



# Marion County

## Land Development Regulation Commission

### Meeting Agenda

---

**Wednesday, November 20, 2024 5:30 PM Marion County Main Training  
Room**

---

#### **ROLL CALL AND PLEDGE OF ALLEGIANCE**

#### **Acknowledgement of Proof of Publication**

#### **1. ADOPT THE FOLLOWING MINUTES**

1.1. [October 16, 2024](#)

#### **2. SCHEDULED ITEMS**

2.1. [Discussion for Proposed Marion County Land Development Code \(LDC\) Amendments to Revise Section 6.13.3 - Types of Stormwater Management Facilities](#)

2.2. [Discussion for Proposed Marion County Land Development Code \(LDC\) Amendments to Revise Section 6.13.8 - Stormwater Conveyance Criteria](#)

2.3. [Discussion for Proposed Marion County Land Development Code \(LDC\) Amendments to Revise Section 2.12.8 - Current Boundary and Topographical Survey](#)

#### **3. NEW BUSINESS**

**ADJOURN**



# Marion County

## Land Development Regulation Commission

### Agenda Item

---

**File No.:** 2024-17250

**Agenda Date:** 11/20/2024

**Agenda No.:** 1.1.

---

**SUBJECT:**  
**October 16, 2024**

**DESCRIPTION/BACKGROUND:**  
Minutes from the previous LDRC workshop.

The Marion County Land Development Regulation Commission met on October 16, 2024 at 5:30 p.m. in the Board of County Commissioners Auditorium, 601 SE 25<sup>th</sup> Avenue, Ocala Florida.

**CALL TO ORDER**

Chairman, David Tillman Called the Meeting to Order at 5:30pm.

**ROLL CALL & PLEDGE OF ALLEGIANCE**

Autumn Williams called roll and quorum was confirmed.  
Board members present were Chairman David Tillman, Gene Losito, Richard Busche, Chris Howson, and alternate member Erica Larson.

Chairman, David Tillman led the Pledge of Allegiance.

Staff members present were County Attorney Guy Minter, Assistant County Administrator Tracy Straub, Growth Services Director Chuck Varadin, Deputy Director Ken Weyrauch, Planners Chris Rison, County Engineer Steven Cohoon, Park Director Jim Couillard, Stormwater Engineer Jason Cambre, Land Development Manager Aaron Pool, and Administrative Staff Assistant Autumn Williams.

There were no members of the public present.

**ACKNOWLEDGEMENT OF PROOF OF PUBLICATION**

Autumn Williams read the Proof of Publication and advised that the meeting was properly advertised.

**1. ADOPT THE FOLLOWING MINUTES**

Richard Busche made a motion to adopt the minutes from the October 2, 2024 meeting. Motion was seconded by Chris Howson. Motion passed unanimously (4-0).

**2. SCHEDULED ITEMS**

**2.1. PUBLIC HEARING: Consideration for Proposed Marion County Land Development Code (LDC) Amendments to Revise Division 8.6. – Technical Standards and Requirements, to Review and Update Table 6.8-2 Land Use Categories for Buffers Table to Reflect the Proposed Table.**

Ken Weyrauch, Deputy Director, opened discussion regarding this item.

LDRC Board Members voiced their comments.

There was no public comment for this item.

Board Member Richard Busche made a motion to recommend approval as presented with the amended table and language to Table 6.8-2 to the board of County Commissioners. Second made by Board Member Chris Howson. Motion passes unanimously, 5-0.

**2.2. PUBLIC HEARING: Consideration for Proposed Marion County Land Development Code (LDC) Amendments as a Result of the Passing of Senate Bill 812 to Revise Section 2.18.4. Construction, Completion, and Close Out.**

Ken Weyrauch, Deputy Director, opened discussion regarding this item.

LDRC Board Members voiced their comments.

There was no public comment for this item.

Board Member Richard Busche made a motion to recommend approval as presented with the amended language to Section 2.18.4. to the board of County Commissioners. Second made by Board Member Gene Losito. Motion passes unanimously, 5-0.

