

INTEGRATED SAFEGUARDS DATA SHEET

CONCEPT STAGE

Report No.: ISDSC6152

Date ISDS Prepared/Updated: 26-Dec-2013

Date ISDS Approved/Disclosed: 28-Jan-2014

I. BASIC INFORMATION

A. Basic Project Data

Country:	Argentina	Project ID:	P145686
Project Name:	AR Vega Flood Prevention and Drainage Project (P145686)		
Task Team Leader:	Christophe Prevost		
Estimated Appraisal Date:	06-Mar-2014	Estimated Board Date:	30-Oct-2014
Managing Unit:	LCSWS	Lending Instrument:	Investment Project Financing
Sector(s):	Flood protection (100%)		
Theme(s):	Water resource management (100%)		
Financing (In USD Million)			
Total Project Cost:	260.00	Total Bank Financing:	138.00
Financing Gap:	0.00		
Financing Source			Amount
Borrower			122.00
International Bank for Reconstruction and Development			138.00
Total			260.00
Environmental Category:	A - Full Assessment		
Is this a Repeater project?	No		

B. Project Objectives

Proposed Development Objective: The PDO is to increase the resilience of the City of Buenos Aires to flooding, particularly in the Maldonado Vega and Cildáñez watersheds.

C. Project Description

The proposed Project has a total cost of US\$260 million (US\$138 million IBRD plus co-financing for US\$122 million from the City of Buenos Aires). The Project would support the City of Buenos Aires's plan to reduce flood hazard and will build upon the activities conducted under the Urban

Flood Prevention and Drainage Project APL1, lessons learned, best practices, and experiences obtained from its implementation, as well as from activities in other countries. The proposed project will have three components:

Component 1: Institutional Development for Flood Risk Management (approximately US\$25 million): This component will support the creation of a modern and sustainable framework for flood risk management within the City of Buenos Aires based on a permanent inter-institutional organization that goes beyond the life of the Project. Component 1 will finance systems, equipment, the development of risk models, policies and strategies, and capacity-building amongst other goods and services. At this point it is envisaged that the following four sub-components or activities will be financed:

- **Hydro-meteorological observation, surveillance and alert system (SIHVIGILA for its initials in Spanish):** This sub component will finance an integrated hydro-meteorological observation, monitoring, alert, alarm, and response system which will increase the City's severe-weather forecasting capacity thus improving flood preparedness and emergency management and recovery. City counterparts responsible for Component 1 are currently drafting an agreement with the National Meteorological Service that explores synergies and creates joint forecasting capabilities to incorporate a high resolution S-band Doppler-effect radar, the first of its kind in Argentina.
- **Flood Risk Financing and Protection Scheme:** This sub-component will finance technical assistance (TA) for the development a flood risk financial and protection program for homeowners and SMEs that includes the design of a strategy (based on existing data) of innovative retention and transfer instruments and products such as insurance (starting with a probabilistic flood risk model), flood exposure databases, hazard maps, risk-based pricing and underwriting tools, web-based production systems, claims management systems, etc. A regulatory capacity-building process as well as outreach and consumer education on flood risk insurance will also be fostered. The proposed Flood Risk Financing and Protection Scheme will enable the City of Buenos Aires to considerably reduce fiscal outlays on post-flood compensation payments by applying a rational fiscal and budgetary retention capacity and by transferring flood risk exposure to the private insurance and reinsurance markets.
- **Flood Risk Social Communication and Education:** This sub-component will finance the design of contents for communication and educational campaigns (formal and informal) on flood risk topics. Some of the activities could be implemented by local NGOs based on specific proposals aimed at building capacity in flood related topics and the dissemination of information. This sub-component aims at increasing social awareness on flooding risk and educating residents on emergency response plans and recommended behaviors to increase safety before and under an emergency, particularly targeting local neighborhood councils (comunas), civil-society organizations, and NGOs.
- **Capacity Building for flood risk management:** The objective is to support City institutions in charge of different functions related to flood hazard management including infrastructure planning, emergency response, and operation and maintenance of the City's increasing drainage infrastructure and systems amongst others.

