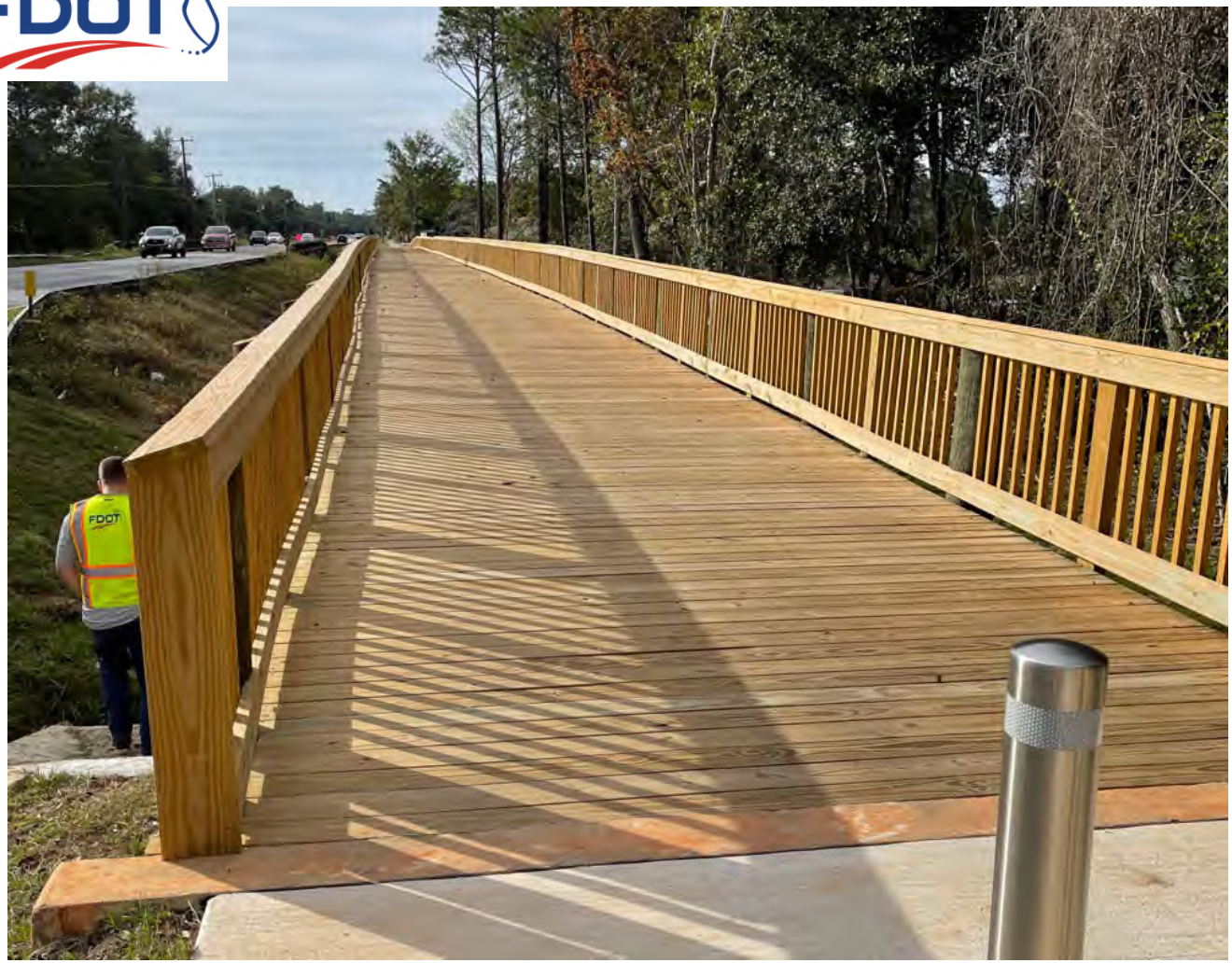


ADA

DESIGN CONSTRUCTION & MAINTENANCE

UPDATED 2025

SAFETY & ACCESSIBILITY!

- Brief History of the ADA
- FDOT Design Manual (FDM)
- FDOT Standard Plans
- FDOT Standard Specifications
- FDOT Maintenance Rating Program Handbook (MRP)

SAFETY & ACCESSIBILITY!

- **Brief History of the ADA**
- **FDOT Design Manual (FDM)**
- **FDOT Standard Plans**
- **FDOT Standard Specifications**
- **FDOT Maintenance Rating Program Handbook (MRP)**

Capitol Crawl

PERTINENT LEGISLATIVE HISTORY

1

Civil Rights Act.

– 1964 –

Race, Color, National Origin

2

Architectural Barriers Act.

– 1968 –

Accessible Buildings & Facilities

3

Rehabilitation Act (Sect 504).

– 1973 –

No Discrimination due to Disability

4

Americans w/ Disabilities Act.

– 1990 –

Title II – State & Local Governments

5

ADA Amend. Act.

– 2008 –

Emphasized Broad Coverage

"IT'S A CIVIL RIGHT TO BE INDEPENDENT IN AMERICA!"

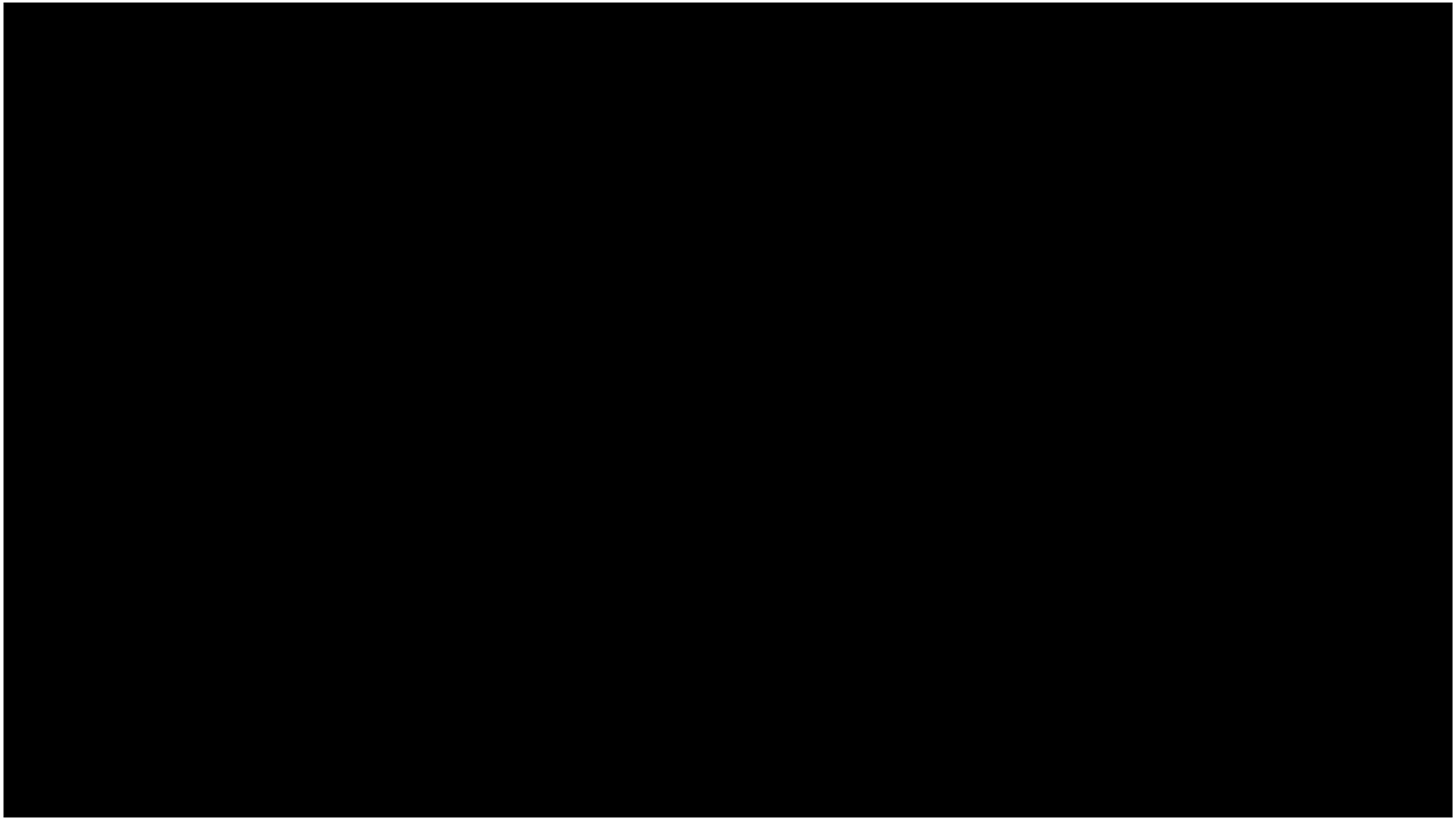
-- KATE GAINER

CAPITOL CRAWL

MARCH 12, 1990

Protestors tossed aside their wheelchairs, walkers, and crutches to ascend the steps of the United States Capitol -- dragging themselves up the stairs to demonstrate their daily struggles due to physical barriers.

George H.W. Bush
July 26, 1990



PRIMARY ELEMENTS FOR PEDESTRIANS

Try not to overcomplicate it!

1

Unobstructed Clear Width.

Clearance "window" over the full walking surface

2

Protruding Objects.

Signs, utilities, equipment, landscape material

3

Running & Cross Slopes.

Parallel & Perpendicular to ped travel

4

Walking Surface.

Firm, Stable, Non-slip. Changes in level, horizontal openings

5

Pedestrian Signals.

Reach distances and effective communication

Nominal Vs. Substantive Safety & Accessibility?

FLORIDA SHS & U.S. NHS = FDM

FGB = FLORIDA LOCAL ROADS

SAFETY & ACCESSIBILITY!

- **Brief History of the ADA**
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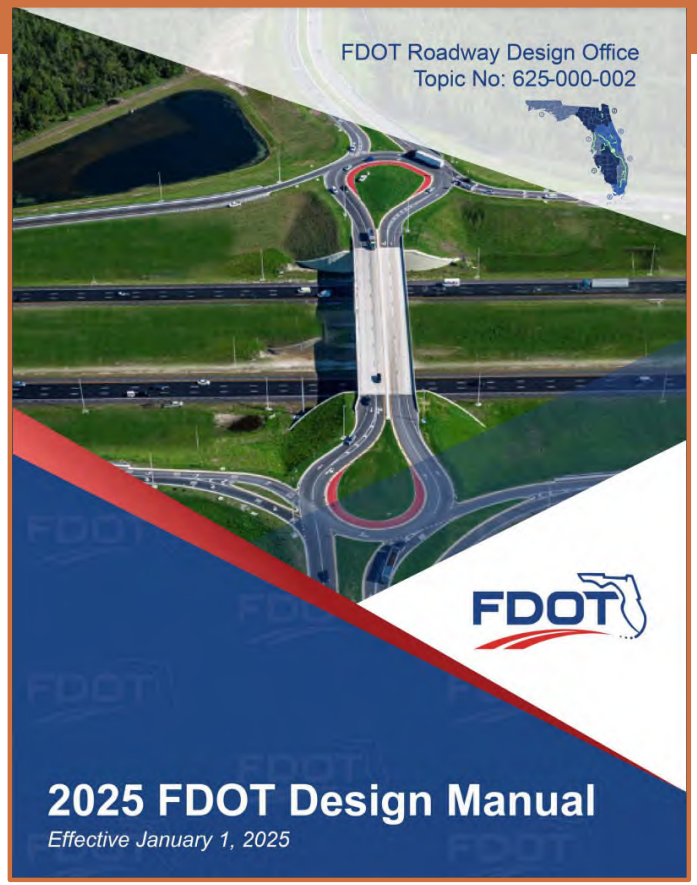


FGB 8.A

Refer to latest editions and other chapters!

FDM 222 FL Greenbook Ch. 8

PEDESTRIAN FACILITIES

222.1 General - This chapter provides the **minimum** criteria to be used for the design of pedestrian facilities on the **S**tate **H**ighway **S**ystem.

The term "**pedestrian**" used in this chapter includes any person traveling on foot or in a **wheelchair**.

Pedestrians should be expected on **all** of **Florida's** state **roadways** except where restricted on Limited Access (LA) facilities.

Local too!

FGB 14

TECHNICAL INFEASIBILITY

Documentation * required * by U.S. DOJ regulations!

222.1 General - Process a **Design Variation** when the design **criteria** for pedestrian facilities in this manual **are not met**.

See FDM 122 for DVs on the SHS!

Reference the **following conditions** that support not providing a pedestrian facility in the **Design Variation** documentation:

(1) The establishment of pedestrian facilities would be **contrary to public safety**.

(2) The cost of providing pedestrian facilities would be **excessively disproportionate** to the need or probable use.

(3) The presence of **other available means for pedestrian traffic**. Other available means **should meet the following** requirements:

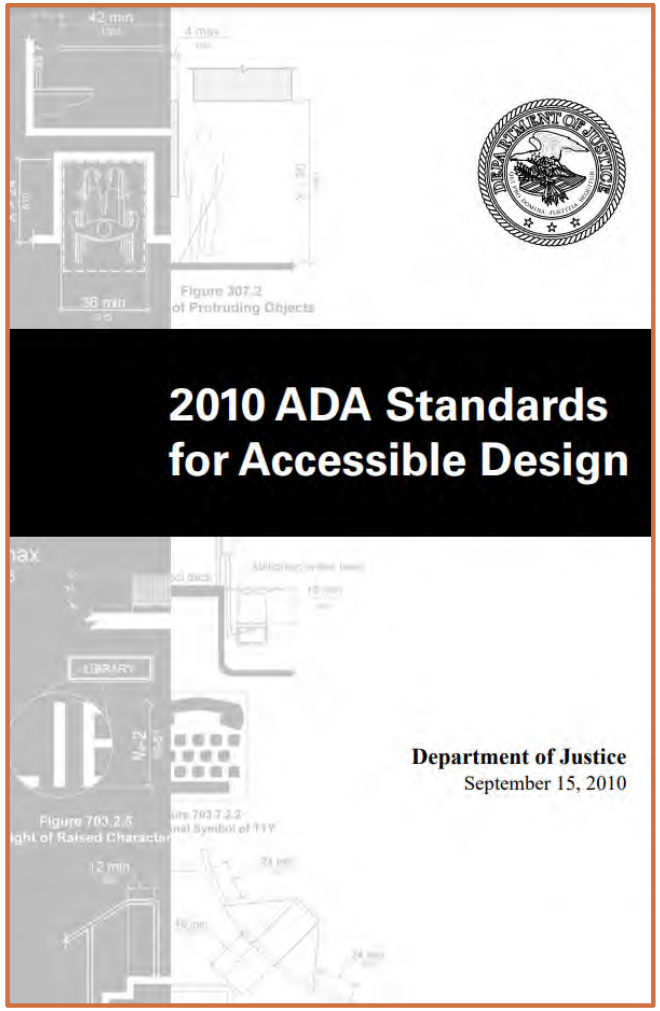
(a) Meet the **design criteria** for pedestrian facilities on state roadways.

(b) **Provide access** to the same services, origination and destination sites, and transit connections as the project corridor.

(c) **Not result in a significant increase in travel time** or trip length, exposure to motorized traffic, or substantial elevation changes.

(d) Provide **appropriate locations to cross** limited access, arterial or collector roadways, or railroad corridors.

FGB 8.A



222.1.1 Americans with Disabilities Act (ADA) - In **addition** to the criteria presented in the ***FDM*** and Department's ***Standard Plans***, the **following documents** provide Americans with Disabilities Act (ADA) **guidance in the design** of pedestrian facilities in public R/W:

- ***United States Department of Justice 2010 Americans with Disabilities Act (ADA) Standards for Accessible Design***
- ***United States Department of Transportation 2006 ADA Standards for Transportation Facilities.***
- ***Florida Accessibility Code*** *contains* ***ADA*** *requirements for accessibility to* **sites**, **facilities**, **buildings**, *and* **elements** *by individuals with disabilities.*

PROWAG?

FGB 8.A

ADA TITLE II – PUBLIC SERVICES STATE & LOCAL GOVERNMENTS

222.2 Pedestrian Facilities - Pedestrian facilities are **features** or **elements** used to **support pedestrian** travel.

Are sidewalks required by the ADA???

Pedestrian facilities may include the following:

- Sidewalks
- Curb ramps and blended transitions
- Crosswalks
- At-grade railroad crossings
- Refuge islands
- Curb extensions
- Pedestrian signals
- Public transit loading zones
- Pedestrian bridges
- Shared use paths
- Street furniture

FGB 8.B.1 FGB 8.H

222.2 Pedestrian Facilities - Pedestrian **safety** can be **enhanced** through the following **measures**:

...and Accessibility!

(1) Maintaining a **smooth**, clean walking surface, **free of obstructions**.

(2) Responsive and appropriate **traffic control devices**, consistent with guidance in the ***Manual on Uniform Traffic Control Devices*** (***MUTCD***), including providing **pedestrian-oriented** directional signage.

(3) Sidewalks and other pedestrian **walkways are continuous**, and termini connect to existing sidewalk, pedestrian **crossing**, or **access point**. *Functional End-Point!*

(4) Providing **adequate lighting**.

Applies during TTC too!

FGB 8.B.1

What does "continuous" mean?

222.2.1 Sidewalk - Sidewalk is a **continuous** concrete pedestrian **walkway** as depicted in ***Standard Plans Index 522-001***.

So, are sidewalks required by the ADA???

Answer:
NO

...so where are they required in Florida?

FGB 8.B.1

FDOT SIDEWALK POLICY
STATE HIGHWAY SYSTEM (SHS)

222.2.1 Sidewalk - Provide sidewalk **on all curbed** roadways, except where **prohibited** by ***Section 316.130 (18), Florida Statute (F.S)***.

The inclusion of sidewalk on **short isolated sections** of ***curbed*** roadway **is not required** when:

- Within **C1** and **C2** **context classification**, and

- There are **no pedestrian facilities** leading to, or from the location.

FGB 1.B.2 FGB 8.C.2.a

US-319 (FL-261), Tallahassee

222.2.1 Sidewalk - Provide sidewalk on **flush shoulder** and high speed **curbed** roadways within **C2T**, **C3C**, **C4**, **C5** or **C6** context classification; and within **C1**, **C2** or **C3R** where the **demand** for use is **demonstrated**.

For high speed curbed and flush shoulder roadways, **place sidewalk** in the following **order of desirability**:

(1) As near the **R/W line** as possible.

(2) Outside of the **clear zone**.

(3) **Five feet** beyond the limits of the full width **shoulder**.

(4) At the **limits** of the full width **shoulder**.

FGB 8.C.2.a FGB 8.G.1

WATCH OUT!
FOR VULNERABLE USERS

222.2.1 Sidewalk - Sidewalk on **flush shoulder** roadways is **not to be constructed** directly **adjacent** to the *roadway* or *shoulder* **pavement**.

Nearing intersections, the sidewalk should be **transitioned** as necessary to provide a more **functional crossing** location that also meets **driver expectation**.

Further guidance on the placement of **stop** or **yield lines** and **crosswalks** is provided in the ***MUTCD***, ***Part 3*** and ***Standard Plans 711-001***.

FGB 8.B.1

222.2.1 Sidewalk - Continue sidewalk **across bridge** structures when sidewalk is provided on the **approach** roadway.

Also provide sidewalk on **new bridges** where sidewalk or shared use path is **not present** along the roadway but **may be included** with a **future** project.

Sidewalk *should* be constructed on **both sides** of the roadway; however, if sidewalk is constructed on **only one side**, provide reasonable pedestrian **access to destinations** (e.g., transit stops, homes, places of work, stores, schools, post offices, libraries, parks) on the **opposite side**.

FGB 10.C.1

222.2.1 Sidewalk - For **RRR** Projects, other than meeting **detectable warning** and **curb ramp requirements**, **unaltered sidewalks** that are not in compliance with ***FDM*** **criteria**, ***Standard Plans***, or **ADA** requirements **are not required** to be **reconstructed**.

See language in FDM 114!

FGB 8.B.1

MORE THAN JUST LINEAR CONNECTIVITY!

222.2.1.1 Sidewalk Width - The standard sidewalk **width varies** by **context** classification as shown in ***Table 222.2.1***.

Continuous <=> Continuity!

See ***FDM 214*** for information on sidewalks **across driveways**.

