



# Pure Water San Diego



<b>INSIDE:</b>	
<b>The Program</b>	<b>1</b>
<b>The Benefits</b>	<b>3</b>
<b>Phase 1 - North City Projects</b>	<b>5</b>
<b>The Path</b>	<b>9</b>

# THE PROGRAM

Pure Water San Diego (Pure Water) is a phased, multi-year program that uses proven technology to produce a safe, reliable and sustainable water supply for the City of San Diego (City). At full implementation in 2035, Pure Water will provide 1/3 of San Diego's water supply locally and reduce the City's ocean wastewater discharges by more than 50%.

## Why

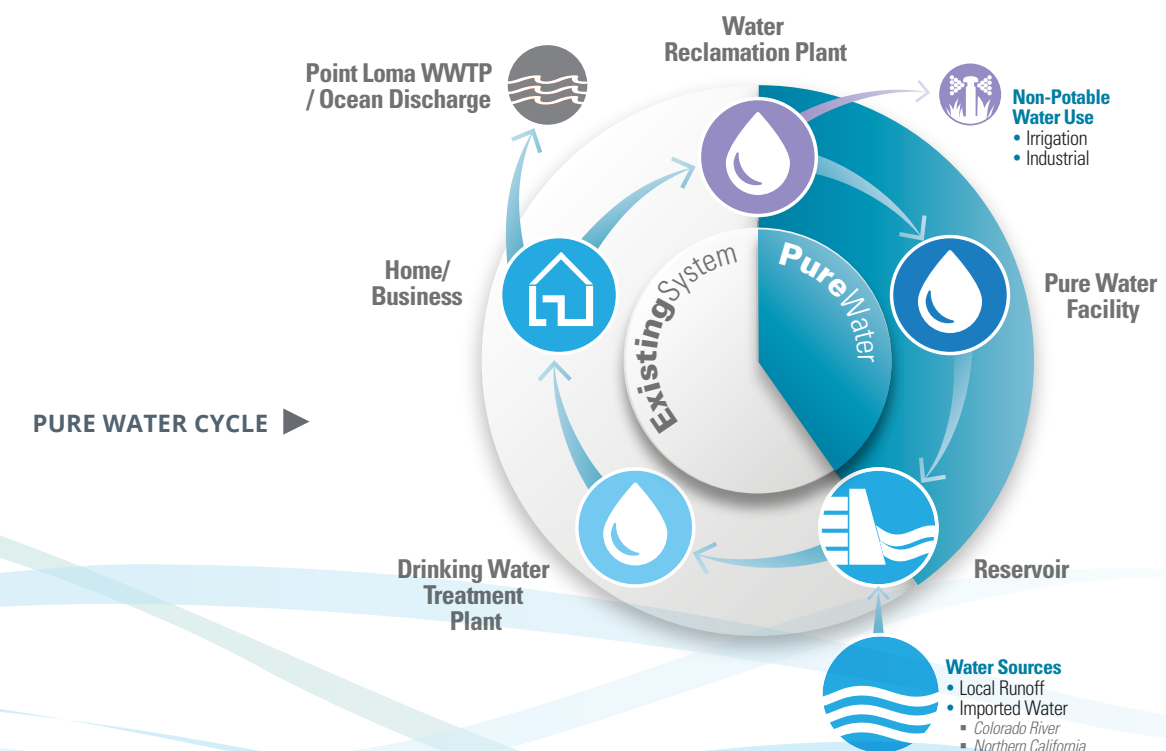
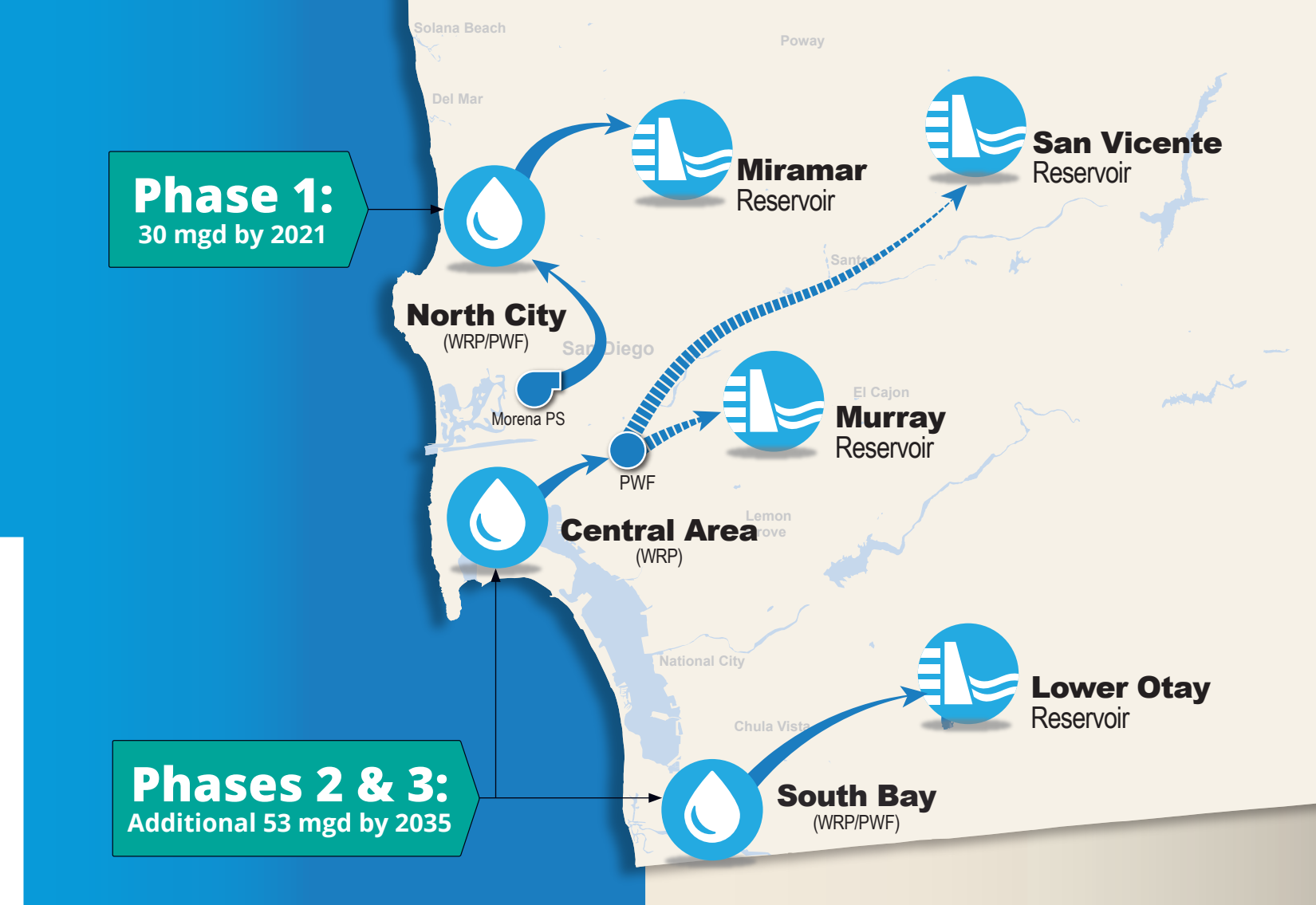
The City faces two considerable water challenges:

- 1. Lack of Control Over its Water Supply:** 85% of the City's water must be imported due to limited local water sources. The cost of imported water has tripled in the last 15 years and the lack of local control leaves the City vulnerable to further cost increases, drought, climate change and natural disasters.
- 2. Unique Regulatory Arrangement for Point Loma Wastewater Treatment Plant (Point Loma):** A demonstrated reduction in wastewater discharges is a vital part of securing the City's next permit to continue operating Point Loma. Without the permit, the City would need to spend \$1.8 billion to convert Point Loma to secondary treatment, would produce no new water, and would not provide measurable improvement to the ocean environment.

## How

With San Diego's existing water system, most of the wastewater leaving homes and businesses is treated at Point Loma and discharged into the ocean. The Pure Water Program will direct wastewater flows away from Point Loma and use cutting-edge treatment processes to produce safe, high-quality purified water. Here's how it will work:

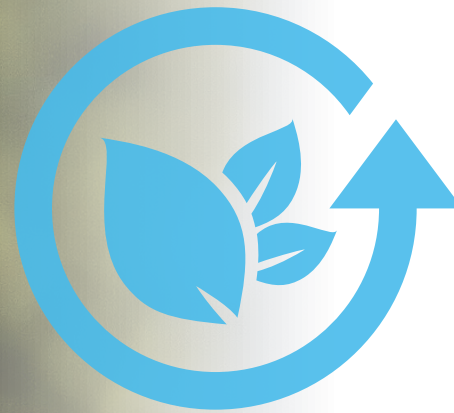
- 1. Wastewater** is treated to recycled water standards at an existing water reclamation plant (WRP)
- 2. Recycled water** is treated at a Pure Water facility, resulting in purified water
- 3. Purified water** is sent to an existing reservoir and blended with imported and local water supplies
- 4. Water** is treated further at an existing drinking water treatment plant
- 5. Potable water** is distributed to consumers via the City's existing water supply system








# THE BENEFITS

The City is implementing Pure Water in order to maximize benefits to its residents and the environment. There are three primary types of benefits that Pure Water offers: **environmental, financial and reliability.**



## Environmental

From decreasing ocean discharges to maximizing water reuse and renewable energy, Pure Water focuses on sustainability and environmental protection.



