



## Environmental Policy 2018

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### 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. With the growing impact of climate change Savanna evaluates all existing and potential assets for resiliency risk and aims to mitigate those risks through compliance with all local laws, implementation of environmental and energy efficiency initiatives, and additional relevant preventative measures..

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.

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.

9. Ecosystem Services/Habitat Management: Low-impact development best practices are employed to control urban runoff whenever possible to maintain the existing ecosystem services of a site and habitats (as applicable). These best practices include but are not limited to preserving and recreating natural landscape features, and minimizing impervious surfaces.

### Current Case Studies of Current Environmental Initiatives

#### **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:** 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.

#### **543 W 122<sup>nd</sup> Street – Targeting LEED New Construction (NC) v3 Silver Certification in 2020:**

- **Water Use Reduction:** Savanna intends to install water-sense fixtures and faucets which are projected to result in a 36% 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.**
  - **Façade:** 141 Willoughby will undergo a façade energy performance assist (perform thermal analysis for exterior envelope components as a means to validate conceptual designs as related to local Energy Code requirements as well as any LEED strategies being considered) and plans to participate in the Zone Green Initiative.
  - **LEED:** Achieve LEED v4 BD+C Core and Shell Silver certification or higher. Savanna is striving to achieve a high level of energy and water efficiency by improving the building response to climate (reducing exterior building envelope mass, increasing daylight), reducing potable water use (recycling grey and storm water, installing low-flow fixtures, avoiding potable water for irrigation), reducing energy use (using low-energy LED lights, sub-metered tenants services, and day-lighting controls to reduce interior heat gains), along with other sustainable design strategies.
  - **Environmental Remediation:** Savanna has brought AKRF on board to draft a remedial action plan, construction health and safety plan and remedial closure report for hazardous material services, and a remedial action plan for noise and noise installation report.

#### 48 West 25<sup>th</sup> Street

- **Conservation of Water:** New Restrooms to have water efficient low flow fixtures & faucets.
- **Energy Efficiency:** Energy efficient LED lighting to be installed in restrooms, prebuilds, tenant build outs, corridors & lobby

#### 5 Bryant Park

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### Case Studies of Past Environmental Initiatives

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

- **Energy Efficiency:** Several energy efficiency measures installed, 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 property has a Solar PV system which will produce about 60,000 kWh per year by harnessing energy from the sun.
- **Water Use Reduction:** Savanna installed water-sense fixtures and faucets to target a 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 attempted 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 was tracked throughout construction and 77% of waste was 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 has 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 – Applied for 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.
  - Savanna hired an independent commissioning agent to test and verify proper installation of MEP equipment, resulting in reduced energy consumption and reduced operating costs.
- **Water Use Reduction:** Savanna installed 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 use of low VOC paints, coatings and finishes as well as the instillation of building products with no added urea-formaldehyde help to assure great indoor air quality of the building. The implementation of a Construction IAQ Management Plan prevented construction debris from entering the air distribution system.
- **Sustainable Materials:** Overall, sustainable materials were used in this building including materials with recycled content and those that are regionally extracted and manufactured.
- **Bike Room:** 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.
- **Resilience:** Due to the property's location in a 100-year flood zone, the MEPS systems were designed to protect against future weather-related risks. All vital electrical systems, such as electrical switchgear and fire alarm systems installed above the design flood elevation. A generator has been installed on the roof, and all cellar equipment is flood-proofed.

**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.

**31-00 47<sup>th</sup> Avenue (Falchi)**

- **Conservation of Water:** New Restrooms have water efficient low flow fixtures & faucets.
- **Energy Efficiency:** Energy efficient LED lighting is installed in restrooms, prebuilds, tenant build outs & corridors

### 1825 Park Avenue

- **Conservation of Water:** New Restrooms have water efficient low flow fixtures & faucets.
- **Energy Efficiency:** Energy efficient LED lighting is installed in restrooms, prebuilds, tenant build outs & corridors

### 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 has been installed in the renovated main lobby and building core areas, as well as in new Tenant Fit-outs and Prebuilt Suites.
- **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.

### 19 West 44<sup>th</sup> Street:

- **Conservation of Water:** Savanna has installed new low flow flushmeters and sink faucets for all new pantries and sinks in prebuilt spaces (10<sup>th</sup> floor restrooms, corridor, and suites as well as specified in the proposed build outs of suites, corridors, and bathrooms on the 2<sup>nd</sup>, 3<sup>rd</sup>, 7<sup>th</sup>, 14<sup>th</sup>, 15<sup>th</sup>, and 17<sup>th</sup> floors)
- **Conservation of Energy and Recycling:** Savanna has installed an energy conservation lighting control package including daylight and occupancy sensors in prebuilt spaces (10<sup>th</sup> floor restrooms, corridor, and suites as well as specified in the proposed build outs of suites, corridors, and bathrooms on the 2<sup>nd</sup>, 3<sup>rd</sup>, 7<sup>th</sup>, 14<sup>th</sup>, 15<sup>th</sup>, and 17<sup>th</sup> floors). Savanna also uses green action carpet backing and ceiling tiles with a high recyclable content.
- **Indoor Air Quality:** Low VOC paints, coatings and finishes are used at the 10<sup>th</sup> floor restrooms, corridor, and suites as well as specified in the proposed build outs of suites, corridors, and bathrooms on the 2<sup>nd</sup>, 3<sup>rd</sup>, 7<sup>th</sup>, 14<sup>th</sup>, 15<sup>th</sup>, and 17<sup>th</sup> floors.

### 31 West 27<sup>th</sup> Street:

- **Conservation of Water:** All Restrooms have low flow fixtures and sensor faucets to minimize water use
- **Energy Efficiency:** Energy efficient LED lighting has been installed in the Prebuilt Suite