Panama Canal Expansion Program

CANAL DE PANAMÁ

APRIL 2012

1. Dredging of the Atlantic Entrance
2. New Atlantic Locks
3. Gatun Lake

POST-PANAMAX LOCKS

Construction of the new locks on the Pacific and Atlantic sides. Each of the new lock complexes will feature three chambers, three water-saving basins per chamber, a lateral filling and emptying system, and rolling gates.

PACIFIC ACCESS CHANNEL

Excavation of the new Pacific locks access channel. The project calls for the excavation of some 50 million cubic meters of material along its 6.1 kilometer span. Executed in four phases (PACs 1 – 4). Three of the four phases have already been completed.

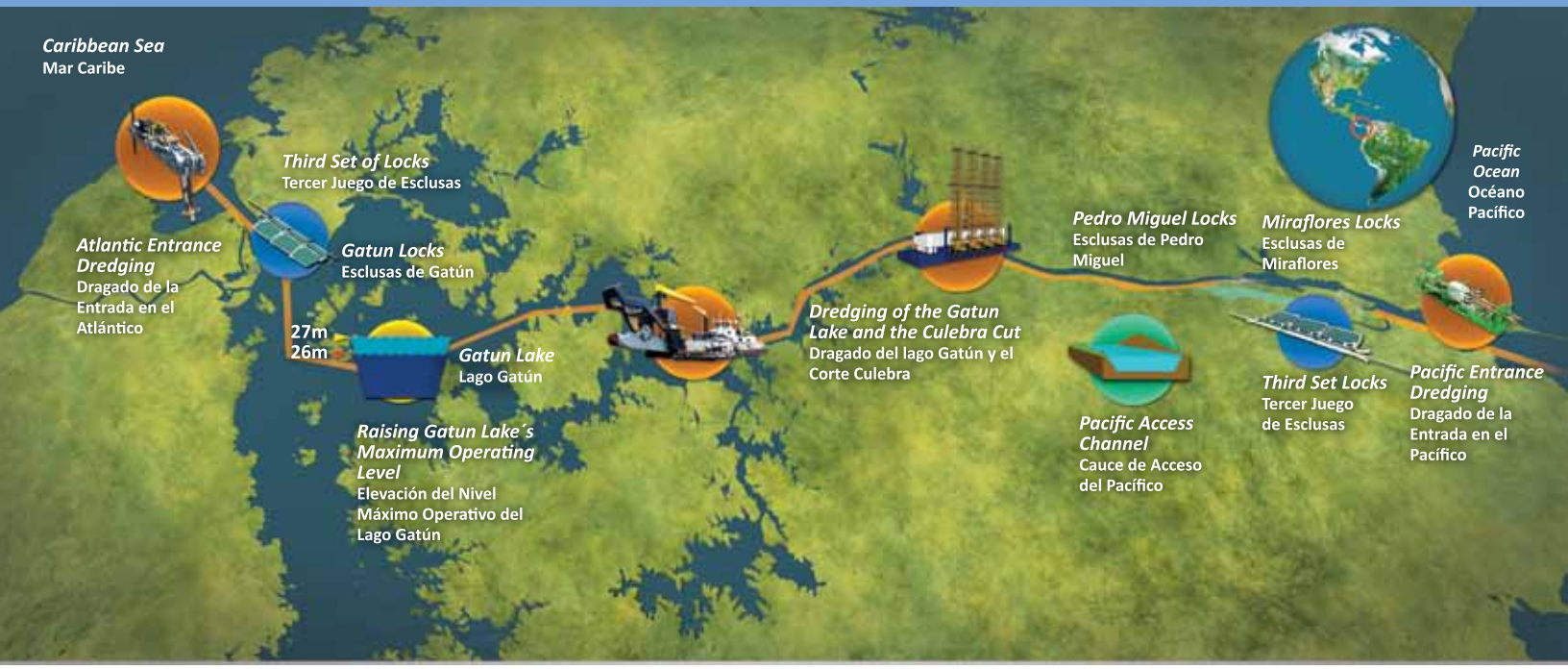
DREDGING OF NAVIGATIONAL CHANNELS

Work is being conducted at both Canal entrances, on the Pacific and Atlantic sides, as well as in Gatun Lake and Culebra Cut.

