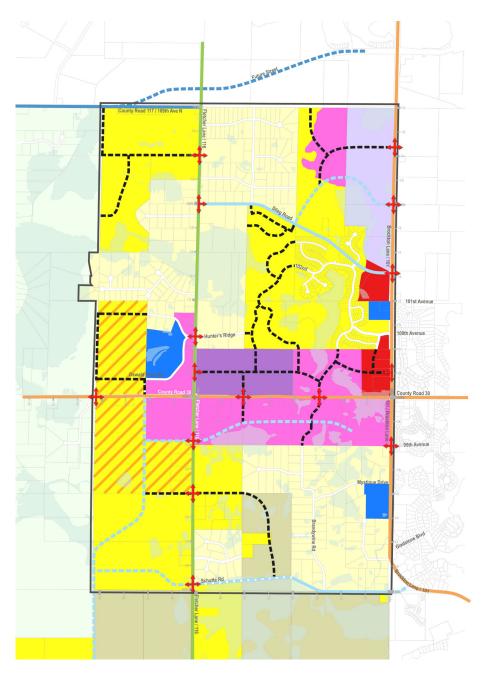


## **Corcoran Northeast District Plan and Design Guidelines**

Adopted May 26, 2022 Revised October 27, 2022





## Table of Contents

### District Overview and Purpose | 3

Purpose Statement
Application
Sustainable Design Framework
Municipal Water and Sewer
Street Hierarchy **Design Principles | 9**Allowable Uses
Buildings
Parking
Electric Vehicles
Screening
Landscape Standards
Parks, Trails and Open Space
Stormwater Management
Implementation | 22



## District Overview and Purpose

#### **Purpose Statement**

The purpose of the Northeast District Design Guidelines is to establish standards for this gateway to Corcoran. The area offers opportunities for expanded tax base, jobs and retail and service businesses to serve the existing and new residents in Corcoran and surrounding communities. The newly constructed Dayton Interchange and the planned Highway 610 extension provide a once in a lifetime opportunity to develop the area in a manner the reflects the unique Corcoran character as described in the Comprehensive Plan. The standards will ensure quality site design that will result in attractive business and residential development.

The district will allow development consistent with the primary zoning district and provide additional regulations and performance standards to accomplish the following goals:

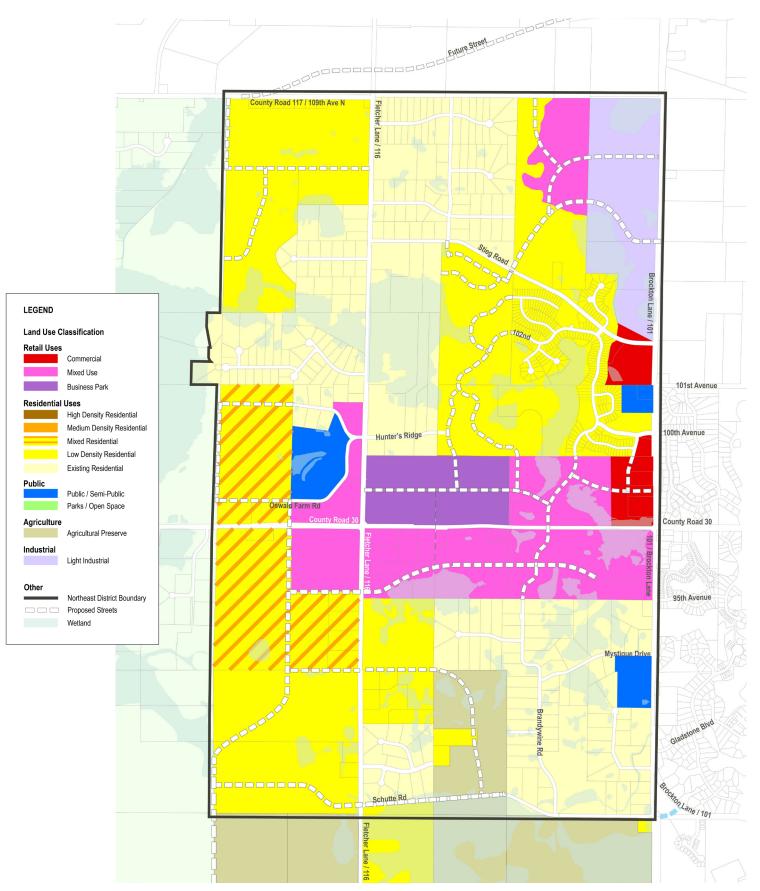
- 1. To allow for master planning and development of housing, employment and service uses through the use of unified developments that share common architectural schemes, landscape and site plan design, connected streets and pedestrian routes and green spaces.
- 2. To incentivize the development of high-quality industrial and business developments that will provide employment opportunities in Corcoran.
- 3. To encourage the use of sustainable, environmentally-friendly building and site development techniques.
- 4. To develop a transportation system that supports vehicles, bicyclists and pedestrians.
- 5. To promote master planned developments to increase the efficiency of infrastructure design.
- 6. To implement the land use goals of the 2040 Comprehensive Plan.

