GROUP 3, ITEM A.6

STREET DESIGN AND CONSTRUCTION STANDARDS

AMENDMENT SUMMARY

Issue:	Type "S-I" and "S-III" product referenced in Pavement Design Table 3 is no longer market available. Subsection 10-296(1)i does not address the General Interchange future land use category, which is a future urban area.
Solution:	Remove reference from LDC to be consistent with the FDOT Flexible Pavement Design Manual (FPDM). Add reference to General Interchange future land use category.
Outcome:	Updates LDC design standard references consistent with FPDM and market conditions. Updates LDC to be consistent with Lee Plan.

Chapter 10 - DEVELOPMENT STANDARDS

ARTICLE III. – DESIGN STANDARDS AND REQUIREMENTS

DIVISION 2. – TRANSPORTATION, ROADWAYS, STREETS AND BRIDGES

Sec. 10-296. Street design and construction standards.

Subsections (a) through (d)10 remain unchanged.

(d) (11) *Pavement design.* New construction or reconstruction of streets and roadways must be in accordance with Table 3 unless an alternative pavement design based on traffic type and volume performed by a registered professional engineer demonstrates the same or better structural integrity or, in the case of capital improvement projects, an acceptable alternative is approved by the Director of the Lee County Department of Transportation. Roadway pavement design criteria will also apply to travel lanes, turn lanes, median openings, bicycle lanes, on-street parking, and bus-pullout bays. The applicant may submit a request for an administrative deviation in accordance with Section 10-104(a)(5) for an alternative design.

TABLE 3. MINIMUM PAVEMENT DESIGN SPECIFICATIONS

	Friction Course	*Structural Course*	*Base*	*Subgrade*
Principal Arterial	One-inch ~~Type S-III (section 331, FDOT specifications) OR~~ SUPERPAVE 9.5 (FDOT Standard Specifications)	2½-inch asphaltic concrete FDOT ~~Type S-1 or~~ SUPERPAVE 12.5 (Section 334, FDOT)	FDOT Optional Base Group 9 (ten inches of compacted limerock)	Twelve-inch-thick stabilized subgrade LBR40
Minor Arterial	One-inch ~~Type S-III (section 331, FDOT specifications) OR~~ SUPERPAVE 9.5 (FDOT Standard Specifications)	2½-inch asphaltic concrete FDOT ~~Type S-1 or~~ SUPERPAVE 12.5 (Section 334, FDOT)	FDOT Optional Base Group 9 (ten inches of compacted limerock)	Twelve-inch-thick stabilized subgrade LBR40
Major Collector	One-inch ~~Type S-III (section 331, FDOT~~	1½-inch asphaltic concrete FDOT ~~Type S-1 or~~	FDOT Optional Base Group 6 (eight inches of	Twelve-inch-thick stabilized subgrade LBR40

	~~specifications) OR~~ SUPERPAVE 9.5 (FDOT Standard Specifications)	SUPERPAVE 12.5 (Section 334, FDOT)	compacted limerock)	
Minor Collector	None	1½-inch asphaltic concrete FDOT ~~Type S-1 or~~ SUPERPAVE 12.5 (Section 334, FDOT)	FDOT Optional Base Group 6 (eight inches of compacted limerock)	Twelve-inch-thick stabilized subgrade LBR40
Local and Access Street (including Privately-Maintained Nonresidential Streets)	None	1½-inch asphaltic concrete FDOT ~~Type S-1 or~~ SUPERPAVE 12.5 (Section 334, FDOT)	FDOT Optional Base Group 6 (eight inches of compacted limerock)	Twelve-inch-thick stabilized subgrade LBR40
Privately-Maintained Residential Local Streets	None	One-inch asphaltic concrete FDOT ~~Type S-III, or~~ SUPERPAVE 9.5 (Section 334, FDOT)	FDOT Optional Base Group 4 (six inches of compacted limerock)	Six-inch-thick stabilized subgrade LBR40
Shared Streets/ Bicycle Boulevard	None	Six-inch Portland Cement concrete, or one-inch asphaltic concrete FDOT ~~Type S-III, or~~ SUPERPAVE 9.5 (Section 334, FDOT)	FDOT Optional Base Group 4 (six inches of compacted limerock)	Six-inch-thick stabilized subgrade LBR40
Shared Use Path/Sidewalk/Cycle Track	None	Six-inch Portland Cement concrete, or one-inch asphaltic concrete FDOT ~~Type S-III, or~~ SUPERPAVE 9.5 (Section 334, FDOT)	FDOT Optional Base Group 1 (four inches of compacted limerock) only for asphaltic concrete option	Six-inch-thick stabilized subgrade LBR40

(e) *Road design.* All roadways will be designed and constructed in accordance with this subsection. Cross sections within this subsection are for illustrative purposes only.

