



**CITY OF
SWIFT CURRENT**
where life makes sense

PART A6

LANDSCAPING

OCTOBER 2020

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1 GENERAL

- 1.1 Development of all public open space that is proposed within the City shall meet or exceed all landscaping requirements set out in the City of Swift Current's Design and Development Standards.
- 1.2 The Developer shall ensure that any recreational development proposed will not damage the natural environment. Protection and management of the natural or cultural environment is a primary concern, and recreational use is a secondary objective.
- 1.3 Any natural areas designated for preservation that are damaged during construction must be rehabilitated and re-vegetated to a condition that is equal to or better than pre-construction condition and to the satisfaction of the City of Swift Current. Replanting should be done with indigenous tree, shrub, and grass species in natural areas where existing vegetation has been disturbed or destroyed.

2 DEFINITIONS

Definitions contained within this section are intended to be specific to the Landscaping section of the Design and Development Standards. Additional definitions are located in Part A – General Requirements.

Buffer Strips: Means a strip of land separating two adjacent lands not less than 7.5 metres in width.

Environmental Reserve: Means a parcel of land consisting of:

- A ravine, coulee, swamp, natural drainage course, or creek bed.
- Land that is subject to flooding or is, in the opinion of approving authority, unstable.
- Land abutting the bed and shore of any lake, river, stream, or other body of water for the purpose of:
 - The prevention of pollution.
 - The preservation of the bank.
 - The protection of the land to be subdivided against flooding.

Landscaping: Means the modification and enhancement of a site through the use of any or all of the following elements:

- “soft landscaping” consisting of vegetation such as trees, shrubs, hedges, grass, and/or ground cover.
- “hard landscaping” consisting of non-vegetative materials such as decorative brick, stone, concrete, asphalt, tile, and/or wood.

Landscape Architect: The Landscape Architect who is stamping and signing the submitted landscape drawings must be a full member in good standing with the Saskatchewan Association of Landscape Architects (SALA). A Landscape Architectural Technologist or equally qualified individual may complete landscape design work or field work upon mutual agreement with the City.

Lot: Means a parcel of land in a subdivision, the plan of which has been filed or registered with Information Services Corporation of Saskatchewan.

Maintained Parks: Parks that require on-going maintenance such as grounds maintenance, tree maintenance, and trail maintenance.

Municipal Reserve: Means a parcel of land dedicated to the public use and owned by the City.

Open space: Means that part of a site not covered by buildings and which is not obstructed from the ground upward except by canopies.

Park, Active: Means an area designated to accommodate extremely competitive physical types of activities including football, softball, soccer, hockey, rugby, cricket, or track and field.

Park, Passive: Means an area designated to accommodate activities of a more sedate nature that involve visual, mental, and/or physical effort including bird watching, walking, jogging, cycling, picnicking, social gatherings, cross country skiing, canoeing, croquet, or horseshoe pitching.

Public Open Space: Any parcel of land or water which is set aside and managed by the Community Services Department for a diverse range of environmental, leisure, and recreational activities and opportunities. Generally parks, environmental reserves, and open spaces are used for either active or passive recreational activities; however they may also include areas which contain significant ecological, aesthetic, or cultural features and may be used for environmental protection.

Public Reserve: Means a parcel of land dedicated to the public use and owned by the Crown.

Site: Means a lot or large area of land developed or intended to be developed as one unit.

Turf Grass: A layer of matted earth, formed by either seeded grass or sod, also known as lawn.

Utility Right of Way: Means a registered utility parcel or registered easement on private land that allows the City and utility companies the right to access the utilities or services that are buried within the right of way.

Walkways: Means a parcel of land primarily intended for pedestrian use by the public.

Xeriscaping: Is attractive, sustainable, and water efficient landscaping based on sound horticultural practices. It incorporates careful planning and design of landscapes and various techniques such as the use of drought-tolerant plants, mulch, and efficient irrigation to retain moisture in the soil and to minimize the need for watering.

3 SUBMISSIONS AND APPROVALS

- 3.1 The Developer and Landscape Architect should arrange for an initial consultation meeting with the Community Services and Planning and Growth Development Departments before preparation of landscape drawings.
- 3.2 Drawing submissions shall be in accordance with the design drawing section of Part A - General Requirements.
- 3.3 Methods of establishment, maintenance, and irrigation of the proposed landscape design shall be outlined on the drawings, or where applicable in a separate document as determined in the initial consultation meeting.
- 3.4 When traffic will be disrupted due to landscape construction, the Developer shall provide a Traffic Accommodation Strategy that maintains temporary roadways and walkways for vehicular and pedestrian traffic to the satisfaction of the City.
- 3.5 No construction shall occur until the landscape design and drawings are approved by the City and a Servicing Agreement is executed where applicable.

4 GENERAL DESIGN REQUIREMENTS

4.1 GENERAL

- 4.1.1 All development proposals shall detail the intended methods of protecting the natural systems during construction. The design of the development should consider the protection of natural features during regular use of the development after construction. At no time shall encroachment into any natural area that has been set aside for preservation occur without the express written consent of the City of Swift Current.
- 4.1.2 All areas are to be properly graded, topsoil is to be supplied and spread, and turf grass established.
- 4.1.3 In areas where cut and fill is necessary, the earthwork shall be designed by a qualified engineer and done in a manner that is compatible with the natural land-form. Avoid unnatural, continuous slopes of the same gradient. Modulate contours and blend with the existing natural slopes.
- 4.1.4 Public lands shall not discharge surface runoff onto adjacent private lands and, wherever possible, should enhance the overall drainage of the area.
- 4.1.5 Use existing vegetation to screen development from viewpoints that occur at higher or lower elevations. Use existing slopes and topography to buffer views.
- 4.1.6 Restoration of any disturbed land to a condition equal to or better than pre-disturbance is the Developer's responsibility, and must be carried out to an approved City standard.

