

# Wolfs Crossing



CORRIDOR DESIGN GUIDELINES





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## INTRODUCTION

In mid-2016, the Village of Oswego undertook the Phase I Engineering Study for the Wolfs Crossing Corridor. The studied corridor consisted of approximately 4.5 miles between US Route 34 and Eola Road, and took a comprehensive look at the transportation needs of the study area, including analyses of existing roadway conditions, safety and capacity issues, and future transportation needs.

Over the course of the ensuing months and with the input gained from an extensive public engagement process, it was identified that the Purpose of the project was to:

- Enhance safety
- Reduce traffic congestion
- Improve mobility and operations
- Accommodate economic development

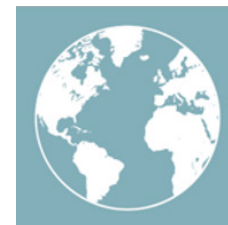
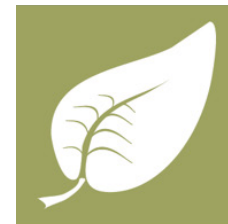
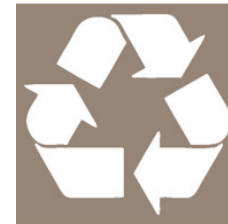
The extensive crash history of the corridor coupled with both current and future roadway capacity deficiencies contributed to the need to identify a future solution to address transportation safety and operations. The study culminated in the selection of a Recommended Design Alternative presented in February 2018. It was determined that in order to effectively guide the visual quality of the corridor to be consistent with both the designed concept and the public input received, Design Guidelines would be developed as a complementary tool to realize the vision.

## GOALS

The following goals will provide the guiding vision for the development of the Wolfs Crossing corridor and for future improvement projects, both public and private, along the corridor:

- Design a sustainable transportation facility that meets the needs of the present without compromising the ability of future generations to meet their own needs
- Establish a distinctive sense of place drawing from local history of the corridor and the Oswego community
- Provide a framework of consistent and cohesive design that contributes to the Oswego community's quality of life and identity
- Optimize the balance between the built and natural environments
- Provide a balance between pedestrian and bicycle friendliness and auto efficiency and safety

The Design Guidelines are intended to be the framework within which development and improvement projects occur. These standards are set as a planning guide for future projects, and to also establish a means by which Village officials may measure the quality, effectiveness, and cohesiveness of a project as it relates to the overall Wolfs Crossing corridor vision.



# GENERAL OVERVIEW OF CORRIDOR VISION

The recommended design of the corridor is the result of a vigorous public outreach program utilized throughout the development of the Phase I Environmental Study, culminating in the approval of the Recommended Alternative. This process included the use of a multi-disciplinary and inclusive corridor advisory group known as WolfCAT, and three public open houses to present findings and solicit input on project elements.

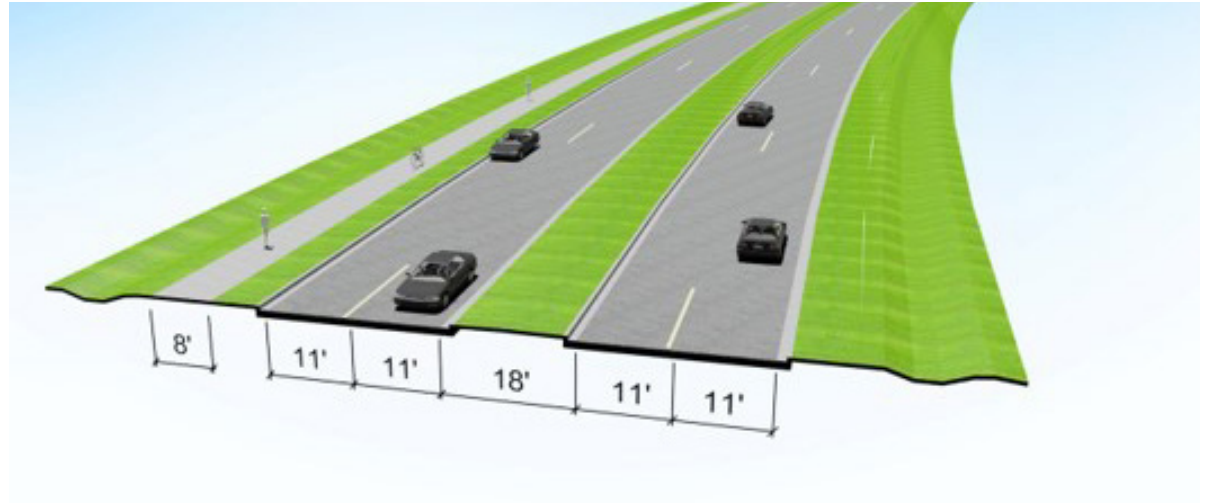
The roadway cross section is recommended to be three lanes (one lane in each direction plus a turning lane) from IL 34 to Southbury Boulevard, and five lanes (two lanes in each direction plus a turning lane) from Southbury Boulevard to Eola/Heggs Road.

