

# Major Center Area Streetscape Master Plan

City of Eden Prairie



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# EXECUTIVE SUMMARY

The purpose of this study is to create a design framework for streetscape improvements for three streets within Eden Prairie's Major Center Area that will be primary identity-givers for the area. They include:

- Main Street (a proposed north/south roadway )
- Singletree Lane
- Loop Road (Prairie Center Drive/Valley View Road)

The Major Center Area was developed during a period of time when it was assumed that all retail customers would use automobiles to access their desired retail destinations. Much of the land area is dedicated to surface parking. The open and expansive environment created by large parking lots is not supportive of safe and comfortable pedestrian movement. As more residential uses are being constructed within the Major Center Area, new residents are expressing a desire to access Major Center Area destinations using alternative modes of transportation such as walking, biking and transit.

This report incorporates and builds upon recommendations from two City Council approved reports, the Major Center Area Study (2006), and the Town Center Design Guidelines (2007). With a consistent vision and goals for the Town Center and overall Major Center Area clearly laid out in these documents, the City is taking the next step to bring this vision to reality. With several redevelopment projects getting underway within the Major Center Area, there is a pressing need to advance select segments of the Streetscape plan to meet projected transportation needs and to support redevelopment activity.

The Major Center Area Streetscape Master Plan was developed to be responsive to the planning principles

brought forward in the Major Center Area Study, the Town Center Design Guidelines and the following design principles:

- Employ a unifying theme to create a distinct identity for the Major Center Area.
- Vary the streetscape treatment and intensity depending on street type and adjacent land uses.
- Incorporate streetscape amenity treatments proportionally to anticipated levels of pedestrian activity.
- Provide adequate space and street furniture to safely and comfortably accommodate pedestrian movement and gathering.
- Emphasize vertical elements for visual impact, district identity, orientation and sense of enclosure.
- Use streetscape elements that are low maintenance; resistant to vandalism and snow shoveling; and drought and salt tolerant.

The Town Center will utilize a family of streetscape elements that will convey the prairie style theme, including:

- Street lights
- Information kiosks
- Street furniture
- Bollards
- Screen fencing
- Sidewalk pavement
- Tree grates
- Planters
- Landscape plantings
- Medians



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The streetscape master plan continues to build upon the prairie theme already expressed within the Major Center Area and broader community. The streetscape elements will be designed to be characteristic of the prairie style include:

- Repetition of horizontal lines
- Use of natural colors
- Use of native, local materials
- Restraint of ornamentation
- Rectilinear geometry
- Stylized organic forms
- Solid construction and craftsmanship

Based on the intended street users, different elements are more appropriate for each of the three streets.

- Main Street was designed to encourage a lively and interactive street environment to complement the compact, high-density mixed-use area that is a vibrant, pedestrian friendly destination and place to live.
- Singletree Lane is anticipated to accommodate high levels of pedestrian activity, but not to the same extent as Main Street. Singletree Lane is also intended to serve higher vehicle traffic volumes than Main Street.
- The Loop Road is intended to serve higher vehicle traffic volumes. Clear wayfinding communication along the Loop Road will assist users of the Major Center Area with orientation and navigation. Yet, the street environment will still provide

accommodations for the safe and comfortable movement of pedestrians and bicyclists.

Estimated costs have been developed for each street and are preliminary in nature. The estimated costs include the streetscape elements located between the back of curb and typically either the building facade or the right-of-way line.

As areas within the Town Center redevelop, it is likely that there will need to be roadway improvements associated with the new development. It is expected that redeveloping parcels will pay for streetscape improvements adjacent to their parcels. As streetscape improvements are implemented, the adjacent parcels that are not redeveloping are expected to be responsible for a portion of the associated streetscape cost, with the city covering the remaining balance.

Maintenance will be a critical element to establish a successful walkable and aesthetic district. The property owners within the Major Center Area should work to replicate the results achieved through a single owner, such as the Eden Prairie Mall, through the creation of a special service district. This will allow property owners to pool and efficiently use financial resources that will mutually benefit all by creating a cohesive and consistently maintained environment for visitors and residents to inhabit and enjoy.



## Project Intent

The purpose of this study is to create a design framework for streetscape improvements for three streets within Eden Prairie's Major Center Area that will be primary identity-givers for the area. They include:

- Main Street – a proposed north/south roadway within a mixed-use land use district
- Singletree Lane
- Loop Road (Prairie Center Drive/Valley View Road)

This report incorporates and builds upon recommendations included in two reports that have been approved by the City Council:

- Eden Prairie Major Center Area Study (January 2006), and
- City of Eden Prairie Town Center Design Guidelines (December 2007)

Over the past several years, the City has been in the process of developing plans for the Major Center Area (MCA) that will strengthen it as the commercial and civic core of the community. The Major Center Area covers approximately 1,200 acres that comprises the City's primary commercial core (see Figure 1). Of primary interest are the City's plans for a new town center, bounded by Technology Drive on the north, Flying Cloud Drive on the east, and Regional Center Road on the south. The west boundary of the Town Center Area will parallel a future north-south roadway and will extend approximately along the east parcel lines of Costco and Bachmann's down to Regional Center Road. This area is envisioned to be a compact, high-density mixed-use area that is a vibrant, pedestrian friendly destination and place to live for people of all ages.

## Existing Conditions

The Major Center Area was developed during a period of time when it was assumed that all retail customers would use automobiles to access their desired retail destinations. Much of the land area is dedicated to surface parking. The open and expansive environment created by large parking lots is not supportive of safe and comfortable pedestrian movement.

As more residential uses are being constructed within the Major Center Area, new residents are expressing a desire to access Major Center Area destinations using alternative modes of transportation such as walking, biking and transit. Currently, some of the roadways within the Major Center Area have sidewalks or trails adjacent to them. The trails and sidewalks are not continuous throughout the area and therefore do not fully accommodate pedestrian needs. The trails are typically constructed from bituminous and are 8-feet wide. The sidewalks are typically constructed from concrete and are 5-feet wide. Both the trails and the sidewalks are setback from the roadway with a turf boulevard. These boulevards typically do not have street trees in them, which would improve user comfort by providing shade and additional buffering between pedestrians and the roadway.

The western portion of Singletree Lane is currently designed as a four lane roadway with two travel lanes in each direction (see Figure 2). Numerous parcels have access driveways off of Singletree Lane. The current roadway is larger than it needs to be to adequately service existing and projected traffic volumes. This provides the opportunity to reclaim some of the roadway space for alternative uses, such as vegetated median islands and on-street bicycle lanes. The eastern portion is being redesigned in association with the Town Center Phase One Mixed-use Redevelopment, which also provides the opportunity to construct median islands and other amenities.



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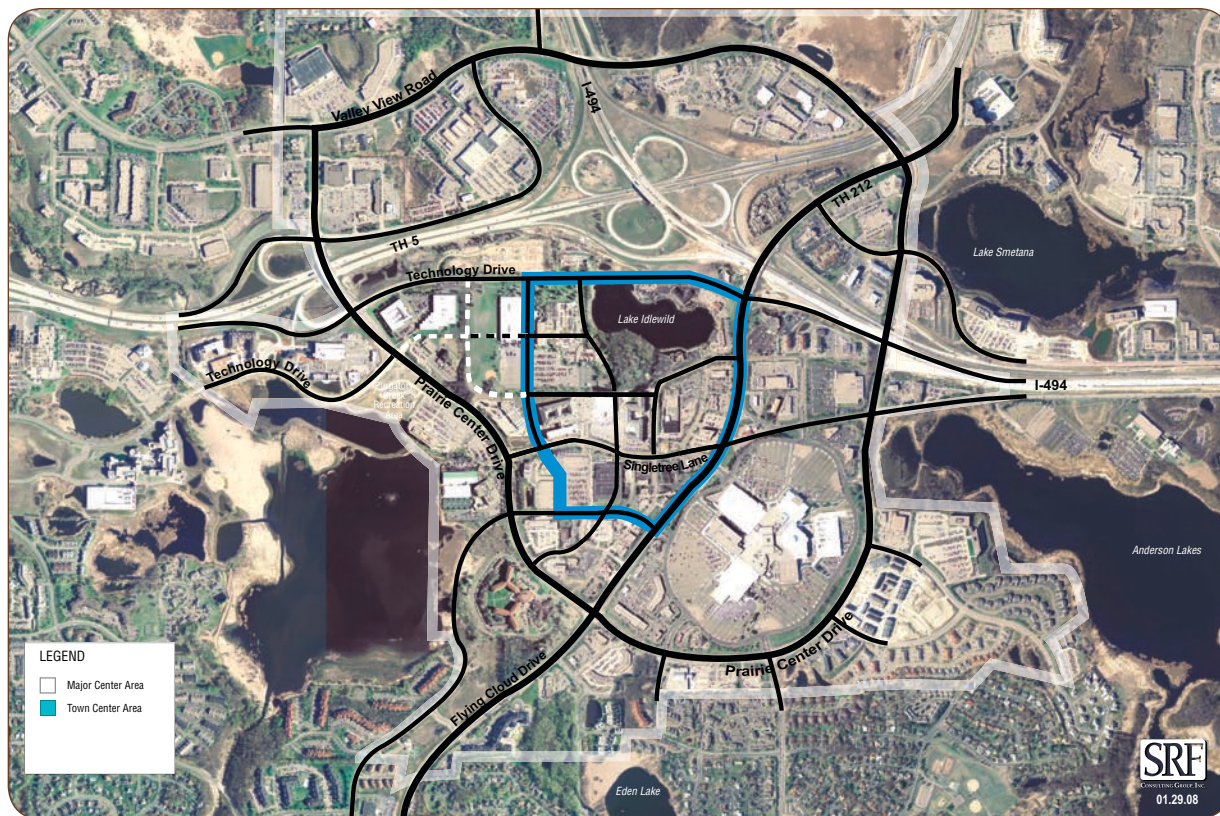


Figure 1: Major Center Area and Town Center

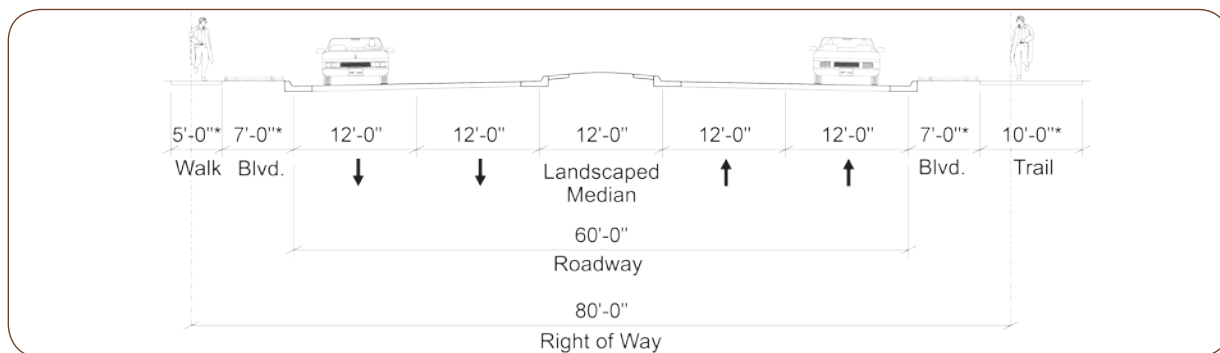


Figure 2: Existing Conditions - Singletree Lane

Prairie Center Drive, along with a portion of Valley View Road forms a “Loop Road” that is a primarily circulation route within the Major Center Area. The current streetscape design does not clearly communicate the role of the Loop Road within the Major Center Area transportation network. Clear communication about and understanding of the Loop Road will assist users of the Major Center Area with orientation and navigation.

The Loop Road is currently designed as a four lane roadway with two travel lanes in each direction, separated by a median island, along with dedicated right and left turn lanes (see Figure 3). The current roadway is adequately sized for projected vehicular trips. Portions of the roadway provide pedestrian and bicycle facilities and plans exist to provide these facilities for the remainder of the Loop Road. The median islands are predominantly turf and are planted with street trees. Trees that have been removed have not been replaced. While neat and well maintained, the existing median islands do not provide seasonal interest or color.

There are several street light styles currently in use in the Major Center Area. Street lighting along Singletree Lane and Prairie Center Drive consists of an upper level “hatbox” style circa mid-1990’s. The primary purpose of this lighting is to provide adequate light levels for vehicles using the roadway. There is very little pedestrian level lighting in the Major Center Area. The pedestrian lighting that does exist utilizes round globe luminaires. Street and pedestrian poles are currently green in color.

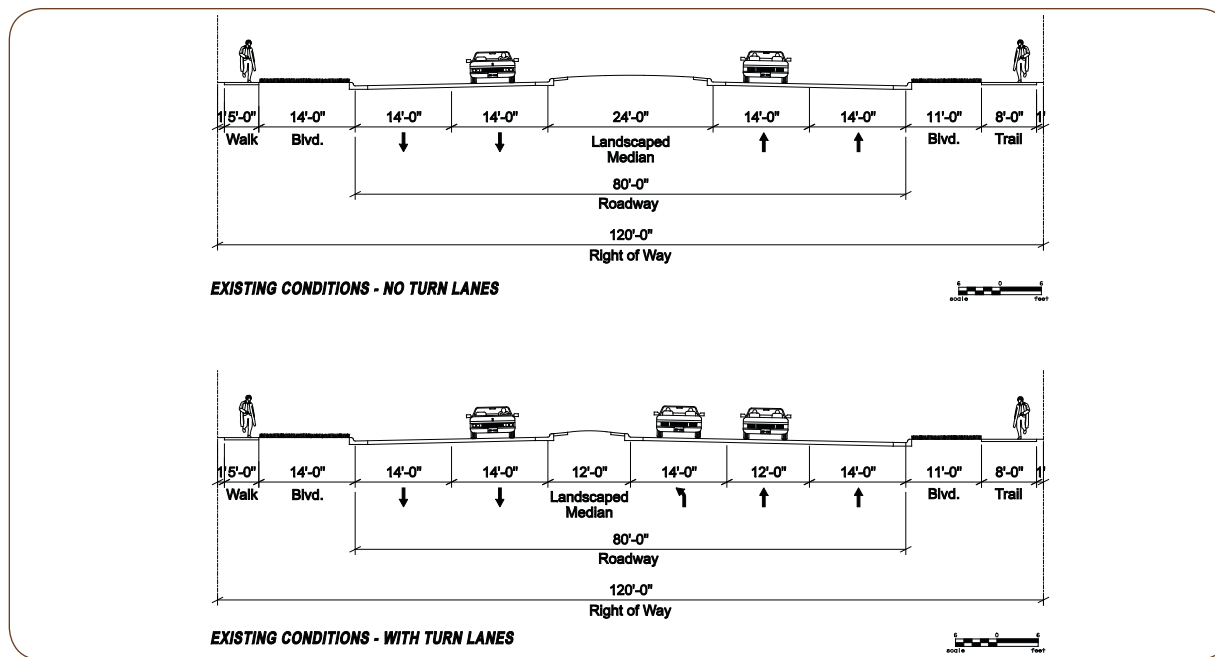


Figure 3: Existing Conditions - Prairie Center Drive

## Project Background

### Eden Prairie Major Center Area Framework Plan

The vision for the Town Center has developed incrementally over several years. In 2006, the Eden Prairie City Council adopted the Eden Prairie Major Center Area Framework Plan. At the start of the project, it was determined that economic conditions and recent redevelopment activity indicated that many of the parcels within the City's Major Center Area were ripe for redevelopment. The City took the initiative to develop a plan that would help guide the redevelopment in a manner that would be supportive of strengthened commercial vitality and enhanced livability. The resulting plan brought forward a 25-year vision for the Major Center Area. Primary long-term goals for the area include:

- Creation of a new Town Center for the area. Land uses within this area will emphasize residential, retail and mixed-uses. It will be the pedestrian friendly commercial core for the community.
- Implementation of a new grid street system in the Town Center that incorporates and builds upon the existing street network.
- Integration of all transportation modes, including walking, bicycling and transit. A future light rail transit line is anticipated to pass through the new Town Center.
- Incorporation of a parks, open spaces and greenways network within the Major Center Area. This will build upon and extend the community's rich natural character into the Town Center.

- Development of a wayfinding system for the Major Center Area, as many visitors to the area easily lose their orientation due to the curvilinear nature of the roadway system. The wayfinding system will help people efficiently navigate to their desired destinations within the Major Center Area as well as provide clear routes back out to the adjacent freeways and highways.

### Town Center Design Guidelines

In 2007, the City continued to advance the vision for a Town Center within the Major Center Area through the development of the Town Center Design Guidelines. These guidelines further clarify the desired land uses, urban design character and transportation system for this area. Specific planning guidelines for the Town Center include:

- Establish a walkable, pedestrian-oriented, mixed-use center.
- Create a vibrant public realm that fosters daily living activities within walking distances of homes and businesses.
- Promote high quality design and materials in the built environment.
- Accommodate vehicles while respecting pedestrians, bicyclists and the spatial form of public spaces.
- Encourage multiple transportation modes and greater connectivity to major destinations within the Town Center.
- Provide adequate, convenient and well-designed public parking facilities.
- Provide a well designed lighting system for streets, sidewalks and public spaces.
- Integrate ecological systems into public and private development.

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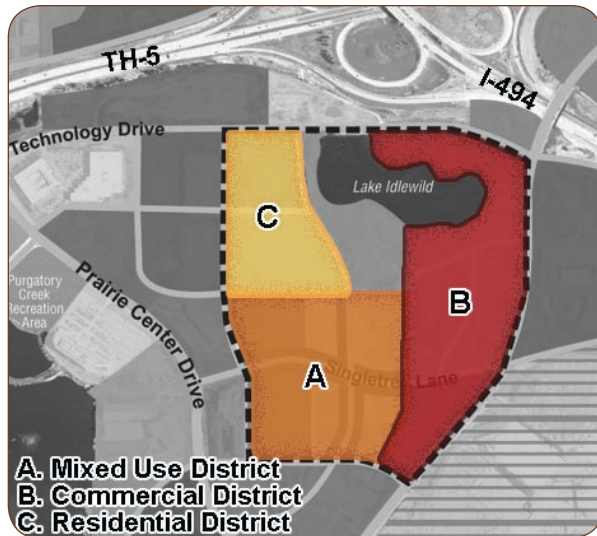


Figure 4: Town Center - Primary Land Uses

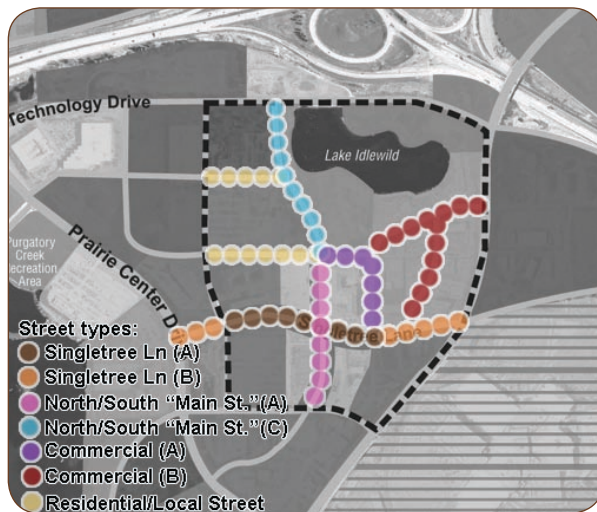


Figure 5: Town Center - Street Types

The Town Center Design Guidelines propose three primary land uses within the Town Center (mixed-use, commercial and residential), along with associated streetscape types that will provide district identity and provide a framework that supports and facilitates desired private investments (See Figures 4 and 5).

