



## LEED-NC V2.2 Prerequisite and Credit Contribution

TECHNICAL BULLETIN #300

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### Tate LEED-NC Certification Contribution

A Tate access floor system and the advanced service distribution technologies it affords can contribute toward achievement of numerous credits for LEED-NC certification. When all the components of Tate's Building Technology Platform® Solution are utilized — the access floor, underfloor air and cabling, and PosiTile® carpet — they can greatly contribute to the LEED Scorecard of a project striving for certification. The Tate solution can help to achieve prerequisites and accumulate points in the following categories and credit areas of LEED-NC Version 2.2:

#### Energy and Atmosphere

Optimize Energy Performance

#### Materials and Resources

Building Reuse

Materials Reuse

Recycled Content

Regional Materials

#### Indoor Environmental Quality

Increased Ventilation

Controllability of Systems

Thermal Comfort

Daylight & Views

In addition, several major benefits of access floor and underfloor service distribution technologies not addressed by the LEED rating system provide opportunities to pursue points for *Innovation in Design*. Several possibilities for achieving ID credits have been developed by Tate and appear on pages 8 through 10 of this bulletin.

The following pages include two prerequisites and the credits that can be pursued with the help of Tate systems and underfloor service distribution methods. For each prerequisite or credit, see "Tate Contribution" to find out how the Tate solution contributes. Most of the credits are achievable early in the building's life, while a few, such as *Building Reuse* and *Material Reuse*, are long-term sustainability strategies that can pay off later in the building's life. Documentation demonstrating compliance with credit requirements may come from Tate, architects, general contractors, mechanical engineers, electrical engineers, power cable suppliers, IT engineers, signal cable suppliers and carpet suppliers.

#### LEED V2.1 vs. V2.2

The LEED Version 2.2 Rating System maintains all five of the original categories of Version 2.1 and all of the original credits that may be attained with the help of access floors and underfloor service distribution systems. The major technical differences between versions 2.1 and 2.2 as they relate to access floors and underfloor service distribution are adoption of updated ASHRAE Reference Standards for compliance in the Energy and Atmosphere and Indoor Environmental Quality categories. Other changes to credit requirements are generally minor and should not inhibit compliance. In addition, the submittals section under each credit in the LEED Reference Guide has been omitted to make documentation more flexible and streamlined.

## LEED-NC Version 2.2 - ENERGY AND ATMOSPHERE

### EA Prerequisite 2: Minimum Energy Performance

**Intent:** Establish the minimum level of energy efficiency for the proposed building and systems.

**Requirements:** Design the building to comply with *both* the mandatory provisions of ASHRAE/IESNA Standard 90.1-2004 AND the Prescriptive Requirements of 90.1 OR the Section 11 Performance Requirements of 90.1 (without amendments) OR the requirements in the local energy code (whichever criteria is more rigorous).

**Tate Contribution (EA Prerequisite 2):** Underfloor air delivery (UFAD) systems used in conjunction with access floors reduce energy use below the energy consumption of comparative overhead systems by (1) reducing the amount of fan-power required, (2) using higher-temperature supply air for cooling, (3) using a greater amount of "free" outside air for cooling and (4) delivering conditioned air to occupants rather than to the entire volume of space. For elaboration on these points, refer to the four bullets at the bottom of this page.

### EA Credit 1/ Option 1: Optimize Energy Performance – for all Commercial Building Types

**Intent:** Achieve increasing levels of energy performance above the baseline in the prerequisite standard to reduce environmental and economic impacts associated with excessive energy use.

**Requirements:** Demonstrate a percentage improvement in the proposed building energy performance rating compared to the baseline building performance rating per ASHRAE/IESNA Standard 90.1-2004 by conducting whole building energy simulation using the Building Performance Rating Method in Appendix G of the Standard.

### EA Credit 1/ Option 2: Optimize Energy Performance – for Office Buildings Under 20,000 SQ. FT.

**Intent:** Achieve increasing levels of energy performance above the baseline in the prerequisite standard to reduce environmental and economic impacts associated with excessive energy use.