Staff note: Subsection (1)a through subsection through subsection (1)h remain unchanged. Subsection i has been revised to incorporate the General Interchange future land use category, which is a Future Urban Area that is not currently classified in the LDC.

(1) *Urban roadways.* Roadway segments in or abutting future urban areas identified in the Lee Plan will be designed in accordance with this subsection. Design criteria will be determined by the existing functional classification of the adjacent roadway identified in AC 11-1 and the future land use designation of the property identified in the Lee Plan Future Land Use Map.

a. *Lane width.* The required lane width for roadways with two-way traffic and no existing or planned transit or freight routes, must be as specified in Tables 4 through 10. The required lane width for one-way streets is 14 feet. For roadways with an existing or planned transit route, the required lane width for lanes utilized by the transit vehicle is 12 feet. Where freight or large truck traffic is frequent (shown as a primary or secondary truck route on the MPO freight plan or greater than one percent of the daily volume), the lane width will be 11 feet.

b. *Transit facilities.* Bus pull-offs, shelters, and benches will be provided consistent with this chapter. All bus stops will have:

1. A sign with route numbers.

2. An eight-foot by 30-foot minimum concrete landing pad. The landing pad will have a maximum two percent cross-slope and connected to, or be a part of, an existing pedestrian way.

3. Bicycle parking.

c. *Tree wells/planting strips.* Dimensions, plant materials specifications and irrigation must comply with the Lee Scape Master Plan and AC 11-12. The planting area may utilize islands or areas between on-street parking spaces to provide adequate area for tree growth with dimensions shown in Table 4 as minimums. The planting strip area depicted in cross sections include two feet for curb and gutter.

d. *Tree and palm spacing.* Small trees (under 30 feet at mature height) must be provided at a rate of five trees for every 100 linear feet. Medium sized trees (30 feet to 40 feet at mature height) must be provided at a rate of four trees for every 100 linear feet. Large trees (over 40 feet at mature height) must be provided at a rate of three trees for every 100 linear feet. Trees should be spaced evenly along the frontage and not clustered. Adjustments to the placement of trees up to ten feet is permitted to avoid conflicts with utilities and building visibility. Palm trees may only be substituted for a maximum of 50 percent of the required small trees.

e. *Street furniture.* May be installed in the streetside planting area where approved by the Development Services Director.

f. *Bicycle and pedestrian facilities.* Include a shared use path when depicted on the Lee Plan Maps 3D or 22. Where a shared use path or greenway is not depicted, pedestrian facility width dimensions will be governed by the design tables contained in this section.

g. *Street lighting.* Must be provided in accordance with AC 11-2. When street lighting is required in or abutting coastal areas or environmental preserves, the lighting must be constructed utilizing environmentally friendly techniques.

h. *Mixed use development.* Streets must be designed in accordance with nonresidential roadway design criteria.

i. *Urban context design criteria.*

1. *Urban principal arterials.*

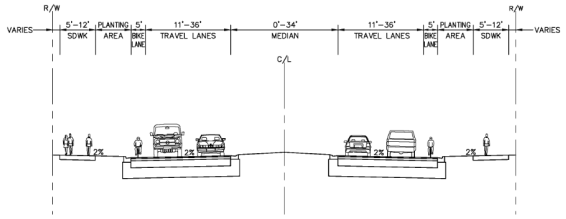
i. *Pavement design.* Must be in accordance with Table 3.

ii. *Context design.* Urban principal arterial roadway lane width, bicycle and pedestrian facilities, and planting strips must be designed in accordance with the criteria set forth in Table 4.