**2.3. WORKSHOP: Discussion for Proposed Marion County Land Development Code (LDC) Amendments to Revise Section 6.13.3 – Types of Stormwater Management Facilities**

Steven Cohoon, County Engineer, opened discussion regarding this item.

Board Members voiced their recommendations and comments regarding the current language.

The Board Reviewed changes to the language on prior discussion. Additional changes were discussed and agreed. Jason Cambre, Stormwater Engineer to make edits to the verbiage and noted items that need to be followed up on. The Board agreed more discussion on the language was needed. It was agreed that the discussion of this item would be continued at the November 6, 2024 LDRC Workshop.

**2.4. WORKSHOP: Discussion for Proposed Marion County Land Development Code (LDC) Amendments to Revise Section 6.13.8 – Stormwater Conveyance Criteria**

Steven Cohoon, County Engineer, opened discussion regarding this item.

Board Members voiced their recommendations and comments regarding the current language.

The Board Reviewed changes to the language on prior discussion. Additional changes were discussed and agreed. Jason Cambre, Stormwater Engineer to make edits to the verbiage and noted items that need to be followed up on. The Board agreed more discussion on the language was needed. It was agreed that the discussion of this item would be continued at the November 6, 2024 LDRC Workshop.

**3. NEW BUSINESS**

No new business.

**ADJOURNMENT**

The meeting adjourned at 7:02 PM.

Attest:

\_\_\_\_\_  
David Tillman, Chairman

\_\_\_\_\_  
Autumn Williams,  
Administrative Staff Assistant

**Land Development Regulation Commission Attendance Report**

<b>2024</b>	January	February	March	April	May	June	July	August 7	August 21	September 4	September 18	October 2	October 16	November 6	November 20	December 4	December 18
Christopher Howson	-	-	-	-	-	-	-	X	X	-	X		X				
James Stockton, III	-	-	-	-	-	-	-	X	X	-							
Gene Losito	-	-	-	-	-	-	-	X	X	-	X	X	X				
Jonny Heath	-	-	-	-	-	-	-	X	X	-							
Richard Busche	-	-	-	-	-	-	-	X	X	-	X	X	X				
Robert Stepp	-	-	-	-	-	-	-		X	-							
David Tillman	-	-	-	-	-	-	-	X	X	-	X	X	X				
Erica Larson*	-	-	-	-	-	-	-	X	X	-	X	X	X				

X Present

- N/A



# Marion County

## Land Development Regulation Commission

### Agenda Item

---

**File No.:** 2024-17251

**Agenda Date:** 11/20/2024

**Agenda No.:** 2.1.

---

**SUBJECT:**

**Discussion for Proposed Marion County Land Development Code (LDC) Amendments to Revise Section 6.13.3 - Types of Stormwater Management Facilities**

**DESCRIPTION/BACKGROUND:**

Staff has attached the proposed changes to update LDC Section 6.13.3 - Revision following presentation to LDRC on October 2, 2024 and October 16, 2024, types of stormwater management facilities. Staff, has identified a need to clarify language of this section to mirror the Water Management District, for consistency, and address private industry feedback.

**Sec. 6.13.3. Types of stormwater management facilities.**

**A. Existing public.**

- (1) An adjacent public retention/detention area may be utilized for disposal of runoff generated by an applicant's improvements if it can be proven that capacity is sufficient.
- (2) A Stormwater Connection Application is required for any connection to or expansion of a County retention/detention area, including but not limiting to drainage retention/detention areas or conveyance systems, not previously designed or permitted to consider the applicant's improvements.
- (3) If the retention/detention area is still under a maintenance agreement, approval in writing must be received from the maintenance entity, when not the County, stating no objection to the use of the facility.

**B. Natural.**

- (1) A natural facility may be used without further excavation upon the applicant's submittal of calculations demonstrating the existing capacity is sufficient.
- (2) Proof of control, ownership or easement for operation and maintenance of the natural facility shall be provided.
- (3) Runoff from adjacent property, to a natural facility, must be perpetuated to the extent of protecting upland owner interest.