#### *Major Center Area Streetscape Master Plan*

With a clear vision and goals for the Town Center and overall Major Center Area, the City is taking the next step to bring this vision to reality. With several redevelopment projects getting underway within the Major Center Area, there is a need to advance select segments of the streetscape plan to meet projected transportation needs and support redevelopment activity.





## MAJOR CENTER AREA STREETScape MASTER PLAN

## Primary Focus Areas

The Streetscape Master Plan focuses on the following three primary and representative streets within the Major Center Area due to their importance in setting the desired tone and character for the area and the need to support future private development within the area (see Figure 6).

### “Main Street” (within the mixed-use district)

This will be a new north-south oriented street at the heart of the Town Center, which is being called “Main Street” for the purpose of this study. This spine is envisioned to be an urban, vibrant, pedestrian-oriented, and high-amenity public space that will accommodate outdoor dining, shopping and gathering. The roadway will include provisions for two vehicle travel lanes, on-street parking and designated bike lanes. Overhead power transmission lines currently exist within the approximate Main Street corridor. While this study did not address the ultimate precise road alignment or treatment of the overhead power lines (i.e. bury lines underground, use of monopoles or lattice towers), several conceptual sections were developed to help visualize the possible alternatives (see Appendix A).

### Singletree Lane

This is an existing east-west street through the heart of the Town Center. The street will also be reconfigured into an urban and vibrant public space that will accommodate a range of outdoor activities such as shopping and gathering. Interim improvements to the east side will be made in association with the Town Center Phase One Redevelopment. Long-term plans include realignment of the east side to connect with 78<sup>th</sup> Street on the east side of Flying Cloud Drive. The

roadway cross section will include designated bike lanes and two vehicle travel lanes. This roadway will carry higher traffic volumes than Main Street through the incorporation of center median islands and dedicated left turn lanes at major intersections. See Appendix B for initial roadway cross section studies that were developed early in the design process to evaluate various roadway dimensions and associated ROW widths.

### Loop Road

#### (Prairie Center Drive/Valley View Road)

The “Loop Road” created by Prairie Center Drive and Valley View Road is the primary circulation route through the Major Center Area. This roadway will continue to accommodate higher traffic volumes, yet will still provide a pleasant and comfortable pedestrian environment consisting of a continuous sidewalk along one side of the road and a continuous off-street bike path on the other side of the street. Both the sidewalks and paths will be buffered by boulevards lined with street trees.



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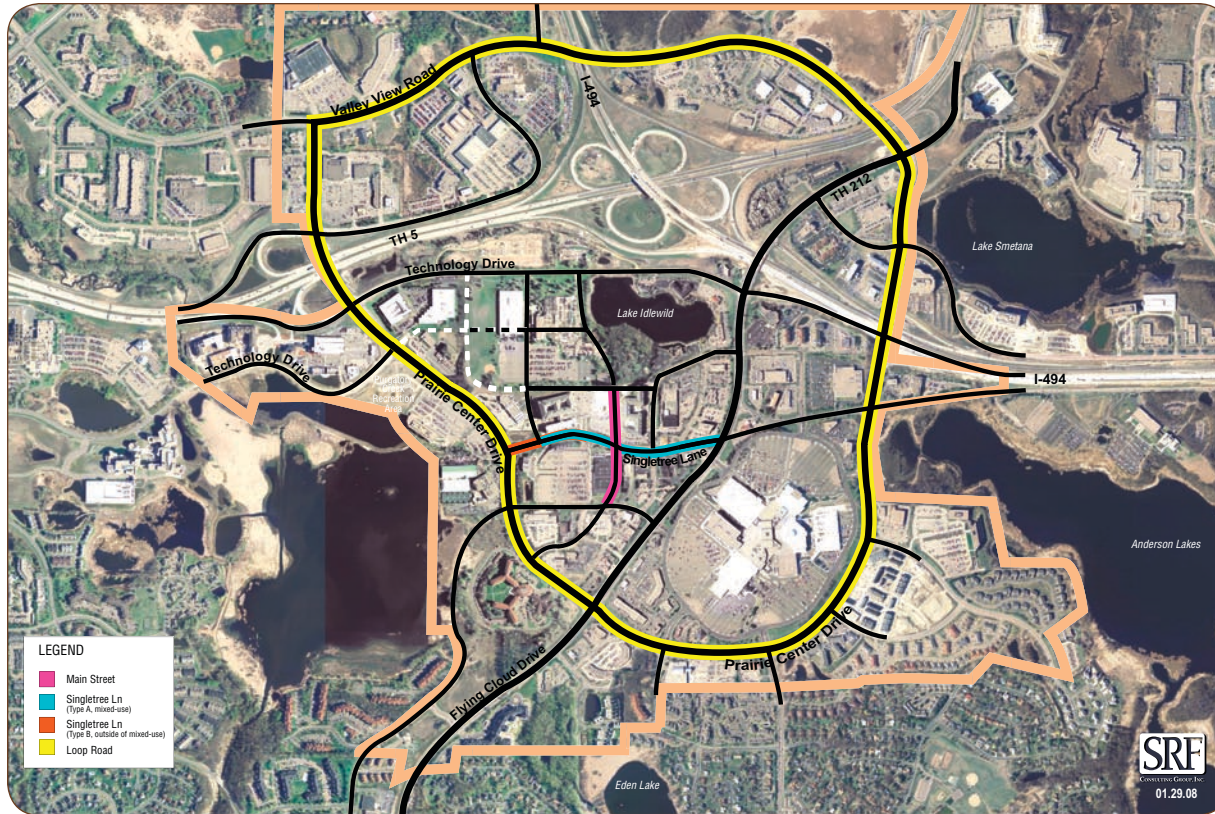


Figure 6: Primary Streetscape Focus Areas

## Design Principles

The Major Center Area Streetscape Master Plan was developed to be responsive to the planning principles brought forward in the Major Center Area Study, the Town Center Design Guidelines and the following design principles:

- Employ a unifying theme to create a distinct identity for the Major Center Area.
- Vary the streetscape treatment and intensity depending on street type and adjacent land uses.
- Incorporate streetscape amenity treatments proportionally to anticipated levels of pedestrian activity.
- Provide adequate space and street furniture to safely and comfortably accommodate pedestrian movement and gathering.
- Emphasize vertical elements for visual impact, district identity, orientation and sense of enclosure.
- Use streetscape elements that are low maintenance; resistant to vandalism and snow shoveling. Use drought and salt tolerant plants.





## Design Influences and Design Theme

The City of Eden Prairie owes its name to Elizabeth Fries Ellet, an East Coast writer who visited the area and proclaimed it to be the garden spot of the territory. Throughout its development, residents have placed a high value on the City's natural resources by protecting them and preserving them for the enjoyment of current and future residents. Today, the City's rich prairie heritage and existing natural resources provide community identity and a strong source of community pride. The City's current logo is reflective of the high value the community places on quality, nature-inspired, environments where they can live, work and play.

This nod towards nature and the prairie style is already manifested in several locations within the Major Center Area. The Eden Prairie Mall was recently remodeled using a prairie style design theme. The recent development of the Purgatory Creek Park emphasizes natural materials and connections to the native landscape of the community.

The streetscape master plan continues to build upon the prairie theme already expressed within the Major Center Area and broader community. Prairie style design is a unique design vocabulary that originated in, and is reflective of, the Midwest landscape. (Figure 7)

The Prairie Style is characterized by repetition of the horizontal line of land and sky, which is the strongest feature of the prairie scenery (Wilhelm Miller, 1915). Design elements that are characteristic of the prairie style include:

- Repetition of horizontal lines
- Use of natural colors
- Use of native, local materials
- Restraint of ornamentation
- Rectilinear geometry
- Stylized organic forms
- Solid construction and craftsmanship

The prairie style is inherently reflective of the community's historic and current natural landscape and setting. Prairie style elements are timeless because they manifest the natural landscape of Eden Prairie.



Eden Prairie Center Gateway Signage



Purgatory Park Entrance and Signage



Purgatory Park Furnishings



Light Base - Natural Texture and Coloration



Planters - Prairie Style Theme

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View of the native Prairie Bluffs in autumn above the Minnesota River Valley in Eden Prairie.

*"I called this manner of doing things the "prairie style"... defining it as an American mode of design... and characterized by repetition of the horizontal line of land or sky, which is the strongest feature of the prairie scenery."*

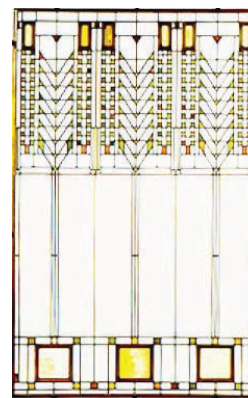
- Wilhelm Miller, 1915  
Prairie Style landscape architect and writer

*"Prairie style form and geometry were thought to evoke and relate to the prairie landscape..."*

*The prairie style is marked by horizontal lines, solid construction, craftsmanship, and restraint in the use of ornament."*



The linear characteristics of the architecture relates to the natural landscape. F.B. Henderson House, designed by Frank Lloyd Wright.



Window from a Prairie Style House. Stylized geometric form and naturalistic colors.

#### **The Prairie Style:**

*Repetition of Horizontal Line  
Use of Natural Colors  
Celebrate "Land" and "Sky"  
Native, Local Materials  
Restraint of Ornamentation  
An Indigenous, Timeless,  
American Style  
Emphasis of Prairie Features  
Rectilinear Geometry  
Stylized Organic Forms*

Figure 7: Prairie Style Design Vocabulary





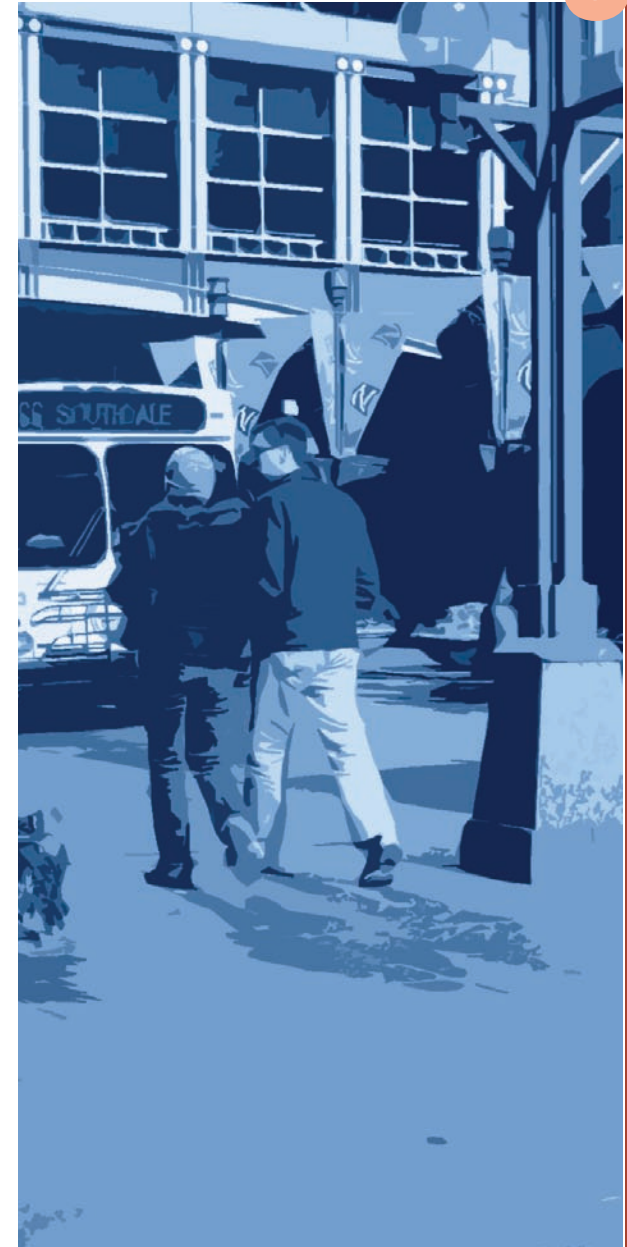
## Streetscape Hierarchy and Organization

Each of the streets within the Streetscape Master Plan is designed to accommodate various levels of pedestrian, bicycle and automobile traffic. The space allocations correspondingly relate to the relative balance of these users, but they all will mutually reinforce the design theme for the Town Center. Streets that are highly geared for pedestrian comfort and ambiance should have spacious sidewalks, slower speed roads, shade trees, benches and other elements that will encourage people to gather, linger and enjoy the environment. Streets that are geared towards the efficient movement of vehicles will require wider streets and have fewer nodes for pedestrian gatherings. Through the careful and thoughtful use of color, form, scale and materials, the various streets can all communicate their intended purpose within the system while also communicating that they are part of a larger whole.

The organization and relationship of elements within a street environment must encourage and facilitate the community's desired use for these areas. The layout of elements such as benches, outdoor dining, information kiosks and street trees provide users clues regarding expected activities within the space and must create an environment that is comfortable to inhabit. For example, some streets are designed to look nice as you drive, bike or walk through, but they are not comfortable spaces to inhabit for any length of time. Likewise, some streets have all of the necessary amenities to facilitate gathering and lingering, but the environment is loud, bright, or uncomfortable in some manner, and therefore, people will not use them. The organization of a street also extends below the pavement surface. Many utility services that allow cities to run smoothly are located within the

street right of way (ROW). Streetscape designs must accommodate and respond to various underground utilities. Figure 8 provides a depiction of typical utilities and their placement within the street ROW.

Finally, the streetscape character is highly dependent on the materials and forms of the streetscape elements, which must work together to create a pleasant and cohesive environment.



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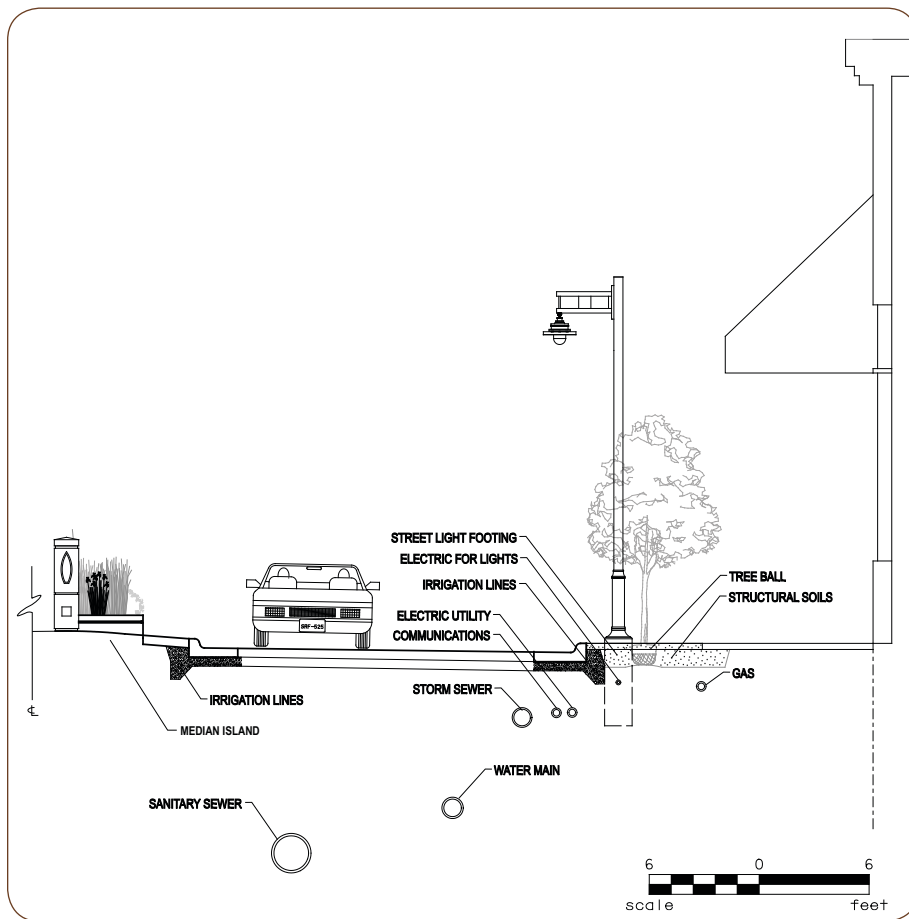


Figure 8: Typical Utility Placement within the Street Right-of-Way

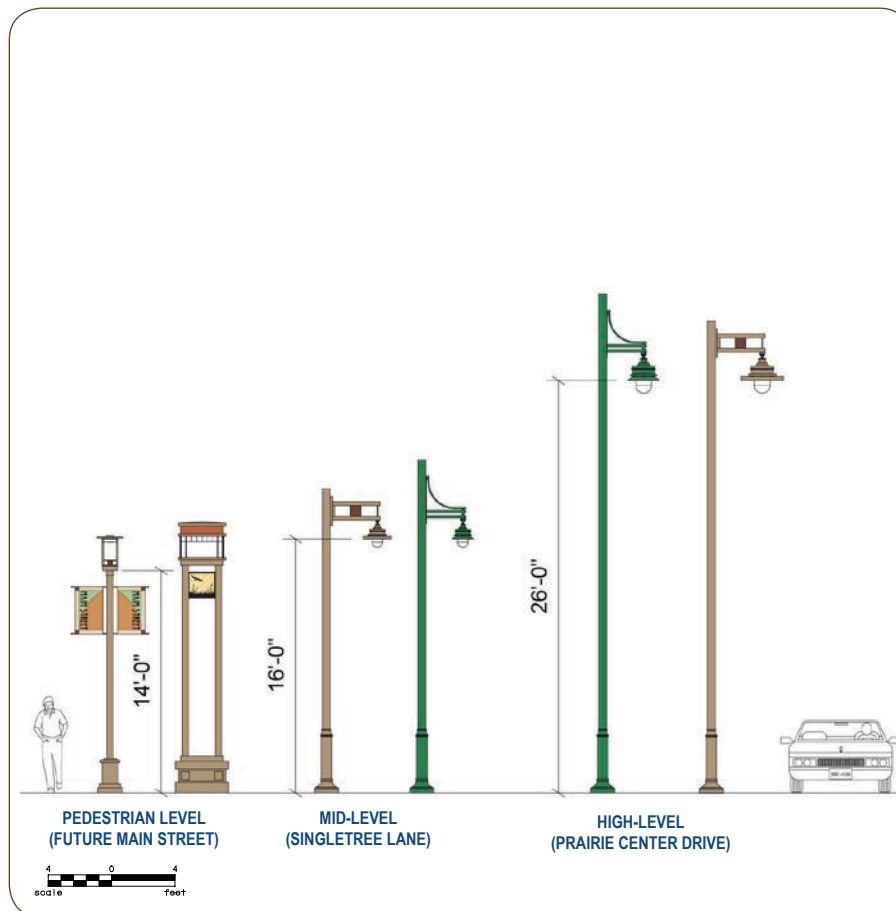


Figure 9: Street Light Concepts



## Palette of Materials

This section provides detailed information regarding proposed streetscape elements within the Major Center Area.

