
MMM GROUP
Landscape Design Guidelines
OCTOBER 2010
WELCOME TO
EDMONTON
EIA
we'll move you.
EDMONTON INTERNATIONAL AIRPORT

The EIA Lands will be
an emblem for Edmonton
and Alberta as a sustainable
and healthy community.

The landscape of the public
and private realms will provide
visible evidence of the principles
of landscape design.

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1.0 INTRODUCTION

Edmonton International Airport (EIA) is planning for the expansion of the airport in terms of the impact it will have on the lands surrounding the airport terminal and runways. The Landscape Design Guidelines establish the 'greening' of the airport and creation of pedestrian-friendly lands to meet current needs a growing population of the EIA employment district. These guidelines are based on growth of the airport to and anticipated 16 million passengers (per year). Commercial, service, recreational and industrial development of the lands will increase the physical activities. Transit and vehicular traffic will increase. So too will the need to accommodate pedestrians and cyclists.

EIA is cognizant of the impacts to the land resultant of this new development. Intensification will result in increased pavements and runoff potential. These guidelines are intended to assist in the management of stormwater runoff, while contributing to the aesthetic and recreation qualities of the Edmonton Airport Community.

2.0 BACKGROUND/ METHODOLOGY

Following research, the consultant met with the EIA team to establish the principles and aspirations of EIA. From the principles were developed a system of landscape elements that will contribute to an identifiable and unique community that is intended to attract and sustain growth. Upon approval of the landscape design guidelines, an implementation plan will be established.

3.0 VISION

3.1 PRINCIPLES OF LANDSCAPE DESIGN

1. Create a 'sense of place' by relating landscape design to the unique character of the city of Edmonton, as the River Valley City.
2. 'Greening' of the airport by use of vegetation throughout the site with a definitive Highway 2 vegetated edge.
3. Sustainable and Maintainable – use of low impact development techniques throughout development to mitigate environmental impacts.
4. Create a welcoming Gateway to the airport to make an impression on visitors as they travel from the highway to the terminal. Create complimentary gateways within the airport lands and on its edge. Recognize that the entry is also an exit.
5. Develop a Healthy Community by providing opportunity for passive outdoor recreation.
6. Reuse existing on-site materials including boulders and fill excavated from the apron.
7. Economically feasible.

3.2 VISION STATEMENT

The EIA Lands will be an emblem for Edmonton and Alberta as a sustainable and healthy community. The landscape of the public and private realms will provide visible evidence of the principles of landscape design.

4.0 HOW TO USE THIS DOCUMENT

4.1 PURPOSE AND INTENT

These Landscape Design Guidelines are to be used by all parties involved in the process of making and reviewing Landscape Plans for the Edmonton Airport Community. For the Landscape Plan Review process, the applicant is to use this document as a tool to inform the direction of design elements on a site. The EIA is to use this document to ensure that design principles adopted by the EIA are reflected in the design elements of a site. The EIA can also use this document as a means to present their community to the local municipality.

EIA staff or their consultants are requested to review development applications. This document will be a resource to which staff will refer to judge applicable landscape design components of applications. Upon submission of applications, staff may use this guide to focus on the principles upon which this document is based, keeping them in mind as they process applications for development. First, the General Guidelines apply. The staff will then review the applicable sections of public or private realms.

THE DEVELOPMENT COMMUNITY

Proponents of new uses for lands within the Community should acquire a copy of the Landscape Design Guidelines. The Guidelines should also be provided to their design consultants. For all applicants, the General Guidelines apply. If the project is a private endeavour, the proponent will review the general and private realm subsections of the report. A public agency proposing changes to their lands should, similarly, review the General and Public Realm sub-sections of the report. Apply the guidelines to the design and planning of the new project.


AIRPORT ENTRY
TRANSIT CORRIDOR
HIGHWAY COMMERCIAL SOUTH
HIGHWAY COMMERCIAL NORTH
GOLF COURSE LANDS
AVIATION HANGAR DEV. NORTH
AIRPORT SUPPORT DEV.
PARKING DISTRICT
PORT ALBERTA DEV. (TBD)

5.0 GUIDELINES

5.1 GENERAL

5.1.1 LAND USE: NEIGHBORHOOD STRUCTURE

5.1.1.1 AIRPORT ENTRY

The Airport Entry Lands will be the first evidence of our pursuit of design excellence. Located centrally through the lands, the Entry will be the first impression for all travelers to the Edmonton International Airport and its business district. Accordingly, the landscape should evoke prestige and provide wayfinding.

5.1.1.2 TRANSIT CORRIDOR

The EIA Lands will be connected with the City in the future. The corridor becomes the gateway to the Airport lands. Like the Airport Entry, this will become the first impression for travelers via future light rail transit. Views from the corridor should be framed and relate to the speed at which the transit is entering the lands. The Transit Corridor is both a gateway and experience that should invigorate passengers as they enter the airport and introduce them to the city of Edmonton as they leave the airport lands.

5.1.1.3 HIGHWAY COMMERCIAL SOUTH

The Highway Commercial South lands will be evident from Highway 2, thus creating a first impression for visitors from the south to the airport lands. Consideration should be given to screen deleterious views that may occur as the result of commercial or industrial activities. The edge of the lands with the highway should have a strong landscape character that offers windows into the airport lands. The streets of the Highway Commercial South should provide vegetated corridors, pleasant for vehicle drivers and comfortable for pedestrians.

5.1.1.4 HIGHWAY COMMERCIAL NORTH

The Highway Commercial North lands will be developed adjacent to the golf course lands. Connectivity with the two neighborhoods should be made. The streets of the Highway Commercial North should provide green corridors, pleasant for vehicle drivers and comfortable for pedestrians who emerge from the buildings.

5.1.1.5 GOLF COURSE LANDS

The Golf Course Lands have been developed. They form a green entry to the Airport lands. Separation from Highway 2 is desirable.

5.1.1.6 AVIATION HANGAR DEVELOPMENT NORTH

The Aviation Hangar Development North will be one of the first developments to acknowledge the landscape guidelines. The proximity to the airside will require that avian populations are not encouraged. However, a balance should be struck with a green edge created to cause a separation between the industrial type uses and the adjacent commercial lands.

5.1.1.7 AIRPORT SUPPORT DEVELOPMENT/ PORT ALBERTA

The Airport Support Development lands will be one of the first developments to acknowledge the subject landscape guidelines. The proximity to the airside will require that avian populations are not encouraged. However, a balance should be struck with a green vegetated edge to create a separation between the industrial type uses and adjacent commercial lands.

5.1.1.8 PARKING DISTRICT

The EIA Lands require generous parking districts. The expanse of pavement will provide a canvas for the implementation of planting and environmental approaches to help create a comfortable environment, reduce the heat island effect, help manage stormwater and mitigate negative environmental impacts. Pedestrians will want comfortable access to the airport terminal. The micro-climatic landscape should be designed provide some climate control and comfort. Pedestrian routes should provide safe access to shuttles and the terminal.

5.1.2 CLIMATE / GEOGRAPHY

- Cold winters / hot summers
- Flat topography
- Clay soils

5.1.3 SAFETY AND SECURITY

The landscape design must take into consideration Crime Prevention Through Environmental Design (CPTED) principles. Such criteria includes maintenance of sight lines, providing eyes on parking and open spaces, and ensuring there are no possible projectiles in the landscape. Fences should be used judiciously to direct pedestrian and vehicular flows while preventing containments that pose safety risks. Landscape Maintenance will be required to ensure that dying plants pose no risk to passers-by.

Clearance: Locate streetscape elements (such as trees and benches) so as to maintain sightlines of motorists and pedestrians, especially at intersections and driveway entrances. Ensure that overhead objects leave adequate space for pedestrians and cyclists to pass beneath.

Pedestrian Priority Zones

5.1.4 TRANSPORTATION NETWORK

PEDESTRIAN

The driver becomes a pedestrian the moment they step out of the vehicle. Pedestrians need to feel safe and have unrestricted access between their vehicle and destination. The airport recognizes that by providing pedestrian priority zones between the parking garage and the entrance to the terminal. Where little recognition is made is in at-ground parking facilities and along roads within the EIA lands.

VEHICLES

The road network must be comfortable for the modes that use it: personal vehicles, delivery vehicles, security vehicles, bicycles and non-motorized vehicles.

TRANSIT

A Transitway is proposed through a central location of the EIA lands. Transit today is limited to call-up bus services. In the future, light rapid transit is proposed. Its timing is undetermined.

AIR

The expanse of the EIA lands is evident from the air. The landscape guidelines understand the visual impact.

5.1.5 ENCOURAGE CREATIVITY AND INNOVATION

The *Landscape Design Guidelines* encourage creativity and innovation through:

- Places that show a balance between the built and natural heritage.
- Places that are environmentally healthy, with well-placed built and landscape elements.
- Comfortable destinations that have visual interest and reflect the community.
- Intersections that are visually interesting places and reflect the identity of the immediate stakeholders.
- Streets that are pedestrian-friendly public places with streetfront identity.

Unique Character: First impressions of the airport will be the most lasting. Therefore, gateways present high-impact opportunities to convey the Airport's unique character.

Gateways: In its most elementary form, a gateway is a form defining an entrance from one domain to another. A gateway relates to the speed, mode, and reason for the traveler entering. A true gateway is a combination of elements that together create an experience announcing passage into a new domain.

Gateway Components: The entrance features may consist of walls gates, signs, fences, trees, shrubs, flowers, and any other related component.

