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PARAGUAY

CONDITIONAL CREDIT LINE FOR INVESTMENT PROJECTS (CCLIP) FOR THE WATER AND SANITATION PROGRAM FOR METROPOLITAN ASUNCIÓN

(PR-O0005)

FIRST LOAN WATER AND SANITATION PROJECT FOR METROPOLITAN ASUNCIÓN – LAMBARÉ WATERSHED

(PR-L1172)

LOAN PROPOSAL

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ABBREVIATIONS

BOD5	Biochemical oxygen demand
CCLIP	Conditional Credit Line for Investment Projects
DAPSAN	Dirección de Agua Potable y Saneamiento [Water and Sanitation Department]
DGEEC	Dirección General de Estadísticas, Encuestas y Censos [General Bureau of Statistics, Surveys, and Censuses]
ERSSAN	Ente Regulador de Servicios Sanitarios [Sanitary Services Regulatory Authority]
ESSAP	Empresa de Servicios Sanitarios del Paraguay [Sanitary Services Company of Paraguay]
FONPRODE	Fondo para la Promoción del Desarrollo [Development Promotion Fund]
ICB	International competitive bidding
LIBOR	London Interbank Offered Rate
MOPC	Ministerio de Obras Públicas y Comunicaciones [Ministry of Public Works and Communications]
NRW	Nonrevenue water
PCU	Project coordination unit
PNAPS	Plan Nacional de Agua Potable y Saneamiento [National Water and Sanitation Plan]
SCPP	Sistema de Contrataciones Públicas de Paraguay [Public sector procurement system of Paraguay]
SIAF	Sistema Integrado de Administración Financiera [Integrated Financial Management System]
SICO	Sistema de Contabilidad [Integrated Accounting System]
tCO_2e	Tons of carbon dioxide equivalent
WWTP	Wastewater treatment plant

PROJECT SUMMARY
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Financial Terms and Conditions					
Borrower:				**Flexible Financing Facility**[a]	
Republic of Paraguay				**Amortization period:**	24 years
Executing agency:				**Disbursement period:**	6 years
The borrower, through the Ministry of Public Works and Communications (MOPC)				**Grace period:**	6.5 years[b]
Source	**Amount (US$ millions)**		**%**	**Interest rate:**	LIBOR-based
	CCLIP	**First operation**			
IDB (Ordinary Capital):	250	105	63.7	**Credit fee:**	[c]
Development Promotion Fund (FONPRODE):[d]		60	36.3	**Inspection and supervision fee:**	[c]
				Weighted average life:	15.25 years
Total:	250	165	100.0	**Approval currency:**	United States dollar

Project at a Glance

Project objective/description: The objective of the Conditional Credit Line for Investment Projects (CCLIP) is to help expand sanitary sewer service coverage and improve the quality of drinking water service in the Asunción metropolitan area. The specific objectives of the first operation are to: (i) help expand sanitary sewer service coverage in the Lambaré wastewater treatment plant's area of influence; (ii) reduce pollution in the receiving bodies of water through proper treatment and disposal of effluents; (iii) enhance the operating and financial efficiency of water management; (iv) build institutional capacity to improve service provision; and (v) contribute to the greenhouse gas emissions reduction target of Paraguay's nationally determined contribution.

Special contractual conditions precedent to the first disbursement of the loan: (i) establishment of the project coordination unit, appointing and/or hiring the staff specified in paragraph 3.1; (ii) approval and entry into effect of the project Operating Regulations (optional link 6), under the terms previously agreed upon with the Bank; and (iii) signing of an interagency agreement between the MOPC and the Sanitary Services Company of Paraguay (ESSAP), under the terms set out in paragraph 3.3.

Special contractual conditions for execution: (i) prior to awarding each of the project's works, the MOPC will present evidence, to the Bank's satisfaction, that: (1) the land is legally available; (2) the relevant environmental permits have been obtained; and (3) the agreements between the MOPC and the beneficiary municipios have been signed; and (ii) within two years of the entry into effect of the loan contract between the Bank and the borrower, evidence will be presented, to the Bank's satisfaction, that the connectivity strategy agreed upon by the MOPC, ESSAP, and the Sanitary Services Regulatory Authority (paragraph 3.5) has entered into effect. See special contractual conditions in Annex B of the environmental and social management report (required link 3).

Exceptions to Bank policies: None.

Strategic Alignment						
Challenges:[d]	SI	☑	PI	☑	EI	☑
Crosscutting themes:[e]	GD	☑	CC	☑	IC	☑

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

[b] Under the flexible repayment options of the Flexible Financing Facility, changes to the grace period are permitted provided that they do not entail any extension of the original weighted average life of the loan or the last payment date as documented in the loan contract.

[c] 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.

[d] Joint cofinancing under the framework agreement between the Bank and the Kingdom of Spain, signed 1 April 2017. FONPRODE declared this cofinancing eligible on 19 October 2019; it is expected to be approved by the third quarter of 2020 (paragraph 2.1).

[e] SI (Social Inclusion and Equality); PI (Productivity and Innovation); and EI (Economic Integration).

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

I. Description and Results Monitoring

A. Background, problem addressed, and rationale

1.1 **Regional and local context.** The Asunción metropolitan area is located just west of Paraguay's eastern region and borders Argentina along the Paraguay River. According to the General Bureau of Statistics, Surveys, and Censuses (DGEEC), it has a population of 2,160,000 (30% of the country's total) distributed among 10 municipios (Asunción and nine others[1]) and a surface area of 807 square kilometers. Metropolitan Asunción is the country's most densely populated area and its most productive: in socioeconomic terms, approximately half the country's GDP is concentrated there. Argentina and Paraguay share the Paraguay River watershed, one of the most important regional development and integration corridors of the Southern Cone.

1.2 **Access to sanitary sewer service has not increased equitably.** In the past few decades, the population of metropolitan Asunción has grown at an annual rate of 7%, which is above the national average. Despite the area's increasing relevance both in economic terms and as a population center, access to sanitary sewer service has not expanded at the same pace—and even less so for the poor. According to the Sanitary Services Regulatory Authority (ERSSAN), only 30% of metropolitan Asunción has access to sanitary sewer service, meaning that over 1.5 million inhabitants use alternative solutions like cesspits and/or septic tanks to dispose of their wastewater. Due to poor maintenance,[2] many of these wastewater solutions leak into and pollute the Patiño Aquifer,[3] or wastewater is discharged into the nearest pathways or bodies of water. There are significant geographic disparities in access to sanitary sewer services across metropolitan Asunción. According to data from the 2018 Permanent Household Survey published by the DGEEC, 81.8% of Asunción has access to a sanitation solution whereas only 67.6% has access to these solutions in the rest of the metropolitan area.[4] Furthermore, 66.4% of Asunción has sanitary sewer service coverage, whereas coverage is only 7.3% in the rest of metropolitan Asunción. This inequality is also apparent by income quintile in both Asunción and the metropolitan area. There is a 38.9-percentage-point gap in coverage between the first (poorest) and fifth quintiles in Asunción, which have 36.1% and 75.01% coverage, respectively. The gap is 10.4 percentage points in the rest of the metropolitan area (2.8% and 13.2%, respectively). Specifically, only 6% of households in the Lambaré watershed are estimated to have sanitary sewer service coverage. In the areas of metropolitan Asunción that do have sanitary sewer service, only the downtown area of San Lorenzo and a minor watershed of Lambaré have effluent treatment systems, meaning that most of the wastewater collected is discharged untreated into the Paraguay River from 15 discharge points, five of which are underwater and the

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1 Metropolitan Asunción is formed by Asunción, Lambaré, San Lorenzo, Luque, Fernando de la Mora, Mariano Roque Alonso, Villa Elisa, Ñemby, Limpio, and San Antonio.

2 Failure to periodically remove sludge and waterproof wells.

3 This aquifer serves as the water source for over one million people. One study has identified the poor management of urban wastewater as one of the main causes behind the nitrate pollution affecting its quality. Arrabal, M., and M. Álvarez, 2019. IDB.

4 According to the 2018 Permanent Household Survey, in Lambaré 6% of households have access to networks, 63% use a septic tank and cesspit, 29% only a cesspit, and less than 2%, latrines.

rest discharge into the river or streams, adversely impacting the receiving bodies of water and the health of the population.

1.3 **In metropolitan Asunción, piped water service coverage is relatively extensive, but there are problems with continuity, pressure, and efficiency.** All told, 85% of metropolitan Asunción has piped drinking water service.[5] Of that percentage, nearly 55% of the population is served by the Sanitary Services Company of Paraguay (ESSAP), whose water production capacity is 416,000 cubic meters per day (2015). However, on extremely hot days, water use can reach 470,000 cubic meters per day, resulting in intermittent service[6] and network pressure problems. Moreover, the network has high levels of losses;[7] according to an ESSAP hydraulic assessment of the municipio of Lambaré,[8] the nonrevenue water (NRW) rate is 44.6%,[9] 34.1% of which is due to physical losses (leaks in tanks and in the network) and 10.5% to commercial losses (unauthorized consumption and individual metering and data management errors).

1.4 The poor coverage and quality impact the provision of water and sanitation services, are indicators of exposure to health risks, especially for the poor,[10] and consequently, affect quality of life. This is particularly significant due to the positive correlation[11] between environmental quality,[12] health,[13] and access to water and sanitation services. Interventions that narrow gaps in access (paragraph 1.22) to water and sanitation—with proper wastewater disposal and good hygiene practices—reduce the probability that infections will spread and decrease gastrointestinal infections and morbidity and mortality, especially in children. Improved health has a direct impact in terms of better academic performance (due to fewer absences and students' increased capacity for acquiring knowledge) and greater productivity, which in turn lead to access to better job opportunities, higher incomes, and improved quality of life,[14] contributing to countries' overall poverty reduction, economic growth, and development.[15]

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5 Calculations based on ERSSAN data.

6 Service intermittence can affect water quality. Nelson, K. and J. Erickson, 2016.

7 According to the 2018 Annual Report of the Regional Benchmarking Working Group of the Association of Regulators of Water and Sanitation of the Americas (ADERASA), in December 2017, for a sample of Latin American companies similar in size to ESSAP, the NRW rate was 41.09%, where 30% is considered good management and 50%, poor.

