

## Appendix 1 - 9781 Markham Road - Sustainability Measures

### Sustainability Measure and Intent

### Sustainability Measure Details

#### IP - INTEGRATIVE PROCESS

##### Integrative Process

To support high-performance, cost-effective, equitable project outcomes through an early analysis of the interrelationships among systems.

Analyzed energy-related and water-related systems beginning in pre-design and continued throughout the design phases.

#### LOCATION AND TRANSPORTATION

##### Sensitive Land Protection

To cultivate community resilience, avoid the development of environmentally sensitive lands that provide critical ecosystem services and reduce the environmental impact from the location of a building on a site.

Located the development footprint on land that has been previously developed

##### Surrounding Density and Diverse Uses

To conserve land and protect farmland and wildlife habitat by encouraging development in areas with existing infrastructure. To support neighborhood and local economies, promote walkability and low or no carbon transportation, and reduce vehicle distance traveled for all. To improve public health by encouraging daily physical activity.

Construct building such that the building's main entrance is within a 1/2 mile (800 meter) walking distance from a mix of uses

##### Access to Quality Transit

To encourage development in locations shown to have multimodal transportation choices or otherwise reduced motor vehicle use, thereby reducing greenhouse gas emissions, air pollution, and other environmental and public health harms with motor vehicle use

Located any functional entry of the project within a 1/4 mile (400 meter) walking distance of existing or planned bus, streetcar, or informal transit stops, or within a 1/2 mile (800 meter) walking distance of existing or planned rapid transit stops, passenger rail stations (i.e. light, heavy, or commuter rail).  
The transit service at those stops and stations in aggregate meets the minimums.

##### Bicycle Facilities

To promote bicycling and transportation efficiency and reduce vehicle distance traveled. To improve public health by encouraging utilitarian and recreational physical activity

Design or locate the project such that a functional entry or bicycle storage is within a 200-yard (180 meter) walking distance or bicycling distance from a bicycle network that connects to a bus rapid transit stop, passenger rail station or ferry terminal which is within a 3 mile (4800 meter) bicycling distance of the project boundary.

Meeting the bicycle storage requirements for the nonresidential and residential portions of the project respectively.

##### Reduced Parking Footprint

To minimize the environmental harms associated with parking facilities, including automobile dependence, land consumption, and rainwater runoff.

Reduce Parking by providing parking not exceeding the minimum local code requirements for parking capacity and providing parking that is a 30% reduction below base ratios for parking spaces, by building type.

#### SUSTAINABLE SITE DEVELOPMENT

##### Construction Activity Pollution Prevention

To reduce pollution from construction activities by controlling soil erosion, waterway sedimentation and airborne dust that disproportionately impact frontline communities

Create and implemented an erosion and sedimentation control plan for all construction activities associated with the project which conforms to local equivalent of erosion and sedimentation requirements of the 2017 U.S. Environmental Protection Agency (EPA) Construction General Permit (CGP).

##### Site Assessment

To assess site conditions, environmental justice concerns, and cultural and social factors, before design to evaluate sustainable options and inform related decisions about site design.

Completed assessments for topography, hydrology, climate, vegetation, soils, human use and human health effects, demonstrating relationships between the site features which influenced the project design.

**Protect or Restore Habitat**

To conserve existing natural areas and restore damaged areas to provide habitat and promote biodiversity.

Restore a portion of the site identified as previously disturbed and follow vegetation and soil requirements and planting a minimum number of 6 species of vegetation that are native including a minimum of 2 plant categories.

**Open Space**

To create exterior open space that encourages interaction with the environment, social interaction, passive recreation, and physical activities.

Provide outdoor space greater than or equal to 30% of the total site area (including building footprint) with at least 25% of the calculated outdoor open space must be vegetated space planted with two or more types of vegetation or have overhead vegetated canopy.

**Light Pollution Reduction**

To increase night sky access, improve nighttime visibility, and reduce the consequences of development for wildlife and people.

Meet uplight and light trespass requirements using calculation method.

**WATER EFFICIENCY****Outdoor Water Use Reduction**

To reduce outdoor potable water consumption and preserve no and low-cost potable water resources.

Reduced Irrigation by reducing the project's landscape water requirements by at least 100% from baseline through plant species selection and rainwater reuse.

**Indoor Water Use Reduction**

To reduce outdoor potable water consumption and preserve no and low-cost potable water resources.

Reduce aggregate water consumption by 20% from baseline.

**Indoor Water Use Reduction**

To reduce outdoor potable water consumption and preserve no and low-cost potable water resources.

Further reduce fixture and fitting water use from baseline.

**Building - Level Water Metering**

To conserve low cost potable water resources and support water management and identify opportunities for additional water savings by tracking water consumption.

Install permanent water meters that measure the total potable water use for the building and associated grounds.

**Optimize Process Water Use 2 (Cooling Tower Water Use)**

To conserve low cost potable water resources for mechanical processes while controlling, corrosion and scale in the condenser system

Condenser Cycles of Concentration through conducting a one-time potable water analysis, measuring at least five control parameters and meeting the maximum calculated number of cycles and increasing by a

**ENERGY AND ATMOSPHERE****Fundamental Commissioning and Verification**

To support the design, construction, and eventual operation of a project that meets the owner's project requirements for energy, water, indoor environmental quality, and durability

Retaining a qualified commissioning authority to prepare and maintain a current facilities requirements and operations and maintenance plan.