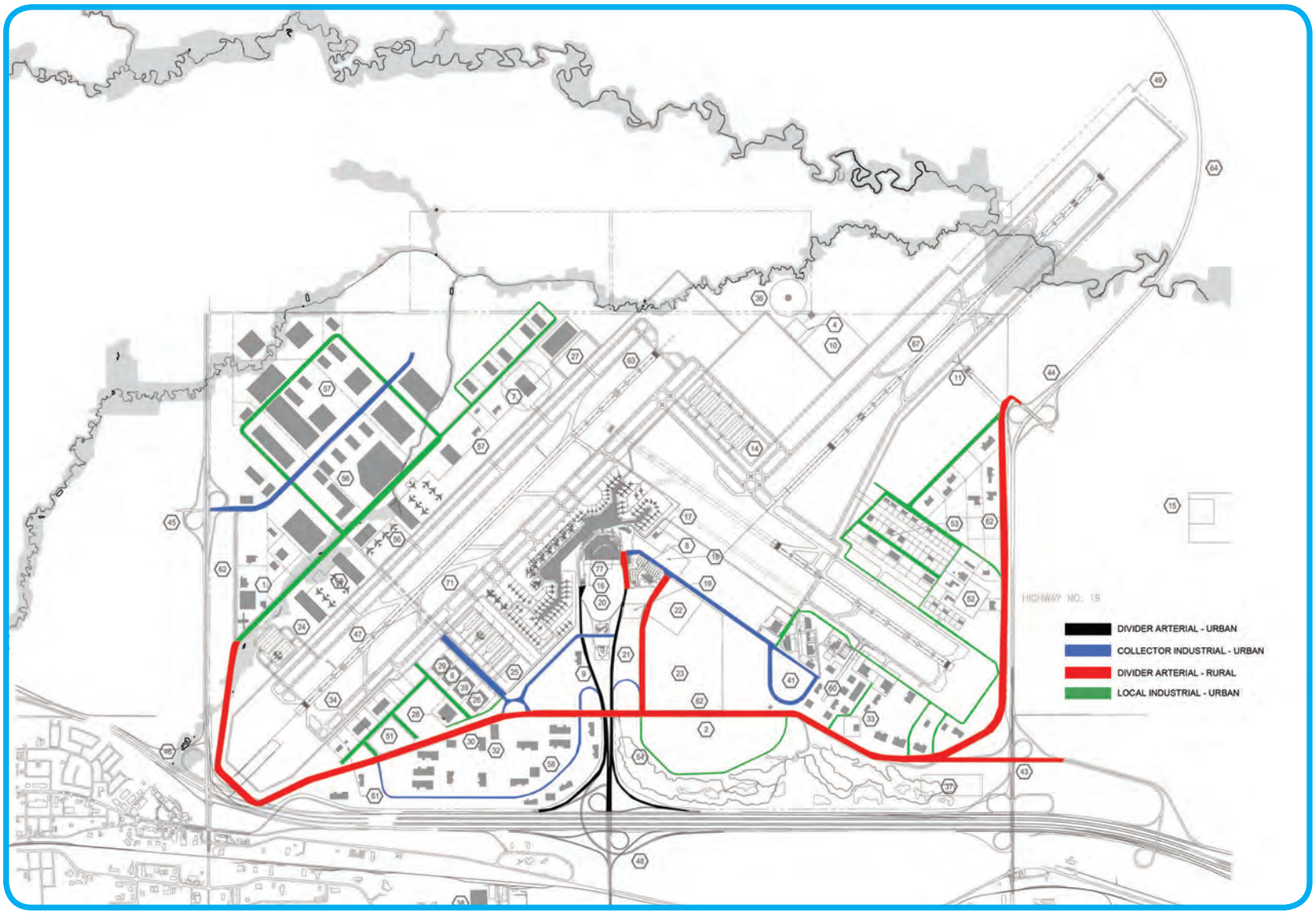
Gateway Hierarchy: Create a hierarchy of gateway elements that reflect the importance of the area. The most important areas determined should have gateways at a scale that are appropriate for the space. For example, the gateway at the Airport Lands limits ought to command a presence when passing through at a higher speed, along a wider road. Gateways at neighbourhoods within the Airport Lands ought to be recognizable at a smaller, pedestrian scale.

Public Art: Public art creates character and identity, contributing to the overall spirit and success of the community. For a small percentage of a total project budget, public art will provide an added level of sophistication and quality. A public art strategy is encouraged to identify appropriate opportunities for art and the requirements for making it happen.

- Public art locations include gathering places, street intersections, courtyards, and institutional or public building sites.
- Public art should not be installed where no opportunity for casual surveillance exists. Conversely, pieces should benefit from visibility from adjacent buildings and/or public streets.
- Public art pieces should be integrated into the appropriate paving materials that complement the piece. Benches should be located nearby.
- Art should celebrate historic events and figures of Edmonton, commerce and flight.
- Sites should be reserved for groupings of complementary pieces, included temporary installations

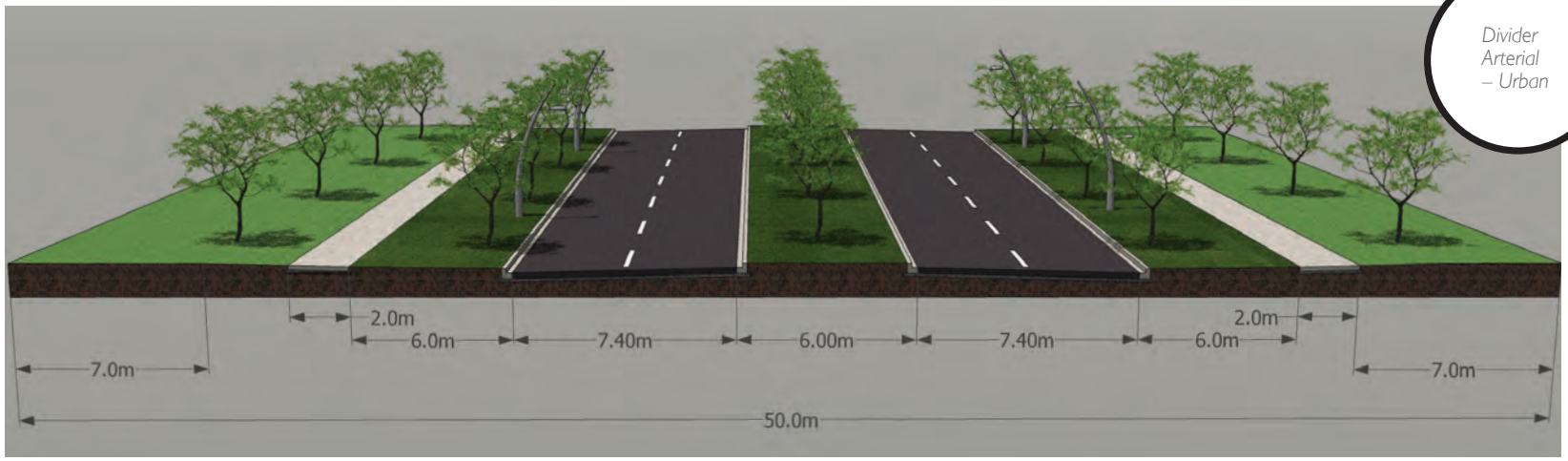
Identification: The signage component of an entrance feature shall include the name of the district/ neighbourhood/ community.

ROAD HIERARCHY KEY MAP



5.1.6 STREETSCAPE

The streetscape should throughout EIA lands indicate a sense of place and connectivity between its neighbourhoods. Appendix B provides graphic product information. B-1 indicates site furnishings to be used throughout EIA lands. B-2 describes paving and subterranean support for pavement and tree planting. B-3, 4, 5 further describes greenroofs and pavement types for pedestrian areas.



5.1.6 STREETSCAPE

Divider Arterial – Rural

Local Industrial – Urban

PLANTING

Planting is the dynamic of the landscape. Over time, the character changes with growth. The speed of that change is influenced by the installation, climate and protection given to the plants. Where possible, combinations of coniferous and deciduous plants will provide diversity. Height and colour diversity will enhance the character of the Airport lands.

Street Trees Installation: Street trees is a site developer responsibility; this applies to new developments where no trees exist currently or trees which have been replaced due to the development process. Where site development is not expected on arterial roads, the street tree planting will be the responsibility of the EIA. Arterial roads should be planted with trees larger than those on local or collector roads.

Landscape Design: Develop self-sustaining landscapes based on plants tolerant of soils, climate, and water availability. Maximize use of native plants and do not use exotic, invasive species. Enhance biological diversity within the site and the Airport Lands without encouraging bird populations.

Building Related Landscape: Provide landscaping at major access points to the site. Refer to other landscape sections in this document. Provide landscaping in front of blank walls. Provide appropriate landscaping and ensure the landscaping does not block views from public streets to the built form. Feature paving in the public right-of-way should extend to the building edge. Encourage paved forecourts where front yard setbacks are less than 3.0 m, and landscape in the form of shrub and flowerbeds or raised planters could be incorporated in the forecourt areas. Front yard guidelines for landscaping also apply to exterior side yards. Provide a boulevard between the sidewalk and the right-of-way where space provides.

Street Trees

Function: Plant trees at grade wherever possible for ease of pedestrian movement and to reduce visual clutter. Use tree grates and guards where tree planting occurs adjacent or within a paved area. Provide shade to pedestrians in summer and allow solar access in winter by planting deciduous trees along sidewalks and recreational paths. Add coniferous trees as well, if space is available, to filter wind year-round. Street trees should provide a continuous canopy along the road corridor and along the length of internal pedestrian walkways to enclose and shade the pedestrian space, on narrow, lower speed roads with a high potential for pedestrian traffic. Ensure placement of trees does not obstruct driver's view at intersections and driveways.

Layout: Coordinate tree locations with above grade and below grade utilities. Plant street trees 8.0-10.0 m apart along the sidewalk in permeable surface areas that are approximately 10.0 m^2 per tree. Plant trees 1.5-2.0 m from curb except where limited space requirements dictate otherwise. Where the outer boulevard along the curb is wider than 3.0 m, plant trees 2.5-2.75 m from the curb. Where the sidewalk is adjacent to the curb, plant trees adjacent to the private property and coordinate with on-site landscaping. Plant trees further from the curb on wide, high speed roads to protect them from harmful salt-spray, strong winds, fumes, and heat reflected from the road. Trees should be planted at grade where there will be greater than 3.0 m clearances from the trunk of the tree to the nearest wall. Use root barriers to control the root systems from interfering with underground structures where conditions pose potential conflict with roots and surfaces in the future. In existing conditions, where the landscape strip in combination with available private property adjacent to the property line exceeds 2.0 m in width, street tree planting between the sidewalk/curb and the building should be made. Where redevelopment occurs along local roads, a single row of high-branching street trees should be provided. These trees should be located at the same distance from the road's edge as adjacent trees, and should also be spaced to match the rhythm of existing trees along that road.

Type: All plant materials shall be of a species capable of healthy growth in the Edmonton area and shall conform to the specifications of the Landscape Alberta Nursery Trades Association (LANTA). Trees and shrubs are not to be the types which will attract birds or provide them with feed. A list of plant materials is provided in Appendix A. New plantings shall be minimum 60 mm caliper on all streets. On the entry arterial road, plant trees minimum 80 mm caliper for immediate impact.