8 Evaluation of the effectiveness of the measures to reduce NRW. Latin Consult, 2017.

9 Similar to the figure reported by ESSAP (47.9%) as a baseline in its 2015-2017 management contract.

10 Based on the DGEEC 2018 poverty line and the average monthly income of the urban population, 13.28% of the population of the project area of influence can be considered poor.

11 Documented in numerous studies, such as the ones summarized by Brenneman, et al. (2002).

12 Rodríguez-Jeangros, et al. (2018) model the effect of wastewater treatment on the quality of the Bogotá River.

13 The probability of contracting waterborne diseases decreases when water and sanitation services are in place, with direct effects on a reduction in child mortality, as shown in studies by Wagstaff and Claeson (2004); Schady (2015); and Galiani, S., P. Gertler, and E. Schargrodsky (2003).

14 World Bank (2013). Impact Evaluation for Infrastructure. General Guidance and Existing Evidence.

15 Agénor, Pierre Richard (2013): Public Capital, Growth and Welfare. Analytical Foundations for Public Policy. Princeton University Press.

1.5 In response to the COVID-19 pandemic, the Paraguayan government has enacted the COVID-19 Emergency Act, which includes deferral of payment for ESSAP services and the transfer of funds to the utility from the national budget to capitalize and keep it operating. This action was taken in response to the United Nations warning that universal access to water, sanitation, and hygiene services will be critical to stopping the COVID-19 pandemic.[16] The risks facing service operators during the COVID-19 crisis are as follows: (i) operations may be discontinued (e.g. due to absenteeism or lack of supply), which can be mitigated by implementing contingency plans; (ii) shortages of water, sanitation, and hygiene services in vulnerable areas (periurban neighborhoods), which can be mitigated by strengthening the provision of services to those areas (e.g. installation of water tanks and use of water tankers trucks); and (iii) weakened financial capacity of operators due to an increase in unpaid utility bills as users lose sources of income, which can be mitigated with the transfer of fiscal resources.

1.6 **Service management provides opportunities to improve efficiency.** Service management deficiencies can be attributed to such factors as the lack of planning and low level of investment observed in recent decades,[17] which limit the capacity for expanding services, in particular water and sanitation coverage,[18] and have hampered drinking water production, leading to rationing during the summer months. Due to the lack of an asset management system and the resulting insufficient program of maintenance, service infrastructure has become obsolete. Using the AquaRating tool, ESSAP identified the following areas for improvement, in addition to NRW: (i) business management, given the lack of a customer management system that would enable the company to monitor the business cycle by user type and facilitate actions to improve metering, invoicing, and collection;[19] (ii) asset management, due to the lack of an infrastructure registry that could be used to assess the condition of service infrastructure and generate a plan for its maintenance and replacement; and (iii) investment planning, given the lack of a methodology for identifying and prioritizing investments that entail lower investment and operation and maintenance costs. Lastly, ESSAP's corporate governance framework should be strengthened, especially through the implementation of citizen participation and accountability mechanisms to monitor and implement services (paragraph 1.14).

1.7 **Gender and disability at ESSAP.** The company has 2,265 employees, of which 77% are male and 23% female. Of the 305 employees in management, coordination, and leadership positions, 120 (39.3%) are women. Consequently, ESSAP does have a gender gap, although not quite as wide as the regional average for the sector (20% of such positions held by women). The company's widest gender gap is in operations and maintenance positions (e.g. operators, crews, and meter readers), in which of 731 employees, 99.7% are men and only 0.3% women—two meter readers (optional link 9). With respect to persons with

16 United Nations, Mexico. *Enfermedad por el Coronavirus*.

17 *Primer Informe de Gestión*. September 2019, ESSAP.

18 From 2013 to 2018, ESSAP added 21,681 water and sanitation connections (a 15.1% increase), but national coverage barely rose 1%. ERSSAN, 2019.

19 ESSAP has individual metering coverage of 66%. Although invoicing levels surpass 95%, the error rate is estimated to be 5%, and collection is around 95%.

disabilities, because ESSAP is a decentralized public entity it is governed by Law 2,479-2004 and Decree 6,369/11, which set a quota of job opportunities for persons with disabilities of no less than 5%. At present, barely 1.3% of employees (29 persons) have some type of disability (39% physical, 29% multiple, 18% intellectual, 7% visual, and 7% hearing),[20] and ESSAP does not have an inclusion plan in place.[21]

1.8 **While adequate, the institutional framework needs strengthening.** The water and sanitation sector regulatory framework[22] establishes that the Ministry of Public Works and Communications (MOPC) will develop sector policies through the Water and Sanitation Department (DAPSAN), and that ERSSAN will regulate and supervise operators. It also establishes that MOPC owns the services and can provide them through ESSAP, delegate them, award them as concessions, or issue permits to third parties. ESSAP is metropolitan Asunción's primary service operator, providing water service to 226,000 households and sewer service to 126,000. The rest of the population either provides its own services or receives them from among 300 operators, including sanitation boards established and supported by the National Environmental Sanitation Service, neighborhood committees, and private operators. In the Lambaré watershed, there are 15 service operators in addition to ESSAP (14 for water and 1 for sewer service).[23]

1.9 The sector's development has been shaped by two key events, the conceptualization, design, and implementation of which were supported by the Bank: the reform and modernization of the sector in 2000; and the establishment of DAPSAN a decade later through technical-cooperation operation ATN/WP-12156-PR. While these milestones represent significant progress in terms of structuring the sector, challenges still remain, including: (i) raising the hierarchical status of the sector's policy and regulatory authority; (ii) bringing competencies into alignment and strengthening its steering, regulatory, and executing agencies; (iii) establishing a financial policy for the sector that will guarantee a constant, sufficient flow of resources over the long term; and (iv) achieving regional provision of services and agglomerating the service operator market, taking advantage of economies of scale.

1.10 **Investment needs and strategy for the provision of water and sanitation services in metropolitan Asunción.** To expand water and sanitation services, improve their efficiency,[24] and meet future drinking water demand, ESSAP prepared, in 2012, an updated master plan for sanitary sewer services and water treatment in metropolitan Asunción, a study that identified projects, actions, and infrastructure and administrative management needs in an investment plan with a 30-year horizon. The updated sanitation master plan establishes that a total investment of US$518 million would be needed to expand and rehabilitate the sewer mains and build three pumping stations and nine wastewater treatment

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20 Employee payroll, open data Civil Service Ministry (SFP).

21 Employment of persons with disabilities, Civil Service Ministry.

22 Law 1,614 of 2000 and Decree 5,516 of 2010.

23 Some 70% of service operators in the Lambaré watershed serve fewer than 1,000 users, leading to poor efficiency and variable service quality. In some areas, there may be more than one operator for the same delivery area.

24 Effectiveness of loss control interventions found in Da Silva, N. (2008) and in Rizzo, A. et al. (2004).

plants needed to universalize these services and collect and treat 100% of metropolitan Asunción's wastewater.[25] Specifically, the Lambaré system will require an expansion of the sanitary sewer network and the construction of a wastewater treatment plant. In addition, the latter will need to be connected to the sanitary sewer networks of the Universidad Católica, Tacumbú, Mallorquín, Sajonia, Antequera, Lagerenza, San Antonio, Grau, Alférez Silva, and Comandante Gamarra watersheds (approximately 132,000 residents currently have sanitary sewer service).

1.11 Given that improving water service quality is one of the most important issues facing metropolitan Asunción, the Comprehensive Plan for Reducing NRW was developed.[26] ESSAP will pilot this plan in the Lambaré watershed; it includes: (i) development of an online information and monitoring system[27] through an integrated platform, to include new infrastructure, newer technologies, and more efficient applications; (ii) hydraulic optimization (pressure control and replacement of networks); and (iii) installation of new meters. The results obtained in the pilot will potentially be expandable to other sectors of metropolitan Asunción. At the institutional level, an ESSAP improvement plan includes actions to strengthen the company's business and asset management. The interventions planned in this project were prioritized in the updated master plan.[28]

1.12 **Government strategy.** In 2018, the Paraguayan government approved the National Water and Sanitation Plan (PNAPS), which establishes the following priorities and strategies for universalizing water and sanitation services and modernizing the sector: (i) institution-strengthening and reorganization; (ii) financial and subsidiary regulation; (iii) universalization of services and sustainability of water and sanitation systems. This operation is aligned with the aforementioned plan and is one of the priority strategic projects for increasing water and sanitation coverage. It also finances nonstructural interventions (paragraph 1.23) to improve services management and foster their financial and operational sustainability.

1.13 **Intervention strategy.** Given the substantial financing needs identified in the updated master plan for promoting universal, fair, and quality access to water and sanitation services in metropolitan Asunción (paragraph **Error! Reference source not found.**), improving the capacity for planning and progressively executing the investments, and strengthening the institutions of the sector and improving their efficiency, a CCLIP is proposed as a financing mechanism to support the development of water and sanitation services in metropolitan Asunción over the medium and long term. In addition to financing for infrastructure and for strengthening the institutions and sector, the project includes activities for

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[25] Resources from operations 3393/OC-PR and 3394/BL-PR are being used to finance the first two Asunción wastewater treatment plants (Varadero and Bella Vista) and the expansion of the San Lorenzo wastewater treatment plant. This operation represents a continuation based on the prioritization set forth in the updated master plan.

[26] This Plan results from the Bank support provided in the technical-cooperation operation "Project evaluation of the effectiveness of measures to reduce water losses" (operation ATN/II-15371-PR).

[27] Dobricenau, M., et al., (2008).

[28] Works were prioritized based on an analysis of various technical, economic, environmental, and social considerations. Practically all these models showed that interventions in the Lambaré watershed were high priority.

improving gender equity and equality, and for promoting production-related activities for the very poor. Furthermore, technical-cooperation funds from the Spanish General Cooperation Fund (operations ATN/FG-17464-RG and ATN/FG-17587-RG) will provide US$300,000 to support project studies.