4.2 SUBGRADE

4.2.1 Sub-grade elevation shall be the final grade minus surfacing material depth, as follows:

Seeded areas:	150 mm below final design grade
Sodded areas:	150 mm below final design grade
Shrub beds:	450 mm below final design grade
Playground sites:	300 mm below final design grade
Gravelled areas:	225 mm below final design grade
Paved areas:	as per site specific design
Concrete sidewalks:	as per site specific design

4.2.2 Slopes along property line or perimeter of construction area where design contours must match existing elevations shall not exceed 4:1. Slopes in areas to be mowed shall not exceed 4:1. Make changes in grade natural. Blend slopes into level areas.

4.2.3 Drainage patterns that direct surface runoff onto roads and ditches must be approved by the Infrastructure and Operations Department. Existing drainage courses should be maintained and incorporated into the development wherever possible.

4.2.4 Grading may allow water to pond in natural areas only, where infiltration is desired; however, water should percolate within eight (8) hours of a rainfall. This will allow an area to recharge natural groundwater levels.

4.2.5 Drainage must be designed so that water is not retained on public walkways or trails.

4.3 TOPSOIL

Ensure that finished grade meets flush at surface structures and matches existing grades of project boundaries and property lines.

4.3.1 Active Parks and Municipal Reserves:

- Spread manufactured growing medium of one (1) part peat moss, one (1) part sand, and two (2) parts of topsoil evenly over entire area to obtain a minimum growing medium depth of 150 mm after settlement (sand is required only if soil conditions warrant).

4.3.2 All Other Open Space:

- Spread topsoil evenly over entire area to obtain a minimum depth after settlement as follows:

Seeded areas:	150 mm topsoil
Sodded areas:	150 mm topsoil
Shrub beds:	600 mm topsoil
Flower beds:	450 mm topsoil

4.4 SEED AND SOD

- 4.4.1 On sites where the application of a seed mix is appropriate, the seed mix must be approved by the City and applied to an acceptable standard.
- 4.4.2 The proposed seed mixture details and breakdown (certificates of analysis) must be submitted to the City to be approved by the Community Services Department prior to the purchase and application of the said mixture. On slopes 2:1 or greater, install an approved erosion control blanket over the seeded area.
- 4.4.3 Proposed sod type must be Certified No. 1 grade-cultivated turf grass sod, grown and sold in accordance with A.N.T.A. classifications, with strong fibrous root system and free of stones or burned or bare spots.

4.5 IRRIGATION

- 4.5.1 The objective of this section is to build irrigation systems that apply a consistent, even, measurable amount of water to the landscape over a period of time. The system design will consider water cost and conservation, long term durability and maintenance cost, safety issues, aesthetic issues, and site specific requirements. The relative importance of these considerations will vary from project to project, and require the attention of a qualified and experienced designer.
- 4.5.2 All irrigation work shall be done by a suitably experienced and qualified irrigation contractor having trained and competent personnel adequate for the scope of the work.
- 4.5.3 Ensure that there is compliance with the relevant codes and regulations both in the design and during the conduct of the work involved in the project.
- 4.5.4 Parks Water Service:
 - Each Active Park and Municipal Reserve site is to be provided with water and electrical service.
 - The Parks Water Service for irrigation shall be designed and installed in accordance with the City of Swift Current Construction Specifications and Drawings.
 - The Parks Water Service shall be of sufficient size to provide the flow required to meet the peak evaporation rate for the site and the peak crop water requirements of the proposed landscape within the allotted watering window.
 - A backflow prevention device shall be installed on each irrigation service. Provision shall be made at the point of connection for a combination master valve/water meter.
- 4.5.5 Watering Window:
 - The Watering Window shall be established based on the peak water demand for the site, scheduled sporting events, maintenance routines, the nature of the proposed site uses, the water requirements of the proposed plant material, and the soil characteristics of the site.

- The Watering Window shall not exceed eight (8) hours per watering day, and shall commence between the hours of 10 p.m. and 6 a.m. An irrigation watering schedule for peak periods shall be included in the irrigation design drawing.

4.5.6 Sprinklers:

- The maximum spacing shall be equal to 45% of the head to head spacing recommended by the manufacturer.
- The selection of pop-up or riser style sprinklers must consider safety, maintenance, risk of vandalism, and appearance on the site. Pop-up or riser height must consider the related plant material, its growth potential, interfering landscape features, and arrive at a solution which provides optimum coverage for as long as possible.
- All sprinklers must be suitably adjustable and located so as to keep the water within the landscaped area and minimize overthrow. Consult with the Community Services Department regarding type of sprinkler head before proceeding with design.

