Environmental Policy 2016

Mission

It is Savanna's policy to assess the feasibility of environmentally efficient alternatives as it executes its business plans for various assets and to select any "green" options where Savanna believes it is appropriate and cost effective.

Policies and Practices

Savanna implements the above objective by conducting energy audits and environmental risk assessments of our properties, using the Energy Star Portfolio Manager system to track energy, water and GHG emissions when applicable, specifying guidelines for the building process for all ground-up and substantial redevelopment projects, and targeting LEED certification for all ground-up construction and substantial redevelopment projects.

Implementation

Savanna intends to consider sustainable options for both buildings in its current portfolio as well as new acquisitions that involve either ground-up construction or substantial redevelopment of existing buildings. For its standing investments, if applicable, Savanna uses Energy Star Portfolio Manager to track consumption on a regular basis in compliance with Local Law 84 and will certify all buildings that qualify as Energy Star buildings with an Energy Star plaque. Additionally, Savanna intends to perform energy audits of all buildings in the performance phase, in compliance with Local Law 87.

Since the majority of Savanna's properties are located in New York City, Savanna will aim to align with the City of New York's PlaNYC effort to conserve resources. Specifically, the PlaNYC initiative includes reducing energy consumption by 2%, reducing water consumption by 3%, increasing waste diversion from landfills by 5%, and reducing GHG emissions by 2%.

For ground-up construction and substantial redevelopment projects, Savanna intends to issue rules and regulations to all contractors which include guidelines relating to environmental issues such as energy consumption, GHG emissions, water consumption, waste management, and climate change. These guidelines will specify Savanna's goals to select and install high efficiency HVAC systems, highly reflective roofs, low flow fixtures, Energy Star appliances and other applicable environmentally efficient systems.

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With these initiatives in mind, Savanna intends to target LEED certification for ground-up construction and substantial redevelopment projects, ensuring a sustainability focus throughout any of these new projects that we undertake.

Sustainability Goals for Ground-Up Construction and Substantial Redevelopment Projects

The following are Savanna's goals for future and current ground-up construction and substantial redevelopment projects.

1. Building Safety: Appropriate lighting will be installed in all exits and staircases in an effort to help ensure building safety while attempting to appropriately manage energy consumption.

2. Climate Change Adaptation: When appropriate and cost effective Savanna will aim to ensure that no CFC based refrigerants will be used in HVAC & Refrigeration systems in any buildings. CFCs contribute to global warming and ozone layer depletion.

3. Environmental Attributes of Building Materials: When appropriate and cost effective, Savanna will aim to install local materials (sourced within 500 miles) and /or materials with recycled content. Savanna will also attempt to use materials such as paints, coatings, adhesives, sealants and flooring that are green seal compliant and that contain minimal VOC's compliant with LEED standards. Wherever feasible, Floor Score flooring will be specified and installed.

4. GHG Emissions/Management: Overall efforts will be made to reduce carbon footprint of the buildings and occupants, including installing HVAC systems that are not oversized and efficient mechanical systems, in an effort to reduce overall energy consumption of the building.

5. Waste Management: Savanna intends to recycle ongoing consumables such as glass, plastics, paper, cardboard and aluminum in all ground up construction projects. Additionally, it's intended that all ground up construction projects will aim to divert 50% of construction waste from landfills.

6. Water Consumption/Management: Low flow fixtures and faucets will be installed wherever Savanna determines it is feasible. Any replacement fixtures will also meet or exceed the following UPC/IPC Standards and EPA WaterSense Standards.

7. General Sustainable Operations: When preparing development or redevelopment plans, Savanna will request that key service providers present sustainable or green options.

8. Sustainable Materials Return on Investment: When installing or replacing building systems, Savanna will consider options for energy efficient, green systems that may provide operating cost efficiencies in the future that offset higher upfront costs.