Think "homogenous" segments – just like AASHTO's Highway Safety Manual!

Table 222.2.1 Standard Sidewalk Widths

Context Classification		Sidewalk Width (feet)
C1	Natural	5
C2	Rural	5
C2T	Rural Town	6
C3	Suburban	6
C4	Urban General	6
C5	Urban Center	10
C6	Urban Core	12

Notes:

(1) For C2T, C3 and C4, sidewalk width may be increased up to 8 feet when the demand is demonstrated.

(2) For C5 and C6, when standard sidewalk width cannot be attained, provide the greatest attainable width possible, but not less than 6 feet.

(3) For RRR projects, unaltered sidewalk with width 4 feet or greater may be retained within any context classification.

(4) See ***FDM 260.2.2*** for sidewalk width requirements on bridges.

FGB 8.B.1

222.2.1.1 Sidewalk Width - Provide the following **minimum unobstructed** sidewalk width (excluding the width of the curb) when there is **no practical alternative** to placing a pole within the sidewalk:

When FULL Compliance is not achievable...

- **36 inches** for **aboveground utilities**. This 36-inch width may be reduced to **32 inches**, not exceeding **24 inches in length**, when there is **no practical alternative** available to avoid an obstruction.
- **48 inches** for **signal**, **light**, **sign poles**

Exhaust all other options FIRST!

FGB 8.C.2.b

KEYWORD: UNOBSTRUCTED!

222.2.1.1 Sidewalk Width - When used for **plantings** and **street furniture**, the area between the back of curb and the sidewalk should be **5 feet or greater** in width.

Consider providing **treewells** in areas where **on-street parking** is provided.

Appropriate types of **street furniture** may vary based on **frequency** and **density** of pedestrian activity.

Street furniture *must* allow for **minimum sidewalk width** and vertical clearance as required in this section and ***FDM 222.2.1.2***.

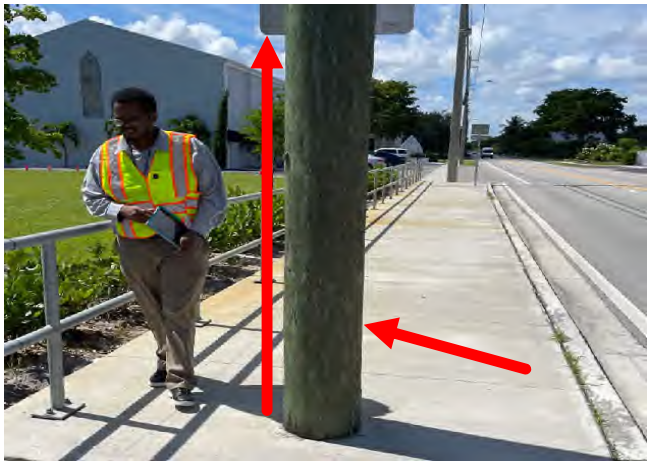
Refer to ***FDM 223.5*** for information on **bicycle parking** amenities and ***FDM 225*** for information on **public transit facilities** as related to use of sidewalk space.

FGB 8.E

222.2.1.2 Vertical Clearance - Provide a minimum **7-foot vertical clearance** over the **entire walking surface**.

See ***FDM* 260.6** for **pedestrian bridge** vertical clearance requirements.

See FDOT's MRP for Vegetation!



FGB 8.B.1

222.2.1.3 Grade and Cross Slope - When sidewalk is **adjacent** to the roadway (i.e., located back of curb or consistent separation from curb), sidewalk **grades** may **mirror** the roadway profile.

Mainline sidewalk ONLY!

When sidewalk is **not adjacent** to a traveled way, sidewalk **grades** are **not to exceed 5%**, unless accessible ramps* are provided.

Full ADA Ramp Criteria applies!

Florida Accessibility Code

5% [1:20] < *ADA Accessible **Ramp Criteria** ≤ 8.3% [1:12]

FGB 8.B.1

RUNNING & CROSS SLOPE

222.2.1.3 Grade and Cross Slope - There *should* be enough sidewalk **cross slope** to allow for adequate **drainage**; however, to **comply** with ADA requirements, the **maximum** cross slope is **2%**.

A clear **1-foot wide graded area** with a maximum 1:6 slope should be provided adjacent to the sidewalk.

Edge **drop-offs** *should* **be avoided**.

When drop-offs **cannot be avoided** and lie **within 2 feet** of the edge of sidewalk, they *should* be **shielded** as discussed in ***FDM 222.4***.

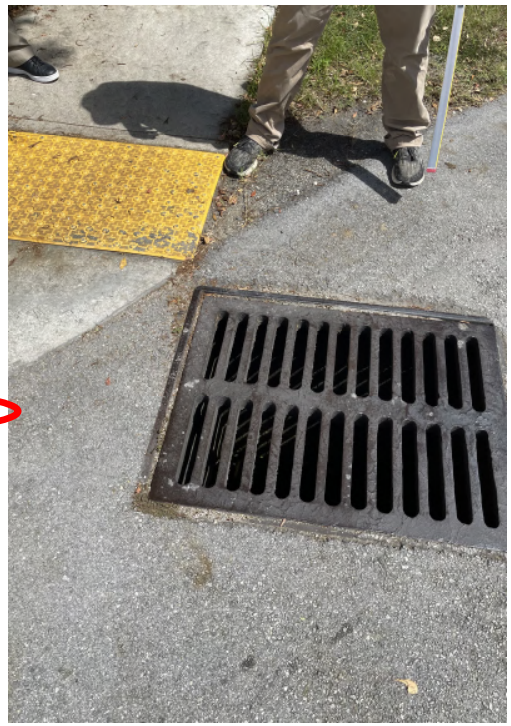
FGB 8.G.2

222.2.2 Curb Ramps and Blended Transitions - ***Standard Plans***, ***Index 522-002*** provides **requirements** and **details** for **curb ramps** and **landings** that are compliant with **Americans with Disabilities Act** Standards for Transportation Facilities.

A **continuous accessible pedestrian route**, **including curb ramps** and **blended transitions** (e.g., depressed corners, raised street crossings, flush roadway connections) are **required** along **sidewalks** and **shared use paths**.

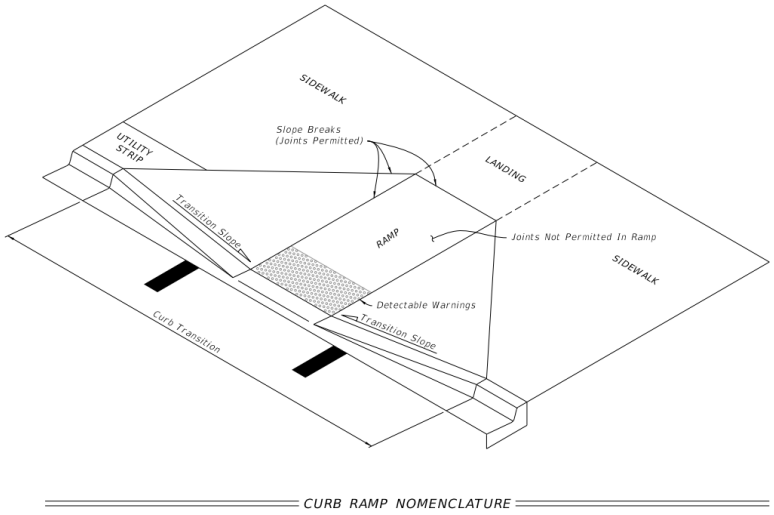
Provide **curb ramps** to be the **same width** as the sidewalk where practicable.

MUST condition!



FGB 8.G.2

STANDARD PLANS ARE NOT A SITE-SPECIFIC DESIGN



CURB RAMP NOMENCLATURE

222.2.2 Curb Ramps and Blended Transitions - *Additional* information, **nomenclature**, **requirements**, and **details** for **curb ramps** and **landings** are provided in the ***Standard Plans***, ***Index 522-002***.

Alpha-identifications have been provided in ***Index 522-002*** for the various curb ramp options (e.g., CR-A, CR-B, etc.) to **facilitate** ease of **callouts** in the Plans. Use the curb ramp options as follows:

Contractors construct! Engineers engineer!

- Curb Ramps CR-**A**, CR-**B** & CR-**C** are for use where ramp and landing **depths are not restricted**.
- Curb Ramps CR-**D**, CR-**E**, CR-**F**, CR-**G** and CR-**H** are for **linear pedestrian traffic**.
- Curb Ramps CR-**K** and CR-**L** are for use where ramp and landing **depths are restricted**.

FGB 8.G.2

222.2.2 Curb Ramps and Blended Transitions - **Include** sidewalk **curb ramps** at the following locations:

Nice use of separate ramps!

- All **intersections** and **driveways** with curbed returns. **Include a landing** at the top of each ramp.
- On **curbed** roadways between intersections where a **crosswalk** has been established.

FGB 8.G.2

222.2.2 Curb Ramps and Blended Transitions - Pull boxes, manholes (and other utility covers), and other types of **existing surface features** in the location of a proposed curb ramp or detectable warning **should be relocated**.

When **relocation is not feasible**, adjust the feature to meet the ADA requirements for surfaces (including the provision of a **nonslip** top surface, and adjustment to be **flush** with and at the **same slope** as the adjacent surface).

FGB 8.G.2

ADA TITLE II REQUIRES CLEAR COMMUNICATION

222.2.2 Curb Ramps and Blended Transitions - Curb ramps *should* be **in line** with the crossing and provide non-visual physically detectable elements (e.g., concrete edge lines or curb lines) to clearly indicate the direction of the crossing. Provide the flattest ramp slope practicable, not to exceed a **maximum** slope of 1:12 (8.3 percent).

Must Condition!

Provide a curb **ramp** or blended transition, as appropriate, at **both ends** of each crossing.

Crossings *are required* to meet the **same grade** and **cross slope** requirements as sidewalks.

Where **criteria** for maximum cross slope **cannot be met**, process a **Design Variation** and provide the **minimum attainable** cross slope.

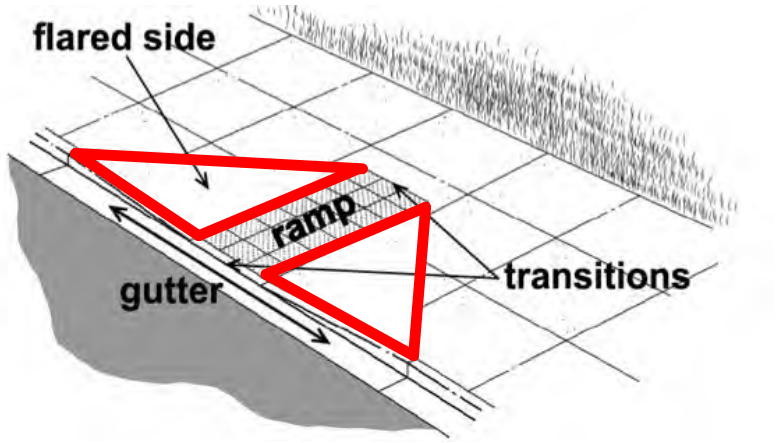
When following the **profile grade of the roadway**, curb ramp slopes should **not exceed 15 feet** in length.

FGB 8.G.2

222.2.2 Curb Ramps and Blended Transitions - Provide transition slopes (**flared sides**) where a pedestrian circulation **path crosses the curb ramp**.

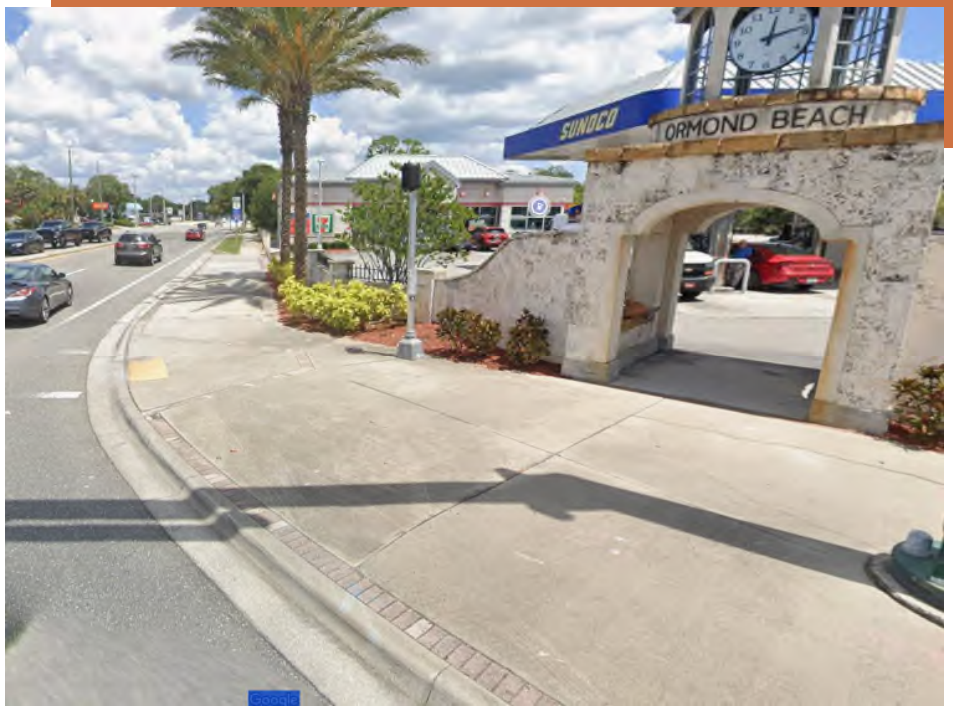
The **maximum** slope of transition slopes is **1:10**, measured parallel with and adjacent to the curb line.

When **altering an existing** pedestrian facility and **conditions preclude** the construction of a curb ramp slope of 1:12, provide a slope **from 1:12 to 1:10** with a **maximum rise** of **6 inches**.



FGB 8.G.2

LEVEL LANDINGS AT PEDESTRIAN DETECTORS



222.2.2 Curb Ramps and Blended Transitions - Provide a **landing** at **all pedestrian pushbutton** locations.

Two MUST conditions!

The **landing** *must* provide a **clear area of 30 inches by 48 inches** directly in front of the pedestrian pushbutton to allow persons using a **wheeled mobility device** to actuate the button while **remaining stationary**.

Horizontally **center** the **48-inch dimension** on the **pushbutton**.

FGB 8.B.1 FGB 14

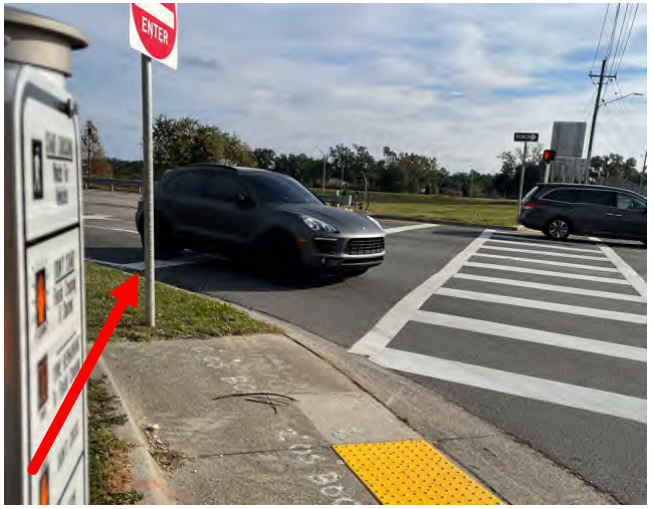
222.2.2 Curb Ramps and Blended Transitions - When **compliance** with Department curb ramp **requirements** is determined to be **technically infeasible** (i.e., no engineering solution is available), a **Design Variation is required**.

This may occur where **existing right of way** is **inadequate** and where **conflicts** may **occur** with **existing features** which cannot be feasibly **relocated** or **adjusted** (e.g., drainage inlets, signal poles, pull and junction boxes, etc.).

CADD RESOURCES FOR ACCESSIBLE CURB RAMPS

FDOT CADD Manual: 5.16 MODELING STANDARDS

- ADA Curb Ramp Workflow - Autodesk Community - Civil 3D
- PDH: Designing, Modeling And Labeling ADA-compliant Ramps With Civil Cells Informed Infrastructure : September/October 2018
- Tips and tricks for designing ADA ramps quickly (Sept 2020) - YouTube
- ADA Curb Ramp | 3D Warehouse (sketchup.com)
- AQCESSRAMP | Curb ramp compliance in minutes | Transoft Solutions
- Tech Talk: Design and Deliver Compliant Curb Ramps - Bing video



FGB 8.B.1

222.2.2.1 Driveways - See ***FDM 214*** for **additional** information on pedestrian **accommodations** at driveways.

New and **reconstructed driveways** are to be in compliance with ***Standard Plans***, ***Index 330-001*** and ***522-003.***

For **RRR** Projects, **unaltered driveways** that are not in compliance with ***Standard Plans*** or **ADA** requirements are **not required** to be **reconstructed**.

Don't forget about FDM 114!

FGB 8.G.1.a

PEDESTRIAN CROSSINGS

222.2.3 Crosswalks - Crosswalks are **marked paths** where **pedestrians** can **safely cross** a roadway.

Marking of crosswalks **helps drivers** better identify the intersection and **guides pedestrians** to the best crossing location.

Use **standard** crosswalk **markings** at marked **stop-controlled intersection** approaches.

Use **Special Emphasis** crosswalk markings for **all** other **marked crosswalks**.

Coordinate with the District **Traffic Operations** Office on proposed new marked crosswalks.

For **new** and **existing** crosswalks, meet criteria and guidelines in ***Traffic Engineering Manual*** (***TEM***), ***Section 5.2***.

FGB 8.G.1.a

222.2.3 Crosswalks - ***TEM*** ***5.2*** also **contains criteria** and **guidelines** on **additional treatments** including signals, signing, pavement markings and **other treatments** at **midblock** and **unsignalized** intersections.

For crosswalk **signing and pavement markings**, see ***FDM*** ***230***, ***MUTCD***, and ***Standard Plans***, ***Index 711-001***.

Accessible Parking Details, too!

FGB 8.G.1.a

TREAT CROSSWALKS AS SIDEWALK EXTENSIONS

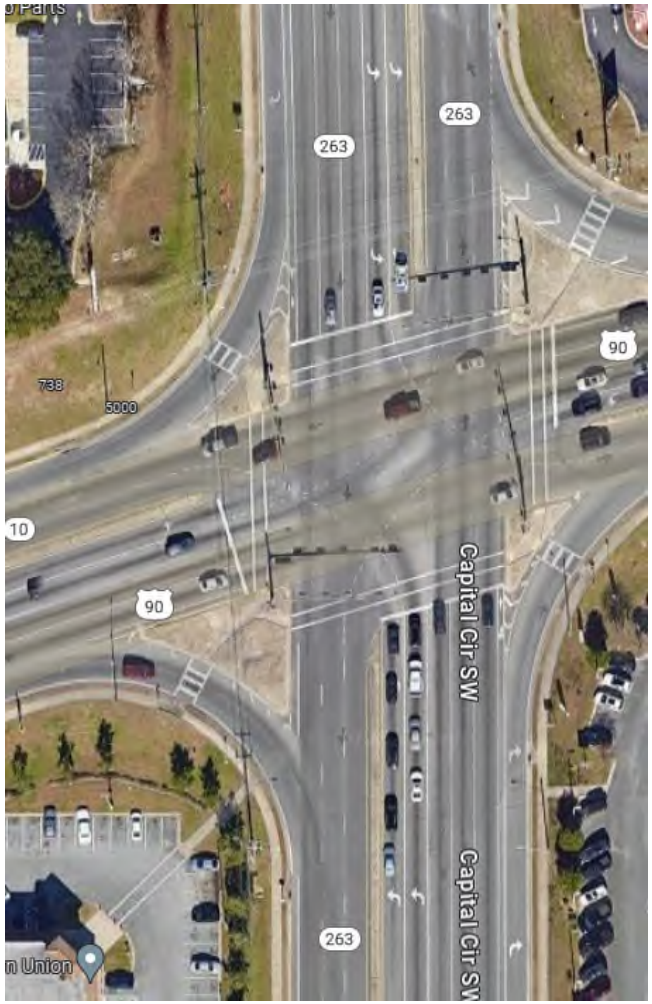
222.2.3 Crosswalks - The **maximum** cross slope for **crosswalks is 2%**.

For crosswalks located **at signalized intersections**, **midblock**, or **driveways**, cross slope **may** **exceed 2% but not greater than 5%**.