4.5.7 Pipe:

- The velocity of flow in any piping must not exceed 1.5 meters (5 feet) per second.
- Pipe routing must take site elevation changes into consideration to minimize low head drainage.
- Selection of the strength or flexibility of the pipe material and its installation criteria must consider site specific requirements such as frost, traffic, soil depth etc. and be in accordance with the construction specifications.
- Pipe sizing and routing must include pressure loss calculations to ensure that the required pressure will be delivered under all circumstances and that pressure variation within the lateral does not exceed 15%.

4.5.8 Zoning:

- All sprinklers grouped into a zone must have the same precipitation rates, matched through the arcs of coverage. The potential for low head drainage must be minimized for each zone.
- The areas of the landscape that have different water requirements must be identified and a determination made as to the significance of these differences and whether they require separate zoning. The type of plant material, its location on site (sun exposure and natural drainage), and varying soil and slope conditions must be considered.
- The pressure variation within each zone from the first to the last head must not exceed 15%.

4.5.9 Controls:

- Controllers must be C.S.A. approved. Moisture sensors or other 'rain off' devices are recommended for effective water management.

4.5.10 Pressure Control:

- Valves must meet the pressure and flow requirements of the zone being controlled.
- The design must include suitable regulation of the pressure throughout the irrigation system.
- The pressure at every head must be within the range recommended by the manufacturer of the head/nozzle combination being used.

4.5.11 Winterizing:

- The system design must make the water connection and all the system components safe from winter freezing damage.
- A suitable and convenient blow out point and connection is the most desirable method of purging the system of water.
- If mainline drain valves, which are not recommended, are used, there must be a suitable sump and drainage.

4.5.12 Low Volume/Micro Irrigation:

- Any low volume irrigation included in a system must be separately zoned.
- Filtration and pressure control as recommended by the manufacturer of the low volume devices must be provided together with suitable controller capabilities.

4.5.13 Control Wire:

- Control wire must be sized to the length of its run using the recommendations of the manufacturer of the zone control valves being wired.
- Control wire shall be color-coded and sequenced.

4.6 VEGETATION

4.6.1 With the exception of straight line boulevard tree planting or formal plantings in park areas, planting should be sensitive to the ecological patterns in the area and blend in with the existing vegetation.

4.6.2 Tree Locations and Quantity:

- Including city boulevards, trees shall be planted in the overall minimum ratio of sixty (60) trees per hectare of landscaped area provided.
- Deciduous trees overhanging pedestrian facilities are to have a minimum 2.0 meters branch height. Deciduous trees near intersections are to have a minimum branch height of 2.4 meters. Deciduous trees overhanging traffic lanes are to have a minimum branch height of 3.5 meters.
- A majority of the plant material shall be planted in clusters or natural groupings.

- Spacing of individual trees within clusters will vary depending on the mature spread (a maximum overlap of 30% of the mature spread is desirable). Spacing of clusters should vary, minimum 9.0 meters to maximum 30.5 meters.
- Coniferous trees must be planted a minimum of 8.0 meters from a collector or arterial road due to potential damage from salt spray. Deciduous trees may be planted up to 2.0 meters from the edge of any roadway. Deciduous trees planted in medians must be a minimum of 750 mm from back of concrete curbs.
- Tree planting should be strategically spaced to avoid blocking street light illumination levels, sight lines in the vicinity of intersections, pedestrian crossings, and traffic signs.
- Preservation of existing mature trees within the road right-of-way or within the front yard setback may fulfill all or a portion of the tree planting requirements depending on the size and quality of the existing trees when reviewed on-site by the City of Swift Current.

4.6.3 Tree Size and Species Mix:

- Tree Species required in this section are to be 30% coniferous and 70% deciduous unless demonstrated by the consultant or developer that the species mix should be different to successfully integrate the project with adjacent natural vegetation patterns.
- Use a variety of plant material, both coniferous and deciduous. Poplar planting should be minimized. The maximum poplar planting ratio shall be 15% of the total trees planted.
- Coniferous tree sizes at time of planting shall be as follows:
 - 25% - 1.5 meter height
 - 50% - 2.0 meter height
 - 25% - 2.5 meter height
- Deciduous tree sizes at time of planting shall be as follows:
 - 50% - 50 mm calliper
 - 50% - 85 mm calliper

4.6.4 Shrub Size And Species Mix:

- Shrub species required in this section are to be 40% coniferous and 60% deciduous unless demonstrated by the consultant or developer that the species mix should be different to successfully integrate the project with adjacent natural vegetation patterns.
- Coniferous & Deciduous shrub sizes at time of planting shall be as follows:
 - 50% - 2 gallon potted.
 - 50% - 5 gallon potted.

- 4.6.5 Existing plant material to be retained must be identified on plans by species, size, and exact location. Transplanting of existing vegetation is subject to the same conditions as that of planting nursery stock.
- 4.6.6 Wood mulch (all species except Fraxinus) should be applied to all tree wells and planting beds to aid in maintenance, to a depth of 150 mm.
- 4.6.7 Where xeriscaping is used, wood mulch or stone mulch shall be used in all planting beds and tree wells.
- 4.6.8 If trees are less than 3.5 meters from vertical elements, hard surfaces, or private property lines the trees must be placed in mulch beds.