#### Application

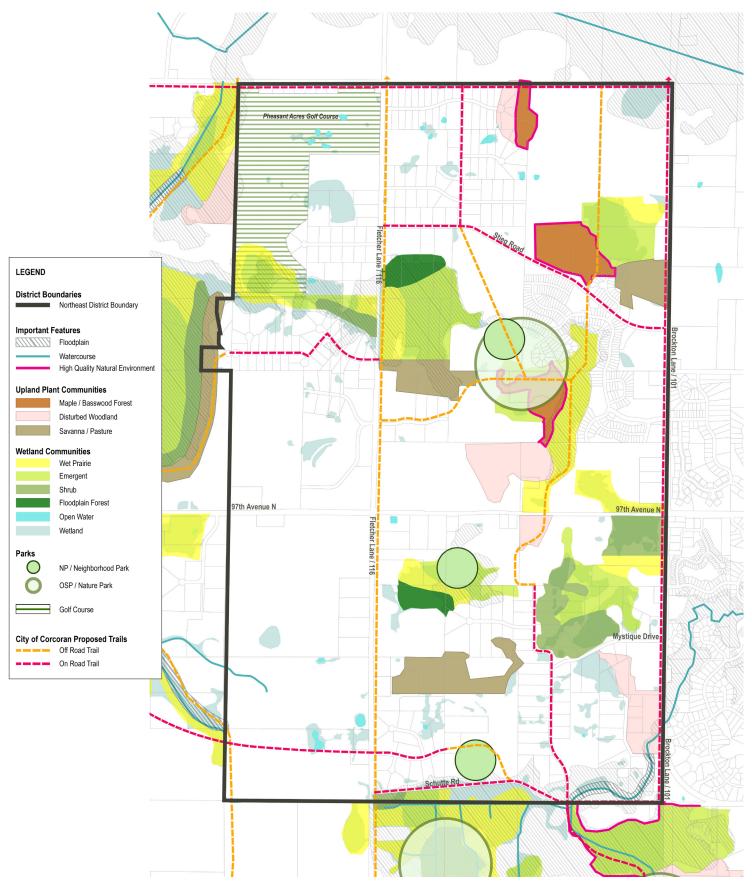
The format and content are specifically tailored for use as a supplement to the Zoning Ordinance. All provisions of the Zoning Ordinance shall apply to parcels in the Northeast District and these standards shall be in addition to those provisions. Where there is a conflict, the more restrictive provisions shall apply.

#### Sustainable Design Framework

The vision of the Northeast Design Standards is to encourage sustainable development that meets the public demand and requires the responsible use of resources without unacceptable social, economic or environmental consequences. These guidelines are intended to provide a framework for meeting that goal.



Northeast District Land Use Map

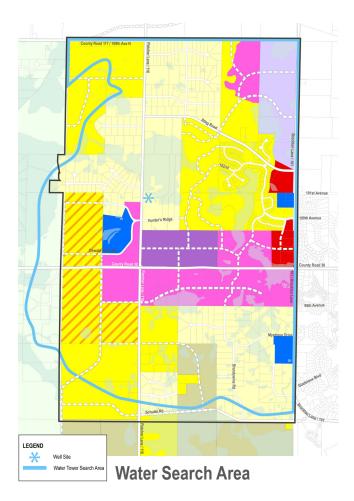


Northeast District Analysis Map

## **Municipal Water and Sewer**

The municipal sanitary sewer to serve the Northeast District exists and will generally flow north to the lift station at near County Road 101 at the City's north border.

Water is currently provided to the Northeast District from the City of Maple Grove. This agreement limits the area that can be served and requires landowners to pay the both the Maple Grove and Corcoran water fees. Developing a Corcoran water system has been a priority for the City. The City has identified a well and treatment site on County Road 116 north of Hunter Road. The City is in the planning stage, but hopes to have the well operational by 2023. However, at least one more well will be needed to serve the Northeast area and search area has been identified as shown on the Water Supply map. The well alone is insufficient and the City has been actively searching for a water tower site. The preferred tower site is also shown on the Water Supply map.



## Street Hierarchy

The Dayton Interchange at County Road 101/Brockton Lane and I-94 and the planned extension of Highway 610 will increase traffic along the County Road 101 and County Road 30 corridors and providing opportunities for new businesses in the Northeast District.

