial management (Altamira).									
Outcomes										
Outcome 1: Increased sanitation coverage in the targeted cities or neighborhoods										
Indicators	Unit of measure	Baseline	Baseline year	Year 1	Year 2	Year 3	Year 4	Year 5	End of project	Comments (CC) / Means of verification (MV)
Households with new or upgraded access to sanitation	Households	3,986	2017			5,000	7,500	12,200	12,200	New connections. Households actually connected to the sewer network are measured. Cumulative in all targeted localities. ¹ MV: ENACAL report.
Households whose wastewater is treated	Households	2,500	2017			3,100	6,700	12,200	12,200	New homes whose wastewater is discharged into a treatment plant. New access is measured. Cumulative of all interventions in the targeted localities. ¹ MV: ENACAL report.
Sewer system connection rate	%	32	2017			30	50	65	65	The proportion of households actually connected to the system is measured out of the universe of households in the targeted areas. ¹ The number of households with access to sanitation is directly related to the connection rate. MV: ENACAL onsite housing report.

¹ Moyogalpa, Altagracia, Catarina, San Juan de Oriente, Niquinohomo, San Juan del Sur, Tola, Corinto, Wiwili, Quilali, and Las Sábanas.

Outcome 2: ENACAL improves performance in Managua										
Proportion of water produced annually that is monitored	%	30	2016	30	60	85	95	95	95	Monitoring measures volume produced, pressures, and aquifer level. Monitored water produced / total water produced is calculated. MV: ENACAL report.
Non-revenue water in the Delegation of Altamira	%	54.9	2016		53	50	48	40	40	Proportion of water incorporated into the system that is not billed in the (annual) period. MV: ENACAL report.
Collection efficiency in the Delegation of Altamira	%	85.5	2016				88	90	90	Income from water and sewer services compared to billing (income includes period billing plus recovery of arrears). MV: ENACAL report.
Reduction in the number of breakdowns per year in the network and service drops in the Delegation of Altamira	Breakdown	3,185	2016			2,800	2,600	1,900	1,900	Breakdowns per km. MV: ENACAL report.
Effective micro-metering in the Delegation of Altamira	%	65	2016			80	85	90	90	Effective means that the meter records consumption with acceptable accuracy (measurement error less than 10% in nominal flow rate (Qn)). MV: ENACAL report.
Homes with continuous water service 24 hours per day in the Delegation of Altamira	%	83	2016			85	88	90	90	MV: ENACAL report.
Outcome 3: ENACAL improves performance in other cities¹										
Water system operated by ENACAL with non-revenue water less than 42%	System	0	2016					8	8	Proportion of water incorporated into the system that is not billed in the period. MV: ENACAL report.

Water system operated by a City Hall with unbilled water less than 45%	System	0	2016					3	3	Proportion of water incorporated into the system that is not billed in the period. MV: ENACAL report.
Continuity ² of water service in system operated by ENACAL	hours/day	To be measured Year 1					20	23	23	The baseline will be determined in year 1. MV: ENACAL reports
Continuity ² of the water service in a system operated by a City Hall	hours/day	To be measured Year 1					15	18	18	The baseline will be determined in year 1. City Hall reports.
Output – Physical planning										
Component I: Priority investments in urban and periurban sanitation										
Output	Unit of measurement	Associated outcome	Cost	Year 1	Year 2	Year 3	Year 4	Year 5	End of project	Comments/Mean of verification
Sewer systems constructed	Systems	1			1	2	3	3	9	In the targeted cities. ¹ The cities of Catarina, San Juan del Oriente, and Niquinohomo represent a single system. Sewer system constructed: set of infrastructures used to collect and transport wastewater, covering at least 75% of the population. MV: Certificates of works receipt and ENACAL report.

² Continuity means the average number of hours during which the households receive the service.

Wastewater treatment plants built and operating	Plants	1			1	2	2	3	8	<p>A treatment plant will be built in cities where a sewer system is to be constructed, except in San Juan del Sur.</p> <p>Built and operating: the plant treats 100% of the wastewater collected, and the quality of the effluent complies with the national standards (BOD and coliforms). Pueblos Blancos, Tola, Moyogalpa, Altagracia.</p> <p>MV: Certificate of works receipt and ENACAL report.</p>
Wastewater treatment plant rehabilitated	Plant	1					1	0	1	<p>San Juan del Sur. Considered rehabilitated when 100% of the collected wastewater is treated and the quality of the effluent complies with the national standard (BOD and coliforms).</p> <p>MV: Certificate of works receipt and ENACAL report.</p>
Water systems rehabilitated	System	3			1	4	3	3	11	<p>Systems of the targeted cities.¹</p> <p>System rehabilitated when it complies with the national drinking water quality and continuity standards.</p> <p>MV: Certificate of works receipt and ENACAL report.</p>
Output – Physical planning										
Component I: Priority investments in urban and periurban sanitation										
Output	Unit of measure	Associate d outcome	Cost	Year 1	Year 2	Year 3	Year 4	Year 5	End of project	Comments/Mean s of verification
Social intervention and behavioral change strategy validated for use of the sewer system	Strategy	1		1					1	MV: Document validated by the Bank and ENACAL.