School Zone crosswalks have **additional criteria** for signing and pavement markings.

For **requirements** for school signs and markings, see ***The Manual on Speed Zoning for Highways, Roads and Streets in Florida***, ***Chapter 15***.

FGB 8.G.1.a



222.2.3.1 Intersections - Provide **crosswalk markings** for all legs of a signalized intersection **unless** there is a documented, **project-specific justification** not to do so (e.g., physical constraints, safety concern).

When **separated** right-turn lanes are used, **place crosswalks** so that an approaching motorist has a **clear view** of the pedestrian, and the **crossing distance is minimized**.

See ***TEM 2.44*** for signing **criteria**.

FGB 8.G.1.a

222.2.3.1 Intersections - **Coordinate** with the District **Traffic Operations** Office for new marked crosswalks at **unsignalized** intersection locations and meet the criteria and guidelines identified in ***TEM* 5.2**.

Commentary: Marked crosswalks at an uncontrolled location may be supplemented with **other treatments** *such as* **beacons**, **signals**, **curb extensions**, **raised medians**, **raised traffic islands**, *and enhanced* **overhead lighting**.

See ***TEM* 5.2** *for a complete and* **updated list** *of these types of treatments.*

FGB 8.G.1.a

COUNTERMEASURE RECOMMENDATIONS FOR INTERSECTIONS

222.2.3.1 Intersections - Additional **countermeasure treatments** are **recommended** at locations where any of the following conditions exist:

(1) Where **posted speeds** are greater than 35 mph,

(2) On a roadway with 4 or more lanes **without a raised median or raised traffic island** that has an ADT of 12,000 or greater, or

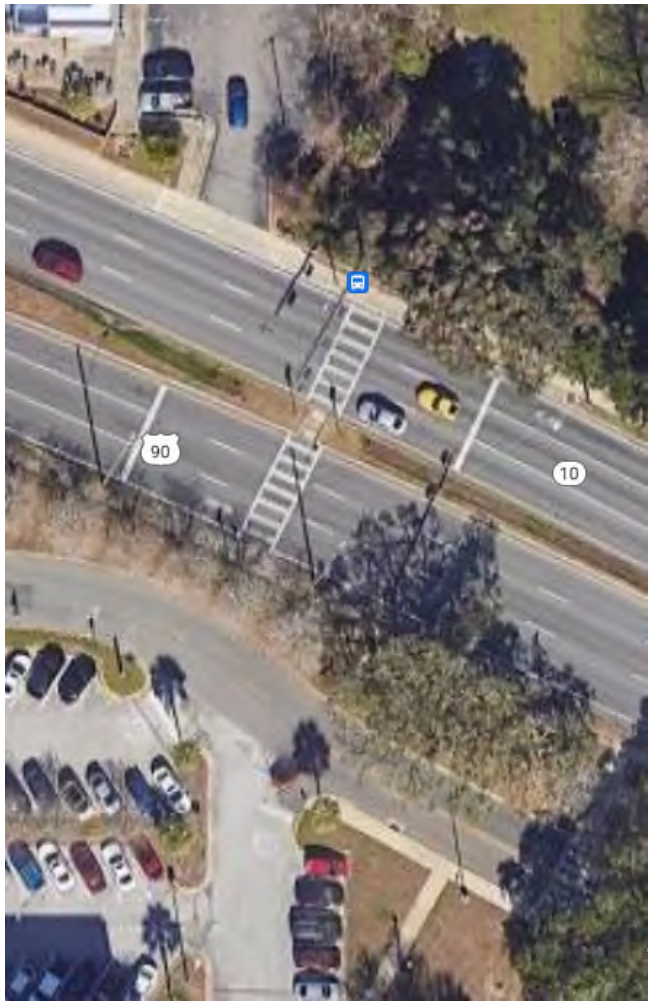
(3) On a roadway with 4 or more lanes **with a raised median or raised traffic island** that has or is projected to have (within 5 years) an ADT of 15,000 or greater.

222.2.3.1 Intersections - As roadway **volumes**, **speeds**, and number of **travel lanes** increase, marked crosswalks are best used **in conjunction** with **other countermeasure** treatments.

For controlled **intersections with six-lane divided** roadways or crossing distances **exceeding 80 feet**, consider installing a **two-stage** pedestrian crossing with median refuge island.

See ***FDM* 210** for more information on Intersection **Refuge Islands** and **Hardened Centerlines**.

FGB 8.G.1.b



222.2.3.2 Midblock - **Midblock** crosswalks are used to **supplement** pedestrian crossings in areas **between intersections**.

Provide **illumination** for ~~both~~ **new** ~~and **existing**~~ midblock crosswalks in accordance with ***FDM* 231**. Coordinate with the District Safety Engineer & Administrator to determine if illumination should be provided to address safety concerns at existing midblock crosswalks.

An **engineering study** is required for all **new** Midblock Crosswalks. **Follow** the **procedure** and **guidelines** identified in ***TEM* 5.2**.

RECOMMENDED LOCATIONS FOR MIDBLOCKS

222.2.3.2 Midblock - **Midblock** crosswalks are **not recommended** at locations where any of the following exist:

(1) The **distance** from the crosswalk to the nearest intersection (or crossing location) is **less than 300 feet**.

(2) The **crossing** distance **exceeds 60 feet** (unless a median or a crossing island is provided).

(3) The **sight distance** for both the pedestrian and motorist **is not adequate**.

(4) The **crosswalk cross slope** (roadway profile) **exceeds 5%**.

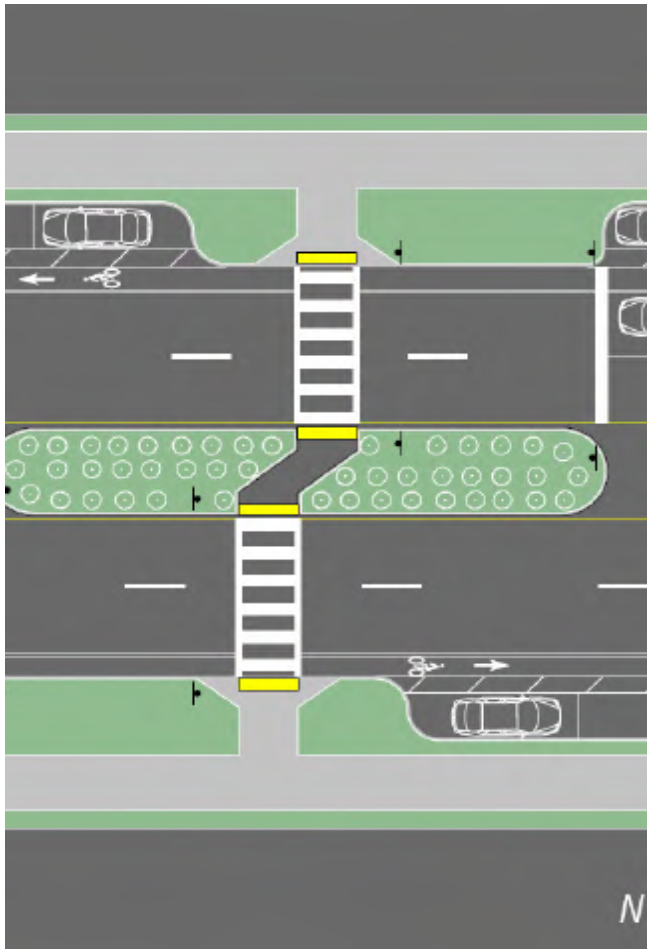
(5) The **crosswalk grade** (roadway cross slope) **exceeds normal crown**.

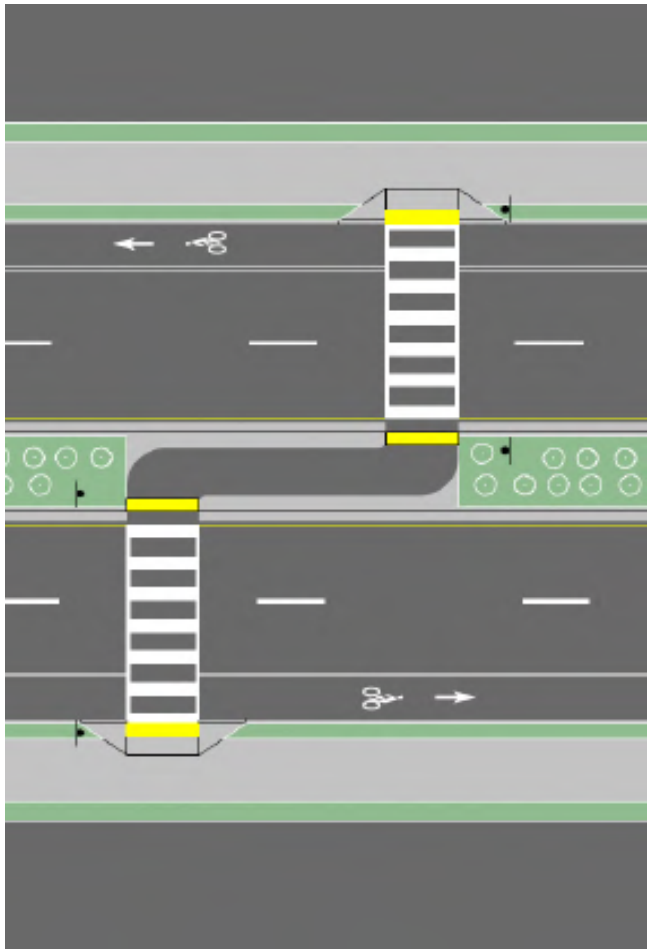
222.2.3.2 Midblock - See ***Figures 210.3.4*** and ***210.3.5*** for **examples** of midblock crossings with refuge islands.

Refer to ***FDM*** ***230.6*** for information on **pavement markings** and midblock crossings.

For walking surface width:
IF
Ramp = Sidewalk,
THEN
Median Refuge ≥ Sidewalk
RIGHT?

FIGURES 210.3.4 & 210.3.5





FGB 8.G.1.b

MIDBLOCK MITIGATION STRATEGIES

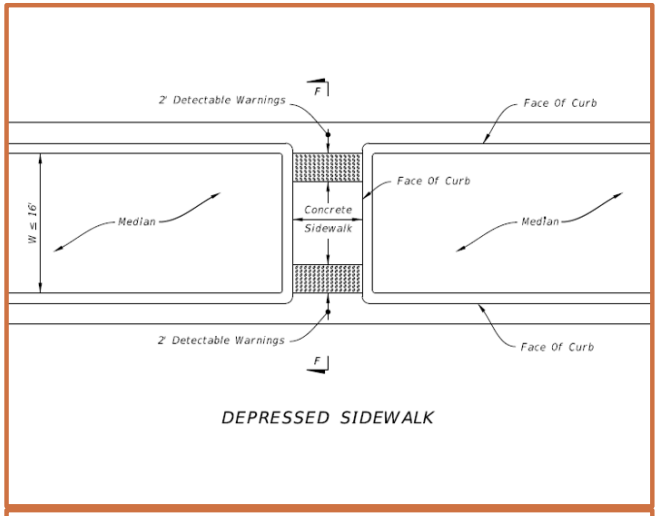
222.2.3.2 Midblock - If **site conditions** are **identified** that **would obstruct** the placement of a midblock crosswalk, **include additional features** in the design **to remedy** these conditions.

Features like **overhead signing** can help **alert motorists** and be **used to light the crossing**.

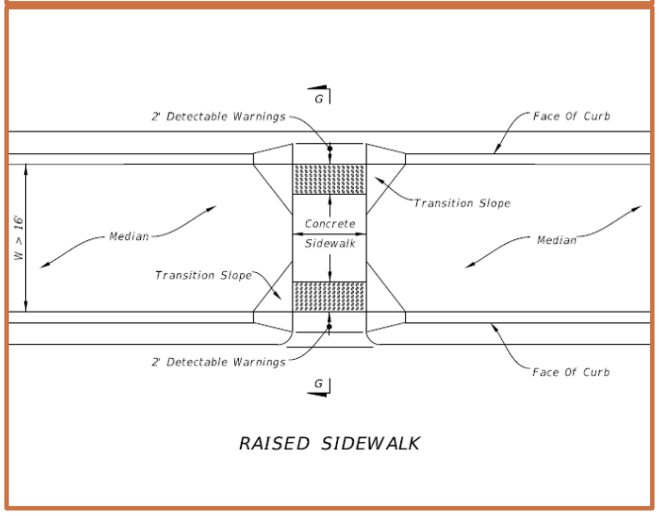
Curb extensions or **bulb-outs** can **improve sight distance** and **decrease** the **crossing distance**.

Adjustment of the **profile** on the roadway crossing **may be required** to **improve** the **cross slope** of the **crosswalk**.

FGB 8.G.1.b



DEPRESSED SIDEWALK



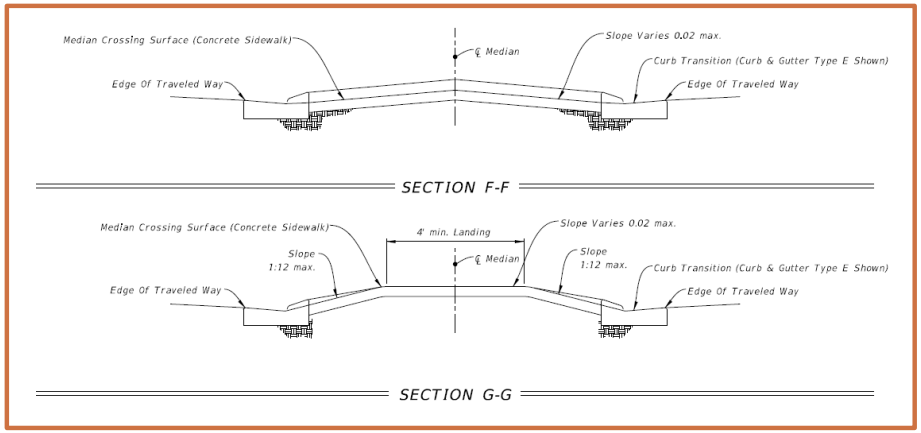
RAISED SIDEWALK

222.2.3.2 Midblock - The sidewalk median **crossing through a raised median** will be either **depressed** or **raised**, depending on the median width between the backs of curbs (W), as follows:

(1) **Depressed** Sidewalk when W ≤ 16 feet

(2) **Raised** Sidewalk when W > 16 feet

See ***Exhibit 222-1*** for more information.



FGB 8.G.6

222.2.4 At-Grade Railroad Crossings - Provide an ADA **accessible route** for pedestrians at **railroad** crossings by **extending** proposed or existing sidewalks or shared use paths **through** the **rail crossing**.

The **surface** of the crossing **must be**:

- Firm, **stable** and slip resistant,
- **Level and flush** with the top of rail at the outer edges of the rails, and
- Area between the rails **aligns with the top of rail**.

FGB 8.G.6

RAILROAD CROSSINGS

222.2.4 At-Grade Railroad Crossings - **Place** detectable warnings **on each side** of the railroad crossing as detailed in ***Standard Plans***, ***Index 522-002***.

The **edge** of the detectable warning **nearest the rail crossing** is to be located **between 6 and 15 feet** from the centerline of the nearest rail.

Where **gates are provided**, detectable warnings are to be placed a **minimum of 4 feet** from the side of the gates **opposite** the rail.

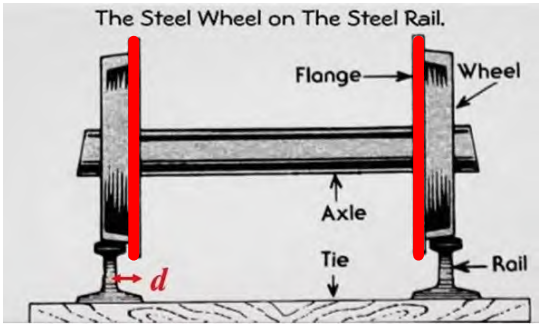
An **audible device**, such as a **bell**, is **used in conjunction** with the traffic control signals, if traffic control signals are in operation at a crossing that is used by pedestrians or bicyclists.

Additional information is located in the ***MUTCD*** regarding additional signals, signs, or pedestrian gates and designing crossings for shared use paths.

FL-842 (W Broward Blvd., Ft. Lauderdale)

222.2.4 At-Grade Railroad Crossings - **Flangeway gaps** are necessary to allow the passage of train **wheel flanges**; however, they **pose a potential hazard** to pedestrians who use wheelchairs because the gaps can entrap the wheelchair casters.

A **maximum flangeway gap** is required for all at-grade pedestrian rail crossings of **2½"** for all **non-freight** rail track and **3"** for **freight** rail track.



PEDESTRIAN REFUGE ISLANDS & CURB EXTENSIONS

222.2.5 Refuge Islands - See ***FDM* 210.3** for information on **refuge islands**.

222.2.6 Curb Extensions (Bulb-Outs) - Consider the use of **curb extensions** (a.k.a., bulb-outs) in conjunction with **on-street parking** at **intersections** or **midblock** locations where there is a **crosswalk**, provided there is adequate width for existing traffic movements.

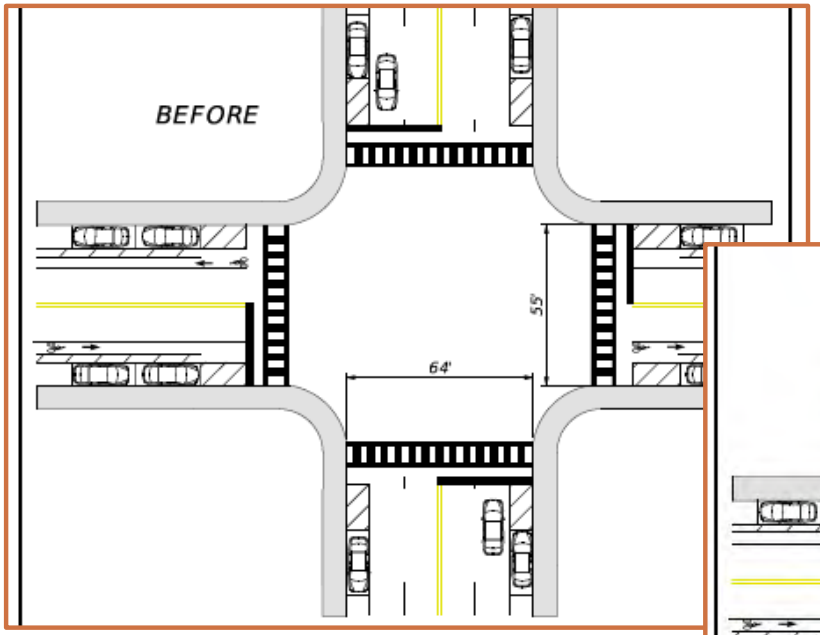
Curb extensions **shorten** the **crossing distance**, and **provide additional space** at intersections, allowing pedestrians **to see** and **be seen** before entering a crosswalk.

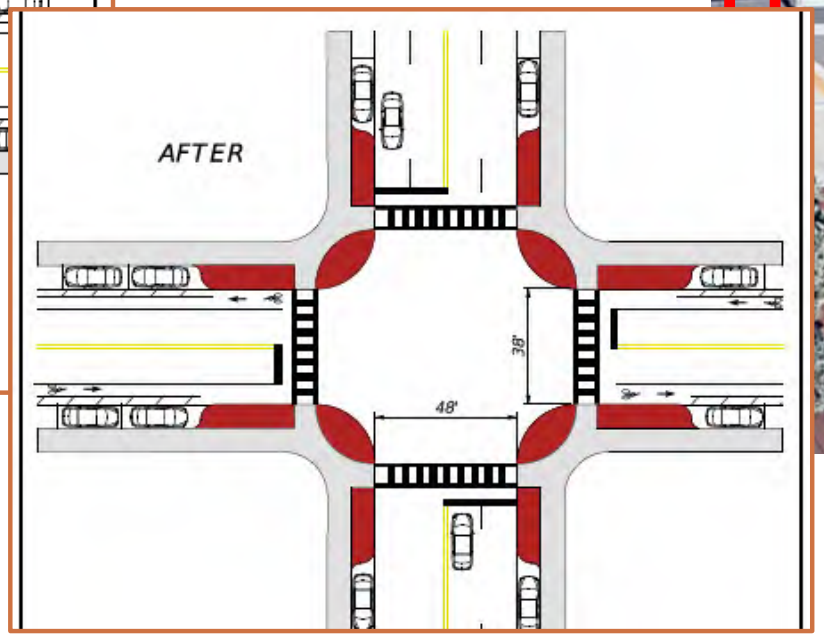
The **design** of curb extensions must take into **consideration** the needs of **transit**, **emergency vehicles**, **commercial trucks**, **drainage**, and **bicyclists**.

