



## Sustainability

### Brickell City Centre

Brickell City Centre breaks important new ground in innovation and sustainability features. Its breathtaking 150,000+ square foot Climate Ribbon™ trellis system incorporates sophisticated passive and active environmental control features as it winds through the complex.

With its numerous green building features, pioneering underground parking solutions, and site-integrated Metromover light rail station, Brickell City Centre strives to earn not only the LEED® Gold designation but bring about a new paradigm in large-scale sustainable urban development.

#### **LEED-CI Opportunities for Retail Tenants**

Though not a requirement of the project, the environmentally-conscious selection of **Brickell City Centre** means that retail tenants have the increased opportunity to achieve a LEED ID&C (Interior Design and Construction) rating due to the available prerequisites and credits already built-in to the overall development. There are two (2) categories in which the building design will significantly assist tenants in achieving a LEED ID&C rating with minimal cost and design effort:

- **Free Credits** – Tenants will automatically qualify for certain prerequisites and credits including Energy & Atmosphere and Indoor Environmental Quality prerequisites and Sustainable Sites and Innovation & Design Process credits.
- **Head-Start Credits** – The building includes infrastructure within its systems allowing tenants to integrate LEED ID&C features within their interior designs at minimal cost. These additional prerequisites and credits include Water Efficiency and Materials & Resources points amongst others.

#### **BCC Retail Sustainability Attributes and Education:**

**Energy Efficiency.** The following energy conservation measures will be incorporated into the Brickell City Centre Retail Tenant spaces:

1. The high performance building envelope will reduce heating and cooling requirements of mechanical ventilation and conditioning systems. This, coupled with efficient mechanical and electrical equipment serving the retail spaces, will reduce energy consumption by more than 10% when compared to ASHRAE standard 90.1-2007.
2. High-efficiency lighting systems will reduce energy consumption for both interior and exterior lighting.
3. High-efficiency district energy network for chilled water will be utilized. Chillers will use refrigerants that minimize the emission of compounds that contribute to ozone depletion and global climate change.
4. High efficiency automatic lavatory faucets in shared retail restrooms will reduce the overall water use for the project by an estimated 300,000 gallons per year when compared to standard restroom fixtures. Additionally, a small reduction in domestic hot water heating will result from lower hot water flow rate demands.
5. A centrally monitored electronic metering network will be included in the base building design and will be capable of being expanded to accommodate future Retail Tenant sub-metering. Energy costs for each Retail Tenant will be paid directly by Tenant, therefore allowing Retail Tenants to realize energy savings from any Tenant installed energy efficient equipment (e.g. lighting, HVAC).

**System Commissioning and Energy Optimization.** Extensive measures will be taken to ensure the proper function (now and in the future) of the energy-related systems serving retail spaces. The combined elements of building systems commissioning and energy optimization will work to reduce costs and will effectively reduce retail space energy consumption.

**Water Efficiency.** Several water conservation measures will be incorporated into the Brickell City Centre Retail Spaces. Plumbing fixtures that will be installed in the shared retail restrooms will result in an estimated water use savings of approximately 1.23 million gallons per year when compared to standard plumbing fixtures. Efficient plumbing fixtures will include waterless urinals, toilets for typical restrooms that use only 1.28 gallons per flush and motion activated lavatory faucets that will use only 0.1 gallons per cycle.



Site wide benefit. Brickell City Centre Retail Core & Shell is anticipated to earn LEED-CS Silver certification and has several sustainable elements incorporated that future Retail Tenants who pursue LEED-CI certification may take credit for. This includes:

1. Extensive Vegetation and Open Space in an Urban Environment - The inclusion of extensive vegetated area and pedestrian oriented hardscape on the Brickell City Centre site will serve to provide occupants and visitors of greater comfort in being outside in an urban environment and greater connection to a more natural and open area in the Brickell district of Miami. In addition to the ecological benefits the vegetation affords, this amount of vegetated area has positive heat-island effect and stormwater infiltration impacts and provides greater access both visually and physically to natural elements in an urban environment. Most of the vegetation on site will be native and/or adapted to the Miami climate, and will be carefully selected as such so as to reduce negative environmental impacts including the need for potable water irrigation and regular maintenance.
2. Rainwater collection and Stormwater Management: Several cisterns will be located throughout Brickell City Centre to collect both rainwater and condensation to be used for cooling systems and site wide irrigation. Additionally, injection wells throughout the site will allow stormwater to infiltrate the ground. These measures will not only help to avoid wasteful stormwater runoff from the site, but will also allow for reduction of potable water use for irrigation of the vegetated spaces at Brickell City Centre.
3. Heat-Island and Development Footprint Reduction: By designing a development in which 100% of parking is located below grade, no additional land area was required to accommodate vehicle parking, effectively eliminating heat island effect from additional sprawling parking surfaces. In addition, roofing materials on the buildings in Brickell City Centre will have a highly reflective and emissive surface that will reduce solar heat gain inside the buildings and further diminish the potential contribution to heat island effects around the site.
4. Alternative Transportation Option: Between allowing for easy access to public transportation and providing preferred parking for low emitting and fuel efficient vehicles, Brickell City Centre will have available a number of different opportunities to reduce personal automobile usage impacts (which include vehicular and fuel-production pollution as well as land development impacts).
5. On-Site Recycling: Brickell City Centre will have a recycling program on-site. Recyclables from collection bins housed in Tenant spaces will be brought to the central storage areas in loading dock areas where space will be allocated for intermediate storage of materials such as glass, plastic, aluminum, paper and cardboard. The recycle materials will be periodically picked-up and hauled to recycling facilities.
6. Walkable Project Site: The Brickell City Centre site has been designed to promote walking, biking, and other non-motorized transportation. By eliminating surface parking lots, creating continuous sidewalks and pedestrian paths throughout the development, and providing street trees regularly throughout the site, Brickell City Centre creates an environment that results in reduced vehicle miles traveled, increased public health and enhanced community participation.

#### **Building Materials:**

1. Recycled Content: Materials used in the construction of Brickell City Centre will be selected with the intent of reducing the amount of virgin raw materials required. Products with high amounts of recycled content will be chosen to reduce the demand for those virgin materials and extend the life of materials already in the system.
2. Regional Materials: Products and materials that are manufactured locally with raw materials that are harvested, extracted or recovered locally will be sought after so as to reduce environmental impacts resulting from transportation.
3. Certified Wood: In an effort to reduce negative environmental impacts of irresponsible forest practices wood based materials that are certified by the Forest Stewardship Council (FSC) will be used for this project. FSC wood comes from manufacturers and vendors who practice sustainable timber harvesting.

**Construction Waste Management.** Construction and demolition activities generate enormous quantities of solid waste, the majority of which can be recycled. Recycling these materials reduces demand for virgin resources, and, in turn, reduces the environmental impacts associated with resource extraction, processing and transportation. Such recycling activities help reduce the waste volumes that are otherwise sent to landfills. The construction team for the Brickell City Centre retail spaces will focus on diverting waste from landfills to recycling centers, with a goal to divert over 75% of the waste generated on site.

**Interior Finishes in General.** The interior finish materials for Brickell City Centre retail spaces and shared areas have been carefully selected in consideration of their durability as well as their indoor air quality characteristics. As some interior finish materials contain contaminants that are harmful to installers and occupants, great care has been taken in the selection of interior materials not only to meet aesthetic requirements but also to satisfy strict chemical content or emission standards. Additional information on several building finish materials is presented below:



**Paints, Coatings, Adhesives, and Sealants:** The paints, coatings, adhesives, and sealants that will be used at Brickell City Centre will contain proven low quantities of volatile organic compounds (VOCs). VOCs are found in everything from naturally occurring substances like methane to synthetic chemicals like those found in solvents, glues, and curing compounds. Reducing the content of VOCs in the paint, coating, adhesive, and sealant products helps to reduce the exposure of occupants to chemical contaminants.

**Flooring Systems:** The flooring systems selected for the project will also have low levels of chemicals associated with their installation and use. Flooring selected has been tested to strict indoor air quality standards ensuring minimal new product chemical emissions.

**Composite Wood Products:** Doors frames, wood blocking, and millwork components containing composite wood will be manufactured without the use of any added urea formaldehyde in wood binders and laminate adhesives. Urea formaldehyde based materials and products often release formaldehyde into the air, which is carcinogenic and an irritant to most people when present in high concentrations causing dizziness, headaches, mental impairment and other systems. As such, urea formaldehyde will be eliminated to improve air quality in the space.

**Construction Methods.** In addition to the reduction of potential occupant exposure over time from the chemical content and emissions of the above-noted building materials, the construction process itself will be conducted in a manner that reduces the potential for chemical and/or pollutant loading within the interior spaces. Specific protocols will be followed that effectively mitigate and control the impacts of construction activities on indoor environmental quality.

#### **Brickell City Centre Retail Tenant Opportunities with LEED-CI:**

The environmentally-conscious selection of Brickell City Centre Retail means that the opportunities to achieve a LEED ID&C rating are significantly increased.