Social intervention and behavioral change strategy implemented for use of the sewerage system	Strategy	1			1	1	1	1	4	MV: ENACAL reports.
Component II: Improvement of technical and commercial management and rapid impact works										
Output	Unit of measure	Associa- ted outcome	Cost	Year 1	Year 2	Year 3	Year 4	Year 5	End of project	Comments/Mean of verification
Macrometers installed in the Managua water production centers	Macrometer	2				51	20	14	85	Certificate of works receipt. ENACAL report.
Pressure measuring equipment installed in the Managua water production centers	Pressure meter	2				51	20	14	85	Certificate of works receipt. ENACAL report.
Aquifer level monitoring equipment installed for Managua	Level meter	2				80	20	20	120	Certificate of works receipt. ENACAL report.
Water production centers in Altamira connected to Scada in Managua	Production center	2					20		20	ENACAL report.
Infrastructures of the water production centers of Altamira, Managua, rehabilitated	Infrastructur e	2				45			45	MV: ENACAL report.
Electromechanical facilities rehabilitated in the water production centers of Altamira, Managua	Production center	2				45			45	Comment: rehabilitation means restoring the facilities to their original operational level. ENACAL report.
Pumps replaced in the water production centers of Altamira, Managua	Pump	2					10		10	Certificate of works receipt. ENACAL report.
Water level control equipment installed in water storage tanks in Altamira, Managua	Tank	2				8			8	Certificate of works receipt. ENACAL report.

Component II: Improvement of technical and commercial management and rapid impact works										
Output	Unit of measure	Associated outcome	Cost	Year 1	Year 2	Year 3	Year 4	Year 5	End of project	Comments/Mean of verification
Water storage infrastructure in Altamira, Managua rehabilitated	Property	2				8			8	Property is the land where the storage infrastructure is located, which is under the control of ENACAL. MV: ENACAL report.
Altamira, Managua water network sectorized	Sector	2					1		1	Sectorization refers to the creation of an independent distribution zone where pressure is controlled at one or more entry points. MV: Works receipt certificates. ENACAL report.
Geolocalized supply points, customer data and updated water measurement points of Altamira, Managua	Connection	2			42,000				42,000	MV: Database of Altamira supply points.
Altamira meter reading routes redesigned and implemented, Managua	Set of routes	2				1			1	MV: Meter reading route database redesigned.
Database of the Altamira network registry updated	CAD database	2					1		1	MV: CAD database.
Supply points rehabilitated in Altamira, Managua	Supply points	2				500	500	2,000	3,000	MV: ENACAL report.
Micrometers installed in Altamira, Managua	Micrometer	2				500	500	1,500	2,500	MV: ENACAL report.

Component II: Improvement of technical and commercial management and rapid impact works										
Output	Unit of measure	Associated outcome	Cost	Year 1	Year 2	Year 3	Year 4	Year 5	End of project	Comments/Mean of verification
Large consumers in Altamira with a standardized measuring point	Large consumer	2				100	150	150	400	Large consumers: the 400 Altamira customers with the highest average annual consumption. The standardization of supply points includes change of meter and hydraulic standardization of the measurement point. MV: ENACAL reports.
Delegation of Altamira created and equipped with infrastructures and equipment	Endowment	2		1					1	Delegation created: It is legally established. Equipped: with offices, vehicles, work tools. MV: ENACAL resolution.
The Altamira Delegation has a stock of repair materials	Stock	2					1		1	Stock means that the delegation has enough materials for three months' repairs of leaks in networks and connections. MV: Inventory of materials from the ENACAL-Altamira Delegation warehouse.
Update of the registry of drinking water networks and users of Altagracia, Moyogalpa, Catarina, San Juan de Oriente, Niquinohomo, Tola, San Juan del Sur, and Corinto	Database	3			5	3			8	MV: Database and CAD file.