### Street Lights

Proposed street lights will provide appropriate lighting levels for both the pedestrian environment and the roadway. Each of the streets in this Master Plan has a slightly different street light, either through style or through pole and fixture sizing. The Master Plan presents two lighting options for each street. The lights vary in the extent of customization and associated cost (see Figures 9 and 14). While all of the lights are not identical, they work together to create a unified district through common forms and colors. All of the lights can be fitted with banners, if desired, to provide seasonal interest or to play a role in a larger wayfinding system.

The recommended lights use either high pressure sodium or metal halide light sources. LED lights were considered during the master planning process. At the time of this writing, LED lights are not readily available as an aesthetic downcast fixture, but should be considered in the future. In order to conserve energy, the city may want to consider cycling off some of the lights in the middle part of the night.

Appendix C provides additional lighting recommendations, such as lighting levels and spacing. A preliminary photometric analysis for each street can also be found in Appendix C.

### Monuments and Information Kiosks

These are primary district identity givers. The color, form and materials used in the monuments and information kiosks are reflected in other

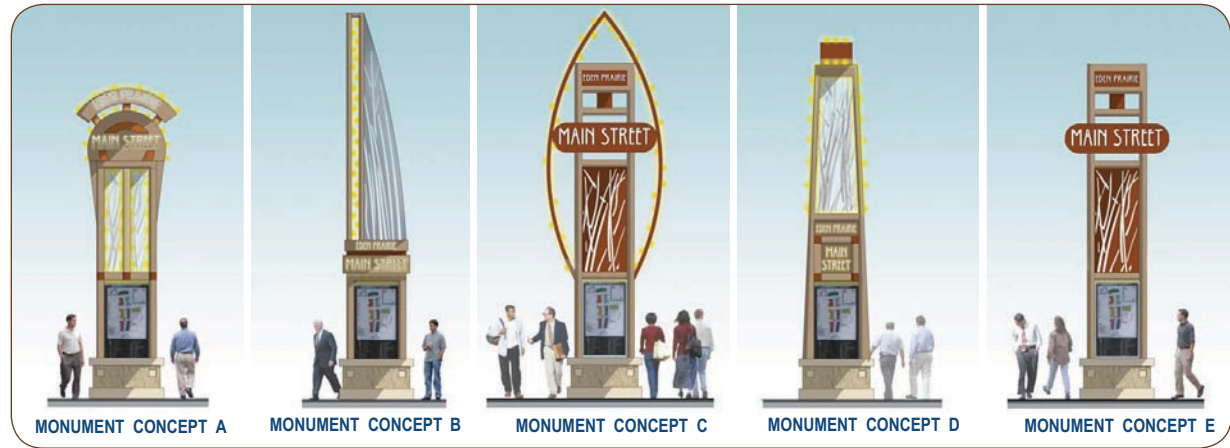


Figure 10: Monument Concepts

streetscape elements such as the street furniture, fencing and bollards. The proposed monuments are tall, vertical elements that provide two important functions:

- They are critical wayfinding elements that help users with orientation and navigation. The design of the monuments can vary depending on their location within the Major Center Area to help individuals with orientation. Several variations of the monuments can be found in Figure 10.
- They create a unique district identity that reveals the underlying character of the broader community.

The monuments and information kiosks will function as a family of elements of various scales that convey a consistent prairie style, but also provide variations on the design theme to aid with orientation and visual interest (see Figure 11). The Monuments will function as visual orientation devices for vehicle drivers, bicyclists and pedestrians. They can also be fitted with mapping that can be used by pedestrians

to gain information regarding the locations of retail establishments. Along Main Street, pedestrian-scaled kiosks are necessary, to assist pedestrians in finding their desired destination.

### Street Furniture

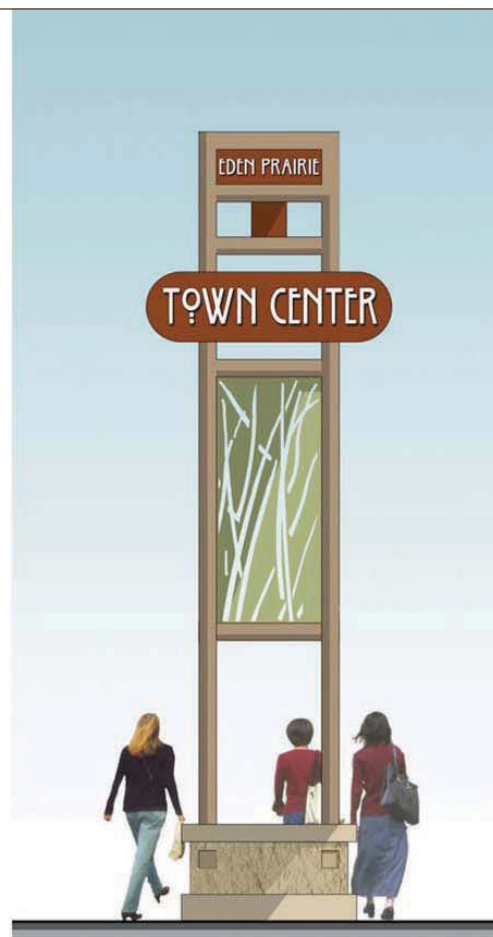
Street furniture plays a strong role in creating a unique district. The street furniture form and color will blend with the street lights and create a family of elements that reinforce the prairie style theme. Street furniture includes such elements as benches, trash receptacles, and bicycle racks. The furniture is proposed to be a dark red color. Two design options are presented for the bench and trash receptacle (see Figure 12). The “Chase Park” option uses rectilinear geometric forms that are reflective of the Prairie Style. The “Lakeside” option uses a stylized organic form in the benches and trash receptacles. The “Lakeside” option also provides the flexibility to modify the bench and trash receptacle in a manner that will make them specific to the Town Center. Several examples of how the bench can be modified are shown in Figure 12.

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#### KIOSK AND WAY-FINDING MONUMENT COMBINATION

- Located on 2 neckdown corners at intersection of Main Street and Singletree Lane
- Incorporates prairie style form
- Lighting illuminates signage at night
- Grass cutout design matches bench design
- Precast concrete base is tan/buff color to match other site elements



#### WAY-FINDING MONUMENT ONLY

- Located at significant way-finding points on Loop Road and Singletree Lane



#### INFORMATIONAL KIOSK ONLY

- Located in pedestrian areas on Main Street and in other places of Town Center Area
- May include maps, retail store locations, and directory of services

Figure 11: Monument and Kiosk Variations

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## Bollards

The proposed bollards are vertical elements that reinforce the prairie style design theme. The bollards help define pedestrian areas to enhance safety and to provide visual cues to motorists regarding areas where vehicles are not allowed. The bollards will be constructed from precast concrete in buff or light color earth tones and include a stylized design motif that reinforce the design theme reflected in the street furniture and monuments (see Figure 13).

## Screen Fencing

Fencing screens potentially objectionable views from the street environment. Also, the installation of fencing between the street sidewalk and larger expanses of surfacing paving provides a sense of enclosure for the street environment, which increases pedestrian comfort and street aesthetics. The fence incorporates custom designed precast concrete end-posts and mid-posts (see Figure 13). These elements will incorporate the prairie style motifs that are used within other streetscape elements to help unify the Town Center and create a distinct environment. The fence panels will be custom designed to incorporate repetitive geometric forms and colored insets that relate to the fence posts and bollards (see Figure 13).

## Sidewalk Pavement

Several different pavements are proposed within the Town Center area with each pavement using a common rectilinear pattern to unify the district. High amenity areas are proposed to use higher quality materials such as colored concrete pavers, which transition to custom-scored concrete or standard concrete sidewalks for areas of successively less pedestrian activity and for areas outside of the Town Center (see Figure 14). The concrete pavers will use a color palette consisting of earth tones.

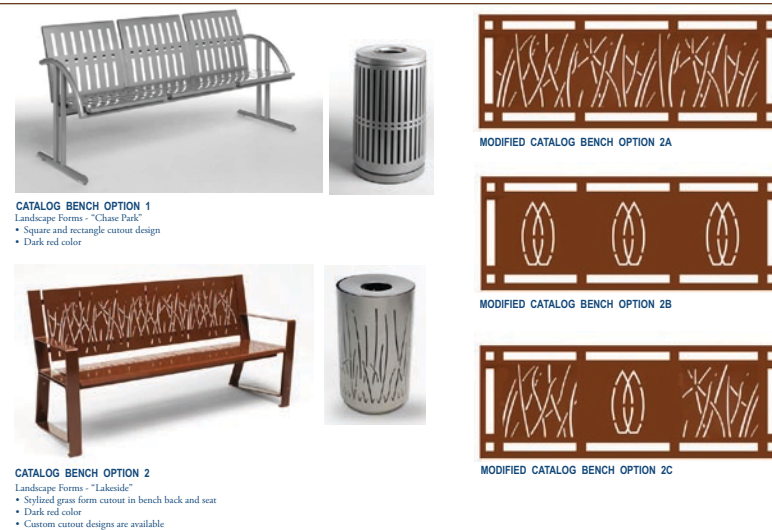


Figure 12: Street Furniture Options

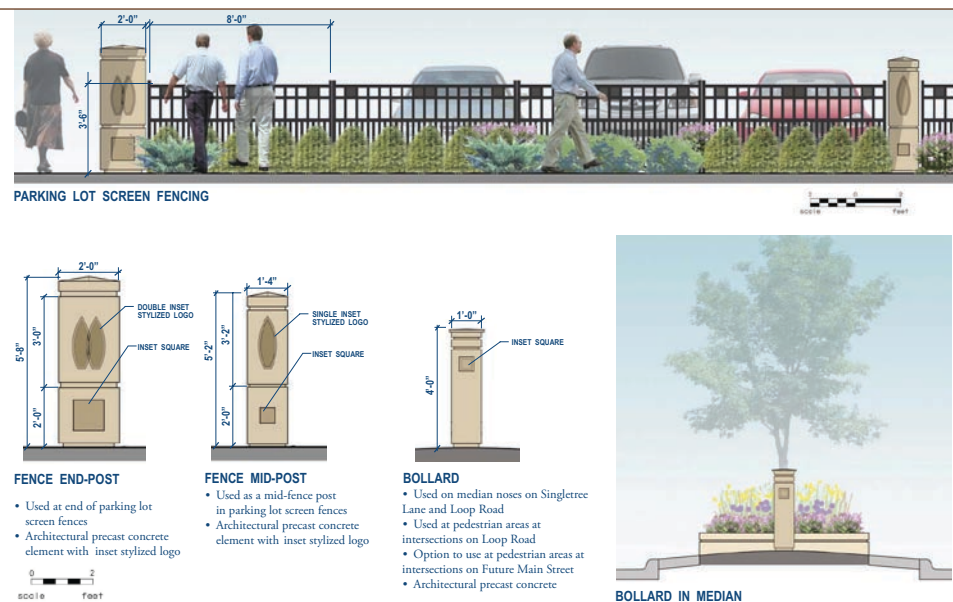


Figure 13: Fencing and Bollard Concept

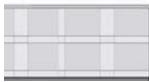





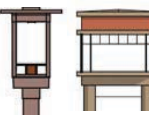






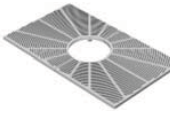
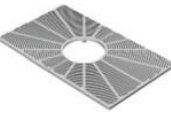











DESIGN ELEMENT	LOOP ROAD (PRAIRIE CENTER DR./VALLEY VIEW RD.)	SINGLETREE LANE (OUTSIDE MIXED-USE DISTRICT)	SINGLETREE LANE (MIXED-USE DISTRICT)	FUTURE MAIN STREET
<b>SIDEWALK PAVEMENT</b>	Concrete walk and Asphalt multi-use trail (existing)	 Concrete with enhanced scoring	 Concrete with enhanced scoring	
<b>LIGHTING APPROACH</b>	 Mid-level: modified fixture (left) or modified fixture & pole (right)	 Mid-level: modified fixture (left) or modified fixture & pole (right)	 Mid-level: modified fixture (left) or modified fixture & pole (right)	 Pedestrian-level: modified catalog (left) or custom fixture (right)
<b>BENCH, TRASH RECEPTACLE, BIKE RACK</b>	As Needed	As Needed	 Note: All dark red color	 Note: All dark red color
<b>BOLLARD</b>	 Placement at intersection corners and on paved median noses	 Placement on paved median noses	 Placement on paved median noses	 Placement at intersection corner neckdowns
<b>TREE GRATE</b>	N/A	N/A	 Neenah Foundry #R-8811, 48"x72" Main Street trees 25'-30' on center	 Neenah Foundry #R-8811, 48"x72" Main Street trees 25'-30' on center
<b>PLANTERS</b>	 8"-12" precast conc. planter curb on median noses	 8"-12" precast conc. planter curb on median noses	 8"-12" precast conc. planter curb on median noses	 Wausau Tile #SL4036, 4' dia., Tan/Buf Color Main Street walks or 8"-12" precast concrete planter curb
<b>KIOSK/MONUMENTATION</b>	 Monument Only	 Monument Only	 Monument Only	 Monument/Kiosk combination and Kiosk
<b>SCREENING</b>	 Screen with tree and shrub massings in buffer between street and parking	 Fence & shrub massings screen parking lots that front on Singletree Lane	 Fence & shrub massings screen parking lots that front on Singletree Lane	N/A Assumes that no parking lots front on Main Street
<b>MEDIAN TREATMENT</b>	Range of treatments include: - Grass boulevard with trees in center - Concrete paved median noses with precast planter curb containing ornamental grasses and flowers	Median width enlarged and planted with grass and trees. Concrete paved median noses with precast planter curb and ornamental grasses and flowers	Median width enlarged and planted with grass and trees. Concrete paved median noses with precast planter curb and ornamental grasses and flowers	N/A

Figure 14: Streetscape Element Matrix



## Tree Grates

These elements will blend with and reinforce the paving pattern and design theme. The grates can be either a catalog item that uses a repetitive geometric pattern that complements the sidewalk pattern (Neenah Foundry #R-8811, size: four feet by six feet) or the grates can be custom designed to include design motifs that are incorporated elsewhere within the streetscape elements (see Figure 14).

## Planters

Two different planter types are proposed for the Town Center. One style uses circular vases (Wausau Tile #SL4036) for perennial planting that are reflective of the prairie style theme. The second planter style will use low precast concrete planter curbs to bound larger planting beds. The planters will visually tie with the precast concrete fence posts and bollards through common use of earth tone colors and geometric forms (see Figure 14).

## Landscape Plantings

Plants have numerous roles to play in the streetscape. They soften the environment and enhancing user comfort. Various bloom cycles and changes of color reinforce the turning of the seasons. They also have environmental benefits such as intercepting rainfall, which reduces stormwater runoff; removing carbon dioxide and releasing oxygen into the air; and shading pavement, which reduces the heat island effect.

Plants within the streetscape need to be hardy, draught tolerant and salt tolerant to survive the harsh conditions of a streetscape environment. Native species or cultivars should be used as they best reflect the native plant materials, are supportive of the prairie style, and are best adapted to the weather conditions of the area. Even with

the selection of appropriate species, irrigation may be needed to maintain the health and vitality of the plants. Some possible plants that may be appropriate for the Town Center Area are shown in Figure 15.

Street trees will be planted in a structured soil medium. This engineered soil mixture will extend under the sidewalk pavement. Its structural and organic qualities allow it to be strong enough to provide a base material for the pavement while also providing air voids and organic material needed to support healthy plant growth.

## Median Islands

Vertical elements on median islands, such as street trees, shrubs, bollards and banner poles break larger roadways into smaller subareas. This will improve the visual quality of the street and provide a better sense of enclosure, which will encourage vehicles to drive at slower speeds. Median islands also provide a significant aesthetic component of the roadway by softening its appearance and providing seasonal color and interest through the incorporation of planters and/or banners.

DECIDUOUS TREES	
AF	<i>Acer freemanii</i> x 'Jeffersred' AUTUMN BLAZE MAPLE
BN	<i>Betula nigra</i> CLUMP RIVER BIRCH
CO	<i>Celtis occidentalis</i> HACKBERRY
GT	<i>Gleditsia tricanthos inermis</i> 'Skyline' SKYLINE HONEYLOCUST
QB	<i>Quercus bicolor</i> SWAMP WHITE OAK
TC	<i>Tilia cordata</i> LITTLE LEAF LINDEN

DECIDUOUS ORNAMENTAL TREES	
AG	<i>Acer ginnala</i> AMUR MAPLE
AL	<i>Amelanchier laevis</i> ALLEGHENY SERVICEBERRY
PT	<i>Populus tremuloides</i> CLUMP QUAKING ASPEN
SR	<i>Syringa reticulata</i> JAPANESE TREE LILAC

CONIFEROUS SHRUBS	
JM	<i>Juniperus chinensis</i> 'Monlep' MINT JULEP JUNIPER
JS	<i>Juniperus sabina</i> 'Arcadia' ARCADIA JUNIPER

DECIDUOUS SHRUBS	
AM	<i>Aronia melanocarpa</i> 'Morton' IROQUOIS CHOKEBERRY
CA	<i>Cornus alba</i> 'Bud's Yellow' BUD'S YELLOW DOGWOOD
CS	<i>Cornus sericea</i> 'Baileyi' RED-TWIGGED DOGWOOD
DL	<i>Diervilla lonicera</i> BUSH HONEYSUCKLE
HA	<i>Hydrangea arborescens</i> 'Annabelle' ANNABELLE HYDRANGEA
RA	<i>Rhus aromatica</i> 'Gro-Low' GRO-LOW SUMAC
RB	<i>Rhus typhina</i> 'Balitiger' CUT LEAF TIGER EYES SUMAC

PERENNIALS AND ORNAMENTAL GRASSES	
CK	<i>Calamagrostis x acutifolia</i> 'Karl Foerster' KARL FOERSTER GRASS
EP	<i>Eupatorium maculatum</i> 'Gateway' GATEWAY EUPATORIUM
HS	<i>Hemerocallis</i> 'Stella d' Oro' STELLA D' ORO DAYLILY
RH	<i>Rudbeckia hirta</i> BLACK-EYED SUSAN
SA	<i>Sedum</i> 'Autumn Joy' AUTUMN JOY SEDUM
SS	<i>Corylus americana</i> LITTLE BLUESTEM

Figure 15: Landscape Plantings



Figure 16: Main Street Concept A

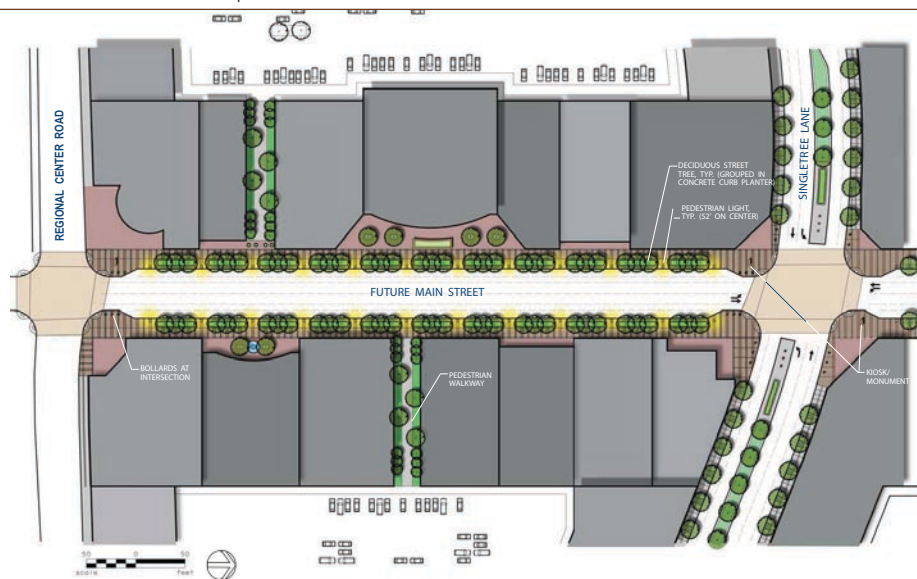


Figure 17: Main Street Concept B

## Specific Treatment for Individual Streets

The Town Center will utilize a family of streetscape elements that will convey the prairie style theme. Based on the intended street users, different elements are more appropriate for particular streets than others. Figure 14 depicts various streetscape elements proposed for the Town Center and their application to the three streets included in this Master Plan. Specific design information for each of the street types is presented below.