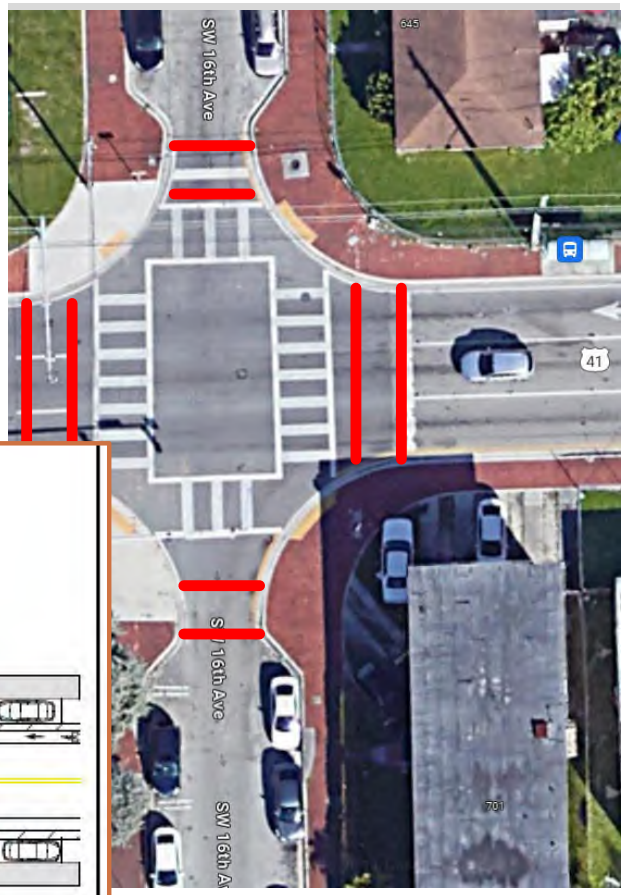
Consult with District drainage staff on **drainage accommodations** for the curb extension during Phase I of the design. See the ***Drainage Design Guide*** and ***Figure 222.2.1***.

222.2.6 Curb Extensions (Bulb-Outs)

Figure 222.2.1 Curb Extension







222.2.7 Pedestrian Signals - See *FDM 232.6* for information on pedestrian signals.

Pedestrian detector assemblies and pedestrian control signals are detailed in the *Standard Plans*, ***Indexes 653-001*** and ***665-001***.

Accessible Pedestrian Signals (APS) in FDM 232.6.1!

FGB 8.B.1

SIDEWALK CONNECTIONS TO BUS STOPS

222.2.8 Public Transit Loading Zones - See ***FDM 225*** for information on **public transit facilities**.

Provide a **minimum 5-foot-wide** sidewalk **connecting** transit stops to **sidewalk** or **shared use paths**.

Coordination with the following **may be required** to determine the **optimum location** of boarding and alighting areas, transit shelters and bus bays:

- District **Pedestrian** and **Bicycle** Coordinator
- District **Modal Development** Office Coordinator
- District **ADA Coordinator**
- District **Public Transportation staff**
- Local public **transit provider**

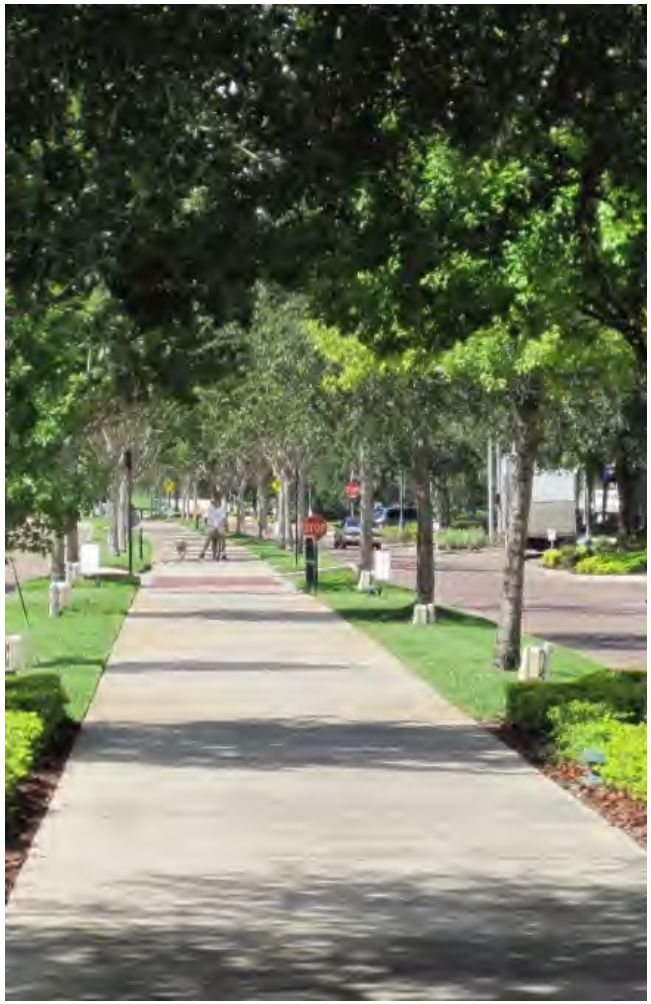
FGB 8.E.1 FGB 8.B.2

222.2.9 Pedestrian Bridges -

See ***FDM 266*** for information on **pedestrian bridges**.

222.2.10 Shared Use Paths -

See ***FDM 224*** for information on **shared use paths**.



STREET FURNITURE

222.2.11 Street Furniture - Street furniture may include **benches**, **lighting fixtures**, **transit shelters**, and **bicycle parking**.

These items **may be placed** within the R/W **under certain conditions**.

Ensure items **do not obstruct** **sight distance** or **visibility of pedestrians** at crosswalks.

Do not use street furniture **on curb extensions**.

Refer to ***FDM* 223.5** for information on **bicycle parking amenities**, and ***FDM* 225** for information on **public transit facilities**.

Appropriate **types** of street furniture **may vary** based on **frequency** and **density** of pedestrian activity.

Street furniture **must allow** for **minimum sidewalk width** and **meet lateral offset requirements** identified in ***FDM* 222.2.1.1** and ***222.2.1.2***.

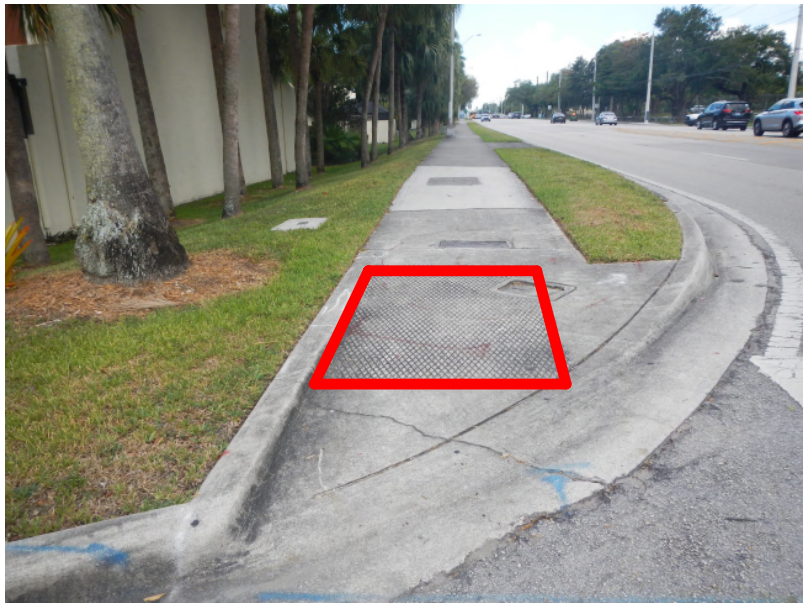
FGB 8.G.3

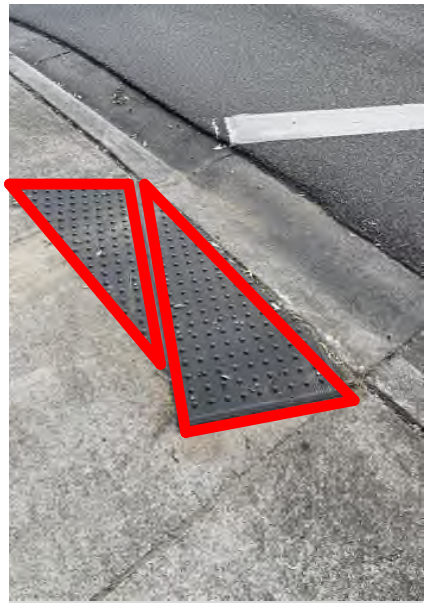
222.3 Detectable Warnings - Detectable warnings are a distinctive **surface pattern** of domes **detectable by cane or underfoot** that **alert** people with vision impairments of their approach to street crossings.

...in direction of ped travel!

Install detectable warnings to cover the **full width** of the walking surface and **2 feet deep**.

DWS is not an alignment indicator!





FGB 8.G.3

222.3 Detectable Warnings - They are **required** on sidewalks at the following **locations**:

- **Curb ramps** and **transition** areas at street crossings

- **Pedestrian refuge islands** where there is one or more of the following:
  - o Change in surface **texture**
  - o Change in **elevation** (e.g., curb ramp)
  - o Change in horizontal **alignment** of the path within the refuge island
  - o **Two-stage** crossings
- Pedestrian at-grade **railroad crossings**
- **Commercial driveways** with a **stop sign**, **yield sign**, or **traffic signal**
- **Boarding** and **alighting areas** adjacent to the roadway at bus stops where there is an **at-grade connection** to the roadway
- **Edges** of **railroad boarding** platforms not protected by screens or guards

FGB 8.G.3

REMEMBER: IT'S ALL ABOUT SAFETY & ACCESSIBILITY

222.3 Detectable Warnings - Detectable **warnings** should **not be placed** where sidewalk intersects urban flared driveways or on **sidewalks that run continuously** through **residential** driveways.

Do not place detectable warnings on transition **slopes** or over **grade breaks**.

Further guidance on detectable warnings is provided in ***Standard Plans***, ***Index 522-002***.

See Standard Spec 527.

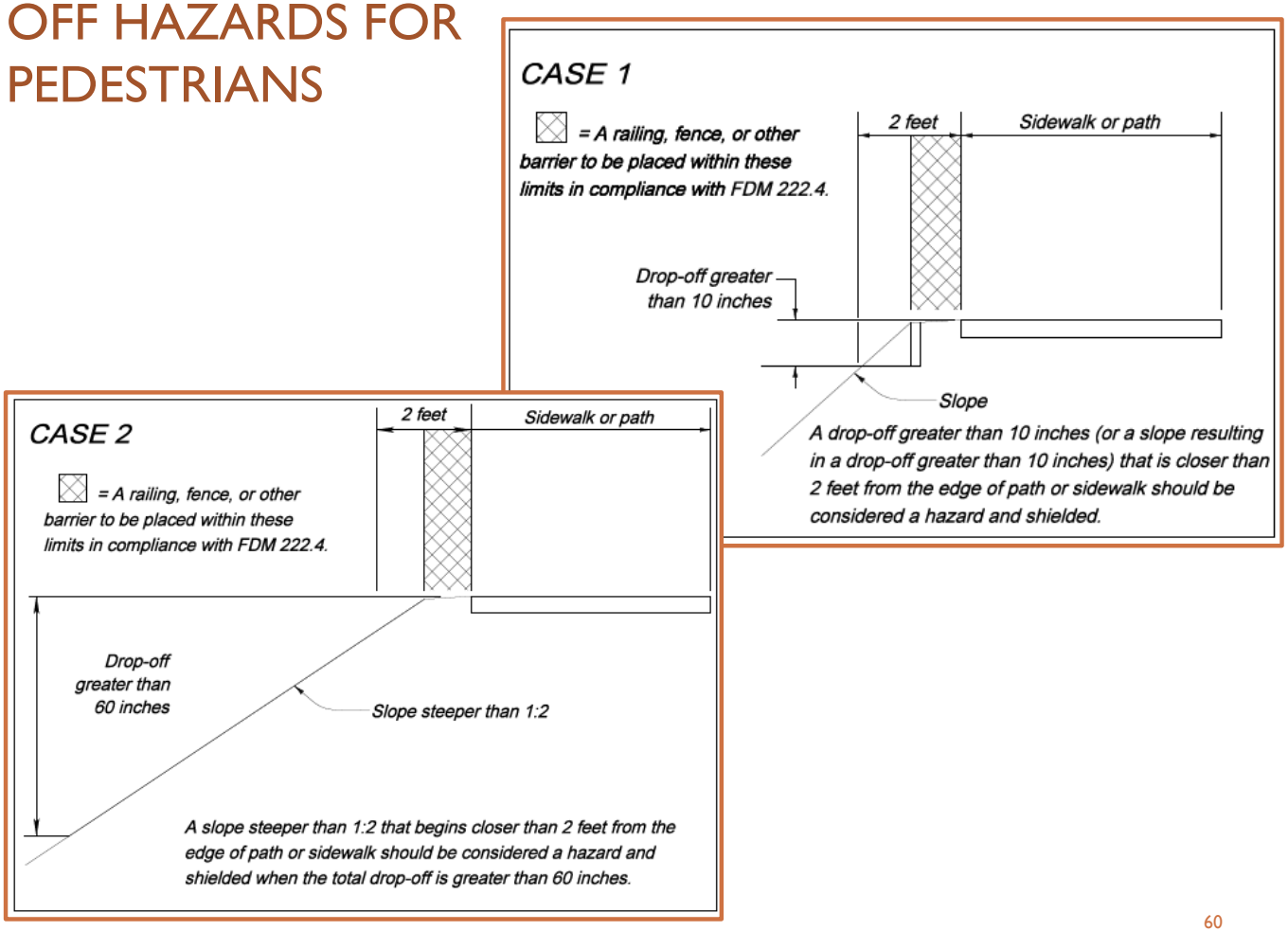
FGB 8.F

222.4 Pedestrian Drop-off Hazards and Railings - A pedestrian **drop-off hazard** is a **steep** or **abrupt downward slope** that can be **hazardous** to pedestrians.

There are **two** pedestrian **drop-off hazard conditions** defined in ***Figure 222.4.1***.

Additionally, depending on the height of a slope and the severity of the conditions beyond, **cases other than those** shown in ***Figure 222.4.1*** **may also be considered a pedestrian drop-off hazard**.

FIGURE 222.4.1 DROP-OFF HAZARDS FOR PEDESTRIANS



FGB 8.F

DROP-OFF PROTECTION

222.4 Pedestrian Drop-off Hazards and Railings - When the pedestrian drop-off **hazard cannot be eliminated**, consider the following:

(1) **Fencing** is typically used in C1 and C2 context classifications, and on shared use paths and trails.

(2) **Railing** is typically used in C2T, C3, C4, C5, and C6 context classifications, and at locations attaching to bridge rail or along sidewalks.

(a) Pedestrian/Bicycle **Railings** (Standard Plans, Index 515-021 through 515-062) are **adequate for shielding all drop-offs** but are generally intended for use on drop-offs greater than 60 inches.

(b) Pipe **Guiderail** (Standard Plans, Indexes 515-070 and 515-080) is **adequate** for shielding **drop-offs which are 60 inches or less**.

FGB 8.F

DROP-OFF PROTECTION

222.4 Pedestrian Drop-off Hazards and Railings - When the pedestrian drop-off hazard cannot be eliminated, consider the following:

(2) Railing is typically used in C2T, C3, C4, C5, and C6 context classifications, and at locations attaching to bridge rail or along sidewalks.

(c) Along **continuous sections** where the drop-off varies above and below the 60-inch threshold, **for uniformity** the **engineer may consider using only one** of the railing types adequate for shielding all drop-offs.

(d) Pedestrian/Bicycle Railings and Pipe Guiderail **are non-crashworthy** and **are not to be placed within**: i. Lateral offset requirement for curbed roadways, or ii. Clear zone for high-speed curbed and flush-shoulder roadways.

(3) Maintain **driver's line of sight** at intersections and driveways.

FGB 8.F

222.4 Pedestrian Drop-off Hazards and Railings - The **standard height** for Pedestrian/Bicycle Railing is **42 inches**.

Provide a 48-inch-tall Pedestrian/Bicycle Railing **when all three of the following conditions exist**:

(1) Bicyclists are **permitted to travel within 3 feet** of the railing.

(2) The **path is on a downward grade** steeper than 5%.

(3) There is a **horizontal curve** having a radius less than that **specified for the design speed** of the bicycle facility. Taller railing should not extend more than 20 feet beyond the point of tangency of the horizontal curve.

FGB 8.F

222.4 Pedestrian Drop-off Hazards and Railings -

Pedestrian railings are not required where W-beam guardrail is installed at the back of the sidewalk or shared use path.

Pedestrian/Bicycle **railings** (42 inches in height) **are not required** where **traffic railings separate** the **vehicular traffic** from the **pedestrian** or **bicycle facility**.

Where Pedestrian/Bicycle **Railing is used**, the **Department will cover the cost only for standard** galvanized steel or standard aluminum railing.

If the **Local Agency desires** a painted railing, **they are required** to provide the additional funding and commit to cover the maintenance cost.

222.4 Pedestrian Drop-off Hazards and Railings - The **Department will cover the cost** of the **standard** Infill Panel Types shown in the Standard Plans.

If the **Local Agency desires** a railing having Custom Infill Panels which increases the cost over standard infill panels, **they are required** to provide the additional funding to cover this **initial premium cost**.

In addition, a **maintenance agreement** will be **needed** to address the responsibilities associated with **maintaining** Custom Infill Panels.

BRIDGE RAILINGS & FENCES

222.4.1 Bridge Pedestrian Railings and Fences - **Details** and **typical applications** of various crashworthy pedestrian/bicycle bridge railings and fencing are provided in ***Figures 222.4.2 – 222.4.8***.

The **installation** of **fencing** on **traffic railing** between sidewalk or shared use paths and travel lanes on LA facilities **must be approved** by the **State Structures Design Engineer**.

The Engineer should **work with the District** to determine when an **enclosed fencing option** is warranted.