Component II: Improvement of technical and commercial management and rapid impact works													
Output	Unit of measure	Associa- ted outcome	Cost	Year 1	Year 2	Year 3	Year 4	Year 5	End of project	Comments/Mean s of verification			
Altamira Delegation develops new procedures and is managed with an organizational chart, function records; an evaluation and performance system; up-to-date inventory management; micro-metering diagnosis and action plan; management of interventions and new business processes	Audit	2						1	1	MV: Administrative, financial, technical, and commercial management audit			
Outputs – Financial planning													
Component I: Priority investments in urban and periurban sanitation													
Output		Costs (US\$)		Year 1		Year 2		Year 3		Year 4		Year 5	
Sewer systems constructed		26,790,500		1,450,000		4,450,500		7,450,000		9,240,000		4,200,000	
Wastewater treatment plants built and operating		8,644,000		1,250,000		1,600,000		2,200,000		3,100,000		494,000	
Wastewater treatment plant rehabilitated		490,000		40,000		150,000		300,000					
Water systems rehabilitated		19,825,000		650,000		5,500,000		6,000,000		5,740,000		1,935,000	
Social intervention and behavioral change strategy validated for use of the sewer system		1,000		1,000									
Social intervention and behavioral change strategy implemented for use of the sewer system		199,000		75,000		70,000		40,000		14,000		0	
Component II: Improvement of technical and commercial management and rapid impact works													
Output		Costs (US\$)		Year 1		Year 2		Year 3		Year 4		Year 5	
Macrometers installed in the Managua water production centers		369,500		200,000		70,000		69,500		16,000		14,000	
Pressure measuring equipment installed in the Managua water production centers		84,300		45,000		20,000		15,000		2,300		2,000	

Aquifer level monitoring equipment installed for Managua	126,200	30,000	45,000	30,000	16,200	5,000
Water production centers in Altamira connected to Scada in Managua	604,000		150,000	250,000	200,000	4,000
Infrastructure of the water production centers of Altamira, Managua rehabilitated	320,000	60,000	200,000	60,000		
Electromechanical facilities rehabilitated in the water production centers of Altamira, Managua	75,000	35,000	15,000	15,000	10,000	
Pumps replaced in the water production centers of Altamira, Managua	166,500		120,000	30,000	16,500	
Water level control equipment installed in water storage tanks in Altamira, Managua	21,000	5,000	15,000	1,000		
Water storage infrastructure in Altamira, Managua rehabilitated	80,000	25,000	50,000	5,000		
Altamira, Managua water network sectorized	2,829,000	45,000	1,400,000	800,000	584,000	
Geolocalized supply points, customer data, and updated water measurement points of Altamira, Managua	98,000	30,000	68,000			
Altamira meter reading routes redesigned and implemented, Managua	20,000		15,000	5,000		
Component II: Improvement of technical and commercial management and rapid impact works						
Output	Costs (US\$)	Year 1	Year 2	Year 3	Year 4	Year 5
Database of the Altamira network registry, updated	50,000	10,000	20,000	15,000	5,000	
Rehabilitated connections in Altamira, Managua	1,200,000	100,000	200,000	300,000	300,000	300,000
Micrometers installed in Altamira, Managua	225,000		120,000	30,000	30,000	45,000
Large consumers in Altamira with a standardized measuring point	350,000			200,000	75,000	75,000
Delegation of Altamira created and equipped with infrastructures and equipment	1,423,000	200,000	1,000,000	223,000		
The Altamira Delegation has a stock of repair materials	500,000				500,000	

Update of the registry of drinking water networks and users of Altagracia, Moyogalpa, Catarina + San Juan de Oriente + Niquinohomo, Tola, San Juan del Sur, Corinto	128,000		40,000	88,000		
Altamira Delegation develops new procedures and is managed with an organization chart, function records; an evaluation and performance system; up-to-date inventory management; micro-metering diagnosis and action plan; management of interventions and new business processes	1,530,000		250,000	1,000,000	280,000	

FIDUCIARY AGREEMENTS AND REQUIREMENTS

Country: Nicaragua

Project number: NI-L1145

Name: Project for the Improvement and Sustainable Management of Drinking Water and Sanitation Services in Urban and Periurban Areas

Executing agency: Nicaraguan Water and Sewer Company (ENACAL)

Prepared by: Santiago Castillo and Jorge Seigneur (FMP/CNI)