TABLE 4. URBAN PRINCIPAL ARTERIAL

Lee Plan Future Land Use Designation		*Intensive*	*Central Urban and General Interchange*		*Urban Community*	
Existing/Proposed Land Use		*All*	*Commercial*	*Residential*	*Commercial*	*Residential*
Lane Width		11 feet	12 feet	11 feet	12 feet	12 feet
On-Road Bicycle Facility		5-foot bike lane	5-foot bike lane	5-foot bike lane	5-foot bike lane	5-foot bike lane
Streetside	Planting Strip	8-foot strip	8-foot strip	8-foot strip	6-foot strip	5-foot strip
	Pedestrian Facility Width	12 feet	10 feet	8 feet	6 feet	5 feet

iii. *Cross section drawings.* The following cross section is illustrative of an urban principal arterial. All urban arterial cross section drawings reflect closed drainage facilities.



Urban Principal Arterial

2. *Urban minor arterials.*

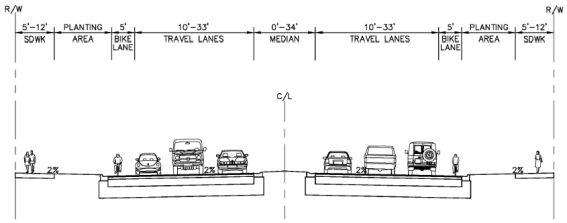
i. *Pavement design.* Must be in accordance with Table 3.

ii. *Context design.* Urban minor arterial roadway lane width, bicycle and pedestrian facilities, and planting strips must be designed in accordance with the criteria set forth in Table 5.

TABLE 5. URBAN MINOR ARTERIAL

Lee Plan Future Land Use Designation		*Intensive*	*Central Urban and General Interchange*		*Urban Community*	
Existing/Proposed Land Use		*All*	*Commercial*	*Residential*	*Commercial*	*Residential*
Lane Width		10 feet	11 feet	11 feet	11 feet	11 feet
On-Road Bicycle Facility		Shared lane	5-foot bike lane	Shared lane	5-foot bike lane	5-foot bike lane
Streetside	Planting Strip	8-foot strip	8-foot strip	8-foot strip	6-foot strip	5-foot strip
	Pedestrian Facility Width	12 feet	10 feet	8 feet	6 feet	5 feet

iii. *Cross section drawings.* The following cross section is illustrative of an urban minor arterial. All urban arterial cross section drawings reflect closed drainage facilities.



Urban Minor Arterial

3. *Urban major collectors.*

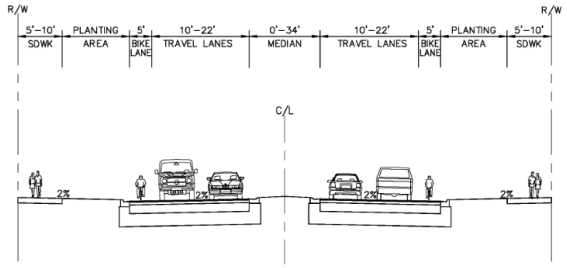
   i. *Pavement design.* Must be in accordance with Table 3.

   ii. *Context design.* Urban major collector roadway lane width, bicycle and pedestrian facilities, and planting strips must be designed in accordance with the criteria set forth in Table 6.

TABLE 6. URBAN MAJOR COLLECTOR

Lee Plan Future Land Use Designation		*Intensive*	*Central Urban and General Interchange*		*Urban Community*	
Existing/Proposed Land Use		*All*	*Commercial*	*Residential*	*Commercial*	*Residential*
Lane Width		10 feet	10 feet	10 feet	11 feet	11 feet
On-Road Bicycle Facility		Shared lane	5-foot bike lane	Shared lane	5-foot bike lane	Shared lane
Streetside	Planting Strip	8-foot strip	8-foot strip	8-foot strip	6-foot strip	5-foot strip
	Pedestrian Facility Width	10 feet	8 feet	8 feet	6 feet	5 feet

   iii. *Cross section.* The following cross section is illustrative of an urban major collector. All urban major collector cross section drawings reflect closed drainage facilities.



Urban Major Collector

4. *Urban minor collectors.*

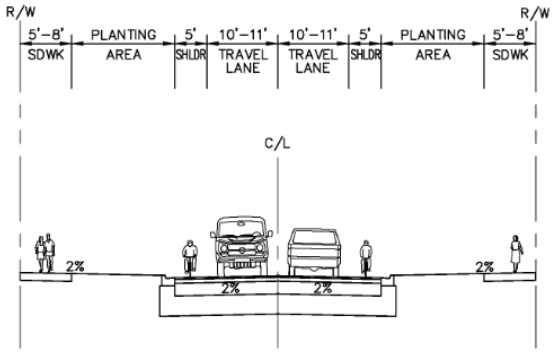
   i. *Pavement design.* Must be in accordance with Table 3.

   ii. *Context design.* Urban minor collector roadway lane width, bicycle and pedestrian facilities, and planting strips must be designed in accordance with the criteria set forth in Table 7.