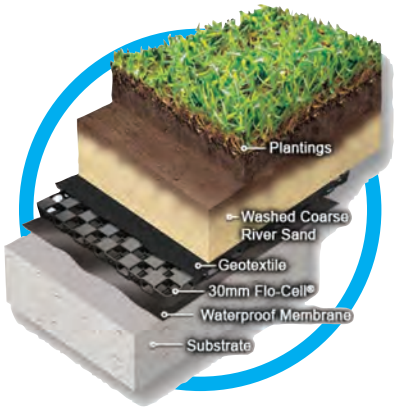
Parking Related Landscape: Divide large parking areas into smaller, well-defined sections on the site using soft and hard landscaping. Maximize tree planting in parking areas. Locate planting to maximize the extent of shading within the parking area and pedestrian walkways. Place particular emphasis on landscaping at major access points to the site. When parking or on-site circulation areas adjacent to the street is unavoidable, provide sufficient landscaped setbacks with deciduous trees along the public street so that impervious surfaces do not dominate views from the street and a strong street edge can be clearly defined. Use a diverse range of native species when designing the landscape. Plant two or more trees together and provide 10.0 m^2 or 3.0 m wide or more of soil area for each tree, where trees are planted in islands at the end of a parking row. A combination of high branch deciduous street trees and accent coniferous plants, low shrubs, planters, attractive low walls or decorative fences should be used at the edges of the parking lot where it abuts the public boulevard. Where possible, grade differences should be tactfully utilized to achieve enhanced visual screening to the parking area. Provide landscape areas for pedestrian circulation routes through parking lots.

Plant Species: Avoid the selection of one species of tree for more than ten trees in a row within the street boulevard. Provide varieties of trees with similar characteristics of form, height, and colour. All tree species should require low maintenance, be pollution- and salt-tolerant, and be a combination of deciduous and coniferous native species for year-round character. Standard shade trees planted within landscape strips should be spaced as recommended above. Refer to the Preferred Street Tree Species List (see Appendix C). High branching tree species, or columnar tree species, may be used to allow views through to private commercial development. Two or three tree species should be used consistently within landscape strips along corridors and should be comprised of low-maintenance species that are pollution- and salt-tolerant. Groupings of the same species of tree can be used provided that there are occasional plantings of other species to prevent monocultures and their associated hazards. Accent planting, in the form of small flowering trees, may be used at the four corner areas to distinguish a specific road intersection. These plantings should be placed to ensure standard sightline clearances. Consider using distinctive tree and vegetation species, such as flowering (but not fruit-bearing) species, in places with a unique identity and profile.

Root Enhancement Systems: For planting trees that are proposed in the boulevard where pavement predominates, implement root enhancement systems that act to provide water deep into the modified ground to encourage root growth. The systems also enhance ambient water storage for improved stormwater management.

Tree Replacement: Replace each dead tree with a tree of similar size or a minimum 70.0-90.0 mm caliper, or 250.0 mm height conifer. If a live tree must be removed as a result of damage during construction or disease, replace it with two trees minimum 70.0-90.0 mm caliper and similar form or species.

Site and Streetscape: Integrate on-site development with improvements to adjacent street boulevards and sidewalks, including lighting, street trees, seating, decorative paving, and other landscaping and street furniture, in cooperation with the EIA.



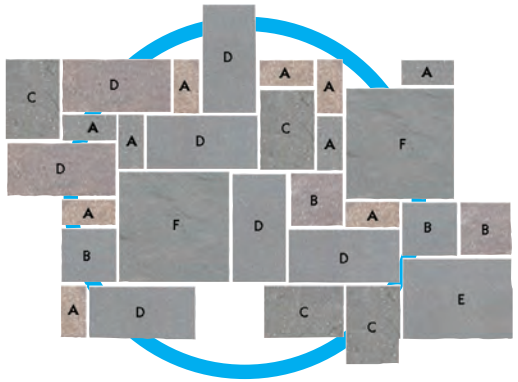
Root Enhancement

PAVEMENT

Pavement types, texture and colour can be indicators of use or an aesthetic for the space it occupies. Asphalt roads indicate a space for vehicles. The lines on that pavement will variably indicate direction, speed, crossings or parking. Concrete pavement is often associated with pedestrian areas: sidewalks or plazas. Alternatively, pedestrian areas may be enlivened by installing unit pavers or natural stone.

Pedestrian Crossings: Pedestrian crossings may receive special paving treatment to emphasize their significance. The crossings will be made of concrete paving. Less permanent solutions may be used on local roads and include pavement markings, Zebra crossings, and stamped concrete. Effort must be made to provide durable markings versus painted lines. The change in pavements indicates pedestrian priority.

Feature Paving: Feature paving may be used along roads and at nodes of vehicular or pedestrian traffic and must be consistent in colour and pattern. Within the high pedestrian areas, intersections should have pedestrian crossings of concrete pavement that interrupts the vehicular asphalt pavement. In other gathering areas, such as courtyards and pedestrian landings, unit pavers in random patterns will provide identifiable spaces throughout the Community.



Feature Paving

Pedestrian Access: Walkways should be safe and direct. Provide direct, uninterrupted pedestrian access from the public sidewalks to building entries. Provide 2.0-3.0 m wide pedestrian walkways along any façade with a customer entrance, along any façade adjacent to parking areas and when the walkway provides the primary access from the public sidewalk. A minimum 1.5 m wide internal walkway is acceptable for the balance of the site. Consider providing a secondary building entrance close to parking. Provide convenient access for non-vehicular users that are distinct from vehicular access and circulation routes. Locate all clear pedestrian travel routes at least 0.25 m away from built structures such as buildings, walls, or fences. Ensure sidewalks have primacy to driveways and are continuous across driving aisles. Where possible, separate pedestrians from vehicular routes with a landscape strip.

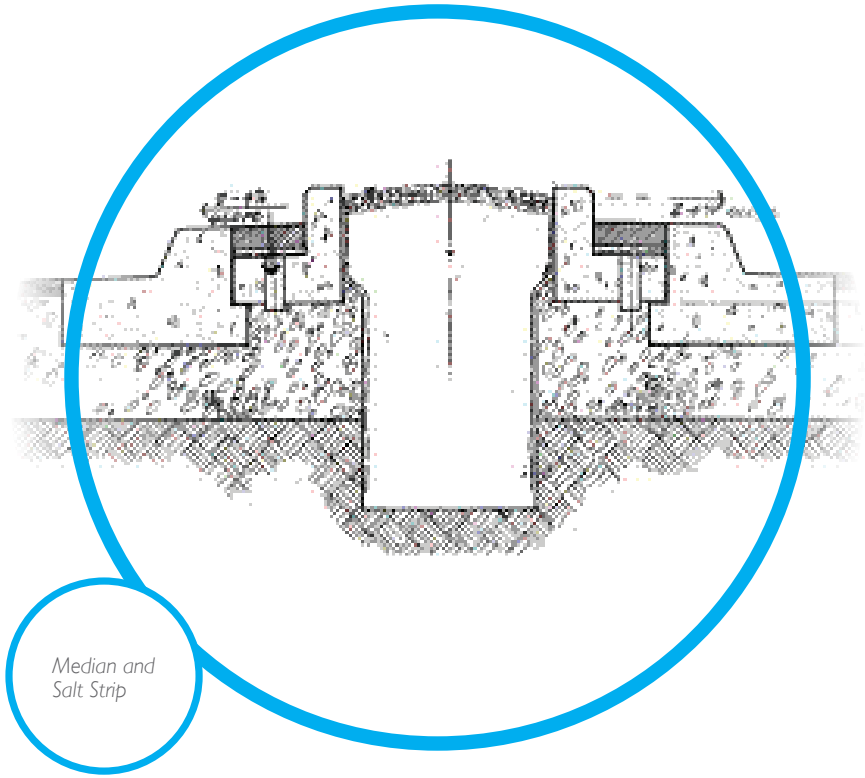
Transit Stop

Walkway Width: Design walkways for pedestrian comfort. The minimum width for internal pedestrian walkways is 1.5 m. A width of 2.0 m is the best for sidewalks. Provide a minimum 3.0 m walkway and forecourt space between parking areas and main building entrance(s) in order to facilitate pedestrian gathering and access. Ensure walkways and adjacent parking spaces have a 0.6 m overlap to accommodate the car overhang in order to avoid the use of precast curbs.

Sidewalk Paving: Distinguish walkways from driving surfaces using a material and colour change. Keep surface of walkways reasonably level and design them to prevent ponding of slush and water. Give paving materials other than asphalt primary consideration for pedestrian walkways. Encourage the use of special paving along pedestrian walkways that link to rear parking lots. Ensure sidewalk continuity in terms of material and slope, to reinforce pedestrian priority. When a sidewalk crosses a private driveway, grade transitions should be made on the driveway on either side of the sidewalk, leaving the sidewalk itself level.

Salt Strip: Construct a salt strip around the perimeter of medians without a hard surface. This salt strip should be constructed of the same material as other hard surface island treatments (e.g., interlocking brick, asphalt, or textured concrete), and drain away from the median. The strip will help prevent winterkill due to salt exposure.

Barrier-Free Access: Slope and curb cuts must be designed to allow for universal access. Slope the boulevard to allow water to drain away from the sidewalk, avoiding the formation of puddles and hazardous ice. The sidewalk should slope toward the curb. Ensure that slope transitions on the sidewalk are as gradual and unobstructed as possible, where a sidewalk crosses an intersection.



Median and Salt Strip

Vegetation in Medians: Consider planting grasses, shrubs and perennials where a median does not have a hard surface. Where trees are desired in landscaped medians, the use of salt resistant, regionally appropriate species should be encouraged. Alternately, continuous or individual planter boxes should be considered to protect trees from salt spray while preserving views from the drivers' perspective. Medians should be raised minimum 0.3 m and located minimum 0.5 m inside the curb of the road.

Irrigation: Consider irrigating a landscaped median at locations of unique character, where appropriate. Such treatment should not be considered as a standard practice due to the long-term maintenance and operating concerns.

Other Median Amenities: Medians also provide an opportunity to locate streetlights and public sculpture, and banners.

STREET FURNISHING

The streetscape should be enhanced with furnishings that bring distinction to the area and increases pedestrian safety and comfort. These Design Guidelines include general recommendations for the following:

- Street Lighting;
- Tree Planting;
- Pavement;
- Street furniture; and
- Cross-sectional placement guidelines for pedestrians.

See Appendix B for Furnishings Manufacturers.

Streetscape Amenities: Provide quality pedestrian-friendly amenities along private walks. Consider opportunities for special paving, street trees, pedestrian scaled lighting, weather protection, and lighting of the building, public art, clocks, and well-designed street furniture, such as benches, bike racks, and coordinated signage.

Streetscape Furnishings: Consider adding street furniture, such as benches and shelters, in appropriate locations, subject to maintenance and liability agreements, when located in Airport and municipal rights-of-way. This furniture should be consistent with the site's particular context and streetscape concept. Design detailing and scale of street furnishings should be coordinated with the overall existing streetscape design and architectural character. Encourage use of feature paving, pedestrian lighting, hanging flower baskets, banners, and other amenities. Important Intersections also should include bollard barriers at the curbside to protect pedestrians.