I. EXECUTIVE SUMMARY

- 1.1 The executing agency will be ENACAL, an entity established under public law with its own legal status and capital, tasked with supplying drinking water services—including the processes of collection, production, treatment, conveyance, storage, distribution, marketing—and sanitary sewer services.
- 1.2 Nicaragua's fiduciary management of procurement is currently being improved, so it is important to maintain ongoing efforts to promote various actions to align with international best practices and the Bank's policies in this area.
- 1.3 The Fiduciary Agreements and Requirements for the program are based on the Institutional Capacity Assessment System (ICAS) report, which yielded broadly satisfactory development results and a medium risk level. ENACAL has satisfactorily executed Bank projects in the past and is currently executing two operations—GRT/WS 14822-NI and ATN/MA-14927-NI.
- 1.4 On financial management, although the entity has experience with Bank projects, its administration and control capacity will be strengthened; and the Bank will provide training based on document OP-273-6.

II. THE EXECUTIVE AGENCY'S FIDUCIARY CONTEXT

- 2.1 ENACAL was created under Law 276 as a national public utility, tasked mainly with providing the drinking water service. It is covered by Law 550 on financial management and the budget system, which governs public-sector financial management using the following subsystems: budget, treasury, accounting, and internal and external control. This law makes the government entities responsible for their own financial management, regulated by the Ministry of Finance (MHCP).
- 2.2 ENACAL's Procurement and Imports Division reports to the Financial Management Division, which manages the procurement required by the entity and its projects.
- 2.3 To streamline contracting and procurement processes in ENACAL projects, a procurement unit reporting to the Projects and Investments Division (GPI) will be used.

- 2.4 The most recent ex post review of the Bank's complex procedures found that these were being implemented with minimal errors. The review shows that the reviewed procurement is generally in line with the Bank's procurement policies and procedures.
- 2.5 For financial management, the executing agency uses the SIGFA and SIGFAPRO integrated system with the following subsystems: budget, treasury, accounting, and reporting required by the Bank. The Nicaraguan government is currently developing a new integrated financial management system (SIGAF), which will incorporate the following: (i) the MHCP's own applications for recording and rendering of accounts involving public funds; (ii) the functions needed for the management of public institutions; (iii) results-based budgeting; and (iv) administrative management of the institutions through complete transactional cycles, automatically generating public finance statistics. Once operational, program data will be migrated to this system.

III. FIDUCIARY RISK EVALUATION AND MITIGATION ACTIONS

- 3.1 ENACAL's procurement units display a medium risk level (according to the ICAS). Recommended actions to improve shortcomings in administrative technical capacity are as follows: (i) update the procurement procedures applicable to each procurement method, assigning responsibilities at each stage, including the quality of the documents used and the required deadlines; (ii) update the model bidding documents used, ensuring the contractual conditions are consistent with the nature and complexity of the contract, with an equitable distribution of the risks and responsibilities; (iii) guarantee the safekeeping and filing of all documentation of payments made, communications between the parties, and any other document; (iv) expand the space for the safekeeping and security of the documentation on procurement and imports; (v) maintain files with documentation duly coded in sequential order; (vi) include issues of conflict of interest applicable to the staff of the Procurement and Imports Division in the code of ethics, and ensure the prohibitions published on the SISCAE portal are applied; and (vii) the Bank will provide continuous advisory support and monitoring to those responsible for the procurement plan management system (SEPA) in the executing agency.
- 3.2 On financial management, the risk level is also medium (according to the ICAS). The following mitigation measures are recommended to improve the shortcomings in administrative technical capacity: (i) finalize the organization's manuals, functions, processes, and procedures, including planning, monitoring, and administration issues; (ii) prepare and implement safeguard regulations to certify the knowledge and understanding of personnel involved in financial management and procurement control activities, manuals, regulations and instructions of the GPI's project and investment financial management unit (UAFPI-GPI); (iii) ENACAL will design profiles and terms of reference for the selection and hiring of the staff needed for program execution; and (iv) training in financial management and procurement for UAFPI-GPI staff.

IV. CONSIDERATIONS FOR THE SPECIAL PROVISIONS OF THE CONTRACT

- 4.1 The following special provisions are recommended for consideration in the loan contract:
- 4.2 A condition precedent to the first disbursement: entry into effect of an agreement for transferring nonreimbursable resources between the borrower and the executing agency, for the transfer of loan proceeds and the local contribution to ENACAL, and agreement on the executing agency's execution obligations.
- 4.3 As execution conditions to avoid exchange losses, it is recommended to use the exchange rate currently prevailing in the beneficiary's country when the funds were converted from foreign currency to córdoba by the executing agency (option b (1) of the General Conditions of the loan contract) and to determine the equivalence of expenditures incurred in córdobas paid from the local contribution or for reimbursement of expenditures, the rate will be the one prevailing on the date the payments are actually made; and
- 4.4 Presentation of audited financial statements for the project and for ENACAL within the disbursement period and within 120 days following the end of each calendar year, and, with respect to the project's financial statements, final statements within 120 days after the last disbursement, pursuant to terms of reference agreed upon with the Bank.