**C. Proposed public.**

- (1) Retention/detention areas shall have side slopes no steeper than 4:1 (horizontal: vertical) from top of berm to bottom of dry water retention/detention facility or to a depth of two feet below the water control surface of a wet facility with a minimum berm width of 12.5 feet stabilized at six percent grade maximum around the entire perimeter of the facility. Side slopes steeper than 4:1 may be allowed with additional accommodations related to public safety, maintenance, and such as fencing or other protection from public access upon approval by the County Engineer or his designee.
- (2) Stormwater management systems servicing a public development shall be owned and maintained by Marion County. They may be privately owned and maintained, upon approval by the County Engineer and granting of an easement to Marion County, minimally allowing but not obligating, emergency maintenance, as well as access to, drainage of, conveyance of, and storage of stormwater.
- (3) If fencing is used, it shall be per the County Fence Detail found in Section 7.3.1 Transportation and Stormwater details.
- (4) The bottom of all dry water retention areas shall have appropriate vegetative cover.
- (5) A retention/detention area that is adjacent to a public right of way shall be constructed to be aesthetically pleasing with curvilinear form and shall be landscaped with a mixed plant pallet meeting Marion friendly landscaping standards minimally consisting of four shade trees and 200 square feet of landscaping comprised of shrubs and/or groundcover for every 100 lineal feet of frontage or fractional part thereof, or, in the case of a wet facility, a littoral zone meeting the governing water management district criteria. The proposed landscaping shall be arranged to provide ease of maintenance and screening of stormwater structures.

**D. Proposed private.**

- (1) Residential subdivisions. Retention/detention areas shall have side slopes no steeper than 4:1 (horizontal: vertical) from top of berm to bottom of dry water retention/detention facility or to a depth of two feet below the water control surface of a wet facility with a minimum berm width of 12.5 feet

**Commented [CJ1]:** Mirrors water management district language.

**Commented [CJ2]:** Made distinction between dry and wet facilities.

**Commented [CJ3]:** Berm width based on private industry feedback and waiver requests.

**Commented [CJ4]:** Mirrors water management district language.

**Commented [CJ5]:** OCE believes this language belongs in landscaping section of code.

**Commented [CJ6]:** Mirrors water management district language.



stabilized at ~~six~~ 6 percent grade maximum around the entire perimeter of the facility. Side slopes steeper than 4:1 may be allowed with additional accommodations related to public safety such as fencing or other protection from public, maintenance, and access upon approval by the County Engineer or ~~his~~ their designee.

Berm widths under 5 feet may be allowed upon approval by the County Engineer or their designee.

- (2) Commercial lots or subdivisions. Retention/detention areas shall be designed with a minimum berm width of 5 feet stabilized at ~~six~~ 6 percent grade maximum around the entire perimeter of the facility and side slopes:

- (a) No steeper than 4:1 (horizontal: vertical) from top of berm to bottom of dry water retention/detention facility or to a depth of two 2 feet below the water control surface of a wet facility; or
- (b) Steeper than 4:1 with an access path provided to the bottom of the facility at a slope of no steeper than 3:1 additional accommodations related to public safety such as fencing or other protection from public access upon approval by the County Engineer or their designee; or
- (c) As vertical walls with a structural detail for the wall design provided, adhering to Florida Building Code, with an 12-foot wide access path provided to the bottom of the facility at a slope of no steeper than 3:1 and additional accommodations related to public safety such as fencing or other protection from public access, and an appropriate barrier shall be provided when adjacent to vehicular paths and parking areas. The type of barrier shall be determined by the design speed of the travel way and available horizontal clearance.

Berm widths under 5 feet may be allowed upon approval by the County Engineer or their designee.

- (3) The bottom of all dry water retention areas shall have appropriate vegetative cover.

