

## CITY OF AUSTIN 2012 ACHIEVEMENTS IN SUSTAINABLE BUILDINGS AND SITES

*(Resolutions 20071129-045 and 20071129-046)*

The City of Austin (COA) continues to be a leader in implementing sustainable design practices. The COA added two buildings which are Leadership in Energy and Environmental Design (LEED) certified buildings to its portfolio in 2012. Since 2000, nineteen projects have achieved LEED certification including nine at the LEED-Gold level, six at the LEED-Silver level and four at LEED Certified level. LEED projects provide significant positive and environmental and societal impacts by reducing energy and water use and by diverting waste from landfills, among other benefits.

Consistent with LEED projects, the COA has continued to make investments in green infrastructure alternatives for water, drainage and transportation systems.

### MAJOR HIGHLIGHTS

#### NEW BUILDINGS AND MAJOR RENOVATIONS

Both buildings completed in 2012 achieved LEED-Gold certification under LEED for New Construction. Other COA projects either used the LEED scorecard or incorporated sustainability design criteria where LEED certification was not required due to scope and/or budget.

- Northwest Recreation Center Renovation achieved LEED-Gold
- ABIA Ground Transportation Staging Area (GTSA) achieved LEED-Gold

#### Together these new projects are projected to achieve:

Estimated annual electricity savings: 307,483 kWh  
Estimated annual on-site renewable energy (Solar PV) generation: 154,465 kWh  
Estimated annual water savings: 1,269,619 gallons  
Construction waste diversion from the landfill: 1,163 tons

#### GREEN INFRASTRUCTURE

Green infrastructure investments were made at projects requiring site development permits, creek bank stabilization and projects within the rights-of-way. Rain gardens, rainwater harvesting with weather controls, permeable pavers and vegetative filter strips are all innovative storm water techniques which incorporate storm water quality improvements which passively minimize runoff while improving water quality. They were constructed at:

- Rio Grande and 18th Street Rain Gardens (3 total)
- Crestview Neighborhood Rain Gardens (2 total)

- Barton Springs Pool South Entrance Vegetative Filter Strips

The COA added 24 miles of new bicycle lanes in 2012 making a total of 42 miles and has added 12.6 miles of sidewalks making a total of 82 miles since the start of the pedestrian program in 2005.

## EXISTING BUILDINGS AND OPERATIONS

### **Renewable Energy:**

- Since 2011, all City-owned facilities continue to use the “GreenChoice” program for their electricity needs, which makes the COA the largest local government to commit to 100% renewable energy that eliminates CO2 emissions. In 2012, City purchased 460,055,822 kWh of GreenChoice that amounts to 246,403 metric tons of avoided CO2e emissions.
- In 2011, COA’s electric vehicle charging infrastructure, known as the Plug-in EVerywhere Network – with more than 100 charging stations – became the first charging network in the country to be powered with 100% renewable energy. In 2012, 33 new electric charging stations were installed at various COA facilities.
- Solar photovoltaic systems were added to sixteen new and existing COA facilities providing a total generating capacity of 462 kW. The sixteen new systems are located at: North West Recreation Center, Carver Museum and Library, African American Cultural and Heritage Facility, Yellow Bike Project, Spicewood Library, Building H at Betty Dunkerley Campus, Ruiz Library, St. Elmo Service Center, Cepeda Library, Givens Recreation Center, South Austin Recreation Center, APD North Substation, Kenneth Gardner Service Center, ABIA GTSA Facility and EMS Station #33.
- The Hornsby Bend Biogas Generator was completed in 2012. The 848 kW generator utilizes digester methane from the sludge treatment process to generate green power to operate the plant, and feed all excess energy produced back onto the electric grid.

### **Building Efficiency:**

- High efficiency lighting and controls improvements were made at various COA facilities including: One Texas Center Parking Garage, Kramer Yard Service Center, ABIA buildings, Parks and Recreation Department Headquarters, Austin Convention Center, Building Services Office, Austin Library Department, RBJ Building, Rutherford Lane Campus, CTECC, and Kenneth Gardner Service Center. The improvements result in a combined calculated savings of 189.5 kW, 1,004,754 kWh and \$85,416 per year.