V. AGREEMENTS AND REQUIREMENTS FOR PROCUREMENT EXECUTION

A. Procurement execution

- 5.1 The fiduciary agreements and requirements for procurement specify the provisions applicable to all procurement processes envisaged under the project.
- 5.2 Procurement processes will abide by the Policies for the Procurement of Goods and Works Financed by the Inter-American Development Bank (document GN-2349-9) and the Policies for the Selection and Contracting of Consultants Financed by the Inter-American Development Bank (document GN-2350-9), both of March 2011.
- 5.3 Of the country subsystems approved by the Bank, the information system will be used.
 - a. **Procurement of works, goods, and nonconsulting services.** Contracts for works, goods, and nonconsulting services arising under the project and subject to International Competitive Bidding (ICB) will be executed using the Standard Bidding Documents (SBDs) issued by the Bank. Procurement subject to National Competitive Bidding (NCB) will use National Bidding Documents agreed upon with the Bank. The technical specifications of the procurements will be reviewed by the project's sector specialist during the preparation of selection processes.
 - i. Procurement of Information Technology systems: Not applicable.
 - ii. "Turnkey" procurement (supply and installation): Not applicable.

- b. **Selection and contracting of consulting services.** Consulting services to be contracted under the project will use the Standard Request for Proposals (SRP) issued by or agreed upon with the Bank. The terms of reference for the contracting of consulting services will be reviewed by the project's sector specialist.
 - c. **Selection of individual consultants.** There will be cases in which individual consultants may be contracted using local or international advertising to draw up a shortlist of qualified individuals. Training is not applicable.
 - d. **Use of the country procurement system.** The SISCAE national procurement subsystem, approved by the Bank, will be used to issue calls for expression of interest and/or bids. Any system or subsystem that is subsequently approved will be applicable to the operation. Strengthening measures: personnel with procurement experience will be hired to support the project's activities under terms of reference approved by the Bank; and the selected consultant will have the Bank's no objection.
 - e. **Recurrent costs.** This category includes recurrent or operational expenses needed for the project's operations during execution, included in the annual budget approved by the Bank. They will be executed under the executing agency's administrative procedures, which have been reviewed and accepted by the Bank, provided they do not violate the fundamental principles of competition, efficiency, and economy.
 - f. Commercial practices: not applicable.
 - g. Advance procurement/retroactive financing: not applicable.
 - h. National preference: not applicable.
- 5.4 **Other requirements.** Prior to bidding process for each of the treatment works, ENACAL will submit evidence that it holds ownership and/or possession rights for the land where the respective works will be built.

Table 1. Thresholds for International Bidding and International Shortlist (US\$ thousand)

Method	ICB – works	ICB – goods and nonconsulting services	International shortlist for consulting services
Threshold	>1,500	>150	>200

Table 2. Main Procurement Processes

Activity	Selection method	Estimated date of tender/ invitation	Estimated amount US\$
Goods			
Purchase of micrometers	ICB	QI 2019	212,500
Works			
Water and sewer works in Pueblos Blancos	ICB	QIII 2018	10,000,000
Nonconsulting services			
Firms			
Final designs and supervision of sanitary sewer works	QCBS	QI 2018	1,435,000
Individuals			
Specialized technical assistance on condominial sanitation	NICQ	QIII 2018	200,000
Hydraulic modeling	IICQ	QIII 2018	90,000
Infrastructure diagnostic	IICQ	QI 2018	35,000

B. Procurement supervision

Table 3. Thresholds for Ex Post Review

Threshold for Ex Post Review			
Works	Goods	Consulting services	
		Consulting firms	Individual consultants
US\$150,000	US\$25,000	US\$200,000	US\$10,000

- 5.5 Procurement will be subject to ex ante review in accordance with the provisions of the procurement plan. The supervision method will be determined for each selection process. Ex post reviews will be conducted every six months in accordance with the Project Supervision Plan. The thresholds defined for ex post review are applied on the basis of the executing agency's fiduciary capacity and can be altered by the Bank to the extent that such capacity changes.
- 5.6 **Special provisions.** To reduce the chances of corruption: (i) comply with the provisions contained in documents GN-2349-9 and GN-2350-9 on prohibited practices and the ineligibility of companies and individuals; and (ii) other special procedures: not applicable.
- 5.7 **Records and files.** The procurement unit will appoint a person to be responsible for this activity and have an area for the safekeeping and registration of documentary evidence on payments made to suppliers and contractors. Physical files must be kept for at least three years. The project will use the formats or procedures that have been agreed upon and described in the Operating Regulations.