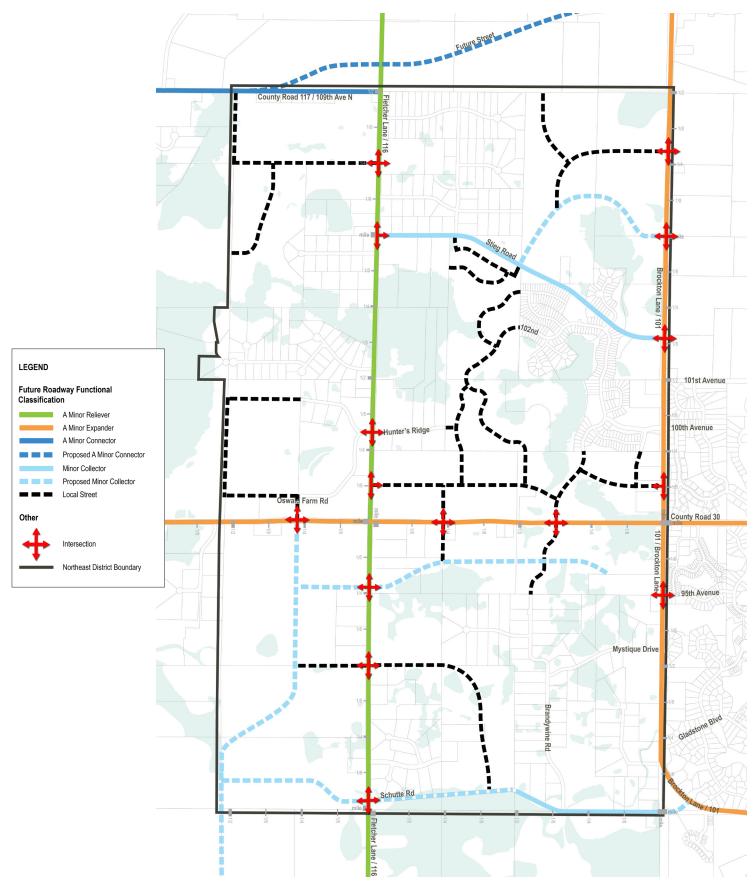
The Comprehensive Plan identified the major roadways as County Road 116, County Road 101, County Road 30, Stieg Road and Schutte Road. The street hierarchy map has been refined as part of this plan to provide more detail about street classifications and design.

The City will continue to work with Hennepin County to ensure that as improvements are made to the County streets in the Northeast District they reflect the City's goals. As improvements are made to these streets, emphasis should be placed on enhancements to traffic controls, pedestrian connections, lighting, gateway elements and landscaping at key intersections. As part of this vision, the City will look for opportunities to provide grade-separated pedestrian crossings in addition to the at-grade crossings.

The County road corridors should be designed with green boulevards on both sides and a landscaped median similar to the County Road 30 design. Final design will be coordinated with the County.

The existing road network should be maintained as a continuous network, with new connections where needed. Cul-de-sacs should be avoided in favor of connecting streets that will facilitate resilient multi-modal routes within the district.

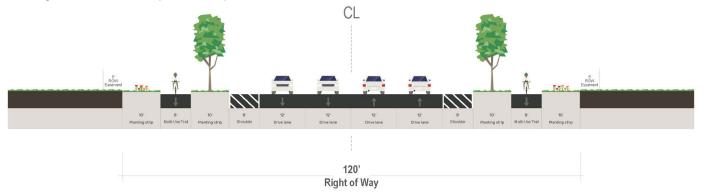
The Northeast District has three main types of streets which are described and illustrated on the following pages. Each serves a specific function toward the creation of a well-connected and economically viable district. The developer shall be responsible for construction of all streetscape improvements along adjacent streets. These improvements include all hardscape, landscape and site amenities, such as trails, sidewalks, benches, bike racks, street trees and plantings.

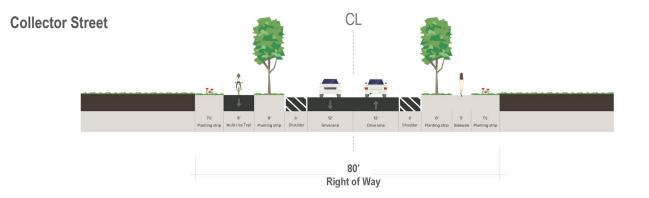


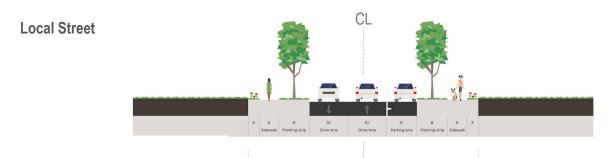
Northeast District Street Classification Map



## County Road 101 & 116 (Mid-Block)









# Design Principles

The Northeast District should continue to provide a mix of residential, commercial, office and industrial uses as described in the Comprehensive Plan and Zoning Ordinance. The Design Guidelines for the district shall be the same as those described in the Zoning Ordinance for the zoning district in which the development is located and these Design Standards will provide an additional layer of standards.

#### Allowable Uses

The Northeast District is a gateway to Corcoran and the uses in non-residential areas should be developed with new light industrial, office-industrial, high tech and professional services businesses to provide quality employment and wages.