-  More than 50% reduction in ocean discharges will be realized by maximizing the amount of water that is reused
-  One-third of the City's water supply will be produced, reducing reliance on imported water
-  Renewable energy production will be leveraged to power the majority of Phase 1 facilities, supporting the City's Climate Action Plan targets

*For these reasons, San Diego's environmental community supports Pure Water, including San Diego Coastkeeper and Surfrider Foundation.*



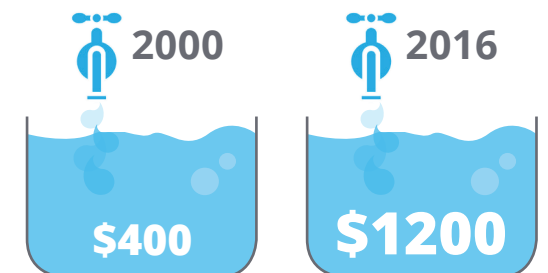
## Financial

Pure Water will lessen the impacts of rising imported water costs and solves multiple challenges with one investment.

-  Imported water costs will be offset by lessening our reliance on imported water, which has tripled in cost over the last 15 years
-  \$1.8 billion in Point Loma upgrades will be avoided while creating a reliable water source




*Pure Water is supported by San Diego's business community, including the San Diego County Taxpayers Association and the San Diego Regional Chamber of Commerce.*

IMPORTED WATER COST PER ACRE-FOOT ►



## Reliability

Pure Water is locally produced and controlled, which increases the City's water supply reliability.

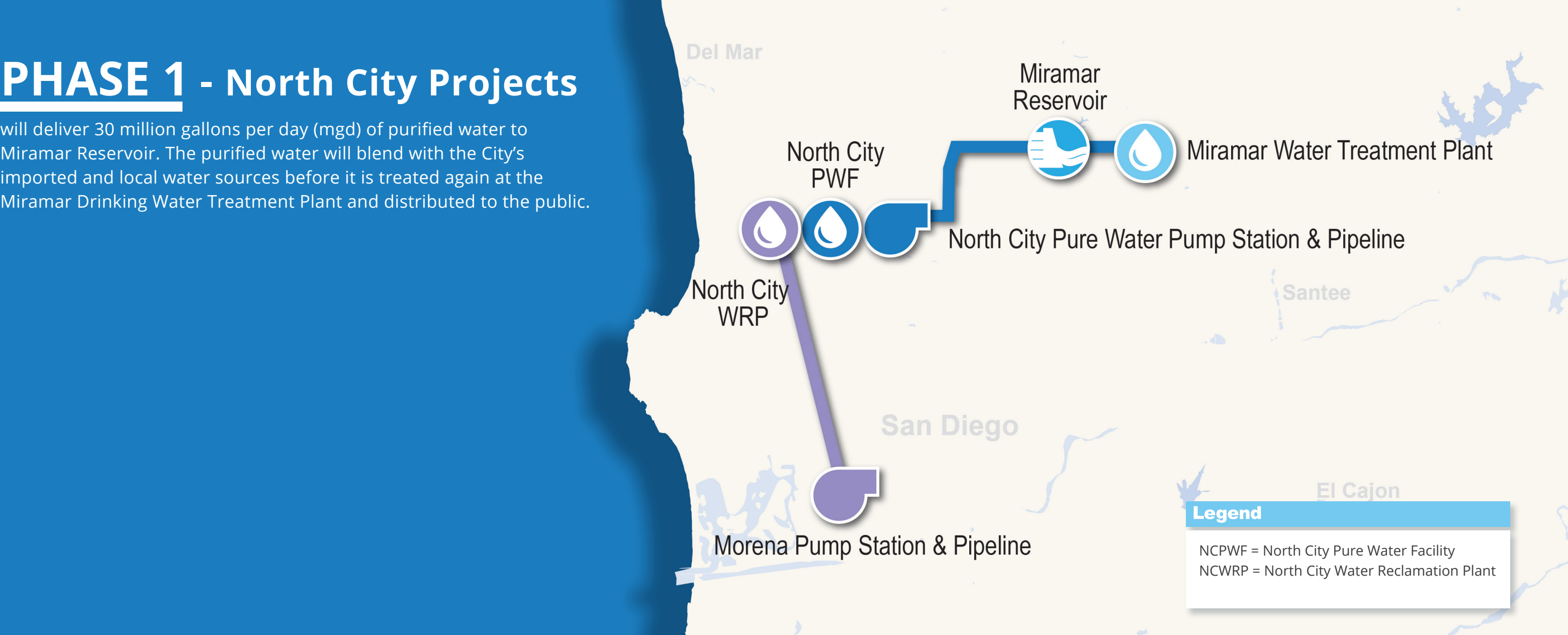
-  Potential limitations of supplies due to natural disasters, such as earthquakes, will be lessened by local water production
-  Availability of Pure Water, regardless of drought or rain, will make it a consistent water source for San Diego
-  Locally produced and controlled, Pure Water will not be subject to heightened competition for limited water resources

