Lansdowne 2.0 — Site Plan Tier 1 Metrics Index

METRIC	RESPONSE
1. Building Energy Efficiency	**Mechanical:** The building will use a heat pump system which allows it to share heating and cooling energy between different areas in the building. The heat pump loop will be utilized to provide heating and cooling to the building and to recover heat from the ice plant. The building envelope will be designed to meet ASHRAE and local code requirements for insulation and performance. Demand control ventilation will be deployed throughout the building to ensure that ventilation is provided only in the quantities required based on occupancy of the building saving energy during low and unoccupied times. High-efficiency condensing boilers will be used to provide additional heat to the building if there is insufficient recovered heat from the ice plant. Variable speed drives will be provided on all pumps and fans to ensure minimal energy consumption of these devices. Where possible, free cooling will be utilized to maintain interior space temperatures during the winter and shoulder seasons. **Electrical:** The electrical design for the Project will provide efficiency, reliability, ease of maintenance and flexibility through robust and secure power distribution systems of sufficient capacity and redundancy; and will support the immediate, short-term and long-term requirements of the functional technologies and functional programs identified for the event centre. The electrical systems will be coordinated to minimize interferences while maximizing efficiency e.g. vertically stacked electrical and IT riser rooms that will be strategically located centrally to service the program areas, whereas mechanical shafts will be located to ensure there are minimum crossings between mechanical and electrical services. This process will enable the team to optimize systems and reduce operating and maintenance costs. Some specific electrical strategies that will be implemented to fulfil this goal include: • most efficient and effective use of all power distribution components to ensure major components such as the power transformers and associated switchgear are not left idle;

	• all electrical equipment is provided with sufficient clearance, access routes and panels to allow for easy removal and replacement; • adequate space, spare capacity and cable pathways are provided to allow for future use; • selection of electrical equipment from reputable manufacturers based upon lifecycle, energy efficiency, maintenance, accessibility and serviceability; • lighting systems design with effective application of natural lighting c/w daylight harvesting sensors to dim or turn off lights where possible; • high efficiency and high colour rendering LED lamps and energy saving electronic drivers complete with an average lamp life of 50,000 hours that minimizes material use and failures; • luminaires that meet CUL/CSA and LM-79 and LM-80 standards, complete with 5-year warranties on all components, and are Energy Star qualified; • lighting controls that provide flexibility, easy set up and quick reconfiguration of program spaces.
2. Site Plan Accessibility	The accessibility document developed for the site provides directions and guidelines to achieve the highest universal accessibility standards for the outdoor environment, be it in the mixed-use, the urban park or around the Event Centre. The document also speaks to considerations for accessibility for other disciplines as well such as lighting, transportation, public art and interpretation and signage and wayfinding. It also identifies accessibility challenges that are often found in developments, and ways in which the project team can implement best design practices and sets out a process where the detailed design development and construction would be undertaken through a compliance review process to ensure that the highest possible universal accessibility standards have been meet. Lansdowne 2.0 site demonstrates a sustainable universally accessible site that is inclusive of all people. Universal Design principles will inform the requirements of the site as a whole and will be an integral component of each separate design element. Taking a comprehensive accessible design approach to the entire site and applying Universal Design principles to all of the site elements ensures a cohesive and symbiotic relationship between individual elements and the neighborhood as a whole. In addition, each built design element of the site,

	from the stadium and the Event Centre to the mixed use and residential components will be evaluated using a universal design lens to ensure it is accessible to all possible users.
3. Fresh Air Intake	The intakes will be located above grade in areas that are not accessible to the public. They will maintain the required clearances to all exhaust outlets and other building openings. The intakes will be protected with louvres, bird screens and other measures to ensure the function as designed.
4. Tree Planting	A substantial tree planting strategy is a key element of civic infrastructure that enhances the attractiveness, comfort and safety of the public realm. Not only do trees elevate civic status, they help to mitigate urban heat island effects, filter the air, absorb and filter stormwater, and provide habitat. They also slow the pace and intensity of street activity and reduce pedestrians' perception of traffic volume and speed, ultimately creating more desirable places in which to linger and socialize. Close attention should be paid to the conditions in which they are planted and to their long-term maintenance. Robust tree plantings will establish a new and consistent identity throughout Lansdowne and will serve to connect the Mixed-use zone to the Event Center. Important considerations for the tree strategy are: • A large canopy of broadleaf deciduous trees should be selected for disease resistance, distinct winter form and a continuous overhead canopy. • Coniferous trees should not be used in the pedestrian realm for visibility, microclimate and safety reasons. Most trees proposed are deciduous trees. • Native or adapted species with low watering requirements should be used wherever possible. • Species should be selected to provide shade and cooling during summer and wind protection in winter and should be appropriately matched to urban conditions. • Street trees should be planted in subsurface soil volumes that are sufficient for the growth of substantial, healthy tree canopies. Structural soil cells or equivalent should be utilized to maximize root access to required soil volumes. Where continuous trenches and soil cells aren't feasible, structural soils or equivalent should be used.