Case Studies of Current Environmental Initiatives

Redevelopment Projects Underway

95 Evergreen Avenue - Targeting USGBC's LEED Core and Shell (CS) v3 Silver Certification:

- **Energy Efficiency**: Several energy efficiency measures, such as efficient lighting and HVAC system, are projected to reduce the energy costs of 95 Evergreen by 21% over the baseline ASHRAE 90.1 2007 Standard.
- **On-site Renewable Energy:** The design includes a Solar PV system which will product about 60,000 kWh per year by harnessing energy from the sun.
- **Water Use Reduction**: Savanna will install water-sense fixtures and faucets throughout to result in a projected 39% water use reduction from LEED CS v3 baseline which derived from Uniform plumbing code/ International Plumbing Code (UPC/IPC) 2006 edition.
- **Building Reuse**- Savanna is attempting to reduce waste by reusing 97.7% of the existing building structure and materials. This should help to preserve the heritage and history of Brooklyn.
- **Construction Waste Management**: Construction waste is being tracked throughout construction and 77% of waste is being diverted from landfills and sent to appropriate recycling centers.
- **Encourage Bicycle Usage**: The building has dedicated bicycle storage space which facilitates occupants who want to use bicycles to commute to work, mitigating the CO2 emissions related with automobile commuting.
- **Improved Indoor air quality**: As a LEED certified building, 95 Evergreen will have improved Indoor air quality (IAQ) and better thermal comfort for occupants meeting and exceeding regular code.
- **Tenant Sustainability Requirements**: The plan includes implementation of tenant sustainability guidelines to ensure efficiency levels are maintained as each tenant builds out their space.

540 W 26th Street – Targeting LEED Core & Shell (CS) v3 Silver Certification:

- **Energy Efficiency:** An energy analysis was conducted and the asset is projected to reduce building energy use by 16-18% over the baseline ASHRAE 90.1-2007 Standard. Measures contributing to this projected reduction include high efficiency base building HVAC systems, energy recovery units, high efficiency condensing boilers, reduced lighting power density (20% reduction over baseline) and occupancy sensors throughout.
- **Water Use Reduction**: Savanna intends to install water-sense fixtures and faucets which are projected to result in a 35% water use reduction from LEED CS v3 baseline which derived from Uniform plumbing code/ International Plumbing Code (UPC/IPC) 2006 edition.
- **Indoor Air Quality**: The intended use of low VOC paints, coatings and finishes as well as the instillation of building products with no added urea-formaldehyde should help to assure great indoor air quality of the building. The implementation of a Construction IAQ Management Plan will prevent construction debris from entering the air distribution system.
- **Sustainable Materials**: Overall, sustainable materials are planned to be used in this building including materials with recycled content and those that are regionally

extracted and manufactured. Sustainably sourced FSC certified wood is also planned to be installed for finished carpentry.

- **Bike Room**: This facility has an indoor storage room for bicycles. Shower and changing facilities have also been installed to encourage and enable tenants to utilize cycling to the site as a sustainable alternative method of transportation.

106 W 56th Street – Targeting LEED Core & Shell (CS) v3 Silver Certification:

- **Green Cleaning Program:** The site will implement a green cleaning program to avoid potentially harmful cleaning chemicals, to reduce exposure of building occupants and preserve indoor air quality.
- **Low mercury lighting:** The design has minimized reliance on lighting technology that contains mercury, through implementation of LED fixtures for a majority of lighting systems in the base building areas. LED fixtures are energy efficient and contain no mercury, whereas traditional fluorescent fixtures are less efficient and contain small amounts of mercury, which can be hazardous if the fluorescent tubes are broken. The design reduces the mercury content below 80 picograms per lumen-hour.
- **Energy Efficiency:** An energy model was created to simulate energy performance of the site. The model predicts that the building will reduce energy use by 19% when compared to the ASHRAE 90.1-2007 standard. The design includes high-efficiency HVAC unit, energy recovery units, high efficiency condensing boilers, reduced lighting power density (20% reduction over baseline) and occupancy sensors throughout.
- **Water Use Reduction**: Savanna intends to install water-sense fixtures and faucets which are projected to result in a 35% water use reduction from LEED CS v3 baseline which derived from Uniform plumbing code/ International Plumbing Code (UPC/IPC) 2006 edition.
- **Bike Room**: This facility has an indoor storage room for bicycles. Shower and changing facilities have also been installed to encourage and enable tenants to utilize cycling to the site as a sustainable alternative method of transportation.