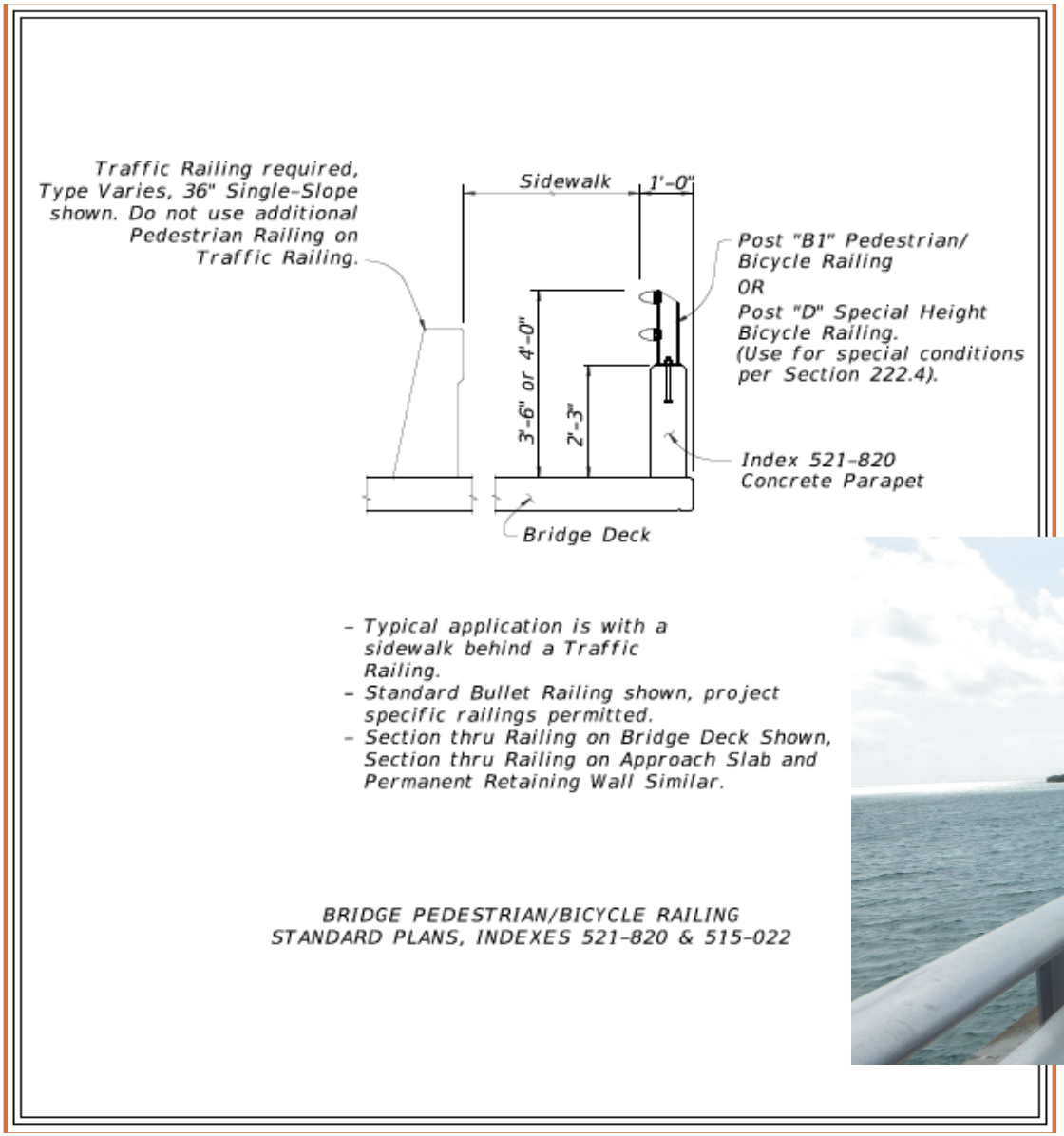


FIGURE 222.4.2 BRIDGE RAILING – PEDESTRIAN/BICYCLE RAILING

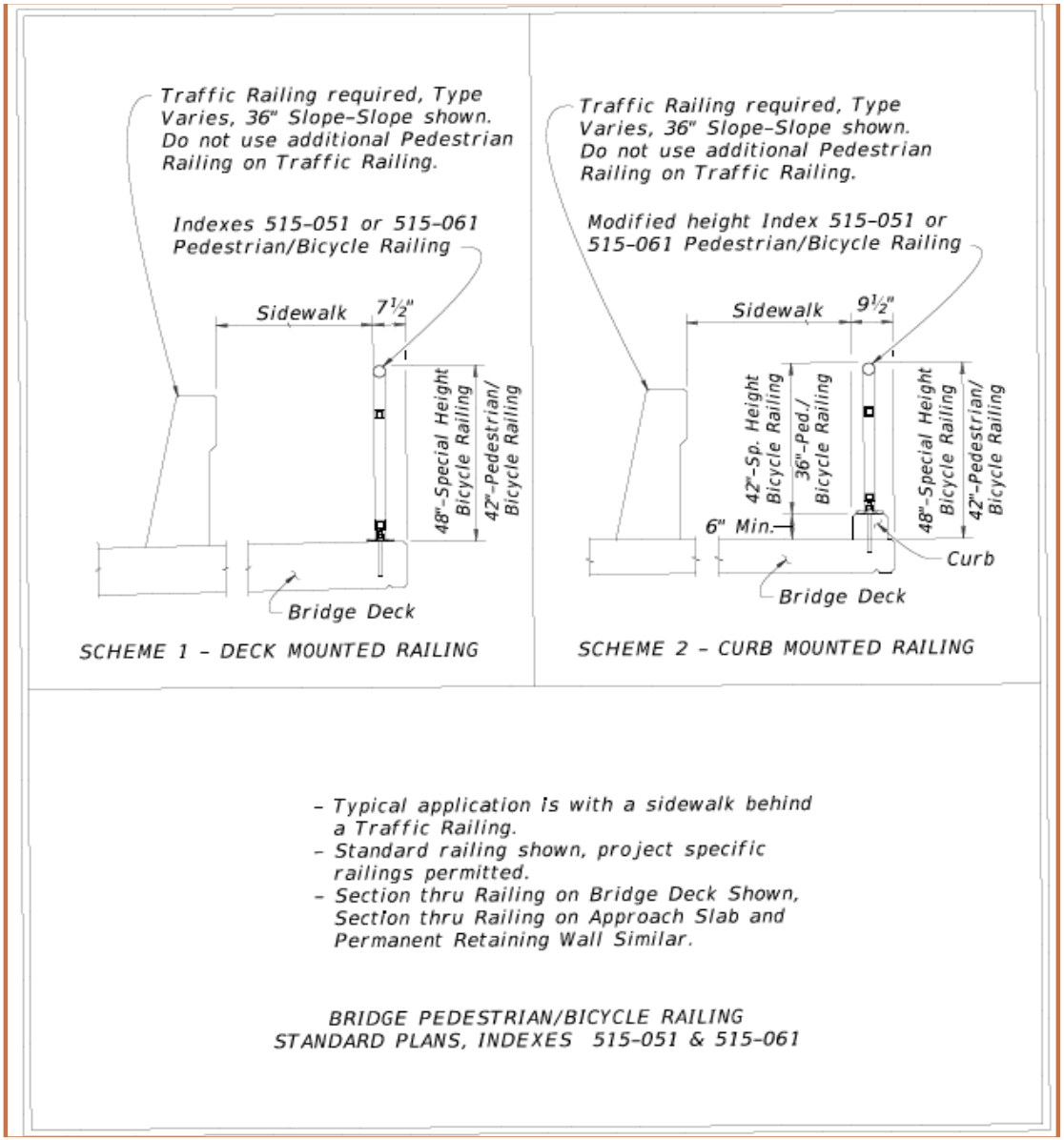
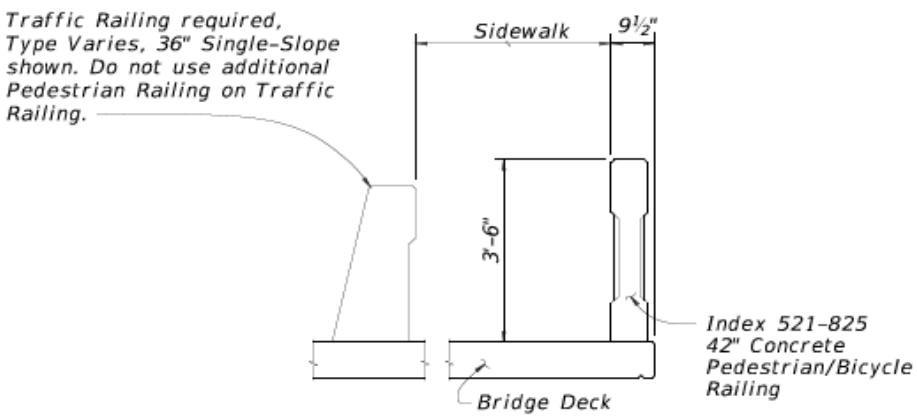


FIGURE 222.4.3 BRIDGE RAILING – PEDESTRIAN/BICYCLE RAILING



- Typical application is with a sidewalk behind a Traffic Railing.
- Section thru Railing on Bridge Deck Shown, Section thru Railing on Approach Slab and Permanent Retaining Wall Similar.

PEDESTRIAN/BICYCLE RAILING
STANDARD PLANS, INDEX 521-825

FIGURE 222.4.4 BRIDGE RAILING – PEDESTRIAN/BICYCLE RAILING

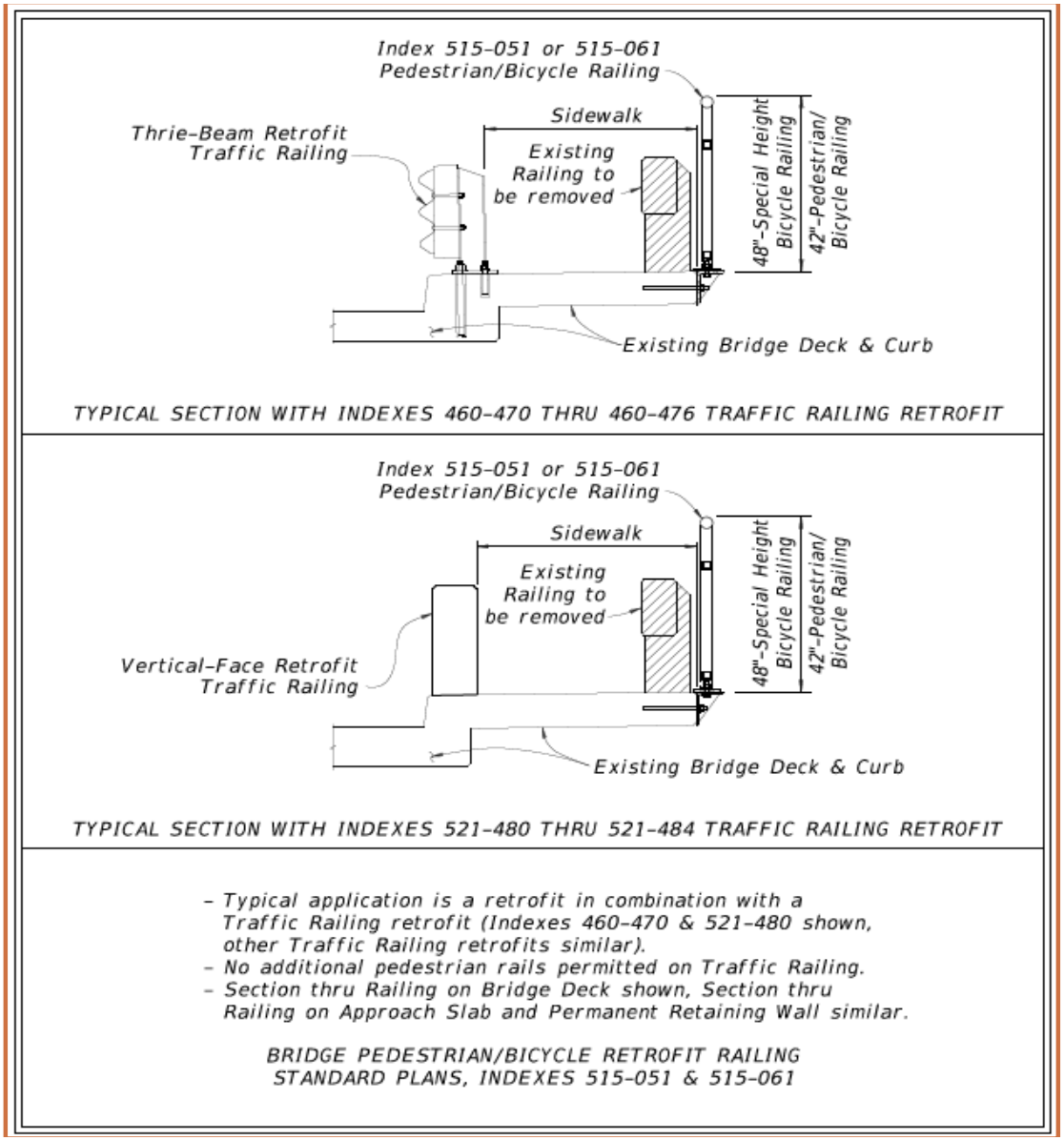


FIGURE 222.4.5 BRIDGE RAILING AND PEDESTRIAN/BICYCLE RAILING RETROFIT

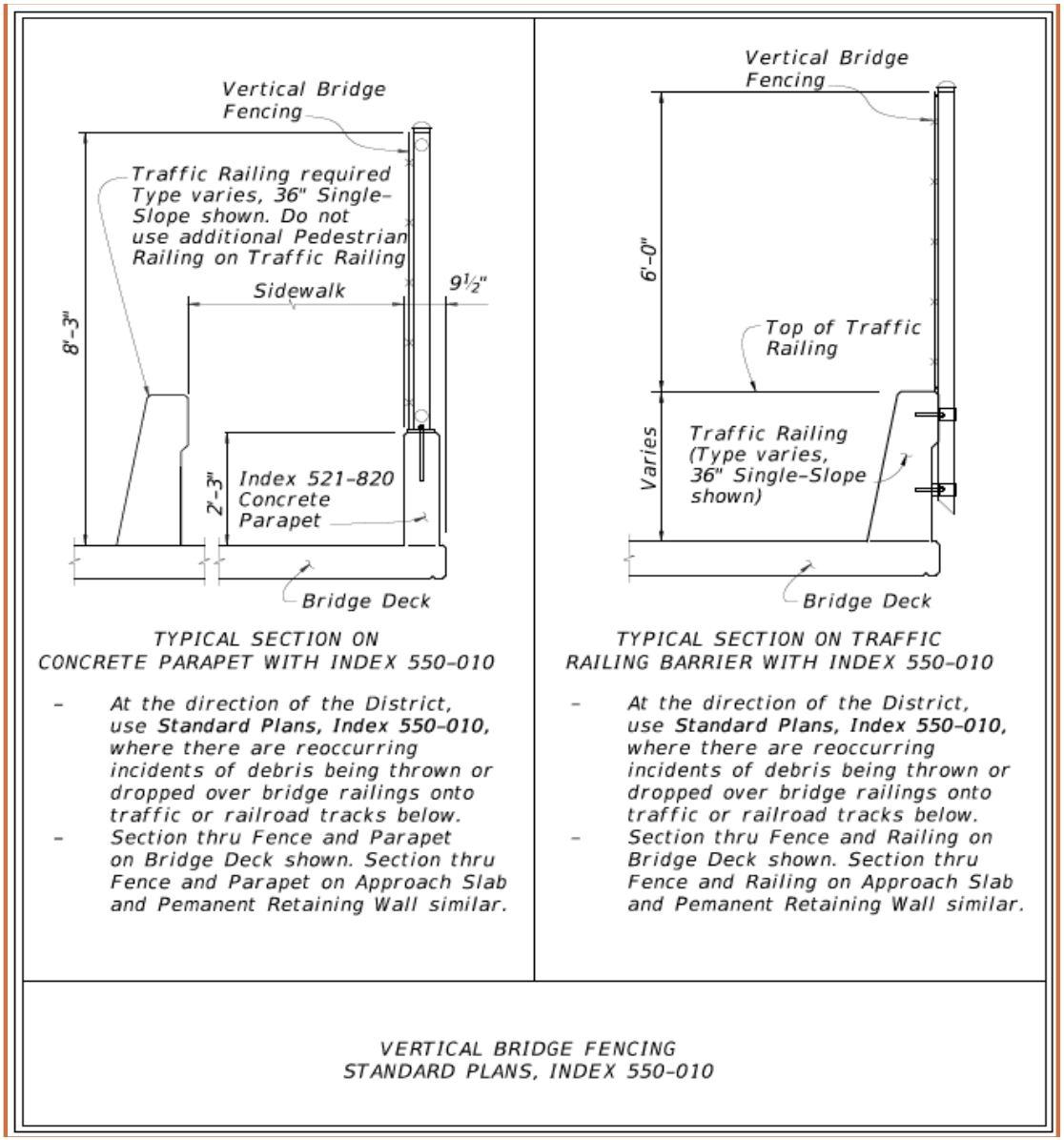


FIGURE 222.4.6 BRIDGE RAILING AND BRIDGE PARAPET FENCING

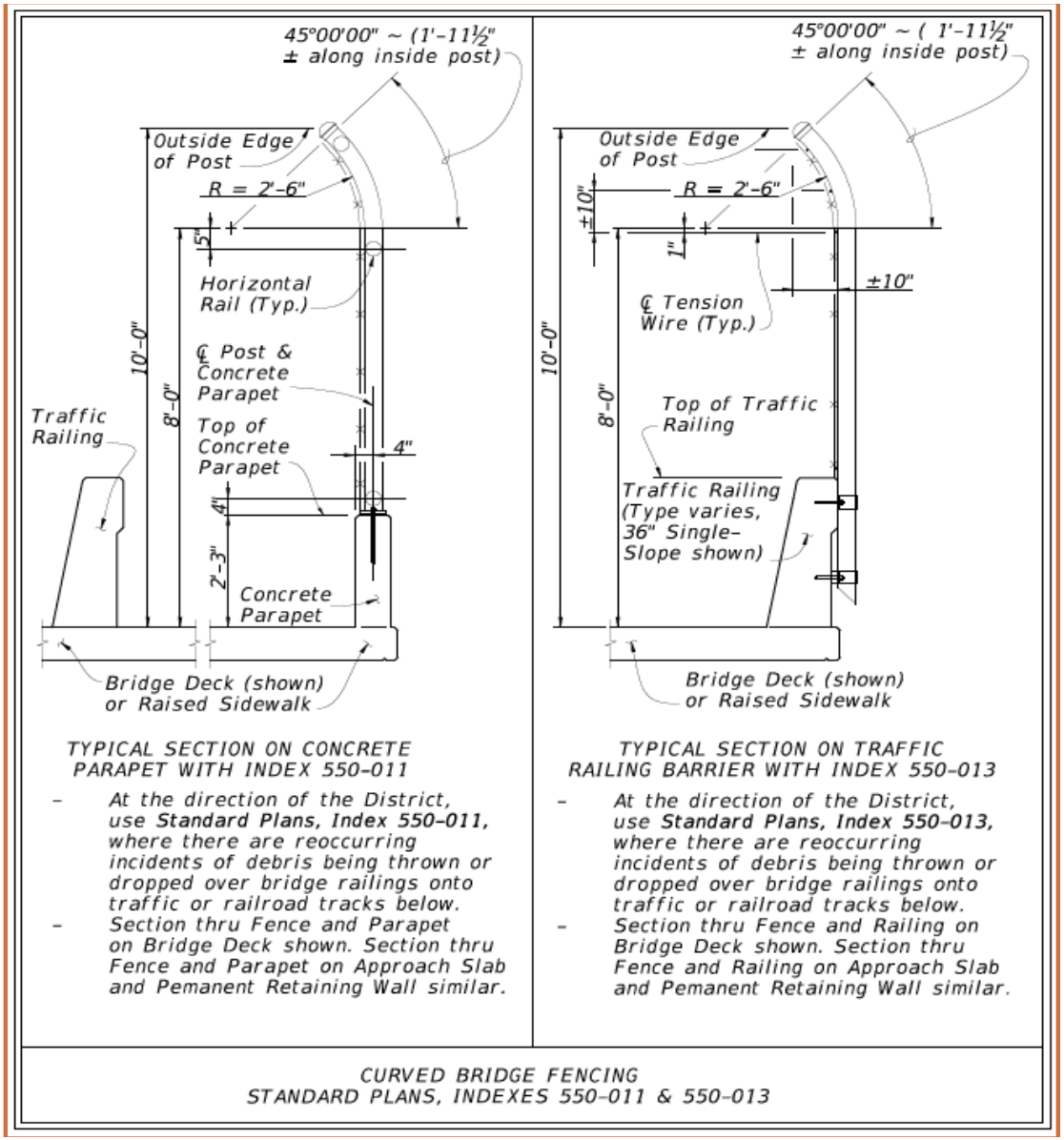
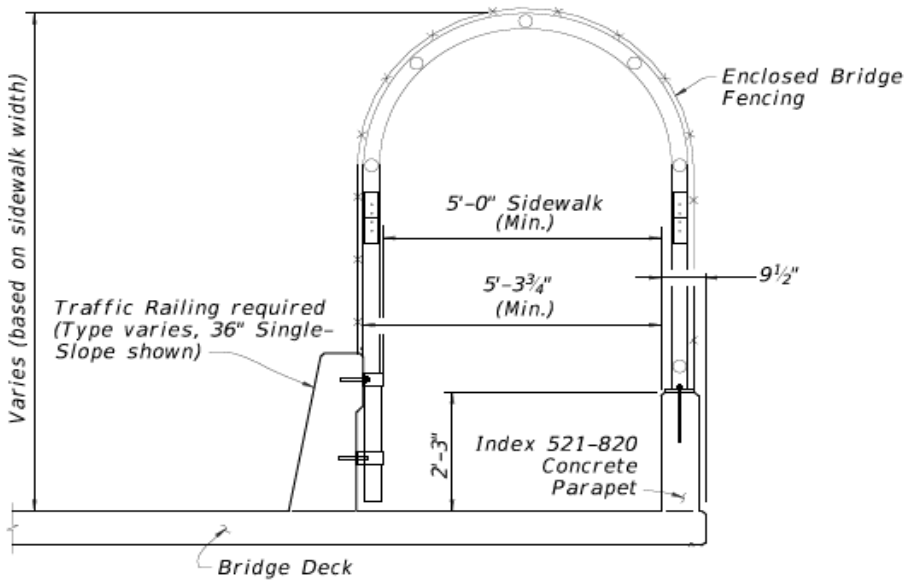


FIGURE 222.4.7 CURVED BRIDGE FENCING



- At the direction of the District, use **Standard Plans, Index 550-012** when a Traffic Railing, sidewalk and parapet exists on a bridge and when Pedestrian Traffic from schools, residential neighborhoods, playgrounds and recreational facilities is encountered. The Engineer should work with the District to determine when the enclosed fencing option is warranted.
- Section thru Fence, Parapet and Traffic Railing on Bridge Deck shown, Section thru Fence, Parapet and Traffic Railing on Approach Slab and Permanent Retaining Wall similar.