### Main Street

Two alternative Main Street concepts were developed, both of which facilitate comfortable and safe movement through the corridor for pedestrians, bicyclists and motorized vehicles. The streets are designed to encourage a lively and interactive street environment. Concept A (see Figure 16), uses a consistent repetition of street trees located in grated tree pits within the sidewalk. Concept B (see Figure 17), depicts grouping the street trees into larger planters that would be supplemented with shrubs and perennials. The 50-foot street cross section consists of two vehicle travel lanes, designated bicycle lanes and on-street parking along both sides of the street (see Figure 18). A 20-foot walk extends from the curb to the building facades. The roadway concept assumes a 90-foot ROW width. Figures 19, 20 and 21 depict the proposed streetscape elements for Main Street in both plan and perspective views. The elements that comprise the Main Street streetscape are described in more detail below.

### Street Lights

Pedestrian scaled lights are proposed for Main Street as this area will have the highest level of pedestrian activity. These high amenity lights are





a primary element within the street that defines its character. Two options have been brought forward for the pedestrian scaled light (see Figure 22). One option consists of a custom fixture and the other consists of a catalog fixture that has been slightly modified to achieve the desired aesthetic effect. Both options have dark bronze posts, emphasize horizontal lines and use repetitive geometric forms. The custom light has space to insert a motif or logo beneath the luminaire and the cap would incorporate a copper band. This light is wider than a typical street light as it utilizes a double post with a custom base. This heightens the visual presence of the street light for pedestrians and vehicles moving down the street. Preliminary studies indicate these street lights would be spaced at approximately 50-foot intervals using a soldier coursing.

#### Sidewalk Pavement

The sidewalks are proposed to be colored concrete pavers that extend from the back of curb to the building facades (approximately 20-foot width). The pavement design incorporates a rectilinear geometry and uses natural colors such as charcoal, garnet, and tan. Figure 23 depicts possible paving concepts for Main Street. The proposed pavement patterns should utilize no more than three colors. If desired, the furnishings zones of the sidewalk can be differentiated from the pedestrian thoroughway through the use of color.

#### Street Furniture

Main Street will be a high amenity, pedestrian friendly environment. The street will have designated furnishing and/or planting zones, with numerous locations for inhabiting the street through either outdoor dining areas, or bench seating areas. The bench orientation on the

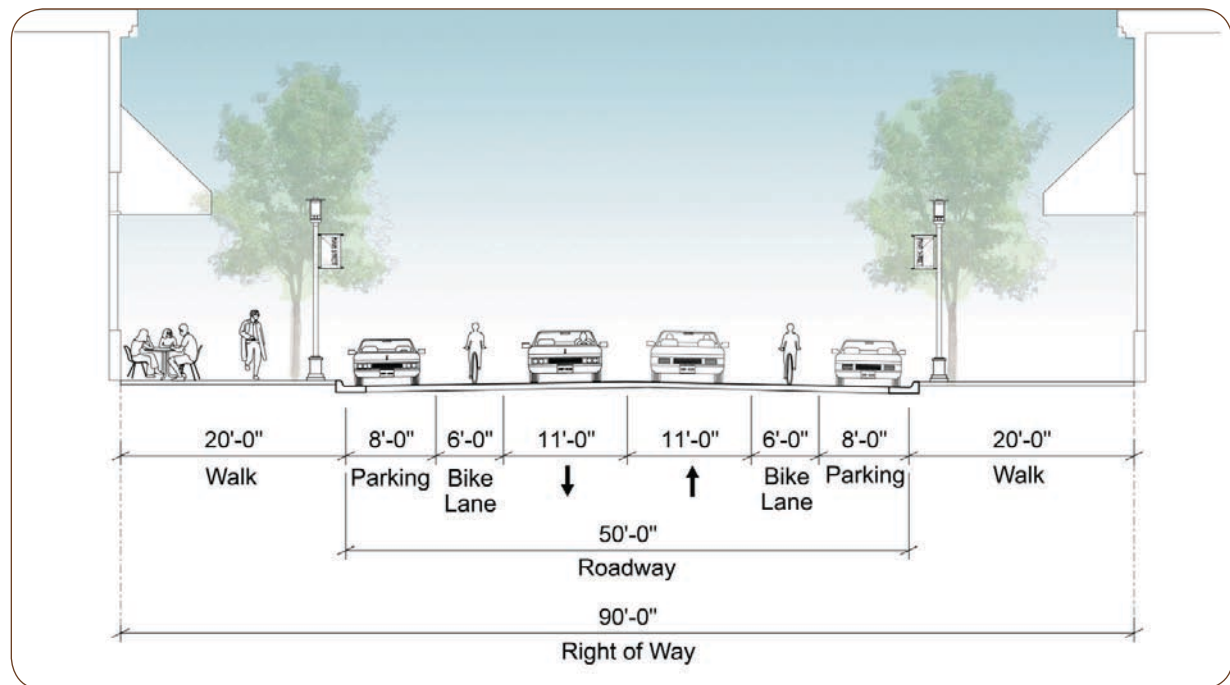


Figure 18: Main Street: Typical Cross Section

sidewalk will facilitate gathering and mingling. Trash receptacles will be available to assist pedestrians in appropriate litter disposal. Bike racks, consisting of a simple loop design, will complement the other street furniture and provide convenient parking for commercial customers or workers.

#### Bollards

Precast concrete bollards in light earth tones may be utilized along the intersection neckdowns to define the pedestrian zone and enhance the safety of this area.

#### Tree Grates

Tree grates are proposed for Main Street streetscape concepts that utilize individual street trees. The proposed grates (Neenah Foundry #R-8811, 4' x 6') support the prairie style design theme.

#### Planters

Two alternatives are shown for planters for Main Street. One concept uses a circular planter (Wausau Tile #SL4036). Used in a series, these planters once again convey a repetitive geometric pattern. The second planter concept for Main Street incorporates low precast concrete curb planters that contain street tree groupings, along with shrubs and/or perennials.

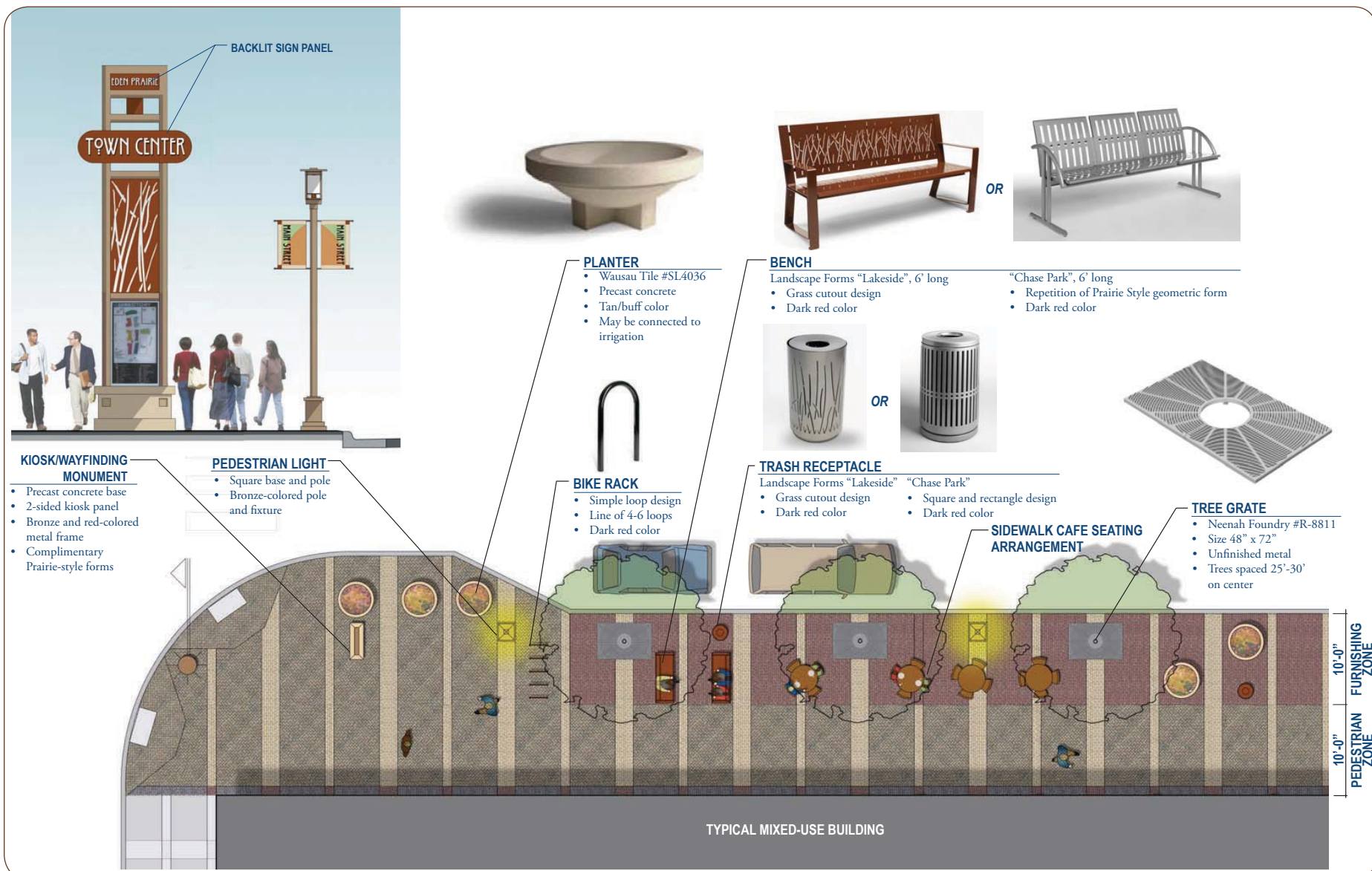


Figure 19: Main Street - Proposed Streetscape Elements

City of Eden Prairie







Figure 20: Main Street Oblique View



### Landscape Plantings

The streetscape will include street trees, along with perennial plants and possibly shrubs, depending on the planter used. The plants will provide seasonal color and interest and will soften the streetscape environment as well as provide environmental benefits. Main Street is intended to use a large quantity of plant materials to increase streetscape amenity. Many of the street trees will likely utilize structural soils under the paved sidewalk to enhance tree health and vitality.

### Monuments and Information Kiosks

Monuments and information kiosks will be key elements along Main Street. It is anticipated that both combined monument/kiosks and independent kiosks will be used along the street. These will be located strategically to aid in wayfinding and orientation.

### Crosswalks

Crosswalks should be designed to highlight the presence of pedestrians within the roadway. The color of the crosswalk should contrast to the paving color to help differentiate the pedestrian crossing area. There are several different approaches that can be used for designation of crosswalks. They can be painted, thermally applied or be constructed using colored concrete pavers. The design of the crosswalk provides an opportunity to further enhance the aesthetics of the corridor while serving a safety function. Alternatively, the crosswalks could be integrated into an intersection that is constructed from concrete pavers (see Figures 20 and 21).



Figure 21: Main Street - Perspective View





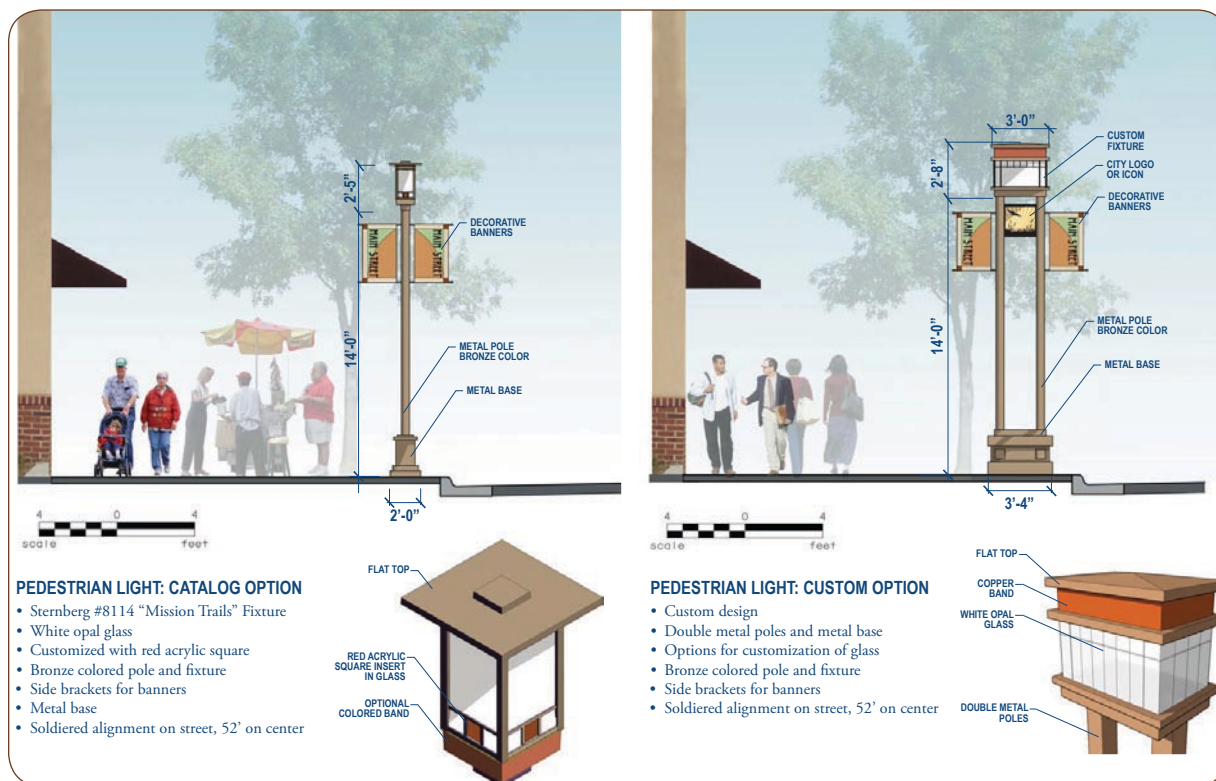


Figure 22: Main Street Pedestrian Light Options



Figure 23: Main Street Sidewalk Pavement Options

### Singletree Lane

Singletree Lane is anticipated to accommodate high levels of pedestrian activity, but not to the same extent as Main Street. Singletree Lane is also intended to serve higher vehicle traffic volumes than Main Street. Yet, the street design will still encourage a lively, interactive, safe and comfortable street environment for pedestrians and bicyclists.

The character of Singletree Lane may vary slightly depending on the adjacent land uses. Mixed-use and commercial properties are planned for the eastern two-thirds of the street within the Town Center district. This segment of the streetscape will accommodate

high pedestrian activity. The western third of the street will be outside of the Town Center district with an associated reduction in pedestrian activity. The design of Singletree Lane will provide a cohesive look, but will include variations that respond to the varying pedestrian activity. An interim design is also proposed for the north side of Singletree Lane east of Eden Road, since it is anticipated that the roadway will eventually be realigned to the north to connect with 78th Street.

The roadway concept assumes a 100-foot street ROW width. The street cross section consists of two vehicle travel lanes and designated bicycle lanes. In the Town Center district a 16.5-foot walk extends from the back of curb to the building facades (see Figure 24). Outside of the Town Center district and as an interim design for the north side of Singletree east of Eden Road, eight foot sidewalks will be setback from the curb by a 7.5-foot turf boulevard (see Figure 25). A landscaped median island along the roadway will reduce the visual scale of the roadway by breaking down the roadway into smaller sub-areas. It will also soften the road appearance and assist with safe pedestrian crossings of the street. The use of median islands will prohibit vehicles from making left turns out driveways onto Singletree Lane. Figure 26 depicts the proposed streetscape elements for Singletree Lane that are described in more detail below.

### Street Lights

Mid-level lights with light fixture heights of approximately 16-feet are proposed for Singletree Lane. Two options have been brought forward for the mid-level light (see Figure 27). The first option is a modified catalog fixture that works with the prairie style design theme. The other modifies both the light fixture and pole to further strengthen and reinforce the prairie style horizontal form, rectilinear geometry and colors. Twinkle lights are

proposed for the median island street trees. This added touch will increase the aesthetic appeal of this street, especially during winter evenings.

### Sidewalk Pavement

The proposed sidewalk utilizes the geometric patterns established for Main Street, but replicates their form through an enhanced scoring pattern in the concrete sidewalks. The panels created with the scoring pattern will receive two different finishes to further emphasize the geometric patterns and to create visual interest. Within the Town Center district, the sidewalks will extend from the back of curb to the building facades/ROW line (approximately 16.5 foot width). Outside of the Town Center district and as an interim design for the north side of Singletree east of Eden Road, eight foot sidewalks will be setback from the curb by a 7.5-foot turf boulevard.

### Street Furniture

A higher level of pedestrian activity is anticipated along the Town Center section of this street. Therefore, it will incorporate the same benches, trash receptacles and bike racks that are used on Main Street, but at a reduced frequency. The placement and orientation of the street furniture along Singletree Lane may vary based upon adjacent land uses and anticipated users of the walk (pedestrians with the possibility of bicycles for small segments).

### Bollards

Three bollards are proposed on the nose of each median island and on the sidewalk at the intersection of Flying Cloud Drive. These vertical elements provide human scale to the environment and also assist drivers as they make turning movements.

### Tree Grates

Street trees will be located in the sidewalk within the Town Center district. The grates are the same as those used for Main Street (Neenah Foundry #R-8811, 4' x 6').

### Screen Fencing

It is a possibility that surface parking lots may be constructed in close proximity to Singletree Lane. If this is the case, the parking lot edges will be screened through the use of ornamental screen fencing, supplemented with low shrubs, which will reinforce the Prairie Style design theme.

### Planters

Planters along Singletree Lane will be found on the nose of each median island, behind the bollards. The planters will incorporate low precast concrete planter curbs that contain perennial and shrub plantings. It is anticipated that irrigation will be necessary to maintain plant health and vitality on the median islands.

### Landscape Plantings

The streetscape will include street trees in the median islands and along the sidewalk. Hardy perennial plants, and possibly shrubs, will be placed in the median island planters. Similar to Main Street, the plants will provide environmental benefits, seasonal color and interest and will soften the streetscape environment. The street trees will likely utilize structural soils under the paved sidewalk to enhance tree health and vitality.

