

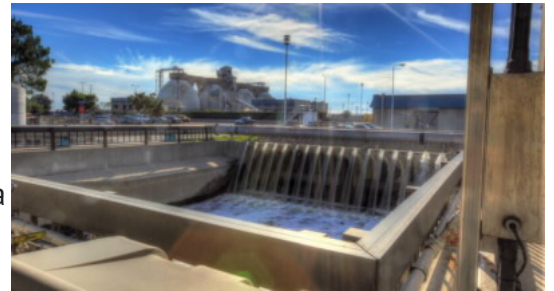
TERMINAL ISLAND WATER RECLAMATION PLANT



Terminal Island Water Reclamation Plant (TIWRP) is located approximately 20 miles south of downtown Los Angeles and was built in 1935 to service the Harbor Area in the City of Los Angeles. The plant has the capability to provide high quality tertiary treatment for up to 30 million gallons of municipal and industrial flows daily. Sixty percent of the incoming flow to the plant comes from nearby industries while the remaining forty percent is from residential areas. The service area includes San Pedro, Harbor City and Wilmington.

Beginning in 1991, ambitious improvements in operations and facilities at TIWRP were implemented to respond to newer and more stringent environmental regulations. By 1997, the City installed tertiary treatment systems at TIWRP, opening the door to extensive water reclamation in the Harbor District. In 2001, TIWRP partnered with the Los Angeles Department of Water and Power for the innovative Harbor Water Recycling Project (HWRP).

This project helped create the [Advanced Water Purification Facility \(AWPF\)](#). The AWPF produces extensively treated, high-quality water which can be used as a potable water replacement in industrial and environmental applications. This has lessened the impact on imported drinking water from the Eastern Sierra, Northern California and the Colorado River while protecting water quality in local wells. In February 2006 the HWRP officially came on line and TIWRP began producing approximately five million gallons per day (MGD) of blended water for delivery to the Dominguez Gap Barrier. Under current conditions, our AWPF is able to produce twelve MGD of purified water.



The plant is involved in various projects to expand and better the City's handling of biosolids and recycled water. We invite you to learn more about our plant and our ongoing efforts to improve the plant's efficiency and processes.

ABOUT US

At the Terminal Island Water Reclamation Plant, we treat approximately 15 million gallons of wastewater everyday on our 21 acre facility. 71 employees work in all different capacities at the plant, running the everyday operations at TIWRP, conducting preventative maintenance and planning projects for the future. The three branches at TIWRP—operations, maintenance, and engineering—work together to ensure the success of the plant.

What do we do?

TIWRP has two main tasks: to treat influent wastewater and meet NPDES compliance requirements in order to reclaim water. These tasks are accomplished by the three branches of workers at TIWRP:

1. Maintenance
2. Operations
3. Engineering

Maintenance and Operations are the two largest groups of personnel at TIWRP. Maintenance performs all scheduled and corrective maintenance on thousands of pieces of manual and computer-operated

The plant Operations staff consists of 32 people responsible for taking equipment readings, monitoring operations, making adjustments to equipment, and conducting preventative maintenance. Staff is on duty 24 hours a day to ensure that the plant functions properly. Maintenance and Operations work together to improve the plant's efficiency and effectiveness.

The Engineering staff work in the office and out in the field at TIWRP to plan new projects at the plant and ensure the processes at the plant are running smoothly. They often act as liaisons with different construction projects and consultants helping to improve Terminal Island. Staff and management collaboration have resulted in significant cost savings for the City and its taxpayers.

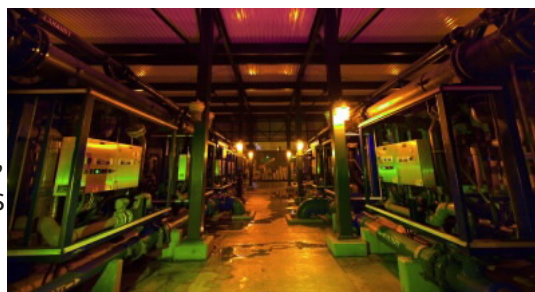
Background

The Terminal Island Water Reclamation Plant was built in 1935 and has undergone numerous improvements and upgrades in 1972, 1996, and 2003. The plant was originally just a screening facility to remove floatables and solids, with sewage receiving only primary treatment. Since then, the plant has undergone many upgrades and improvements to respond to newer and more restrictive environmental regulations meant to protect public health.