	• Where trees are planted over slab, sunken slab or other structural strategies should be used to enable sufficient soil volume for tree planting. • To enhance the livability of the public realm without excessive clutter, the use of raised planters should be avoided unless their use enhances the design of the public realm (such as taking up grade or providing seating). • Shrubs and perennials should be native or adapted species with low watering requirements. They should be selected for their contribution to the form, performance, and connection to the park.
5. Plant Species	The trees selected for the Lansdowne 2.0 project have been chosen based on their connection to the existing Lansdowne site and their environmental value. The pallet uses trees that are either native or disease resistant varieties of native trees. The proposed trees also reflect the species that are currently doing well on the site while taking new site conditions into consideration.
6. Exterior Lighting	**Perception of Safety -** Night lighting must provide a level of visibility which is suitable for the intended activities in the space. Full colour, glare free light is required for movement in otherwise dark environments. People need to be able to see in all directions to sense danger and to have a feeling of security. The psychological perception of safety is as important as actual protection form danger. **Brightness management -** It is essential to understand how the eye perceives the effect of light at night. People see the brightness of light reflected from a surface. It is the impact of the relative brightness and relative colour that gives visual recognition. Good lighting design is the management of the relative brightness. Excessive relative brightness becomes glare and restricts ones ability to see. Glare is to be avoided. **Adaptation -** As people move from one space to another, adaptation time is required for the eye to adjust to changes in light quantity. **Vertical Illumination -** Lit vertical surfaces provide silhouetted revelation of form especially as people are seen moving against the lit background. Vertical illumination on people's faces is essential throughout the public realm to allow for safe

	recognition. Most of the spaces and pathways at Lansdowne 2.0 will require light from sources above head height. **Lighting Fixtures -** Lansdowne 2.0 offers a challenge and opportunity to answer many of the, sometimes conflicting, lighting requirements with an innovative solution. Today's environmental issues of wasting light energy combined with new LED technologies (2500-3000 °K), combined with safety and wayfinding, all add up to a role for a lighting solution. **General Lighting Hardware -** Except for featured lighting fixtures, lighting hardware should be chosen from the catalogs of time tested, major manufacturers. If custom parts or modifications are required the availability of a product over a long time period must be considered. It is a good strategy to acquire and store additional fixtures. **Energy Efficiency -** We will specify the correct efficient light source that will meet all the visual requirements, thereby helping people to see and feel comfortable without using more light than is absolutely necessary. If the light does not meet these needs it is not saving energy. The most successful lighting designs use light only where needed for the task, for the periods of time required and they use it as little as possible. The lighting control system will assist in saving energy by turning lights off and on as required for various functions.
7. Bird-Safe Design	The following bird-safe design elements will be implemented to reduce risks to birds: • Use of specified bird-safe glass or integrated protection measures to treat at least 90% of exterior glazing within the first 16 m of height or to the height of the adjacent mature tree canopy. • Use of specified bird-safe glass or integrated protection measures to treat any glazing adjacent to a green roof, rooftop garden or garden terrace to a height of 4 m or to the height of the adjacent mature vegetation. • Elimination of fly-through effects (e.g., glass corners, parallel glass) and other traps from building design or use specified bird-safe glass or integrated protection measures. • Adherence to bird safe glass that follow these specifications: ○ High colour contrast to the glass surface.

	○ Application to the exterior (first) surface of the glass. ○ A visual marker (i.e. lines, dots, etc.) with spacing of 50 mm by 50 mm is used. ○ Individual marker elements with a minimum of 4 mm diameter, or 2 mm wide by 8 mm long for linear elements.
8. Sustainable Roofing	The roof will be an EnergySmart membrane roof.
9. Cool Landscape and Paving	Paving is the most pervasive element connecting the Event Center to the Mixed Use Zone, thus creating a new plaza and large gathering space. Coordinated paving materials, paver dimensions, colours, and textures contribute to the visual coherence of the overall site by communicating distinct streetscape activity and transition zones. Throughout the site, all paved surfaces will be articulated as public spaces, safe for loading areas. Different paved surface typologies hold differing performance criteria. The paved surfaces within the site include vehicular traffic, shared vehicular and pedestrian zones, pedestrian-only zones, and pedestrian paths (formal, informal and fine-grained). • The project is targeting non-roof impervious surfaces to have an SRI (Solar Reflectance Index) greater than 29. High albedo (light-coloured) pavers and concrete will be used to mitigate the urban heat island. Colour and finish will be coordinated through Detail Design and to match Exhibition Way guidelines. • Paving types should be differentiated through integral distinctions rather than temporary applications. • Pedestrian crosswalks shall be distinguished through slight paving variation and the use of banding to communicate pedestrian access. • Durability to snow clearing equipment, freeze-thaw cycles and general wear and tear should be of high priority. Load requirements will be met for all paving types through appropriate base courses, materials and thicknesses. • Tactile wayfinding surfacing for accessibility will be coordinated and integrated with paving so as to be part of the overall paving pattern. The sidewalk should be continuous across private vehicle access and egress points so vehicles do not interfere with pedestrian priority.

	• Where not over slab, a rigid base course should be used for stability and drainage. • Accessible crossings should be clearly communicated but integrated into the overall paving pattern and colour scheme. • The areas accessible to vehicles are clearly communicated through a hierarchy of paving types and layouts.
10. Common Area Waste Storage	There is an interior common waste and recycling storage area located on Level 1.
11. Electric Vehicle Parking	Electric vehicle parking will be included in the second phase when the parking garage is constructed.
12. Bicycle Access and Storage	Exterior bike supports are provided near the North stands and the main entrance to the Event Centre.