*Nearly 75% of San Diegans support adding purified water to the drinking water supply.*



# PHASE 1 - North City Projects

will deliver 30 million gallons per day (mgd) of purified water to Miramar Reservoir. The purified water will blend with the City's imported and local water sources before it is treated again at the Miramar Drinking Water Treatment Plant and distributed to the public.



## Morena Pump Station and Pipelines

The Morena Pump Station and Pipelines will divert approximately 32 mgd of wastewater from Point Loma to the existing North City Water Reclamation Plant (NCWRP), where it will be treated to recycled water standards. It will also transport salt and contaminants removed from the water at the North City Pure Water Facility (NCPWF) to Point Loma.

### PROJECT COMPONENTS

- Pump station
- Two 11-mile-long pipelines

### TIMELINE

Detailed Design: 2016 - 2018  
Construction: 2019 - 2021

## North City Water Reclamation Plant Expansion

To meet the needs of both the recycled water system and the NCPWF, the NCWRP plant capacity will be expanded from 30 mgd to 52 mgd. The NCWRP treats wastewater to recycled water standards for irrigation and industrial uses. A new pump station will convey up to 42 mgd of recycled water to the NCPWF across the street on Eastgate Mall for further purification.

### PROJECT COMPONENTS

- Upgrades and expansion of NCWRP to increase plant capacity
- Pump station
- Conveyance pipeline

### TIMELINE

Detailed Design: 2016 - 2018  
Construction: 2019 - 2021



# NORTH CITY Pure Water Facility

30% design rendering of the North City Pure Water Facility and Pump Station.



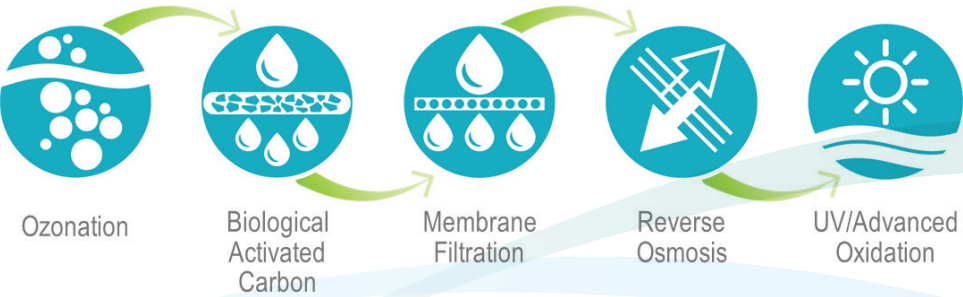
## North City Pure Water Facility

The new NCPWF will be built on Eastgate Mall across the street from the existing NCWRP to clean the recycled water further to produce 30 mgd of safe, high-quality purified water. The NCPWF will use the proven five-step water purification process of ozonation, biological activated carbon filters, membrane filtration, reverse osmosis and ultraviolet disinfection with advanced oxidation.

PROJECT COMPONENTS  
► 30-mgd NCPWF

TIMELINE  
Detailed Design: 2016 - 2018  
Construction: 2019 - 2021

### FIVE-STEP WATER PURIFICATION PROCESS



## North City Pure Water Pump Station and Pipeline

The North City Pure Water Pump Station and Pipeline will transport approximately 30 mgd of purified water produced at the NCPWF to Miramar Reservoir. The pipeline will start on Eastgate Mall, follow Miramar Road, and continue through Scripps Ranch and end in the Miramar Reservoir.