Component 2: Flood Mitigation Infrastructure (approximately US\$225 Million): This component will finance works for a total of approximately US\$215 million. All works will be designed for the 10 year storm. This component includes the specialized independent supervision of the works. It will finance the following works in three of the City's drainage basins:

- **Maldonado Stream Basin:** Roughly 40 kilometers of secondary and tertiary drainage conduits which will convey water into the large drainage tunnels built with funds from the previous Bank loan;
- **Vega Stream Basin:** The Project will finance the construction of one large drainage tunnel

with an estimated length of 8.4 kilometers, which will act as a second emissary for the Vega stream. The new drainage tunnel will more than double the capacity of the existing one. The Project will also finance 10.5 kilometers of secondary and tertiary networks;

- Cildañez Stream Basin: The activities in this basin will include (i) improvements to the existing conduits to increase the drainage capacity in the lower lands of the Cildañez watershed to reduce the likelihood of flooding, (ii) the environmental recovery of Lake Soldati by diverting both sewage and storm runoff currently discharging into the lake, and (iii) the use of this pond as a flood retention basin to delay flows towards the Riachuelo River.

Component 3: Project Management (approximately US\$10 million): To finance Project audits, monitoring and evaluation, including an impact evaluation based on baseline and post-project surveys, capacity building, training, and other operating costs.

D. Project location and salient physical characteristics relevant to the safeguard analysis (if known)

The Project is located in City of Buenos Aires (CABA for its initials in Spanish, Ciudad Autónoma de Buenos Aires). The city is located on the south bank of the La Plata River, has a surface area of approximately 200 square kilometers and a population of approximately 3 million inhabitants (8 percent of the national population). The specific works and improvements under Component 2 will be located in the Maldonado, Vega, and Cildañez basins. The Maldonado and Vega basins comprise over 30% of the city's area and population and cover the central area of the city. The Vega basin has a population of over 300,000. It borders on the north and east with the Medrano and White basins, on the south with the Maldonado basin, and to the east with the La Plata River where it ultimately drains. The Vega basin's total surface area, of which practically all is highly urbanized, is approximately 1,700 hectares; urban green areas account for only 7 percent of the total basin area. Due to the long existing man-made physical modifications to the basin, the existing natural habitats' conditions have been totally replaced by urban components. The Cildañez basin covers a suburban area in the southern part of the city of Buenos Aires. The basin is populated by around 50,000 low-income residents dwelling in informal settlements and precarious social housing. Lake Soldati is a small pond located in a low-income sector within the Cildañez watershed. The Lake is connected to the Cildañez stream, which in turn receives diverted flows (up to 100 cubic meters per second) from the Maldonado drainage system. During heavy storm events the Cildañez stream floods the lake area. The Cildañez stream flows into the Riachuelo River.

There are two relevant groundwater systems in the project area:

- (i) Epipelches is a multilayer aquifer located in the Pampeano sediments (aquifer of medium productivity) and Postpampeano sediments (mostly an aquitard with waters of a high saline content). The water table in the shallow layers of the sediments ranges between 2 and 15 meters below surface elevation and follows the surface morphology. The water table presents high levels of diverse chemical, physical, and biological contaminants originated by human activity;
- (ii) Puelches is located in the Puelchenses sands underneath the Epipelches aquifer and separated from it by a low permeability layer of clay. The Puelchenses sands rest on the impermeable aquiclude Paraná. The Puelches is then an extensive (it extends beyond the Province de Buenos Aires), very productive, semi-confined aquifer, with water that is safe for human consumption, irrigation, and industrial uses. Natural circulation of groundwater is low between the Puelches and Epipelches aquifers. The Puelchenses sands are found at an average depth of 30 meters below surface elevation.

According to the pre-design study of the works and the corresponding feasibility technical studies of the main tunnel (new Vega's second emissary), 2.4 kilometers of it will be excavated using traditional methods. The upper part of the tunnel will be located between 10 and 15 meters below the surface and cut across the Pampeano sediments and water table. The other 6 kilometers of the tunnel will be excavated using a tunnel boring machine of the Earth Pressure Balance type (TBM-EPB) at a depth ranging between 23 and 30 meters below surface (tunnel ceiling). This portion of the tunnel will be mostly located at the base of the Pampeano formation, but a segment of it will intersect the Puelches formation. The discharge chamber to be constructed in the margin of the La Plata River will traverse both the Pampeano and Puelches formations. The foundation of this chamber will reach the Paraná formation.

