

City of Tampa projects with sustainability features incorporated into the design

February 2008

Exhibit 'A' to Energy-RFI

Note this is a partial list of both of projects and features, but is provided as an overview of design considerations incorporated into capital building projects as a matter of regular practice.

Items listed are sustainability features readily recognized by various rating organizations.

Tampa Municipal Office Building	
HVAC upgrade	Replaced existing chilled water system with air cooled condensers. Increased energy efficiency of units. Eliminates need for chemical water treatment. Reduces opportunities for mold/mildew. Saves 1 million+ gallons of water annually.
Fresh air unit installation	Supplements existing HVAC system to provide pretreatment of air and increased humidity control. Improved indoor air quality for facility.
Protective film installation	Solar film installed on large expanse of glass at SW corner of building. Reduces heat load and provides airborne projectile protection.
Roofing	Light colored, aluminized surfacing to reduce heat gain and increase reflectivity.
Relamping	Building wide relamping, including installation of energy efficient ballasts. Cut off switches installed in conference rooms to sense no-use condition and switch off lighting. LED exit lights. Incandescent bulbs changed out to compact fluorescents.
Elevator modernization	Replacement of existing control system with new high efficiency computerized controls. Provides energy savings both with power required as well as optimizing trips.
Exterior building cleaning	Utilized bio-degradable cleaning solutions and extensive plant protections.
Old City Hall	
HVAC upgrade	Replaced existing chilled water system with air cooled condensers. Increased energy efficiency of units. Eliminates need for chemical water treatment. Reduces opportunities for mold/mildew. Saves 1 million+ gallons of water annually.
Relamping	Building wide relamping, including installation of energy efficient ballasts. LED exit lights. Incandescent bulbs changed out to fluorescent.
Roofing	Light colored, aluminized surfacing to reduce heat gain and increase reflectivity.
Elevator modernization (fy08 project)	Replacement of manual elevator controls with automatic. Provides energy efficiency benefits.

Tampa Police Department Headquarters		
	HVAC upgrade	Replaced existing chilled water system with air cooled condensers. Increased energy efficiency of units. Eliminates need for chemical water treatment. Reduces opportunities for mold/mildew. Saves 1 million+ gallons of water annually.
	Fresh air unit installation	Supplements existing HVAC system to provide pretreatment of air and increased humidity control. Improved indoor air quality for facility.
	Relamping	Building wide relamping, including installation of energy efficient ballasts.
	Elevator modernization	Replacement of existing control system with new high efficiency computerized controls. Provides energy savings both with power required as well as optimizing trips.
	Reroofing	Replacement of existing roofing with CoolRoof material that maintains reflectivity and emissivity characteristics without supplemental coatings or periodic maintenance.
Fire Rescue Headquarters (Fire 1)		
	HVAC upgrade	Replaced existing chilled water system with air cooled condensers. Increased energy efficiency of units. Eliminates need for chemical water treatment. Reduces opportunities for mold/mildew. Saves 1 million+ gallons of water annually.
	Reroofing (fy08 project)	Replacement of existing roofing with CoolRoof material that maintains reflectivity and emissivity characteristics without supplemental coatings or periodic maintenance.
Tampa Convention Center		
	Reroofing	Energy Star compliant cool roof utilizing material that maintains reflectivity characteristics without supplemental coatings or periodic maintenance.
	Chiller upgrades. (currently in process)	Improvements to existing HVAC equipment that will increase energy efficiency of building systems.
Tampa Theatre		
	Reroofing	Energy Star compliant cool roof utilizing material that maintains reflectivity characteristics without supplemental coatings or periodic maintenance.
	Blade sign restoration	Replaces historic element previously removed. Utilizes LED lamps for energy savings and long life.
Tampa Police Department District 3 Facility		
	New facility	Approximately two dozen sustainability features incorporated into the design, including: daylighting, reflective roofing, energy efficient hvac and lighting systems, carpet with recycled material, and considerations in landscaping and site design. (separate list available)

Whiting St Garage	
Relamping	Complete replacement of existing garage lighting system with new energy efficient fixtures and ballasts.
40th Public Works and Stormwater Operations Facility	
New multi-building facility	New buildings with multiple sustainability features incorporated into the design, including: daylighting, energy efficient HVAC and lighting systems. Site design preserved numerous existing trees including approximately a dozen grand trees.
Community Centers	
Multiple new community centers and renovations via two bond issues (20+ locations involved)	New buildings with multiple sustainability features incorporated into the design, including: daylighting, energy efficient HVAC and lighting systems, hands free faucets and dryers. New gymnasiums all incorporate daylighting to minimize artificial lighting needs. (north orientation or shading provided to minimize heat gains) All site designs incorporate appropriate landscape material selections and irrigation systems to promote water conservation. All building orientations and site placements consider site conditions and solar orientations.
Ballfield Lighting	
Renovation/upgrade of existing ballfield lights	City standard has been for multiple sites to utilize cut off lighting to control light spill, automatic shutoff timers, and energy efficient ballasts. This has been accomplished at approximately a dozen sites. Current project at Wellwood (just completed) is utilizing the Musco 'green lighting' system that provides the above features in a 'state of the art' installation.
Columbus Avenue Municipal Office Building	
Renovation of existing building for multi-departmental municipal offices. (current project in development)	Features being incorporated into the design include replacement of multiple aging roof top hvac units with energy efficient central plant, new CoolRoof, hands free faucets, etc.
Tampa Museum of Art	
New facility	Approximately two dozen sustainability features incorporated into the design, including: daylighting, planted and high reflective roofing, energy efficient hvac and lighting systems, and multiple considerations in landscaping and site design. (separate list available)