## RECOMMENDED ALTERNATIVE



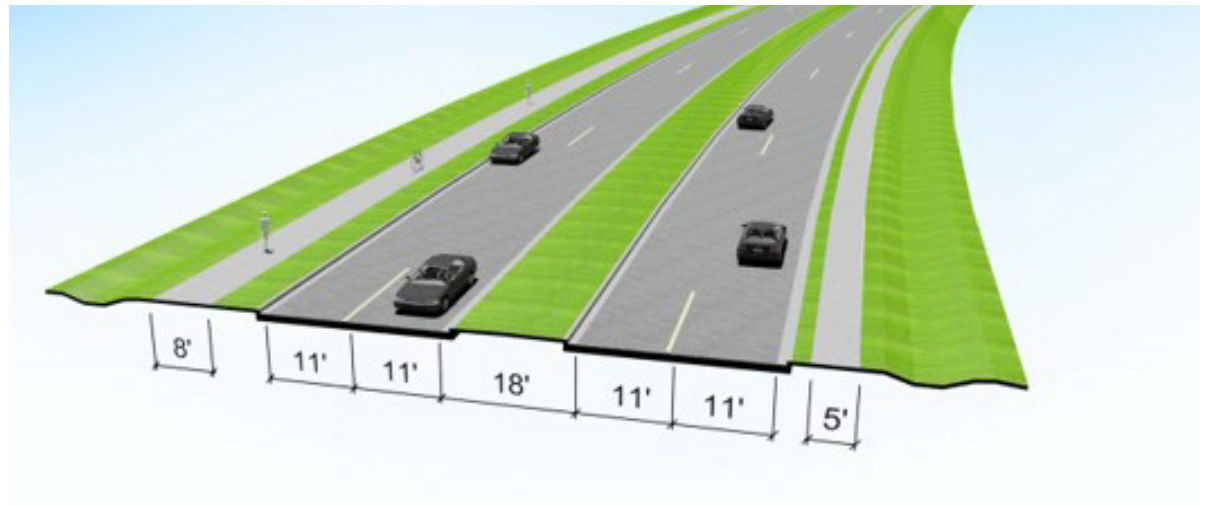
Initially, the roadway section in undeveloped areas of the corridor will have two traffic lanes in each direction accompanied by a multi-use path on the north side of the road. This can accommodate pedestrians and cyclists and will provide access to the existing developments on the north side of the road.

#### INITIAL ROADWAY SECTION IN UNDEVELOPED AREAS



In the ultimate, an additional sidewalk would be added on the south side of the road to accommodate future developments on the south side of the roadway corridor.

#### ULTIMATE ROADWAY SECTION





With the underlying goal to develop and construct a sustainable Wolfs Crossing Road, a number of design tools in specific areas of concentration are being recommended to achieve a consistent corridor theme. These include:

- Pavement applications
- Bicycle and pedestrian facilities
- Use of vegetation
- Treatment of water
- Lighting elements



#### PAVEMENT APPLICATIONS

Given the current and future condition of the corridor as a mixture of suburban and agricultural land uses, a curb and gutter design complemented by both structural drainage and natural swale treatments are being included throughout the corridor.