VI. FINANCIAL MANAGEMENT AGREEMENTS AND REQUIREMENTS

A. Programming and budget

- 6.1 The country system governed by the law on financial management and the budget system and the provisions of the National Public Investment System is used; following the national budget approval cycle overseen by the MHCP. ENACAL will secure an annual budget allocation sufficient to cover each year's execution commitments. The program will use SIGFAPRO as a financial/accounting system for financial record-keeping. If there is any change or improvement in the SIGFA/SIGFAPRO project management module, it will automatically be migrated to that system.

B. Disbursement management and cash flow

- 6.2 The Bank's disbursements to the borrower and executing agency will be made to the MHCP's Single Treasury Account at the Central Bank of Nicaragua, and there will be a financial control account for the program. Accounts in commercial banks may also be used for project operations. The advance of funds modality for a maximum of six months will be used, according to the project's liquidity needs; and at least 80% of funds previously advanced must be justified before a new advance can be processed.
- 6.3 Needs will be agreed upon between the executing agency and the Bank, in accordance with the financial plan with the costs of activities programmed in the annual work plan and aligned with multiyear execution plan and procurement plan. The rendering of accounts for advances of funds will be made in accordance with document OP-273-6, and documentation supporting the disbursements will be sent to the Bank electronically.

C. Accounting and financial reports

- 6.4 Financial statements for the project and the entity must be issued in accordance with International Accounting Standards accepted by the Bank in its Financial Management Policy (document OP-273-6); and they will be audited annually by an independent firm eligible to the Bank. The SIGFAPRO system will be used to keep the project's financial accounting records.

D. Internal control and internal audit

- 6.5 The executing agency's internal control system has certain weaknesses for which regulations should be prepared and implemented to certify its staff's knowledge and understanding; if possible, the internal audit unit is expected to review project execution at all stages, especially the monitoring of external audit control observations.

E. External control: project reports

- 6.6 As the Comptroller General's Office (CGR) is currently not eligible to audit Bank projects, the executing agency will have to contract an eligible independent audit firm.
- 6.7 The external audit reports for the project and ENACAL will be submitted on the dates specified in paragraph 4.4 above, observing the International Standards on

Auditing, and for the audit of the financial statements, a firm eligible to the Bank will be hired pursuant to its procedures.

F. Project financial supervision

- 6.8 The program will be financially monitored on the basis of unaudited financial reports, although it is the responsibility of the executing agency to monitor and control operations in a centralized or decentralized manner. The following actions will be implemented: (i) a launch workshop will be held to train program staff on the regulatory instruments for fiduciary management; (ii) financial accounting visits will be carried out to verify the progress of project execution; and (iii) disbursement requests will be subject to ex post review by Bank staff and the external auditor.

DOCUMENT OF THE INTER-AMERICAN DEVELOPMENT BANK

PROPOSED RESOLUTION DE-___/17

Nicaragua. Loan ____/BL-NI to the Republic of Nicaragua
Project for the Improvement and Sustainable Management
of Drinking Water and Sanitation Services in
Urban and Periurban Areas

The Board of Executive Directors

RESOLVES:

That the President of the Bank, or such representative as he shall designate, is authorized, in the name and on behalf of the Bank, to enter into such contract or contracts as may be necessary with the Republic of Nicaragua, as Borrower, for the purpose of granting it a financing to cooperate in the execution of the project for the improvement and sustainable management of drinking water and sanitation services in urban and periurban areas. Such financing will be chargeable to the Bank's Ordinary Capital (OC) resources in the following manner: (i) up to the amount of US\$28,800,000, subject to concessional financial terms and conditions ("Concessional OC"); and (ii) up to the amount of US\$43,200,000, subject to financial terms and conditions applicable to loan operations financed from the Bank's regular program of OC resources ("Regular OC"), as indicated in the Project Summary of the Loan Proposal, and subject to the Special Contractual Conditions of said Project Summary.

(Adopted on ____ 2017)