Various Re-roofing projects	draft
	<p>For several years, City standard at various facilities when scheduled for re-roofing has been to only utilizing light colored shingles and reflective roof coatings to increase reflectivity and reduce heat gain. Dark roofs have been eliminated from inventory of over 500 structures.</p> <p>Currently, all reroofings are utilizing CoolRoof materials wherever possible. Materials used must be able to maintain rating without supplemental maintenance.</p>
Underground Tank Remediation projects	
	<p>City standard at various facilities when scheduled for regulatory upgrade/replacement has been to wherever possible provide replacement in an above ground installation with more than code minimum required safety features. Minimizes not only underground installations but redundancy to prevent spillage.</p>
Citywide energy audit	
	<p>For the past year a citywide energy audit of over 500 structures has been underway via the Department of Public Works Facilities Management. They have been working in conjunction with TECO to identify various opportunities for lighting and hvac upgrades and water conservation measures. Field work has recently finished and evaluation of information obtained is underway. Completion of the audit, including recommendations and cost estimates is planned for early calendar year 2008.</p>

Tampa Museum of Art

New facility sustainability attributes:

The following aspects of design and construction are being incorporated into the project. All are recognized features and methodologies by various sustainability organizations.

- Construction activity pollution prevention program to be implemented.
- Site location over the old Curtis Hixon Convention Center utilizes a previously developed site, while returning over three times the land area into pervious park land.
- Building is located in an urban area, with readily available site utilities and in close proximity to public transportation.
- Bicycle racks will be provided in close proximity to the building.
- Utilizes existing parking and therefore does not create additional paved areas.
- Deep overhangs that accommodate and protect pedestrians from direct sun impact and weather elements, and reduce non-roof heat islands.
- Utilizes paving materials with a high solar reflectance index.
- Combination of vegetated and high reflectance (albedo) roof.
- No potable water used for landscape irrigation around the building.
- Utilizes water conserving building fixtures.
- Zero use of CFC-based refrigerants in the building air-conditioning system.
- The building envelope is designed to optimize energy performance.
- Enhanced building commissioning program to be implemented
- Construction waste management program to be implemented.
- Reuses building materials and products (5% of construction cost).
- Utilizes regionally manufactured building materials (10% of construction cost).
- Establishes minimum indoor air quality performance standards.
- Exterior designated smoking areas to be located further than 25 feet away from entries and air intakes.
- Capability for automatic monitoring of the quality of outdoor air delivery.
- Increased outdoor air ventilation.
- Implement an indoor air quality management plan during the construction and pre-occupancy phases of the building.
- Develop and implement building systems “flush-out” procedures prior to occupancy.
- Utilizes low-emitting materials, including adhesives, sealants, paints, coatings, carpet systems, composite wood.
- Implement indoor chemical and pollutant source control by providing negative pressure between sensitive areas and adjacent occupied spaces, as well as direct exhaust and filtration.
- Flexible controllability of lighting and thermal systems.
- Utilizes daylight in the regularly occupied areas of the building.
- Skanska and the M/E/P engineers are sustainability accredited professionals.

Tampa Police Department District 3 Facility

Sustainability ('green') Features incorporated into the design

Design of the facility incorporates a number of sustainability aspects into the design. A listing of some of those features follow below. These are all strategies and improvements recognized by various energy and sustainability rating organizations:

- The project was built in a brownfield to avoid development in an inappropriate site and to reduce environmental impact to undeveloped farmland or previously undeveloped land.
- The project provided for the environmental cleanup and appropriate disposal of deleterious material.
- The site has pedestrian access to commercial, retail and public transportation to reduce impact from automobile use.
- The site design provides a high ratio of open space to promote biodiversity
- The design reduces existing impervious areas and adds new pervious area to increase on-site filtration.
- The project minimizes the heat island effect by providing shade trees and high solar reflectance roof surface
- The turf zones are separated from the trees, shrubs and groundcover which also will result in less water usage by creating different zones for different types of plant material.
- Drought tolerant xeric and native plants were specified for this project to reduce water consumption.
- Approximately 38% of the shrubs are very drought tolerant species and 37% are moderate drought tolerant species.
- 74% of the trees are classified as very drought tolerant species.
- One hundred percent of the groundcover is either very or moderately drought tolerant species
- A three inch depth of mulch is applied to all planted bed areas to cool the soil and thus minimize evaporation and reduce weed establishment and growth.
- The building provides high levels of natural light throughout the facility
- New carpet for the building is manufactured with 42-44% recycled material
- The project uses water efficient fixtures
- The HVAC is controlled to improve energy efficiency in low occupancy periods
- All interior fluorescent lights fixtures are provided with energy saving T8 lamps and an electronic ballast.
- All exit signs are provided with energy saving LED lamps.
- All offices and work areas are provided with automatic lighting controls via occupancy sensors or timers.
- The parking lot light fixtures are Dark Sky Complaint, Full Cut Off, which reduces light spillage.