

WORKSHOP ITEM SUMMARY SHEET
VILLAGE COUNCIL MEETING
November 7, 2018

Agenda Item:

Estero Parkway Roadway and Sidewalks

Description:

The Estero Parkway Consultant has completed several of the studies critical to the design of Estero Parkway. Council heard the results of the Access Management Plan at the last Council Meeting.

The Consultant will present the findings of Speed Study and Design Criteria Report. The results of these studies have changed the consultant's recommendations for driving lanes widths and roadside curbing. The consultant is now recommending 11.0 ft driving lanes (increased from 10.5 ft) and recommends eliminating the flow through curb and replacing it with a standard Type F curb with a trench drain. The curb and trench drain would only be used near intersections and a few select locations along the roadway, to provide additional landscaping near the roadway.

The attached presentation describes in more detail the studies and justification for the Consultant's recommendations.

Financial Impacts:

The roadway and sidewalk improvements are included within the previously approved Estero Parkway Project.

The option that is selected could impact overall projects costs. These costs implications are outlined in the attached presentation.

Attachments:

1. Estero Parkway Roadway and Sidewalk Presentation



**AGNOLI
BARBER &
BRUNDAGE, INC.**
Professional Engineers, Planners & Surveyors

Estero Parkway Roadway/ Landscape Design

Speed Study/Typical Section Development

- **Speed Limit Study**
- **Design Criteria Report**
- **Roadway Sections**
- **Shoulder Sections**

Speed Limit Study

- Determine the appropriate speed limit on Estero Parkway.
- Based upon the FDOT “Speed Zoning for Highways, Roads and Streets in Florida.”
- Improve vehicular and pedestrian safety.

Speed Data Collection

- Two measures from the raw speed data collected:
 1. 85th percentile speed
 - Speed at or below which 85% of free-flowing vehicles travel
 2. Upper limit of 10 mph pace
 - 10 mph range with the highest number of vehicles
 - Not the fastest vehicles
- The less variation in vehicular speed - the safer the conditions.

Speed Study Summary

Estero Parkway Location Number	Posted Speed (mph)	Direction	85th Percentile (mph)	10 MPH Pace Speed (mph)
1	45	WB	55	46 – 55
		EB	58	46 – 55
2	45	WB	52	41 – 50
		EB	58	46 – 55
3	45	WB	53	41 – 50
		EB	56	46 – 55

Speed Collection – Locations Map



Vehicular speeds were collected over a 72-hour period during weekdays from July 31 through August 9, 2018.

Posted Speed Limit = Lower of the following \pm 3 MPH

- 85th percentile speed
- Upper limit of the 10 mph pace
- (Rounded to nearest 5 mph)

Posted Speed Limit (3 MPH Rule)

Estero Parkway Location Number	Posted Speed (mph)	Direction	85th Percentile (mph)	10 MPH Pace Speed (mph)	3 MPH Rule
1	45	WB	55	46 – 55	55
		EB	58	46 – 55	55
2	45	WB	52	41 – 50	50
		EB	58	46 – 55	55
3	45	WB	53	41 – 50	50
		EB	56	46 – 55	55

Supplemental Investigation

- Takes into specific land use context.
- Allows 4 to 8 mph less than 85th percentile speed.
- Primarily residential – promote pedestrians and bicyclists.

Estero Parkway Location Number	Posted Speed (mph)	Direction	85th Percentile (mph)	10 MPH Pace Speed (mph)	3 MPH Rule	4-8 MPH Rule Supplemental Investigation	Posted Speed
1	45	WB	55	46 – 55	55	50	50
		EB	58	46 – 55	55	50	
2	45	WB	52	41 – 50	50	45	45
		EB	58	46 – 55	55	50	
3	45	WB	53	41 – 50	50	45	45
		EB	56	46 – 55	55	50	

- Appropriate to keep the 45 mph speed limit for Estero Parkway.
- 45 mph posted speed is consistent with the Estero Parkway roadway segment located to the east of Three Oaks Parkway.