### Monuments

As with Main Street, monuments will be key elements along Singletree Lane. They will be located strategically to enhance the aesthetic character of the Major Center Area and to aid in wayfinding and orientation.

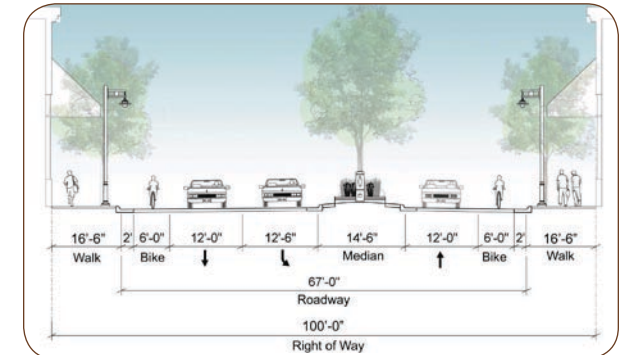


Figure 24: Singletree Lane within Town Center District

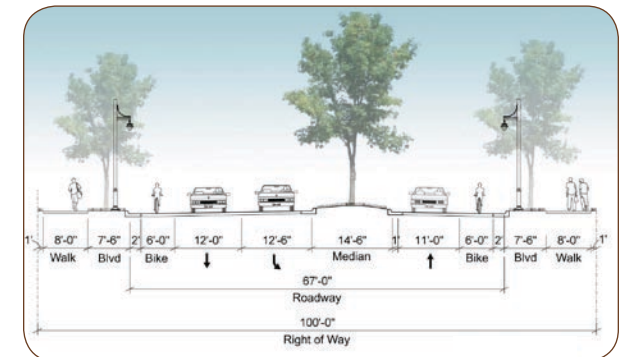


Figure 25: Singletree Lane Outside of Town Center District

### Median Islands

Median islands will be predominantly covered with turf and incorporate street trees. The median islands will narrow and be covered with hard surfacing between Eden Road and Flying Cloud Drive. The wider median islands will have paved noses that incorporate bollards and raised planters. These enhanced median noses will increase the amenity of the roadway corridor and provide aesthetic continuity within the Town Center area.



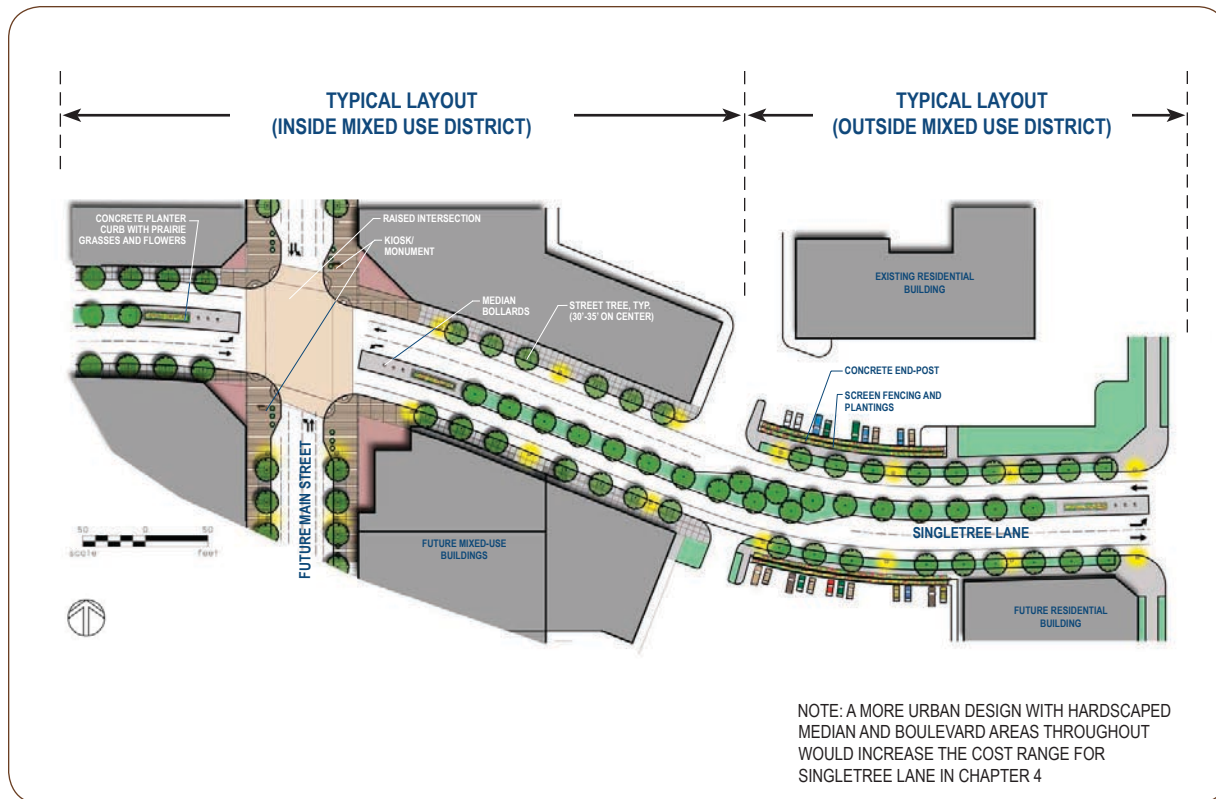


Figure 26: Singletree Lane Streetscape Concept

### Crosswalks

Crosswalks should be designed to highlight the presence of pedestrian crossing activity. The color of the crosswalk should contrast to the paving color to help differentiate the pedestrian crossing area. There are several different approaches that can be used for designation of crosswalks. They can be painted, thermally applied or be constructed using colored concrete pavers. The design of the crosswalk provides an opportunity to further enhance the aesthetics of the corridor while serving a safety function.

### Loop Road (Prairie Center Drive/Valley View Road)

The Loop Road is intended to serve higher vehicle traffic volumes. Yet, the street environment will still provide accommodations for the safe and comfortable movement of pedestrians and bicyclists.

The roadway concept assumes that streetscape improvements will be implemented without a full-scale reconstruction of the street. The 120-foot street right of way includes four vehicle travel lanes, an eight-foot designated bicycle trail adjacent to the roadway and a

five-foot concrete sidewalk (see Figure 28). Both the trail and walk will be separated from the roadway by a landscaped boulevard. The existing landscape median island will be enhanced to reduce the visual scale of the roadway by breaking it down into smaller sub areas. It will also soften the road appearance and will help pedestrians safely cross the street. Figure 29 depicts the proposed streetscape elements for the Loop Road, which are described in more detail below:

### Street Lights

The high-level street light options for the Loop Road are the same as the lights proposed for Singletree Lane, with the exception that the light fixtures are at a height of 26 feet and have slightly larger luminaires (see Figure 27). The first option is a modified catalog fixture that works with the prairie style design theme. The other modifies both the light fixture and pole to further strengthen and reinforce the prairie style horizontal form, rectilinear geometry and colors.

### Sidewalk Pavement

Sidewalks are not proposed to be replaced for the Loop Road. The standard five-foot concrete sidewalks will remain.

### Street Furniture

Street furniture is proposed along the loop road at approximately half mile intervals to provide rest areas for pedestrians and to service transit routes. The street furniture will consist of benches and trash receptacles that match those used elsewhere in the Town Center.

### Bollards

Three bollards are proposed on the nose of each median island. These vertical elements provide human scale to the environment and also assist drivers as they navigate around the median islands.



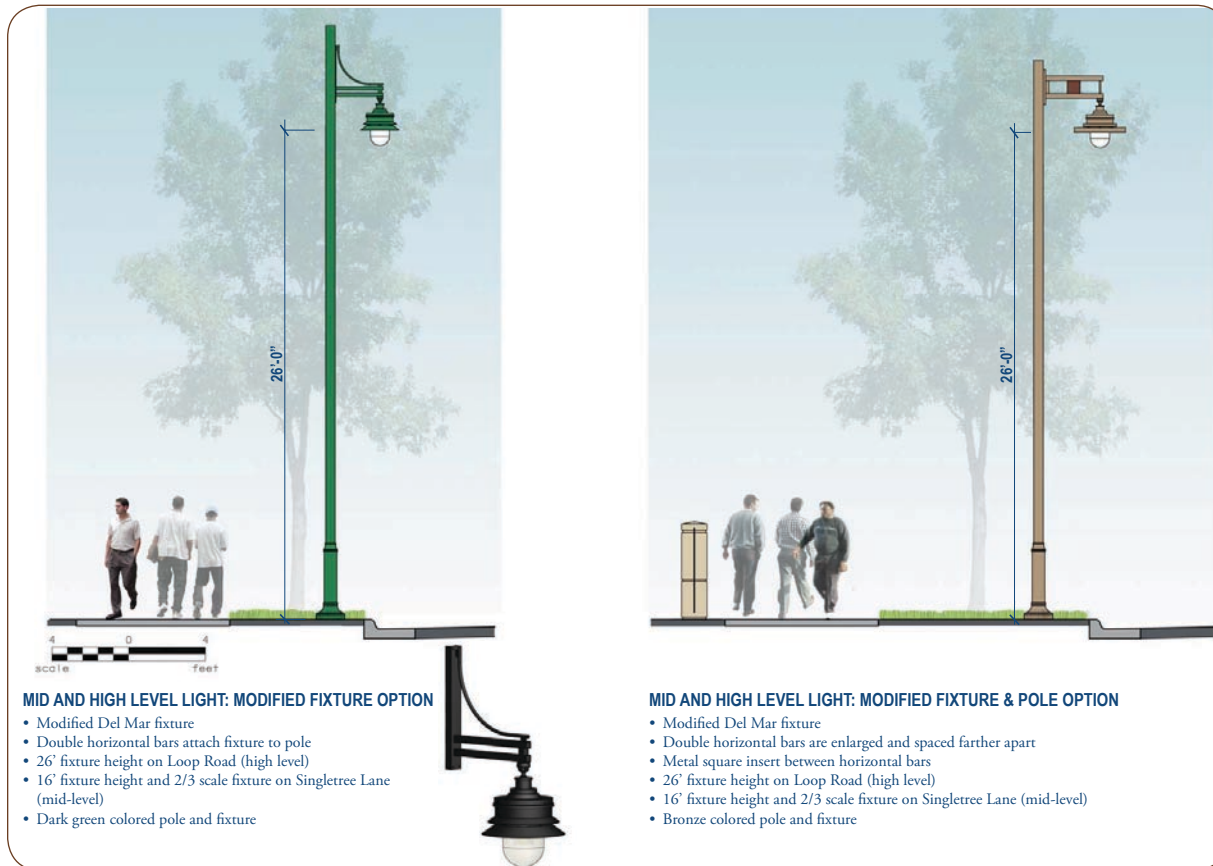


Figure 27: Singletree Lane and Loop Road Street Light Options

### Planters

Planters along the Loop Road will be found on the nose of each median island, behind the bollards. The planters will incorporate low precast concrete planter curbs that contain perennial and shrub plantings. It is anticipated that irrigation will be necessary to maintain plant health and vitality on the median islands.

### Landscape Plantings

The streetscape will include street trees in the median islands and within the boulevard. Hardy perennial plants, and possibly shrubs, will be placed in the median island planters. These plants will provide environmental benefits, seasonal color and interest and will soften the streetscape environment.

### Screening

Screening may take two different forms. For areas where surface parking lots may be constructed in close proximity to the Loop Road in the future, the parking lot edges will be screened through the use of ornamental screen fencing, supplemented with low shrubs, which reinforce the Prairie Style design theme. For areas where surfacing parking lots are setback from the road ROW, existing landscape screening may be adequate or can be enhanced through the planting of coniferous trees and shrubs (approximately 6 trees and 20 shrubs per 100 feet.) These screens will likely be installed within planting easements within private parcels.

### Monuments

As with Main Street and Singletree Lane, monuments will be key elements along the Loop Road. They will be located strategically to enhance the aesthetic character of the Major Center Area and to aid in wayfinding and orientation.

### Median Islands

Median islands will be predominantly covered with turf and incorporate street trees. The median island noses will be paved with a scored concrete

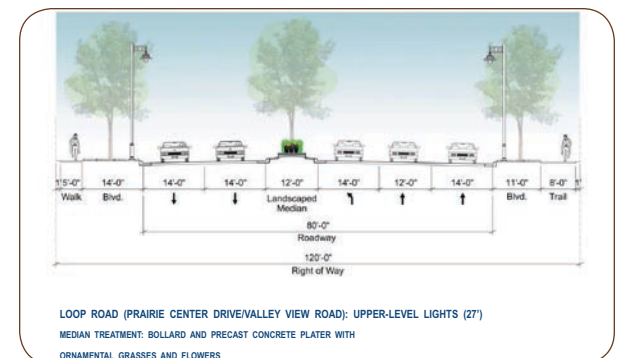


Figure 28: Loop Road Typical Cross Section (Prairie Center Drive/Valley View Road)



and will incorporate three bollards and raised planters. These enhanced median noses will increase the amenity of the roadway corridor and provide aesthetic continuity within the Major Center Area.

### Crosswalks

Painted crosswalks will be added to facilitate safe pedestrian crossings of the Loop Road.

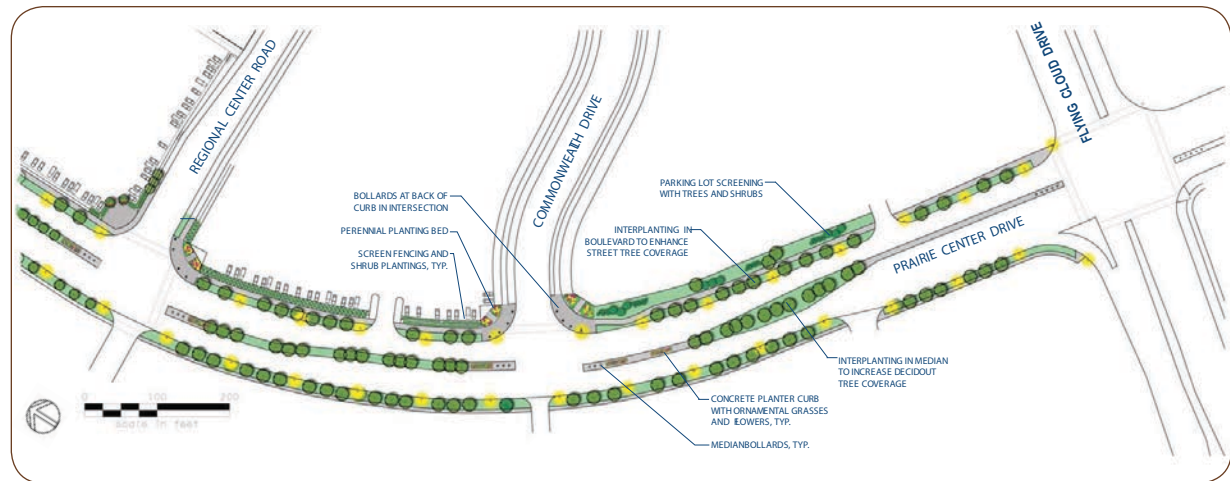


Figure 29: Loop Road Streetscape Concept (Prairie Center Drive/Valley View Road)

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## Costing

Estimated costs have been developed for each street and are preliminary in nature, as they are based upon the conceptual designs depicted within this report. The estimated costs do not include roadway construction costs where applicable. Rather, they include the estimated costs of streetscape elements located between the back of curb and typically either the building facade or the right-of-way line.

The costs are broken into two categories (base costs and upgrade options). Base costs include baseline streetscape elements needed for the creation of the desired streetscape aesthetic. The upgrade option costs include streetscape elements that further enhance the aesthetic appeal and character of the streetscape, but are not critical to achieve the desired theme. Typical elements included in the base costs include:

- Modified light fixtures (Singletree Lane and Loop Road)
- Modified catalog light fixtures (Main Street)
- Wayfinding monuments and kiosks
- Sidewalk Paving
- Street Furniture
- Bollards
- Street Trees
- Perennial Plantings

Elements included in the upgrade costs include:

- Modified light fixtures and poles or custom street lights
- Parking lot screening or planted buffers
- Enlarged planting areas for trees and perennial plants

Cost estimates were prepared for prototypical segments of each roadway. The cost per street was determined by extrapolating the segment cost to the entire street length. Estimated cost per lineal front footage were calculated for each prototypical segment. Contingencies and estimated design and construction inspection fees were included in the estimated costs. The cost estimates are based upon the assumption that construction will occur in 2008. For construction occurring after 2008, the estimated costs should be increased to reflect inflation and increases in construction material costs and labor. Estimated cost detail for each street can be found in Appendix D.



City of Eden Prairie

Estimated Major Center Area Streetscape costs are as follows:

	Base Cost	Upgrade Cost
Main Street	\$ 1,650,000	\$ 2,000,000
Singletree Lane – Within Town Center District	1,650,000	1,700,000
Singletree Lane – Outside Town Center District	350,000	500,000
Loop Road (Prairie Center Drive/Valley View Road)	5,600,000	8,800,000
<b>Total</b>	<b>\$ 9,250,000</b>	<b>\$ 13,000,000</b>

The estimated costs have also been broken down per lineal front footage (LFF). Consistent with the design approach proposed, LFF costs are highest for Main Street, as this is the desired high amenity destination. Likewise, LFF costs are least for the Loop Road, as the planned level of pedestrian amenities is not as extensive.

Lineal front footage estimated costs for each street are as follows:

	Base Cost (per LFF)	Base Costs + Upgrade Options (per LFF)
Main Street	\$ 700	\$ 850
Singletree Lane – Within Town Center District	\$ 500	\$ 550
Singletree Lane – Outside Town Center District	\$ 425	\$ 600
Loop Road (Prairie Center Drive/Valley View Road)	\$ 150	\$ 250

## Phasing and Incremental Approach

As areas within the Town Center redevelop, it is likely that there will need to be roadway improvements associated with the new development. It is expected that redeveloping parcels will pay for streetscape improvements adjacent to their parcels. As streetscape improvements are implemented, the adjacent parcels that are not redeveloping are expected to be responsible for a portion of the associated streetscape cost, with the city covering the remaining balance. In order to assist private property owners with the costs associated with these capital improvements, the city may allow the costs to be financed over a period of time through the use of special assessments and/or a special service district. The costs would likely be included with the owners' property taxes.

Many of the streetscape improvements will be implemented in association with private redevelopment projects. Therefore, the implementation schedule will be based more on the economy and feasibility of implementing the desired future land uses rather than on a set schedule. As redevelopment projects occur, their associated impact on the street network will be assessed. This will determine the extent of roadway improvements needed. If roadway improvements are not needed, streetscape improvements will be implemented in logical segments as the opportunity or need arises.





Several segments are already under consideration for implementation of the streetscape improvements due to redevelopment activity. The following road segments may receive streetscape treatment within the next two to five years:

- Singletree Lane from Eden Road to Flying Cloud Drive (anticipated 2009 construction)
- Prairie Center Drive from Highway 5 to Flying Cloud Drive (anticipated 2012 construction)

## Maintenance

Maintenance will be a critical element to establish a successful walkable and aesthetic district. Streets must show signs of regular maintenance, such as trash and litter removal, efficient snow removal and healthy vegetation. The Major Center Area will consist of a diverse mix of retail, office and residential land uses under separate ownership whose management or owners may not have the time or expertise needed to perform typical streetscape maintenance activities.