1.14 **Bank knowledge in the sector.** The Bank has extensive experience in water and sanitation projects in Paraguay, such as: the Integrated Sanitation Program of Asunción (loans 3393/OC-PR and 3394/BL-PR), which is included in the updated master plan; the Water and Sanitation Program for the Chaco Region and Intermediate Cities (loan 2589/BL-PR); the Water and Sanitation System Construction Project for Small Cities and Rural and Indigenous Communities in Paraguay (loan 3601/OC-PR); and the Water and Sanitation Project for Metropolitan Ciudad del Este (loan 4913/OC-RG). With regard to gender, this project complements operation 4913/OC-RG, which includes actions designed to close the gender gap in ESSAP leadership by formulating a gender mainstreaming strategy and action plans.[29] In addition, several technical-cooperation operations will provide support for addressing the challenges of: (i) improving the quality of investment planning and technical studies to enhance the efficiency of the works financed; (ii) strengthening the capacity of sector institutions and instruments for fulfilling their responsibilities; and (iii) improving employee competencies. These technical-cooperation operations are: (i) Evaluation of the Effectiveness of Measures to Reduce Water Losses (operation ATN/II-15371-PR), which financed the study of NRW in metropolitan Asunción, especially for Lambaré; (ii) Transparency and Information Management in the Water and Sanitation Sector (operations ATN/AA-17281-RG and ATN/MA-17280-RG), which supports ESSAP, ERSSAN, and DAPSAN in designing and implementing integrity and good corporate governance policies, mechanisms, and practices; (iii) Support for the Implementation of Reforms, Institutional Strengthening and the Formulation of Long-term Investment Plans for the Water and Sanitation Sector in Paraguay (operations ATN/OC-17614-PR and ATN/WS-17615-PR[30]), which supports institution-strengthening through regulatory and legislative adjustments, as well as complementary technical studies; (iv) Support for the Optimal Sanitation Initiative (operations ATN/LA-17843-RG and ATN/MA-17842-RG), which will provide support for studies to develop production-related activities for the poor and connectivity to sanitation systems; and (v) the AquaRating initiative, which will develop an improvement plan for ESSAP to be financed under Component 2 “Management of services and studies.”

1.15 **Lessons learned.** This project incorporates lessons identified in the evaluation and execution of similar operations in Paraguay and the region, especially operations 3393/OC-PR, 3394/BL-PR, and 2589/BL-PR, notably: (i) the coordination unit should be made up of professionals with extensive knowledge of Bank procurement policies to ensure that administrative processes are streamlined (paragraph 1.31); (ii) ESSAP and DAPSAN should develop a

[29] These plans will include actions that create jobs for women in technical and management positions and promote women’s leadership, as well as a training and awareness-raising strategy for staff, improvements in ESSAP policies and projects, and training sessions on violence prevention, the use of the sewer system, and hygiene.

[30] Financed with funds from the Spanish Water and Sanitation Cooperation Fund for Latin America and the Caribbean.

connectivity strategy before building the secondary sanitary sewer networks, with the objective of ensuring the connection of user households to these networks (paragraph 1.34); (iii) there should be a mechanism for ongoing coordination among the MOPC, ESSAP, and the municipios throughout the project cycle, especially prior to the start of the works, in order to obtain the necessary municipal or environmental permits, and during execution of the works, to ensure that the work sites are well-maintained; to that end, the executing agency will sign agreements with ESSAP and the municipios involved to establish their respective responsibilities (paragraph 3.3); (iv) allow at least six years for project execution, bearing in mind the average amount of time needed for budgetary and procurement processes in Paraguay; this will substantially reduce the probability of requests for an extension of the final disbursement date (paragraph 2.1); (v) use of design-build procurement arrangements for the works to limit the likelihood of changes to the designs due to a temporary gap between the finalization of the designs and the start of the works (paragraph 1.27); and (vi) a robust portfolio of IDB projects presents opportunities to raise awareness of, and facilitate mobilization on, issues such as gender mainstreaming and equality for persons with disabilities, if actions are included to promote the creation of jobs for women in technical areas and operations and maintenance. Women hold very few of these positions in regional companies, which pay much more than minimum wage[31] while also offering health benefits and job security.

1.16 **Complementarity with other IDB Group projects in Paraguay.** The project is complemented by loans 3393/OC-PR and 3394/BL-PR that provide financing for the investments planned in the updated master plan, and by loan 4700/OC-PR, which finances the Housing and Rehabilitation Program for Bañado Sur in Asunción (Tacumbú Neighborhood), designed to improve the quality of life of the riverside population of southern Asunción through construction of a 1,500-unit affordable housing project and quality urban infrastructure, which will be connected to the sanitary sewer system and wastewater treatment plant financed by that program (paragraph 1.22).

1.17 **Bank strategy with the country.** The project is aligned with the IDB Group Country Strategy with Paraguay 2019-2023 (document GN-2958), under the strategic area “productive and resilient infrastructure” and the strategic objective “improve the coverage and quality of infrastructure.”

1.18 **Strategic alignment.** The CCLIP and first operation are consistent with the Second Update to the Institutional Strategy 2010-2020 (document AB-3190-2) and directly align with the development challenges of: (i) social inclusion and equality, since they finance interventions that improve equality of access to sanitary sewer services in metropolitan Asunción, by geographic area and income quintile (paragraph 1.2); the project aims to increase sanitary sewer and wastewater treatment coverage in municipios of metropolitan Asunción located outside Asunción proper, and provides for implementation of a connectivity strategy that includes a fund for financing household connections for low-income households and ensuring access to sanitary sewer services (paragraph 1.34); (ii) productivity and innovation, by using innovative technologies to reduce NRW, improve ESSAP

[31] In Paraguay the minimum wage is US$340. The average salary for a plant operator is US$972 and for a crew member, US$672.

management, monitor projects in real time, and set up networks in high-density areas (paragraph 1.36); and (iii) economic integration, since they contribute to the Bank thematic area of intervention "functional coordination and regional public goods" of the Sector Strategy to Support Competitive Global and Regional Integration (document GN-2565-4), by supporting a national intervention that seeks to improve the environmental quality of the Paraguay River, a regional water resource. They also align with the crosscutting issues of: (i) gender and diversity, since they expand the potential for women to access jobs in the works, as well in ESSAP technical areas, through implementation of a training program in the area of operations and maintenance at ESSAP, and a plan for the inclusion of persons with disabilities at ESSAP and for adapting designs to make its infrastructure accessible to them; (ii) institutional capacity and the rule of law, since they finance improvements in ESSAP's management capacity and efficiency, including innovative business and operational management systems and the use of performance-based contracts; and (iii) climate change and environmental sustainability, as they will include measures to adapt infrastructure at risk of flooding and reduce greenhouse gas emissions as a result of interventions in NRW, energy efficiency, and the wastewater collection, treatment, and disposal system. In all, 88.5% of the loan proceeds are invested in climate change mitigation and adaptation activities, according to the joint methodology of the multilateral development banks for tracking climate-change adaptation finance. These resources contribute to the IDB Group target of increasing financing for climate-related projects to 30% of approvals by year-end 2020.

1.19 This project is included in the 2020 Operational Program Report (document GN-2991-1). It will also contribute to the Corporate Results Framework 2020-2023 (document GN-2727-12), through the output "households with new or upgraded access to sanitation," and is aligned with the Strategy of Sustainable Infrastructure for Competitiveness and Inclusive Growth (document GN-2710-5), especially with the priority area of supporting "the construction and maintenance of an environmentally and socially sustainable infrastructure, thus enhancing quality of life." Further, it is consistent with the dimensions of success and lines of action of the Water and Sanitation Sector Framework (document GN-2781-3), namely, universal access, improved quality of services, and social and environmental sustainability.

1.20 **Alignment with the Public Utilities Policy (document GN-2716-6).** The project and national sector objectives are consistent with the principles of the Public Utilities Policy and satisfy its financial sustainability and economic evaluation criteria. ESSAP's financial position is satisfactory, enabling it to cover its costs and meet its commitments; according to its financial forecasts, this trend will continue (paragraph 1.33). The project works are socioeconomically viable (paragraph 1.28). ESSAP has a reduced rate for low-income and vulnerable populations. Moreover, the project provides for a study of ESSAP's costs, rates, and subsidies. Its institutional framework is satisfactory, and duly separates duties and responsibilities (paragraph 1.8, optional link 4).

B. Objectives, components, and cost

1.21 **Objective.** The objective of the CCLIP is to help expand sanitary sewer service coverage and improve the quality of drinking water service in the Asunción metropolitan area. The specific objectives of the first operation are to: (i) help expand sanitary sewer service coverage in the Lambaré wastewater treatment plant's area of influence; (ii) reduce pollution in the receiving bodies of water through proper treatment and disposal of effluents; (iii) enhance the operating and financial efficiency of water management; (iv) build institutional capacity to improve service provision; and (v) contribute to the greenhouse gas emissions reduction target of Paraguay's nationally determined contribution.

1.22 **Component 1: Works and inspection (US$158 million).** This component includes: (i) sanitation works to expand the sanitary sewer network, including the Lambaré wastewater treatment plant with preliminary treatment capacity of 2,226 liters per second and an underwater discharge outlet, 15 pumping stations, 16 kilometers of force main sewer pipe, 22 kilometers of sewer mains, 877 kilometers of secondary and tertiary lines, and 70,000 household connections, which will help reduce inequalities in access to sanitary sewer services in metropolitan Asunción (paragraph 1.2). This includes the infrastructure necessary for collecting wastewater from the Universidad Católica, Tacumbú, Mallorquín, Sajonia, Antequera, Lagerenza, San Antonio, Grau, Alférez Silva, and Comandante Gamarra watersheds, which already have sanitary sewer services; and (ii) drinking water, sectorization, and pressure control works,[32] replacement of 14 kilometers of distribution networks, and installation of 17,751 individual meters in a sector of 17,000 users of the Lambaré watershed. The component also provides funds for the inspection of the works and implementation of the environmental and social management plan (ESMP), including water quality monitoring.