To accomplish this goal, land uses in the Northeast District shall be all uses allowed in the underlying zoning district, except that the following uses are prohibited in the Northeast District, except those uses legally established prior to May 26, 2022:

- 1. Contractors operations
- 2. Equipment rental
- 3. Lumber yards/building material sales.
- 4. Mini Storage/Self Storage Facilities.
- 5. Motor Vehicle, Boat or Equipment Repair
- 6. Motor Vehicle, Boat or Equipment Sales

#### **Buildings**

New development site and building design should provide a visual cue that you are in Corcoran. The use of regional building materials and native plants for all development is encouraged. Development in this district should be thoughtfully designed to reflect Corcoran's rural character. The use of natural materials (such wood siding, brick and stone) is encouraged. Buildings shall have architectural details, features and patterns to provide visual interest.

All structures shall comply with the building standards in Section 1060.050 and the additional standards in this section.

Single family detached homes shall comply with the Design Requirements in Section 1040.040, Subd. 8.

Attached homes shall comply with the Design Requirements in Section 1040.060, Subd. 9.

Properties in the Mixed Use, Commercial, Business Park and Industrial district shall comply with the following:

Exterior surface materials of buildings shall be installed and maintained in accordance with the adopted building code and the manufacturer's specifications and shall be subject to the regulations listed below. Products listed as "integral colored" shall continue its surface color consistently through the depth of the product as opposed to being colored, painted, or stained on the surface only.



Class I materials: Single Family



Class I materials: Multifamily Apartment



Class I materials: Commercial / Mixed Use



Class I materials: Industrial

Materials shall be divided into class I, class II and class III categories as follows:

**Class I.** The following materials are considered class 1 materials as specified:

- 1. Brick
- 2. Marble, granite, or other natural stone
- 3. Integral colored cast stone (the stone is colored consistently through)
- 4. Textured cement stucco
- 5. Architectural wall cladding (Nichiha, Equitone and similar brands) Material must be through colored and at least 5/8 inches thick
- 6. Fiber-reinforced cement board siding with a minimum thickness of 1/4 inch (for residential use only)
- 7. Copper
- 8. Porcelain
- 9. Glass
- 10. Other materials of similar quality as approved by the City Council.

**Class II.** The following materials are considered class II materials as specified:

- 1. Exposed aggregate concrete panels
- 2. Burnished concrete block
- 3. Integral colored split face (rock face) and exposed aggregate concrete block
- 4. Cast-in-place concrete
- 5. Insulated exterior wall panels (E.I.F.S., Drivit and similar brands)
- 6. Prefinished metal
- 7. Integral colored concrete panels other than smooth finished
- 8. Other materials of similar quality as approved by the City Council.



Class I materials: Commercial



Class I materials: Office / Warehouse



Class I materials: Commercial / Office



Class I materials: Commercial / Retail

**Class III.** The following materials are considered class III materials as specified:

- 1. Unpainted or surface painted concrete block (scored or unscored)
- 2. Unpainted or surface painted plain or ribbed concrete panels
- 3. Unfinished or surface painted metal
- 4. Smooth finished concrete panels
- 5. Brick, stone, or integral colored material which has been painted
- 6. Other materials of similar quality as approved by the City Council.

At least 60% of each building face visible from off the site must be of class I materials except as permitted by this section:

For buildings in the I-1 districts which are not located on a County Road or adjacent to or across from any residentially zoned property, class I materials may be reduced to a minimum of 25 percent provided that the architecture and site plan shall meet the following minimum criteria to be considered superior quality:

- 1. The exposed height of the building wall shall not exceed 15 feet.
- 2. The number of required plant units shall be increased by 20 percent or the size of 20 percent of the overstory trees installed shall be increased to 3 1/2 caliper inches.
- 3. A minimum of ten percent of the building facade must be windows or glass spandrels.

Not more than 10% of each building face visible from off the site may be of class III materials. Portions of buildings not visible from off the site may be constructed of greater percentages of class II or class III materials if the structure otherwise conforms to all city ordinances. The mixture of building materials must be compatible and integrated.

Large uninterrupted building elevations are not permitted. No wall may have an uninterrupted length exceeding 80 feet without including at least two of the following: changes in plane; changes in color, texture, materials or masonry pattern; windows; or an equivalent element that breaks up the elevation.

## Parking

Parking shall comply with the standards in Section 1060.060 of the ordinance and the additional standards in this section.

Bicycle racks shall be provided for all multi-family and non-residential uses and may be placed near the entrance if a minimum 5-foot wide pedestrian access to the building entrance is maintained. Bicycle parking may occupy a maximum of two required parking stalls without requiring additional parking.

Parking bays shall have landscape islands at each end of the parking bay and bays in excess of 15 spaces in length shall be divided by intermediate islands. Trees shall be located in the islands to shade the parking lot to reduce the heat island effect. These end landscape islands shall provide at least 360 square feet of area for planting trees, shrubs and/or groundcovers. Intermediate landscape islands shall provide at least 180 square feet of planting area.

A landscape buffer shall be provided between all parking areas and the public sidewalk. The buffer shall consist of shade trees, low shrubs or perennial flowers and a decorative fence or masonry wall. Plantings and parking lot screen walls or fences shall be no less than three feet and no more than four feet in height to allow views into and out of parking areas

Parking lots should incorporate stormwater management into the parking lot as an amenity feature. These features when appropriately designed can be used to meet the landscape island requirements.