While a shopping center consists of many individually owned businesses, it is under single ownership with centralized marketing programs, security personnel, parking management programs and maintenance and management personnel. The property owners within the Major Center Area should work to replicate the results achieved through a single owner through the creation of special service districts. Under a special service district, property owners will share responsibility for such procedures as snow removal, area-wide maintenance and upkeep, and potentially supplemental public security and area-wide promotion. This will allow property owners to pool and efficiently use financial resources that will mutually benefit all by creating a cohesive and consistently maintained environment for visitors and residents to inhabit and enjoy.

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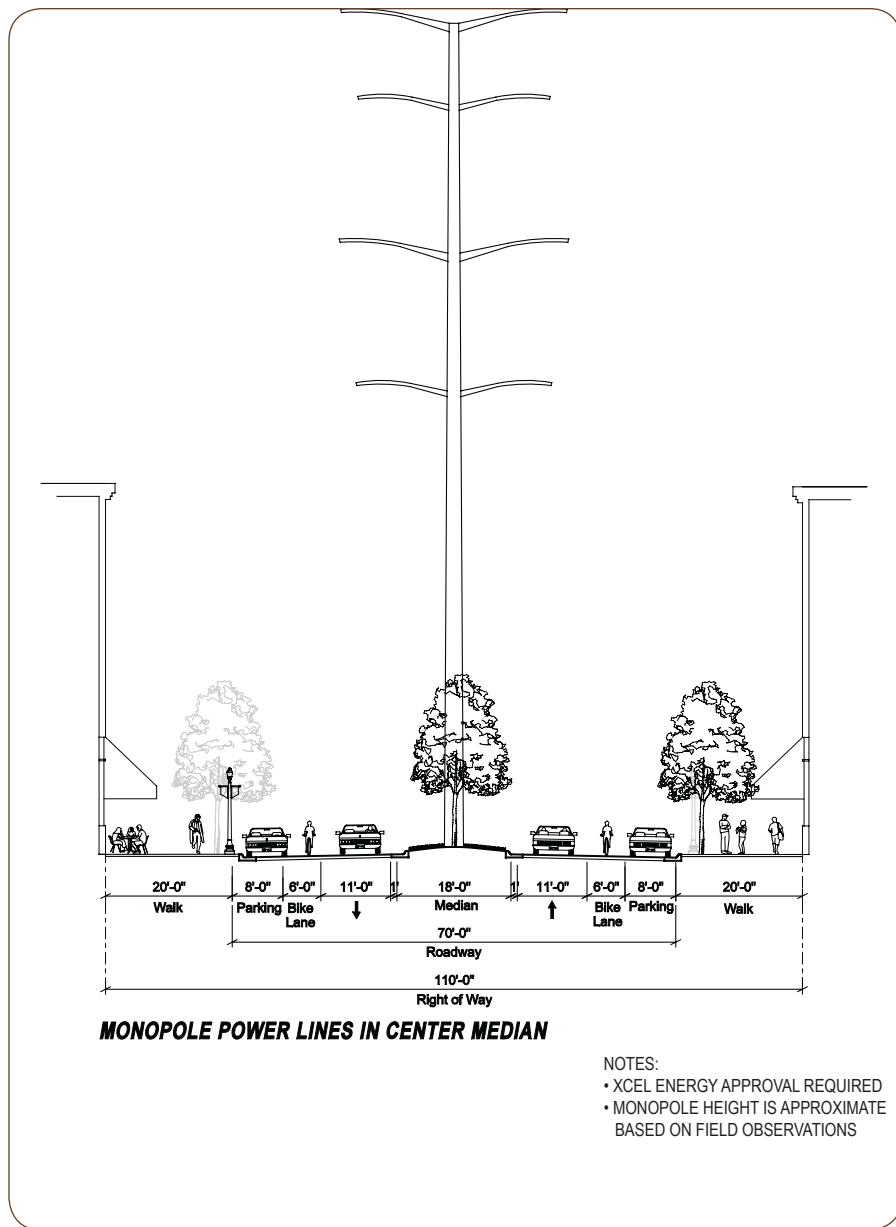


Figure A1: Overhead Powerline Alternatives

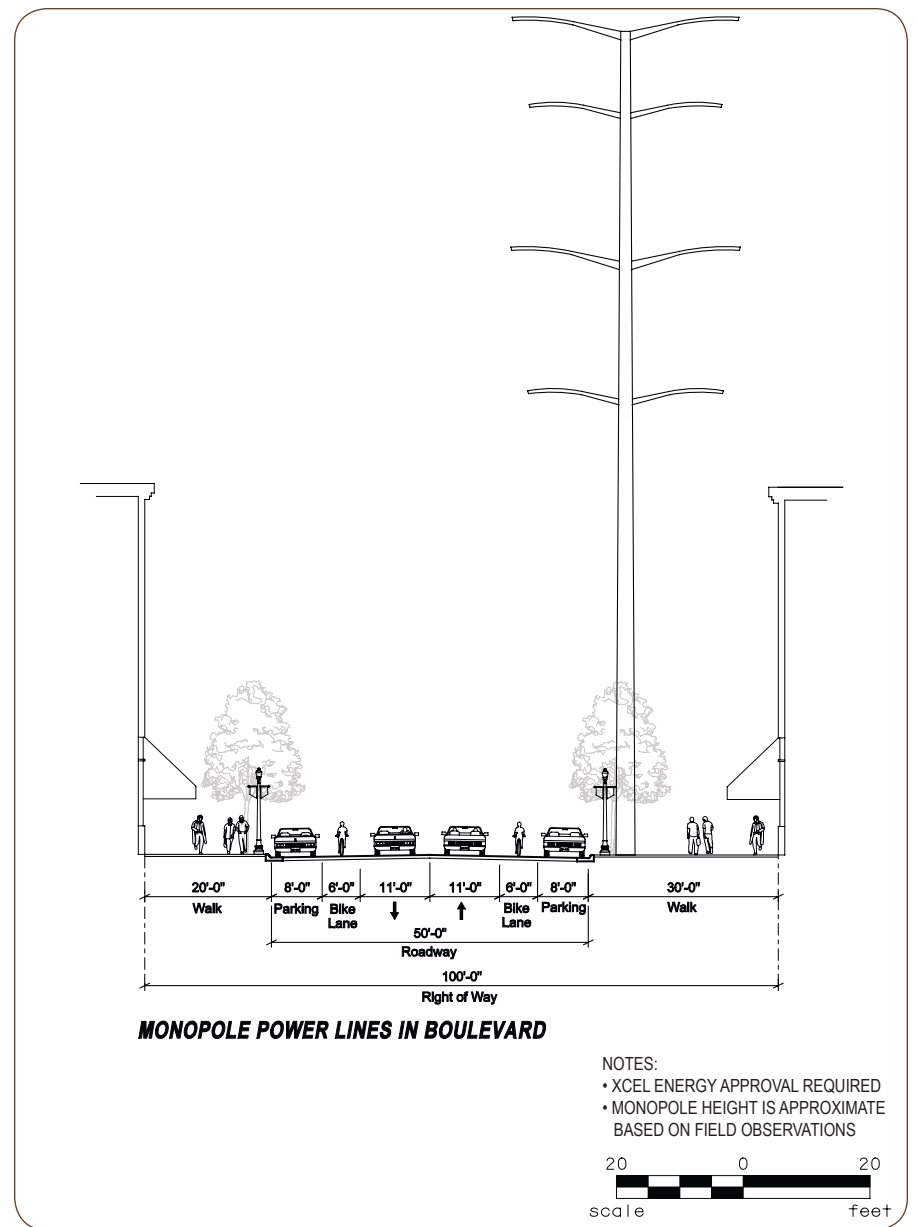
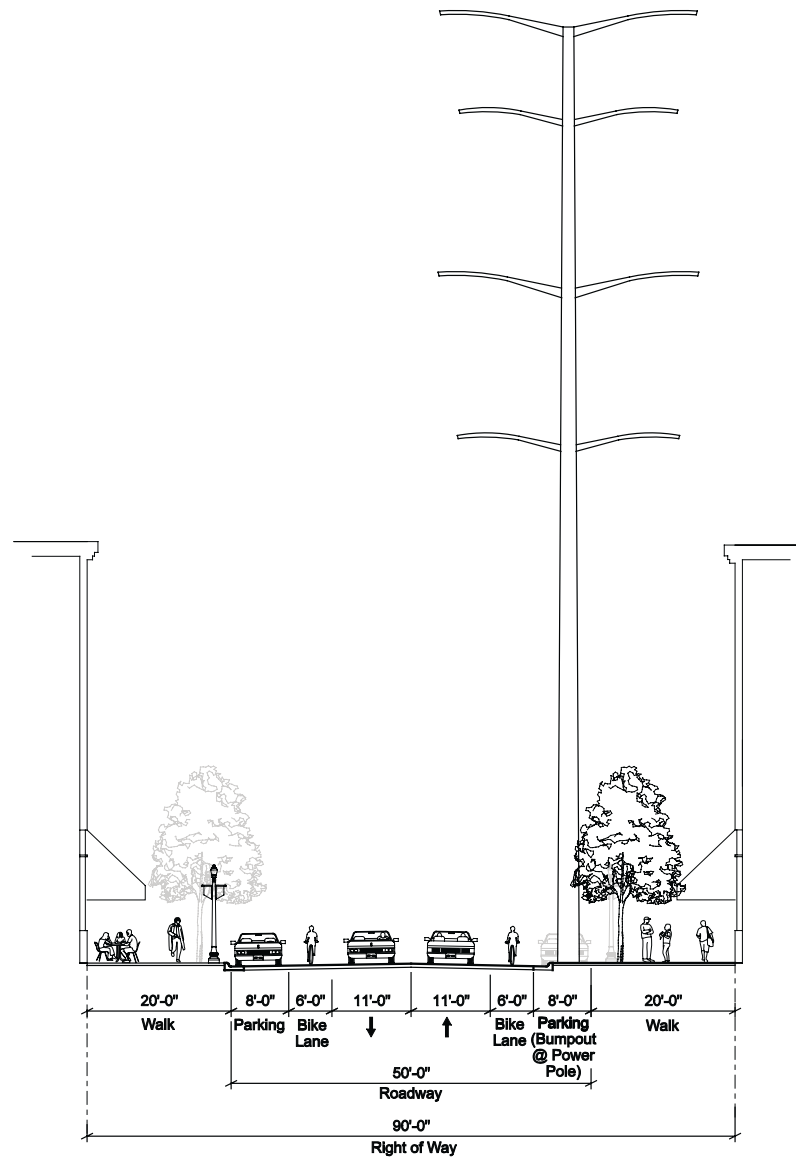


Figure A2: Overhead Powerline Alternatives





**MONOPOLE POWER LINES IN PARKING BUMPOUT**

- NOTES:
- XCEL ENERGY APPROVAL REQUIRED
  - MONOPOLE HEIGHT IS APPROXIMATE BASED ON FIELD OBSERVATIONS

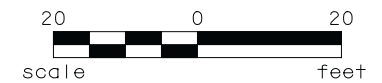


Figure A3: Overhead Powerline Alternatives



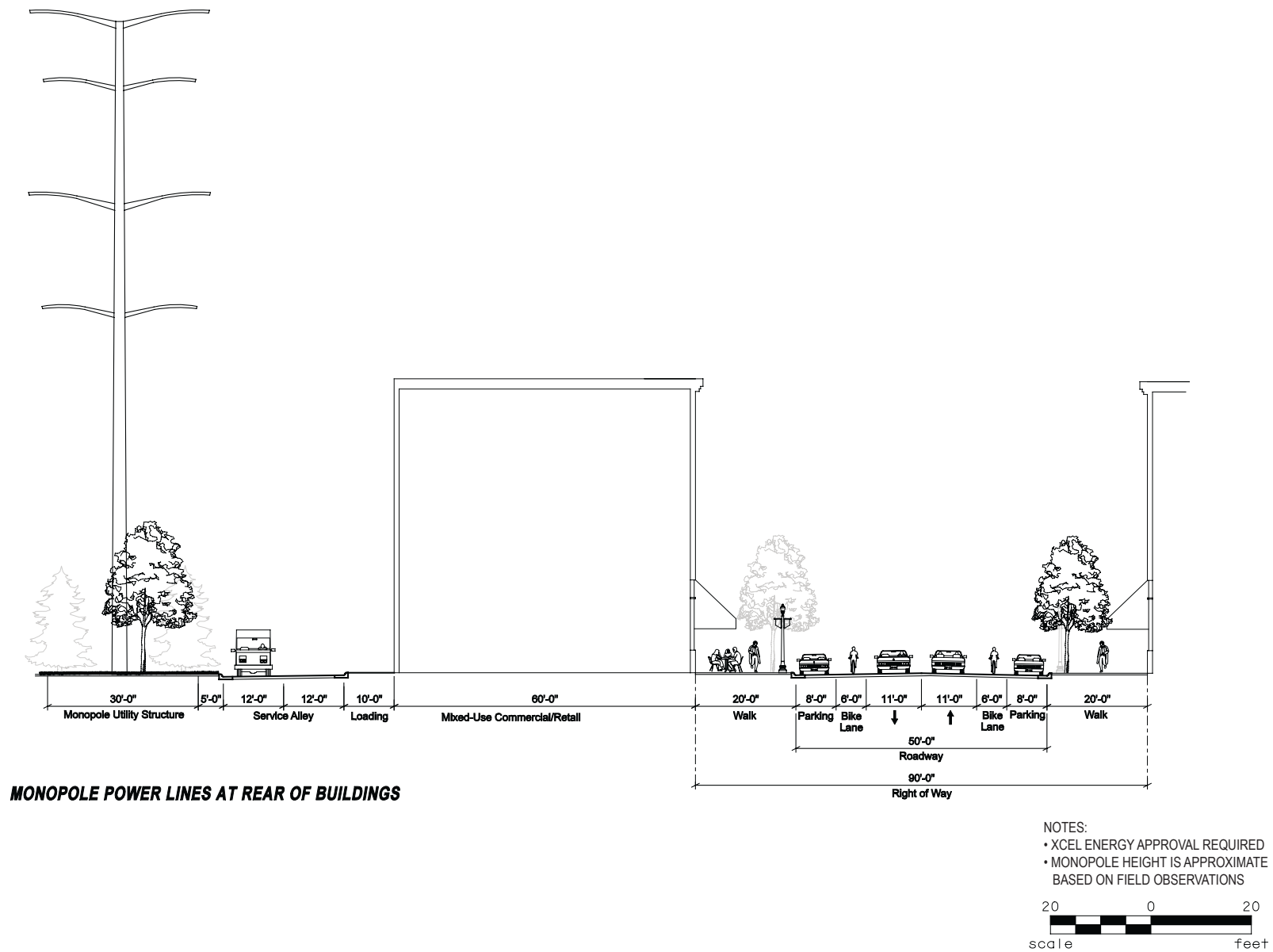
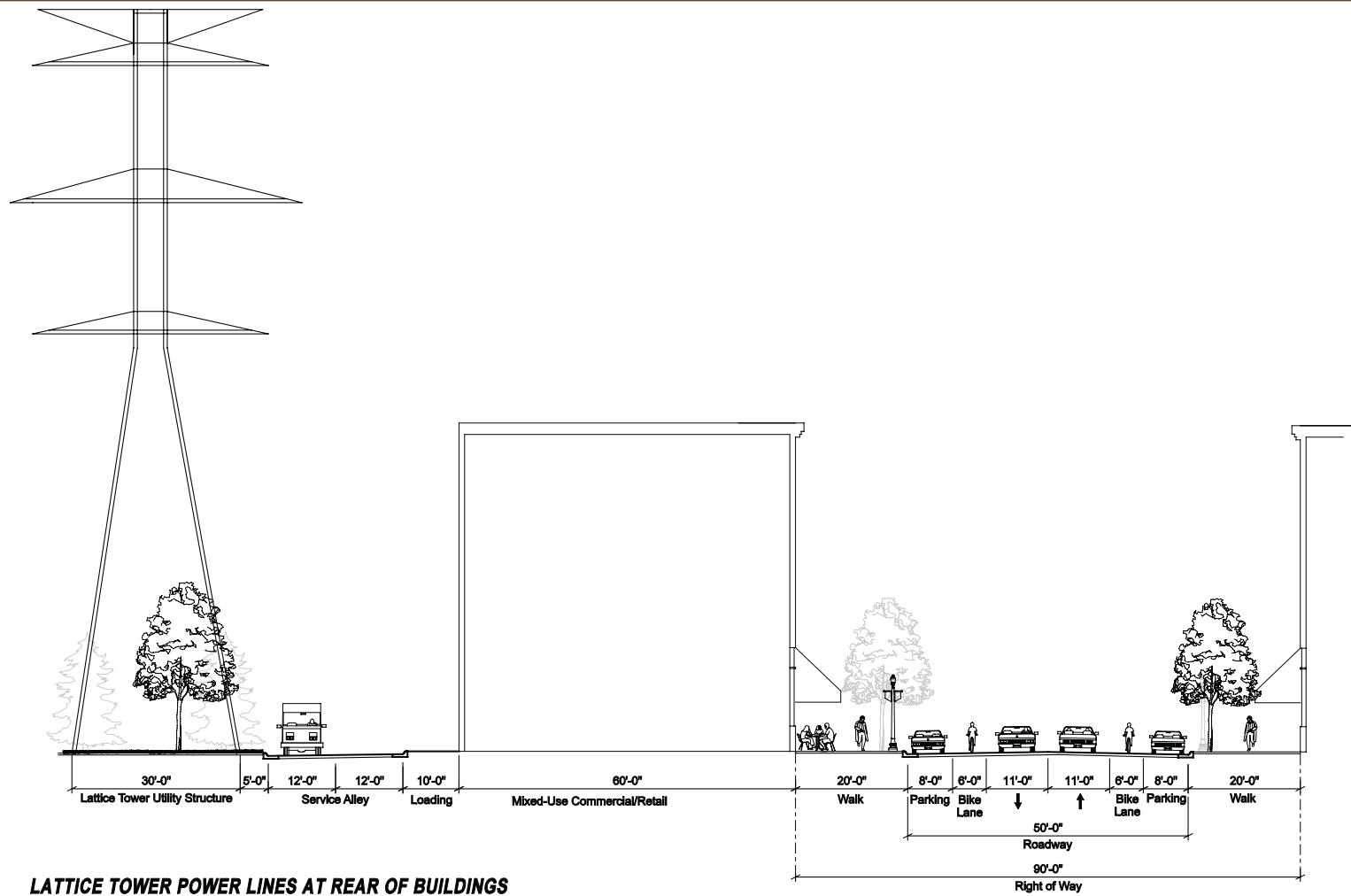


Figure A4: Overhead Powerline Alternatives

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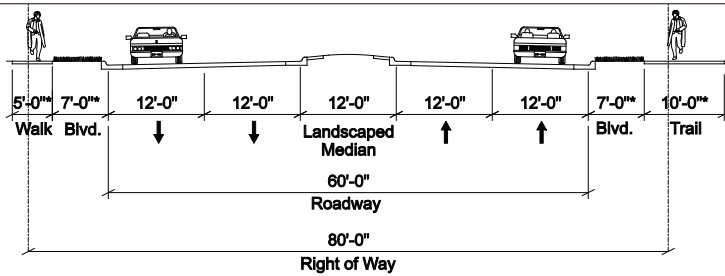