Design Criteria Report

1. Roadway Classification:

- 4-lane suburban section roadway
- Curbed median (urban)
- Outside shoulders are not curbed (rural)

2. Functional Classification:

- Urban Major Collector (UMJC)

3. Median Width:

- 22 ft wide with Type E curb and gutter to remain

4. Lane Width:

- Travel lane 11 ft min
- Turn lane 11 ft min

5. Shoulder Width:

- Minimum 10 ft
- 7 ft buffered bike lane plus 3 ft grass shoulder

6. Roadside Clear Zone (travel way to fixed object):

- Roadway thru lanes:
 - » Without curb - 18 ft
 - » With curb - 4 ft
- Turn lanes:
 - » Without curb - 8 ft
 - » With curb - 4 ft

7. Roadside Slopes:

- As flat as possible
- 1:4 or flatter within the clear zone
- 1:3 outside of clear zone

8. Pedestrian Facility Locations (Rural Roadway Section):

- A. Near R/W line
- B. Outside clear zone
- C. 5 ft beyond full width shoulder
- D. At full width shoulder

At intersection, sidewalks transition toward roadway to provide safe crossings.

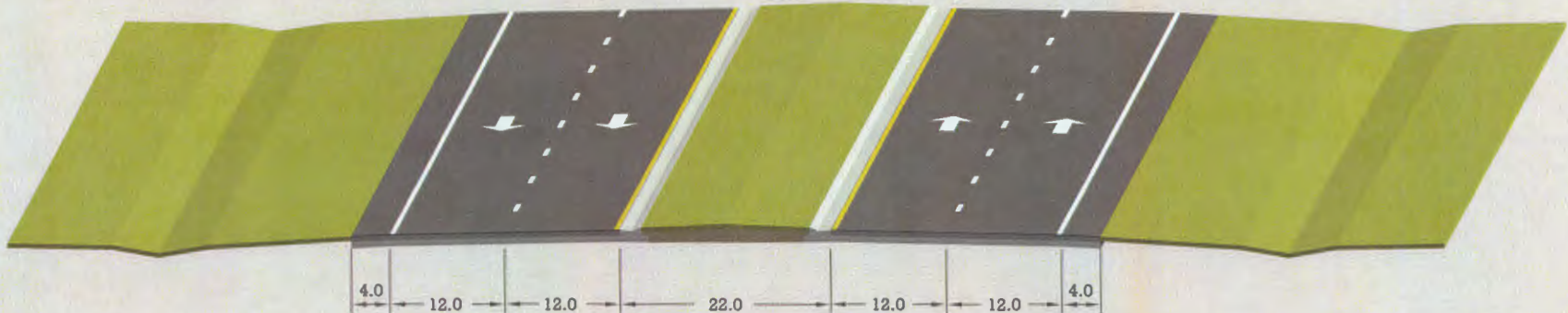
9. Bicycle Facilities:

- 7 ft buffered bike lane
- Green bike lanes provided at intersections

Roadway Sections

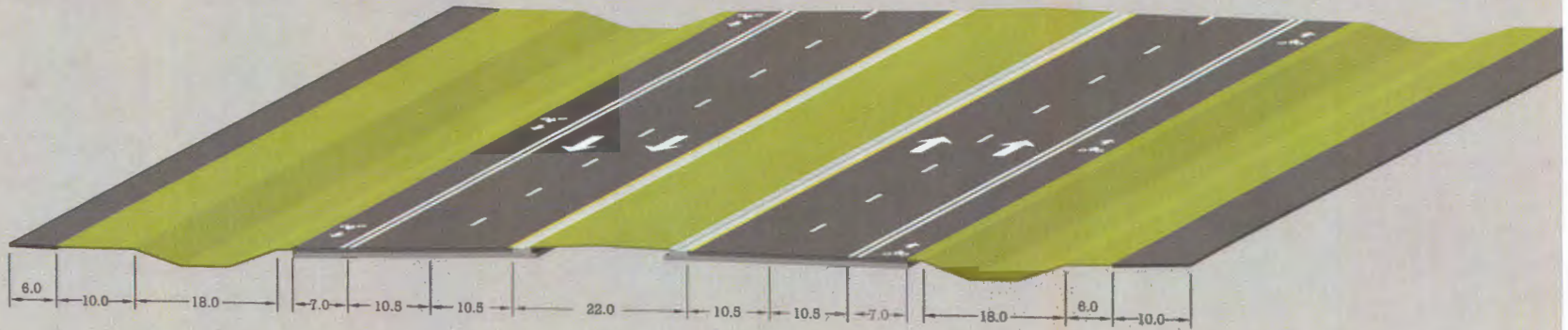
Existing Roadway

- 2 – 12' travel lanes
- 4' paved shoulder
- 28' width total



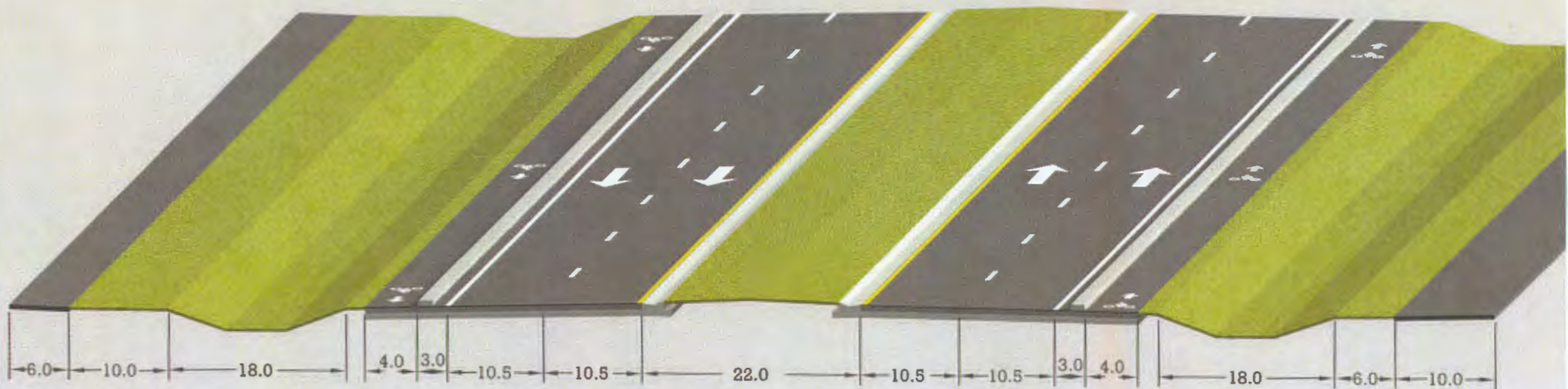
Initial Roadway Concept

- 2 – 10.5' lanes
- 7' buffered bike lane



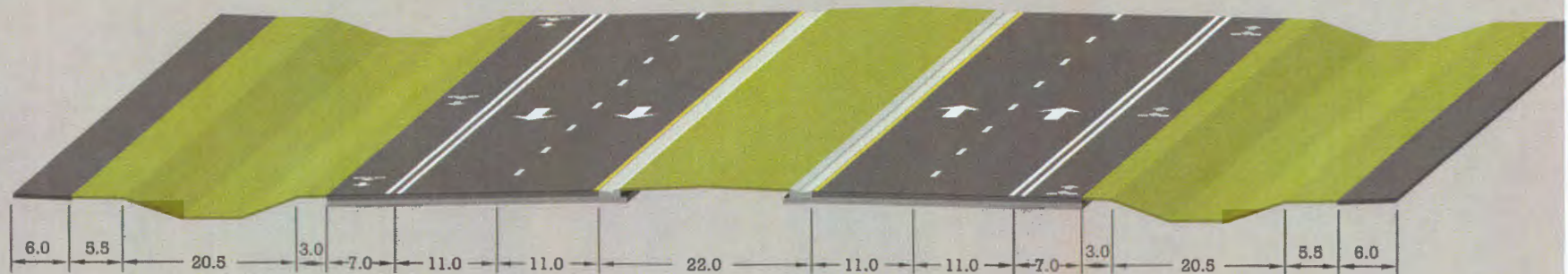
Initial Roadway Concept with Raised Barrier

- 2 – 10.5' lanes
- Barrier separated bike lane



Proposed Roadway Design

- 2 – 11' travel lanes
- 7' buffered bike lane
- Type F curb with slotted drain (selected locations)