543 W 122nd Street – Targeting LEED New Construction (NC) v3 Silver Certification:

- **Water Use Reduction**: Savanna intends to install water-sense fixtures and faucets which are projected to result in a 30% water use reduction from LEED CS v3 baseline which derived from Uniform plumbing code/ International Plumbing Code (UPC/IPC) 2006 edition.
- **Energy Efficiency**: The design utilizes high-efficiency water source heat pumps, which allow heat recovery from spaces in cooling mode to heat spaces calling for heating.
- **Encourage Bicycle Usage**: The building will have dedicated bicycle storage space which facilitates residents who want to use bicycles to commute to surrounding areas, mitigating the CO2 emissions related with automobile transportation.
- **Improved Thermal Envelope**: The design includes exterior walls with increased thermal resistance (R-value) that exceed the requirements of the New York City Energy Conservation Code (NYCECC).

141 Willoughby Street – Targeting LEED Core & Shell (CS):

- **Site Selection:** The site is located in a dense urban neighborhood within easy walking distance to public transit and local amenities for future residents.
- **Sustainability strategies to be incorporated will be identified during the design process.**

Case Studies of Completed Environmental Initiatives

Completed New Development Projects

245 & 249 West 17th Street – LEED Core & Shell (CS), v3 Gold Certified:

- **Energy Efficiency & Green Energy**
  - Savanna installed a reflective and highly insulating roof to reduce the heating and cooling load on the building, saving energy for the owner and tenants.
  - Savanna hired an independent commissioning agent to test and verify proper installation of MEP equipment, resulting in reduced energy consumption and reduced operating costs.
  - Mechanical systems and lighting were specified so as to achieve a high level of energy savings (approximately 20% as compared to the original building) including the following:
    - Variable Air Volume (VAV) HVAC systems
    - Efficient cooling towers with water-side economizer
    - Cooling towers, boilers, and supply air delivery are optimized via BMS programming
    - High efficiency pumps and fan motors fitted with VFD's
    - High efficiency lighting fixtures/lamps
  - Tenant energy consumption is sub-metered and monitored through the BMS.
  - Renewable Energy certificates were purchased to offset base building energy usage.

- **Indoor Air Quality:** Contractors were required to use low-emitting adhesives, sealants paints and interior finishes resulting in a healthier indoor environment.

- **Site Selection:** The site is located in a dense urban neighborhood within easy walking distance to public transit and has no provisions for automobile parking.

- **Conservation of Water:** The project achieved a 43% water use reduction based on the bathroom and pantry fixtures that were installed.

- **Conservation of Materials:** The project was a renovation of an existing structure which reused material and greatly reduced the demand for new materials.

- **Recycled & Locally Produced Materials:** Interior fit out materials for the prebuilt spaces and lobbies were specified to have high levels of recycled content and be sourced locally.

125 North 10th Street (Williamsburg) – Sustainability Efforts:

- **Sustainable Materials:** Savanna used sustainably harvested "Ipe" Brazilian Walnut wood flooring as opposed to traditional wood flooring throughout the building.

- **Recycled Materials:** Savanna installed "Icestone" countertops made from recycled concrete and glass. These countertops were made locally in Brooklyn, New York.

- **Energy Efficiency:** Savanna installed Energy Star approved appliances in all units of the building.

- **Locally Produced Materials:** Local furniture fabricators and artisans were employed and used throughout the building, cutting down on material travel.

141 5th Avenue – Sustainability Efforts:

- **Conservation of Materials:** 141 5th Avenue was an adaptive re-use project. Existing structure, floors and various interior elements were reused in a major renovation of the existing building.