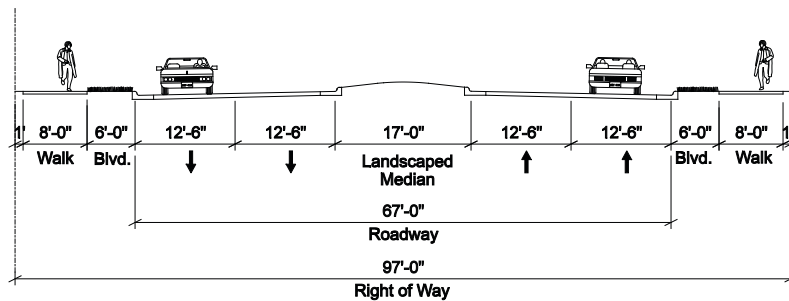
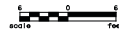
NOTES:  
 • XCEL ENERGY APPROVAL REQUIRED  
 • MONOPOLE HEIGHT IS APPROXIMATE  
 BASED ON FIELD OBSERVATIONS



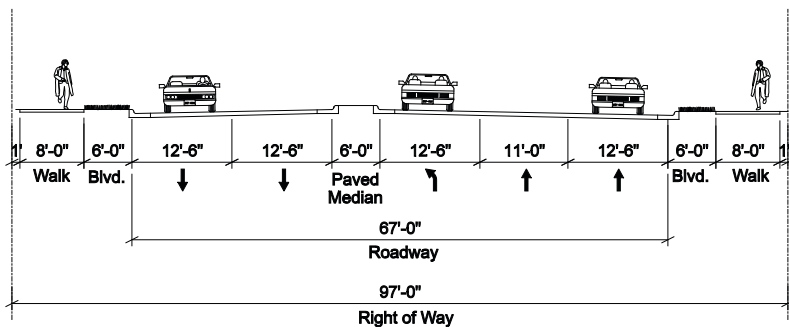
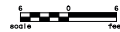
Figure A5: Overhead Powerline Alternatives



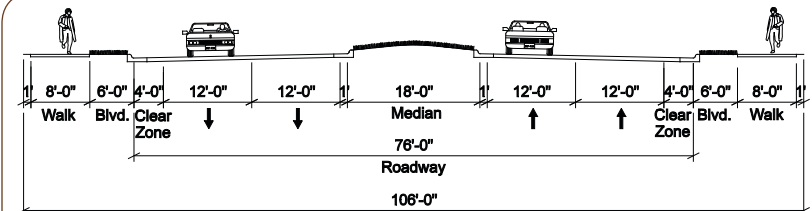
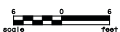
**EXISTING CONDITIONS**  
\*DIMENSIONS SCALED FROM AERIAL PHOTO



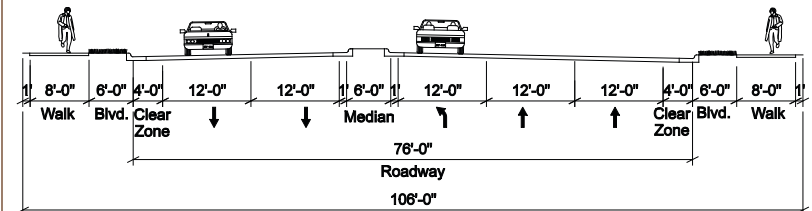
**DRAFT TOWN CENTER DESIGN GUIDELINES - NO TURN LANES**



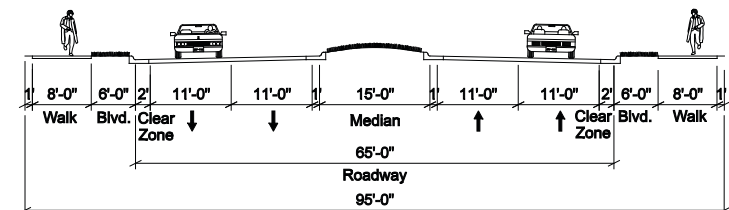
**DRAFT TOWN CENTER DESIGN GUIDELINES - WITH TURN LANES**



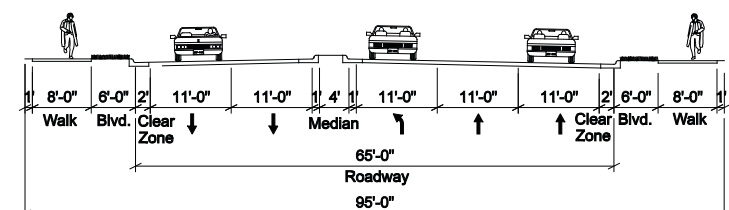
**STATE AID DESIGN CRITERIA - NO TURN LANES**



**STATE AID DESIGN CRITERIA - WITH TURN LANES**



**STATE AID DESIGN MINIMUMS - NO TURN LANES**



**STATE AID DESIGN MINIMUMS - WITH TURN LANES**

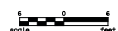


Figure B1: Singletree Lane Concepts

City of Eden Prairie



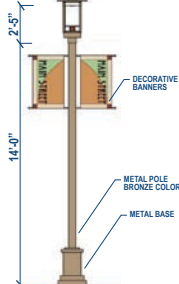
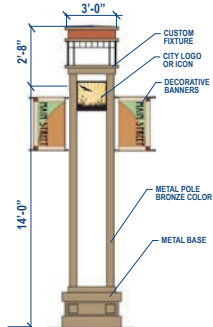
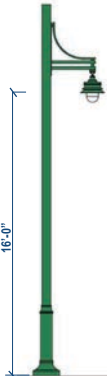
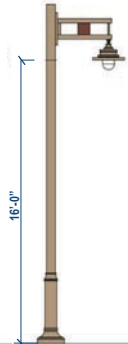

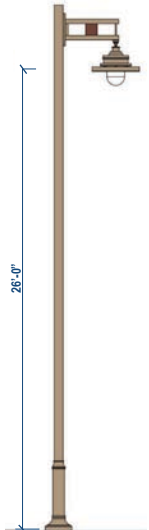



MAIN STREET		SINGLETREE LANE		LOOP ROAD (PRAIRIE CENTER DRIVE/VALLEY VIEW ROAD)	
					
<b>PEDESTRIAN LIGHT: CATALOG OPTION</b>	<b>PEDESTRIAN LIGHT: CUSTOM OPTION</b>	<b>MID LEVEL LIGHT: MODIFIED FIXTURE OPTION</b>	<b>MID LEVEL LIGHT: MODIFIED FIXTURE &amp; POLE OPTION</b>	<b>HIGH LEVEL LIGHT: MODIFIED FIXTURE OPTION</b>	<b>HIGH LEVEL LIGHT: MODIFIED FIXTURE &amp; POLE OPTION</b>
<ul style="list-style-type: none"> <li>• Sternberg #8114 “Mission Trails” Fixture</li> <li>• White opal glass</li> <li>• Customized with red acrylic square</li> <li>• Bronze colored pole and fixture</li> <li>• Side brackets for banners</li> <li>• Metal base</li> </ul>	<ul style="list-style-type: none"> <li>• Custom design</li> <li>• Double metal poles and metal base</li> <li>• Options for customization of glass</li> <li>• Bronze colored pole and fixture</li> <li>• Side brackets for banners</li> </ul>	<ul style="list-style-type: none"> <li>• Modified Del Mar fixture</li> <li>• Double horizontal bars attach fixture to pole</li> <li>• 16’ fixture height and 2/3 scale fixture on Singletree Lane</li> <li>• Dark green colored pole and fixture</li> </ul>	<ul style="list-style-type: none"> <li>• Modified Del Mar fixture</li> <li>• Double horizontal bars are enlarged and spaced farther apart</li> <li>• Metal square insert between horizontal bars</li> <li>• 16’ fixture height and 2/3 scale fixture on Singletree Lane</li> <li>• Bronze colored pole and fixture</li> </ul>	<ul style="list-style-type: none"> <li>• Modified Del Mar fixture</li> <li>• Double horizontal bars attach fixture to pole</li> <li>• 26’ fixture height on Loop Road</li> <li>• Dark green colored pole and fixture</li> </ul>	<ul style="list-style-type: none"> <li>• Modified Del Mar fixture</li> <li>• Double horizontal bars are enlarged and spaced farther apart</li> <li>• Metal square insert between horizontal bars</li> <li>• 26’ fixture height on Loop Road</li> <li>• Bronze colored pole and fixture</li> </ul>

Figure C1: Prairie Style Lighting Concepts

	MAIN STREET	SINGLETREE LANE	LOOP ROAD (PRAIRIE CENTER DRIVE/VALLEY VIEW ROAD)
FIXTURE	150 watt High Pressure Sodium Type 3 Model 	150 watt High Pressure Sodium Type 3 Model 	250 watt High Pressure Sodium Type 3 Model 
LIGHT SPACING	52' Same side, soldiered	100' Same side, soldiered	120' Same side, staggered
AVERAGE ROADWAY LIGHTING LEVEL (FC) X - ESTIMATED (X) INDUSTRY STANDARD*	1.7 (1.1)	1.3** (1.1)	1.3** (1.2)
AVERAGE SIDEWALK LIGHTING LEVEL (FC) X - ESTIMATED (X) INDUSTRY STANDARD*	1.1 (1.3)	1.5 (1.3)	1.5 (0.8)
ROADWAY UNIFORMITY LEVEL X - ESTIMATED (X) INDUSTRY STANDARD*	1.4 (4)	2.1 (4)	2.68 (4)

\* Based on and comply with 2005 AASHTO Roadway Lighting Design Guide.

\*\*Recommended roadway lighting levels are significantly higher than the current lighting levels on Singletree Lane and Prairie Center Drive.

Figure C2: Lighting Alternatives Matrix





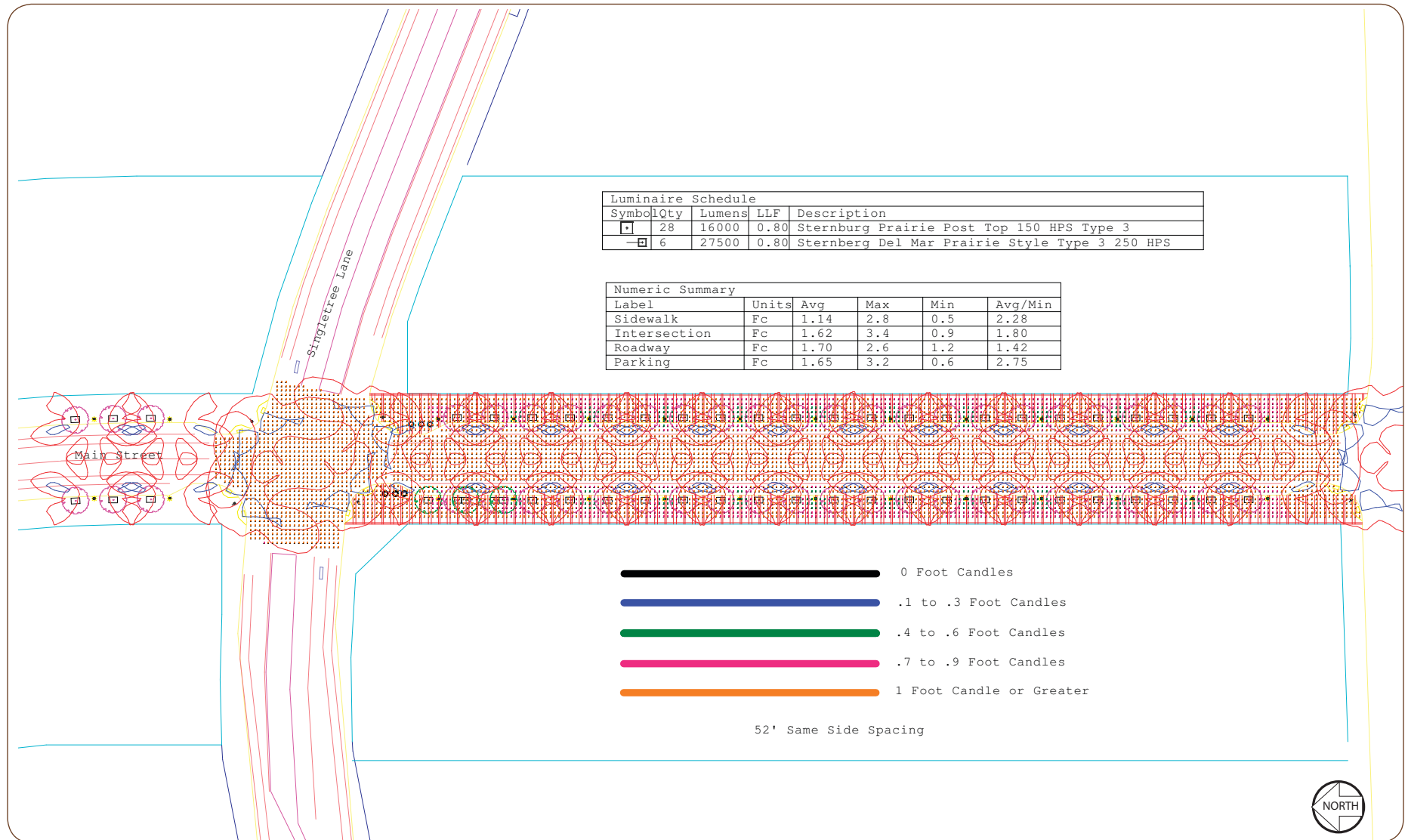


Figure C3: Lighting Photometric Analysis - Main Street

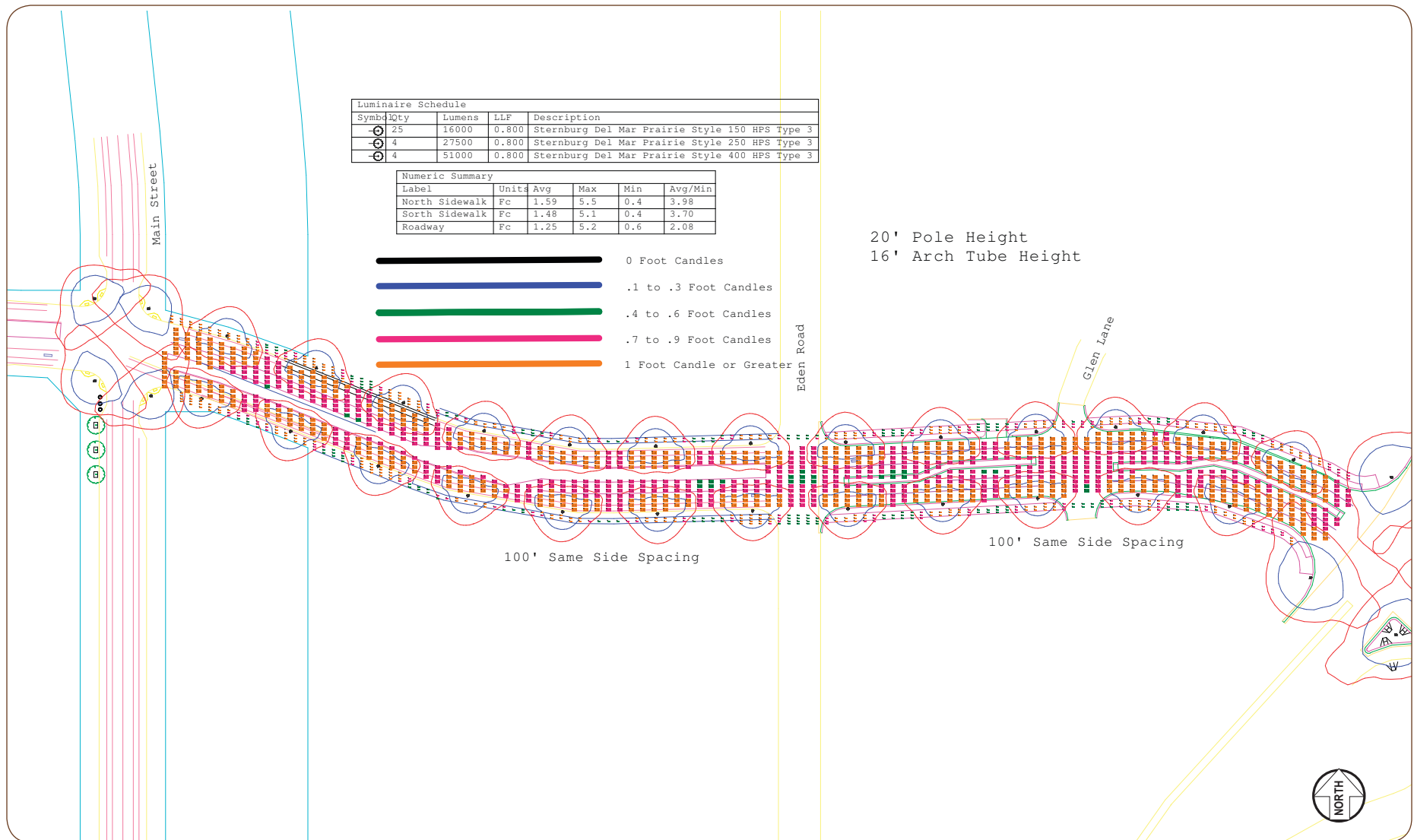
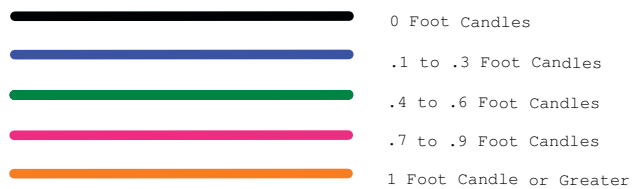


Figure C4: Lighting Photometric Analysis - Singletree Lane



Luminaire Schedule				
Symbol	Qty	Lumens	LLF	Description
→	4	27500	0.800	9' mast arm 40' cobra head 250W HPS
⊕	33	27500	0.800	Sternburg Del Mar Prairie Style 250 HPS Type 3
⊖	4	16000	0.800	Sternburg Prairie Post Top Type 3 150 HPS

Numeric Summary					
Label	Units	Avg	Max	Min	Avg/Min
Sidewalk	Fc	1.51	4.1	0.4	3.78
Roadway	Fc	1.37	4.3	0.5	2.74