IMPROVEMENTS TO WATER SUPPLY

Increase of Gatun Lake's maximum operating level to improve Canal water supply and draft dependability.

Expansion Program Components



PROJECTS

Contracts for a total of $4.25 billion had already been awarded by March 2012. The overall cost of the program is $5.25 billion.

PACIFIC ACCESS CHANNEL

Work for the excavation of a new access channel to link the new Third Set of Locks on the Pacific with Culebra Cut began in September 2007. The work entails the excavation of some 50 million cubic meters of material.

Three of the four contracts in which the project was divided have already been completed.

Flooding of the north entrance to this new access channel through which Post-Panamax vessels will transit was completed in 2011. It is the 13-hectare section closest to Culebra Cut, located south of Centennial Bridge.

It constituted the first phase of the flooding of the 6.1 kilometer-long span of the new channel.

A 2.3 kilometer-long dam is also being built under this project to separate the waters of Miraflores Lake from those of the new Pacific Locks channel. The dam is required mainly because the new channel will operate 10 meters above the level of the existing channel.

Construction work for the foundation of the Borinquen dams.

Pacific Access Channel dry-excavation activities have also entailed clearing of more than 400 hectares of land contaminated with Munitions and Explosives of Concern (MECs) left behind by the US military.

The areas were used by the military as firing ranges during its permanence in Panama Canal areas.

A total of 39.2 million cubic meters of material have been excavated to date.

Dredging of the north entrance to the Pacific Access Channel.

DREDGING

Dredging activities to enable safe navigation by Post-Panamax vessels once the Panama Canal is expanded are also part of the program.

The entrances to the waterway on the Pacific and Atlantic sides are currently being dredged, as well as the existing navigational channel in Gatun Lake and Culebra Cut.

PACIFIC ENTRANCE

This contract was awarded on April 1, 2008 to Belgian company Dredging International Panama, S.A. (DI). The work consists of widening the Panama Canal Pacific entrance navigation channel to a minimum 225 meters and deepening to 15.5 meters below mean low sea water level, as well as partially excavating the south access to the Pacific locks.

A total of 8.7 million cubic meters of material must be removed under this component of the Expansion Program.

DI has deployed heavy equipment including cutter-suction dredge D'Artagnan, one of the world's most powerful dredges. Dredging work on the Pacific entrance is scheduled for completion this year.

By March, a total of 7.4 million cubic meters of material had already been dredged.

ATLANTIC ENTRANCE

This contract was awarded to Jan De Nul n.v. on September 25, 2009. The work involves dredging and dry excavation of nearly 17.9 million cubic meters of material.

The contractor is dredging a 13.8 kilometer extension and widening the existing Atlantic entrance navigational channel from 198 meters to a minimum of 225 meters, as well as dredging the north access to the new Atlantic locks to a minimum 218 meters.

An option for additional deepening to 16.1 meters was executed under this contract, which represents an additional volume of 2.3 million cubic meters of material.

The contractor has deployed various types of dredging equipment in the area, which will enable it to complete the work before the scheduled date.

The volume of material dredged to date amounts to 17.3 million cubic meters.

GATUN LAKE AND CULEBRA CUT

This project consists of the removal of some 29 million cubic meters of material to deepen and widen Gatun Lake navigational channels and deepen the navigational channel along Culebra Cut.

Part of the work is being conducted by Canal dredging personnel and equipment. The remainder of the work was awarded to two contractors: Jan De Nul n.v., responsible for dredging the new north entrance to the Pacific Access Channel, and Dredging International de Panama, S.A., in charge of completing dredging work on the reaches north of Gatun Lake.

Work under the latter project has involved the recovery of archaeological items found submerged in Gatun Lake, which, at 422 square kilometers, is vital for Canal operations.

