



# DANIA BEACH WATER PLANT



FIRST LEED GOLD CERTIFIED WATER PLANT IN THE WORLD

DANIA BEACH  
SEA IT. LIVE IT. LOVE IT.

## THE STORY OF WATER

### 1 BISCAYNE AQUIFER

RAW WATER FROM THE BISCAYNE AQUIFER IS PURIFIED THROUGH LIME SOFTENING & NANOFILTRATION



The Biscayne Aquifer is a shallow layer of highly permeable limestone under a portion of South Florida. The area it underlies includes Broward, Miami-Dade, Monroe and Palm Beach Counties, a total of about 4,000 square miles. Dania Beach has 2 wells 65 feet deep that pump raw water to the plant.

### 2 STRAINING & FILTRATION



SAND STRAINERS

Raw water pumped from the ground is first cleaned through the sand strainers.



BACKWASH RECOVERY BASIN

Backwash water settles in the basin to be recirculated back to the plant. The raw water is sent to either the nanofiltration or lime softening plants for in-depth purification.

### 3 LIME SOFTENING PLANT

Lime softening is used for water softening to remove hardness (calcium and magnesium) ions by precipitation. Waste solids are disposed of via landfill. The plant has a **3 MILLION GALLON** a day capacity.



LIME SOFTENING ACCELERATOR



FILTERS



PURE LIME

MIXING

LIME SLURRY

LIME SILO

Raw lime powder is stored inside the lime silo, mixed with water to form a liquid lime slurry which is added to the accelerator to soften the water.

### 3 NANOFILTRATION



CARTRIDGE FILTERS



NANOFILTRATION VESSELS



Nanofiltration is a relatively recent membrane filtration process that uses nanometer sized membrane pores to soften and purify water. It processes 772 gallons of water per minute at all times. The plant has a **2 MILLION GALLON** a day capacity.

### 4 WATER STORAGE TANK



Finished water from the nanofiltration plant & lime softening plant is blended and stored in the water tank. The Dania Beach Water Storage Tank holds **2 MILLION GALLONS** of high quality drinking water.

### 5 LAB TESTING



The water is tested in the lab for quality control.

### 6 DISTRIBUTION

The High Service Pump Stations pump clean water from the tank for distribution.



OUT TO RESIDENTS

### DANIA BEACH WATER PLANT

[daniabeachfl.gov/waterplant](http://daniabeachfl.gov/waterplant)



RAW WATER FROM THE BISCAYNE AQUIFER