**Requirements:** Comply with the prescriptive measures of the ASHRAE Advanced Energy Design Guide for Small Office Buildings 2004 (for the climate zone in which the building is located).

### EA Credit 1/Option 3: Optimize Energy Performance–for Advanced Buildings Benchmark Version 1.1 Projects

**Intent:** Achieve increasing levels of energy performance above the baseline in the prerequisite standard to reduce environmental and economic impacts associated with excessive energy use.

**Requirements:** Comply with the Basic Criteria and Prescriptive Measures of the Advanced Buildings Benchmark Version 1.1 (with exceptions to Sections 1.7, 1.11 and 1.14).

**Tate Contribution (EA Prerequisite 2 and EA Credit 1):** An UFAD system's energy performance will easily exceed the requirements of Prerequisite 2 and significantly contribute toward achievement of Optimize Energy Performance credits (for which up to 10 points may be awarded to standard commercial office buildings). This is because energy performance is enhanced by several major benefits of UFAD:

1. **Fan Power Savings:** Fan power is reduced because UFAD systems operate at lower static pressures (between 0.05" and 0.10" wg) compared to 1.5" to 2.0" wg for overhead systems. According to the Center for the Built Environment located at the University of California, the average fan-power savings with a variable air volume UFAD system can range from 25 to 50% depending on the amount of CFM required.
2. **Higher Air Supply Temperature for Cooling:** Because air is delivered directly to the occupied zone, supply temperatures for cooling are typically 10°F higher than in overhead systems.
3. **Free Cool Air from Outside:** By using higher-temperature air for cooling, the system can use economizer mode (free outside air) to cool the building for a longer period of time each day, thereby reducing the central plant energy consumption.
4. **Reduced Air Volume Requirement:** By delivering conditioned air directly to the occupied six-foot vertical zone rather than to the entire volume of space, the amount of air required to provide thermal comfort is lower.

## LEED-NC Version 2.2 - MATERIALS & RESOURCES

### MR Credit 1.3: Building Reuse: Maintain 50% of Interior Non-Structural Elements

**Intent:** Extend the life of existing building stock, conserve resources, retain cultural resources, reduce waste and reduce environmental impacts of new buildings as they relate to materials manufacturing and transport.

**Requirements:** Use existing interior non-structural elements (interior walls, doors, floor coverings and ceiling systems) in at least 50% (by area) of the completed building (including additions). If the project includes an addition to an existing building, this credit is not applicable if the square footage of the addition is more than 2 times the square footage of the existing building.

**Tate Contribution (MR Credit 1.3):** A Tate floor will last the lifetime of a building and accommodate a variety of future occupant requirements. Although an access floor will not help a LEED-NC project to achieve Building Reuse credits immediately, it can significantly help to do so later in the building's life. Walls on access floors are easy to detach and erect elsewhere (walls are attached to floors by framing fasteners). In-floor air diffusers and electrical boxes are moved by simply relocating the floor panels that they are mounted in. Additional floor panels and understructure components can be purchased to complete new occupant fit-out requirements.

### MR Credit 3.1: Materials Reuse: 5%

**Intent:** Reuse building materials and products in order to reduce demand for virgin materials and to reduce waste, thereby reducing impacts associated with the extraction and processing of virgin resources.

**Requirements:** Use salvaged, refurbished or reused materials such that the sum of these materials constitutes at least 5%, based on cost, of the total value of the materials on the project. Only include materials permanently installed in the project.

### MR Credit 3.2: Materials Reuse: 10%

**Requirements:** Use salvaged, refurbished or reused materials such that the sum of these materials constitutes at least 10%, based on cost, of the total value of the materials on the project.

**Tate Contribution (MR Credits 3.1 and 3.2):** Access floor panels, pedestals and stringers can be uninstalled in their original locations and be reused in other buildings. Be aware that just as with the Building Reuse credit, the materials reuse strategy will not likely help to achieve LEED-NC points immediately. Rather, it is a long term sustainability strategy that an access floor can contribute towards in the long-term.