Any lighting used to illuminate an off-street parking area shall be so arranged as to reflect glare away from adjoining property, adjacent residential uses and public rights-of-way and be in compliance with Section 1060.040 of this Chapter.



Bike Parking



Parking Lot Islands



Parking Lot Screening



Parking Lot Stormwater

#### Screening

In addition to the standards in Section 1060.030, the additional standards in this section are intended to preserve the rural character of Corcoran while allowing new development to bring jobs and homes to the community.

Loading docks or overhead doors shall be oriented away from County Roads or residential property wherever reasonable, as determined by the City. If not reasonable and the loading docks or overhead doors are visible from County Roads or residential property, they shall be screened to 80% opacity year-round consistent with Section 1060.070 Subd. 2(J) of the City Code.

The visual impact of rooftop equipment shall be minimized using one of the following methods:

- 1. A parapet wall.
- 2. A fence the height of which extends at least one foot above the top of the rooftop equipment and incorporates the architectural features of the building.
- 3. The rooftop equipment shall be painted to match the roof or the sky, whichever is most effective.

Loading areas must be screened as required by Section 1060.060 Subd. 3.B.9. Utility service structures (such as utility meters, utility lines, transformers, aboveground tanks) and ground mounted mechanical equipment must be screened from off-site views utilizing a double row of landscaping, a privacy fence or a wall that is at the same height as the structure it is screening or six feet, whichever is less to screen from off-site views. A chain link fence with slats shall not be accepted as screening.

All utility services shall be underground except as provided in Section 1060 of the Zoning Ordinance.

#### Landscape Standards

Site design and landscaping should be designed to work with the existing topography of the area, wooded areas, wetlands and natural viewsheds and corridors. Sustainability, in terms of the landscape, is the ability of plant species to maintain healthy growth with minimal human assistance. Selecting plants suited for a specific condition is key to their sustainability over time. Benefits of utilizing sustainable plant species include less time spent towards maintenance, less maintenance costs, and positive contributions to the larger environment and its ability to perpetuate itself.

Development landscaping shall include a full complement of overstory, ornamental and evergreen trees, shrubbery



and ground covers which are hardy and appropriate for the locations in which they are planted and provide year-long color and interest. Development in the Northeast District shall select from the following list of preferred trees and shrubs that suit unique conditions and environments found in Corcoran. The following plant materials shall be used in the Northeast District:

#### **Ground Cover**

All land area not occupied by buildings, parking, driveways, sidewalks or other hard surfaces shall be sodded or mulched and landscaped with approved ground cover, flowers, shrubbery and trees. Traditional lawns of mown Kentucky bluegrass are the most common groundcover in the area and have their place in new development. However, they are not conducive to sustainable practices desired in the Northeast District as they require large amounts of water and maintenance. Alternatives to traditional lawns are available and appropriate as part of a sustainable environment.

Native prairie plantings and bee lawns, which includes low growing flowers and turf grasses, are viable options to traditional lawns in Corcoran. The plant composition of these alternatives are widely varied and can be tailored to suit specific conditions and aesthetics. The overriding concept is that they provide habitat, food and shelter for a variety of animals, birds and insects and they are sustainable with minimal intervention. An overlooked benefit of prairies and bee lawns is that they visually change with the seasons, providing a changing view throughout the year. The City supports the use of these ground covers when a maintenance plan is provided for review and approval by the City.



Site Design and Landscaping



Site Design and Street Trees



Conservation Development

Coniferous Trees	Common Name
Abies balsamea	Balsam Fir*
Abies concolor	White Fir
Abies fraseri	Fraser Fir
Juniperus virginiana	Red Cedar*
Larix laricina	American Larch*
Picea abies	Norway Spruce
Picea glauca	White Spruce*
Picea glauca var. densata	Black Hills Spruce
Picea mariana	Black Spruce*
Pinus banksiana	Jack Pine*
Pinus ponderosa	Ponderosa Pine
Pinus resinosa	Red Pine (Norway Pine)*
Pinus strobus	Eastern White Pine*
Pinus sylvestris	Scots Pine
Pinus cembra	Swiss Pine