- ~~(4) A retention/detention area that is adjacent to a public right-of-way shall be constructed to be aesthetically pleasing with curvilinear form and shall be landscaped with a mixed plant pallet meeting Marion-friendly landscaping standards minimally consisting of four shade trees and 200 square feet of landscaping comprised of shrubs and/or groundcover for every 100 lineal feet of frontage or fractional part thereof, or, in the case of a wet facility, a littoral zone meeting the governing water management district criteria. The proposed landscaping shall be arranged to provide ease of maintenance and screening of stormwater structures.~~

(Ord. No. 13-20, § 2, 7-11-2013)

**Commented [CJ7]:** Mirrors water management district language.

**Commented [CJ8]:** Mirrors water management district language.

**Commented [CJ9]:** Better defined access path.

**Commented [CJ10]:** Mirrors water management district language.

**Commented [CJ11]:** Prevents waiver requests in odd cases.

**Commented [CJ12]:** OCE believes this language belongs in landscaping section of code

---

### **Sec. 6.13.3. Types of stormwater management facilities.**

A. Existing public.

- (1) An adjacent public retention/detention area may be utilized for disposal of runoff generated by an applicant's improvements if it can be proven that capacity is sufficient.
- (2) A Stormwater Connection Application is required for any connection to or expansion of a County retention/detention area, including but not limiting to drainage retention/detention areas or conveyance systems, not previously designed or permitted to consider the applicant's improvements.
- (3) If the retention/detention area is still under a maintenance agreement, approval in writing must be received from the maintenance entity, when not the County, stating no objection to the use of the facility.

B. Natural.

- (1) A natural facility may be used without further excavation upon the applicant's submittal of calculations demonstrating the existing capacity is sufficient.
- (2) Proof of control, ownership or easement for operation and maintenance of the natural facility shall be provided.
- (3) Runoff from adjacent property, to a natural facility, must be perpetuated to the extent of protecting upland owner interest.

C. Proposed public.

- (1) Retention/detention areas shall have side slopes no steeper than 4:1 (horizontal: vertical) from top of berm to bottom of dry water retention/detention facility or to a depth of 2 feet below the water control surface of a wet facility with a minimum berm width of 5 feet stabilized at 6 percent grade maximum around the entire perimeter of the facility. Side slopes steeper than 4:1 may be allowed with additional accommodations related to public safety such as fencing or other protection from public access upon approval by the County Engineer or their designee.
- (2) Stormwater management systems servicing a public development shall be owned and maintained by Marion County. They may be privately owned and maintained, upon approval by the County Engineer and granting of an easement to Marion County, minimally allowing but not obligating, emergency maintenance, as well as access to, drainage of, conveyance of, and storage of stormwater.
- (3) If fencing is used, it shall be per the County Fence Detail found in Section 7.3.1 Transportation and Stormwater details.
- (4) The bottom of all dry water retention areas shall have appropriate vegetative cover.

D. Proposed private.

- (1) Residential subdivisions. Retention/detention areas shall have side slopes no steeper than 4:1 (horizontal: vertical) from top of berm to bottom of dry water retention/detention facility or to a depth of two feet below the water control surface of a wet facility with a minimum berm width of 5 feet stabilized at 6 percent grade maximum around the entire perimeter of the facility. Side slopes steeper than 4:1 may be allowed with additional accommodations related to public safety such as fencing or other protection from public access upon approval by the County Engineer or their designee.

Berm widths under 5 feet may be allowed upon approval by the County Engineer or their designee.

- 
- (2) Commercial lots or subdivisions. Retention/detention areas shall be designed with a minimum berm width of 5 feet stabilized at 6 percent grade maximum around the entire perimeter of the facility and side slopes:
- (a) No steeper than 4:1 (horizontal: vertical) from top of berm to bottom of dry water retention/detention facility or to a depth of 2 feet below the water control surface of a wet facility; or
  - (b) Steeper than 4:1 with additional accommodations related to public safety such as fencing or other protection from public access upon approval by the County Engineer or their designee; or
  - (c) As vertical walls with a structural detail for the wall design provided, adhering to Florida Building Code with a 12-foot wide access path provided to the bottom of the facility at a slope of no steeper than 3:1 and additional accommodations related to public safety such as fencing or other protection from public access. A barrier shall be provided when adjacent to vehicular paths and parking areas. The type of barrier shall be determined by the design speed of the travel way and available horizontal clearance.

Berm widths under 5 feet may be allowed upon approval by the County Engineer or their designee.

- (3) The bottom of all dry water retention areas shall have appropriate vegetative cover.