### MR Credit 4.1: Recycled Content: 10% (post-consumer + 1/2 pre-consumer)

**Intent:** Increase demand for building products that incorporate recycled content materials, thereby reducing impacts resulting from extraction and processing of virgin materials.

**Requirements:** Use materials with recycled content such that the sum of their post-consumer recycled content plus 1/2 of their pre-consumer content constitutes at least 10% (based on cost) of the total value of the materials in the project.

## LEED-NC Version 2.2 - MATERIALS & RESOURCES

### MR Credit 4.2: Recycled Content: 20% (post-consumer + 1/2 pre-consumer)

**Requirements:** Use materials with recycled content such that the sum of their post-consumer recycled content plus 1/2 of their pre-consumer content constitutes an additional 10% beyond MR Credit 4.1 (total of 20%, based on cost) of the total value of the materials in the project.

**Tate Contribution (MR Credits 4.1 and 4.2):** The standard Tate floor system used in commercial offices contains 32.8% recycled material consisting of 10.2% post-consumer and 22.6% pre-consumer content. All office floor systems and data center systems manufactured by Tate Access Floors contain recycled content in excess of the 10% (post-consumer/ pre-consumer) credit requirement.

*To obtain documentation verifying the recycled content of each type of access floor system, visit Tate's Web site, [www.tateaccessfloors.com](http://www.tateaccessfloors.com). From the home page, click on: Green \ Support Documentation \ Recycled Content.*

### MR Credit 5.1: Regional Materials: 10% Extracted, Processed & Manufactured Regionally

**Intent:** Increase demand for building materials and products that are extracted and manufactured within the region, thereby supporting the use of indigenous resources and reducing the environmental impacts resulting from transportation.

**Requirements:** Use building materials or products that have been extracted, harvested or recovered, as well as manufactured, within 500 miles of the project site for a minimum of 10% (based on cost) of the total materials value. If only a fraction of a product or material is extracted/ harvested/ recovered and manufactured locally, then only that percentage (by weight) shall contribute to the regional value.

### MR Credit 5.2: Regional Materials: 20% Extracted, Processed & Manufactured Regionally

**Requirement:** Use building materials or products that have been extracted, harvested or recovered, as well as manufactured, within 500 miles of the project site for an additional 10% beyond MR Credit 5.1 (total of 20%, based on cost) of the total materials value.

**Tate Contribution (MR Credits 5.1 and 5.2):** Tate access floor systems are manufactured entirely in York County, Pennsylvania. The steel used for panels and understructure components is recovered/manufactured in Sparrows Point, Maryland and Delta, Ohio.

*To obtain documentation verifying the location of Tate's manufacturing facility and to view the location on a map, visit Tate's Web site, [www.tateaccessfloors.com](http://www.tateaccessfloors.com). From the home page, click on: Green \ Support Documentation \ Regional Materials.*

## LEED-NC Version 2.2 - INDOOR ENVIRONMENTAL QUALITY

### EQ Prerequisite 1: Minimum IAQ Performance

**Intent:** Establish minimum indoor air quality (IAQ) performance to enhance indoor air quality in buildings, thus contributing to the comfort and well-being of the occupants.

**Requirements:** Meet the minimum requirements of Sections 4 through 7 of ASHRAE 62.1-2004, Ventilation of Acceptable Indoor Air Quality. Mechanical ventilation shall be designed using the Ventilation Rate Procedure or the applicable local code, whichever is more stringent.

### EQ Credit 2: Increased Ventilation

**Intent:** Provide additional outdoor air ventilation to improve air quality for improved occupant comfort, well-being and productivity.

**Requirements (for Mechanically Ventilated Spaces):** Increase breathing zone outside air ventilation rates to all occupied spaces by at least 30% above the minimum rates required by ASHRAE Standard 62.1-2004 as determined by EQ Prerequisite 1.