ENCLOSED BRIDGE FENCING
STANDARD PLANS, INDEX 550-012

FIGURE 222.4.8 BRIDGE RAILING - ENCLOSED FENCING

222.4.2 Pedestrian Railings on RRR Projects - For **RRR projects**, existing pedestrian **railings** and pipe **guiderail should be removed** that are within:

- Required **lateral offset** for curbed roadways, or
- **Inside clear zone** for high speed curbed and flush shoulder roadways

PED RAILINGS AND RRR PROJECTS

222.4.2 Pedestrian Railings on RRR Projects - If there was a **documented** issue of **traffic incidents** involving **pedestrians** prior to the installation of the existing pedestrian railing or pipe guiderail that would **likely reoccur**, **implement one** of the following treatments, in order of priority:

(1) **Eliminate the hazard** and remove the pedestrian railings and pipe guiderail, or

(2) Allow the **railing to remain**.

222.5 Moveable Bridge Pedestrian Gates - Refer to ***Structures Design Guidelines*** (***SDG***), Chapter 8 for **movable bridge pedestrian safety** design requirements.

FDM 114
RESURFACING, RESTORATION, AND REHABILITATION (RRR)

114.1 General - Resurfacing, restoration, and rehabilitation (RRR) work is defined as work undertaken to **extend the service life** of an existing highway and enhance highway safety for all modes of travel.

This includes the **placement** of additional **surface materials** and **other work** necessary to return an existing roadway to a condition of structural and functional **adequacy**.

RESURFACING, RESTORATION, AND REHABILITATION (RRR)

114.1 General - This chapter contains **processes** and **requirements** specific to RRR projects **necessary** to **evaluate** existing roadways for **safety** and **performance**.

The District **Safety Engineer** and District **Safety Administrator** must be **involved** in determining safety **needs**.

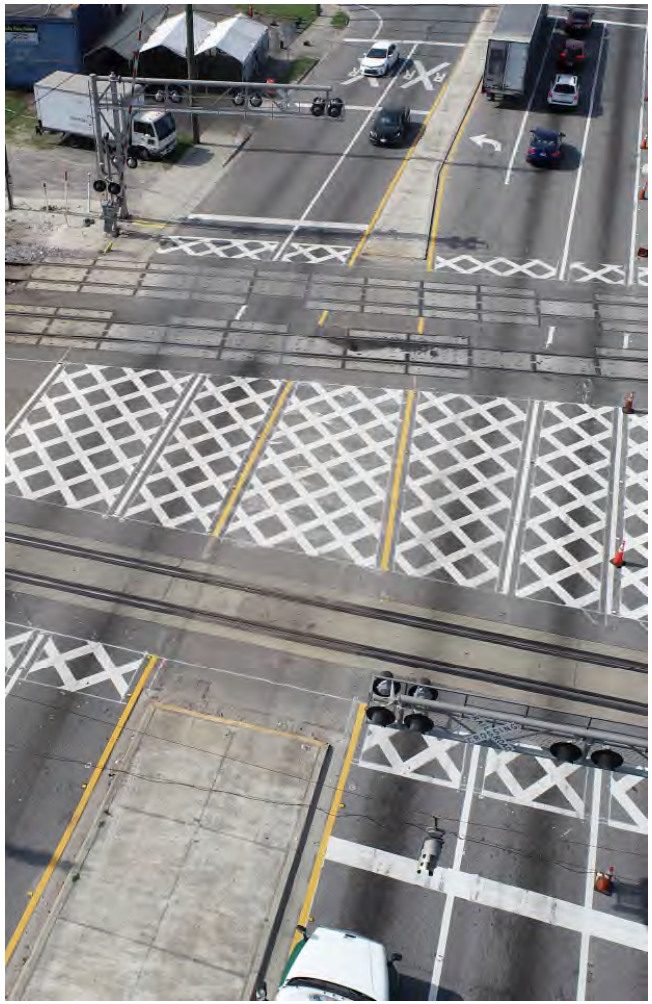
Target Speed must be **established early** in the design process to **assist** with **meeting** safety **objectives**.

114.1.1 Improvements in RRR Projects - RRR projects *must* **meet *FDM* *Part 2* criteria** and **requirements**.

In addition, the **following** *must* **be included** in the **scope** for each RRR project:

(1) Provide **improvements recommended** by the **Safety Assessment** described in ***FDM 114.3.2.2***.

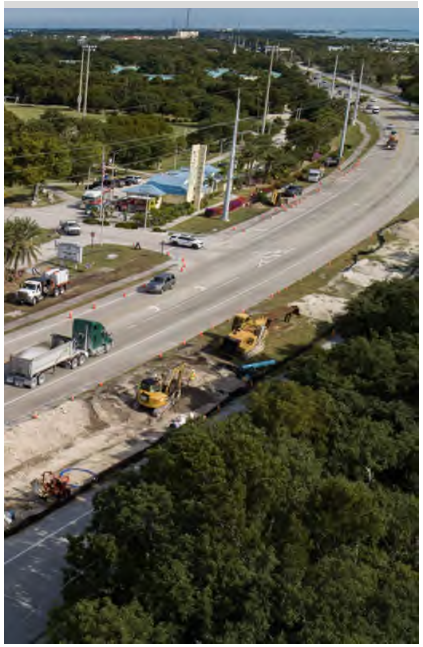
(3) **Modifications necessary** to **comply** with the ***FDM*** **requirements** associated with the **Americans with Disabilities Act** (**ADA**).



114.1.4 Pavement Only Projects and Ride Only Projects - This chapter **does not apply** to projects programmed as **POPs** or **Ride Only Projects** other than meeting **ADA** **curb ramp** and **detectable warning requirements**.

114.2 Planning and Programming RRR Projects - **Identify potential modifications** to meet **anticipated future conditions** during the **context classification review** as part of scoping.

This will **typically include** reviewing **local and District plans** (e.g., bicycle facilities plan, corridor studies, sector plans, etc.) for **desired pedestrian**, **bicycle**, and **transit facilities** along the project corridor to **identify opportunities for improvement** as part of the **RRR** project.

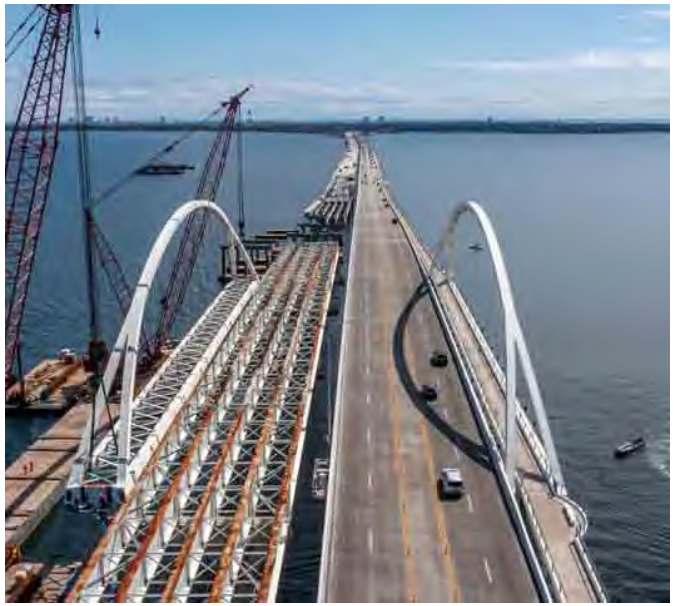


114.3.9 Bridge Structures – See ***FDM* 260.9** for information on **evaluating existing bridge** structures.

Review bridges in **sufficient detail** to clearly establish **cost effective** and **appropriate improvements** to be included in the project.

RRR program **funds can be used** only for **minor bridge improvements**; e.g., rail retrofits, **ADA improvements**.

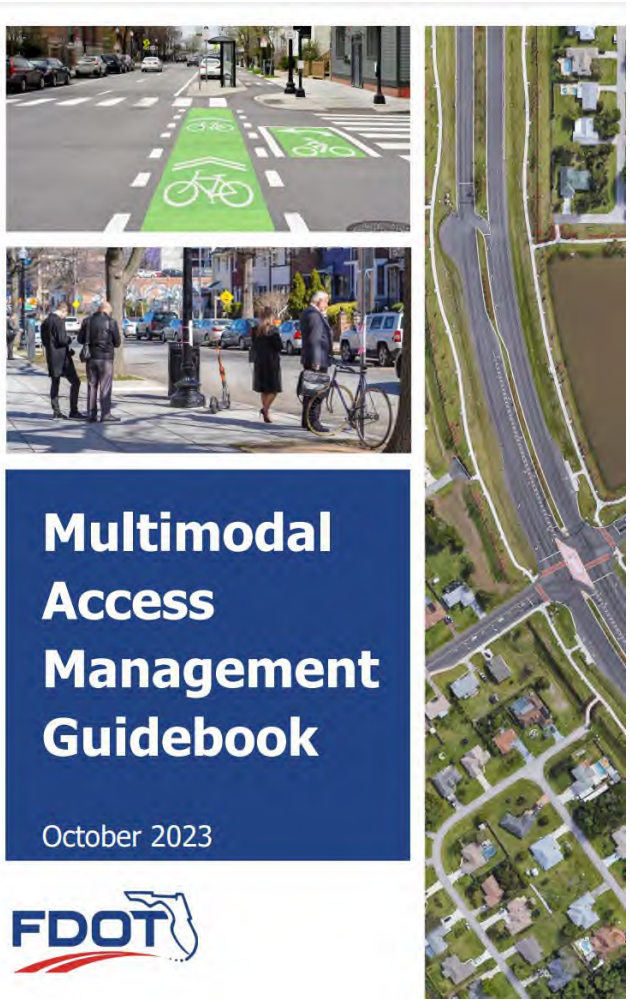
Bridges that require **substantial improvements**, or **replacement**, should be **programmed** with the appropriate bridge **program funds**.

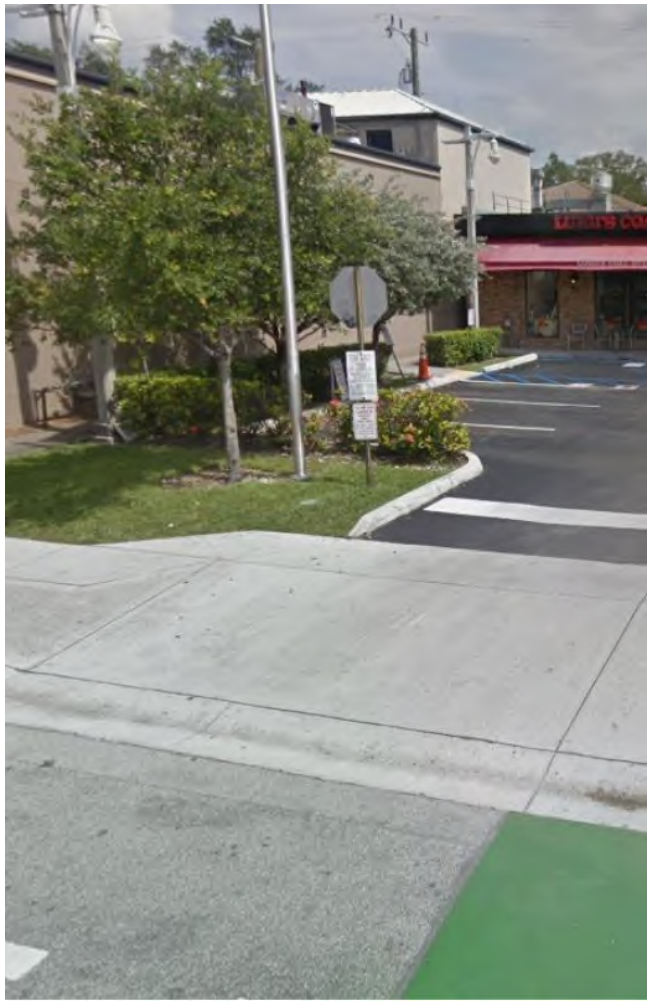


FDM 214
DRIVEWAYS

214.1 General - This chapter provides **driveway design criteria** and **requirements** for **connections** to the State Highway System.

The ***FDOT Multimodal Access Management Guidebook*** provides **further guidance** and information on **driveways** and **medians**.





DRIVEWAY CONNECTIONS TO THE STATE HIGHWAY SYSTEM

214.1 General - For **additional information** and **definitions**, including **Connection Categories**, and **requirements** for **obtaining access** to the State Highway System, refer to:

- ***Florida Administrative Code (F.A.C.), Rule 14-96 (State Highway Connection Permits) and***
- ***Rule 14-97, F.A.C. (State Highway System Access Control Classification System and Access Management Standards).***

214.1 General - This **criteria applies** to **new construction**, **reconstruction**, and Resurfacing, Restoration and Rehabilitation (**RRR**) projects.

New Construction criteria must be met for **new** and **reconstruction** projects, and for **proposed improvements** included within **RRR** projects.

For **RRR** Projects, **unaltered driveways** that are not in compliance with the new construction criteria in **this chapter**, ***Standard Plans***, or **ADA** requirements **are not required to be reconstructed**.

PEDESTRIAN ACCOMMODATIONS FOR DRIVEWAYS

214.4.1 Driveway Profile on Curbed Roadways - To provide the **standard** sidewalk **width**, shared use path **width**, or **crossing through the driveway**, consider **shortening the driveway apron** with the appropriate flared driveway.

See ***FDM* 214.7** for more information on **pedestrian accommodations for driveways**.

Slopes and **lengths** of **flared driveways** depend on roadway **geometry**, **design vehicles**, sidewalk **width**, shared use **path width**, and **available R/W**.

214.7 Pedestrian Accommodations for Driveways - **Provide** the following at **radial** or **flared return driveways** where a **pedestrian facility** (i.e., sidewalk, shared use path) **is required**:

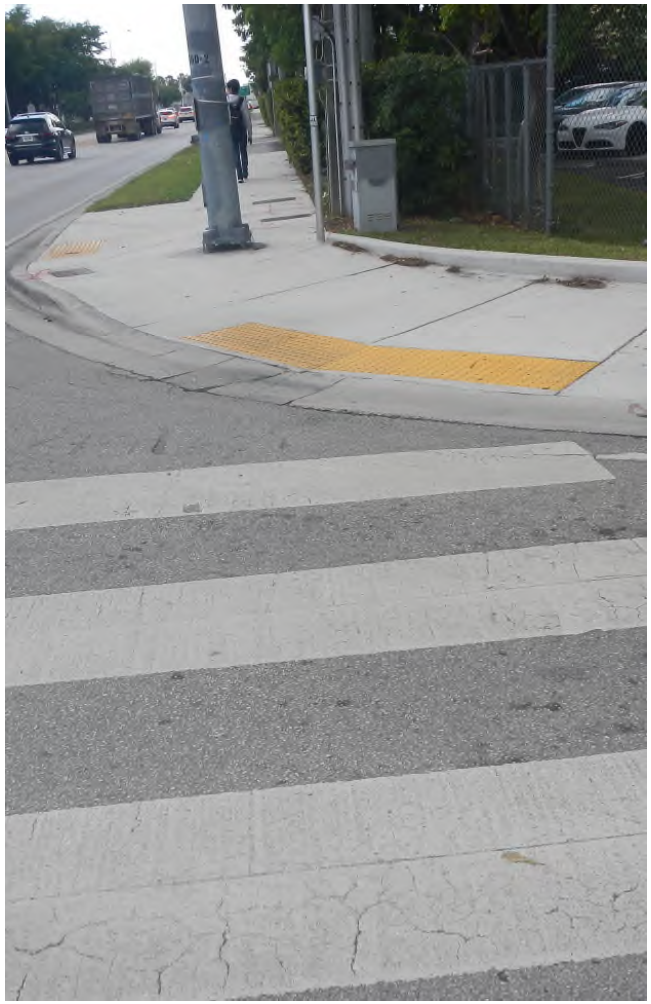
- The **same width** of pedestrian **facility across** the driveway as the pedestrian **facility adjoining** the driveway to the greatest extent possible, with a **minimum 4-foot-wide** crossing for **sidewalks** and **minimum 8-foot-wide** crossing for s**hared use paths**.

- **Crossings** with a **maximum cross slope of 2%** for **flared** and **unsignalized radial driveways**. See ***FDM* 214.4** and ***Standard Plans*, Index 522-003** for information on the **selection of flared driveway applications**.

Commentary: Crossing widths of 5 feet or greater will allow a more accessible connection to the pedestrian facility.

FDM 215
ROADSIDE SAFETY

215.2.4 Lateral Offset - At times, it **may be necessary** to **place poles** (e.g., signal, light, sign) **within** the **sidewalk**. Refer to ***FDM* 222.2** for **minimum unobstructed** sidewalk **width requirements**.



ENGINEERS MUST EXERCISE ENGINEERING JUDEMENT

215.3.4 Additional Hazard Considerations - **Engineering judgment** *should* be used when evaluating **hazardous** conditions, and *should* **consider**: roadway **geometry**, **proximity** to facility or building, level of **activity**, and traffic **conditions** and **operations**.

These conditions **may include**:

(1) **Bridge piers** that are not designed for vehicle impact loads,

(2) **Bicycle** and **pedestrian** facilities,

(3) **Residential** buildings, **schools**, **businesses**, and

(4) The presence of **personnel** in work zones.

FDM 224
SHARED USE PATHS

224.1 General - Shared use paths are **paved facilities physically separated** from motorized vehicular traffic by an **open space** or **barrier** and are either **within the highway right of way** or an **independent** right of way.

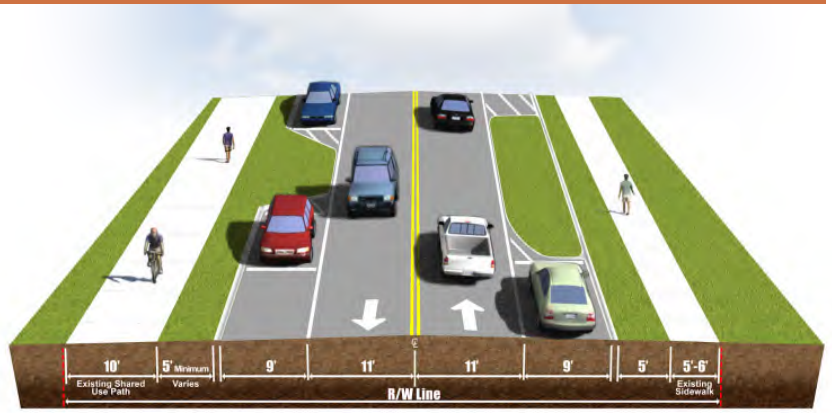
The term, “shared use path”, as used in this manual is **synonymous** with **trails**, **multiuse trails**, or **other similar terms** used in other Department manuals.

SHARED USE PATHS MUST COMPLY WITH THE ADA – FULL WIDTH!