#### BICYCLE/PEDESTRIAN FACILITIES

An 8-foot wide shared use path for both pedestrians and bicyclists will be included along the north side of the road, and a traditional 5-foot sidewalk will be added along the south side. As mentioned earlier, the 8-foot shared use path would be constructed with the initial improvement, with the sidewalk on the south side to be added when development occurs.



### USE OF VEGETATION

A predominant theme supported throughout the public engagement process for the project was the inclusion of native plantings as a consistent design element. Given the historical rural character of the corridor and its proximity to the Fox River, naturalized designs are recommended to reflect this connection with the added benefit of sustainability.



### TREATMENT OF WATER

Keeping with the theme of native plantings and sustainability, naturalized detention areas along and adjacent to the corridor are recommended. Additionally, where appropriate, the inclusion of planted bio-swales in the planted median sections will promote visually creative design with beneficial stormwater treatment techniques.



### LIGHTING ELEMENTS

Lighting will be targeted at intersections and roundabouts, with a recommendation for a combination of both vehicular and pedestrian-scale standards.

## TYPICAL ELEMENTS - LANDSCAPE DESIGN

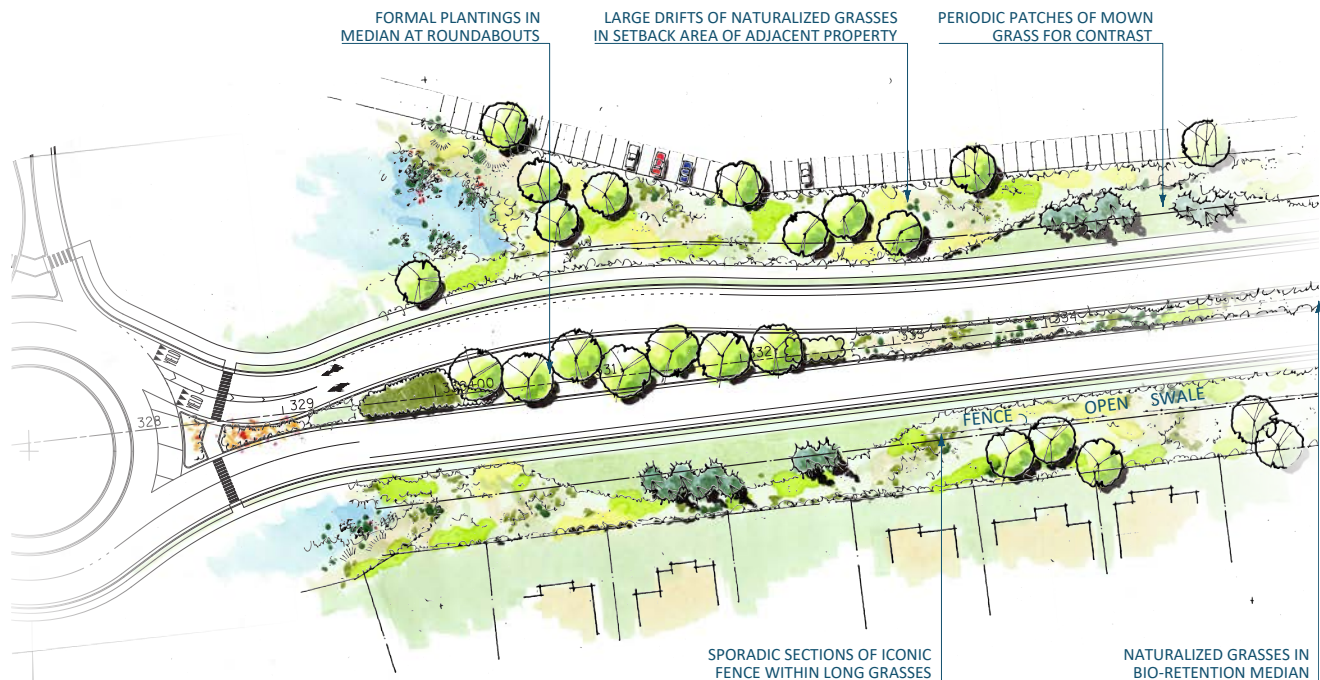
In an effort to provide design consistency and guide the inclusion of cohesive development methods and techniques to achieve the overall vision of the Wolfs Crossing corridor, the following Design Elements are recommended:



### SHOULDER AND ADJACENT PROPERTY TREATMENTS

The graphic below represents a prototypical cross section design depicting various common design components to be carried throughout the corridor in sections with vegetated medians adjacent to existing or future developed land. Highlighted elements of this design include:

- Formal plantings in median at roundabout approaches
- Naturalized grasses in the bio-retention sections of the median
- Large drifts of naturalized grasses in setback areas of adjacent properties
- Periodic patches of mown grass for contrast to naturalized areas
- Sporadic sections of iconic fence within long grasses

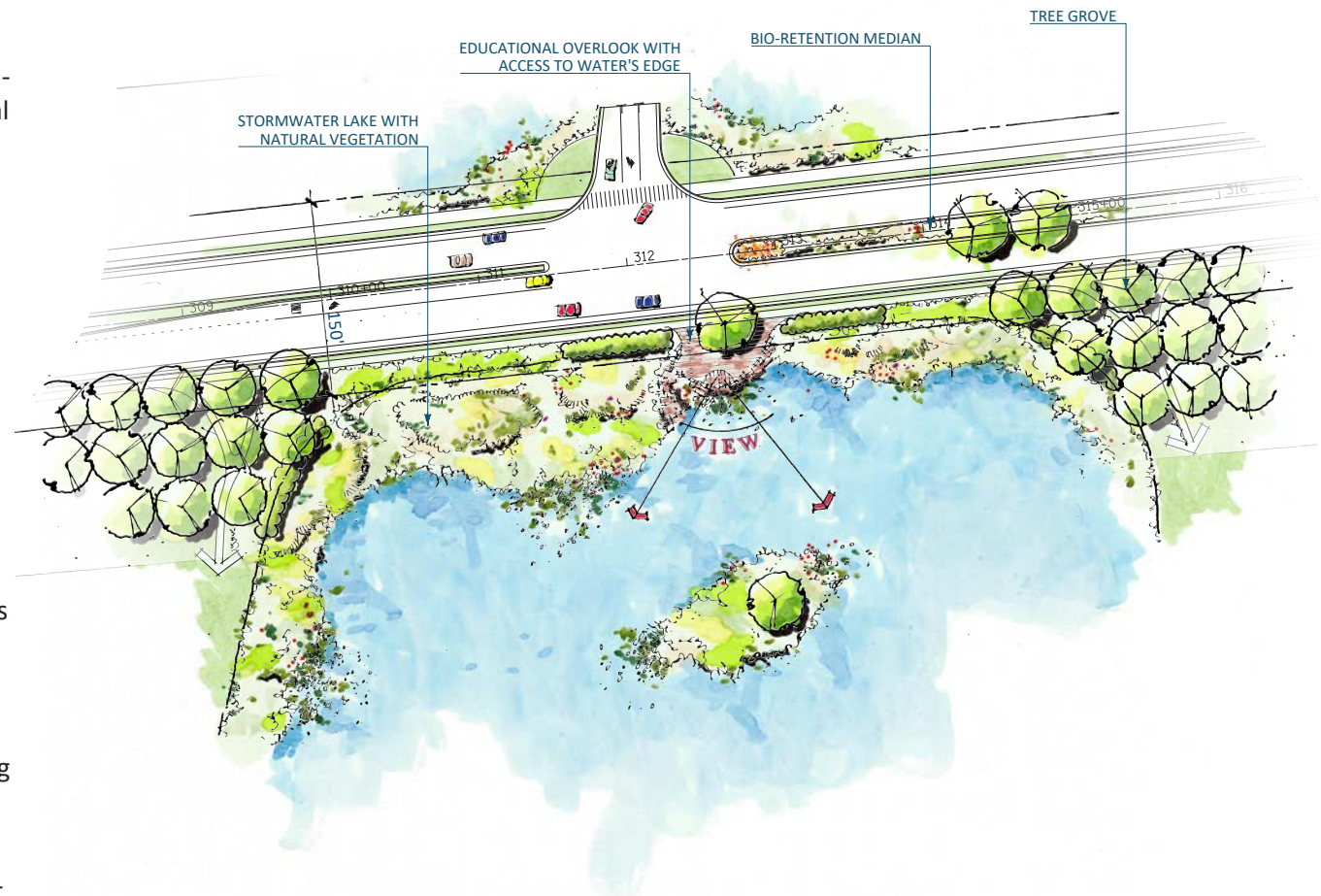


## TYPICAL STORMWATER BASIN

The overall goal of the recommended stormwater basin design is to provide functional stormwater management with visually appealing and sustainable elements. Locating these facilities adjacent to the roadway offers the opportunity to create interesting viewsheds and visual windows to adjacent developments, introducing a variety of visual experiences as you travel the corridor.

The prototypical stormwater basin design will include:

- Wet bottom
- Combination of open water and natural shoreline vegetation
- Areas surrounding the basin will be a combination of natural and manicured vegetation
- Strategically located clustered tree groves to maximize viewshed opportunities
- Connection to pedestrian circulation system, with possible overlook and interactive educational kiosk opportunities along the corridor
- Regional basins that provide capacity for both roadway and adjacent development are preferred