In 2011, the Panama Canal added the new cutter-suction dredge Quibian I to its fleet, to support the activities in the lake and Cut.

By March, 17.7 million cubic meters of material had been dredged under the contract.

Dredge Christensen working in Culebra Cut.

RAISING GATUN LAKE'S MAXIMUM OPERATING LEVEL

This component will enable raising Gatun Lake's maximum operating level by deepening the bottom by 45 additional centimeters, from 26.7 meters to 27.1 meters.

The project will provide daily added lake reservoir capacity of approximately 165 million cubic meters of water.

The work requires that certain structures be modified, including the hydraulic arms that open and close the miter gates at Pedro Miguel locks and at the upper chamber of Gatun locks, as well as Gatun spillway gates, among others.

To date, seven spillway gates have already been extended and other two new ones have been fully fabricated at the Canal dry dock.

To complement the operation and maintenance of the taller spillway gates, fabrication of two new caissons was ordered.

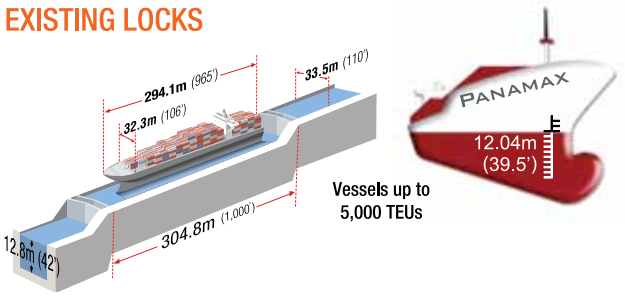
Parallel to the extension of the gates, tests are being conducted on prototype cylinders for submergible hydraulic arms, and designs to make the required modifications to the gates that so require it are also being conducted.