**Tate Contribution (EQ Prerequisite 1 and EQ Credit 2):** By using an UFAD system in conjunction with a Tate access floor, the volumes of fresh air delivered to the breathing level of occupied spaces will easily comply with the minimum ventilation requirements of the IAQ prerequisite and the ASHRAE Standard. In fact, a Variable Air Volume UFAD system may alone qualify the building for the Increased Ventilation credit. The key to exceeding the ASHRAE rate by 30% is to provide higher rates of outdoor air *to the breathing level* of the occupied spaces. A variable air volume UFAD system does exactly that — it delivers fresh air from below directly to occupants' six-foot breathing zone. As the fresh air enters the zone it *replaces* existing contaminated air (rather than diluting it). Pollutants and stale air in the zone are carried to the ceiling by natural convection, where they are removed through return outlets.

### EQ Credit 4.1: Low-Emitting Materials: Adhesives & Sealants

**Intent:** Reduce the quantity of indoor air contaminants that are odorous, irritating and/or harmful to the comfort and well-being of installers and occupants.

**Requirements:** All adhesives and sealants used on the interior of the building shall comply with the requirements of South Coast Air Quality Management District Rule #1168.

**Tate Contribution (EQ Credit 4.1):** The Tate floor system utilizes adhesives for adhering pedestals to the building floor which are in compliance with South Coast Air Quality Management District Rule #1168.

*To obtain documentation verifying compliance of Tate's pedestal adhesive with SCAQM District Rule #1168, visit Tate's Web site, [www.tateaccessfloors.com](http://www.tateaccessfloors.com). From the home page, click on: Green \ Support Documentation \ Low-Emitting Materials.*

### EQ Credit 4.3: Low-Emitting Materials: Carpet Systems

**Intent:** Reduce the quantity of indoor air contaminants that are odorous, irritating and/or harmful to the comfort and well-being of installers and occupants.

**Requirements:** All carpet installed in the building shall meet the testing and product requirements of the Carpet and Rug Institute's Green Label program. All carpet adhesive shall meet the requirements of EQ Credit 4.1: VOC limit of 50 g/L.

**Tate Contribution (EQ Credit 4.3):** PosiTile carpet tiles manufactured for Tate floor panels are installed without field-applied adhesive, ensuring compliance with the required VOC limit of 50 g/L. Each carpet tile is held in place by positioning buttons on its underside which fit into holes in the floor panel. Carpet tile and adhesive product data verifying compliance with credit requirements are available from PosiTile carpet suppliers.

## LEED-NC Version 2.2 - INDOOR ENVIRONMENTAL QUALITY

### EQ Credit 6.2: Controllability of Systems: Thermal Comfort

**Intent:** Provide a high level of thermal comfort system control by individual occupants or by specific groups in multi-occupant spaces (i.e. classrooms or conference areas) to promote the productivity, comfort and well-being of building occupants.

**Requirements:** (1) Provide individual comfort controls for 50% (minimum) of the building occupants to enable adjustments to suit individual task needs and preferences. (2) Provide comfort system controls for all shared multi-occupant spaces to enable adjustments to suit group needs and preferences.

**Tate Contribution (EQ Credit 6.2):** When a building uses *overhead* air delivery systems, occupants have little or no control over the air diffusers in their workspaces. By locating diffusers in an access floor, occupants gain control over volume *and* direction of airflow. Since this LEED point is so difficult to achieve without the use of an UFAD system, the LEED-NC V2.2 Reference Guide actually suggests using floor diffusers as a potential technology/strategy toward achieving this credit. Providing adjustable floor air diffusers to serve just 50% of regular occupants contributes toward achieving this credit. And further, occupant control is easily maintained when layouts change because floor panels with diffusers are easily relocated.

### EQ Credit 7.1: Thermal Comfort: Design

**Intent:** Provide a comfortable thermal environment that supports the productivity and well-being of occupants.

**Requirements:** Design HVAC systems and the building envelope to meet the requirements of ASHRAE Standard 55-2004, Thermal Comfort Conditions for Human Occupancy. Demonstrate design compliance in accordance with the Section 6.1.1 Documentation.