Group Furnishings: Concentrations of activity are encouraged by grouping together streetscape furnishing such as benches, planters, waste receptacles, and newspaper boxes. Locate in conjunction with street trees and lights, and ensure adequate pedestrian space is accommodated.

Landmark Features: Should be constructed of durable materials and be in keeping with the scale of surroundings. They should have regard to the travel speed of the passers-by (i.e. motorists and pedestrians).

Ample Seating: Provide seating areas in locations adjacent to a barrier-free path of travel and near transit stop locations wherever possible. Street furniture design should consider the ease of use by persons with disabilities, frequency of maintenance, durability, aesthetics, and permanence of use. Locate seating and trash receptacles 3.0 m away from each other.

Support Structures: Fixtures and poles should provide visual interest and pedestrian scale during all times of the day, incorporating colour and detail suitable for the area.

Banners: A "banner" program should be developed for the areas along important corridors to create a sense of identity and also to identify seasonal events.

SIGNAGE

Signage is variably regulatory, warning, wayfinding, provides information, interpretive or advertising. Regulatory signs are intended to control particular aspects of travel and are provided to enforce a provincial/federal law or municipal by-law. Warning signs are used to highlight conditions that may pose a potential safety or convenience concern. Wayfinding is critical to the success of the airport, organizing the many modes and volumes of travelers. Information signs will be used more for areas where the mode of transportation is slow such as pedestrian areas. Signage should be integrated into the site plan for each proposed development to ensure complimentary and overall consistency of design throughout the study area. Advertising signs are bold and often lighted.

Refer to sign master plan for details.

LIGHTING

Lighting provides an illumination and physical presence in the landscape. During the dark hours, light fixtures illuminate roads and public spaces for security, safety and aesthetics. For security, dark recesses and confined spaces should be avoided. For safety, changes in grade such as steps and ramps should be clearly illuminated. Roads and sidewalks should be clearly demarcated to allow safe movement through the lands. Consideration for ensuring Dark Skies must be addressed. Illumination can create an aesthetic of colour and dynamic change from the daytime. It can be used to create identifiable areas. Refer to Section 5.1.6.

Street Lighting: Provide direct, well-lit, and accessible pedestrian walkways between parking facilities and main building entrances as well as between transit stops/shelters and buildings. Provide appropriate, continuous illumination and lighting levels along pedestrian routes to ensure public safety per CPTED guidelines as a minimum.

Site Lighting: Develop energy-efficient site lighting strategy that minimizes light pollution. Consider using photovoltaic panels to power outdoor lighting, including parking lots, walkways, and garages.

Pole Locations: Coordinate light pole locations with underground utilities and trees.

Luminaire: Light luminaires should be chosen to integrate into the overall streetscape design and architectural character.

Pedestrian Lighting: Pedestrian streetlights should be located along intensively used areas and where pedestrian use is foreseen or encouraged. Consider pedestrian-scale light fixtures either in conjunction with vehicular lighting or as freestanding elements. Lighting at a suitable height for pedestrians may be added to existing vehicular light poles.

Energy Conservation: Employ alternatives to incandescent or mercury vapour lamps. Maintain light levels within recommended footcandle range set out by IES guidelines. Dim down lighting to minimum levels after normal operating hours. Consider solar-powered lights, either at light source or a separate location.

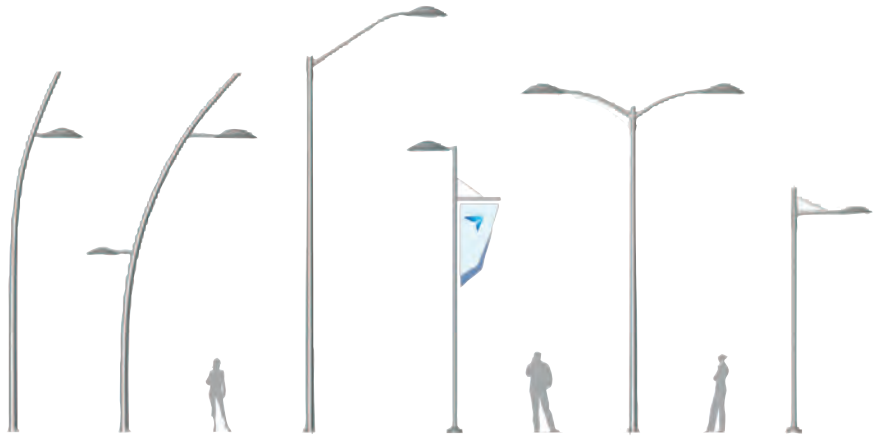
Light Pollution Reduction: Provide full cut-off lighting (0 percent of peak intensity radiating above 90 degrees and 10 percent of peak intensity above 80 degrees). Employ low cut-off where full cut-off lighting alternatives are not feasible. Beacon or flashing lights are regulated by Nav Canada. Locate lamps to direct light away from neighbouring properties and provide supplementary shielding of lamps. Provide lamp fixture mounting heights that avoid glare to the vantage point of neighbouring residential units and provide recessed light fixtures that avoid glare.

Light Shields: Locate lamps and provide additional shielding of lamp fixtures to avoid glare.

Light Levels: Provide minimum illumination in accordance with Municipal and Regional illumination requirements. Provide overlap of light distribution. Provide sufficient lighting coverage including building recesses or inside corners. Use lighting to accentuate and animate buildings and public spaces.

Uniformity: Provide uniform lighting without sudden light-to-dark transitions. Coordinate spacing and height of lamps with landscaping to ensure lighting coverage is not interrupted by tree canopies.

Assist in Wayfinding: Provide illumination to improve legibility of nodes, landmarks, and circulation areas. Provide illumination to articulate steps and changes in grade. Align lamps in consistent, recognizable, and unambiguous patterns. Provide a uniform and modest brightness along paths of travel. Ensure mid-block pedestrian walkways or 'mews' that link rear lanes or parking areas to the Corridors are lit.



5.1.7 ENVIRONMENT AND OPEN SPACE

These landscape guidelines will consider the impact of urban development on the environment and open space. Where possible, the soft landscape design should enhance the ability of the land to retain moisture and regenerate without human intervention. The landscape is considered open space and should invite users by creating a comfortable environment that is cool in the summer and protected in the winter. The open space of the airport lands should encourage passive and active recreation.

Outdoor Amenity Spaces: Create public and semi-public outdoor amenity spaces or gathering places, such as courtyards, space for soft landscaping, outdoor cafés, seating, observation areas and rooftop gardens.

5.1.8 SUSTAINABILITY

In 25 years, the airport lands will have matured and the materials used will continue to function with the added benefit of a patina that identifies its age. Accordingly, these landscape design guidelines will emphasize the ability of landscape spaces to stand the test of time and encourage reduced carbon footprint.

Pedestrian and Cycling Priority: Consider providing materials and measures, such as bollards, distinct paving materials and colours, and grade changes to emphasize pedestrian and cycling priority. Increase the visibility of crossings and improve pedestrian safety in appropriate locations.

Bicycle Parking: Provide bicycle parking that is convenient, safe, and secure near the building entrance.

Bicycle Path: Safely separate bicycle and in-line skating recreational paths from pedestrian paths where applicable. In some situations, a wider path (3.0-4.0 m wide) can facilitate shared uses separated by a painted line. Bicycle lanes should be on the street and have a route line painted separate from vehicular traffic.

Sustainable Sites: Explore opportunities to enhance community, pedestrian/transportation linkages, and open space networks, and embed these into the design concept. Develop a site plan and massing concept to preserve natural site features and restore degraded habitat areas and improve hydrology. Provide facilities for transportation alternatives, including bicycles and public transportation. Encourage occupants to use low-emitting, high efficiency vehicles. Provide facilities for sustainable transportation, including walking, cycling, and carpooling. Reduce impervious surface areas to encourage groundwater recharge. Develop stormwater management strategies to support groundwater recharge, natural filtration, and stream channel protection. Use light coloured paving and provide shade on paved areas to reduce the urban heat island effect.

Water Efficiency: Integrate into the design concept consideration of water harvesting and reuse as well as alternative wastewater treatment. Reduce reliance on irrigation systems. Where required, use efficient systems and seek alternatives to use of potable water for irrigation systems.

Stormwater Management: The stormwater management system will be comprised of dry ponds, bioretention areas and permeability which will form part of the green space for the Airport lands. Where possible, the paved areas of all public areas should absorb and retain runoff.

Surface Parking Lots 'Greening: Sustainable design principles will be applied to the parking lot design, which will address correct locations and efficient stall layouts in relation to street corridors and building egress. The parking area will have landscaped bio-retention areas for better soil and water quality and flow management. Efficient lighting fixtures and appropriate luminaires such as solar-powered lighting will also help to set the parking areas' long term environmental goals. Finally, the parking layout is required to provide a direct and continuous pedestrian network amidst an efficient automotive circulation.

Cut and Fill: Construction of roads and sites will be compelled to balance cut and fill. Any fill generated by construction will be placed in locations designated by EIA and as shown in Appendix C. Material must be tested for toxins. Clean fill will be placed in locations designated and compacted to 98% SPD.


STARBUCKS COFFEE

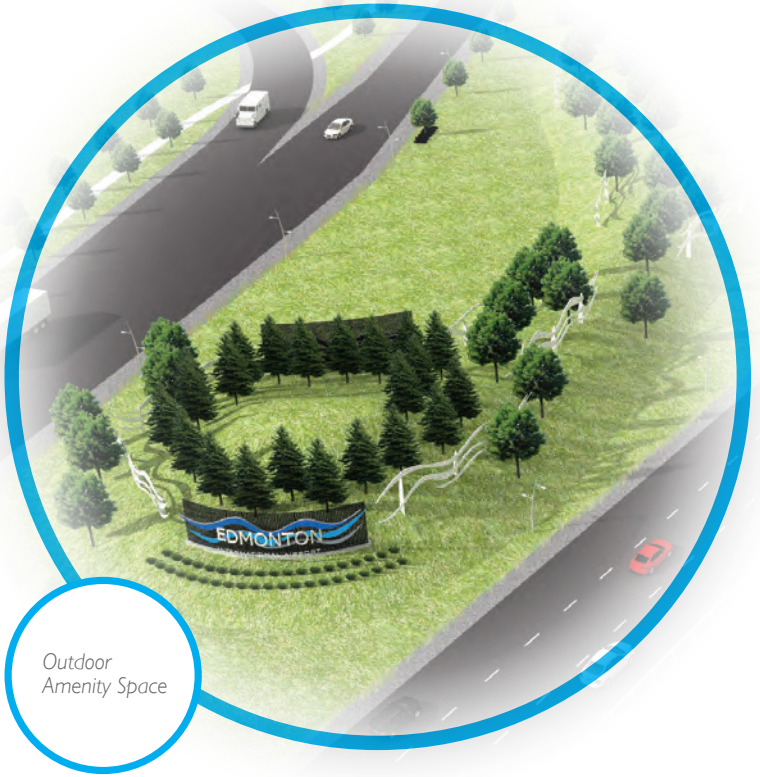
5.2 PUBLIC REALM LANDSCAPE GUIDELINES

5.2.1 AIRPORT ENTRY

General: Follow General Guidelines, Section 5.1 of this report unless modified by the articles in this section.