E. Borrowers Institutional Capacity for Safeguard Policies

The City of Buenos Aires Ministry of Finance (MoF), through its Unit for Multilateral Financing (UMF), would act as the main Project counterpart and overall Project coordinator. The plan builds upon implementation arrangements developed under the previous Urban Flood Prevention and Drainage Project APL1 (PO88220). The City's Ministry of Urban Development (MUD) would be responsible for the majority of technical tasks in relation to the works in the Vega and Maldonado basins under Component 2, including the preparation and implementation of the bidding processes, the oversight of the execution of the works (direct supervision would be carried out by an independent firm for the Vega tunnel), and all the safeguard related issues. The MUD has demonstrated effective and adequate capacity for carrying out the activities envisioned under the proposed Project based upon the results from the previous APL1. This MUD has a team of highly qualified staff, including personnel that manage social and environmental aspects. The MoF has recently hired a social expert that will undertake the social analysis of the Project in coordination with the Bank. A social analysis based on secondary demographic and socio-economic data (no surveys were conducted) will assess the impact of flooding on two different groups: residents and visitors.

As a result of the devastating floods that took place on April 2, 2013, the next stage will include a stakeholder analysis and a study of the perception of the affected population with the purpose of strengthening the current claims management system through the creation of a sound grievance and redress mechanism.

Through its Urban Drainage Unit, CABA's Ministry of Environment and Public Spaces will be responsible for the execution of the project in the Cildañez basin area under Component 2. It will coordinate, on an as-needed basis, with the MoF and the Secretariat of Habitat and the oversight of the execution of the works (direct supervision would be carried out by an independent firm) and the corresponding safeguard aspects. No previous work relationship exists between the CABA's Ministry of Environment and Public Spaces - Urban Drainage Unit and the Bank. An assessment of the implementing agencies' ability to manage safeguards issues is being completed as part of the preparation process for the Project. Taking into account the nature and size of the proposed Project, this assessment will determine the potential weaknesses of the MUD and the Urban Drainage Unit (e.g., additional environmental and social specialists). Once identified, strengthening measures will be included under Component 3 of the Project.

Another city agency involved in the Project is the CABA's Ministry of Justice and Security through its Unified Center for the Control and Coordination of Emergencies (Centro Único de Coordinación y Control de Emergencias – CUCC for its initials in Spanish) within the Sub-secretary of Emergencies. The CUCC will be responsible for the operation of the hydro-meteorological surveillance network and the alert-warning and response system SIHVIGILA, and will serve as the

operational base for the Inter-institutional Committee in charge of the implementation of the City's Strategic Master Plan. The Inter-institutional Committee will comprise all of the aforementioned institutions as well as representatives from other ministries as required (i.e. health and education); the committee will also have the responsibility of implementing the social communication and education sub-component, coordinating as needed with the MoF.

Based on the lessons learned from the Maldonado Project, and given the social complexities of the project's investments and operating environment, a robust grievance mechanism will be developed by the Buenos Aires City Government, including procedures and agencies to prevent and manage project related information requests, simple complaints, and grievances.

F. Environmental and Social Safeguards Specialists on the Team

Jose Vicente Zevallos (LCSSO)

Ricardo Schusterman (LCSSO)

Elba Lydia Gaggero (LCSEN)

Robert H. Montgomery (LCSEN)

II. SAFEGUARD POLICIES THAT MIGHT APPLY

Safeguard Policies	Triggered?	Explanation (Optional)
Environmental Assessment OP/ BP 4.01	Yes	The Project physical interventions/works in Component 2 are: i) in the Maldonado basin, the construction of nearly 40 kilometers of secondary and tertiary drainage conduits that will convey water into the large drainage tunnels previously built with a loan from the Bank; ii) in the Vega basin, the construction of a large drainage tunnel with a total estimated length of 8.4 kilometers (second emissary for the Vega stream) and complementary works (connector pipes that will link the main drainage conduit to the emissaries, a discharge chamber, and a pump station on the riverbank of the La Plata River), as well as 10.5 kilometers of secondary and tertiary drainage networks; and iii) in the Cildáñez basin, a) improvements to the existing drainage conduit to increase drainage capacity in the lower lands of the Cildáñez area; and b) the environmental recovery and reclamation of Lake Soldati. The Project is classified as a Category A project under OP/BP 4.01 given the magnitude of the proposed investment under Component 2, the relative complexity of the Project's location (city of Buenos Aires), and the subsequent potential environmental and social impacts. The major potential socio-environmental adverse effects are associated with the construction of