**Tate Contribution (EQ Credit 7.1):** Thermal comfort is enhanced by several major benefits of UFAD:

- **Efficient Heat Removal:** An UFAD system does a superior job of maintaining comfortable air temperatures by delivering conditioned air directly to the six-foot high occupied zone. Air from the floor diffusers creates an upward flow which efficiently forces air out of the zone that's been heated by people and equipment. Natural convection carries the heated air to the ceiling where it is exhausted through return outlets. This system is considerably more effective than an overhead system which mixes cool air with heated air near the ceiling and forces it down to the occupied zone before it is exhausted.
- **Air Velocity & Cold Spot Reduction:** Because UFAD systems discharge cool air at higher temperatures (60 - 65°F), and at lower velocities than overhead systems, the likelihood of occupant discomfort due to high air speed and cold spots is minimized.
- **Comfortable Proximity:** The use of higher temperatures and lower velocities allows diffusers to be located nearer to occupants for optimal personal comfort. Diffuser locations are easily changed to suit personal preferences -- whereas overhead systems are difficult to change and rarely are. If layouts change and people are relocated, comfort is maintained simply by moving the floor panels fitted with diffusers to where the people are.
- **Occupant Control:** Experience has shown that simply having control over the volume and direction of air flow in the immediate workspace significantly increases occupant satisfaction with thermal conditions.

## LEED-NC Version 2.2 - INDOOR ENVIRONMENTAL QUALITY

### EQ Credit 7.2: Thermal Comfort: Verification

**Intent:** Provide for the assessment of building thermal comfort over time.

**Requirements:** Agree to implement a thermal comfort survey of building occupants within a period of six to 18 months after occupancy. This survey should collect anonymous responses about thermal comfort in the building including an assessment of overall satisfaction with thermal performance and identification of thermal comfort-related problems. Agree to develop a plan for corrective action if the survey results indicate that more than 20% of occupants are dissatisfied with thermal comfort in the building. This plan should include measurement of relevant environmental variables in problem areas in accordance with ASHRAE Standard 55-2004.

**Tate Contribution (EQ Credit 7.2):** The use of an UFAD system with an access floor can aid fulfillment of credit compliance by helping to avoid the need for corrective action. Taking into account the thermal comfort enhancements described above, having underfloor air delivery *increases* the probability that 80% of occupants will be satisfied; thereby *lessening* the possibility that corrective action will be required.

### EQ Credit 8.1: Daylight & Views: Daylight 75% of Spaces

**Intent:** Provide for the building occupants a connection between indoor spaces and the outdoors through the introduction of daylight and views into the regularly occupied areas of the building.

**Requirements:** Achieve a minimum glazing factor of 2% in a minimum of 75% of all regularly occupied areas.

### EQ Credit 8.2: Daylight & Views: Views for 90% of Spaces

**Intent:** Provide for the building occupants a connection between indoor spaces and the outdoors through the introduction of daylight and views into the regularly occupied areas of the building.

**Requirements:** Achieve a direct line of site to the outdoor environment via vision glazing between 2'6" and 7'6" above finish floor for building occupants in 90% of all occupied areas. Determine the area with direct line of site by totaling the regularly occupied square footage that meets the following criteria: (1) In plan view, the area is within sight lines drawn from perimeter vision glazing. (2) In section view, a direct sight line can be drawn from the area to perimeter vision glazing.

**Tate Contribution (EQ Credits 8.1 and 8.2):** An obvious strategy to maximize daylight and views is to increase window area and height. Integration of access floors with UFAD and underfloor cable distribution facilitates this by reducing the ceiling cavity space allocated for supply ductwork and cables, thereby allowing the ceiling to be raised and window heights to increase — without increasing building's height. For each building level with an access floor and UFAD system, as much as one foot of space between floor floors can be gained by eliminating two feet in the ceiling cavity and allocating just one foot for an access floor.

**Note:** Further in this bulletin you will see that we have developed an Innovation in Design credit (ID Credit 1.3) based on using the ceiling cavity reduction to reduce the building's overall height -- a strategy which works against increasing the window height for increased daylight and views. The effect of this conflict is that the pursuit of either credit lessens or eliminates the possibility of achieving the other.