**Enhanced Commissioning**

To further support the design, construction, and eventually operation of a project that meets the owner's project requirements for energy, water, indoor environmental quality, and durability.

Enhanced and Monitoring Based Commissioning.

**Building-Level Energy Metering**

To support energy management and identify opportunities for additional energy savings by tracking building-level energy use.

Install new building-level energy meters, or submeters that can aggregated to provide building level data representing total building energy consumption. Utility owned meters capable of aggregating building-level resource use are acceptable.

**Advanced Energy Metering**

To support energy management and identify opportunities for additional energy savings by tracking building-level energy use.

Installing advanced energy metering for all whole- building energy sources used by the building; and any individual energy end uses that represent 10% or more of the total annual consumption of the building with characteristics.

**Fundamental Refrigerant Management**

To reduce ozone depletion and global warming potential and support early compliance with the Kigali Amendment to the Montreal Protocol, while minimizing direct contributions to climate change.

Do not use chlorofluorocarbon (CFC) or hydro chlorofluorocarbon (HCFC) based refrigerants in new heating, ventilating, air-conditioning and refrigeration (HVAC&R) systems.

### Enhanced Refrigeration Management

To reduce ozone depletion and global warming potential and support early compliance with the Kigali Amendment to the Montreal Protocol, while minimizing direct contributions to climate change.

#### Minimum Energy Performance

To promote resilience and reduce the environmental and economic harms of excessive energy use that disproportionately impact frontline communities by achieving a minimum level of energy efficiency for the building and its systems.

#### Optimize Energy Performance

To achieve increasing levels of energy performance beyond the prerequisite standard to reduce environmental and economic harms associated with excessive energy use that disproportionately impact

Comply with ASHRAE Standard 15-2019: Safety Standard for Refrigeration Systems, or USGBC approved equivalent, develop and implement a refrigerant management plan.

Comply with ANSI/ASHRAE/IESNA Standard 90.1-2016, with errata or a USGBC-approved equivalent standard

Energy Performance Compliance.

## MATERIAL AND RESOURCES

### Storage and Collection of Recyclables

To reduce the disproportionate burden of landfills and incinerators that is generated by building occupants' waste hauled to and disposed of in landfills and incinerators through reduction, reuse and recycling service and education, to conserve natural resources for future generations

Provide dedicated areas accessible to waste haulers and building occupants for collection and storage of recyclable materials for the entire building.

### Environmental Product Declarations

To encourage the use of products and materials for which life-cycle information is available and that have environmentally, economically, and socially preferable life-cycle impacts. To reward project teams for selecting products from manufacturers who have verified improved environmental life-cycle impacts

Environmental Product Declaration (EPD) and Multi-attribute Optimization

### Sourcing of Raw Materials

To encourage the use of products and materials for which life-cycle information is available and that have environmentally, economically, and socially preferable life-cycle impacts. To reward project teams for selecting products verified to have been extracted or sourced in a responsible manner.

Raw Material source and extraction reporting and Leadership Extraction Practices

### Material Ingredients

To encourage the use of products and materials for which life-cycle information is available and that have environmentally, economically, and socially preferable life-cycle impacts. To reward project teams for selecting products for which the chemical ingredients in the product are inventoried using an accepted methodology and for selecting products verified to minimize the use and generation of harmful substances. To reward raw material manufacturers who produce products verified to have improved life-cycle impacts.

Material Ingredient Reporting and Material Ingredient Optimization

### Construction and Demolition Waste Management

To reduce construction and demolition waste disposed of in landfills and incineration facilities through waste prevention and by reusing, recovering, and recycling materials, and conserving resources for future generations. To delay the need for new landfill facilities that are often located in frontline communities and create green jobs and material markets for building construction services

Develop and implement a construction and demolition waste management plan and achieve points through waste prevention and/or diversion. Diversion and of Total Waste Material.

## INDOOR ENVIRONMENTAL QUALITY

### Minimum Indoor Air Quality Performance

To contribute to the comfort and well-being of all building occupants by establishing minimum standards for indoor air quality (IAQ)

Mechanical ventilation systems meeting the minimum requirements of ASHRAE Standards 62.1-2010

### Environmental Tobacco Smoke Control

To prevent or minimize exposure of building occupants, indoor surfaces, and ventilation air distribution systems to environmental

Complying with prerequisite requirement by pursuing Option 1. No smoking

**Low Emitting Materials**

To reduce concentrations of chemical contaminants that can damage air quality and the environment, and to protect health, productivity, and comfort of installers and building occupants.

**Indoor Air Quality Assessment 2**

To establish better quality air in the building after construction and during occupancy to protect human health, productivity, and wellbeing.

**Thermal Comfort 1**

To promote occupants' productivity, comfort, and well-being by providing quality thermal comfort.

Product Category Calculations using materials on the building interior with 3 product categories meeting the low emitting criteria

Air Testing after construction ends and before occupancy

Meeting the requirements for both thermal comfort design and thermal comfort control

**INNOVATION AND DESIGN PROCESS**

**Innovation in Design**

To encourage projects to achieve exceptional or innovative performance to benefit human and environmental health and equity. To foster sustainability expertise throughout building design, construction, and operation and collaboration toward project priorities.

Green Building Education;  
Purchasing Lamps;  
Occupant Comfort Survey  
Green Cleaning Policy