### **Peak Load Reduction:**

- The Technicenter was outfitted with a 165,000 gallon Thermal Energy Storage (TES) tank in 2012. The system produces chilled water “off peak” and delivers a minimum of 1,100 ton-hours of chilled water between 4pm and 8 pm Monday through Friday and shifting 373.75 kW.
- Austin Water Utility and Austin Energy participated in Austin Energy’s voluntary peak load reduction program, Load Cooperative, and earned \$8,223.20 in rebates for shifting 6,578.56 kWh and up to 728.84 kW off peak during 11 demand response events between June and September.

**Above improvements to Existing Buildings and its operations are projected to achieve:**

Estimated annual savings of 1,004,754kWh of electricity from high efficiency lighting and controls  
Estimated annual new on-site renewable energy (Solar PV) generation: 249,250 kWh

**Water Conservation:**

- Austin Water Utility (AWU) delivered approximately 794 million gallons of reclaimed water to COA facilities and parks reducing potable water consumption.
- Process efficiencies at the Balcones and Onion Creek Wastewater Package Plants that resulted in approximately 18,000,000 gallons per year of reduced potable water consumption.
- AWU distributed 101 low flow showerheads and 250 low flow faucet aerators to Building Services that resulted in an estimated 560,000 gallons per year of reduced potable water consumption.
- AWU distributed 294 Tree Gators to Urban Forestry reducing potable consumption by an estimated 58,000 gallons per year.

**Waste Reduction:**

- Recycling services expanded to all COA owned offices include mixed paper, cardboard, plastics #1-7, aluminum, and glass beverage containers as consistent with the Universal Recycling Ordinance.
- City employees diverted more than 350 tons of materials from landfills at 60 facilities serviced by private haulers, which is equivalent to approximately the weight of 100 elephants.
- Building Services Division implemented a “no plastic” liner at most COA facilities to reduce costs and the number of plastic bags sent to the landfill.

**PUBLIC/PRIVATE DEVELOPMENTS**

Sustainability achievements go beyond those of City-owned and occupied buildings and infrastructure. The COA has been involved in several public/private developments for the last eleven years. The largest of these developments is the Mueller Redevelopment; a LEED-ND Stage 2 Silver-certified pilot project. It consists of 51 completed commercial projects (1.5 million SF), 678 multi-family units and 769 single family homes that have achieved AEGB ratings and/or LEED certifications to date.

**In 2012, these existing commercial and residential developments at Mueller achieve:**

Estimated electricity savings of 17,798 MWh annually  
Estimated electric demand savings of 5,816 kW annually  
Estimated indoor water savings of 9.25 million gallons of water annually  
Estimated outdoor potable water savings for irrigation of 26 million gallons annually  
Construction waste diversion from the landfill: 4,392 tons

Other Public/Private developments include:

- ZACH Topfer Theatre, on track to achieve LEED-Silver
- City of Austin/ YMCA - North Austin Community Recreation Center, on track to achieve LEED-Silver

## INTERDEPARTMENTAL SUSTAINABILITY WORKING GROUP (ISWG)

The ISWG comprises COA staff charged with ensuring City wide implementation of the Municipal Buildings LEED and Green Infrastructure Resolutions. ISWG maintains documentation and prepares an annual report for the City Manager. For details, refer to information at:

<http://austintexas.gov/publicworks/capitalimprovement>

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Austin Convention Center  
Austin Convention Center  
Austin Energy Green Building  
Austin Energy  
Austin Public Library  
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Economic Growth and Redevelopment Services Office  
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Austin Convention Center is a LEED-EB Gold facility which has an on-going light fixture and lamp replacement program. In 2012 it achieved a 65% reduction of total lighting wattage.



Northwest Recreation Center Renovation and Addition project achieved LEED-Gold. This picture shows a rain garden which collects water from the roof to improve storm water run-off quality.