Deciduous Trees	Common Name	
Acer x freemanii	Freeman's Maple	
Acer x freemanii 'Sienna'	Sienna Glen Maple	
Acer rubrum	Red Maple*	
Acer saccharum	Sugar Maple*	
Aesculus glabra	Ohio Buckeye	
Betula nigra 'Cully'	Heritage River Birch*	
Betula papyrifera	Paper Birch*	
Betula populifolia	Grey Birch	
Carpinus caroliniana	American Hornbeam	
Carya ovata	Shagbark Hickory*	
Carya cordiformis	Bitternut Hickory*	
Catalpa speciosa	Northern Catalpa	
Celtis occidentalis	Common Hackberry*	
Cercis canadensis	Eastern Redbud	
Crataegus crus-galli var. inermis	Thornless Cockspur Hawthorne	
Crataegus mollis	Downy Hawthorne	
Gingko biloba	Gingko (male only)	
Gleditsia tricanthos var. inermis	Thornless Honeylocust*	
Gymnocladus dioicus	Kentucky Coffeetree (male only), 'Espresso', 'Stately Manor'	
Malus spp.	Crabapple, 'Adams', 'Calocarpa', 'David', 'Donald Wyman', 'Dolgo', 'Harvest Gold', 'Prairifire', 'Professor Sprenger'	
Malus ioensis	Prairie Crabapple	
Ostrya virginiana	Ironwood*	
Populus tremuloides	Quaking Aspen*	
Prunus serotina	Black Cherry*	
Prunus virginiana	Chokecherry	
Quecus alba	White Oak*	
Quercus bicolor	Swamp White Oak*	
Quercus elllipsoidalis	Northern Pin Oak*	
Quercus macrocarpa	Burr Oak*	
Quercus rubra	Red Oak*	
Quercus velutina	Black Oak*	
Salix alba	Weeping Willow	
Salix nigra	Black Willow*	
Sorbus americana	American Mountain Ash	
Sorbus decora	Showy Mountain Ash*	
Tilia americana	American Linden (Basswood)*	
Tilia americana 'Redmond'	Redmond Linden	
Tilia cordata	Littleleaf Linden, 'Morden', 'Shamrock', 'Norlin'	
Ulmus americana 'Princeton'	Princeton Elm*	
Ulmus americana 'Valley Forge'	Valley Forge Elm*	
Ulmus pumila 'New Horizon'	New Horizon Elm	
Ulmus wilsoniana 'Patriot'	Patriot Elm	



Celtis occidentalis / Hackberry Tree





Gleditsia tricanthos / Honeylocust Quercus alba / White Oak



Picea mariana / Black Spruce



Pinus resinosa / Red Pine



Prunus virginiana / Chokecherry Tree

Shrubs	Common Name
Alnus incana	Speckled Alder
Amelanchier alnifolia 'Regent'	Regent Serviceberry
Amelanchier interior	Inland Serviceberry
Aronia melanocarpa var. elata	Glossy Black Chokeberry*
Betula pumila	Bog Birch*
Cornus alternifolia	Pagoda Dogwood*
Cornus amomum	Silky Dogwood*
Cornus racemose	Gray Dogwood*
Cornus rugosa	Round-leaved Dogwood
Cornus sericea	Red-osier Dogwood*
Corylus americana	American Hazelnut*
Corylus cornuta	Beaked Hazelnut*
Crataegus chrysocarpa	Fireberry Hawthorn*
Crataegus macrosperma	Large-seeded Hawthorn
Diervilla lonicera	Bush Honeysuckle*
Euonymus atropurpureus	Easter Wahoo
llex verticillata	Winterberry
Juniperus communis	Common Juniper*
Physocarpus opulifolius	Ninebark*
Ribes americanum	Wild Black Currant*
Ribes aureum	Golden Currant
Ribes cynosbati	Prickly Gooseberry
Ribes missouriense	Missouri Gooseberry
Rosa blanda	Smooth Wild Rose*
Salix bebbiana	Bebb's Willow*
Salix discolor	Pussy Willow*
Salix pedicellaris	Bog Willow
Sambucus canadensis	Common Elderberry*
Sambucus racemose	Red-berried Elder*
Staphylea trifolia	Bladdernut
Symphoricarpos albus	Snowberry*
Symphoricarpos occidentalis	Wolfberry*
Viburnum dentatum	Arrowwood Viburnum
Viburnum lentago	Nannyberry*
Viburnum opulus var. Americanum	American Highbush Cranberry

\* indicates plant native to Minnesota

#### **Resiliency Options**

The City encourages the use of special design features such as xeriscaping, rain gardens/bioretention systems, landscaping with native species, green rooftops, heat island reduction and aesthetic design. All new development must include three of the following resiliency options:

**Xeriscaping:** Xeriscaping is landscaping which uses plants that have low water requirements, making them able to withstand extended periods of drought. Xeriscaping landscapes are a conscious attempt to develop plantings which are compatible with the environment and make a conscious effort to minimize use of water.

Rain Gardens/Bioretention Systems: Bioretention systems can be described as shallow, landscaped depressions commonly located in parking lot islands or within areas that receive stormwater runoff. For credit under this section, the rain garden/bioretention system shall be above ground and a visible part of the green or landscaped area. Stormwater flows into the bioretention area, ponds on the surface, and gradually infiltrates into the soil bed. Pollutants are removed by a number of processes including absorption, filtration, volatilization, ion exchange, and decomposition. Filtered runoff can either be allowed to infiltrate into the surrounding soil (functioning as an infiltration basin or rainwater garden), or discharged to the storm sewer or directly to receiving waters (functioning like a surface filter). The use of under drain systems are discouraged unless where infiltration is prohibited by the water resources management plan. Runoff from larger storms is generally diverted past the area to the storm drainage system.