Streetscape Amenities: Provide high-quality, pedestrian-friendly amenities along the Airport Entry Corridor. Consider opportunities for special paving, street trees, pedestrian scaled lighting, weather protection, and lighting, public art, clocks, and well-designed street furniture, such as benches, bike racks, and coordinated signage.

Fill Areas: Anticipating that there will be fill removed from developing sites, Appendix C shows locations for clean fill to be deposited to create buffers and features in the landscape. Upon completion of final grading plans, 150mm of topsoil should be placed on all berms and seeded.



Outdoor Amenity Space

Outdoor Amenity Spaces: Create public and semi-public outdoor amenity spaces or gathering places, such as courtyards, outdoor cafés, seating, and rooftop gardens on commercial developments within the Corridor.

The wedge shaped land mass between inbound and outbound traffic should become a usable park space and double as a grand gateway to the Airport Lands. This area can be recipient to both excess fill and topsoil from other developments within the Airport Lands.

Gateway: The experience of entering should be dramatic. Travelers from Highway 2 into the lands must pass through the shaped land mass. Until the development of the transit corridor, the road into and out of the Airport Lands should pierce the land mass that rises to a height of 6 m on either side of the road. After construction of the Transit Corridor, a rail bridge will further define the gateway. Once the traveler passes the land mass and bridges, they will have sensed a change in character of the land. They have entered the Airport Community.

Street Trees

Spacing: 8 m in line and parallel to the roadway pavement. See Section 5.1.6 Streetscape for road cross-sections.

Varieties: The rows of street trees should vary every 10th tree.

Rhythm: The spacing and consistent shapes of the trees will give a rhythm to the street for travelers.

Boulevard Landscape Buffer: In addition to the street trees, the landscape of the corridor will be strengthened by a treed buffer that will emphasize the green approach to the Airport Community. The buffer will be at the north and south edges of the corridor defined by minimum two rows of deciduous and two rows of coniferous trees.

Gateway

Landmark Feature

Landmark Features: Within the park, a landmark feature will identify the site of the Airport Community. It should include the words Edmonton International Airport, but also elaborate on the other land uses within the Community.

Entry Buffers: On the sides of the ramps leading to and from Highway 2 and the Airport Lands, excess fill from other developments can be used to create berms to define the vehicular entry edges. The berms should not impede on the adjacent land uses of Highway Commercial and Golf Course Lands, but should be built with 3:1 slopes and planted/seeded to create a dense green mass. The planting should be developed to help control winds and snow deposition.

Streetscape Furnishings: Consider adding street furniture, such as benches and shelters, in appropriate locations, subject to maintenance and liability agreements, when located in Airport and municipal rights-of-way. This furniture should be consistent with the Airport Community's particular context and streetscape concept. Design detailing and scale of street furnishings should be coordinated with the overall existing streetscape design and architectural character. Encourage use of feature paving, pedestrian lighting, hanging flower baskets, banners, and other amenities. Attached is a recommended family of Street Furnishings (see graphic on following page)

Signage: Directional/Informational: Signs should create a welcome as the traveler enters the Airport Community. The space of Entry from Highway 2 to the Transit Corridor should remain free of advertising. Directional signage should begin as the travelers enter between the earth mounds and pass beneath the transit corridor bridge. Beyond the transit corridor and within the community, the Airport Entry will require a sophisticated wayfinding sign system. Electronic and changeable signs will provide an innovative appeal to the district.

Street Lights: The lights in this corridor should be distinct from those of the rest of the community. The poles should be larger than the typical street lights. They should provide space for banners and they should be part of the Family of furnishings.

Pedestrian and Cycling Priority: Cyclists should be accommodated on road on the overpass over Highway 2. Upon entering the Airport lands, a separate 3m wide multiuse recreation trail should be accommodated in the road boulevard on both sides of the access road. This trail will provide for both cyclists and pedestrians.

5.2.2 AVIATION HANGAR DEVELOPMENT NORTH

General: Follow General Guidelines, Section 5.1 of this report unless modified by the articles in this section.

Gateway: This neighbourhood should have a reduced scale entry, identifying the special nature of the district. Masonry piers and signage will define when the traveler enters.

Street Trees

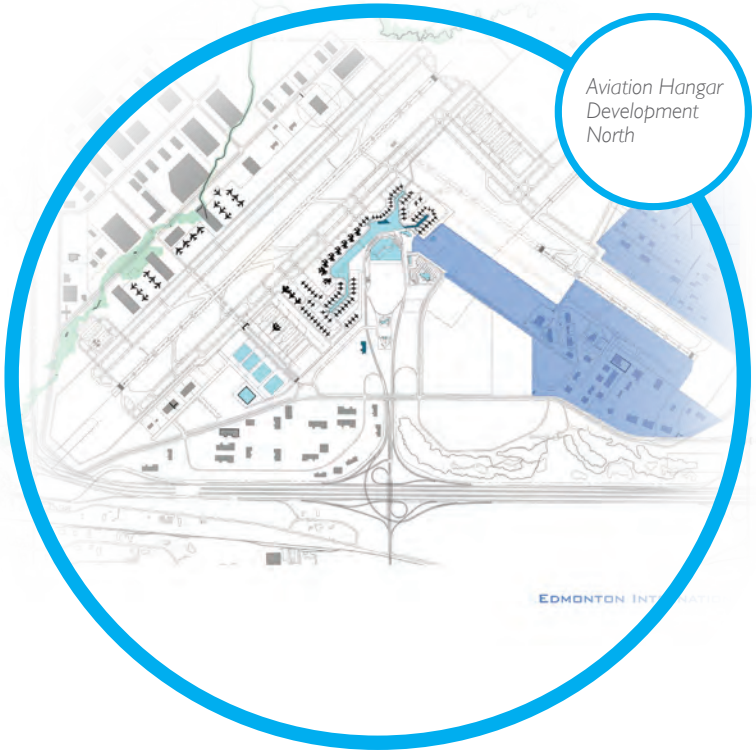
Spacing: 8 m in line and parallel to the roadway pavement. See Section 5.1.2 Streetscape.

Varieties: The rows of street trees should vary every 10th tree.

Rhythm: The spacing and consistent shapes of the trees will give a rhythm to the street for travelers.

Streetscape Furnishings: The family of furnishings described in the General Section will be used.

Pedestrian and Cycling Priority: Sidewalks should be minimum 1.5 m wide. Cyclists should be accommodated on the road with a 1.5 m wide cycle lane



5.2.3 HIGHWAY COMMERCIAL SOUTH

General: Follow General Guidelines, Section 5.1 of this report unless modified by the articles in this section..

Gateway: This neighbourhood should have a reduced scale entry, identifying the special nature of the district. Masonry piers and signage will define when the traveler enters.

Streetscape Furnishings: The family of furnishings described in the General Section will be used.

Street Trees

Spacing: 8 m in line and parallel to the roadway pavement.

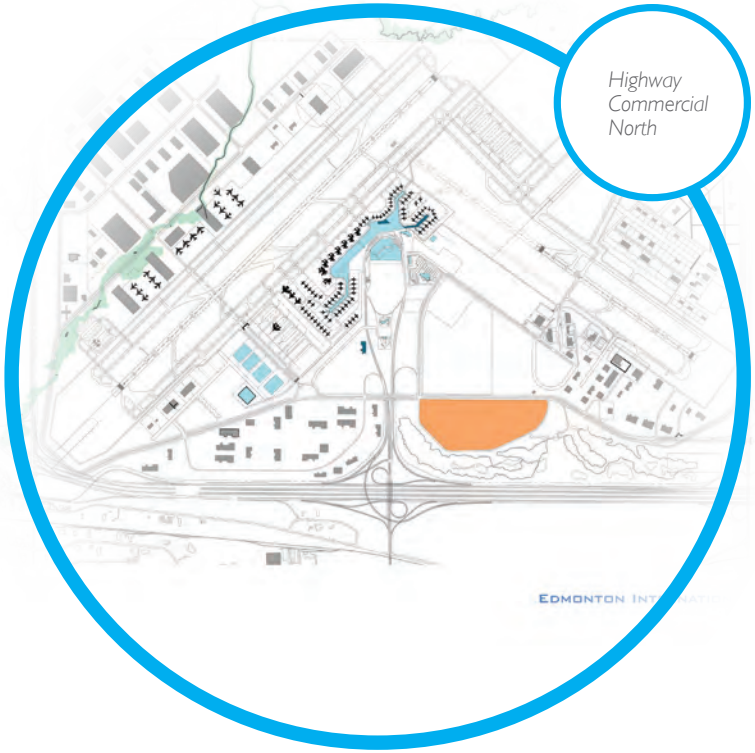
Varieties: The rows of street trees should vary every 10th tree.

Rhythm: The spacing and consistent shapes of the trees will give a rhythm to the street for travelers. Gaps in the tree rows will identify entries to individual sites.

Signage – Directional/Informational

Pedestrian and Cycling Priority: Sidewalks should be minimum 1.5 m wide. Cyclists should be accommodated on the road with a 1.5 m wide cycle lane.

Landscape Buffer: Construct a vegetated berm to screen views to loading service areas of the commercial neighbourhood.



5.2.4 HIGHWAY COMMERCIAL NORTH

General: Follow General Guidelines, Section 5.1 of this report unless modified by the articles in this section.

Gateway: This neighbourhood should have a reduced scale entry, identifying the special nature of the district. Masonry piers and signage will define the golf course and the new facilities.

Street Trees

Spacing: 8 m in line and parallel to the roadway pavement.

Varieties: The rows of street trees should vary every 10th tree.

Rhythm: The spacing and consistent shapes of the trees will give a rhythm to the street for travelers. Gaps in the tree rows will identify entries to individual sites.

Streetscape Furnishings: The family of furnishings described in the General Section will be used.