In 1972, TI upgraded its facilities so that all wastewater could undergo **secondary treatment**. This upgrade also included this country's first egg-shaped digesters for processing solids; the digestion process breaks down the solids into methane gas and biosolids, which can be used for other beneficial uses. In 1996, the plant was upgraded to the **tertiary treatment level** and in 2003 to **advanced treatment**, allowing the plant to distribute recycled water for reuse in the Harbor area. Advanced treatment has allowed us to pursue a highly purified water that can be used beneficially for multiple purposes. These were major steps toward improving the health of the Harbor and ocean environments.

The Transformation to Advanced Water Treatment Facilities

In 1985, the Regional Water Quality Control Board adopted an order requiring cessation of TIWRP's effluent discharge to the Harbor. LA Sanitation grappled with the decision of whether to construct a new, conventional deep water ocean outfall to discharge Terminal Island's secondary effluent outside the Los Angeles Harbor, or to try something completely new.



The City developed a facility that would produce a highly purified source of water using advanced treatment technologies. In 1995, the Departments of Public Works, Water and Power, Environmental Affairs, Recreation and Parks, and the Harbor agreed to develop a facility that would include microfiltration followed by reverse osmosis technology. Construction was completed on the \$23 million project in 2002.

The initial **Advanced Water Purification Facility** was able to produce five million gallons of drinking-quality water per day, but later expanded to its current capacity of twelve million gallons per day. Today, it is used as a potable water replacement to prevent seawater intrusion, saving millions of gallons of potable water per day.

At A Glance

Here are some quick facts about TIWRP:

Location	445 Ferry Street, Los Angeles
Serves	Terminal Island, Wilmington, San Pedro, and a portion of Harbor City

Plant Manager	Fernando Gonzalez
Number of employees	71
Annual budget	\$12.8 million (FY 15/16)
Treatment processes	Tertiary treatment and microfiltration-reverse osmosis, biosolids handling, biogas generation
Reuse data	<p>Five million gallons per day of recycled water used as a potable water replacement to prevent seawater intrusion</p> <p>50 wet tons per day of biosolids from TIWRP beneficially reused as soil amendment or composted</p> <p>239,000 cubic feet per day of biogas used to produce steam for the digesters</p>
Contact Us	310-548-7520

CONSTRUCTION PROJECTS

At any given time at the plant there are various construction projects going on to improve and continue reliable service while protecting the environment and public health. During construction, the City takes care to keep noise, dust, traffic and any other potential construction nuisances to a minimum. We also often meet with and distribute updates on projects to neighbors before and during construction to get input and give progress reports.

ADVANCED WATER PURIFICATION FACILITY

TIWRP is one of the few plants in the country that has the capability to purify water beyond the tertiary treatment standards and uses our [Advanced Water Purification Facility \(AWPF\)](#) to do so. The AWPF filters and purifies water using methods like microfiltration and reverse osmosis to ensure that our recycled water is of the highest quality. [More about Advanced Water Purification Facility](#)

TERMINAL ISLAND RENEWABLE ENERGY PROJECT

The Terminal Island Renewable Energy Project (TIRE) involves the injection and sequestration of biosolids deep under the Earth's surface. The high pressure and temperatures help to biodegrade the organic compounds and sequester carbon dioxide. At TIWRP there are four wells drilled to approximately a mile beneath the surface. Thus far, TIRE has successfully injected over 300 million gallons of wetcake, bio-slurry material, brine, treated effluent and digested sludge. [More about Terminal Island Renewable Energy \(TIRE\)](#)

Water Recycling and Reuse: The
Environmental Benefits

Water: Permitting (NPDES)

National Association of Clean Water
Agencies

California Water Environment Association

EPA: Water Recycling and Reuse: The
Environmental Benefits