## LEED-NC Version 2.2 - Innovation in Design

With the exception of ID Credit 2 (LEED Accredited Professional), the following Innovation in Design credits were developed by Tate to provide design teams and projects the opportunity to be awarded points for innovative performance in areas not specifically addressed by the LEED Rating System.

### ID Credit 1.1: Power Distribution Systems: Reduction of Materials and Waste

**Intent:** Reduce the volume of power wiring and power distribution components required to supply power in buildings in order to reduce the demand for virgin materials and to reduce waste; thereby reducing the impacts associated with manufacturing, material transportation and the extraction and processing of virgin resources.

**Requirements:** For the proposed power distribution system, demonstrate a 20% reduction in the total length of cabling required to meet the building's initial power requirements compared to the total length required for comparable conventional power distribution methods. Provide cut sheets and product data from the access floor and/or power cable manufacturer to show that all of the system's cables and outlets can be reused (not abandoned) when workstations, offices and meeting rooms are relocated.

**Potential Technologies & Strategies:** Source products/technologies which reduce the initial lengths of power cabling required and which allow the original cables to be reused throughout the life of the building.

**Tate Contribution (ID Credit 1.1):** When a Tate floor is used; power cables are laid on the building floor and terminated at power distribution boxes in the access floor. This eliminates vertical cable runs from the ceiling through columns or power poles, greatly reducing the lengths of cables required to reach workstations. Underfloor wiring also eliminates the need for wall outlets and the additional cable runs from the ceiling. Immediate and future outlet needs can be accommodated with power distribution boxes in the access floor. Fewer floor boxes than wall outlets are required up front because the access floor is always accessible for changes and additions whereas pathways in walls are generally inaccessible. When power distribution boxes in an access floor need to be relocated, everything is accessible, eliminating wasteful cable and outlet abandonment that often occurs with conventional power distribution.

In addition, when modular wiring systems are used, the extender cables which are terminated at the ends with plug together connectors can be used anywhere along the entire length of the system. This encourages cable reuse rather than abandonment.

## LEED-NC Version 2.2 - Innovation in Design

With the exception of ID Credit 2 (LEED Accredited Professional), the following Innovation in Design credits were developed by Tate to provide design teams and projects the opportunity to be awarded points for innovative performance in areas not specifically addressed by the LEED Rating System.

### ID Credit 1.2: Voice and Data Distribution Systems: Reduction of Materials and Waste

**Intent:** Reduce the volume of voice/data cabling and cable support systems required to provide computer and telecom service in buildings in order to reduce the demand for virgin materials and to reduce waste; thereby reducing the impacts associated with manufacturing, material transportation and the extraction and processing of virgin resources.

**Requirements:** Provide plans/drawings which show that cable tray systems will not be utilized for routing voice and data cables in general office areas. For the proposed voice/data cable distribution system, demonstrate a 20% reduction in the total length of cabling required to meet the building's initial cabling requirements compared to the total length required for conventional overhead distribution methods. Provide cut sheets and product data from the access floor and/or cable manufacturer to show that all of the system's cables and outlets can be reused (not abandoned) when workstations, offices and meeting rooms are relocated.

**Potential Technologies & Strategies:** Source products/technologies which reduce the initial lengths of cabling required, which eliminate the need for cable trays or other suspension systems, and which allow the original cables to be reused throughout the life of the building.

**Tate Contribution (ID Credit 1.2):** When an access floor is used, voice and data cables are laid directly on the slab below the floor, eliminating the need for cable trays or other suspension systems used in ceiling distribution systems. Vertical cable runs extending from the ceiling cavity through walls, columns or poles are eliminated, greatly reducing the lengths of cable required to reach termination points. The complete accessibility of cables under the raised floor eliminates abandonment of cables located in inaccessible pathways when reconfigurations occur. (The original cables in conventional distribution systems are often difficult to access and are simply abandoned as requirements change.)

### ID Credit 1.3: Building Materials: Reduce Building Height and Construction Materials

**Intent:** Reduce the volume of construction materials required for new buildings; reduce the environmental impacts of new buildings as they relate to energy consumption, materials manufacturing, natural resource consumption and materials transport.