TABLE 7. URBAN MINOR COLLECTOR

Lee Plan Future Land Use Designation		*Intensive*	*Central Urban and General Interchange*		*Urban Community*	
Existing/Proposed Land Use		*All*	*Commercial*	*Residential*	*Commercial*	*Residential*
Lane Width		10 feet	10 feet	10 feet	11 feet	11 feet
On-Road Bicycle Facility		Shared lane	Shared lane	Shared lane	Shared lane	Shared lane
Streetside	Planting Strip	8-foot strip	8-foot strip	8-foot strip	6-foot strip	5-foot strip
	Pedestrian Facility Width	8 feet	8 feet	8 feet	6 feet	5 feet

iii. *Cross section drawings.* The following cross section is illustrative of an urban minor collector. All urban minor collector cross section drawings reflect closed drainage facilities.



Urban Minor Collector

5. *Urban local and access streets.*

i. *Pavement design.* Must be in accordance with Table 3.

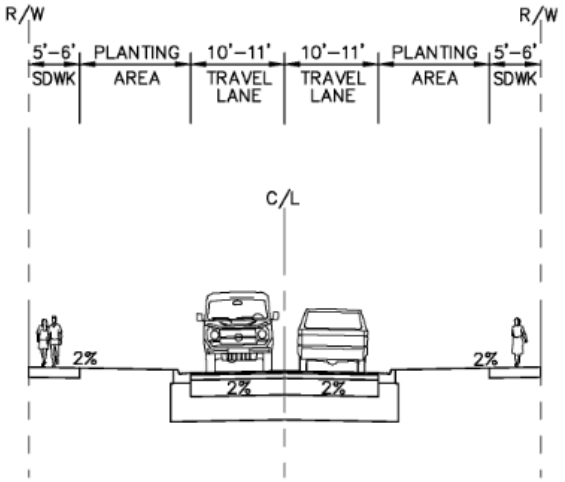
ii. *Context design.* Urban local and access street roadway lane width, bicycle and pedestrian facilities, and planting strips must be designed in accordance with the criteria set forth in Table 8.

TABLE 8. URBAN LOCAL AND ACCESS STREETS

Lee Plan Future Land Use Designation		*Intensive*	*Central Urban and General Interchange*		*Urban Community*	
Existing/Proposed Land Use		*All*	*Commercial*	*Residential*	*Commercial*	*Residential*
Lane Width		10 feet	10 feet	10 feet	11 feet	11 feet
On-Road Bicycle Facility		Shared lane	Shared lane	Shared lane	Shared lane	Shared lane
Streetside	Planting Strip	8-foot strip	8-foot strip	6-foot strip	6-foot strip	5-foot strip
	Pedestrian Facility Width	6 feet	6 feet	5 feet	6 feet	5 feet

iii. *Cross section drawings.* The following cross section is illustrative of an urban local roadway. All urban local street cross section drawings reflect closed drainage facilities.

a. Urban local/access street cross section:



Urban Local/Access Street

6. *Urban shared streets.*

   i. *Pavement design.* Must be in accordance with Table 3.

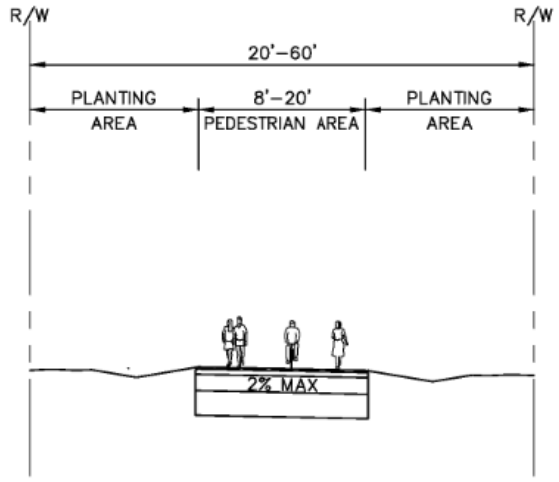
   ii. *Context design.* Urban shared street roadway bicycle and pedestrian facilities, and planting strips must be designed in accordance with the criteria set forth in Table 9.