224.1 General - Shared use paths are **used by bicyclists**, **pedestrians**, **skaters**, **runners**, and **others**.

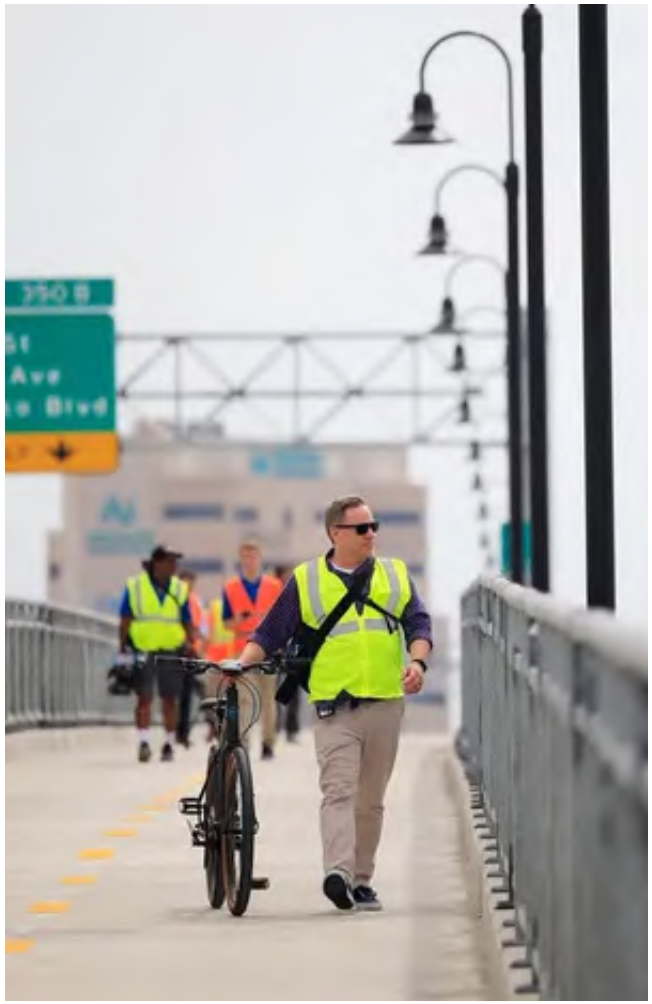
Since shared use **paths serve as pedestrian facilities**, they **must comply with** Americans with Disabilities Act (**ADA**) standards.

...for FULL width!



Proposed Changes
Magnolia Avenue to Ivanhoe Boulevard

For **RRR** projects, other than meeting **detectable warning** and **curb ramp requirements**, unaltered shared use paths that are not in compliance with ***FDM*** **criteria** or **ADA standards** are **not required to be reconstructed**.



224.5 Cross Slope - To meet ADA requirements, the **maximum cross slope on shared use paths is 2%**.

Use a **75-foot distance** to **transition** from **-2% to 2%** or from **2% to -2%** when it is desired to **change the slope direction of the path**.

Consider the **potential** for **ponding water** when **proposing** a **slope transition**.

FGB 11.E, F, & G

FDM 232
SIGNALIZATION

232.6.1 Accessible Pedestrian Signal Feature - Where **pedestrian facilities** are provided, **include provisions** (e.g., ***conduit***, ***conductors***, signal ***cables***) needed for **future** use of Accessible Pedestrian Signal (**APS**) devices on all **new** and **reconstructed** signalized **intersections** and signalized **midblock** crossing locations.

See ***TEM*** ***3.7*** for installation and operation **criteria** of Accessible Pedestrian Signals on the **S**tate **H**ighway **S**ystem.

FGB 11.E, F, & G

FDM 240
TRANSPORTATION MANAGEMENT PLAN

240.1 General - A Transportation Management Plan (**TMP**) is **required** for minimizing activity-related traffic **delay** and **crashes**.

The **goal** of a TMP is to **reduce congestion** during construction by **managing** traffic through the project area.

ADDITIONAL REFERENCES

240.1.1 TMP Reference Documents - **Comply** with the following **documents** for the development of TMPs:

(1) ***Manual on Uniform Traffic Control Devices for Streets and Highways,*** (***MUTCD***)***, Part 6***

(2) ***Policy on Geometric Design of Highways and Streets, AASHTO***

(3) ***Roadside Design Guide, AASHTO, Chapter 9***

(4) ***Standard Plans***, ***102 Series*** and ***711-002***

(5) ***FDOT Standard Specifications for Road and Bridge Construction*** (***Standard Specifications***)

(6) ***Basis of Estimates Manual***

(7) ***FDOT Accessing Transit Handbook, Chapter 4.6.***

(8) ***AASHTO Guide for the Development of Bicycle Facilities, 4th Edition, Chapter 7***

(9) ***Traffic Analysis Handbook***

240.1.2 TMP Components - A TMP consists of **strategies** to **manage** the work zone **impacts** of a project.

The **scope**, **content**, and degree of **detail** will vary based upon the **expected** work zone **impacts** of the project.

A TMP may include the following three **components**:

- Temporary Traffic **Control Plan**
- Transportation **Operations** Plan
- Public **Information** Plan

TEMPORARY TRAFFIC CONTROL PLAN

240.2 Temporary Traffic Control Plan - A Temporary Traffic Control Plan (TTCP) is **required** for **all work zones** within, or adjacent to highways, roads and streets as specified by ***Florida Statute*** and ***Federal Regulations***.

337.11(14) F.S. 23 CFR 630.1008

Typical **applications** of some **commonly** encountered situations are **shown** in the ***MUTCD***.

Some of these typical applications have been **modified** by the ***Standard Plans***, ***102 Series***.

Most work zones will **require further development** of the typical applications to address **project-specific** conditions.

EOR's responsibility!! 'Engineered' Solutions!

240.2.1.9 Bicycle, Pedestrian, and Transit Accommodation - Include **accommodations** for the following road **users** of all ages and abilities in the **TTCP**:

- Pedestrians
- Bicyclists
- Transit users

Provide **accommodations** on Florida National Scenic Trail and SUN Trail.

ADA requirements **apply** during **TTC**.

Include provisions at the **same** level of **accessibility** as the existing facility or **greater**.

See ***Standard Specifications***, ***Section 102*** and ***FDM 222***, ***225*** for more information.

FGB 11.E, F, & G

240.2.1.9 Bicycle, Pedestrian, and Transit Accommodation - Minimize **impacts** to **existing** bicycle, pedestrian, and transit **facilities** by **preserving** the following to the extent feasible:

- **Safety** and **accessibility** features
- **Connectivity** of the facilities to and through the project
- **Directness** of the routes

DESIGN PRINCIPLES FOR TEMPORARY BIKE/PED FACILITIES

240.2.1.9 – **Incorporate** the following **requirements** into the **TTCP**:

Design Principles for Temporary Bicycle and Pedestrian Facilities:

(1) Provide **like-for-like** bicycle and pedestrian facilities to the maximum extent feasible.

When this cannot be accomplished for bicycle facilities, **separate** motorized **traffic** from bicycle traffic whenever **possible**.

The **higher** the **volumes** of motorized traffic or percentage of **truck** traffic and the **longer** the **duration** of construction, the more **substantial** the **separation** should be.

Specify **temporary** bicycle **ways** that **replicate** the **geometric characteristics** of the **existing** bicycle way.

For example, a separated bicycle facility should remain separated during construction.

See ***FDM* 223** for more **information** on separated bicycle facilities.

DESIGN PRINCIPLES FOR TEMPORARY BIKE/PED FACILITIES

240.2.1.9 – **Incorporate** the following **requirements** into the **TTCP**:

Design Principles for Temporary Bicycle and Pedestrian Facilities:

(2) **Phase** the construction plans to ensure bicycle and pedestrian facilities are only closed when necessary.

See ***FDM* 921** for more information on phasing.

Phasing has the following **advantages**:

- Restricts bicycle and pedestrian network **disruption** to **smaller segments** of the project at a time
- **Limits** the **number** and **use** of TTC **devices** on a project to those areas where the bicycle and pedestrian network is **currently being disrupted**

DESIGN PRINCIPLES FOR TEMPORARY BIKE/PED FACILITIES

240.2.1.9 – **Incorporate** the following requirements into the **TTCP**:

Design Principles for Temporary Bicycle and Pedestrian Facilities:

(3) See ***Standard Plans***, ***Series 102*** for additional **information** and **requirements** on pedestrian facilities in **work zones**.

(4) Provide **temporary barrier** per ***FDM 215*** where temporary pedestrian ways **divert pedestrian** traffic to be immediately **adjacent** to **vehicular traffic** (e.g., a paved shoulder) or when a separated bike lane has been moved.

This **does not apply** to temporary pedestrian ways **behind curb**.

(5) Ensure **work zones adjacent** to sidewalks or temporary pedestrian ways **provide separation** between pedestrians and the work area.

LOCATION OF TEMPORARY ROUTES FOR PEDESTRIANS AND BICYCLISTS

240.2.1.9 – **Incorporate** the following requirements into the **TTCP**:

Location of Temporary Routes for Pedestrians and Bicyclists:

(1) **Do not lead** pedestrians or bicyclists into direct **conflicts** with **vehicles**, **equipment**, or **operations**.

(2) Keep **detour lengths** and **diversions** as **short** as practicable.

(a) Detours **should not create** more than a **30% increase** in the **length** of the non-motorized facility, or not longer than **0.5 miles** for bicyclists or **0.25 miles** for pedestrians.

(b) To **minimize** the detour **length**, **consider** providing a temporary **mid-block crosswalk instead** of detouring pedestrians to the **nearest** signalized **intersection** or existing crosswalk.

LOCATION OF TEMPORARY ROUTES FOR PEDESTRIANS AND BICYCLISTS

240.2.1.9 – **Incorporate** the following requirements into the **TTCP**:

Location of Temporary Routes for Pedestrians and Bicyclists:

(3) The order of **preference for routing**:

(a) Maintain facility on the **same side** of the road.

(b) Diversion to the **opposite side** of the road. **Return** to **original** side of road as soon as possible.

(c) Detour to **another road**. **Return** to **original** road and side of road as soon as possible.

(d) Where the above options are not feasible or are **cost prohibitive**, **consider** the use of a vehicle **transport service**.

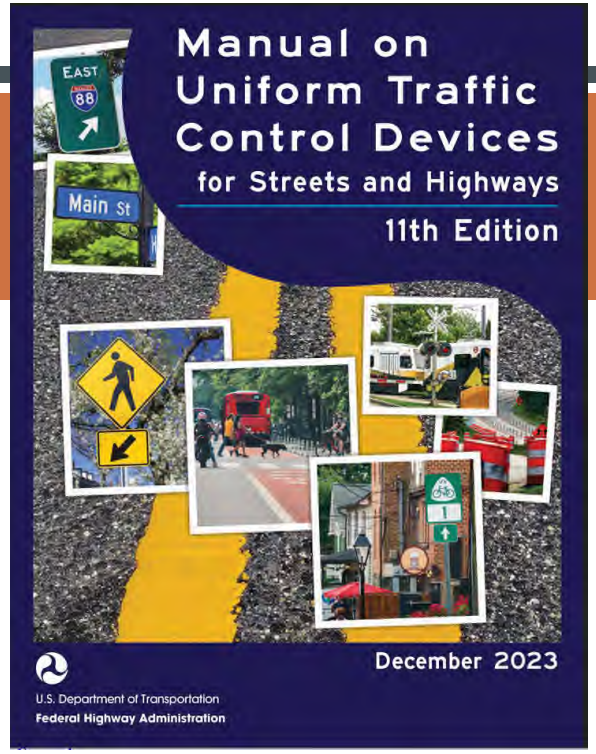
Show **accessible pickup** and **drop off** locations in the TTCP. **Coordinate** with District Design **Engineer** and District Construction **Engineer**.

240.2.1.9 – Transit Users:

Ensure **provision** is made to allow **transit users** to **access** transit stops, and to board and depart transit vehicles **safely**.

Temporary transit access *must* **include** provisions at the **same level** of **accessibility** as the existing facility or **greater**.

See FDOT's ***Accessing Transit Handbook*** for **guidance** on **transit stops**.



TTC – TEMPORARY TRAFFIC CONTROL DEVICES

240.2.2 Temporary Traffic Control Devices - The ***MUTCD*** contains detailed **instructions** on the use of traffic control **devices**.

Special design **considerations** applicable to **Florida** are discussed in the following sections.

Temporary traffic control **devices** should **not be placed** in locations where they will **block** or **interfere** with transit **stops**, **pedestrians**, or **bicycle** traffic.

240.2.2.5 Pedestrian Longitudinal Channelizing Devices - Include **accommodations** for the following **road users** of all ages and abilities in the **TTCP**:

Specify the use of pedestrian Longitudinal Channelizing Devices (**LCDs**) for the following situations: See MUTCD 6F

- At **each closed** pedestrian way **location**, for the **full width** of the pedestrian way
- In locations where a **drop-off hazard exists** (see Standard Plans, 102 Series)
- In locations where the active **work zone** is **within 2 feet** of the sidewalk or pedestrian walkway
- Along **both sides** of a **temporary** pedestrian way
    - o Pedestrian **LCDs** are **not required** on sides where an existing or temporary **barrier** delineates the temporary pedestrian way.

240.3 Transportation Operations Plan - The Transportation **Operations** Plan (TOP) contains **strategies** to **improve** mobility, work zone **access**, and **safety**.

240.4 Public Information Plan - The Public **Information** Plan (PIP) describes how project **information** will be **communicated** to affected parties, **traveling public**, and project **stakeholders** prior to and during construction.

240.5 Temporary Traffic Control Training - The Department has prescribed **temporary traffic control training** requirements outlined in the Temporary Traffic Control (Maintenance of Traffic) Training Handbook.

SAFETY & ACCESSIBILITY!

- **Brief History of the ADA**
- **FDOT Design Manual (FDM)**
- **FDOT Standard Plans**
- **FDOT Standard Specifications**
- **FDOT Maintenance Rating Program Handbook (MRP)**

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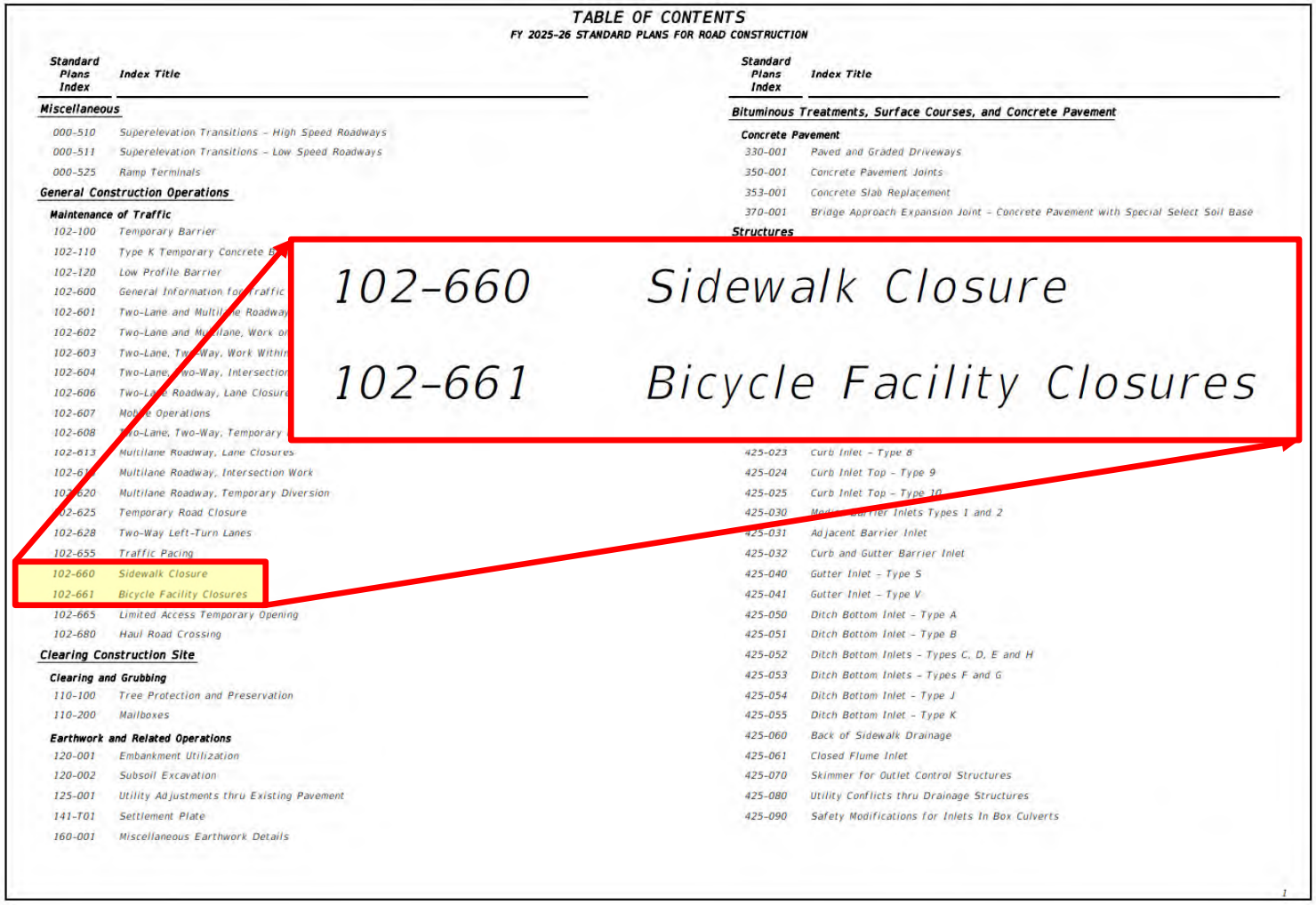

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102-661 Bicycle Facility Closures

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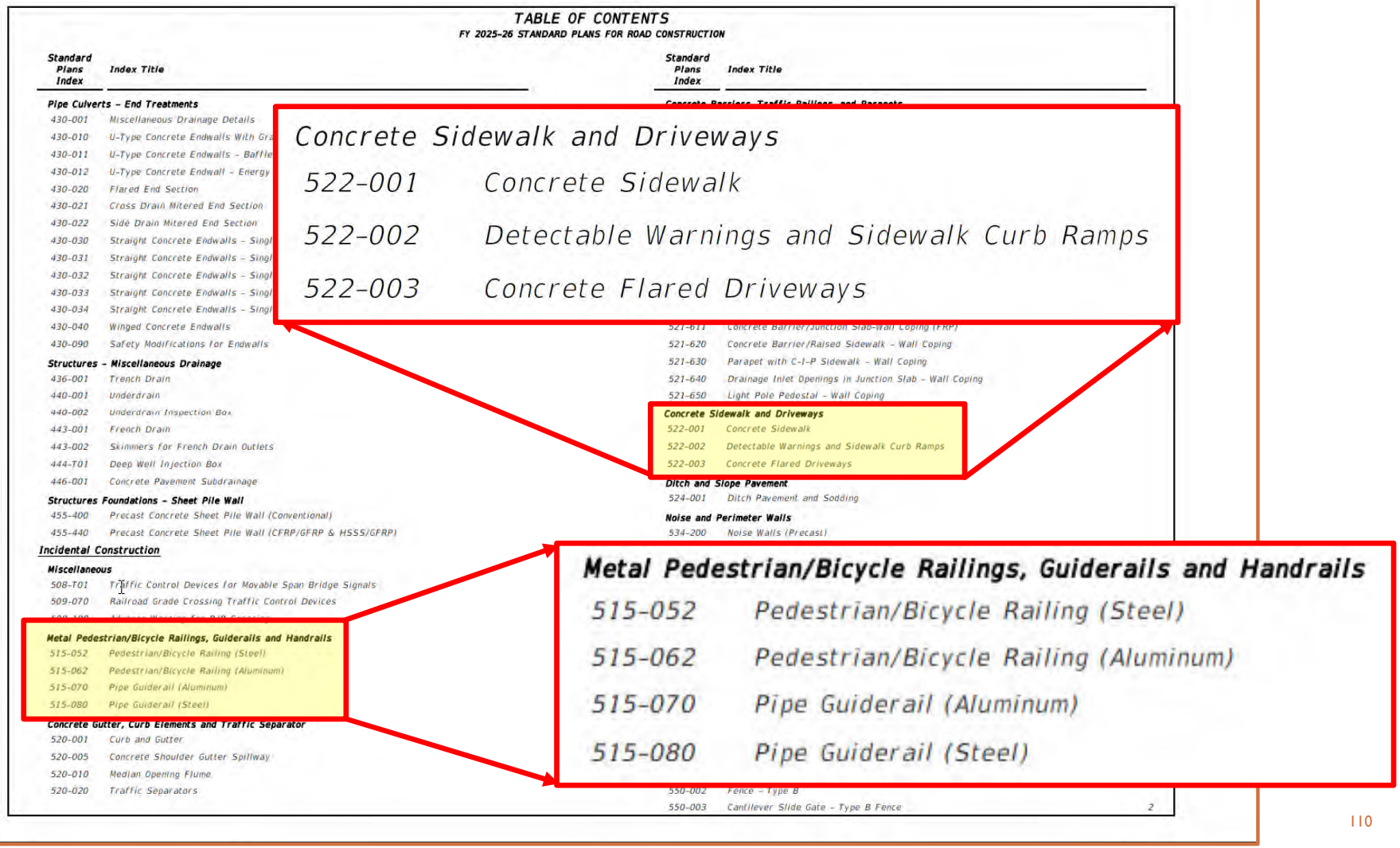

