

Overview

Water Street Tampa District is a 56-acre connected, urban, multi-use project on the waterfront of south downtown Tampa, Florida. The project is owned and developed by Strategic Property Partners (SPP), a full-service commercial real estate development firm focused on world-class execution, innovation, and creation of high-quality experiential spaces. Boasting over 9 million square feet of development that includes apartments, condos, restaurants, offices, and retail and educational space, about 5 million sq ft are already open or under construction. Consequently, it is one of the largest urban real estate developments currently under construction in the United States.

The Water Street Tampa master plan called for a resilient, sustainable, neighborhood infrastructure to promote wellness of both residents and workers by maximizing publicly accessible open space – including bar, restaurant, pool, garden, and dog walk areas – on building rooftops, reducing noise and vibration levels throughout the district, and lowering energy consumption and costs.

These goals resulted in the development and construction of an innovative, efficient, 12,500 sq ft centralized District Cooling Facility to produce and distribute chilled water to air condition the majority of the buildings in the district. The District Cooling Facility began operations in mid-January 2020.



Marley NC Cooling Towers provide over 8000 tons of cooling capacity.

Case Study

Water Street Tampa District Cooling Facility

Project Challenges

To attain the important efficiency, sustainability, and wellness-promoting goals of the Master Plan, SPP hired West Florida Trane as the design-build contractor. Trane partnered with Baker Barrios, TLC Engineering Solutions, Stantec, VoltAir, SPX Cooling Technologies, Inc., and the rest of the design-build team to perform in-depth research, reaching a complete understanding of the following challenges and how to meet them:

- Extensive advance planning and coordination to evaluate the existing District infrastructure and waterfront proximity impact
- Determination of the cooling needs for each proposed building use in order to calculate total cooling tower tonnage required for the completed project as well as for future expansion needs
- Meeting noise and vibration level requirements
- Reducing overall energy consumption throughout the District
- Commissioning of the new facility outside peak demand seasons

Solution

Marley Cooling Towers from SPX Cooling Technologies, Inc. were selected for the centralized cooling plant to meet the developer's goals to reduce redundant systems and energy use, and free rooftops that would typically include HVAC equipment, including cooling towers. The solution also offers quiet operation, reliability, and capacity for future expansion.

The District Cooling Facility has an initial cooling tower capacity of over 8,000 tons and also includes:

- Eleven Pentair Aurora* Pumps
- One 1500-Ton Trane** Ice Making Centrifugal Chiller
- Two 2500-Ton Trane** Duplex Centrifugal Chillers
- 8,500 linear feet of Insulated Underground Pipes up to 30 in wide
- Ninety-eight outside Trane** Thermal Energy Storage (Ice) Tanks (each about 8 ft tall)

Results

Helping define the standard for well-living in a community primed for the future, Water Street Tampa is an environmentally sustainable, energy-efficient, centralized solution for both now and future needs:

- Reduces overall energy consumption by 30-40% over traditional building chiller systems.
- Chilled water leaves the plant at 39°F and returns at 57°F.
- Reduces noise levels and sound interruption throughout the District.
- Reduces redundant mechanical systems.
- Provides additional publicly accessible rooftop spaces throughout the District – including bars, restaurants, pools, gardens and dog walk areas.
- In 2019, Water Street Tampa was designated the world's first neighborhood development to achieve the WELL Design & Operations designation under the [WELL Community Standard](#). WELL Certification outlines wellness requirements for real estate, similar in nature to the sustainability requirements outlined by LEED certification. Water Street Tampa honors a commitment to implement design and policy strategies meant to improve the lives of residents through the concepts of Air, Water, Nourishment, Light, Fitness, Sound, Mind, Temperature, Materials and Community.
- Reconnects Tampa's central business district with the waterfront and surrounding communities with pedestrian-oriented streets and 13 acres of new public spaces.

*Aurora is a registered trademark of Pentair plc.

**Trane is a registered trademark of Trane Technologies plc.

Case Study

Water Street Tampa District Cooling Facility



The bank of six Marley NC Cooling Towers are housed in a brick building facade. The fan cylinders are barely visible from this elevated view.

SPX Cooling Technologies Products and Services Provided

Marley NC® 8414 Cooling Towers

- Six cells in Phase I. One additional cell to be added for future needs.
- Approximately 8300 tons of cooling tower capacity.
- Independent third-party documentation of sound data tested per CTI ATC-128 test code by third-party CTI-licensed test agents and certified acoustic engineers.
- Engineering and product selection support by AquaAir Tampa.
- On-site support before and during installation by AquaAir and West Florida Trane.

Project Team

Design-Build Contractor: West Florida Trane

<https://www.trane.com/commercial/north-america/us/en/contact-us/locate-sales-offices/tampa.html>

Architect: Baker Barrios Architects, Inc., Tampa FL

<https://www.bakerbarrios.com/?s=water+street+tampa>

Mechanical Engineer: TLC Engineering Solutions, Tampa, FL

<https://tlc-engineers.com/locations/tampa-florida/>

Civil Engineer: Stantec, Tampa, FL

<https://www.stantec.com/en/offices/united-states-locations/florida-offices-filtered/tampa-florida-office>

Electrical Engineer: VoltAir, Inc., Tampa, FL

<https://voltairinc.com/>

General Contractor: Creative Contractors, Clearwater, FL

<https://creativecontractors.com/>

Logistics/Procurement: AquaAir, Tampa, FL and West Florida Trane, Tampa, FL

<https://www.aquaairfl.com/>

Mechanical Contractor: Blume Mechanical, Clearwater, FL

<https://www.blumemechanical.com/>

Cooling Tower Technical Support: AquaAir, Tampa, FL

<https://www.aquaairfl.com/>

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