(Ord. No. 13-20, § 2, 7-11-2013)



# Marion County

## Land Development Regulation Commission

### Agenda Item

---

**File No.:** 2024-17252

**Agenda Date:** 11/20/2024

**Agenda No.:** 2.2.

---

**SUBJECT:**

**Discussion for Proposed Marion County Land Development Code (LDC) Amendments to Revise Section 6.13.8 - Stormwater Conveyance Criteria**

**DESCRIPTION/BACKGROUND:**

Staff has attached the proposed changes to update LDC Section 6.13. - Revision following presentation, as a walk on item, to LDRC on October 2, 2024 and Agenda item on October 16, 2024, stormwater conveyance criteria. Staff has identified a need to clarify language of this section.

**Sec. 6.13.8. Stormwater conveyance criteria.**

- A. Methodology. ~~Calculations for stormwater~~ Stormwater collection and transmission systems shall be designed using the Rational Method based on ~~FDOT Zone 7 Intensity-Duration Curves~~ NOAA Atlas 14 rainfall intensity-duration data. ~~Cross drains shall be designed using the Rational Method or Natural Resources Conservation Service (NRCS) Peak Discharge Method based on NOAA Atlas 14 rainfall intensity-duration data or other available flow data as permitted by the County Engineer or their designee.~~ Ditch and storm drain flow capacity shall be determined from Manning's Formula with coefficients of roughness based on an assumption of conditions of ultimate development.
- B. Minimum requirements.
  - (1) Design storm. Conveyance systems shall be sized to accommodate the following minimum design storm events based on the condition of ultimate development:
    - (a) ~~Stormwater conveyance pipes, Driveway Culverts, and Open Channels shall be designed to accommodate a 25-year 24-hour storm event based on the condition of ultimate development.~~
    - (b) ~~Cross Drains shall be designed to accommodate a 50-year storm event. When crossing Arterial, Collector, and Major Local roads, cross drains shall be designed to accommodate a 25-year storm event. The backwater created by the cross drain shall remain below the travel lanes for crossing subdivision local and minor local roads. If located within a FEMA Special Flood Hazard Area, the 100-year storm event shall be analyzed for potential upstream impacts.~~
  - (2) Tailwater.
    - (a) The tailwater elevation utilized shall be based on the tailwater elevation of the receiving water body plus 6 inches at the peak discharge time of the 25-year 24-hour design storm.
    - (b) Alternatively, the tailwater elevation utilized can be the design high water elevation of the 25-year 24-hour design storm.
    - (c) Note that future connections must be able to demonstrate that conveyance can be achieved at all connections, future and existing, meeting one of the above criteria.
  - (3) Lane spread. Lane spread shall be calculated using FDOT criteria considering the 4-inch per hour or 10-year frequency storm as appropriate, to produce the following results:
    - (a) Subdivision Local and Minor Local Roads. The allowable lane spread shall be no greater than the crown (or high side) of the road. For all divided roadways the allowable lane spread shall be no greater than the inside (or high side) edge of pavement.
    - (b) Arterial, Collector, and Major Local Roads. The allowable lane spread shall leave 8 feet of the outside travel lane dry in each direction.
    - (c) Auxiliary or Turn Lanes. The allowable lane spread on subdivision local and minor local roads shall be no greater than the full width of the lane. On all other road classifications, the allowable lane spread shall leave half of the lane dry.
  - (4) Drainage rights-of-way. All retention/detention areas within subdivision developments shall have direct access to a right-of-way. A drainage right-of-way may be necessary to establish this access. A minimum 12-foot wide, stabilized vehicle access at six percent maximum grade shall be provided to allow for ingress and egress of the retention/detention area. Drainage rights-of-way shall be a minimum of 30 feet in width. As an alternative to right-of-way, access may be provided by an easement of the same width.

**Commented [CJ1]:** FDOT no longer uses these IDF curves and refers to NOAA Atlas 14.

**Commented [CJ2]:** Added for clarification.

**Commented [CJ3]:** Original language was unclear whether this applied to any lane (such as inside) for multi-lane roads. Also, is 6.12.6 consistent with this section?