To achieve a LEED ID&C Certification, 40 credits must be achieved. The building design will pave the way for 6 of 7 prerequisites and 36 of 40 credits thereby reducing the Tenant's cost impact, efforts in documentation and research time. IES would be happy to assist prospective Tenants in identifying a LEED Accredited Professional (LEED AP) or consultant to assist the design team in this most important undertaking (see page 17 for contact information).

There are two major categories in which the building design will significantly assist Tenant in achieving a LEED ID&C rating with minimizing its costs and design efforts.

**"Free Credits"** First, there are several credits and prerequisites that Tenant will automatically qualify for just by having chosen Brickell City Centre. The documentation of these points will have already been done by the building LEED AP consultant and accepted by the U.S. Green Building Council, further reducing the Tenant's documentation costs. These free credits are highlighted in yellow on the LEED ID&C Checklist that follows.

**"Head-Start Credits"** Second, in the LEED ID&C program, there are credits and prerequisites required for which the building will provide a level of infrastructure in its systems for the Tenant's benefit making it much easier for Tenant to implement and integrate LEED ID&C features within their interior design with minimal cost impact. These head-start credits are highlighted in blue on the LEED ID&C Checklist that follows.

# LEED CHECKLIST

### BCC Retail: LEEDv2009 ID&C Registered Project Checklist

Project Name: Retail Tenant - LEED ID&C (Interior Design and Construction)

Project Address: Brickell City Centre  
701 South Miami Avenue  
Miami, FL 33131



Yes	No	Possible Points	21
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<b>Sustainable Sites</b>	
		Free Prerequisites	N/A
		Free Points	17
		Head Start Prerequisites	N/A
		Head Start Points	2

<input checked="" type="checkbox"/>		Credit 1 Site Selection - Select a LEED Certified Building - OR -	5
<input checked="" type="checkbox"/>		Credit 2 Development Density and Community Connectivity	6
<input checked="" type="checkbox"/>		Credit 3.1 Alternative Transportation, Public Transportation Access	6
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Credit 3.2 Alternative Transportation, Bicycle Storage & Changing Rooms	2
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Credit 3.3 Alternative Transportation, Parking Availability	2

Yes	No	Possible Points	11
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<b>Water Efficiency</b>	
		Free Prerequisites	N/A
		Free Points	N/A
		Head Start Prerequisites	N/A
		Head Start Points	8

<input checked="" type="checkbox"/>		Prereq 1 Water Use Reduction: 20% Reduction	Required
<input checked="" type="checkbox"/>		Credit 1.1 Water Use Reduction: 30% (6 points), 35% (8 points), 40% (11points)	6-11

Yes	No	Possible Points	37
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<b>Energy &amp; Atmosphere</b>	
		Free Prerequisites	1
		Free Points	N/A
		Head Start Prerequisites	2
		Head Start Points	6

<input checked="" type="checkbox"/>		Prereq 1 Fundamental Commissioning	Required
<input checked="" type="checkbox"/>		Prereq 2 Minimum Energy Performance	Required
<input checked="" type="checkbox"/>		Prereq 3 CFC Reduction in HVAC&R Equipment	Required
<input checked="" type="checkbox"/>		Credit 1.1 Optimize Energy Performance - Lighting Power	1-5
<input checked="" type="checkbox"/>		Credit 1.2 Optimize Energy Performance - Lighting Controls	1-3
<input checked="" type="checkbox"/>		Credit 1.3 Optimize Energy Performance - HVAC	5-10
<input checked="" type="checkbox"/>		Credit 1.4 Optimize Energy Performance - Equipment and Appliances	1-4
<input checked="" type="checkbox"/>		Credit 2 Enhanced Commissioning	5
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Credit 3 Energy Use, Measurement & Payment Accountability	2-5
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Credit 4 Green Power	5

Yes	?	No		Possible Points
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<b>Materials &amp; Resources</b>	<b>14</b>
			Free Prerequisites	N/A
			Free Points	N/A
			Head Start Prerequisites	1
			Head Start Points	1