THIRD SET OF LOCKS

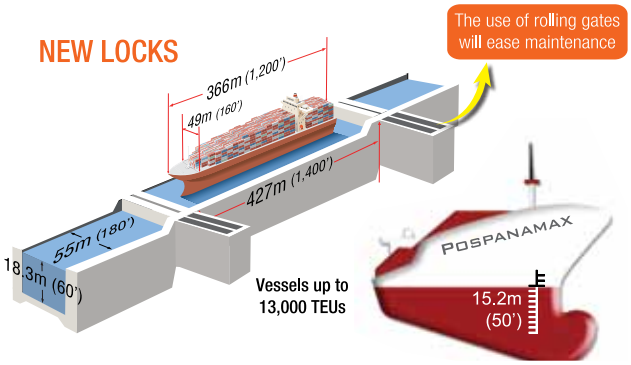
Atlantic Locks

GENERAL INFORMATION ON THE NEW LOCKS

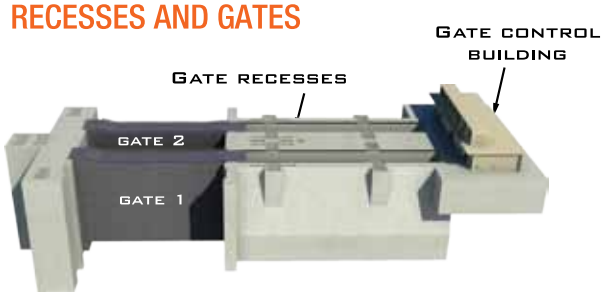
EXISTING LOCKS



NEW LOCKS



RECESSES AND GATES

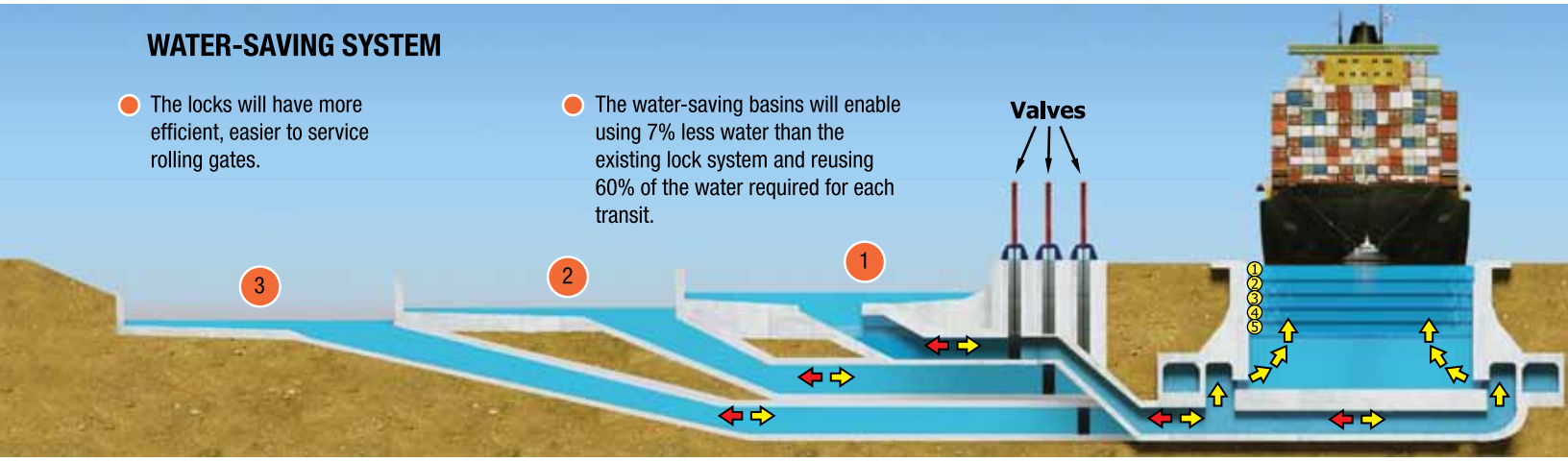


The new locks will require 16 rolling gates. These gates will operate from a recess adjacent and perpendicular to the lock chamber. This gate configuration turns each recess into a dry dock, which in turn allows servicing gates on site without the need of removing them and without major interruption to lock operations.

The system results in increased lockage capacity and flexibility as it offers shorter maintenance times at a lower cost.

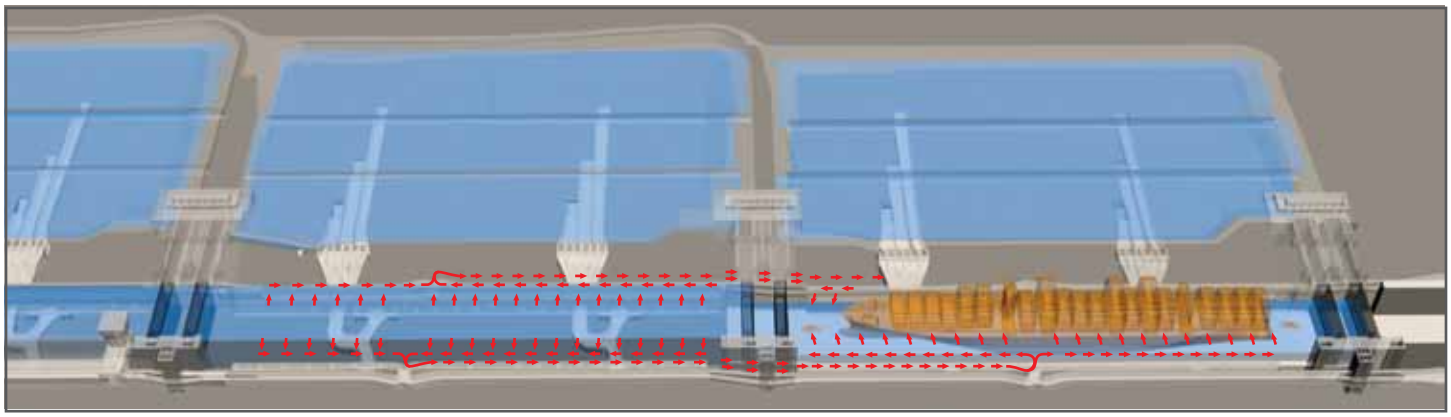
POST-PANAMAX LOCKS

The new locks will have three chambers, three water-saving basins per chamber, a lateral filling and emptying system and rolling gates.