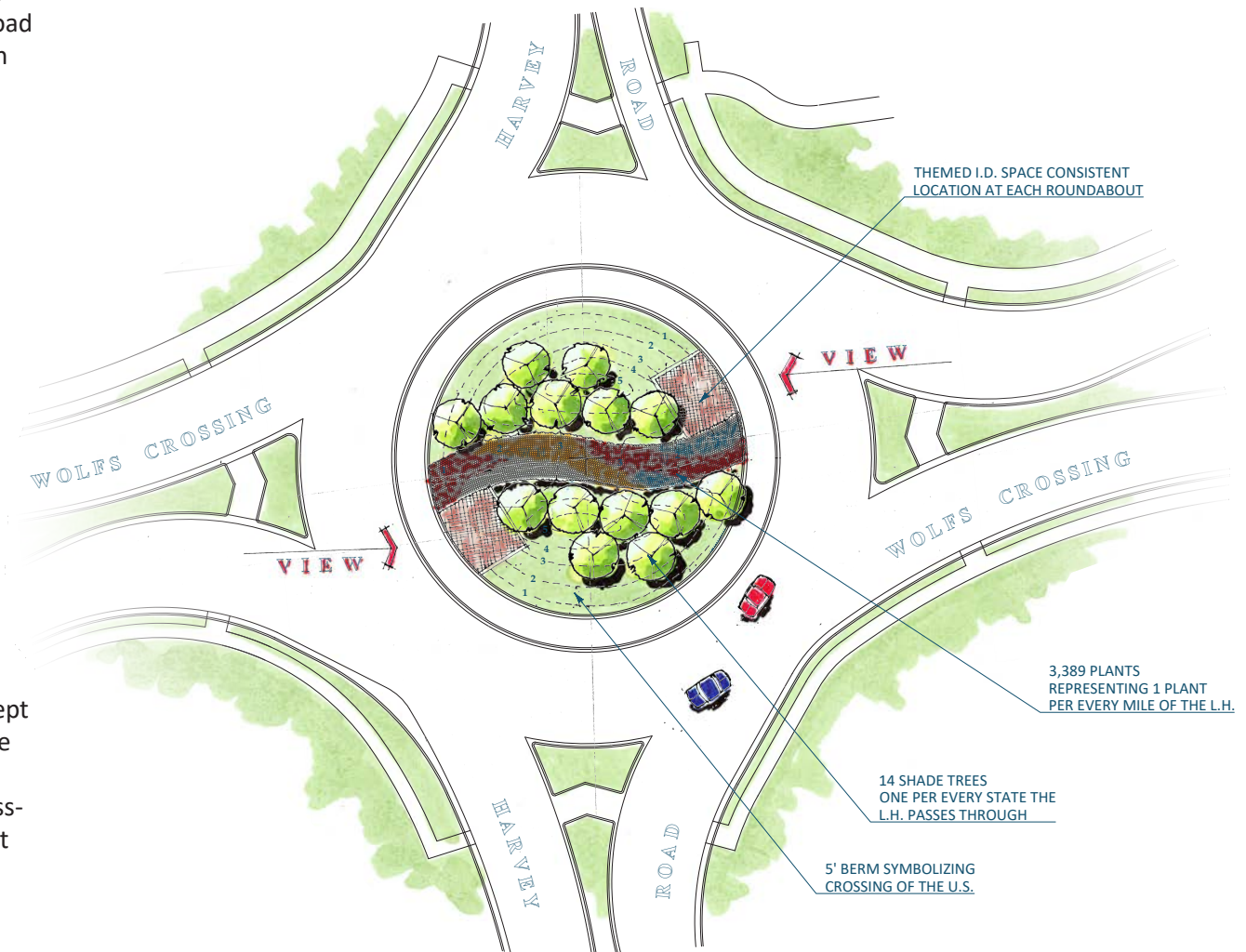


## ROUNABOUT DESIGN

The Recommended Alternative includes four (4) dual lane roundabouts throughout the corridor, located at Harvey Road, Fifth Street, Douglas Road (north), and Southbury Boulevard. The decision to include roundabouts vs. conventional signalized intersections was three-fold:

1. Improved safety – notable reductions in both the number and severity of crashes
2. Improved traffic operations – significant reduction in the amount of delay incurred to traverse the intersection
3. Community support of the design

Due to the nature of a typical roundabout design, a large center space is created that offers opportunity for visual connectivity and design consistency throughout the corridor. The concept of telling a story, illustrating a progression of the Oswego community and its history through the design of the roundabouts will make Wolfs Crossing more than just a transportation corridor, but differentiate the experience by connecting it to Oswego's history and unique sense of place.