120' Same Side Spacing

30' Pole Height

26' Arch tube Height

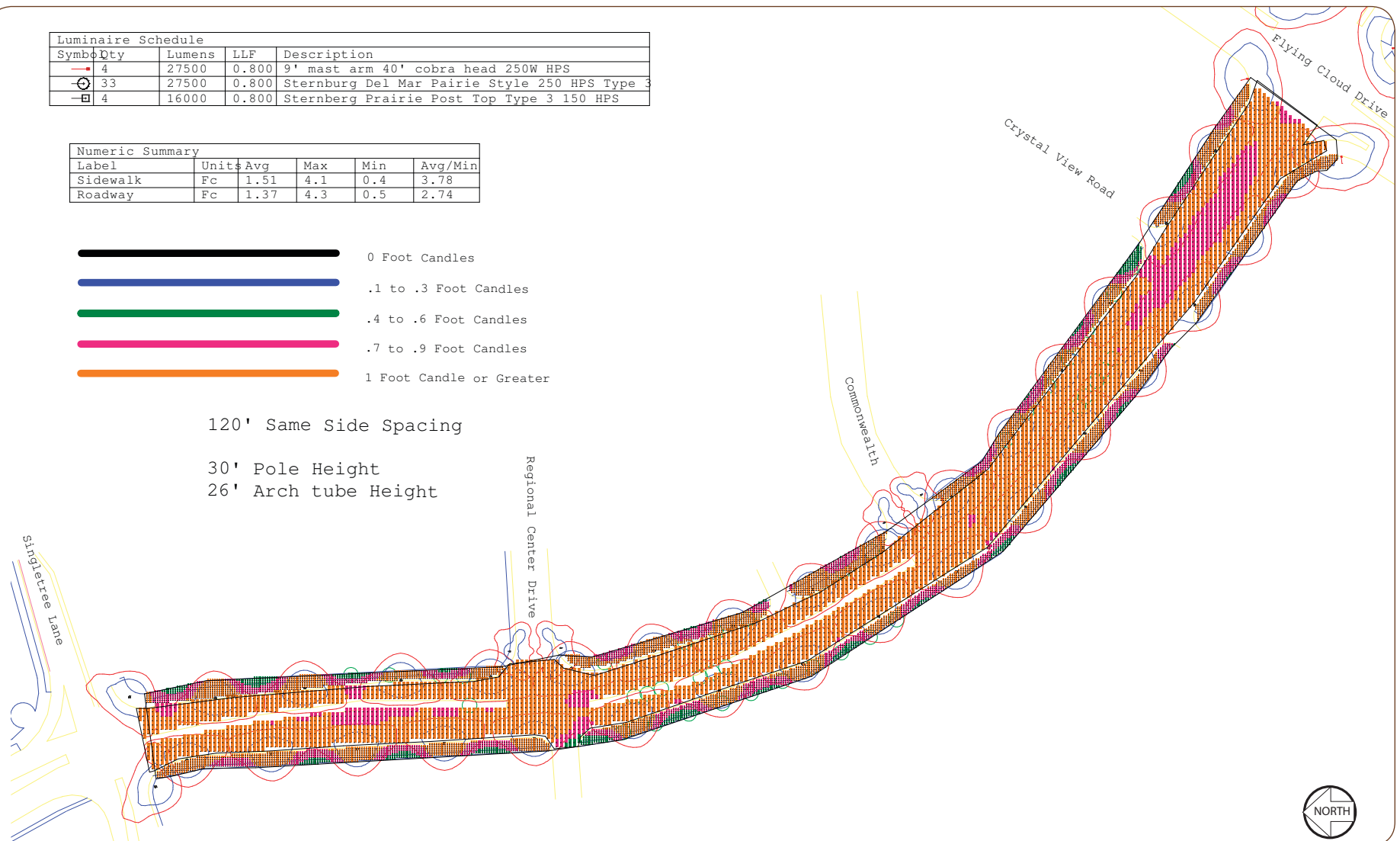


Figure C5: Lighting Photometric Analysis - Loop Road (Prairie Center Drive/Valley View Road)

**MAIN STREET**  
Typical Segment: 1400 LFF\*

Item Description	Unit	Unit Cost	Base Option		Upgrade Option		Notes
			Quantity	Total Cost	Quantity	Total Cost	
LIGHTING							
Pedestrian-Level Modified Fixture Light	Each	\$5,900	24	\$141,600		\$0	Lights spaced 52' apart; Includes footing, base, pole, fixture, conduit, and double banner
Pedestrian-Level Custom Fixture and Pole	Each	\$7,300		\$0	24	\$175,200	Lights spaced 52' apart; Includes footing, base, pole, fixture, conduit, and double banner
PAVING							
Concrete Unit Pavers	Sq Ft	\$10	27,700	\$277,000	31,600	\$316,000	
Pedestrian Ramp	Each	\$300	8	\$2,400	8	\$2,400	8 ramps at each intersection
VERTICAL ELEMENTS							
Kiosk	Each	\$18,000	1	\$18,000	1	\$18,000	Located at opposite end of block as Kiosk & Wayfinding Monument
Kiosk and Wayfinding Monument	Each	\$43,000	1	\$43,000	1	\$43,000	Located at intersection of Main Street and Singletree Lane
PLANTING							
Precast Concrete Planter Curb	Lin Ft	\$50		\$0	1,936	\$96,800	8" - 12" precast units
Precast Concrete Round Planter	Each	\$1,500	24	\$36,000		\$0	3 planters at the end of each block and 6 located randomly at midblock
Street Tree in Grate	Each	\$2,200	40	\$88,000		\$0	Includes tree, structural soils, grate, trunk guard
Street Tree in Planter	Each	\$1,000		\$0	66	\$66,000	
Perennial Planting Bed (planters & medians)	Sq Ft	\$10	216	\$2,160	2,530	\$25,300	Precast concrete round planters
Irrigation	Sq Ft	\$3	216	\$648	5,016	\$15,048	Perennial plantings in round planters
FURNISHINGS							
Bench	Each	\$2,500	16	\$40,000	16	\$40,000	Type: 6' long Landscape Forms 'Lakeside' design, with back and arm rests
Waste Receptacle	Each	\$1,400	8	\$11,200	8	\$11,200	Type: Round steel Landscape Forms 'Lakeside' design with top opening
Bike Rack	Each	\$2,400	6	\$14,400	6	\$14,400	Type: 4 parallel steel loops
Subtotal - Typical Segment				\$674,408		\$823,348	
Contingency (15%)				\$101,161		\$123,502	
Estimated Design and Construction Admin Fees (20%)				\$155,114		\$189,370	
Estimated Cost - Typical Segment				\$930,683		\$1,136,220	
Cost per LFF				\$665		\$812	
Rounded Cost per LFF				\$700		\$850	
Length in Major Center Area (2,420')**							
Total Estimated Cost (Entire Town Center)				\$1,608,752		\$1,964,038	
Rounded Estimated Cost (Entire Town Center)				\$1,650,000		\$2,000,000	

**Notes:**

1. Estimates are based on 2008 construction costs.
2. Estimates are preliminary and subject to change.
3. Estimates are for pedestrian improvements from back of curb to right-of-way only, with the exception of parking lot screening, which typically will fall outside the right-of-way.
4. Estimate does not include costs associated with property acquisitions or easements, if needed.
5. Estimates do not include road costs (pavement, curb & gutter, utility construction and/or relocation, traffic signals).
6. Lighting costs do not include any light fixtures mounted atop traffic signals at intersections.
7. Estimates do not include removal costs for existing features.

\* Typical Segment: From Singletree Lane to Regional Center Road as shown in Figure 16, Chapter 3.

\*\* Length in Major Center Area: As depicted in Chapter 2, Figure 6.

Figure D1: Preliminary Cost Estimate - Main Street

City of Eden Prairie





**SINGLETREE LANE (INSIDE MIXED USE DISTRICT)**  
**Typical Segment: 620 LFF\***

Item Description	Unit	Unit Cost	Base Option		Upgrade Option		Notes
			Quantity	Total Cost	Quantity	Total Cost	
LIGHTING							
Modified Fixture Mid-Level Light	Each	\$6,500	6	\$39,000		\$0	Lights spaced 100' apart; Includes footing, base, pole, fixture, conduit, and single banner
Modified Fixture and Pole Mid-Level Light	Each	\$6,900		\$0	6	\$41,400	Lights spaced 100' apart; Includes footing, base, pole, fixture, conduit, and single banner
Uplighting for Trees in Median	Each	\$1,700	9	\$15,300	9	\$15,300	Includes light fixtures in trees, receptacle, conduit, circuitry
PAVING							
Concrete Walk (4",special scoring)	Sq Ft	\$5	7,922	\$39,610	7,922	\$39,610	Includes aggregate base
Concrete Unit Pavers	Sq Ft	\$10	1,175	\$11,750	1,175	\$11,750	
Concrete Median Maintenance Strip	Sq Ft	\$5	1,800	\$9,000	1,800	\$9,000	Includes paving on median noses
Pedestrian Ramp	Each	\$300	4	\$1,200	4	\$1,200	8 ramps at each intersection
VERTICAL ELEMENTS							
Precast Concrete Bollard	Each	\$1,500	3	\$4,500	3	\$4,500	At median noses
Wayfinding Monument	Each	\$32,000	1	\$32,000	1	\$32,000	One per block
PLANTING							
Precast Concrete Planter Curb	Lin Ft	\$50	85	\$4,250	85	\$4,250	Planters at median noses
Street Tree in Blvd or Median	Each	\$400	7	\$2,800	7	\$2,800	30' spacing on center
Street Tree in Grate	Each	\$2,200	13	\$28,600	13	\$28,600	Includes tree, structural soils, grate, trunk guard
Perennial Planting Bed (planters & medians)	Sq Ft	\$10	170	\$1,700	170	\$1,700	Precast concrete round planters
Irrigation	Sq Ft	\$3	400	\$1,200	400	\$1,200	Perennial plantings at median noses and sod in median
Sod	Sq Yd	\$3	230	\$690	230	\$690	In median
FURNISHINGS							
Bench	Each	\$2,500	8	\$20,000	8	\$20,000	Type: 6' long Landscape Forms 'Lakeside' design, with back and arm rests
Waste Receptacle	Each	\$1,400	4	\$5,600	4	\$5,600	Type: Round steel Landscape Forms 'Lakeside' design with top opening
Bike Rack	Each	\$2,400	4	\$9,600	4	\$9,600	Type: 4 parallel steel loops
Subtotal - Typical Segment			\$226,800		\$229,200		
Contingency (15%)					\$34,380		
Estimated Design and Construction Admin Fees (20%)			\$52,164		\$52,716		
Estimated cost - Typical Segment			\$312,984		\$316,296		
Cost per LFF			\$505		\$510		
Rounded Cost per LFF			\$500		\$550		
Length in Major Center Area (3,190')**							
Total Estimated Cost (Entire Town Center)			\$1,610,353		\$1,627,394		
Rounded Estimated Cost (Entire Town Center)			\$1,650,000		\$1,700,000		

**Notes:**

1. Estimates are based on 2008 construction costs.
2. Estimates are preliminary and subject to change.
3. Estimates are for pedestrian improvements from back of curb to right-of-way only, with the exception of parking lot screening, which typically will fall outside the right-of-way.
4. Estimate does not include costs associated with property acquisitions or easements, if needed.
5. Estimates do not include road costs (pavement, curb & gutter, utility construction and/or relocation, traffic signals).
6. Lighting costs do not include any light fixtures mounted atop traffic signals at intersections.
7. Estimates do not include removal costs for existing features.

\* Typical Segment: From Main Street, extending east 1/2 block, as shown in Figure 26, Chapter 3.

\*\* Length in Major Center Area: As depicted in Chapter 2, Figure 6.

Figure D2: Preliminary Cost Estimate - Singletree Lane (Inside Mixed Use District)

**SINGLETREE LANE (OUTSIDE MIXED USE DISTRICT)**  
**Typical Segment: 720 LFF\***

Item Description	Unit	Unit Cost	Base Option		Upgrade Option		Notes
			Quantity	Total Cost	Quantity	Total Cost	
LIGHTING							
Modified Fixture Mid-Level Light	Each	\$6,500	8	\$52,000		\$0	Lights spaced 100' apart; Includes footing, base, pole, fixture, conduit, and single banner
Modified Fixture and Pole Mid-Level Light	Each	\$6,900		\$0	8	\$55,200	Lights spaced 100' apart; Includes footing, base, pole, fixture, conduit, and single banner
Uplighting for Trees in Median	Each	\$1,700	10	\$17,000	10	\$17,000	Includes light fixtures in trees, receptacle, conduit, circuitry
PAVING							
Concrete Walk (4", special scoring)	Sq Ft	\$5	5,607	\$28,035	5,607	\$28,035	Includes aggregate base
Concrete Median Maintenance Strip	Sq Ft	\$5	2,000	\$10,000	2,000	\$10,000	Includes paving on median noses
Pedestrian Ramp	Each	\$300	4	\$1,200	4	\$1,200	8 ramps at each intersection
VERTICAL ELEMENTS							
Ornamental Fence (42" height)	Lin Ft	\$175		\$0	290	\$50,750	Parking lots that front onto Singletree Lane may require easements for planting and fences
Precast Concrete End-post	Each	\$3,500		\$0	4	\$14,000	
Precast Concrete Mid-fence post	Each	\$2,500		\$0	2	\$5,000	
Precast Concrete Bollard	Each	\$1,500	3	\$4,500	3	\$4,500	At median noses
Wayfinding Monument	Each	\$32,000	1	\$32,000	1	\$32,000	One per block
PLANTING							
Precast Concrete Planter Curb	Lin Ft	\$50	85	\$4,250	85	\$4,250	Planters at median noses
Street Tree in Blvd or Median	Each	\$400	30	\$12,000	30	\$12,000	
Perennial Planting Bed (planters & medians)	Sq Ft	\$10	170	\$1,700	170	\$1,700	Precast concrete round planters
Shrub Planting Bed (parking lot screening)	Sq Ft	\$5		\$0	1,617	\$8,085	
Irrigation	Sq Ft	\$3	8,667	\$26,001	10,284	\$30,852	Perennial plantings in round planters
Sod	Sq Yd	\$3	950	\$2,850	950	\$2,850	
FURNISHINGS							
Bench	Each	\$2,500	4	\$10,000	4	\$10,000	Type: 6' long Landscape Forms 'Lakeside' design, with back and arm rests
Waste Receptacle	Each	\$1,400	2	\$2,800	2	\$2,800	Type: Round steel Landscape Forms 'Lakeside' design with top opening
Bike Rack	Each	\$2,400	2	\$4,800	2	\$4,800	Type: 4 parallel steel loops
Subtotal - Typical Segment				\$209,136		\$295,022	
Contingency (15%)				\$31,370		\$44,253	
Estimated Design and Construction Admin Fees (20%)				\$48,101		\$67,855	
Estimated cost - Typical Segment				\$288,608		\$407,130	
Cost per LFF				\$401		\$565	
Rounded Cost per LFF				\$425		\$600	
Length in Major Center Area (800')**							
Total Estimated Cost (Entire Town Center)				\$320,675		\$452,367	
Rounded Estimated Cost (Entire Town Center)				\$350,000		\$500,000	

**Notes:**

1. Estimates are based on 2008 construction costs.
2. Estimates are preliminary and subject to change.
3. Estimates are for pedestrian improvements from back of curb to right-of-way only, with the exception of parking lot screening, which typically will fall outside the right-of-way.
4. Estimate does not include costs associated with property acquisitions or easements, if needed.
5. Estimates do not include road costs (pavement, curb & gutter, utility construction and/or relocation, traffic signals).
6. Lighting costs do not include any light fixtures mounted atop traffic signals at intersections.
7. Estimates do not include removal costs for existing features.

\* Typical Segment: 1/2 block segment, as shown in Figure 26, Chapter 3.

\*\* Length in Major Center Area: As depicted in Chapter 2, Figure 6.

Figure D3: Preliminary Cost Estimate - Singletree Lane (Outside Mixed Use District)

City of Eden Prairie



**MCA LOOP ROAD (Prairie Center Drive and Valley View Road)**  
**Typical Segment: 8,650 LFF\***

Item Description	Unit	Unit Cost	Base Option		Upgrade Option***		Notes
			Quantity	Total Cost	Quantity	Total Cost	
REMOVALS							
Remove concrete pavement	Sq Ft	\$3	1560	\$4,680		\$0	
Common Excavation	Cu. Yd	\$20	330	\$6,600		\$0	
LIGHTING							
Modified Fixture High-Level Light	Each	\$7,000	70	\$490,000	-70	-\$490,000	Lights spaced 120' apart; Includes footing, base, pole, fixture, conduit, and banner
Modified Fixture and Pole High-Level Light	Each	\$7,400		\$0	70	\$518,000	
PAVING							
Concrete Walk (4",special scoring)	Sq Ft	\$5		\$0	24,700	\$123,500	Widened sidewalk paving at three intersections
Concrete Median Maintenance Strip	Sq Ft	\$5	6,825	\$34,125		\$0	Standard concrete paving on median noses
VERTICAL ELEMENTS							
Precast Concrete Bollard	Each	\$1,500	39	\$58,500	76	\$114,000	3 bollards on each median nose (base), 4 on each intersection quadrant (upgrade)
Wayfinding Monument	Each	\$32,000	3	\$96,000		\$0	Monument at TH 5on/off ramp, Singletree Drive, and intersection of Flying Cloud Drive
PLANTING							
Precast Concrete Planter Curb	Lin Ft	\$50	920	\$46,000		\$0	Planters at median noses
Street Tree in Blvd or Median	Each	\$400	165	\$66,000		\$0	35' spacing on center, 8650/35=247 trees x 0.67 = 165 trees. Assumes 2/3 of street frontage and median needs to be supplemented with additional trees.
Perennial Planting Bed (planters & medians)	Sq Ft	\$10	1,850	\$18,500	4,560	\$45,600	
Irrigation	Sq Ft	\$3	29,350	\$88,050	4,560	\$13,680	Assumes areas to be screened with plantings only (below) are already irrigated.
Sod	Sq Yd	\$3	220	\$660	280	\$840	
Trees in Screen Planting	Each	\$400		\$0	402	\$160,800	6 trees per 100 LF of screening
Shrubs in Screen Planting	Each	\$40		\$0	1,340	\$53,600	20 shrubs per 100 LF of screening
FURNISHINGS							
Bench	Each	\$2,500	4.0	\$10,000		\$0	As needed: 1 bench placed on each side of road every 1/2 mile, location TBD
Waste Receptacle	Each	\$1,400	4.0	\$5,600		\$0	As needed: placed with bench on each side of road every 1/2 mile, location TBD
Subtotal - Typical Segment				\$924,715		\$540,020	
Contingency (15%)				\$138,707		\$81,003	
Estimated Design and Construction Admin Fees (20%)				\$212,684		\$124,205	
Estimated cost - Typical Segment				\$1,276,107			
Estimated cost - Upgraded Segment of Loop Road						\$745,228	
Cost per LFF (base/upgrade adjacent to Town Center)				\$148		\$86	
Cost per LFF (Upgrade)						\$234	
Rounded Cost per LFF				\$150		\$250	Combination of base plus upgraded segment
Length in Major Center Area (37,650)**							
Total Estimated Cost (Entire Town Center)				\$5,554,383		\$8,798,062	
Rounded Estimated Cost (Entire Town Center)				\$5,600,000		\$8,800,000	

**Notes:**

1. Estimates are based on 2008 construction costs.
2. Estimates are preliminary and subject to change.
3. Estimates are for pedestrian improvements from back of curb to right-of-way only, with the exception of parking lot screening, which typically will fall outside the right-of-way.
4. Estimate does not include costs associated with property acquisitions or easements, if needed.
5. Estimates do not include road costs (pavement, curb & gutter, utility construction and/or relocation, traffic signals).
6. Lighting costs do not include any light fixtures mounted atop traffic signals at intersections.
7. Estimates do not include removal costs for existing features.

\* Typical Segment: Highway 5 to Flying Cloud Drive

\*\* Length in Major Center Area: As depicted in Chapter 2, Figure 6.

\*\*\* Addresses incremental increase in treatment, not replacement for base.

Figure D4: Preliminary Cost Estimate - Loop Road (Prairie Center Drive/Valley View Road)

City of Eden Prairie

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