Signage – Directional/Informational

Pedestrian and Cycling Priority: Sidewalks should be minimum 1.5 m wide. Cyclists should be accommodated on the road with a 1.5 m wide cycle lane.

Streetscape Furnishings: The family of furnishings described in the General Section will be used.

5.2.5 AIRPORT SUPPORT DEVELOPMENT

General: Follow General Guidelines, Section 5.1 of this report unless modified by the articles in this section.

Gateway: This neighbourhood should have a reduced scale entry, identifying the special nature of the district. Masonry piers and signage will define when the traveler enters.

Street Trees

Spacing: 8 m in line and parallel to the roadway pavement.

Varieties: The rows of street trees should vary every 10th tree.

Rhythm: The spacing and consistent shapes of the trees will give a rhythm to the street for travelers. Gaps in the tree rows will identify entries to individual sites.

Streetscape Furnishings: The family of furnishings described in the General Section will be used.

Signage – Directional/Informational

Pedestrian and Cycling Priority: Sidewalks should be minimum 1.5 m wide. Cyclists should be accommodated on the road with a 1.5 m wide cycle lane.

5.2.6 GOLF COURSE LANDS

General: Follow General Guidelines, Section 5.1 of this report unless modified by the articles in this section.

Gateway: This neighbourhood should have a reduced scale entry, identifying the special nature of the district. Masonry piers and signage will define the golf course and the Highway Commercial North Districts.

Street Trees

Spacing: 6 m in line and parallel to the roadway pavement.

Varieties: The rows of street trees should vary every 10th tree.

Rhythm: The reduced spacing of trees will introduce the green concept of the Golf Course Lands, while providing protection from errant balls.

Highway 2 Buffer: The golf course is visible from Highway 2. Consequently, the playout area of the golf course includes the buffer area. For further protection for the highway, the buffer should be increased with the addition of fill and topsoil in a rolling berm. Plantings should be increased to encourage the future development of a grove of mixed coniferous and deciduous trees.

Streetscape Furnishings: The family of furnishings described in the General Section will be used.

Pedestrian and Cycling Priority: Sidewalks should be minimum 1.5 m wide. Cyclists should be accommodated on the road with a 1.5 m wide cycle lane.

5.2.7 PARKING DISTRICT

General: Follow General Guidelines, Section 5.1 of this report unless modified by the articles in this section.

Gateway: This neighbourhood should have a reduced scale entry, identifying the special nature of the district. Masonry piers and signage will define when the traveler enters.

Street Trees: The streets will introduce a green character to this area that will become an expanse of parking. It should set the tone for development of the parking areas.

Spacing: 10 m in line and parallel to the roadway pavement.

Varieties: The rows of street trees should vary every 10th tree.

Rhythm: The spacing and consistent shapes of the trees will give a rhythm to the street for travelers. Gaps in the tree rows will identify entries to individual sites.

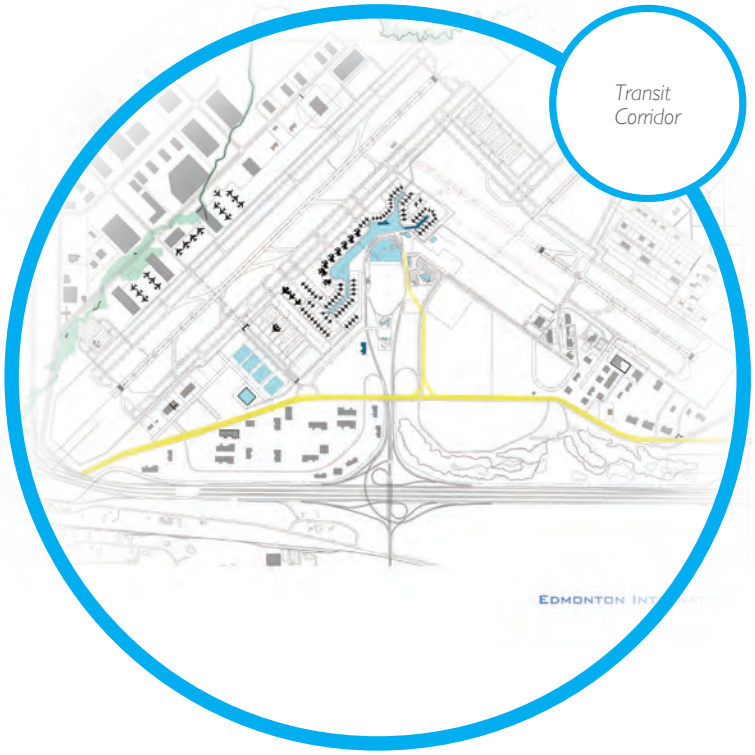
Streetscape Furnishings: The family of furnishings described in the General Section will be used.

Signage: Directional/Informational: Directional signage will be key to the success of this parking District. Such signage will need to address travelers in vehicles and on foot.

Pedestrian and Cycling Priority: Sidewalks should be minimum 1.5 m wide. Cyclists should be accommodated on the road with a 1.5 m wide cycle lane.

Surface Parking Lots 'Greening': Sustainable design principles will be applied to the parking lot design, which will address correct locations and efficient stall layouts in relation to street corridors and building egress. The parking area will have landscaped bio-retention areas for better soil and water quality and flow management. Efficient lighting fixtures and appropriate luminaires such as solar-powered lighting will also help to set the parking areas' long term environmental goals. Finally, the parking layout is required to provide a direct and continuous pedestrian network amidst an efficient automotive circulation.

Proposed Shuttle/ Bus Stop at Parking Lots



5.2.8 TRANSIT CORRIDOR

General: Follow General Guidelines, Section 5.1 of this report unless modified by the articles in this section.

Gateway: The north end of the Transit Corridor can become the visual gateway for travelers. A copse of trees on either side of the corridor will announce entry into the community. A continuation of a line of trees will effectively introduce the traveler to this green community.

Street Trees: Establishing trees on the edges of the corridor early will provide a mature green environment by the time the transit facility is implemented.

Spacing: 8 m in line and parallel to the corridor.

Varieties: The rows of street trees should vary every 10th tree.

Rhythm: The spacing and consistent shapes of the trees will give a rhythm to the entry for transit users.

Streetscape Furnishings: The family of furnishings described in the General Section will be used.

Signage: Directional / Informational: Signs within the Transit Corridor will introduce the travelers in the vehicles to the Airport Community. Signs at transit stops will be pedestrian scale, directing passengers to the Airport Terminal or to other parts of the Airport community.

Pedestrian and Cycling Priority: Include multiuse trails to parallel the transit corridor.

5.3 PRIVATE REALM: SITE GUIDELINES

5.3.1 GENERAL LANDSCAPE REQUIREMENTS

Follow General Guidelines, Section 5.1 of this report unless modified by the articles in this section. The landscape character of each of the sites within the Edmonton Airport Lands contributes to the overall vision of the Community.

Landscape Plan: Each site is to be landscaped in accordance with the plan approved by Edmonton International Airports. Landscaping in accordance with the approved plans must be installed onsite within 60 days of completion of the building. A letter of credit in the amount of 50% is to be provided as security. Plans, specifications, and inspections for landscaping shall be prepared and completed by a professional Landscape Architect. The landscape will be maintained and warranted for two years from date of completion. Upon written acceptance by the landscape architect at the end of the warranty period, the letter of credit will be released.

Plant Size: The minimum size of trees and shrubs are to be as follows: deciduous trees – 60 mm (2") caliper; coniferous trees – 2.5 m (8') height and shrubs – 400 mm (1'-6") height or spread. Coniferous trees and shrubs shall comprise a minimum proportion of 50% of all trees planted.

Plant Species: All plant materials shall be of a species capable of healthy growth in the Edmonton area and shall conform to the specifications of the Landscape Alberta Nursery Trades Association (LANTA). Trees and shrubs are not to be the types which will attract birds or provide them with feed. See Appendix A.

Side and Rear Yard Planting: 4 m wide buffer will include a dense planting of conifers and deciduous plants that, when mature will provide a continuous canopy or vegetative barrier. Where buffers are wide enough, consider clusters of planting. For narrow areas, rows of plantings are appropriate.

Landscape Site Perimeter: Maximize landscaping along the perimeters of sites. Space trees to screen the development site from adjacent uses. Provide high branching street trees and low shrub planting in medians and at major access driveways, which do not obstruct vehicular views. Provide streetscape of trees and shrubs to screen cars/headlights while allowing safety and views. Create a 4.0 m wide landscape buffer to separate development from adjacent uses that may be negatively affected (e.g. other offices). Plant the buffer with coniferous and deciduous trees and provide a screening wall/fence to separate conflicting land uses. Create a minimum 1.5-3.0 m wide landscape strip adjacent to non-sensitive uses such as other commercial use for visual screening and environmental benefits.

Street Tree Planting: Site developers are responsible for street tree planting in the boulevards of streets adjoining the property. See section 5.1.6.

Front Yard Planting: Consider the location of street trees with respect to the front yard planting. Provide screening of parking located between the building and street. Parking screening will include a combination of earth shaping, shrub planting and hard features. Implement continuous foundation plantings of shrubs and perennials adjacent to the buildings. Consider the use of trees for sun and wind control.

Lawn Areas: To the extent possible, minimize areas of weekly maintenance such as lawns. However, it is expected that there may be some locations where this is warranted. Accordingly, all sites shall have properly maintained grass along the front of each site, between the road right-of-way and the building, or between the road right-of-way and the parking area.

Site Furnishings: The family of furnishings described in the General Section may be used or consider site furnishings that complement the district furnishings in colour and form.

Pedestrian Scale: Incorporate signs into low walls, located at the edges of sidewalks, and in landscape areas, making sure that a clear path of travel exists and that visibility is maintained.

Parking Areas: Parking areas should be screened from public roads and properties by topography or landscaping to minimize its visual impact.

Parking Dividers

Driveway Length: Driveways should be as short as possible. This saves construction costs, reduces maintenance and snow removal costs and is better for the environment.

Parking Dividers: Large parking areas should be broken into smaller lots each containing 100 spaces or less, separated by a minimum 3.0 m wide landscaped strip. The strip should be planted with primarily deciduous trees to allow for visibility for safety while providing shade in summer and some wind control in winter. The parking dividers can also act as access routes for pedestrians. They should be planned and oriented to allow pedestrians direct access to their destinations, transit stops or shuttles. As a minimum,

for every ten (10) parking stalls, an area equivalent to one (1) stall is to be landscaped with a minimum of one (1) canopy tree and shrubs, entry ways to parking lots are to be landscaped to define their location.

Thematic Design: Encourage thematic design of signage for multiple tenant retail developments, such that it contributes to a unified building presence.

Garbage Storage: Sustainable material (i.e. metal/concrete) graphic.