A number of Oswego community themes that emerged during the public outreach efforts for the project which could be included in individual roundabout design include:

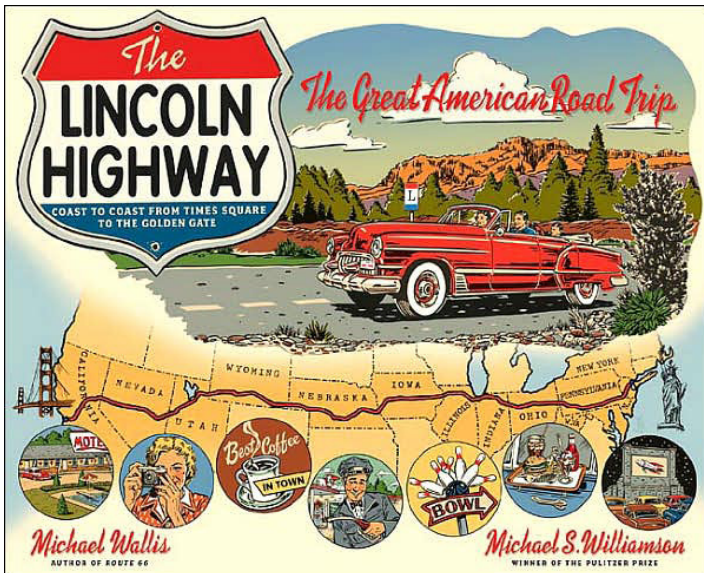
- Lincoln Highway connection
- Native American heritage
- Wildlife crossings (wolves)
- Use of quarry stone
- Connection to the Fox River
- Agricultural roots

One such example of a themed roundabout is illustrated on the previous page, for the Wolfs Crossing/Harvey Road location. Given this location's connection to the Lincoln Highway corridor, this theme was chosen for the conceptual design.

The design purposefully but subtly includes several elements that are reminiscent of the history of the Lincoln Highway, such as:

- 14 shade trees, referencing the number of states through which the Lincoln Highway passes
- 3,389 plants representing 1 plant for every mile of the Lincoln Highway
- 5-foot berm symbolizing crossing of the United States

Roundabout designs with similar subtle attention to Oswego's story could then be incorporated as the corridor continues to the west, including some of the referenced themes gathered from the community.