1.23 **Component 2: Management of services and studies (US$2 million).** This component includes actions for implementing a plan to improve ESSAP's operational, business, and technical management,[33] financing: (i) development of systems for business and asset management; (ii) implementation of a plan for the inclusion of persons with disabilities at ESSAP; and (iii) implementation of a training program for women ESSAP staff in the area of operations and maintenance, which will help reduce gender inequality (paragraph 1.30).

1.24 **Administration, monitoring, and evaluation (US$5 million).** Funds are also allocated for: (i) project administration; (ii) monitoring and evaluation; and (iii) external financial audits.

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[32] Subdivision of the network into sectors to identify losses and control flows and pressures so as to optimize operation.

[33] The Spanish Agency for International Development Cooperation is processing a request for €15 million in nonreimbursable financing from the European Union's Latin America Investment Facility, to support activities for improving sector institutions' management capacities, the sustainability of the interventions, and the procurement of goods for the NRW plan, etc. The framework for coordination with other donors will be established in the program Operating Regulations (paragraph 3.2).

C. Key results indicators

1.25 Table I-1 lists the key indicators.

Table I-1 - Key indicators

Outcome Indicator	Unit of measure	Baseline (2019)	Target
Households on the sewer system in the Lambaré wastewater treatment plant area of influence	Households	34,819	119,969
Households whose wastewater is treated in the Lambaré wastewater treatment plant area of influence	Households	0	92,523
Loss rate per billed user	Cubic meter per user per month	20.5	13.3
Volume of wastewater properly disposed of in the Paraguay River	Liters per second	0	1,095
Percentage of ESSAP administrative staff with a disability	%	1.2	5
Percentage of ESSAP operations and maintenance positions filled by women	%	0.27	10
Greenhouse gas emissions attributable to water and sanitation in the project area	tCO_2e per year	42,809	20,974

1.26 **Benefits and beneficiaries.** The project's main benefits are associated with improvements in urban environmental quality for the areas of metropolitan Asunción that form part of the Lambaré watershed, especially in terms of sanitary conditions and equitable access to sanitary sewer and wastewater treatment services. They are also associated with improved environmental sustainability due to reduced NRW, and with gender equality and social inclusion through increased opportunities for women, persons with disabilities, and low-income households. The direct beneficiaries will be approximately 450,000 inhabitants (120,000 households) of the municipios of Lambaré, Asunción, Fernando de la Mora, and Villa Elisa. ESSAP will also benefit from the project through the interventions to improve its planning capacity and reduce NRW through operational, business, and technical management.

1.27 **Technical viability.** The preliminary design for the sanitary sewer system was developed during project preparation, based on an analysis and comparison of three alternatives, from which the lowest-cost option was chosen. The investments in drinking water are geared towards increasing efficiency, reducing NRW, and improving service quality through sectorization and system-optimization works. The project studies were performed in accordance with generally accepted engineering principles and standards. Furthermore, they leveraged Bank experience executing previous operations with the MOPC and ESSAP, and in similar projects in the region. Effective and appropriate technologies should be used in all cases. While the designs are still preliminary, the studies performed show they are feasible and have made it possible to estimate the investment costs with a high degree of confidence. Technical-cooperation funding will be used to perform supplementary studies (e.g. topography, soil, bathymetry, and modeling of the dilution and characterization of effluents), which will be made available to bidders. Contracts will be "design-build," further minimizing project uncertainties. Likewise, the water works contracts will be performance based, so the company will adjust the project baseline before starting the interventions, in order to best prioritize the works according to their impact (optional link 3).

1.28 **Economic viability.** Ex ante cost/benefit assessments were performed of both the project to optimize the water network and the project to rehabilitate and expand the wastewater collection and treatment system. These assessments considered the incremental economic costs of investment and operations and maintenance. The benefits of the water project were quantified using the estimated volume that would cease to be produced and transported, the savings on operations and maintenance assessed as long-term average costs (cost savings), and the higher revenue resulting from increased invoicing, calculated based on the reduced rate per cubic meter. The benefits of the sanitation project were quantified using values of willingness to pay for wastewater collection and treatment, calculated based on contingent-valuation surveys performed in metropolitan Asunción in 2012, and updated using the average monthly income in Lambaré published by the DGEEC. The results of the analysis show that the project is socioeconomically viable with internal rates of return above 12%. The analysis was supplemented with a sensitivity analysis (optional link 1).

1.29 **Ability to pay.** The monthly service bill amount was verified to be less than 5% of household income by quintile, based on current ESSAP rates and the average basic water and sanitation payment amount. Significantly, ESSAP's rate schedule does include a reduced rate for low-income and vulnerable populations.

1.30 **Gender, inclusion, and local productive development.** This project will help close the gender gap in ESSAP technical and operational positions through: (i) implementation of a training program for women in the area of operations and maintenance; and (ii) adaptation of the bidding documents to incorporate inclusive language offering more professional opportunities to women. Technical-cooperation funding will be used to develop a communications program with a gender approach focusing on hygiene and the use of sewer systems. Under the project, ESSAP will implement its own inclusion plan, to include awareness campaigns and training sessions. Furthermore, nonreimbursable funding will be used to promote the development of functional competencies for entrepreneurship in low-income families, through training in: (i) plumbing and construction of household connections; (ii) certification of men and women plumbers in the preventive and corrective maintenance of home systems; and (iii) promotion of innovative, inclusive alternatives for recycling and utilization of solid waste and sewage from the sanitation system.

1.31 **Executing agency institutional analysis.** The institutional capacity analysis, which took the MOPC's internal restructuring into account, indicates that the necessary conditions for project execution are in place at DAPSAN. However, it did identify the need for additional staff and technical support, as well as needs related to: (i) project administration, to incorporate good practices in monitoring and evaluation during execution and closing; (ii) staff hiring processes, which have not been streamlined in the past; (iii) financial management, since the executing agency has had previous delays; and (iv) environmental and social management, due to DAPSAN's lack of formal procedures for managing environmental and social impacts in its projects. The principal recommendations are to: (i) provide training in project management and the new Policies for the Procurement of Goods and Services Financed by the Inter-American Development Bank (document GN-2349-15) and the Policies for the Selection and Contracting of Consultants Financed by the Inter-American Development Bank (document GN-2350-15), in

effect as of 1 January 2020, and on the Financial Management Guidelines for IDB-financed Projects (document OP-273-12); (ii) develop a computerized financial system to produce the required reports; (iii) include financial processes with estimated deadlines approved by resolution in the project Operating Regulations; and (iv) hire an environmental and social specialist to work with the executing agency.

1.32 **ESSAP institutional analysis.** ESSAP used the AquaRating tool to identify areas in need of strengthening. The project includes actions to implement a plan for improving operational, business, and technical management; service quality; and the sustainability of investments, including: (i) updating the infrastructure registry against the geographical information system; and developing a (ii) plan for sectorization and master metering of the supply networks; (iii) business management system; and (iv) plan for managing NRW.

1.33 **Financial sustainability.** The financial analysis of ESSAP was performed using an internally developed model based on the past three years of information from the company's financial statements. It includes revenue and expense projections based on past operational and financial information from ESSAP in the Lambaré watershed, as well as forecasts of the project's future financial impact. The company's annual average EBITDA[34] margin has been 25.8% for the past three years, which indicates that it has sufficient operating income to cover its operating expenses and demonstrates its financial sustainability. According to the financial projections, ESSAP covers all its operating and maintenance costs, with an average coverage indicator of 135% over the past three years, in compliance with the provisions of the Public Utilities Policy. The analysis also evaluated the potential financial impact of not incorporating enough new users into the network, through a sensitivity analysis that tested various scenarios and showed that ESSAP's operating income would be sufficient to cover its operating costs even under the most pessimistic scenario (optional link 2).

1.34 **User connectivity strategy.** Technical-cooperation resources will be used to assess the factors that govern user connectivity to sanitary sewer service in Paraguay;[35] this will facilitate the design of a connectivity strategy and plan in the project area of influence, to include, *inter alia*: (i) a communications plan for informing the population about the benefits of sanitary sewer services; (ii) social art to incentivize behavioral change by illustrating the value of the services; and (iii) a revolving fund to finance household connections for low-income households, which will help reduce inequalities in access to sanitary sewer services (paragraph 1.2).

1.35 **Climate change.** Studies on climate change projections for southern South America differ on the issue of precipitation; some predict a significant increase in the annual average while others forecast a decrease. Despite this disagreement, the models seem to concur that average annual temperature will gradually and undeniably rise, year-on-year variability will increase, and extreme events will intensify (more intense precipitation during the rainy season and a slight reduction

[34] Earnings before interest, tax, depreciation, and amortization.

[35] The sanitary sewer works being executed under projects 2589/BL-PR, 3393/OC-PR, and 3394/BL-PR will be included.

during the dry season). However, metropolitan Asunción is not located within the zones expected to be most vulnerable to these changes (optional link 5). That said, since the water and sanitation infrastructure to be financed by the project will potentially be exposed to flooding, its design will include a flood frequency analysis that considers the effects of climate change on extreme weather events. Furthermore, Paraguay's nationally determined contribution includes a greenhouse gas emissions reduction target by 2030 for various sectors, including water and sanitation.[36] Although the country does have low levels of emissions, the project will contribute to this long-term target.

1.36 **Innovation.** The project provides for: (i) remote monitoring arrangements to promote societal oversight, transparency, and accountability (time-lapse and drones); (ii) the use of trenchless technology for laying networks in areas with high levels of traffic and business activity; (iii) new digital technologies for managing ESSAP operational, commercial, and infrastructure registry data; (iv) Building Information Modeling (BIM) comprehensive project design and management systems; (v) AquaRating tool for developing the company improvement plan; (vi) Smart Water Infrastructure Technologies (SWITs) for detecting leaks and controlling flows and pressures; and (vii) performance-based contracts for NRW-reduction actions.