4.7 AMENITIES

- 4.7.1 The objective of this Section is to provide designers and developers with a comprehensive amenity guideline to provide continuity throughout the City of Swift Current.
- 4.7.2 Signage for parks shall be complementary to the current signage and in scale with the pedestrian environment. Blend signage into the landscape and site development rather than allowing it to dominate with larger signs and taller poles.
- 4.7.3 Benches will be provided at the Developer's expense at a minimum as follows:
 - One (1) bench to be located at each pathway entrance and exit, and one (1) additional bench per kilometer of lineal pathway, and two (2) benches per play structure.
- 4.7.4 Trash receptacles will be provided and installed at the Developer's expense at a minimum as follows:
 - One (1) trash receptacle to be located at each pathway entrance and exit, and one (1) additional trash receptacle per kilometer of lineal pathway, and one (1) per play structure, and two (2) per ball diamond or soccer pitch.
- 4.7.5 The trash receptacle should accommodate a standard 75 litre receptacle that will hold a 66 cm x 91cm (26" x 36") plastic garbage bag. Haul-All trash receptacles are to be used at all trail heads.
- 4.7.6 Fencing proposals on arterial and collector roadways are to be reviewed and approved by the Infrastructure and Operations Department prior to construction. Fencing will be required around school areas, walkways, and utility lots in addition to arterial roadways, unless otherwise approved. All standard fences will be constructed on private property approximately 150 mm from the property line.
- 4.7.7 A post and chain fence system may be used in passive park areas to control access along roadways. See typical detail in City Construction Standards.
- 4.7.8 Maintenance access points to open space must be considered and coordinated with the Community Services Department, and the maximum distance between service vehicles or pedestrian access points should be 500 meters.

- 4.7.9 Site furnishings shall complement and enhance the natural setting. Details which are consistent with local materials, colour, and style should be utilized. All site furnishings are to be vandal resistant where possible.
- 4.7.10 Public open space site furnishings must be indicated on the final landscape plans and be provided by the Developer in accordance with the direction and approval of the Engineering Department.

4.8 PLAYGROUND FACILITIES

- 4.8.1 All playground installation must conform to *CAN/CSA-Z614-14 Children's Playspaces and Equipment*. All site plans, playground designs, construction material, playground suppliers, spray parks, and playground development must be approved by the Community Services Department. Community Services will determine the acceptability of materials and the extent of the playground development.
- 4.8.2 All playground development must include a low compact surface approved by the Parks Manager complete with a base structure suitable for the surface. A minimum of five (5) pieces of traditional equipment shall be installed within a single retained area.
- 4.8.3 Playgrounds shall be designed for inclusive play using universal design principles. Play areas should be laid out for integration of wheelchair accessible components to promote inclusive play. Tactile and auditory play experiences should also be provided for children with visual impairments.
- 4.8.4 Play elements of each play lot shall provide for the recreational requirements of the child as well as stimulate the senses and cognitive or motor development aspects of the child's learning process.
- 4.8.5 In addition to structural equipment, such as swings and platforms, open turf areas shall be provided. Protection from the elements and the provision of sunny and shaded areas shall be provided. Contouring and mounding of the larger sites shall be considered to provide for a varied play experience.
- 4.8.6 Seating areas for supervising adults (passive area) and durable trash receptacles shall be provided on all sites.
- 4.8.7 Play equipment shall be separated from walkways and turf areas. Equipment which promotes play by a large number of children at one time shall be located to minimize congestion around other equipment, entrance ways, or walkways.
- 4.8.8 Swings and other moving equipment shall be located towards the outside of the play lot to reduce conflicts with pedestrian movements.
- 4.8.9 Safety of the equipment users and minimizing liability of the City of Swift Current shall be a priority in the development of all play lot sites.
- 4.8.10 Protrusions (nuts, bolts, etc.) shall be minimized or adequately protected where protrusions are unavoidable. Vandal resistant hardware shall be utilized to prevent equipment tampering.

- 4.8.11 Playground sites shall be located on a well-drained area not conflicting with sports field play areas.

4.9 XERISCAPING

- 4.9.1 Xeriscaping is encouraged and may replace areas of turf if is suitable to the land use.

- 4.9.2 Soil Amendments:

- Good soil absorbs and retains water. Amend soils as required to provide adequate nutrients and water absorption for plants.

- 4.9.3 Planting:

- Xeriscaped areas shall be planted with native, adapted, or exotic varieties of plants that are considered drought tolerant for the natural climatic conditions of Swift Current.
- A minimum of 75% of the xeriscaped area shall be covered with drought tolerant plants at their mature size.
- Consider seasonal interest when selecting plant species. Also consider variations in height, colour, and texture.

- 4.9.4 Irrigation

- Only minimal irrigation should be required once plants have been established. If some irrigation is required, plan for it to be used efficiently by placing plants with similar water needs together.
- Use efficient drip, spray, or bubbler emitters for trees, shrubs, and ground covers and install rain shut-off devices.

- 4.9.5 Mulch

- A layer of bark or shredded wood chip mulch (75mm – 100mm depth) shall be provided above all xeriscaped areas to minimize weeds and to keep soil moist. Mulch should be applied over a landscape fabric. Use of black plastic is prohibited as it prevents water from reaching plant roots.
- Limit amounts of gravel or crushed stone in unplanted areas, as they increase heat retention and create sun glare.

5 SITE SPECIFIC DESIGN REQUIREMENTS

5.1 GENERAL

- 5.1.1 The sections that follow are intended to identify minimum requirements and criteria for development with specific types of public open space.
- 5.1.2 Design maintained parks to complement the natural areas when one occurs adjacent to the other.