Shoulder Sections

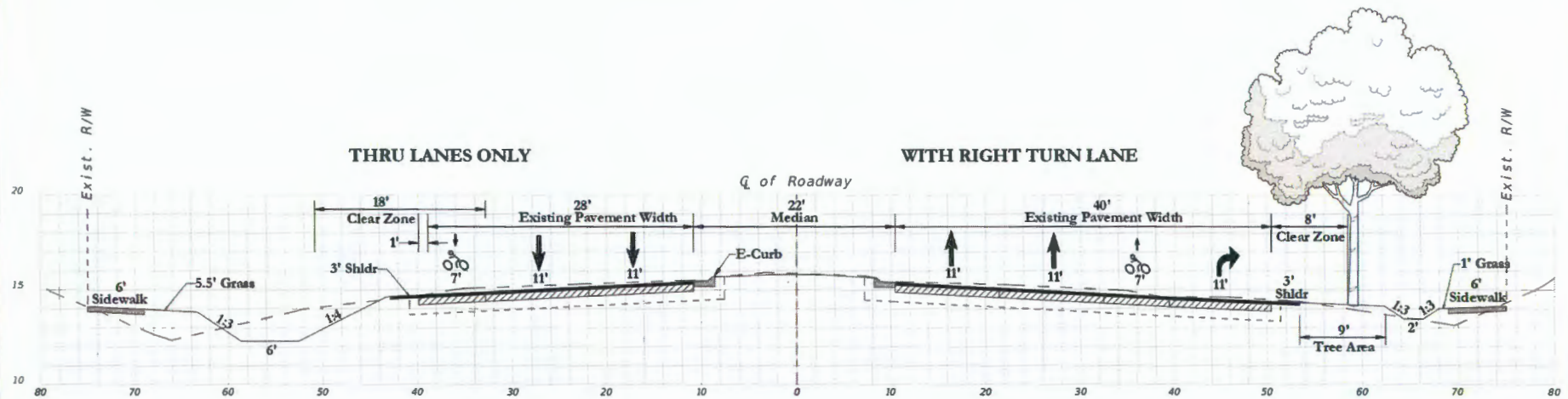
Shoulder Section 1

Thru-Lanes

- Sidewalk at right-of-way line
- No trees next to road
- Low-level or wetland plantings only

Right-Turn Lanes

- Sidewalk at right-of-way line
- Ditch is already reduced in this area
- Trees 8 ft off turn lane



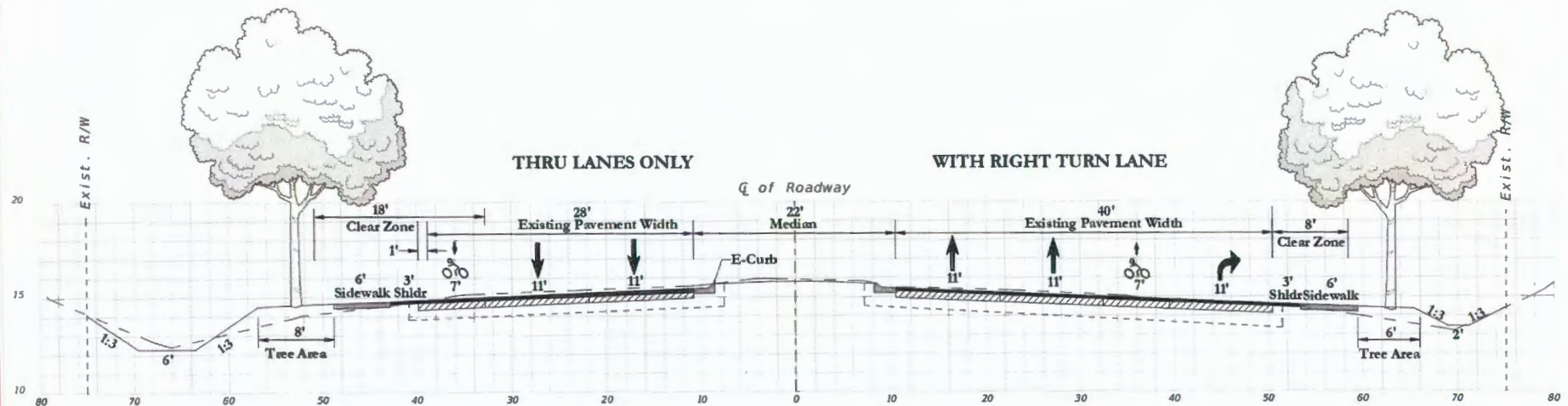
Shoulder Section 2

Thru-Lanes

- Sidewalk at shoulder
- Trees 18 ft off thru lane
- Sidewalk at shoulder is allowable, but not ideal