Waste Collection On-Site: Waste disposal will be temporarily stored on site with appropriate landscape screening away from the public amenity areas. This central storage and collection area will have fence enclosures and will be easily accessible by garbage collection vehicles.

Clarity: A high level of clarity, visibility and visual interest should be attained with minimal visual clutter and impact on adjacent uses.

Pedestrian and Cycling Priority: Walks should be minimum 1.5 m wide. Provide bicycle stands at a rate of one space per 20 car parking spaces.

Green Roofs: Use of green roof technology and any other sustainable building technologies are strongly encouraged.

Stormwater Management Areas Landscaping: As part of the overall development and servicing of the Airport lands, a stormwater management system will be developed for each site. The stormwater management system of sites will require that runoff post development matches pre-development flows. This will form part of the green space for the Airport lands. If dry ponds are proposed as part of the stormwater management system, they are to be landscaped at a minimum rate of 75 plants per hectare of developed area. Consider rain gardens as part of the development to retain flows and increase the green space. Coniferous trees are to comprise a minimum of 50% of all tree species for the stormwater management areas. Permeable paving should be incorporated into the project to assist with stormwater management. No permanent standing water will be proposed.

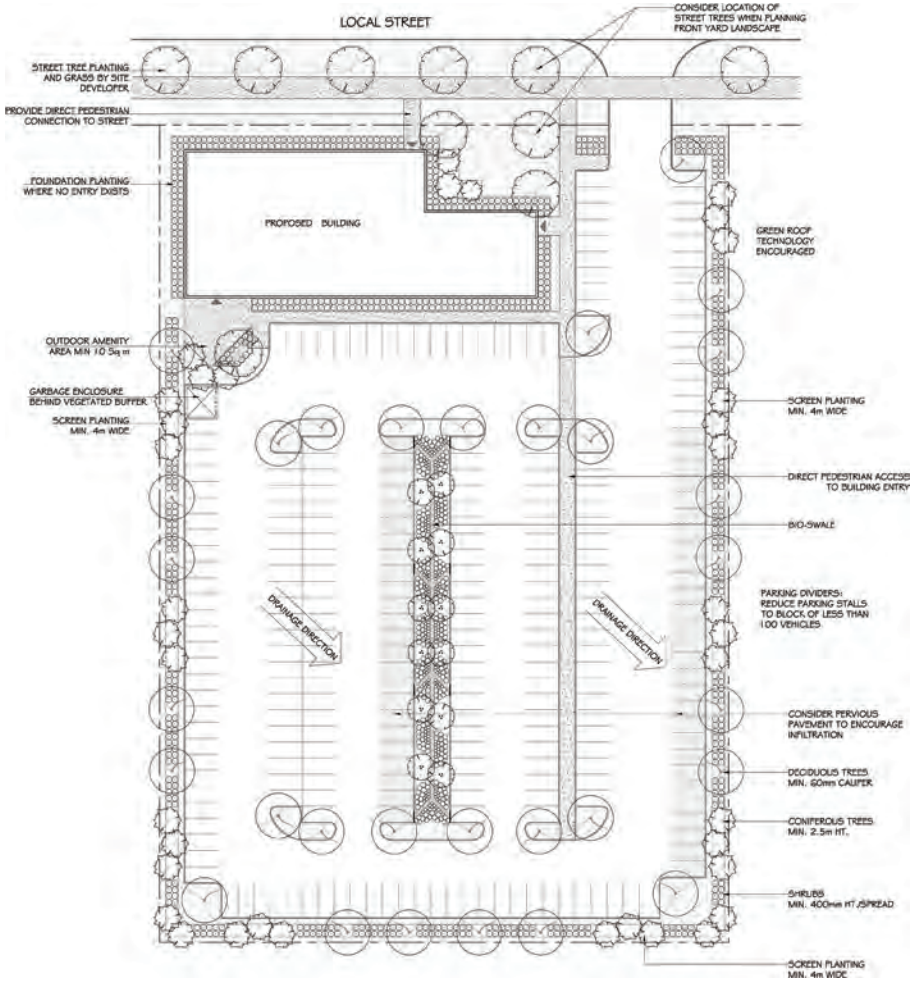
Green Roof

Dry Pond

5.3.2 SINGLE TENANT SITES

Front Yards: Where possible buildings will be sited at the front setback.

Front Yard Parking: Where parking is provided between the street and building direct pedestrian access will be provided from the sidewalk to the front entrance. Planting will screen vehicles while maintaining CPTED principles. Example is shown.



5.3.3 MULTIPLE TENANT SITES

Driveways: Driveway design will provide for stacking to meet the needs of the parking size. Planted medians will be 3 m wide to accommodate sidewalk and tree planting (1 tree per 5 m)

Multiple-Tenant Signs: Multi-tenant commercial developments should develop locations and signage guidelines that accommodate the need for unique tenant signage, while at the same time, ensure a degree of continuity of architectural design elements.

Pedestrian Access: Sidewalks will be provided to give sage access from all parking to the primary building entrance. Walkways will provide direct pedestrian access from the road to primary building entrance.

Foundation Planting: Planting will be provided at the foundation of buildings between entrances. Example is shown.


PROPOSED LRT LINE
PREFERRED LRT STATION

6.0 GLOSSARY

Corridors: Areas of street-oriented uses which incorporate a mix of retail, employment and residential uses, developed at medium densities, located along arterial or collector roads serving as major transit routes. Such corridors may form the boundaries of residential subdivisions or neighbourhoods, but should act as a linear focus for activities and uses within the community.

Nodes: Compact, transit-oriented, pedestrian-friendly areas where the highest concentrations of residential, employment, retail and other uses in the urban area are located. Activity nodes are generally located at points where two or more transit routes or travel modes intersect.

Area Municipality: An incorporated city, town, village or township within a regional municipality, county or district municipality.

Density, High, Medium, Low: Generally, low density development refers to detached single family residential development, or the low-rise commercial or industrial development densities usually found in auto-oriented industrial parks or along highway-commercial strips; medium density development refers to low-rise multi-family residential development or low-rise commercial/residential development usually found along a pedestrian-oriented "Main Street"; and high density development refers to the more concentrated development patterns typically found in the centres of urban areas.

District: An intermediate scale of planning area, smaller than a local municipality, but comprising a number of neighbourhoods within a municipality. Detailed land use planning policies at the district level are usually addressed in secondary plans.

Established Front Building Line: Average front yard depth, as measured from the street line to the main wall of the existing building situated on two lots on the same side of the same street, which immediately abut the property, at the time of the application for a building permit. In the case of a corner lot, or where one or both of the abutting lots are vacant, the next adjacent non-vacant lot shall be used in calculating the Established Front Building Line.

Major Intersection: The point at which two or more arterial roads cross.

Mixed-Use Development: Areas characterized by a wide variety of shopping, employment, entertainment, light industrial and residential uses. Mixed-use development may occur at the level of individual buildings or complexes, or at a larger scale within activity nodes or corridors.

Neighbourhood: A collection of one or more subdivisions, usually served by local park facilities, a public school, and a variety of locally - oriented commercial and retail facilities.

Pedestrian: Refers to all people on foot or moving at walking speed, including those who use mobility aids (wheelchairs, scooters etc.), persons with strollers and buggies, and frail elderly persons.

Pedestrian-Oriented Uses: Uses which rely on pedestrian traffic for the majority of their business. Such uses typically include specialized retail and food stores, restaurants, personal service establishments, convenience stores, repair shops, etc. Wherever possible, these uses should be located at street level along activity corridors and in activity nodes, and their major entrances should open directly onto the street.

Private Realm: The parts of a village, town or city (whether publicly or privately owned) that are only available to a private organization of people where entry and use is regulated and monitored.

Public Realm: The parts of a village, town or city (whether publicly or privately owned) that are available, without charge, for everyone to use or see, including streets, squares and parks.

Roads, Arterial: Major traffic and transit routes, intended to carry large volumes of vehicular traffic. Arterial roads should provide continuous routes across urban areas.

Roads, Collector: Traffic and transit routes designed to carry lower volumes of traffic than arterial roads, and providing continuous access across neighbourhoods. Collector roads should be bordered by higher density uses than surrounding low density residential areas, to support their role as transit routes.

Roads, Local: Roads designed to carry low traffic volumes, at low speeds, which are intended primarily to provide access to abutting uses, rather than to provide through traffic routes.

Secondary Plan: A land use policy plan for a district or large neighbourhood within a municipality which provides more detailed land use policies and designations than those found in a municipal official plan.

Streetscape: The visual appearance of a vehicular-dominated corridor formed by the location of physical features such as buildings, pedestrian, cycling and vehicular facilities and landscaping. Applies to the cross-section of the Transit Corridor as well.

Transit: Transit includes public buses, streetcars, subways, and commuter rail lines. In this document transit also encompasses public trains; ferries; buses (including intercity buses) operated by private companies and available to the public; Board of Education transportation systems; private company/institutional vans made available to employees, customers, or residents; taxis; and related pedestrian activities, as well as specialized transit services.

Transit Corridor: A section of a transit route, usually located in a major activity corridor or town centre, where transit vehicles are the exclusive or dominant form of transportation in association with pedestrian travel and possibly bicycling.