II. Financing Structure and Main Risks

A. Financing instruments

2.1 **Financial structure.** The proposed financial structure is a CCLIP for up to US$250 million, to be financed by the Bank. The CCLIP would comprise three loan operations. The first will be structured as a specific investment loan for US$165 million, of which US$105 million will be financed from the Bank's Ordinary Capital, charged against the CCLIP, and US$60 million will be financed with resources from the Government of Spain's Development Promotion Fund (FONPRODE),[37] under a joint cofinancing arrangement.

2.2 The CCLIP will be open for 15 years. Each of the three individual operations has a six-year execution period. This period are considered appropriate given that there will be years in which the closing of one operation will overlap with the start of the next. Further, the six-year disbursement period is consistent with the multiyear execution plan (required link 2) and lessons learned from other loans in the country. Table II-1 provides a breakdown of the consolidated budget by component and financing source. The disbursement schedule is presented in Table II-2 (optional link 7).

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[36] Nationally determined contribution of Paraguay.

[37] As provided by the framework agreement, the Bank will charge a servicing fee as negotiated with FONPRODE to defray project administration costs. The fee will be distributed among the applicable IDB departments for the additional workload involved in preparing, executing, and monitoring projects, or any other type of extra work to administer the cofinancing agreement. A cost center will be established for those departments.

2.3 **CCLIP eligibility and the first operation.** The proposed CCLIP fulfills the criterion set forth in the policy governing the CCLIP instrument (document GN-2246-13) according to which the objectives are included among the priorities defined in the IDB Group Country Strategy (paragraph 1.17). The first operation meets the eligibility criteria established in the policy (document GN-2246-13) given that: (i) the MOPC has the capacity to successfully implement the project based on the results of the institutional assessment (paragraph 2.7); notably, the MOPC is satisfactorily executing two IDB-financed water and sanitation operations at present (operations 2589/BL-PR and 3393/OC-PR; 3394/BL-PR); (ii) the operation objective furthers achievement of the sector's objectives under the credit line (paragraph 1.21); (iii) the operation is included in the sector to be supported by the credit line (paragraphs 1.22 and 1.23); and (iv) the operation design includes actions geared towards the necessary improvements identified in the assessment of the executing agency's institutional capacity (paragraph 1.31). The investments planned for the second and third operations of the credit line will align with updated water and sanitation master plan priorities in metropolitan Asunción, and in other watersheds, including Luque and Mariano Roque Alonso.

Table II-1. Estimated project costs (US$ thousands)

Components	IDB	FONPRODE	Total	%
Component 1. Works and inspection	100,545	57,445	158,000	95.8
Sanitation	96,720	55,269	151,989	92.1
Drinking water	3,825	2,186	6,011	3.7
Management of services and studies	1,273	727	2,000	1.2
Administration	3,182	1,818	5,000	3.0
Total	**105,000**	**60,000**	**165,000**	**100%**

Table II-2. Disbursement schedule (US$ millions)

Source/year	1	2	3	4	5	6	Total
IDB	10.41	20.29	23.25	22.63	21.68	6.74	**105.00**
FONPRODE cofinancing	5.95	11.60	13.28	12.93	12.39	3.85	**60.00**
Cumulative %	**16.36**	**31.89**	**36.53**	**35.56**	**34.07**	**10.59**	**165.00**

B. Environmental and social risks

2.4 **Environmental and social safeguards.** Pursuant to the Bank's Environment and Safeguards Compliance Policy (Operational Policy OP-703), this project has been classified as a category "B" operation, with indicators of substantial environmental and social risk and moderate natural disaster risk.

2.5 The direct social and environmental impacts and risks are short-term, typical for the scale of the construction, and localized, namely: restriction of traffic, excavation on avenues and streets, dust, noise, debris, scrap, and occupational health and safety. However, effective mitigation measures are available for all these impacts. Indigenous peoples will not be impacted, and no involuntary resettlement is anticipated. Furthermore, to mitigate the temporary impact on livelihoods, only partial, short-term street closures are planned. The project includes some structures (pumping station and force network) located very close to unregulated settlements in Bañado Sur. Although these settlements will not be adversely impacted, neither will they benefit from the project, and may therefore oppose it.

Accordingly, the following has been identified as a medium-high environmental and social sustainability risk: Opposition to the project from certain interest groups (e.g. neighborhood associations, NGOs, and individuals) could negatively impact the expected timelines, costs, and outcomes. Therefore, a communications strategy will be drafted to effectively provide information about the potential impacts and the benefits of the works; efforts will be made to engage neighborhood associations in plans for local productive development; and a mechanism will be established for complaints and suggestions.

2.6 In accordance with Operational Policy OP-703, an environmental and social analysis, environmental and social management plan, and consultation plan were drawn up. A strategic environmental and social assessment and environmental and social management framework were likewise prepared for the CCLIP. Advanced drafts of these documents were disclosed prior to the consultations. The consultations were held in Asunción and Lambaré from 26 to 28 February 2020, and produced significant results. Citizens' main concerns were the: (i) costs customers would end up having to pay; (ii) project coverage area; and (iii) need for a citizen oversight committee to monitor the work sites. These considerations are included in the environmental and social analysis, environmental and social management plan, and final strategic environmental and social assessment and environmental and social management framework, published 23 March 2020 on the IDB website.

C. Fiduciary risks

2.7 The following medium-high risk was identified: A lack of staff with a command of the Bank's procurement policies could lead to delays in administrative processes, which could in turn affect the execution of planned procurement processes. To that end, consultants will be hired to provide support in preparing the bidding documents for the design and construction of the works, and subsequently, to DAPSAN during the bidding processes to be held during the loan ratification period under the ad-referendum modality.[38]

D. Other risks

2.8 The following medium-high risks were identified: (i) development: (a) substandard project designs could lead to increased expenses and longer execution times for the works; accordingly, technical-cooperation resources will be used to conduct supplementary studies so as to minimize uncertainty regarding geotechnical, topographical, and network-interference data; likewise, the works will be contracted under the design-build modality and lump-sum contracts; (b) failure to allocate sufficient human and economic resources to operations and maintenance of the infrastructure could make the investments unsustainable; therefore, the works contracts will include an assisted operation period for training the ESSAP plant employees and delivering operations and maintenance equipment; furthermore, technical-cooperation funds will be used to train technicians from the sector and a study of sanitary sewer service costs and rates will be performed so they can be included in the operation and maintenance costs; and (c) if the cofinancing is not approved, the start of execution will be delayed and the project

[38] Under this modality, calls for bids are initiated but the awarding of contracts is conditioned on the entry into effect of the loan contract.

scope will have to be narrowed; therefore, cofinancing approval milestones will be monitored on an ongoing basis; and (ii) public management and governance: a lack of adequate coordination among the participating entities could affect the project's timeline, cost, and scope; accordingly, technical-cooperation funds will be used to finance a communications strategy for the project, in order to effectively communicate the potential impacts and benefits of the works for the community.

III. Implementation and Management Plan

A. Summary of implementation arrangements

3.1 **Borrower and executing agency.** The borrower will be the Republic of Paraguay, represented by the Ministry of Finance, and the executing agency will be the MOPC, through DAPSAN, which will form a project coordination unit (PCU) made up of a general coordinator and environmental, social, fiduciary, technical, and planning area heads. The PCU will hire individual consultants to support the teams based on project needs, and will work in partnership with the relevant MOPC units on fiduciary, socioenvironmental, and communications issues, and with ESSAP on technical and service-improvement issues. A technical board will be set up for interagency operational coordination, and will include ERSSAN, ESSAP, and local government representatives.

3.2 **Project Operating Regulations**. The project will be governed by the provisions of its Operating Regulations, which will include the: (i) legal-institutional framework; (ii) description of the project, its objectives, and components; (iii) structure and organization of the PCU including its organizational chart, functions, responsibilities, and procedures; (iv) use of the resources and eligibility of the investments; (v) fiduciary annexes containing the procedures to follow for procurement operations, payments, financial planning, disbursements, expense reporting, and auditing of the project financial statements; (vi) environmental and social management plan; (vii) monitoring and evaluation plan; (viii) project execution arrangements; and (ix) plan for coordination among the cofinancers.[39] Furthermore, each chapter of the Operating Regulations will detail the project supervision implications for the executing agency in the FONPRODE agreements.

3.3 **Agreements.** The MOPC will sign interagency agreements with: (i) ESSAP, establishing the coordination arrangements for project execution, the responsibilities of each party, ESSAP's commitment to appoint a counterpart technical team, the conditions for delivery of project-financed works, and the commitments associated with the operation and maintenance thereof (paragraph 3.9); and (ii) the beneficiary municipios, to formalize their participation and agree on the coordination mechanisms for obtaining the licenses and permits required for execution of the works.

[39] This section will include the operating breakdown on coordination pursuant to the IDB--FONPRODE framework agreement, and the mechanisms for the exchange of information, disclosure, monitoring, and supervision.

3.4 **Special contractual conditions precedent to the first disbursement of the loan: (i) establishment of the project coordination unit, appointing and/or hiring the staff specified in paragraph 3.1; (ii) approval and entry into effect of the project Operating Regulations (optional link 6), under the terms previously agreed upon with the Bank; and (iii) signing of an interagency agreement between the MOPC and ESSAP, under the terms set out in paragraph 3.3.** These conditions are key for ensuring that the project is properly coordinated and executed, as well as for putting detailed guidelines in place for operational considerations.

3.5 **Special contractual conditions for execution: (i) prior to awarding each of the project's works, the MOPC will present evidence, to the Bank's satisfaction, that: (1) the land is legally available; (2) the relevant environmental permits have been obtained; and (3) agreements between the MOPC and the beneficiary municipios have been signed; and (ii) within two years of the entry into effect of the loan contract between the Bank and the borrower, evidence will be presented, to the Bank's satisfaction, that the connectivity strategy agreed upon by the MOPC, ESSAP, and ERSSAN has entered into effect.** These conditions are necessary to minimize delays in starting the works, to ensure proper execution and coordination of works on public roads, and to guarantee that the households are indeed connected to the sanitation service.