5.2 BUFFER STRIPS

- 5.2.1 Buffer strips shall be in accordance with the Provincial Planning and Development Act and City Subdivision Bylaws.
- 5.2.2 Buffers should provide a transition between roadways, parks, and/or different adjacent land uses. Planting and grading in these areas should blend in with natural vegetation patterns and park planting.
- 5.2.3 Provide noise protection for residential areas from adjacent, incompatible land uses.
- 5.2.4 Provide mix of coniferous and deciduous planting of adequate height to provide visual screening of adjacent, incompatible land uses.

5.3 ENVIRONMENTAL RESERVE

- 5.3.1 Environmental Reserve dedication within a development shall be in accordance with the Provincial Planning and Development Act and City Subdivision Bylaw.
- 5.3.2 Ensure no construction of permanent structures, other than trails, storm ponds, and associated structural components or interpretive elements, in natural areas or environmental reserves within the flood zone.
- 5.3.3 Natural areas are an important component in the overall open space system. Activities in natural areas may include nature oriented outdoor recreation such as viewing and studying nature, bird and animal watching, hiking, and other trail uses.
 - Size varies depending on natural features being protected or other specific requirements.
 - Pedestrian access may be restricted to trails in areas of environmental sensitivity.
 - Provide sitting and picnic areas with benches, trash receptacles, and picnic tables.
- 5.3.4 All Environmental Reserves adjacent to residential areas must be fenced with post and chain installed on City property.

5.4 MUNICIPAL RESERVE

- 5.4.1 Municipal Reserve dedication within a development shall be in accordance with the Provincial Planning and Development Act and City Subdivision Bylaw.
- 5.4.2 Municipal Reserve contribution to linear parks should be a maximum of 10% of the gross land area of the neighbourhood.
- 5.4.3 All Municipal Reserve land is to be developed in accordance with the approved development plan, but to a minimum turf grass standard including grading, topsoil supply and spread, irrigation installation, and tree planting, except where designated to remain as a natural area.
- 5.4.4 All Municipal Reserve land is to be developed with an automated irrigation system installed for all turf grass areas.

- 5.4.5 All Municipal Reserves must have a standard curb along the property line to prevent vehicular access to the municipal reserve, except for designated access points for pedestrians and service vehicles.

5.5 BOULEVARDS, MEDIANS, AND FRONT YARDS

- 5.5.1 Boulevards and front yards form an important part of the open space system by providing visual relief between the roadways and other land uses.
- 5.5.2 Boulevards provided by the developer along all roadways shall be part of the public road right-of-way and not constitute a part of the Municipal Reserve dedication. Landscape islands in cul-de-sacs or medians are permitted only if treated in a low or no maintenance manner and approved by the Community Services Department. Islands and boulevards are not to be credited as municipal reserve dedication.
- 5.5.3 Boulevards and buffers should provide a transition between roadways, parks, and/or different adjacent land uses. Planting and grading in boulevards should blend in with natural vegetation patterns and park planting.
- 5.5.4 Boulevards and Buffers provide visual and noise protection for residential areas from major roads in conjunction with the City of Swift Current Engineering Department.
- 5.5.5 Use only deciduous trees in medians and plant in a single straight line. Deciduous and coniferous trees are allowed in boulevards. Deciduous and coniferous shrubs are allowed in residential boulevards that are not maintained by the City of Swift Current.
- 5.5.6 A minimum of 2 species of trees are to be used in individual boulevards to provide diversification, unless approved otherwise by the Community Services Department. Size of street trees to be a minimum of 85 mm calliper.
- 5.5.7 Islands in cul-de-sacs or medians must be landscaped with low or no maintenance materials approved by the Community Services Department.

5.6 UTILITY CORRIDORS AND RIGHT OF WAYS

- 5.6.1 Utility easements and rights-of-way may also function as an integral part of the open space system. These lands may be desirable as pedestrian links connecting open space areas.
- 5.6.2 Utility easements and rights-of-way will not be credited towards the Municipal Reserve dedication.
- 5.6.3 Minimize clearing widths for underground utility lines to mitigate unsightly cut lines through existing tree cover. Utilize the same trench or cleared right-of-way for more than one utility where possible. Allow natural re-growth to occur in right-of-way over deep utility lines. Blend utility easements into park areas in as natural a manner as possible.
- 5.6.4 Naturalize straight cut lines for utilities by replanting with trees and shrubs.
- 5.6.5 Tree planting for public road rights-of-way are to be approved in conjunction with the Infrastructure and Operations Department and Community Services Department to ensure proper sight clearances from roads, intersections, and clearance utilities.

- 5.6.6 Do not plant directly over utility lines or proposed utility line locations. Coordinate with the City's Infrastructure and Operations Department and applicable utility company to verify appropriate locations.

5.7 TRAIL AND PATHWAY SYSTEMS

- 5.7.1 Trails can be located in the Municipal Reserve. Trails may also be located through Environmental Reserve areas, building or environmental setbacks, utility easements, utility rights-of-way, road rights-of-way, and boulevards where approved. Small parcels of municipal reserve with low developable potential will be accepted as part of the municipal reserve dedication where these parcels are required to connect trails to the overall trail system.