**Commented [CJ4]:** Clarification was needed for turn lanes/non-through lanes whether they are subject to gutter spread requirements.

- (5) Drainage easements. All drainage swales to facilities or underground stormwater conveyance systems shall be within drainage easements, except where rights-of-way or drainage parcels are provided. Drainage easement required widths shall be a minimum of 20 feet in width, dependent upon the type, size and depth of the proposed conveyance system. The minimum required easement width is 10 feet for interceptor swales and 20 feet for outfalls. Easement widths for underground conveyance systems shall be in accordance with table 6.13-2. Reduced easement widths may be permitted by the County Engineer or their designee. Conveyance system pipes shall be approximately located in the center of the easement unless demonstrated that the pipe backfill zone and associated trench is contained within the easement.

**Commented [CJ5]:** Prevents waiver requests

**Table 6.13-2 Minimum Easement Width by Pipe Invert Depth**

**Formatted:** Font: Bold

Nominal Pipe Diameter (inch)	Minimum Easement Width (feet)			
	Pipe invert depth less than 5'	Pipe invert depth up to 10'	Pipe invert depth up to 15'	Pipe invert depth greater than 15'
Less than 24	10	15	20	25
24-48	-	-	20	25
Greater than 48	-	-	20 + Outer Diameter (O.D.) rounded up to the nearest 5'	20 + O.D. rounded up to the nearest 5'

**Formatted Table**

- (6) Floodways. If in a FEMA designated floodway or flood-prone area, the cross drain shall be sized and certified to accommodate the design intent base flood discharge of that basin with no rise in flood height.

**Commented [CJ6]:** This change is in order to comply with NFIP 60.3(d)(3) – Floodway Requirement.

- (7) Sizes. The following minimum pipe or culvert sizes are required for stormwater conveyance systems unless otherwise approved by the County Engineer or their designee:

**Commented [CJ7]:** Prevents waiver requests for minimum culvert size for cases that fall outside of these requirements.

(a) Stormwater conveyance pipes shall be a minimum of 15 inches diameter or equivalent within private rights-of-way or easements and a minimum of 18 inches diameter or equivalent within public rights-of-way or easements.

**Commented [CJ8]:** Sizing based on private industry feedback (15 inch is a frequent waiver request which is normally granted).

(b) and cross-Cross culverts shall be a minimum of 18 inches diameter or equivalent.

(c) Driveway culverts shall be a minimum of 15 inches diameter or equivalent for residential use and a minimum of 18 inches diameter or equivalent for commercial use.

**Commented [CJ9]:** Note that Section 7.1.13.J(1)a wasn't consistent with this as previously written.

(d) Yard and parking lot drain pipes shall be a minimum of 8 inches diameter.

**Commented [CJ10]:** Sizing based on private industry feedback (pipe sizes smaller than 18 inch is a frequent waiver request which is normally granted).

(e) Roof drains, prior to connection to the overall stormwater system, and pipe exfiltration or underdrain systems, such as French drains, are exempt from minimum diameter requirements.

C. Design considerations.

- (1) Culvert flow capacity shall be determined for the conditions of inlet control or outlet control as applicable.
- (2) Stormwater collection and transmission systems shall be by inlets, swales, culverts, etc. The use of siphons, pumps, or similar devices is not allowed.
- (3) Ditch blocks shall be designed and constructed with hard core centers.
- (4) Stormwater flow velocity shall be taken into consideration in the design of all drainage ditches conveyance systems, and appropriate channel and outlet erosion protection shall be provided in accordance with the FDOT Drainage Manual. Physical pipe slopes shall be that which produce a velocity of at least 2.5 feet per second (fps) when flowing full. Where 2.5 fps is not feasible due to flat

terrain or site constraints, slopes which produce a velocity below 2.5 fps are allowable with additional consideration for upkeep in the operations and maintenance document and approval by the County Engineer or their designee.

- (5) Where any storm pipe terminates at an earthen slope a mitered end section and concrete collar, or approved equal, is required. Concrete mitered end sections are required for culverts, cross drains and side drains when within a County right-of-way with posted speeds of 40 mph or greater.