3.6 **Procurement.** Works, goods, and consulting services will be procured in accordance with the Policies for the Procurement of Goods and Services Financed by the Inter-American Development Bank (document GN-2349-15) and for the Selection and Contracting of Consultants Financed by the Inter-American Development Bank (document GN-2350-15), in effect since 1 January 2020. All procurement processes will be included in the procurement plan approved by the Bank through the procurement plan execution system, and will be conducted in accordance with the methods, supervision modalities, and thresholds established therein. The executing agency and the Bank have agreed on a procurement plan for the first 18 months of execution (required link 4). All procurement and/or contracting processes will be subject to ex ante review by the Bank.

3.7 **Advances of funds.** The advance of funds will be governed by the provisions of the Financial Management Guidelines for IDB-financed Projects (document OP-273-12). After the first disbursement, subsequent disbursements will be subject to justification of 80% of the previous advance.

3.8 **Auditing.** During the loan disbursement period, the executing agency will submit the program's annual audited financial statements to the Bank within 120 days of the close of the fiscal year. The audit is to be performed by a Bank-eligible independent audit firm. The determination of the scope and other related aspects will be governed by the Financial Management Guidelines for IDB-financed Projects (document OP-273-12) and the Audit Financial Reports and External Audit Management Handbook. Audits may be financed with project funds.

3.9 **Operations and maintenance.** In the first quarter of each calendar year, beginning in the year in which the first work financed by the project has been completed, and up to three years after the end of the loan disbursement period, the borrower, through the executing agency, will present to the Bank the annual maintenance plan for any goods and works financed by the operation together with

information on the corresponding operations and maintenance processes performed. This ESSAP commitment will be included in the agreement to be signed by the MOPC and ESSAP (paragraph 3.3).

B. Summary of arrangements for monitoring results

3.10 A monitoring and evaluation plan was agreed upon; it includes a data-collection plan, the parties responsible, and the allocated budget (required link 2). The executing agency will be responsible for project monitoring and evaluation. The Bank's supervision instruments will be used for monitoring: the procurement plan, multiyear execution plan, annual work plan, results matrix, and progress monitoring report. Within 60 days of the end of each six-month period, the executing agency will send semiannual progress reports on project execution, results obtained, and an action plan for the following six-month period.

3.11 The project will include a midterm and final evaluation. The proposed evaluation methodology is before and after, to consist in the measurement of the project outcome indicators at baseline and after the interventions have been implemented, with comparison of these measurements to verify achievement of the targets. An ex post economic evaluation will be performed. Following the methodology used for the ex ante evaluation, it will compare the costs of the investments, the costs of operation and maintenance, and the project benefits, estimated as specified in the monitoring and evaluation plan.

Development Effectiveness Matrix		
Summary	PR-L1172	
I. Corporate and Country Priorities		
1. IDB Development Objectives	Yes	
Development Challenges & Cross-cutting Themes	-Social Inclusion and Equality -Productivity and Innovation -Economic Integration -Gender Equality and Diversity -Climate Change and Environmental Sustainability -Institutional Capacity and the Rule of Law	
Country Development Results Indicators	-Households with new or upgraded access to sanitation (#)* -Households with wastewater treatment (#)*	
2. Country Development Objectives	Yes	
Country Strategy Results Matrix	GN-2958	Improve the coverage and quality of the Infrastructure and the result increase access to water and sanitation services.
Country Program Results Matrix	GN-2991-1	The intervention is included in the 2020 Operational Program.
Relevance of this project to country development challenges (If not aligned to country strategy or country program)		
II. Development Outcomes - Evaluability		Evaluable
3. Evidence-based Assessment & Solution	9.6	
3.1 Program Diagnosis	2.6	
3.2 Proposed Interventions or Solutions	4.0	
3.3 Results Matrix Quality	3.0	
4. Ex ante Economic Analysis	10.0	
4.1 Program has an ERR/NPV, or key outcomes identified for CEA	3.0	
4.2 Identified and Quantified Benefits and Costs	3.0	
4.3 Reasonable Assumptions	1.0	
4.4 Sensitivity Analysis	2.0	
4.5 Consistency with results matrix	1.0	
5. Monitoring and Evaluation	8.5	
5.1 Monitoring Mechanisms	2.5	
5.2 Evaluation Plan	6.0	
III. Risks & Mitigation Monitoring Matrix		
Overall risks rate = magnitude of risks*likelihood	Medium	
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. Procurement: Information System, Price Comparison, National Public Bidding.
Non-Fiduciary		
The IDB's involvement promotes additional improvements of the intended beneficiaries and/or public sector entity in the following dimensions:		
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	PR-T1268. The objective of this TC is to support the design and implementation of reforms to strengthen the E&S sector in Paraguay, and in the planning of short and medium term measures (2019-2023), established in the National Water and Sanitation Plan for progressive compliance with the SDGs. PR-T1199. The general objective is to contribute to improving the efficiency and quality of the drinking water service provided by ESSAP at AMA.

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

The diagnosis presents a good description of the problems and their underlying factors which is supported by empirical evidence relevant to the project area. However, in order to better justify the existence of a specific objective aimed at reducing GHG emissions, this section could have benefited from a clearer description of the problems related to GHG emissions and the specific contribution of the water and sanitation sector to this problem.

The solutions proposed in the components are clearly related to the identified problems. The Results Matrix correctly reflects the vertical logic of the operation. Products are adequately associated with the actions described in each component and contribute to achievement of result indicators. All indicators in the results matrix are SMART and present baselines and targets. In this regard, in order to have an empirical estimate of the final value of the GHG indicator, measures of the observed biochemical oxygen demand (BOD) values at the end of the project will be of most importance.

To measure investments efficiency, cost benefit analyses were carried out for the components of improvements in water systems and in sewage and wastewater treatment systems. The results show rates of return of 13.18% and 12.4%, respectively. The economic evaluation includes sensitivity analysis for the most relevant assumptions. In the case of water projects, it should be noted that, although the target set for the indicator of unaccounted water considers only the investments financed by this operation, it will be critical to guarantee the availability of the complementary LAIF funds (under approval) to guarantee the sustainability of benefits in the long run.

Finally, the effectiveness of the project will be evaluated using a before and after analysis for the outcome indicators in the Results Matrix. The plausible contribution of the project to the results will be evaluated by reviewing the vertical logic of the project and the evidence of similar interventions in comparable contexts. Additionally, the evaluation plan contemplates an ex post economic evaluation.

RESULTS MATRIX

Project objective:	The objective of the Conditional Credit Line for Investment Projects (CCLIP) is to help expand sanitary sewer service coverage and improve the quality of drinking water service in the Asunción metropolitan area. The specific objectives of the first operation are to: (i) help expand sanitary sewer service coverage in the Lambaré wastewater treatment plant area of influence; (ii) reduce pollution in the receiving bodies of water through proper treatment and disposal of effluents; (iii) enhance the operating and financial efficiency of water management; (iv) build institutional capacity to improve service provision; and (v) contribute to the greenhouse gas emissions reduction target of Paraguay's nationally determined contribution.

EXPECTED OUTCOMES											
Indicators	**Unit of measure**	**Baseline**	**Baseline year**	**Year**						**Project end**	**Comments (C) / Means of verification (MV) / Party responsible (R)**
				1	**2**	**3**	**4**	**5**	**6**		
SPECIFIC OBJECTIVE (i): Help expand sanitary sewer service coverage in the wastewater treatment plant area of influence (Lambaré watershed)											
OUTCOME 1: Sanitation service coverage expanded and upgraded											
Outcome 1.1 Households on the sewer system in the Lambaré wastewater treatment plant (WWTP) area of influence[1]	Number of households	34,819 (28%)	2019						119,969 (84%)	119,969 (84%)	**C:** Target refers to households that can be connected to the sewer system. The final design of infrastructure exposed to flood risk will include an analysis of flood frequency that takes climate change into account. **MV:** Sanitary Services Company of Paraguay (ESSAP) infrastructure registry unit reports **R:** Water and Sanitation Department (DAPSAN)

[1] Inhabitants of the Lambaré watershed (Antequera, Sajonia, Mallorquín, Lagerenza, San Antonio, Grau, Alférez Silva, and Gamarra), and of the Universidad Católica and Tacumbú minor watersheds.

Outcome 1.2 Households in the Lambaré WWTP area of influence with new access to sewer system services	Number of households	0	2019						61,186	61,186	**C:** Access refers to new households effectively connected to the sewer system **MV:** ESSAP infrastructure registry unit reports **R:** DAPSAN
Outcome 1.3 Households in the Lambaré WWTP area of influence with upgraded sewer system service	Number of households	0	2019						31,337	31,337	**C:** Upgrades are attributable to works to properly collect and conduct wastewater to the WWTP from households[2] effectively connected to existing systems (90% of all households on the sewer system in 2019)[3], i.e. works to eliminate obstructions and wastewater leakage. The final design of infrastructure exposed to flood risk will include an analysis of flood frequency that takes climate change into account. **MV:** ESSAP infrastructure registry unit reports. **R:** DAPSAN

[2] Households in the Universidad Católica and Tacumbú minor watersheds on sewer system (70% coverage).
[3] The target refers to the number of households in 2019. According to the population projection for the end of the execution period, there will be 37,855 households on the sewer system and the target will be 34,069 households with upgraded service.