	<p>the tunnel and complementary works in the Vega basin, but are not considered irreversible or immitigable. Key considerations associated with the physical location and characteristics of the project area include health and safety issues (for workers and the population), disruptions to a highly congested part of the city, and specific groundwater quality characteristics, as well as the management of excavation and the hauling of soil and waste generated during the construction of the drainage tunnel, ,and the capacity and location of the disposal sites. Management of waste materials from excavation activities will require a detailed traffic control plan, as well as a monitoring and control program to determine their quality and establish the appropriate handling, transport, and disposal conditions per applicable regulations. The EIA of the works will establish specific mitigation measures to ensure the proper management of waste materials from excavations, and identify and assess alternatives of potential disposal sites.</p> <p>One of the options proposes the use of waste soil to fill the depressed areas of flat lands in the Province of Buenos Aires (in compliance with provincial and municipal regulations) similar to how it was addressed in APL1. The other works envisioned in the Maldonado and Cildáñez basins are expected to have few adverse potential effects, are site specific, non-irreversible, and can be readily mitigated. The new Vega tunnel will discharge into the La Plata River, a river subject to severe pollution from domestic and industrial waste. Thus potentially significant impacts to the water quantity and/or quality of the La Plata River are not expected since the proposed works would not affect the drainage balance of the basin, and the discharged storm water would be of similar quality as that currently being discharged by the existing Vega emissary (higher water quality than the La Plata River, the receiving body). Anticipated positive Project impacts associated with increased City resilience to flooding events include betterment of the population's quality of life, a reduction in related economic losses, and</p>
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	<p>the efficient delivery of essential services such as energy, transportation, health and education, among other benefits. In addition, the development of a large scale drainage infrastructure will strengthen the construction sector and create jobs.</p> <p>Given that three different works in different areas of the city are foreseeable under the Project, three separate Environmental Impact Assessments (EIA) will be developed in accordance with the World Bank's Environmental and Social Safeguards Policies.</p> <p>The city of Buenos Aires began drafting a risk management scheme to reduce the City's vulnerability to flooding under the Bank-financed Flood Protection Project (AR- 4117) which closed in 2006. This project financed the preparation of the Plan Director de Obras Hidráulicas (Strategic Master Plan, SMP), an urban drainage master plan for the city which outlines specific investments in urban drainage infrastructure and identifies the most viable solution to reduce flooding in the different basins within the City. The SMP is the roadmap for the City to guide its interventions on flood hazard management as it establishes a set of priority structural and non-structural measures that will promote and encourage sustainable flood management. The Maldonado and Vega basins have been considered the priority areas for investment because together they comprise over 30% of the City's area and population, are of significant importance in the overall transport system linking the northern metropolitan area to the center of the city, and are highly vulnerable to flood recurrence. The City started the implementation of the SMP under the Bank's Urban Flood Prevention and Drainage Project APL1 (AR-7289) which closed in 2012. The Project financed a new drainage system in the Maldonado Stream Basin. The current proposed Project will finish the previously planned works in the Maldonado basin, implement the envisioned works in the Vega basin, and support several interventions in the Cildañez basin associated in part with the Maldonado drainage system</p>
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	<p>The current Project will also fulfill the non-structural measures identified in the SMP that could not be brought to fruition under the previous loan. The analysis of alternatives and early consultations with stakeholders on the Vega and Maldonado interventions were part of the preliminary socio-environmental studies developed under the AR-4117. Outreach to residents of the Vega basin in regards to the proposed interventions was performed during the implementation of APL1. In addition, the MUD has been meeting with interested stakeholders since 2012. The objective of these meetings is to better define the ToR for the EIAs. The consultation process with stakeholders will be continuous and reinforced during Project preparation. The MoF-MUD has retained the services of a consulting firm to develop the EIA for the Vega basin works. The EIA will update and delve into the above mentioned preliminary studies based on the findings of the pre-design report for the works. The MUD is also updating the EIA of Maldonado's secondary and tertiary drainage conduits originally developed for the APL1. The Urban Drainage Unit from the Ministry of Environment and Public Spaces is developing the EIA of the Cildañez interventions. The EIAs will (i) identify and assess potential environmental and social impacts based on the type and scope of physical interventions and site characteristics; (ii) design appropriate mitigation, management, and monitoring measures; and (iii) organize those measures under an Environmental Management Plan. Environmental requirements will be specified in the construction contracts. Once drafts EIAs have been developed, the partaking agencies will perform public consultations on these instruments in accordance with Bank policies and local legislation. The final EIAs will document the results of the consultations and will take into account the stakeholders' input. The activities of Components 1 and 3 do not represent significant potential negative</p>
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		environmental impacts but will enhance the positive outcomes, long-term benefits, and sustainability of the Project.
Natural Habitats OP/BP 4.04	No	This policy should not be triggered since the Project does not require the significant conversion of natural habitats or critical natural habitats and will not take place in protected areas or ecologically important sites. However, the EIAs will assess the potential impacts on non-critical natural habitats as part of the EIA process.
Forests OP/BP 4.36	No	This policy should not be triggered since the project will affect neither forests nor forest-dependent communities, nor will it involve changes in the management of forests.
Pest Management OP 4.09	No	This policy should not be triggered since the project does not require the purchase or use of significant quantities of pesticides.
Physical Cultural Resources OP/ BP 4.11	Yes	Several Historic Protection Areas (APH, Áreas de Protección Histórica) have been established within the limits of the Vega basin. Some of them are located in the potential area of influence of the projected works. However, the projected tunnel alignment does not define a linear area of influence because most of the construction would take place at great depths while minimizing expected impacts on the surface. The critical environmentally and socially sensitive spots in the area of influence of the project (due to surface works such as tunnel construction shafts, connection and derivation chambers, etc.) have been preliminarily identified and none of them would affect the areas that require PCR protection. No known or suspected archeological sites have been documented in Project related studies or literature in areas that may be directly impacted by the Project. However, Component 2 works entail large excavations and soil movement, and potential exists for the accidental discovery of physical cultural resources. Thus policy is triggered. The necessary mitigation measures will be considered within OP/BP 4.01 and the specific EA instruments (e.g., EMP with chance finds procedures).