## TYPICAL ELEMENTS - TECHNICAL DESIGN

The proposed improvement of Wolfs Crossing generally includes the widening and reconstruction of the existing: rural two-lane section to an urban section from US 34 to Eola Road. Improvements should generally meet the following specifications:

- Alignment
  - The alignment shall generally follow that as depicted in the Wolfs Crossing Project Development Report (April 2018)
- Profile
  - The road profile shall generally follow that as depicted in the Wolfs Crossing Project Development Report (April 2018)
- Typical Section
  - A three-lane section from US 34 to Southbury Boulevard (3- 11' lanes)
  - A four-lane section from Southbury Boulevard to Eola Road (4 – 11' lanes)
  - The minimum parkway width between the curb and gutter sidewalk/ bicycle path shall be 3 feet
  - Type B-6.12 curb and gutter
  - Median Treatment
    - Vegetated medians to contain bio-retention sections
    - Left-turn lanes – at signalized intersections
- Pedestrian Facilities
  - Sidewalk on south side of roadway
    - Located 1' inside ROW
    - 5' wide concrete
  - Sidepath on north side of roadway
    - Located a minimum of 4.4' north of curb
    - 8' wide bituminous
- Pavement Design
  - Pavement cores will be necessary to confirm the existing pavement condition
  - If the existing pavement is in poor condition, reconstruction may be necessary
  - A minimum structural number of 3.65 will be required using "Superpave" mixes
  - Per the Village Subdivision Ordinance, the final engineering will require a full IDOT pavement design based upon traffic
- Drainage
  - Storm sewer
    - Designed for a 10- year storm
- Storm water detention
  - Detention will be provided within the median bio-retention areas with the balance provided within adjacent developments
  - Detention volumes for adjacent subdivisions shall be calculated for the subject development and shall take into consideration tributary drainage as identified in the Wolfs Crossing Project Drainage Report (April 2018)
- Proposed Right-of-way
  - The proposed right-of-way will generally be 130' total (approximately 65' each side of the proposed centerline) as depicted in the Wolfs Crossing Project Development Report (April 2018)
  - Additional ROW may be required to accommodate drainage, intersection improvements, utilities, and other improvements as designated by the Village
- Utilities
  - Water main should be located just inside the right-of-way to avoid placing under future roadway pavement
  - All water mains shall be located in the parkway, on the same side as the sanitary sewer main and approximately eight feet (8') from the property line

- All sanitary sewers shall be located on the same side of the roadway as the water main, in the front yard easements, a minimum of 10' away from the Village water main, or in other easements as approved by the Village Engineer
- Overhead utility lines shall be buried
- Intersections
  - Roundabouts
    - Southbury Boulevard
    - Douglas Road North
    - Fifth Street
    - Harvey Road
  - Signalized Intersections
    - US 34
    - Roth Road
    - Oswego East High School entrance
    - US 30
    - Eola Road
  - Non-signalized Intersections
    - Stone Hill Road – right-in/right-out; left-in
    - Hawthorne Drive - right-in/right-out
- Della Lane – right-in/right-out
- Bluegrass Parkway – full access
- Cardinal Avenue – full access
- Secretariat Lane – full access
- Devoe Drive – full access - may become a roundabout or signalized intersection if road is constructed to south
- Future Intersections
  - Douglas Road south is to be relocated to align with Douglas Road north and the existing intersection converted to a cul-de-sac
  - Future major access points should be located across from existing roads and should be designed to promote through traffic on Wolfs Crossing.
  - Future minor access points such as driveways will be right-in/right-out with barrier median blocking left turns
  - A traffic study will be required to determine extent the configuration of all access points, including the consideration of roundabouts, traffic signals, or restricted access. Adjacent intersections shall be analyzed to confirm that proposed improvements minimize impacts along Wolfs Crossing
- Right turn lanes and left turn lanes may be required on Wolfs Crossing at entrances.
- Two outbound lanes are required for each new street intersecting Wolfs Crossing
- Street Lighting
  - Roadway lighting is targeted at intersections and roundabouts
  - Pedestrian scale lighting along paths and sidewalks
  - Properties on the south side of the roadway will be requested to escrow their share for the street lighting on the north of the roadway
- Other improvements as required by Village Code



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