~~(6) Yard and parking lot drain pipes shall not be installed in rights of way and shall only begin or end at drainage inlet structure.~~

(Ord. No. 13-20, § 2, 7-11-2013)

**Commented [CJ11]:** Self-cleansing velocity from FDOT drainage manual.

---

### Sec. 6.13.8. Stormwater conveyance criteria.

- A. Methodology. Stormwater collection and transmission systems shall be designed using the Rational Method based on NOAA Atlas 14 rainfall intensity-duration data. Cross drains shall be designed using the Rational Method or Natural Resources Conservation Service (NRCS) Peak Discharge Method based on NOAA Atlas 14 rainfall intensity-duration data or other available flow data as permitted by the County Engineer or their designee. Ditch and storm drain flow capacity shall be determined from Manning's Formula with coefficients of roughness based on an assumption of conditions of ultimate development.
- B. Minimum requirements.
- (1) Design storm. Conveyance systems shall be sized to accommodate the following minimum design storm events based on the condition of ultimate development:
    - (a) Stormwater conveyance pipes, Driveway Culverts, and Open Channels shall be designed to accommodate a 25-year storm event.
    - (b) Cross Drains shall be designed to accommodate a 50-year storm event when crossing Arterial, Collector, and Major Local roads. When crossing Subdivision, Local, and Minor Local Roads, cross drains shall be designed to accommodate a 25-year storm event. The backwater created by the cross drain shall remain below the travel lanes. If located within a FEMA Special Flood Hazard Area, the 100-year storm event shall be analyzed for potential upstream impacts.
  - (2) Tailwater.
    - (a) The tailwater elevation utilized shall be based on the tailwater elevation of the receiving water body plus 6 inches at the peak discharge time of the 25-year 24-hour design storm.
    - (b) Alternatively, the tailwater elevation utilized can be the design high water elevation of the 25-year 24-hour design storm.
    - (c) Note that future connections must be able to demonstrate that conveyance can be achieved at all connections, future and existing, meeting one of the above criteria.
  - (3) Lane spread. Lane spread shall be calculated using FDOT criteria considering the 4-inch per hour or 10-year frequency storm as appropriate, to produce the following results:
    - (a) Subdivision Local and Minor Local Roads. The allowable lane spread shall be no greater than the crown (or high side) of the road. For all divided roadways the allowable lane spread shall be no greater than the inside (or high side) edge of pavement.
    - (b) Arterial, Collector, and Major Local Roads. The allowable lane spread shall leave 8 feet of the outside travel lane dry in each direction.
    - (c) Auxiliary or Turn Lanes. The allowable lane spread on subdivision local and minor local roads shall be no greater than the full width of the lane. On all other road classifications, the allowable lane spread shall leave half of the lane dry.
  - (4) Drainage rights-of-way. All retention/detention areas within subdivision developments shall have direct access to a right-of-way. A drainage right-of-way may be necessary to establish this access. A minimum 12-foot wide, stabilized vehicle access at six percent maximum grade shall be provided to allow for ingress and egress of the retention/detention area. Drainage rights-of-way shall be a minimum of 30 feet in width. As an alternative to right-of-way, access may be provided by an easement of the same width.
  - (5) Drainage easements. All drainage swales to facilities or underground stormwater conveyance systems shall be within drainage easements, except where rights-of-way or drainage parcels are provided.



Drainage easement required widths shall be dependent upon the type, size and depth of the proposed conveyance system. The minimum required easement width is 10 feet for interceptor swales and 20 feet for outfalls. Easement widths for underground conveyance systems shall be in accordance with table 6.13-2. Reduced easement widths may be permitted by the County Engineer or their designee. Conveyance system pipes shall be approximately located in the center of the easement unless demonstrated that the pipe backfill zone and associated trench is contained within the easement.