Right-Turn Lanes

- Sidewalk at shoulder
- Tree next to sidewalk
- At intersections, sidewalks transitioned to provide safe crossing



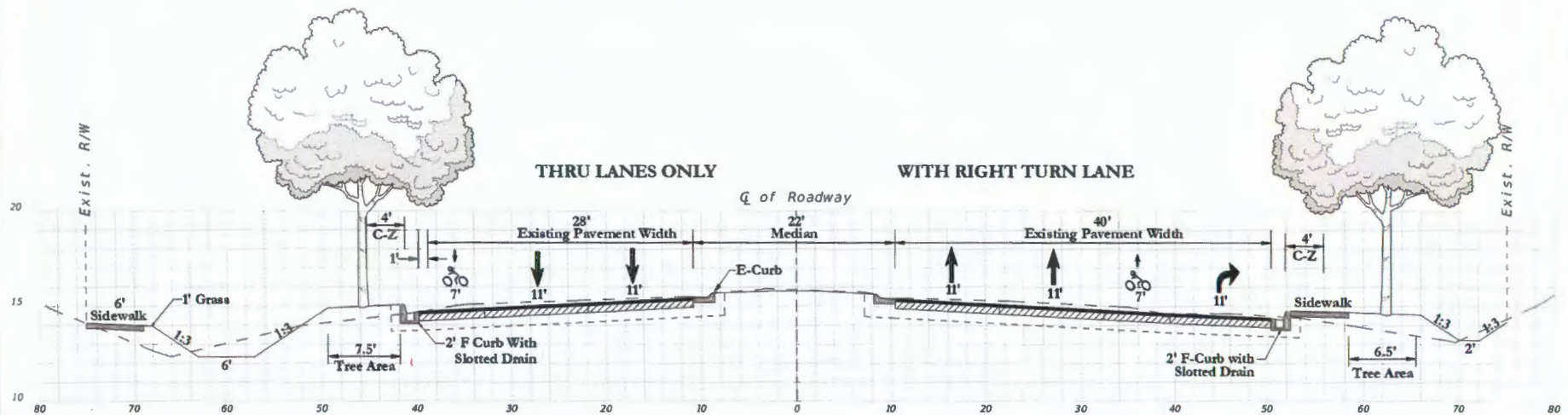
Shoulder Section 3

Thru-Lanes

- Sidewalk at right-of-way line with curb
- Trees 4 ft off curb
- Curb with slotted drain increases cost
- Limit curb to specific locations to cluster trees

Right-Turn Lanes

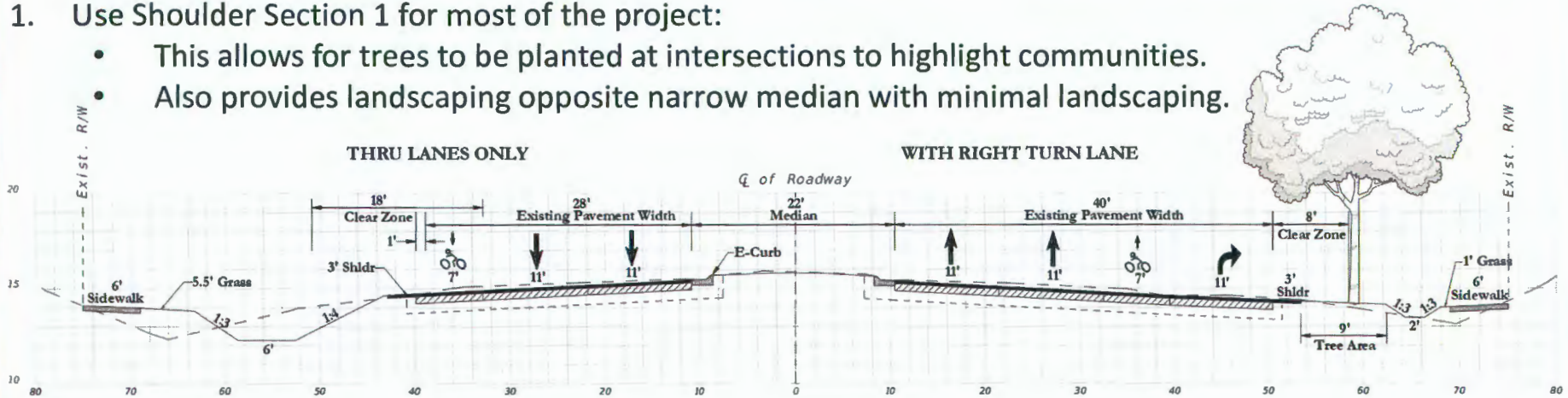
- Sidewalk at shoulder with curb
- Trees next to sidewalk
- Curb with slotted drain provides improved pedestrian safety and comfort