5.7.2 Slope Requirements:

- Slopes less than 5% on trails and pathways are ideal. Slopes between 5% and 8.3% are considered ramps, and therefore shall require features in accordance with the building code (handrails, landings, etc). Anything over 8.3% is not considered accessible.
- Cross slopes on any pathway shall not exceed 2%.

5.7.3 Safety Requirements:

- Provide 1.0 meter clear of all obstacles on both sides, and 3.5 meters clear of obstacles overhead. Avoid locating trails over manholes. Ensure a 2.5 meter minimum clearance from park water services.
- Set-back pathways a minimum of 1.0 meter from face of curb and a minimum distance of 10 meters from residential property lines where possible.
- Safety railing shall be installed when a trail is within 2.0 meters of the top of a 2:1 slope or steeper, and the slope is greater than 1.0 meter in depth. Minimum railing height and design to meet current building code standards.

5.7.4 Trail Junctions:

- Where possible, ensure trails join at right angles. Provide widening of trails with radius of 4 meters where trails join other trails.

5.7.5 Trail Entrances:

- Extend trail to street curb in all cases. Ensure trail joins street at right angles and widens on both sides with radius of 4.0 meters.
- Provide a curb-cut and a standard removable steel bollard where access is to Environmental Reserve, Natural Area, or Regional Trail. Line up entrances for visual continuity where trail route crosses street. Ensure no catch basins located at entrance.

5.7.6 Sightlines

- Where possible, ensure no obstructions to visibility within 5.0 meters of junction with other trails and streets (trees, shrubs, utility boxes, fences, etc.)

5.7.7 Criteria for Bicycles:

- Ensure no catch basins located at entrance.
- Under 3%: Acceptable.
- 3% to 5%: Not longer than 200 meters.
- 5% to 8%: Not longer than 50 meters, keep bicycles and pedestrians separate, and avoid curves and constrictions.
- Over 10%: Re-route or provide stairs.

5.7.8 Stair Requirements:

- Where possible, avoid use within a trail network. Install a bicycle ramp along one side where stairs are unavoidable.

5.7.9 Access Barriers:

Removable bollards shall be located at access points to trails accessing streets, where vehicle access to the trail system should be controlled. Locate bollards as follows:

- Installed in centre of 3.0 meter trail
- Wooden, non-removable bollards on either side of 3.0 meter trail.
- Bollards are to be 150 mm x 150 mm pressure treated timber with a minimum height of 750 mm above trail surface.

5.7.10 Lighting may be required at trails and activity nodes, subject to the review and approval of the City of Swift Current.

5.7.11 Where a regional or local trail which is part of the City of Swift Current Structure Plans crosses through the parcel of land being developed, the Developer will be responsible for the cost of constructing such trails. Trail proposals shall be reviewed and approved by the Community Services Department. Trail layout should be designed to connect the residential areas with the park activity nodes and other centres such as schools, commercial areas, etc. Regional trails should not be within 5 metres of play area surfaces and links to the trail system from play structure sites should be established.

5.7.12 Conflicts between vehicular and pedestrian traffic should be minimized. Avoid sections on-street in order to maximize continuity of trail system. All trails should be barrier free wherever possible.

5.7.13 Trails developed in natural areas should be designed and sited to minimize physical and visible disturbance to landform or vegetation. Minimize damage to Environmental Reserve parcels by careful trail route selection, by sensitive use of retaining structures, and by grading side slopes to minimize disturbances.

- 5.7.14 The Developer is responsible for rehabilitation of areas disturbed by trails passing through natural areas.

5.8 STORM WATER MANAGEMENT FACILITIES

- 5.8.1 Park space is desirable adjacent to stormwater lakes, provided that the lake and associated grading is designed in conjunction with the park and appears as natural as possible.
- 5.8.2 Stormwater facilities (both wet and dry ponds) can also be utilized within the open space system.
- 5.8.3 Stormwater lakes shall be designated as a public utility and will not be credited towards the Municipal Reserve dedication.
- 5.8.4 Naturalize stormwater ponds, and re-graded or disturbed areas, with groupings of native trees and shrubs. Design proposed contours in a curvilinear form rather than a straight line form.