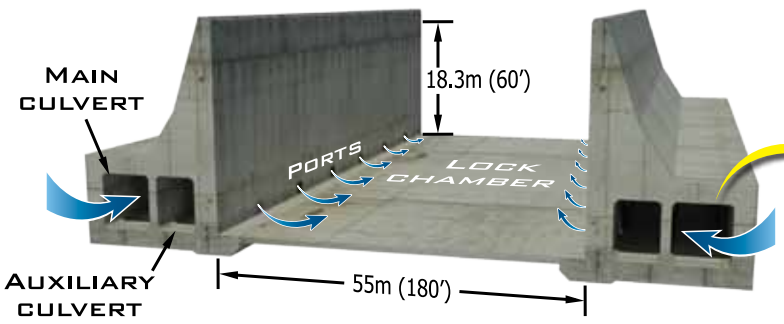


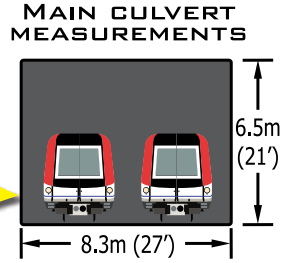
1, 2 y 3: Moves by gravity to water-saving basins for use in the following lockage.
4 y 5: It equalizes and moves to the next chamber and eventually to sea.

CULVERT AND WATER-SAVING BASIN SYSTEM



The existing Canal's filling and emptying system uses ports located on the chamber floor. The Third Set of Locks, however, will work with a lateral system with ports located on the chamber walls.
The system will allow filling each lock chamber in 10 minutes whenever water-saving basins are not used, and in 17 minutes when they are part of the operation.





These massive culverts are wide enough to allow the transit of two railroads

Pacific Locks site.

This is the largest and most comprehensive of the projects under the Expansion Program. At a cost of $3.2 billion, the contract was awarded on July 15, 2009 to Grupo Unidos por el Canal, a consortium formed by Spain-based Sacyr Vallehermoso, S.A.; Italy's Impregilo SpA; Belgian mogul Jan de Nul n.v. and Panama's Constructora Urbana, S.A. The contractor officially began the work on August 25 of the same year.

The project entails the design and construction of two similar lock complexes -- one on the Pacific and the other on te Atlantic side -- each with a total of three chambers and nine water-saving basins per chamber, as well as a redundant system with eight rolling gates.

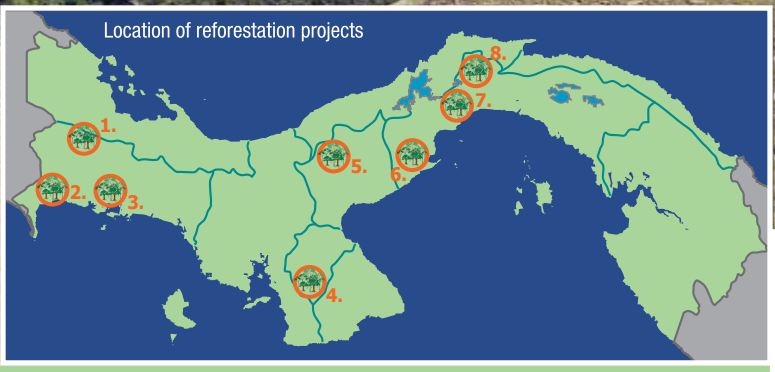
Designs for the Third Set of Locks, as well as the fabrication of its various components, are conducted in different parts of the world. For instance, the gates are being fabricated in Italy by sub-contractor Cimolai SpA, and valves are being built by Hyundai in Korea.

To build the new locks, the contractor installed its own industrial parks to produce the aggregates and prepare the concrete, which is currently being placed at both sites to shape the massive structures.

The rock excavated from the project footprint on the Pacific side, known as basalt, is being used as aggregate and sand in preparing the concrete mixes at both lock sites.