**Landscaping With Native Species:** Fifty percent (50%) of the plantings used in the landscape plan shall be native plant communities as identified in the landscaping tables provided above. The landscape plan shall be approved by City staff.

**Green Rooftops:** Green rooftops are veneers of living vegetation installed atop buildings, from small garages to large industrial structures. Green rooftops help manage stormwater by mimicking a variety of hydrologic processes normally associated with open space. Plants capture rainwater on their foliage and absorb it in their root zone, encouraging evapotranspiration and preventing much stormwater from ever entering runoff streams. What water does leave the roof is slowed and kept cooler, a benefit for downstream water bodies. Green roofs are especially effective in controlling intense, short duration storms and have been shown to reduce cumulative annual runoff by fifty percent (50%) in temperate climates.



Xeriscape



Pollinator Lawn



Rain Garden / Bioretention



Green Roof

**Aesthetic Design:** Sites shall be designed to include three (3) of the following: public art, fountains, plazas, perennial beds, entrance landscaping, or other amenities reviewed and approved by the Development Review Committee (DRC).

Gateway signage is desired at the County Road 101 at the north Corcoran border and at the County Road 101/ County Road 30 intersection. Developers of property at those intersections will work with the City install this gateway signage and related landscaping. This would satisfy part of the aesthetic design requirement for those properties.

**Urban Garden:** Small-scale urban gardens that produce food crops are found to have beneficial outcomes for food security, the environment, physical health, and social wellbeing. For this section, an accessory outdoor garden can satisfy one of the resiliency options as long as it serves as a community garden, institutional garden, and or a chef's/kitchen garden for a business such as a restaurant. Raised garden beds may be utilized. Additionally, an accessible urban garden can be part of the design for public plazas or private open spaces as required elsewhere in this Appendix.

Alternative Energy: New developments may use solar energy systems (SES) to support the development. Building Integrated SES and Building or Roof Mounted SES is encouraged in the Northeast District as allowed by Section 1060.110 of the Zoning Ordinance. While the Ordinance does not currently allow wind energy conversion systems (WECS) as an allowed use, the City shall consider the amending the Zoning Ordinance to allow small WECS as an accessory use.

**Electric Vehicles:** New developments may provide parking and services for electric vehicles, to expedite the establishment of a convenient, cost-effective electric vehicle infrastructure. To receive credit as a resiliency option the following standards shall be met:

Parking structures or lots with at least 100 parking spaces shall provide services for electric vehicles (EV) as required below.

- Multiple-family residential land uses shall have 5% of required parking as Level 1 stations for resident parking, and one Level 2 station for guest parking. At least one handicapped accessible parking space shall have access to an electric vehicle charging station (EVCS).
- 2. Non-residential land uses with parking spaces available for use by the general public shall have at least 1% of required parking as Level 2 stations with a minimum of two spaces served by Level 2 charging, with at least one station adjacent to an accessible parking space. In non-residential zoned districts, DC charging stations may be installed to satisfy the EVCS requirements described above on a one-for-one basis.



Native Species



Urban Garden



Entry Design



Alternative Energy

Notwithstanding the requirements above, all new or reconstructed motor fuel stations as defined in Section 36-142(d) (20) shall be required to install at least one additional Level 2 charging station. A DC charging station may be installed to meet this requirement.

In addition to the number of required EVCSs, the following accommodations shall be required for the anticipated future growth in market demand for electric vehicles:

- 1. Multiple-Family Residential Land Uses: all new, expanded and reconstructed parking areas shall provide the electrical capacity necessary to accommodate the future hardwire installation of Level 2 EVCSs for a minimum of 10% of required parking spaces.
- Non-Residential Land Uses: all new, expanded and reconstructed parking areas shall provide the electrical capacity necessary to accommodate the future hardwire installation of Level 2 or DC EVCSs for a minimum of 10% of required parking spaces.

These requirements may be revised upward or downward by the City Council as part of an application for a conditional use permit or planned unit development based on verifiable information pertaining to parking.

## Parks, Trails and Open Space

There are two existing parks in the northeast district: the Community Park and the Neighborhood Park. Both parks were dedicated to the City as part of the Bellwether development and are open to the public. Parking lots are planned in the northwest corner of the neighborhood park and southwest corner of the community open space park. The Parks and Trails plan adopted in the 2040 Comprehensive Plan anticipates a second Neighborhood Park south of County Road 30.

The City parks will connect to homes and businesses through a series of trails and sidewalks. On- and off-road trails are planned along all County roads. The City plans a number of on- and off-road trails throughout the district. Additionally, Three Rivers Park District plans for the Diamond Lake Regional trail to connect through the Northeast District, including a connection to the Community Park.

As development occurs open space will transition to homes and businesses. In order to ensure that opportunities to gather outside, maintain viewsheds and retain same of the character of Corcoran's rural beginnings, all non-residential properties with principal buildings in excess of 100,000 square feet of floor area shall be required to have a public plaza space.