6 RECOMMENDED PLANT SPECIES

Plant Material for Manicured Parks

COMMON NAME	BOTANICAL NAME	COMMON NAME	BOTANICAL NAME
DECIDUOUS SHRUBS		DECIDUOUS TREES	
Tratarian Dogwood	Cornus alba	Silver Maple	Acer saccharinum
Silver Leaf Dogwood	Cornua alba 'Argenteo-marginata'	Ohio Buckeye	Aesculus glabra
Mottled Dogwood	Cornus alba 'Gouchaultii'	Cutleaf Weeping birch	Betula pendula 'Gracilis
Siberian Coral Dogwood	Cornus alba siberica	Toba Hawthorn	Crataegus mordenensis 'Toba
Golden Twig Dogwood	Cornus sericea 'Flaviramea'	Snowbird Hawthorn	Crataegus x mordenensis 'Snowbird'
Kelsey Dwarf Dogwood	Cornussericea 'Kelsey'	Russian Olive	Elaeagnus angustifolia
Hedge Cotoneaster	Cotoneaster acutifolia	Manchurian Ash	Fraxinus mandshurica
European Cotoneaster	Cotoneaster intergerrimus	Mancan Ash	Fraxinus mandshurica 'Mancana'
Waterton Mockorange	Philadelphus lweisii 'Waterton'	Black Ash	Fraxinus nigra
Annabelle Hydrangea	Hydrangea aborescens 'Annabelle'	Faligold Black Ash	Fraxinus nigra 'Fallgold'
Pee Gee Hydrangea	Hydrangea paniculata 'Grandiflora'	Foothills Green Ash	Fraxinus pennsylvanica Foothills'
Sweetberry Honeysuckle	Lonicera caerulea edulis	Prairiespire Green Ash	Fraxinus pennsylvanica Prairiespire'
Arnold Red Honeysuckle	Lonicera tatarica 'Arnold Red'	Honey Locust	Gleditsia tricanthos inermis
Clavey's Dwarf Honeysuckle	Lonicera xyloseoides 'Clavey's Dwarf'	Black Walnut	Juglans nigra
Ninebark	Physocarpus opulifolius	Siberian Columnar Crab	Malus baccata 'Columnaris'
Nanking Cherry	Prunus tomentosa	Rudolph Flowering Crab	Malus 'Rudolph'
Double Floweing Plum	Prunus trilobata 'Multiplex'	Strathmore Crab	Malus 'Strathmore'
Blue Fox Willow	Salix brachycarpa 'Blue Fox'	Thunderchild Crab	Malus 'Thunderchild'
Gold Plume Elder	Sambucus racemosa 'Plumosa Aurea'	Swedish Columnar Aspen	Populus tremula' Erecta
Bridalwreath Spirea	Spiraea x vanhouttei	Tower Poplar	Populus x canescens 'Tower
Goldflame Spirea	Spiraea x bumalda 'Goldflame'	Amur Cherry	Prunus maackii
Three-lobed Spirea	Spiraea trilobata	Mayday Tree	Prunus padus commutata
Dwarf Korean Lilac	Svrincia meveri 'Palabin'	Pincherry	Prunus pennsylvanica
Miss Kim Lilac	Syringa patula Miss Kim'	Schubert Chokecherry	Prunus virginiana 'Schubert'
Late Lilac	Syringa villosa	American Mountain Ash	Sorbus americana
		European Mountain Ash	Sorbus aucuparia
CONIFEROUS TREES		Pyramidal Mountain Ash	Sorbus aucuparia 'Fastigiata'
Columnar Colorado Spruce	Picea pungens Fastigiata'	Showy Mountain Ash	Sorbus decora
Blue Colorado Spruce	Picea pungens Glauca'	Ivory Silk Japanese Tree	Syringa reticulata 'Ivory Silk'
Ponderosa Pine	Pinus ponderosa	Lilac	Syringa sp.
Columnar Scots Pine	Pinus sylvestris 'Fastigiata	Little Leaf Linden	Tilia cordata
		Norlin Linden	Tilia cordata 'Roland'
CONIFEROUS SHRUBS		Dropmore Linden	Tilia x flavescens 'Dropmore'
Gold Coast Juniper	Juniperus chinensis 'Goldcoast'	D.E.D. Resistant Discovery	Ulmus davidiana var. japonica 'Discovery'
Blue Pfitzer Juniper	Juniperus chinensis 'Pfitzerana Glauca'	Elm	Ulmus
Medora Juniper	Junipreus scopulorum Medora'		
Moonglow Juniper	Juniperus scopulorum		
Witchita Blue Juniper	Juniperus scopulorum		
Dwarf Mugo Pine	Pinus mugo pumilo		
Holmstrup Cedar	Thuja occidentalis Holmstrup		
Wares Siberian Cedar	Thuja occidentalis 'Wareana		

Plant Material for Boulevards

COMMON NAME	BOTANICAL NAME	COMMON NAME	BOTANICAL NAME
CONIFEROUS TREES		CONIFEROUS SHRUBS	
Columnar Colorado Spruce	Picea pungens 'Fastigiata	Gold Coast Juniper	Juniperus chinensis 'Goldcoast'
Blue Colorado Spruce	Picea pungens 'Glauca'	Blue Pfitzer Juniper	Juniperus chinensis 'Pfitzerana Glauca'
Ponderosa Pine	Pinus ponderosa	Medora Juniper	Junipreus scopulorum 'Medora'
Columnar Scots Pine	Pinus sylvestris Fastigiata	Moonglow Juniper	Juniperus scopulorum 'Moonglow'
		Witchita Blue Juniper	Juniperus scopulorum 'Wichita Blue
DECIDUOUS TREES		Dwarf Mugo Pine	Pinus mugo pumilo
Silver Maple	Acer saccharinum	Holmstrup Cedar	Thuja occidentalis 'Holmstrup'