SPECIFIC OBJECTIVE (ii): Reduce pollution in the receiving bodies of water through proper treatment and disposal of effluents											
OUTCOME 2: Expanded effluent treatment coverage											
Outcome 2.1 Households whose wastewater is treated within the Lambaré WWTP area of influence	Households	0	2019						92,523 (65%)	92,523 (65%)	**C:** This only counts new households that have been effectively connected to the network plus those that already have service. The target depends on connecting a minimum of 75% of the new households to the network, and is expected to be reached by one year after the WWTP is completed. **MV:** ESSAP-issued connection permits **R:** DAPSAN
OUTCOME 3: Decreased pollutant load discharged into the Paraguay River											
Outcome 3.1 Volume of wastewater properly discharged into the Paraguay River	Liters per second	0	2019						1,095	1,095	**C:** Average daily volume according to design of the works. Properly discharged means in compliance with wastewater discharge regulations. **MV:** ESSAP report on WWTP flow rate measurement **R:** DAPSAN
Outcome 3.2 Concentration of biodegradable organic matter at the sewer system discharge points into the Paraguay River	BOD_5 milligrams per liter	150	2020						135	135	**C:** The baseline derives from the characterization of effluents in the sewer mains prepared for the updated master plan. The target value is calculated using the WWTP's BOD_5 removal capacity, estimated at 10% for preliminary treatment levels. Final values will be verified against the implemented water quality monitoring plan. **MV:** Water quality monitoring report **R:** DAPSAN

SPECIFIC OBJECTIVE (iii): Increase operating and financial efficiency in the provision of water services											
OUTCOME 4: Reduction in nonrevenue water											
Outcome 4.1 Loss rate per billed user	Cubic meters per user per month	20.5	2019					13.3	13.3	13.3[4]	**C:** Cubic meters of water lost per user per month in the Lambaré watershed area **MV:** Performance-based contract supervision report **R:** ESSAP and DAPSAN
OUTCOME 5: Improved borrower financial performance											
Outcome 5.1 ESSAP financial self-sufficiency	Number	1.25	2019						1.30	1.30	**C:** Ratio of operating income/ operating, maintenance, and administrative expenses **MV:** ESSAP S.A. audited financial statements **R:** ESSAP and DAPSAN

SPECIFIC OBJECTIVE (iv): Build institutional capacity to improve service provision (with inclusiveness and a gender approach)											
OUTCOME 6: Inclusion and gender policies incorporated into ESSAP practices											
Outcome 6.1 Percentage of ESSAP administrative staff that have a disability	%	1.2%	2019						5	5	**C:** Disability is defined based on the International Convention on the Rights of Persons with Disabilities (Article 1, paragraph 2). **MV:** ESSAP human resources report **R:** ESSAP and DAPSAN
Outcome 6.2 Percentage of ESSAP operations and maintenance positions held by women	%	0.27%	2019						10	10	**C:** Operations and maintenance jobs are technical positions. **MV:** ESSAP human resources report **R:** ESSAP and DAPSAN

[4] The target was calculated based only on the reduction in nonrevenue water attributable to project investments.

SPECIFIC OBJECTIVE (v): Contribute to the greenhouse gas emissions reduction target of Paraguay's nationally determined contribution											
OUTCOME 7: Reduced greenhouse gas emissions											
Outcome 7.1 Greenhouse gas emissions attributable to water and sanitation in the project area of influence	tCO_2e per year	42,809	2019						20,974	20,974	**C:** The ex ante calculation of the reduction in greenhouse gas emissions due to the project was estimated based on nationally and internationally available data (Intergovernmental Panel on Climate Change) and is not based on *in situ* emissions measurements. Changes during project activities associated with interventions in sewer system networks and/or in upgrading the efficiency of water service management (energy efficiency) may affect this estimate. **MV:** ESSAP reports and semiannual progress reports **R:** DAPSAN

OUTPUTS													
Outputs	**Unit of measure**	**Baseline**	**Baseline year**	**Cost (US$)**	**Associated outcomes**	**Year**						**Final target[1]**	**Comments (C) / Means of verification (MV) / Party responsible (R)**
						1	**2**	**3**	**4**	**5**	**6**		
Component 1: Works and inspection													
Output 1. Mains and force pipelines built	Kilometers	0	2019	43,003,502	1 and 7		5	10	10	10	3	38	
Output 2. Secondary lines built	Kilometers	0	2019	65,150,924	1 and 7		50	100	250	300	177.4	877.4	
Output 3. Pumping stations built	Stations	0	2019	10,627,772	1 and 7				2	5	8	15	**MV:** Works acceptance certificate **R:** DAPSAN
Output 4. WWTP and underwater discharge outlet built	Systems	0	2019	27,138,976	2.3 and 7						1	1	
Output 5. Household connections to sewer system built	Connections	0	2019	5,768,000	1 and 7		4,000	8,000	20,000	24,000	14,000	70,000	
Output 6. Nonrevenue water program implemented	Program	0	2019	6,010,827	4							1	
Installation of individual meters	Units	0	2019	887,490			6,313	6,313	2,542	2,583		17,751	**MV:** NRW contract progress report **R:** DAPSAN
Network sectorization implemented	Sectors	0	2019	3,774,767						1		1	
Network renovations	Kilometers	0	2019	1,348,570			2	4	4	4		14	
Output 7. Water quality monitoring plan implemented	Plan	0	2019	300,000	2 and 3						1	1	**MV:** Consulting firm contract progress report **R:** DAPSAN
Monitoring campaigns	Campaigns	0	2019				4	4		4	4	16	

OUTPUTS													
Outputs	**Unit of measure**	**Baseline**	**Baseline year**	**Cost (US$)**	**Associated outcomes**	**Year**						**Final target[1]**	**Comments (C) / Means of verification (MV) / Party responsible (R)**
						1	**2**	**3**	**4**	**5**	**6**		
Component 2: Management of services and studies													
Output 8. AquaRating improvement plan implemented	Plan	0	2019	1,950,000	4 and 5					1		1	**MV:** ESSAP commercial and technical departments reports **R:** ESSAP and DAPSAN
Business management system up and running	System	0	2019	*1,000,000*						1		1	
Asset management system up and running	System	0	2019	*950,000*						1		1	
Output 9. Inclusion plan implemented for persons with disabilities	Plan	0	2019	25,000	6			1				1	**MV:** ESSAP human resources department report **R:** ESSAP and DAPSAN
Output 10. Training and educational program on water systems operations and maintenance implemented for women	Plan	0	2019	25,000	6	1						1	

FIDUCIARY AGREEMENTS AND REQUIREMENTS

Country:	Paraguay
Project number:	PR-O0005 and PR-L1172
Name:	Water and Sanitation Project for Metropolitan Asunción
Executing agency:	Ministry of Public Works and Communications (MOPC) through the Water and Sanitation Department (DAPSAN)
Prepared by:	Fernando Glasman, Jorge Seigneur, and Jorge Luis González

I. EXECUTIVE SUMMARY

1.1 The institutional assessment of project fiduciary management was performed by the Bank fiduciary team with employees of the MOPC administrative-financial and procurement departments. It was supplemented with the February 2020 institutional capacity assessment report findings on the MOPC and the project risk matrix. These financial agreements were prepared as a result.

1.2 The project will be cofinanced with the Development Promotion Fund (FONPRODE).

II. FIDUCIARY CONTEXT OF THE COUNTRY

2.1 Overall, the country financial management systems present a medium level of development. For purposes of executing Bank-financed projects, these systems need to be supplemented with specific financial reports and external control, using auxiliary accounting systems and by contracting Bank-eligible private auditing firms. Financial control tools such as the Integrated Financial Administration System (SIAF), the Integrated Accounting System (SICO), and other subsystems enable the executing agency to manage payment transfers to goods and services suppliers through the Central Bank. The integration of these systems in the near future will make it possible to prepare project audited financial statements in the SIAF; in the meantime, parallel systems are being used.

2.2 The efficiency and transparency of the country system for public procurement has improved in recent years as a result of the creation of its lead agency, the National Public Procurement Department, which has facilitated the implementation of a transactional procurement platform with electronic procedures, such as the electronic reverse auction, a system of suppliers, and the statistical information system. For Bank-financed operations, the Public Procurement Information System has been used, as have the electronic reverse auction and competitive bidding subsystems, for the amounts and categories established in the agreement governing the use of these subsystems signed on 17 June 2014.

III. Fiduciary Context of the Executing Agency

3.1 The executing agency will be the MOPC through the DAPSAN, which will establish a project coordination unit (PCU) that will include a fiduciary coordinator. The PCU will hire consultants to support the fiduciary team and will work in partnership with the relevant MOPC units on fiduciary, socioenvironmental, and communications issues, and with ESSAP on technical and service-improvement issues. For details on the execution mechanism, see the project Operating Regulations.

3.2 During the preparation phase of the project, DAPSAN's institutional capacity was assessed for the execution of programmed and organized activities, including human resources, procurement, and financial management. According to the assessment, in general DAPSAN has technical competencies in fiduciary matters.

3.3 The PCU will perform the functions of: operational management, procurement monitoring, and financial management. DAPSAN will be the counterpart to the IDB and will act as representative of the PR**-**L1172 program to other bodies.

IV. Fiduciary Risk Evaluation and Mitigation Actions

4.1 The assessments performed reveal that the main opportunities for improvement involve:

a. Implementation of the project Operating Regulations;

b. Training in Bank financial management policies for the accounting and internal control areas;

c. Training in Bank procurement policies; and

d. Hiring financial management and procurement specialists and consultants familiar with Bank policies.

4.2 **Procurement management.** According to the assessment, the executing agency's past performance was weak in terms of the length of procurement processes. Accordingly, it will be necessary to: (i) engage competent staff with knowledge of the policies of multilateral organizations; (ii) strengthen the executing agency's capacity through specific courses on IDB procurement policies; (iii) include efficient process flows in the project Operating Regulations, with estimated timelines to be applied during bidding. Furthermore, the risk matrix identified the following as a medium-high fiduciary risk: "A lack of staff with a command of Bank procurement policies could lead to delays in administrative processes, which could affect execution of planned procurement processes." This risk will be mitigated with: operations ATN/OC-17614-PR and ATN/WS-17615-PR; the hiring of consultants to provide support in preparing the bidding documents for the design and construction of the works, and subsequently, to DAPSAN during the bidding processes; planning of the ad-referendum bidding call during the loan ratification period, to ensure the principal works are contracted in the early stages of the project; and formation of the PCU as a condition precedent.

4.3 **Financial management.** The assessment found that there was no accounting and financial system in place that could record foreign-currency transactions. This will be mitigated through implementation of an accounting and financial system.