Shoulder Section Recommendations

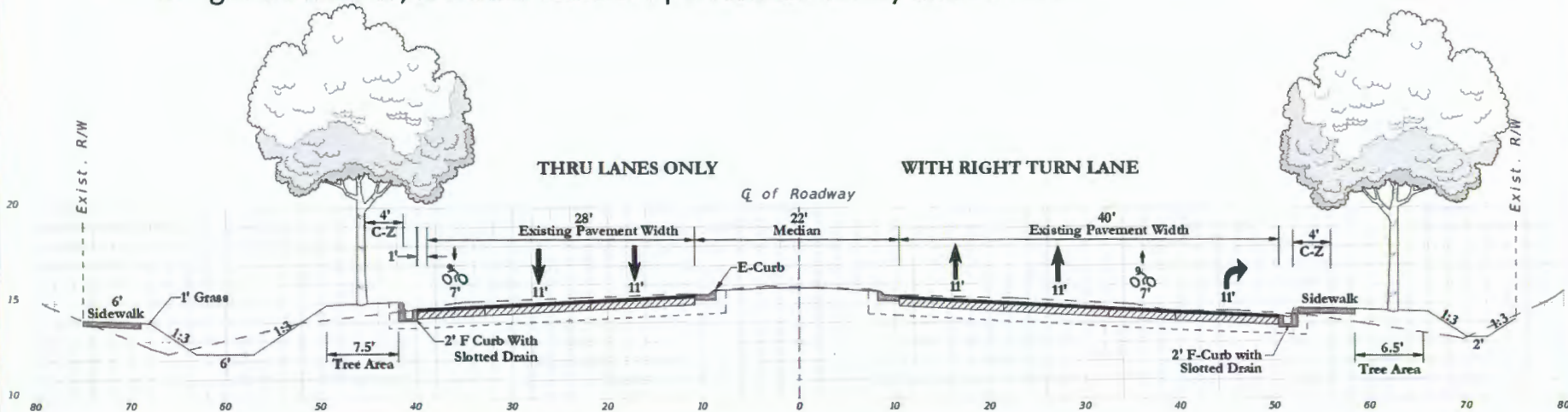
1. Use Shoulder Section 1 for most of the project:

- This allows for trees to be planted at intersections to highlight communities.
- Also provides landscaping opposite narrow median with minimal landscaping.



2. Shoulder Section 3 in select areas:

- In thru lanes, this could be added to create a meandering sidewalk and "mid-block" tree clusters.
- In right turn lanes, it would enhance pedestrian safety and comfort.



Proposed Roadway and Shoulder Design Summary

Roadway

- 2 – 11-ft travel lanes
- 7-ft buffered bike lanes
- 11-ft turn lanes
- Retain existing median and Type E curb and gutter

Shoulder – Thru Lanes

- 6-ft sidewalk placed at right-of-way line
- No curbing on the outside edge of pavement
- Low-level or wetland plantings
- Type F curb and gutter with slotted drain can be added at strategic locations to provide additional tree clusters

Shoulder – Turn Lanes

- 6-ft sidewalk placed at right-of-way line
- 6-ft sidewalk transitions to shoulder at intersections
- No curbing on the outside edge of pavement
- Tree planting clusters at intersections
- Type F curb and gutter with slotted drain can be added at intersections to enhance pedestrian safety at crosswalks

Questions/Comments

Village with
a Vision...