- **Clean & Efficient Energy:** 141 5th Ave utilizes the Con Edison steam plant. The ConEd steam plant is a Cogeneration plant that burns low sulfur oil and clean burning gas to produce both electricity and steam. The facility is operated and continuously monitored by ConEd to minimize emissions. ConEd implemented emission control technologies at steam generating facilities to reduce emissions approximately 50% over the past 5 years.

- **Energy Efficiency:** Savanna installed energy star appliances in units at the property.

- **Locally Produced Materials:** Savanna installed locally manufactured kitchen cabinetry in units at 141 5th Avenue.

Completed Upgrades to Existing Buildings

434 Broadway, New York, NY:

- **Energy Efficiency**: New energy efficient air cooled AC units were selected.
- **Conservation of Water**: New Restrooms have water efficient low flow fixtures & faucets.
- **Sustainable Materials:**
  - Low emitting materials such as low VOC paints and ceiling tiles, CRI certified Carpet tiles, and Greenguard IAQ certified Vinyl base were selected.
  - Materials such as ceiling tiles and grid have high recycled content.

110 William, New York, NY:

- **Conservation of Water**: All Restrooms have low flow fixtures and sensor faucets to minimize water use. New cooling tower drift eliminators have been installed to reduce cooling tower evaporation.
- **Energy Efficiency**: Energy efficient LED lighting was installed throughout.
- **Sustainable Materials:**
  - Low emitting materials such as low VOC paints and ceiling tiles, CRI certified Carpet tiles, and Greenguard IAQ certified Vinyl base were selected.
  - Materials such as ceiling tiles and grid have high recycled content.

The Bruckner Building:

- **Conservation of Water**: 1.6/0.9 dual flush toilets have been installed on the 7th floor and 1.28 gpf toilets were installed on 4th floor. Also this site has upgraded to 0.5 gpm lavatory faucets in over half of tenant spaces.

Edgewater:

- **Energy Efficiency:** Savanna assessed all common space lighting and installed compact fluorescents where possible at the property.

Dutchess Corporate Center (169 Myers Corner Road):

- **Energy Efficiency:** Savanna installed a more efficient boiler system with "variable capacity." This means that the boiler can run at lower capacity as determined by how much is actually needed.

Bristol Connecticut Industrial Project:

- **Energy efficiency:** New one million sf roof with new insulation has been installed.

386 Park Ave S:

- **Energy efficiency:** New energy efficient windows have been installed
- **Conservation of Water:** New bathrooms with waterless urinals and low flow water closets have been installed.

104 West 40th street:

- **Conservation of Water:** New restrooms with low flow water fixtures and faucets have been installed.

5 Hanover Square:

- **Energy efficiency:** Base building chillers and cooling towers have been replaced for greater energy efficiency.
- **Conservation of Water:** New restrooms with low flow water fixtures and faucets have been installed.

1375 Broadway:

- **Energy efficiency:** New roofing with greater insulation and new energy efficient air cooled AC units have been installed.
- **Conservation of Water:** New restrooms with low flow water fixtures and faucets have been installed.

31 Penn Plaza:

- **Energy efficiency:** New more efficient elevators and new energy efficient air cooled AC units have been installed.
- **Conservation of Water:** New restrooms with low flow water fixtures and faucets have been installed.

100 Wall Street & 80 Broad Street:

- **Resilience:** Following Hurricane Sandy, which particularly impacted 100 Wall Street and 80 Broad Street, Savanna invested significant capital to both repair damages sustained from flooding and took preventive actions to protect against future weather related risks. All vital electrical systems, such as electrical

switchgear, fire alarm systems and security systems were moved to higher floors in order to preserve vital operations and significantly reduce potential downtime. In addition, wireless communication infrastructure was installed at the top of 100 Wall Street to allow for seamless communication and data transfer if landlines fail due to storm damage at any point in the future.

- **Energy efficiency:** New roof insulation has been installed at 80 Broad St.
- **Conservation of Water:** New restrooms with low flow water fixtures and faucets have been installed in both buildings.