V. Considerations for the Special Provisions of the Contract

5.1 The following agreements and requirements should be included in the special provisions:

a. For the purposes of Article 4.10 of the General Conditions, the parties agree that the exchange rate to be applied will be the one indicated in section (b)(ii) of the aforementioned article. Accordingly, the agreed upon exchange rate will be the one prevailing on the effective date on which the borrower, executing agency, or any other individual or entity to which the power to incur expenses has been delegated, makes the respective payments to a contractor, supplier, or beneficiary. To determine the equivalence of expenditures incurred in local currency against the local counterpart contribution, the agreed upon exchange rate will be the one prevailing at the time the MOPC or any other person or legal entity it has designated to make payments, makes the respective payments to the contractor, vendor, or beneficiary. To determine the equivalent expense amount to be reimbursed from the loan proceeds, the agreed upon exchange rate will be the one prevailing on the date each reimbursement payment is made.

b. The project audited financial statements will be submitted no later than 120 days after the close of the fiscal year, and the final audited financial statements no later than 120 days after the date of the final disbursement.

VI. Agreements and Requirements for Procurement Execution

6.1 The applicable procurement policies for this loan are provided in documents GN-2349-15 and GN-2350-15. The Bank's Board of Executive Directors has also approved, in document GN-2538-11, the use of the electronic reverse auction and competitive bidding subsystems of Paraguay's public sector procurement system (SCPP) (Law 2,051/03). Other country systems approved after project approval will be used automatically and reflected in the procurement plan.

A. Procurement execution

6.2 **Procurement of works, goods, and nonconsulting services.** Contracts for works, goods, and nonconsulting services[1] subject to international competitive bidding (ICB) will be executed using the standard bidding documents issued by the Bank. In turn, bidding processes subject to national competitive bidding will be executed using the national competitive bidding documents agreed upon with the Bank. The Project Team Leader is responsible for reviewing the technical specifications of these documents during the preparation of selection processes.

6.3 **Selection and contracting of consultants.** Contracts for consulting services generated under the project will be executed using the standard request for proposals issued by or agreed upon with the Bank. The Project Team Leader is responsible for reviewing the terms of reference of these documents.

6.4 **Selection of individual consultants.** No direct hiring of individual consultants is anticipated for this project.

[1] Document GN-2349-15 paragraph 1.1: Nonconsulting services are treated as goods.

6.5 **Country system use.** Pursuant to document GN-2538 of October 2013, use of the electronic reverse auction and competitive bidding process subsystems of the SCPP in Bank-financed operations will apply to: (i) contracts for goods and nonconsulting services subject to use of electronic reverse auction as established in the SCPP, for amounts below the threshold set by the Bank for use of the shopping method for off-the-shelf goods (i.e. US$250,000); and (ii) works contracts for amounts below the threshold set by the Bank for use of the shopping method for complex works (i.e. US$250,000), and goods and nonconsulting services contracts up to the threshold set by the Bank for use of the shopping method for complex goods and services (i.e. US$50,000). Contracts for amounts greater than or equal to the aforementioned thresholds will be governed by Bank policies (document GN-2349-15). Section 1 of the Bank policies (document GN-2349-15) will remain applicable for all contracts financed, regardless of the amount or procurement method. Any system or subsystem approved subsequently will be applicable to the operation. The operation's procurement plan and updates thereto will indicate which procurement processes are to be executed using the approved country systems.

6.6 **Recurrent costs.** To afford the PCU appropriate conditions for performing its functions, the project will finance public utilities and communication costs, banking fees, advertisements, photocopies, postage, etc. within the annual budget approved by the Bank. These expenses will be incurred according to the executing agency's procedures, provided they do not violate the fundamental principles of competition, efficiency, and economy. However, these expenses do not include the salaries of government employees.[2]

6.7 **Domestic preference.** None anticipated.

Table 1. Thresholds for ICB and international shortlist (US$)[3]

Method	ICB works	ICB goods and nonconsulting services	International shortlist for consulting services
Threshold	3,000,000	250,000	200,000

Table 2. Procurement by category[4]

Total works	153,281,869
Total goods	422,000
Total consulting firms	6,903,131
Total individual consultants	3,150,000
Procurement plan total	**163,757,000**

[2] As an exception, financing will be provided for incremental staffing costs incurred by the executing agency and specifically associated with project execution (document GN-2331-5, Annex I(1.7)(C)(c)(1.22)).

[3] Thresholds may vary, in which case the new ones will be applied and the procurement plan adjusted.

[4] Breakdown of procurement items in the procurement plan.

6.8 **Procurement supervision.** All procurement and/or contracting processes governed by the procurement policies (documents GN-2349-15 and GN-2350-15) will be reviewed by the Bank ex ante, taking into account the government's position. All procurement and/or contracting processes governed by the public sector contracting electronic reverse auction and competitive bidding subsystems (document GN-2538-11) will be carried out through the country system. Supervision may be supplemented with project audits.

6.9 **Special provisions.** No special provisions are anticipated beyond those specified in paragraph V hereof.

6.10 **Sustainable government procurement.** Sustainability criteria may be applied in the project bidding requirements and specifications. Specifically, Technical Note IDB-TN-1542 "Green Procurement" criteria may be applied.

6.11 **Records and files.** Project reports will be prepared and filed according to the procedures and formats agreed upon and described in the project's fiduciary manual of functions and procedures.

VII. FINANCIAL MANAGEMENT AGREEMENTS AND REQUIREMENTS

A. Financial management

7.1 **Programming and budget.** DAPSAN will centralize execution through a PCU, which will receive logistic support from the other MOPC units.

7.2 **Accounting.** Accounting will be on an accrual basis. However, for purposes of accountability for projects partially or fully funded by the IDB, accounting will be on a cash basis. The SIAF is the main platform for budgetary and accounting transactions, and is integrated with the SICO as the accounting subsystem that, along with other subsystems, facilitates the downloading of information and the preparation of reports that can be accessed by the Bank and other financing sources.

7.3 **Information systems.** The PCU will have access to the SIAF. Since the country systems do not issue the reports required by the Bank, these will be prepared using different systems. This entails the development and implementation of an independent, integrated system that includes a financial, management, and monitoring module, in accordance with project requirements.

7.4 **Disbursements and cash flow.** Disbursements will typically be made through advances of funds, to be corroborated through the monthly submission of a detailed financial plan for each six-month period, making it possible to determine the project's actual demand inferred from the multiyear execution plan, annual work plan, and procurement plan. For the second and subsequent disbursements, at least 80% of the advances received during project execution must be accounted for, as stipulated in the Financial Management Guidelines for IDB-financed Projects (document OP-273-12) and its future updates.

7.5 **Internal control and internal auditing.** The Office of Administration and Finance Coordination, which reports to DAPSAN, will monitor and verify the supporting documentation for payments. It will act as an oversight body and work together with: (i) the Public Credit Bureau; (ii) the Accounting Office; and (iii) the Office of the Deputy Minister of Finance.

7.6 **External control and reporting.** The executing agency, through the PCU, will submit annual project audit reports on the activities financed with the loan proceeds. These reports will be prepared by an independent auditing firm acceptable to the Bank, in accordance with the terms of reference previously approved by the Bank. The external audit reports will be subject to publication in accordance with the Access to Information Policy.

7.7 **Financial supervision plan.** Financial supervision may be adjusted based on project execution and audit reports. Supervision will be provided through three methods.

Table 1. Financial supervision plan.

Nature/scope	Frequency
Financial audit and presentation of financial statements	Annually
Review of disbursement requests and attached reports	2 to 3 times per year
Inspection visit/analysis of internal controls and control environment at the executing agency	Annually

7.8 **Execution mechanism.** The PCU will report to DAPSAN and will work in partnership with the relevant MOPC units on fiduciary, socioenvironmental, and communications issues, and with ESSAP on technical and service-improvement issues. Details can be found in section III. A. of the loan proposal.

DOCUMENT OF THE INTER-AMERICAN DEVELOPMENT BANK

PROPOSED RESOLUTION DE-___/20

Paraguay. Conditional Credit Line for Investment Projects (CCLIP) for the Water and Sanitation Program for Metropolitan Asunción – Lambaré Watershed (PR-O0005)

The Board of Executive Directors

RESOLVES:

1. To authorize the President of the Bank, or such representative as he shall designate, to enter into such agreement or agreements as may be necessary with the Republic of Paraguay, as borrower, to establish the Conditional Credit Line for Investment Projects (CCLIP) for the Water and Sanitation Program for Metropolitan Asunción– Lambaré Watershed (PR-O0005) for an amount of up to US$250.000.000 chargeable to the resources of the Bank's Ordinary Capital.

2. To determine that the resources allocated to the above-mentioned Conditional Credit Line for Investment Projects (CCLIP) for the Water and Sanitation Program for Metropolitan Asunción – Lambaré Watershed (PR-O0005), shall be used to finance individual loan operations in accordance with: (a) the objectives and regulations of the Conditional Credit Line for Investment Projects approved by Resolution DE-58/03, as amended by Resolutions DE-10/07, DE-164/07, DE-86/16 and DE-98/19; (b) the provisions set forth in documents GN-2564-3 and GN-2246-13; and (c) the terms and conditions included in the Loan Proposal for the corresponding individual operation.

(Adopted on __ _____ 2020)

LEG/SGO/CSC/EZSHARE-746870777-12390
PR-O0005

DOCUMENT OF THE INTER-AMERICAN DEVELOPMENT BANK

PROPOSED RESOLUTION DE-___/20

Paraguay. Loan ____/OC-PR to the Republic of Paraguay. Conditional Credit Line for Investment Projects (CCLIP) (PR-O0005). First Individual Program: Water and Sanitation Project for Metropolitan Asunción – Lambaré Watershed (PR-L1172)

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 Paraguay, as borrower, for the purpose of granting it a financing aimed at cooperating in the execution of the First Individual Program: Water and Sanitation Project for Metropolitan Asunción – Lambaré Watershed, which constitutes the first individual operation under the Conditional Credit Line for Investment Projects (CCLIP) to the Water and Sanitation Program for Metropolitan Asunción, approved on _____ 2020 by Resolution DE-___/20. Such financing will be in the amount of up to US$105.000.000, from the resources of the Bank's Ordinary Capital, and will be subject to the Financial Terms and Conditions and the Special Contractual Conditions of the Project Summary of the Loan Proposal.

(Adopted on __ _____ 2020)

LEG/SGO/CSC/EZSHARE-746870777-12391
PR-L1172