Ohio Buckeye	Aesculus glabra	Wares Siberian Cedar	Thuja occidentalis 'Wareana'
Toba Hawthorn	Crataegus mordenensis Toba		
Snowbird Hawthorn	Crataegus x mordenensis 'Snowbird'	DECIDUOUS SHRUBS	
Russian Olive	Elaeagnus angustifolia	Tratarian Dogwood	Cornus alba
Manchurian Ash	Fraxinus mandshurica	Silver Leaf Dogwood	Cornua alba 'Argenteo-marginata'
Mancan Ash	Fraxinus nigra	Mottled Dogwood	Cornus alba 'Gouchaultii'
Black Ash	Fraxinus nigra	Siberian Coral Dogwood	Cornus alba siberica
Fallgold Black Ash	Fraxinus nigra 'Fallgold'	Golden Twig Dogwood	Cornus sericea 'Flaviramea'
Foothills Green Ash	Fraxinus pennsylvanica 'Foothills'	Kelsey Dwarf Dogwood	Cornussericea 'Kelsey'
Prairiespire Green Ash	Fraxinus pennsylvanica Prairiespire	Hedge Cotoneaster	Cotoneaster acutifolia
Honey Locust	Gleditsia tricanthos inermis	European Cotoneaster	Cotoneaster intergerrimus
Black Walnut	Juglans nigra	Waterton Mockorange	Philadelphus lweisii 'Waterton'
Siberian Columnar Crab	Malus baccata Columnaris'	Annabelle Hydrangea	Hydrangea aborescens 'Annabelle'
Rudolph Flowering Crab	Malus 'Rudolph'	Pee Gee Hydrangea	Hydrangea paniculata 'Grandiflora'
Strathmore Crab	Malus 'Strathmore	Sweetberry Honeysuckle	Lonicera caerulea edulis
Thunderchild Crab	Malus 'Thunderchild	Arnold Red Honeysuckle	Lonicera tatarica 'Arnold Red'
Amur Cherry	Prunus maackii	Clavey's Dwarf Honeysuckle	Lonicera xyloseoides 'Clavey's Dwarf'
Mayday Tree	Prunus padus commutata	Ninebark	Physocarpus opulifolius
Pincherry	Prunus pennsylvanica	Nanking Cherry	Prunus tomentosa
Schubert Chokecherry	Prunus virginiana 'Schubert'	Double Floweing Plum	Prunus trilobata 'Multiplex'
American Mountain Ash	Sorbus americana	Blue Fox Willow	Salix brachycarpa 'Blue Fox'
European Mountain Ash	Sorbus aucuparia	Gold Plume Elder	Sambucus racemosa 'Plumosa Aurea'
Pyramidal Mountain Ash	Sorbus aucuparia 'Fastigiata	Bridalwreath Spirea	Spiraea x vanhouttei
Showy Mountain Ash	Sorbus decora	Goldflame Spirea	Spiraea x bumalda 'Goldflame'
Little Leaf Linden	Tilia cordata	Three-lobed Spirea	Spiraea trilobata
Norlin Linden	Tilia cordata 'Roland'	Dwarf Korean Lilac	Syringa meyeri 'Palabin'
Dropmore Linden	Tilia x flavescens 'Dropmore'	Miss Kim Lilac	Syringa patula 'Miss Kim'
D.E.D. Resistant Discovery	Ulmus davidiana var. japonica 'Discovery'	Late Lilac	Syringa villosa
Elm	Ulmus		

Plant Material for Medians

COMMON NAME	BOTANICAL NAME	COMMON NAME	BOTANICAL NAME
DECIDUOUS TREES		Mayday Tree	Prunus padus commutata
Toba Hawthorn	Crataegus mordenensis 'Toba'	Pincherry	Prunus pennsylvanica
Snowbird Hawthorn	Crataegus x mordenensis 'Snowbird'	Schubert Chokecherry	Prunus virginiana Schubert
Manchurian Ash	Fraxinus mandshurica	European Mountain Ash	Sorbus aucuparia
Honey Locust	Gleditsia tricanthos inermis	Pyramidal Mountain Ash	Sorbus aucuparia 'Fastigiata'
Siberian Columnar Crab	Malus baccata 'Columnaris'	Showy Mountain Ash	Sorbus decora
Rudolph Flowering Crab	Malus Rudolph'	Little Leaf Linden	Tilia cordata
Strathmore Crab	Malus 'Strathmore'	Norlin Linden	Tilia cordata 'Roland'
Thunderchild Crab	Malus 'Thunderchild'	Dropmore Linden	Tilia x flavescens 'Dropmore'
Amur Cherry	Prunus maackii		

The Swift Current area is characterized by a long growing season, low annual precipitation, temperature fluctuations, and Chinook winds. All these factors combine to limit the species of plants that will survive in this region. It is important to stress that plant maintenance and seasonal protection are necessary to ensure survival, even of plants that are hardy to this region.

7 LIST OF DRAWINGS

- E-001 Unmetered 120 Volt Connection for Irrigation Controller
- E-002 Unmetered U/G Electronic Service for Irrigation Controller (Typ.)
- E-003 Irrigation Water Service - Hardware Material Alignment
- E-004 Tree Support Method using Tree Stakes C/W Mulch
- E-005 Concrete Pad for Standard Irrigation Controller Cabinet
- E-006 Concrete Pad for Double Scorpio Irrigation Controller Cabinet
- E-007 Concrete Pad for Irrinet Irrigation Controller Cabinet
- E-008 Concrete Encased Support Post (Minimum Installation Guidelines)
- E-009 Irrigation Controller Cabinet
- E-010 Scorpio Cabinet Pedestal
- E-011 Vault Detail for Irrigation Valve System
- E-100 Tree Stand
- E-101 Wood Sign
- E-200 Landscaping – Boulevards and Medians
- E-201 Landscaping – Trees, Lighting and Sight Lines
- E-202 Xeriscaping – Vegetation Coverage

END OF SECTION