PROJECT COMPONENTS  
► Pump station  
► 8-mile pipeline

TIMELINE  
Detailed Design: 2016 - 2018  
Construction: 2018 - 2021

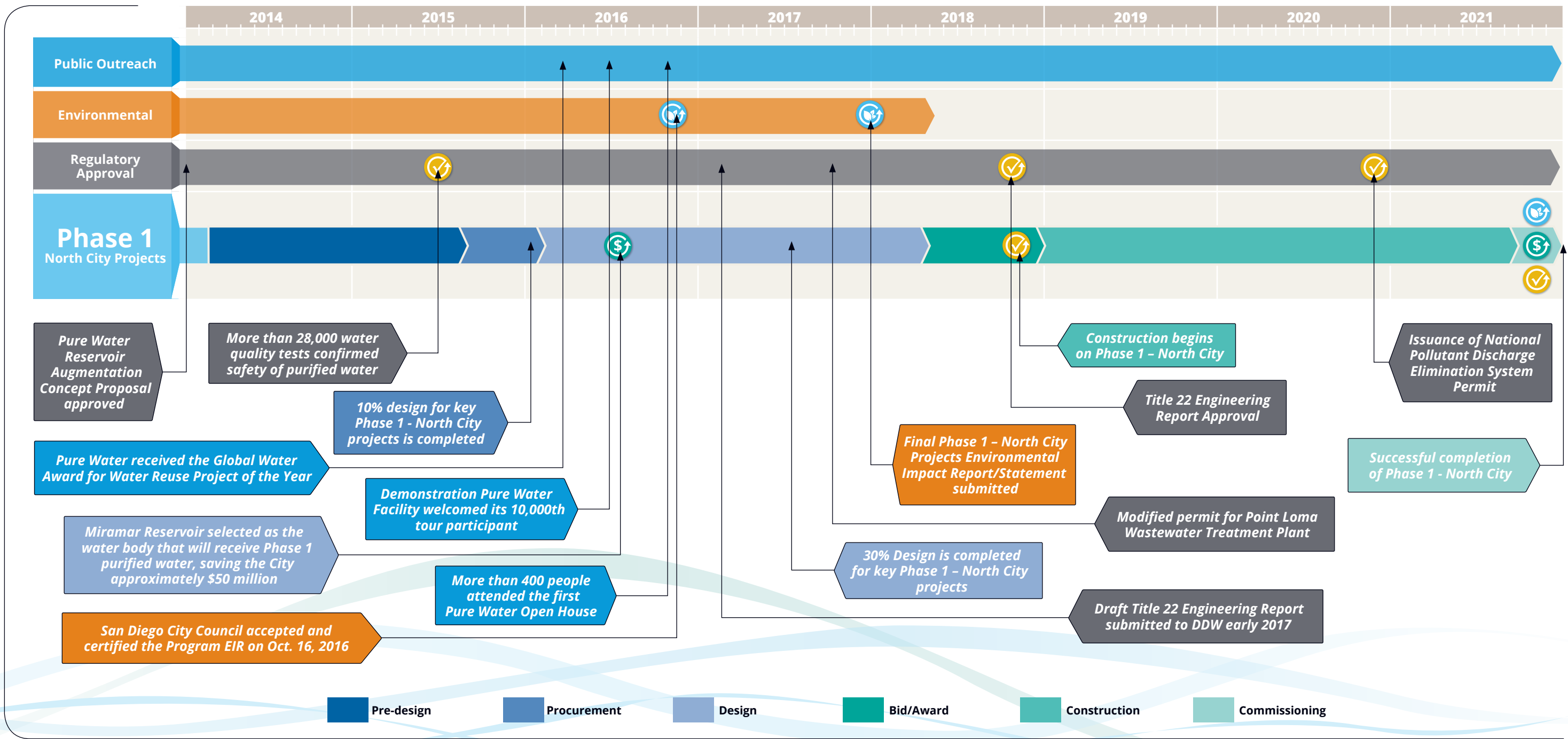


Photo by MrGall



# THE PATH

The path to successful Phase 1 – North City completion is complex and relies on many different program elements, including effective public outreach, environmental and regulatory approvals and on-time completion of project delivery milestones. Nearly all delivery tasks are interconnected and the start date of one task often times depends on the completion of another task. **These interconnected tasks drive the Phase 1 schedule.**





The City of San Diego is committed to the Pure Water Program to ensure a reliable water future for San Diego residents.

## Want to know more?

Visit **[www.purewatersd.org](http://www.purewatersd.org)** and sign up for a free tour of the demonstration Pure Water Facility.



Pure Water SD



PureWaterSD



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