To date, 26.5 million cubic meters of material have been excavated from a total 47.5 million cubic meters of material corresponding to this contract.

Atlantic Locks site.



1. Volcan Baru National Park - 30 hec
2. Chiriqui Viejo River Mangrove - 50 hec
3. Forest Research Center - 100 hec
4. El Montuoso Forest Preserve - 50 hec
5. Omar Torrijos National Park - 150 hec
6. Altos de Campana National Park - 30 hec
7. Camino de Cruces National Park - 115 hec
8. Chagres National Park - 40 hec

ENVIRONMENT

The environment is a priority under the Expansion Program. Along with its contractors for each component and in close coordination with institutions such as Panama's National Environmental Authority (ANAM) and the Aquatic Resources Authority (ARAP), the Canal conducts wildlife rescue and relocation activities as work progresses in all areas in which projects are executed.
Mammals, reptiles and birds have been rescued and relocated to safe areas.

Reforestation projects with native species are also being conducted. From the capital city to Chiriqui, passing through Cocle and Herrera, more than 565 hectares have been reforested from a projected one thousand hectares. Some 600 thousand seedlings of native species have been planted, contributing to the pride of local residents in these regions who feel the Canal reaches to them.

As of February 2012, the ACP had also contributed $3,656,374.50 to ANAM and ARAP as ecological compensation.

An STRI team conducts paleontological research on Canal banks in Culebra Cut.

PALEONTOLOGICAL AND ARCHAEOLOGICAL RESEARCH

The Panama Canal works hand in hand with the Smithsonian Tropical Research Institute (STRI) for the location and assessment of paleontological findings within Third Set of Locks construction sites.

As the program evolves, archaeological items found within expansion areas continue to be assessed. The list of findings includes arrows from the pre-Columbian era, bottles dating back to the beginning of the 20th Century and a dagger, deemed to have been a commonly used weapon between 1590 and 1610.

ACCOUNTABILITY

In compliance with its responsibility to inform on the progress of the Expansion Program and as established by Law 28 of July 17, 2006, the Canal publishes quarterly reports, with progress achieved under the program, for auditing entities including the Executive Branch, the National Assembly, Panama's General Comptroller's Office, and the Ad-hoc Committee (formed by members of the civil society), as well as for multilateral financing agencies. The contents of these reports are available for public consultation in the Canal Internet page at www.pancanal.com.

The Expansion Program also has hotline 800-0714 and electronic mail address ampliacion@pancanal.com to respond to queries regarding general information on the program and to respond to questions, concerns and suggestions made by the general public related to the execution of the works.

Regarding the environmental aspect, the Canal has established a strict environmental surveillance and auditing program to guarantee compliance with the program's environmental commitments.

Field inspection by independent auditor Environmental Resources Management (ERM).

Members of the Canal Board of Directors inspect the Pacific lock site.

LABOR ASPECTS

The Canal Expansion Program has become a source of employment and training for professionals in different fields.

Its workers are men and women whose commitment is to complete this great endeavor. In turn, the program has granted them the opportunity to grow professionally, which is definitely an added value for the project.

More than 20,000 direct jobs have been created since September 3, 2007, when waterway expansion work was formally inaugurated.

Installation of form work for concrete pouring activities at the new Pacific locks.

FINANCING

The Panama Canal Authority signed agreements with a group of bilateral and multilateral financing institutions to procure financing of up to $2.3 billion required to complete the expansion of the waterway.

With authorization by the Cabinet Council, the Canal Board of Directors proceeded to subscribe financing agreements with the following institutions:

Financing Institutions	
European Investment Bank (BEI)	B/. 500 million
Japan Bank for International Cooperation (JBIC)	B/. 800 million
Inter-American Development Bank (BID)	B/. 400 million
International Financial Corporation (CFI)	B/. 300 million
Andean Development Corporation (CAF)	B/. 300 million
Total	**B/. 2,3 billion**

CANAL DE PANAMÁ

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