The public plaza space shall include benches, bike racks trash receptacles, lighting fixtures and other amenities to create a welcoming space for tenants of the building and members of the public. These plaza spaces should be visible from the public street and maintained by the landowner.

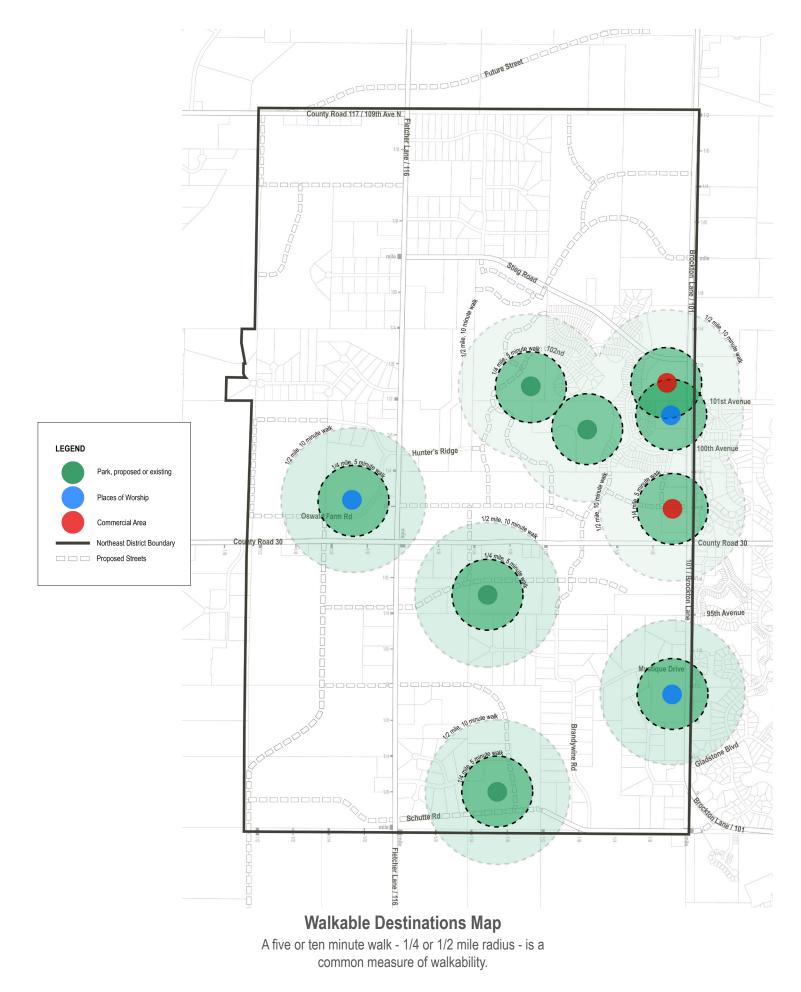
Multi-family residential developments shall be required to provide landscaped private open space for their residents. This open space shall be designed and landscaped for outdoor recreation.







Trails





Pervious Pavers



Silva Cells



Underground Stormwater



Green Roof

#### Stormwater Management

Water features and drainage systems are essential components of development in the district. A mix of ponds, fountains and other water elements provide focal amenities and year round activities within the framework of an environmentally responsible, visually pleasing strategy to manage stormwater. Each site has a responsibility to utilize best management practices (BMP) to pretreat run-off, reduce erosion and encourage infiltration in compliance with City and Elm Creek Watershed Management Commission standards. Water and landscape should be utilized within multipurpose areas that accommodate both active and passive recreational use – the following examples illustrate only a few of many possibilities:

- Pervious pavements, underground storage and other creative techniques should be used to meet BMP standards, particularly in areas where more density is expected.
- 2. Stormwater reuse
- Green architecture, expressed through green roofs, gray water recycling and other techniques should be included to reduce the impact of new development on stormwater systems.
- 4. Water feature design should include both formal elements (such as reflecting pools or fountains) and natural/informal forms (such as ponds or fountains) and should explore creative ways to integrate wet landscapes with active, urban spaces.

The City and the watershed are working to reduce chloride in our water system. All multifamily and nonresidential developments are required to provide a Chloride Management Plan. Studies (see MCES publication regarding Nine Mile Creek, March 2021) show that chloride (or salt) found in surface waters and shallow aquifers has been increasing over the past 20 years. One source of the river's chloride is the salt applied to our streets, parking lots, driveways and sidewalks in the winter and results in peak chloride values between March and May. Due to the chloride's toxicity on the environment, watershed organizations and regulatory agencies have increased their focus on the urban sources and some watersheds are implementing practices for reducing salt applications. Rush Creek (the receiving water for the Northeast District) is at high risk for being impaired according to State's data base. Chloride Management Plans will be regulated under the City's MS4 permit.



# Implementation

The design guidelines will be administered by staff as part of the development review process. Staff will incorporate design review to ensure compliance with the design guidelines as a standard step in the development review process.