Y		Required
<input checked="" type="checkbox"/>	Prereq 1 Storage and Collection of Recyclables	Required
<input checked="" type="checkbox"/>	Credit 1.1 Tenant Space, Long Term Commitment	1
<input type="checkbox"/>	Credit 1.2 Building Reuse, Maintain 40% of Interior Non-Structural Components	1-2
<input type="checkbox"/>	Building Reuse, Maintain 80% of Interior Non-Structural Components	
<input type="checkbox"/>	Credit 2 Construction Waste Management, Divert 60% From Landfill	1-2
<input type="checkbox"/>	Construction Waste Management, Divert 75% From Landfill	
<input type="checkbox"/>	Credit 3.1 Resource Reuse, 5%	1-2
<input type="checkbox"/>	Resource Reuse, 10%	
<input type="checkbox"/>	Credit 3.2 Resource Reuse, 30% Furniture and Furnishings	1
<input type="checkbox"/>	Credit 4 Recycled Content, 10% (post-consumer + 1/2 pre-consumer)	1-2
<input type="checkbox"/>	Recycled Content, 20% (post-consumer + 1/2 pre-consumer)	
<input type="checkbox"/>	Credit 5 Regional Materials, 20% Manufactured Regionally	1-2
<input type="checkbox"/>	Regional Materials, 10% Extracted and Manufactured Regionally	
<input type="checkbox"/>	Credit 6 Rapidly Renewable Materials	1
<input type="checkbox"/>	Credit 7 Certified Wood	1

Yes	?	No		Possible Points
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<b>Indoor Environmental Quality</b>	<b>17</b>
			Free Prerequisites	1
			Free Points	N/A
			Head Start Prerequisites	1
			Head Start Points	N/A

Y		Required
<input checked="" type="checkbox"/>	Prereq 1 Minimum IAQ Performance	Required
<input checked="" type="checkbox"/>	Prereq 2 Environmental Tobacco Smoke (ETS) Control	Required
<input type="checkbox"/>	Credit 1 Outside Air Delivery Monitoring	1
<input type="checkbox"/>	Credit 2 Increased Ventilation	1
<input type="checkbox"/>	Credit 3.1 Construction IAQ Management Plan, During Construction	1
<input type="checkbox"/>	Credit 3.2 Construction IAQ Management Plan, Before Occupancy	1
<input type="checkbox"/>	Credit 4.1 Low-Emitting Materials, Adhesives and Sealants	1
<input type="checkbox"/>	Credit 4.2 Low-Emitting Materials, Paints and Coatings	1
<input type="checkbox"/>	Credit 4.3 Low-Emitting Materials, Flooring Systems	1
<input type="checkbox"/>	Credit 4.4 Low-Emitting Materials, Composite Wood and Laminate Adhesives	1
<input type="checkbox"/>	Credit 4.5 Low-Emitting Materials, Systems Furniture and Seating	1
<input type="checkbox"/>	Credit 5 Indoor Chemical and Pollutant Source Control	1
<input type="checkbox"/>	Credit 6.1 Controllability of Systems, Lighting	1
<input type="checkbox"/>	Credit 6.2 Controllability of Systems, Thermal Comfort	1
<input type="checkbox"/>	Credit 7.1 Thermal Comfort - Design	1
<input type="checkbox"/>	Credit 7.2 Thermal Comfort - Verification	1
<input type="checkbox"/>	Credit 8.1 Daylight & Views - Daylight 75% of Spaces	1-2
<input type="checkbox"/>	Daylight & Views - Daylight 90% of Spaces	
<input type="checkbox"/>	Credit 8.2 Daylight & Views - Views for 90% of Seated Spaces	1

Yes	?	No		Possible Points
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<b>Innovation &amp; Design Process</b>	<b>8</b>
			Free Prerequisites	N/A
			Free Points	1
			Head Start Prerequisites	N/A
			Head Start Points	1

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Credit 1.1 Pilot Credit 18 - Rainwater Management	1
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Credit 1.2 5504.1 Exemplary Performance - Double Transit Ridership	1
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Credit 1.3 Green Building Education	1
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Credit 1.4 Pilot Credit 14 - Walkable Project Site	1
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Credit 1.5 5507.2 Exemplary Performance - Heat Island Non Roof (100% covered parking)	1
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Credit 2 LEED™ Accredited Professional	1

Yes	?	No		Possible Points
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<b>Regional Priority</b>	<b>4</b>
			Free Prerequisites	N/A
			Free Points	N/A
			Head Start Prerequisites	N/A
			Head Start Points	2

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Credit 1.1 Optimize Energy Performance: Lighting Power (EAc1.1) - 15%	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Credit 1.2 Optimize Energy Performance: Lighting Controls (EAc1.2) - Any option	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Credit 1.3 Optimize Energy Performance: HVAC (EAc1.3) - Any option	1
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Credit 1.4 Enhanced Commissioning (EAo2)	1
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Add. Measurement and Verification (EAo3) - Any option	1
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Option	
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Add. Water Use Reduction (WEo1) - 30%	1
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Option	

Yes	?	No		Possible Points
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<b>Totals (pre-certification estimates)</b>	<b>110</b>

Certified 40 to 49 points Silver 50 to 59 points Gold 60 to 79 points Platinum 80 to 110 points