**Table 6.13-2 Minimum Easement Width by Pipe Invert Depth**

Nominal Pipe Diameter (inch)	Minimum Easement Width (feet)			
	Pipe invert depth less than 5'	Pipe invert depth up to 10'	Pipe invert depth up to 15'	Pipe invert depth greater than 15'
Less than 24	10	15	20	25
24-48	-	-	20	25
Greater than 48	-	-	20 + Outer Diameter (O.D.) rounded up to the nearest 5'	20 + O.D. rounded up to the nearest 5'

- (6) Floodways. If in a FEMA designated floodway, the cross drain shall be sized and certified to accommodate the base flood discharge of that basin with no rise in flood height.
- (7) Sizes. The following minimum pipe or culvert sizes are required for stormwater conveyance systems unless otherwise approved by the County Engineer or their designee:
  - (a) Stormwater conveyance pipes shall be a minimum of 15 inches diameter or equivalent within private rights-of-way or easements and a minimum of 18 inches diameter or equivalent within public rights-of-way or easements.
  - (b) Cross culverts shall be a minimum of 18 inches diameter or equivalent.
  - (c) Driveway culverts shall be a minimum of 15 inches diameter or equivalent.
  - (d) Yard drain pipes shall be a minimum of 8 inches diameter.
  - (e) Roof drains, prior to connection to the overall stormwater system, and pipe exfiltration or underdrain systems, such as French drains, are exempt from minimum diameter requirements.

C. Design considerations.

- (1) Culvert flow capacity shall be determined for the conditions of inlet control or outlet control as applicable.
- (2) Stormwater collection and transmission systems shall be by inlets, swales, culverts, etc. The use of siphons, pumps, or similar devices is not allowed.
- (3) Ditch blocks shall be designed and constructed with hard core centers.
- (4) Stormwater flow velocity shall be taken into consideration in the design of all conveyance systems. Appropriate channel and outlet erosion protection shall be provided in accordance with the FDOT Drainage Manual. Physical pipe slopes shall be that which produce a velocity of at least 2.5 feet per second (fps) when flowing full. Where 2.5 fps is not feasible due to flat terrain or site constraints, slopes which produce a velocity below 2.5 fps are allowable with additional consideration for upkeep in the operations and maintenance document and approval by the County Engineer or their designee.
- (5) Where any storm pipe terminates at an earthen slope a mitered end section and concrete collar, or approved equal, is required. Concrete mitered end sections are required for culverts, cross drains and side drains when within a County right-of-way with posted speeds of 40 mph or greater.

---

(Ord. No. 13-20, § 2, 7-11-2013)

---

Created: 2024-03-29 12:10:45 [EST]

(Supp. No. 5)



# Marion County

## Land Development Regulation Commission

### Agenda Item

---

**File No.:** 2024-17253

**Agenda Date:** 11/20/2024

**Agenda No.:** 2.3.

---

**SUBJECT:**

**Discussion for Proposed Marion County Land Development Code (LDC) Amendments to Revise Section 2.12.8 - Current Boundary and Topographical Survey**

**DESCRIPTION/BACKGROUND:**

Staff has attached the proposed changes to update LDC Section 2.12.8. Current boundary and topographical survey. Staff has identified a need to clarify language of this section.

---

**Sec. 2.12.8. Current boundary and topographic survey.**

Current boundary and topographic survey (one foot contour intervals extending ~~100~~30 feet beyond the project boundary) based upon accepted vertical datum. Surveys will be less than ~~12~~24 months old and accurately reflect current site conditions, title opinion, meeting standards set forth in Ch. 5J-17 FAC. Alternate topographic data may be accepted if pre-approved by the Marion County Land Surveyor. Submittals made must include a PDF (Signed and Sealed) and in AutoCAD format.

(Ord. No. 13-20, § 2, 7-11-2013)

---

**Sec. 2.12.8. Current boundary and topographic survey.**

Current boundary and topographic survey (one foot contour intervals extending 30 feet beyond the project boundary) based upon accepted vertical datum. Surveys will be less than 24 months old and accurately reflect current site conditions, title opinion, meeting standards set forth in Ch. 5J-17 FAC. Alternate topographic data may be accepted if pre-approved by the Marion County Land Surveyor. Submittals made must include a PDF (Signed and Sealed) and in AutoCAD format.

(Ord. No. 13-20, § 2, 7-11-2013)