Indigenous Peoples OP/BP 4.10	No	This policy is not triggered since project activities will not affect indigenous peoples as defined in the policy.
Involuntary Resettlement OP/BP 4.12	Yes	The civil works needed to divert sewage and storm runoff currently discharging into Lake Soldati (Component 2) could affect a small number of houses in an informal settlement adjacent to this lake. The exact zone of impact of the civil works will not be known by project appraisal; therefore, a Resettlement Policy Framework (RPF) will be prepared and disclosed prior to appraisal. If the civil works carried out to protect Lake Soldati cause resettlement, a Resettlement Action Plan (RAP) will be prepared prior to the start of the works.
Safety of Dams OP/BP 4.37	No	The Project will not support the construction or rehabilitation of dams nor will it support other investments which rely on the services of existing dams. Therefore, the Policy is not triggered.
Projects on International Waterways OP/BP 7.50	Yes	The Project involves the construction of a new drainage tunnel that discharges storm water into the La Plata River which triggers the Policy. The notification process will be confirmed during Project preparation. The proposed Project works will result in the expansion of the existing storm drainage systems; no adverse changes to the quality or quantity of the water flows by the use of riparian organisms are anticipated.
Projects in Disputed Areas OP/BP 7.60	No	The Policy is not triggered because the Project will not be implemented in areas known to involve disputed areas.

III. SAFEGUARD PREPARATION PLAN

A. Tentative target date for preparing the PAD Stage ISDS: 15-Jan-2014

B. Time frame for launching and completing the safeguard-related studies that may be needed. The specific studies and their timing¹ should be specified in the PAD-stage ISDS:

The safeguard-related studies have already started. The present estimated date for completion is January 15, 2014.

IV. APPROVALS

Task Team Leader:	Name: Christophe Prevost
Approved By:	

¹ Reminder: The Bank's Disclosure Policy requires that safeguard-related documents be disclosed before appraisal (i) at the InfoShop and (ii) in country, at publicly accessible locations and in a form and language that are accessible to potentially affected persons.

Regional Safeguards Coordinator:	Name: Maria Elena Garcia Mora (RSA)	Date: 30-Dec-2013
Sector Manager:	Name: Wambui G. Gichuri (SM)	Date: 28-Jan-2014