**Requirements:** Demonstrate that the proposed building design reduces the total air delivery and service distribution cavity height on each level by 10% compared to designs utilizing conventional air and service distribution methods. Note: "Total air delivery and service distribution cavity height" is the vertical section of each building level required to house and conceal air supply and return ductwork, power cabling, and voice/data cable distribution systems.

**Potential Technologies & Strategies:** Design the building to utilize service distribution systems such as underfloor air delivery and underfloor power and voice/data cabling which require less vertical space between floors than conventional systems.

**Tate Contribution (ID Credit 1.3):** The integration of UFAD systems and underfloor cable systems with access floors creates an opportunity for reduction of floor-to-floor height throughout the building by eliminating the need for ceiling-based supply ductwork and cabling. On each building level, a net reduction of up to one foot can be had by eliminating two feet in the ceiling and adding a one-foot high access floor to the building floor below. A 12-inch access floor on each level can be used to distribute air throughout the space and route power and voice data cables to termination points anywhere in the floor. A building's overall height reduction reduces the demand for structural steel, exterior skin materials, interior wall materials, elevator shaft and stairway components, air risers, and risers for cables. In addition, energy costs associated with construction activities and transportation are significantly reduced.

## LEED-NC Version 2.2 - Innovation in Design

With the exception of ID Credit 2 (LEED Accredited Professional), the following Innovation in Design credits were developed by Tate to provide design teams and projects the opportunity to be awarded points for innovative performance in areas not specifically addressed by the LEED Rating System.

### ID Credit 1.4: Elimination of Carpet Waste

**Intent:** Reduce the amount of carpet waste incurred with raised floor systems that use off-module carpet tiles in order to reduce the demand for virgin materials and to reduce waste; thereby reducing the impacts associated with manufacturing, material transportation and the extraction and processing of virgin resources.

**Requirements:** Provide product literature and/or product data demonstrating that the proposed carpet system allows utility services to be relocated in the raised floor without incurring waste of existing carpet tiles and the addition of new ones.

**Potential Technologies & Strategies:** Use a carpet tile system with tiles that have a one-to-one fit with the access floor panels.

**Tate Contribution (ID Credit 1.4):** Tate's PosiTile carpet tiles are engineered to have a one-to-one fit with Tate's floor panels, allowing utility services to be relocated without incurring waste and cutting of new carpet tiles. Each 24-inch PosiTile carpet tile has positioning buttons to align it with the 24-inch floor panel. The location of a cutout for an air diffuser or power distribution box in a PosiTile carpet tile will precisely match the location of the cutout in the floor panel, enabling the panel and carpet tile to be moved as one unit to another location. Product literature and data verifying compliance with credit requirements is available from Tate.

### ID Credit 1.5: Elimination of Suspended Ceilings

**Intent:** Reduce the volume of construction materials required for new buildings; reduce the environmental impacts of new buildings as they relate to energy consumption, materials manufacturing, natural resource consumption and materials transport.

**Requirements:** Eliminate the use of suspended ceilings in the proposed building.

**Potential Technologies & Strategies:** Design the building to utilize modern service distribution technologies that eliminate the need to install HVAC supply ducts and power and voice/data cables overhead.

**Tate Contribution (ID Credit 1.5):** The integration of UFAD systems and underfloor cable systems with Tate access floors in the building eliminates unsightly assortments of ceiling-based HVAC supply ducts and metal cable trays that need to be hidden from view by suspended ceilings. The elimination of suspended ceilings creates opportunities to incorporate alternative ceiling materials and finishes.

### ID Credit 2: LEED Accredited Professional

**Intent:** To support and encourage the design integration required by a LEED-NC green building project and to streamline the application and certification process.

**Requirements:** At least one principle participant of the project team shall be a LEED Accredited Professional.

**Tate Contribution (ID Credit 2):** Tate Access Floors has several LEED Accredited Professionals on staff that may be available to participate on LEED-NC project teams, thus enabling projects to achieve this point towards certification.