TABLE 9. URBAN SHARED STREET

Lee Plan Future Land Use Designation		*Intensive*	*Central Urban and General Interchange*		*Urban Community*	
Existing/Proposed Land Use		*All*	*Commercial*	*Residential*	*Commercial*	*Residential*
On-Road Bicycle Facility		Shared lane	Shared lane	Shared lane	Shared lane	Shared lane
Streetside	Planting Strip	8 ft.—20 ft. strip	8 ft.—20 ft. strip	6 ft.—10 ft. strip	8 ft.—20 ft. strip	6 ft.—10 ft. strip
	Pedestrian Facility Width	12 ft.—20 ft.	10 ft.—16 ft.	8 ft.—12 ft.	10 ft.—16 ft.	8 ft.—12 ft.

   iii. *Cross section.* The following cross section is illustrative of an urban shared street. All urban shared streets are designed with open drainage graded to drain to planting areas and a design speed of five miles per hour. Motor vehicle use on shared streets is limited to emergency vehicles, local traffic or deliveries. Restriction of vehicular traffic to be determined by LCDOT.

      a. Urban shared street cross section:



Urban Shared Street Open Drainage

7. *Urban bicycle boulevards.*

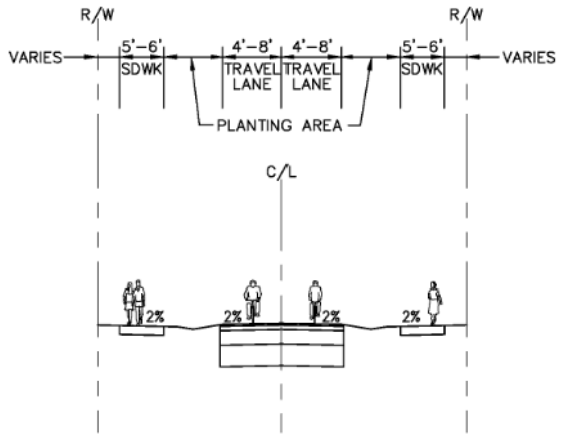
   i. *Pavement design.* Must be in accordance with Table 3.

   ii. *Context design.* Urban bicycle boulevard roadway bicycle and pedestrian facilities, and planting strips must be designed in accordance with the criteria set forth in Table 10.

TABLE 10. URBAN BICYCLE BOULEVARDS

Lee Plan Future Land Use Designation		*Intensive*	*Central Urban and General Interchange*	*Urban Community*
Existing/Proposed Land Use		*All*	*All*	*All*
On-Road Bicycle Facility		8 ft. bike lane	6 ft.—8 ft. bike lane	4 ft.—6 ft. bike lane
Streetside	Planting Strip	8-foot strip	8-foot strip	8-foot strip
	Pedestrian Facility Width	6 feet	6 feet	5 feet

   iii. *Cross section.* The following cross section is illustrative of an urban bicycle boulevard. All urban bicycle boulevards are designed with open drainage graded to drain to planting areas with a design speed of 20 mph with speed restrictions.



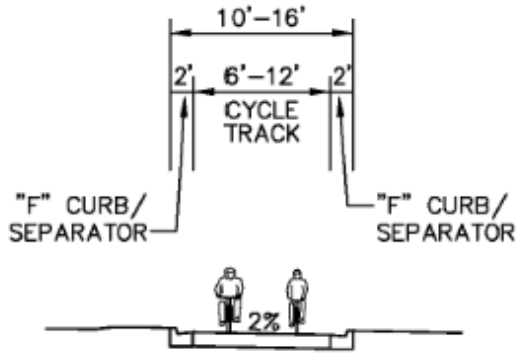
Urban Bicycle Boulevard
Open Drainage, 20 mph

8. *Urban cycle tracks.*

   i. *Pavement design.* Must be in accordance with Table 3.

      a. Bicycle facility width. The width of a one-way urban cycle track will be a minimum of six feet to eight feet for bicycle traffic. The width of a two-way urban cycle track will be 12 feet.

   ii. *Cross section.* The following cross section is illustrative of an urban cycle track. All urban cycle tracks are designed with closed drainage systems.



Urban Cycle Track Closed Drainage