Appendices

Appendix A: Plant List

Species Code	Latin Name	Common Name	Salt Tolerance	Native	Soil pH	Soil Moisture	Shade Tolerance	Showy	Mature Size (m) (height & width)	Form
Deciduous Trees										
Ag	Acer ginnala	Amur Maple			neutral	A	S		8	I
As	Acer saccharinum	Silver Maple		√	neutral	A	S		15	O
Aga	Aesculus glabra	Ohio Buckeye		√	neutral	A	T		12	O
Bp	Betula papyrifera	Paper Birch	S		neutral	W	T		12	O
Cm	Crataegus x mordenensis 'Toba'	Morden Hawthorn	M	√	neutral	A	S		8	O
Ea	Elaeagnus angustifolia	Russian Olive	T		neutral	D	T		8	R
Fm	Fraxinus mandshurica 'Mancana'	Manchurian Ash	T		neutral	A	M		15	I
Fn	Fraxinus nigra	Black Ash	T	√	neutral	W	M		15	I
Fp	Fraxinus pennsylvanica	Green Ash	T	√	neutral	W	M		15	I
Pt	Populus tremula 'Erecta'	Sweden Columnar Aspen			neutral	A	M		10	I
Pj	Populus x jackii 'Northwest'	Northwest Poplar			neutral	D	M		15	I
Pp	Prunus padus var. commutata	Mayday	S		neutral	A	M		8	O
Pv	Prunus virginiana 'Schubert'	Schubert Chokecherry	S		neutral	A	M	√	8	O
Qm	Quercus macrocarpa	Bur Oak	T	√	neutral	A	S		18	I
Sp	Salix pentandra	Laurel-Leaf Willow	S		neutral	W	M		8	I
Sa	Sorbus aucuparia	European Mountain Ash	S		neutral	A	S		10	O
Sr	Syringa reticualte 'Ivory Silk'	Ivory Silk Japanese Lilac	M		neutral	A	S	√	8	I
Ta	Tilia americana	American Basswood	M	√	neutral	A	M		12	I
Tc	Tilia Cordata	Little Leaf Linden	M		neutral	A	M		12	P
Ua	Ulmus americana	American Elm	M	√	neutral	A	M		15	O
Up	Ulmus pumila	Siberian or Manchurian Elm	M		neutral	A	M		15	O

Species Code	Latin Name	Common Name	Salt Tolerance	Native	Soil pH	Soil Moisture	Shade Tolerance	Showy	Mature Size (m) (height & width)	Form
Coniferous Trees										
Ls	Larix sibirica	Siberian Larch	T		acidic	W	S		15	P
Pa	Picea abies	Norway Spruce	M		acidic	A	S		15	P
Pg	Picea glauca	White Spruce	M	√	acidic	A	S		15	P
Pp	Picea pungens	Colorado Spruce	T		neutral	A	S		15	P
Pc	Pinus cembra	Swiss Stone Pine	M		neutral	A	S		15	I
Pcl	Pinus contorta var. latifolia	Lodgepole Pine	M	√	neutral	A	S		15	I
Ps	Pinus sylvestris	Scots Pine	M		neutral	A	S		15	I
Deciduous Shrubs										
ag	Acer ginnala 'Emerald Elf'	Emerald Elf Amur Maple	M		neutral	A	M			
aan	Amelanchier alnifolia 'Northline'	Northline Saskatoon	T		neutral	A	M	√		
aao	Amelanchier alnifolia 'Obelisk'	Obelisk Saskatoon Berry	T	√	neutral	A	M	√		
aas	Amelanchier alnifolia 'Smokey'	Smokey Saskatoon	T	√	neutral	A	M	√		
aat	Amelanchier alnifolia 'Thiessen'	Thiessen Saskatoon	T	√	neutral	A	M	√		
am	Aronia melanocarpa 'Autumn Magic'	Autumn Magic Chokeberry	M		neutral	A	M			
bp	Betula pendula 'Youngii'	Youngii Weeping Birch	S		neutral	W	M			
ca	Caragana arborescens	Hedge Caragana	T		neutral	A	S	√		
cf	Caragana frutex 'Globosa'	Globe Caragana	T		neutral	A	S	√		
ca	Cornus alba 'Ivory Halo'	Ivory Halo Dogwood	S		acidic	W	M			

Species Code	Latin Name	Common Name	Salt Tolerance	Native	Soil pH	Soil Moisture	Shade Tolerance	Showy	Mature Size (m) (height & width)	Form
Coniferous Shrubs										
ab	Abies balsamea 'Nana'	Dwarf Balsam Fir	S		acidic	A	M			
ap	Andromeda polifolia 'Blue Ice'	Blue Ice Bog Rosemary			acidic	W	S			
au	Arctostaphylos uva-ursi	Bearberry	M	√	acidic	A	S			
jc	Juniperus communis 'Alpine Carpet'	Alpine Carpet Juniper	S		acidic	A	S			
jha	Juniperus horizontalis 'Alpina'	Alpine Creeping Juniper	S		acidic	A	S			
jhb	Juniperus horizontalis 'Blue Chip'	Blue Chip Juniper	S		acidic	A	S			
jhh	Juniperus horizontalis 'Hughes'	Hughes Juniper	S		acidic	A	S			
jhi	Juniperus horizontalis 'Icee Blue'	Icee Blue Juniper	S		acidic	A	S			

Salt Tolerance: S - Sensitive, M - Moderately Sensitive, T - Tolerant

Soil pH: On scale of 1.0 (acid) to 14.0 (base) with 7.0 (neutral)

Soil Moisture: W - Moist, A - Average, D - Dry

Soil Compation Tolerance: S - Sensitive, M - Moderately Sensitive, T - Tolerant

Shade Tolerance: T - Tolerance of Shade, M - Moderately Tolerant of Shade (Semi-shade), S - Sensitive to Shade (Prefers Sun)

Form: O - Oval, R - Round, F - Fastigate, I - Irregular, P - Pyramidal

Appendix B: Streetscape

Landscape: Site Improvements (1 of 5)

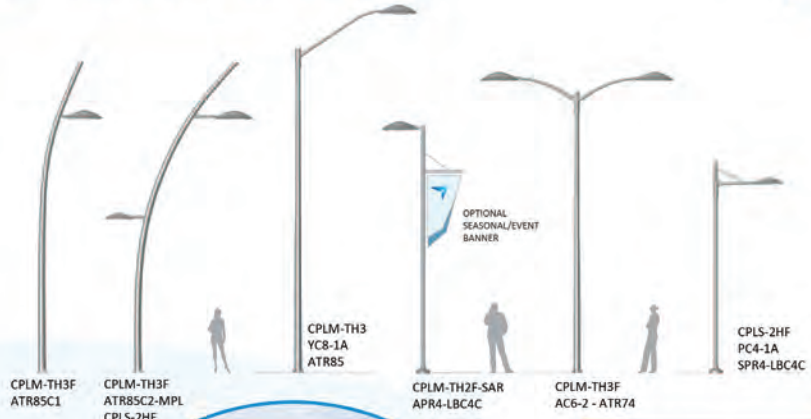


Image: Lumec Philips

Image: EIA

MANUFACTURER: PHILIPS
PRODUCT NAME:
LUMEC CAPELLA SERIES

MANUFACTURER:
BOLLARD SOLUTIONS
PRODUCT NAME:
AUTOMATIC BOLLARDS

Image: Bolard Solutions

Image: EIA

Image: EIA

Image: Maglin

MANUFACTURER: MAGLIN
PRODUCT NAME: MLWR600-32

Image: Maglin

MANUFACTURER: MAGLIN
PRODUCT NAME: MLB1200W

Image: Maglin

MANUFACTURER: MAGLIN
PRODUCT NAME: MLB1200BW

MANUFACTURER: FAIRWEATHER
PRODUCT NAME: TREE GRATE & GUARD

Image: City of Riverbank, CA

Image: Scottish Parliament, Edinburgh

Image: EIA

Landscape: Site Improvements (2 of 5)

Permeable pavements.

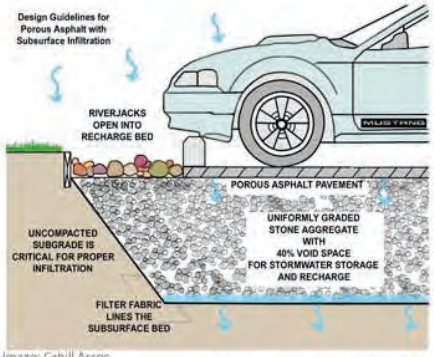


Image: Cahill Assoc.

Stormwater management.

Enhanced planting pits.

Image: Deep Roots

Image: MNTCA.org

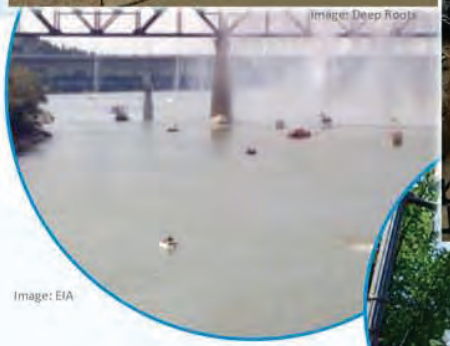


Image: EIA

Image: EIA

Image: EIA

Raingardens.

Image: EIA

Image: Pennsylvania Blue Stone

Image: EIA

Working with Nature.

Landscape: Site Improvements (3)

Images:aashe.org - McGill University

Image: EIA

Image: www.evergreenroofgardens.co.uk

Image: EIA

Rooftop Gardens.

Image: www.roof-gardens.net

Image: EIA

Multiuse Recreation Trails.

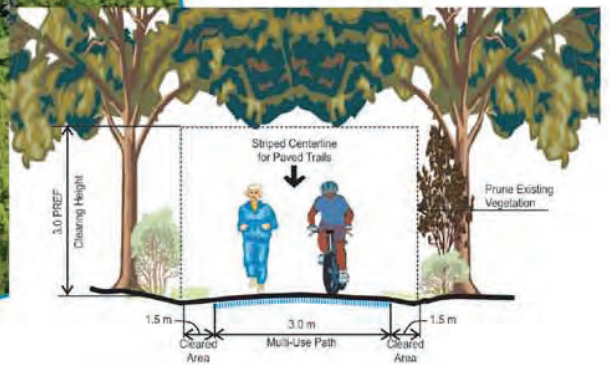


Image: EIA

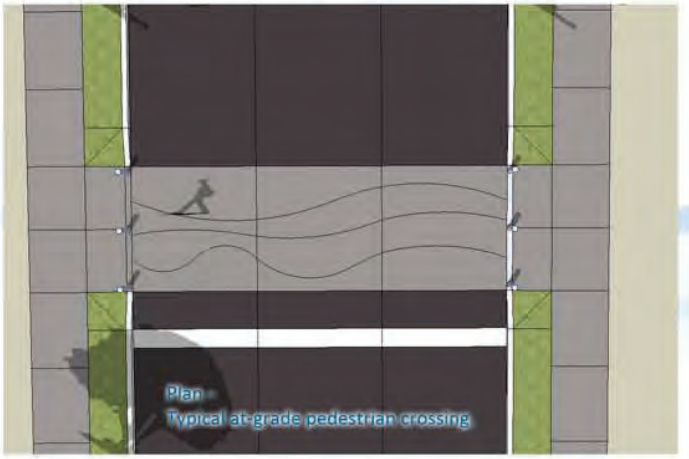
Landscape: Site Improvements (4 of 5)

Perspective -
Typical concept stretscape with bike lanes.

Image: EIA

Perspective -
Typical at-grade pedestrian crossing

Concept landscape treatment.



Plan -
Typical at-grade pedestrian crossing

Perspective -
Concept at-grade Recreational trail crossing

Landscape: Site Improvements (5 of 5)

Plan
Typical at-grade pedestrian crossing at 'T' and 4-way intersections..

Image: EIA

Image: EIA

Perspective
Typical at-grade pedestrian crossing at 'T' and 4-way intersections.

Appendix C: Fill Areas

Fill Area