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430-020	Flared End Section
430-021	Cross Drain Mitered End Section
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430-030	Straight Concrete Endwalls – Singl
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Concrete Sidewalk and Driveways

522-001	Concrete Sidewalk
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Metal Pedestrian/Bicycle Railings, Guiderails and Handrails

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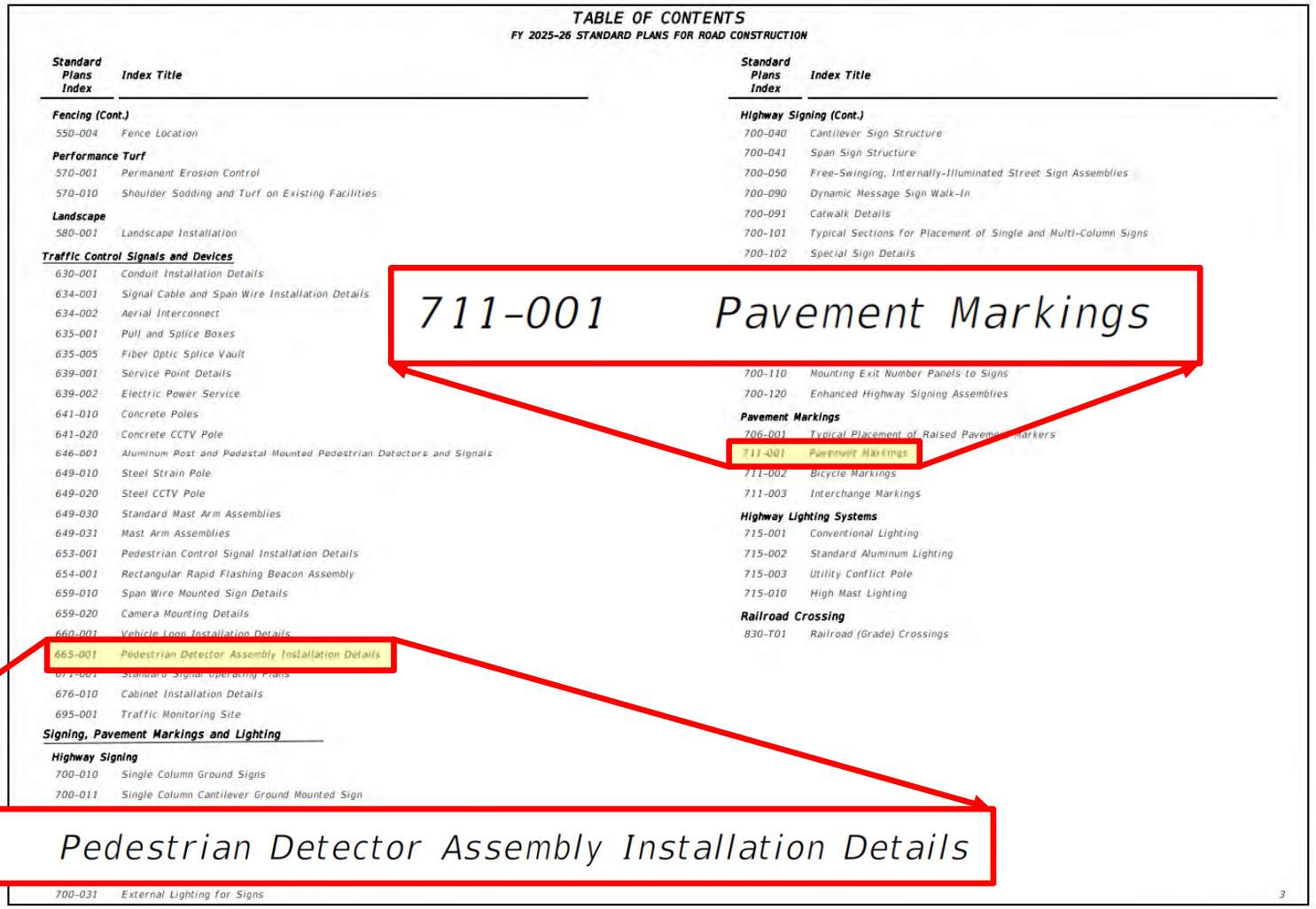

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711-001 Pavement Markings

665-001 Pedestrian Detector Assembly Installation Details

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STANDARD PLANS
FY 2025-26 REVISIONS LOG

Standard Plans Index	Description
102-201	**Sheet 2:** Added Paved Surface to Thrie Beam to Bridge Guardrail Transition detail and updated dimensions to accommodate; Added additional callouts to Guardrail End Transition detail; Lengthened the plate size in the 1/4" Guardrail Back Plate Detail, clarified the dimensions and added notes.
102-600	**Sheet 3:** Updated HIGH-VISIBILITY SAFETY APPAREL note to refer to "ANSI/ISEA 107-2015". **Sheet 4:** Updated flag color in the Hand-Signaling Devices note to "red or fluorescent orange-red in color". **Sheet 6:** Changed the color code of sign W3-5 from "B/O" to "BW/O". Changed W16-1P sign to match MUTCD.
102-615	**Sheet 4:** Added new sign option (W9-3) under "Center Lane Closed Ahead" sign and renumbered "Center Lane Closed Ahead" sign to MOT-7-25.
102-661	**Sheet 1:** Updated sign names based on new MUTCD 11th edition **Sheet 2:** Updated sign names based on new MUTCD 11th edition; Updated signs W16-1P detail. Updated "Bikes Merge" sign: Updated the PCMS Display notes.
400-011	**Sheet 1:** Updated Bill of Reinforcing Bar B to extend hook leg. Added note to KEYWAY & WALL JOINT DETAIL to skew bars as required to maintain cover.
400-289	**Sheet 3:** Updated reinforcing in the PARTIAL PLAN TOP SLAB of SINGLE BARREL BOX CULVERT so it does not appear to extend into the footer below. **Sheet 5:** Added some clarity to Note 2 and DETAIL "C" about the proper work point location (WP).
415-001	**Sheet 1:** Updated Type 14 and 15 to remove radii.
415-010	**Sheet 1:** Updated Type 14 and 15 to remove radii.
455-101	**Sheet 1:** Added a note to General Note 4 indicating that all the strand diameters are nominal.
455-112	**Sheet 2:** Adjusted Strand Pattern diameter decimal places.
455-114	**Sheet 2:** Adjusted Strand Pattern diameter decimal places.

Standard Plans Index	Description
455-118	**Sheet 2:** Adjusted Strand Pattern diameter decimal places.
455-124	**Sheet 2:** Adjusted Strand Pattern diameter decimal places.
455-130	**Sheet 2:** Adjusted Strand Pattern diameter decimal places.
460-470	**Sheet 1:** Added screw anchor details to the notes. **Sheet 3:** Added screw anchor option details to SECTION B-B.
460-472	**Sheets 1-4:** Added Note to detail descriptions indicating that what is shown is an option using adhesive anchors and a screw anchor is an alternative.
460-473	**Sheet 2:** Added a note to SECTION B-B caption that what is shown is the Adhesive anchor option and screw anchor are also an option. **Sheet 4:** Added a note to Plan title in Schemes 5 and 6 caption that what is shown is the Adhesive anchor option and screw anchor are also an option. Adjusted the column location to correct for missing blocks.
460-474	**Sheets 1-4:** Added a note to the details captioning that what is shown is the Adhesive anchor option.
460-475	**Sheets 1-4:** Added a note to the details captioning what is shown is the Adhesive anchor option.
471-030	**Sheet 1:** Updated the FENDER SYSTEM ENERGY CAPACITY for 30 ft-kip to a Maximum of 50 ft-kip.
521-001	**Sheet 2:** In the Elevation view, added "Begin/End Median Barrier Sta." callout at the Traffic Railing connection **Sheet 11:** Changed Bar 5C2 to Bar 4C2 **Sheet 13:** In the Elevation view, added "Begin/End Shldr. Barrier Sta." callout at the Traffic Railing connection **Sheet 16:** Changed Bar 5C2 to Bar 4C2 **Sheet 18:** Changed Bar 5C2 to Bar 4C2

1.

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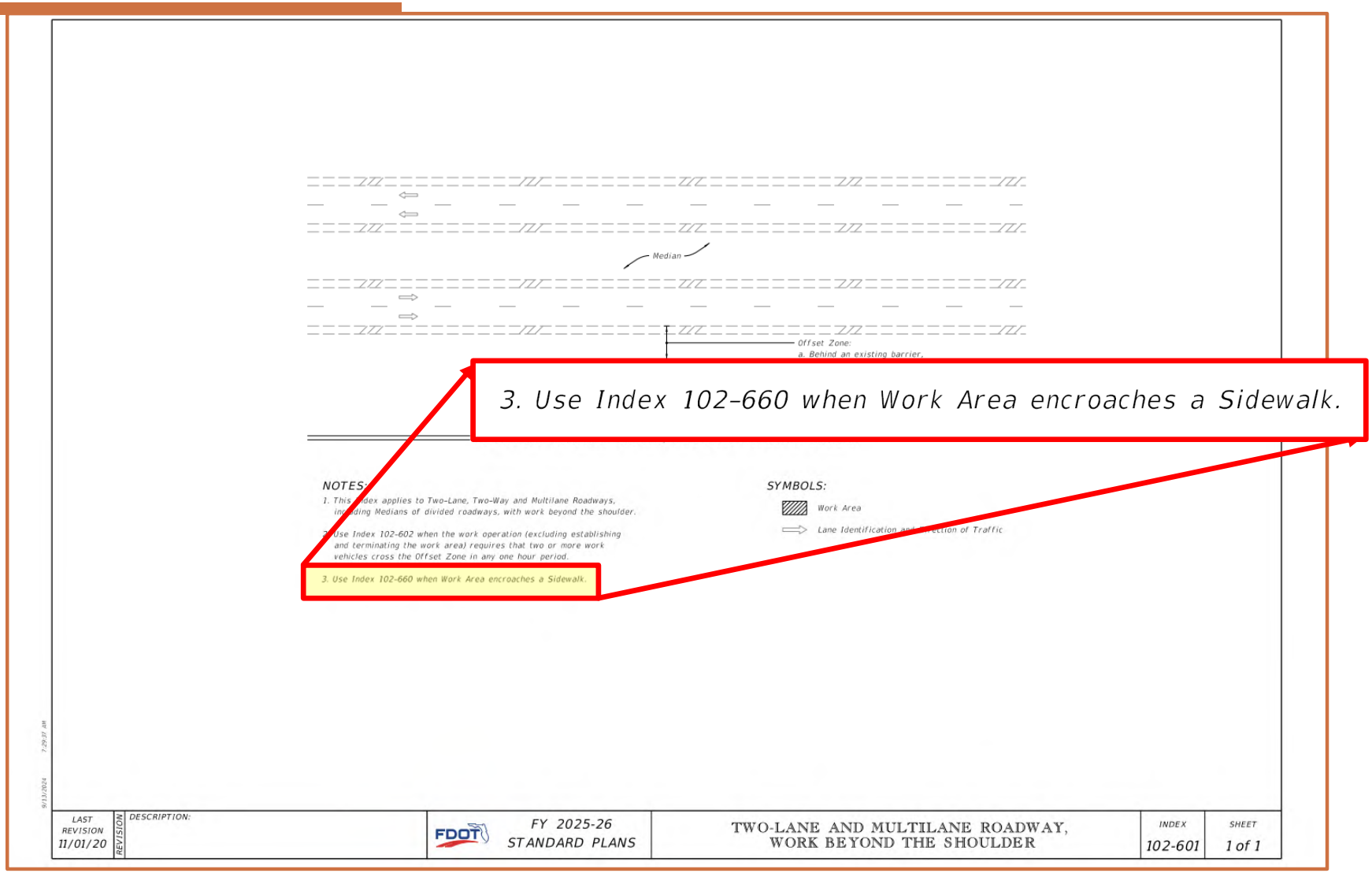

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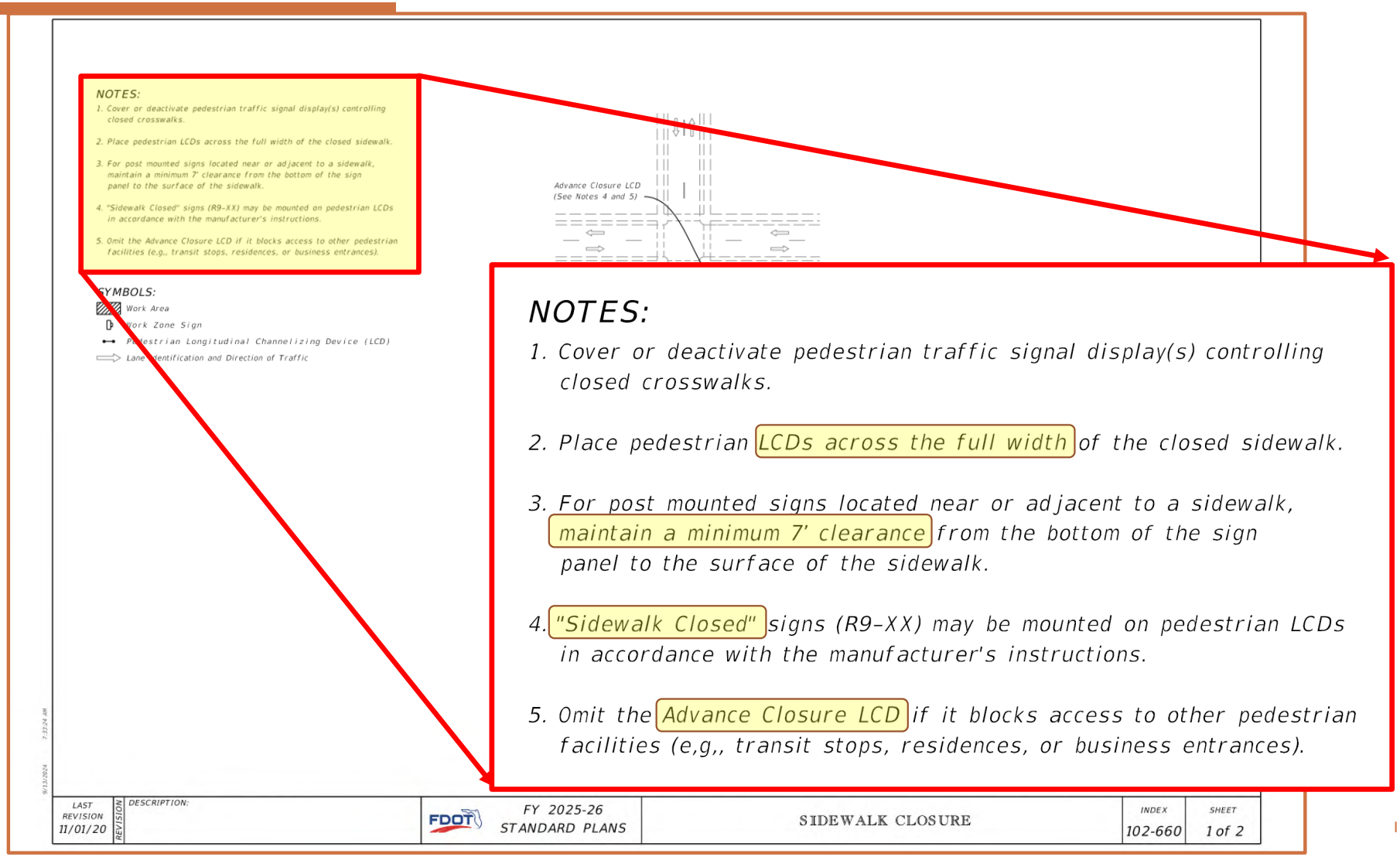

NOTES:

1. Cover or deactivate pedestrian traffic signal display(s) controlling closed crosswalks.
2. Place pedestrian LCDs across the full width of the closed sidewalk.
3. For post mounted signs located near or adjacent to a sidewalk, maintain a minimum 7' clearance from the bottom of the sign panel to the surface of the sidewalk.
4. "Sidewalk Closed" signs (R9-XX) may be mounted on pedestrian LCDs in accordance with the manufacturer's instructions.
5. Omit the Advance Closure LCD if it blocks access to other pedestrian facilities (e,g,, transit stops, residences, or business entrances).

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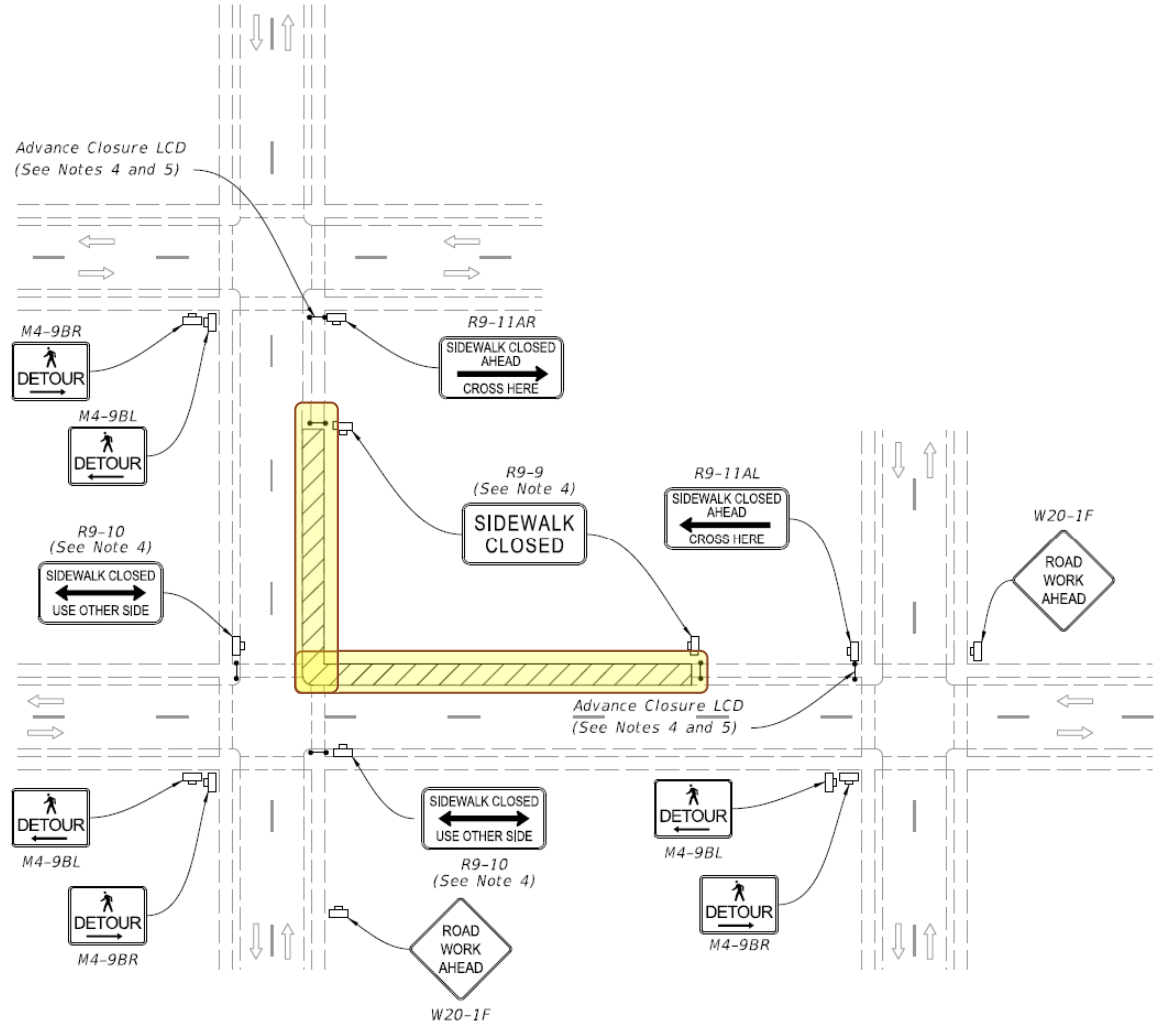
NOTES:

1. Cover or deactivate pedestrian traffic sig… closed crosswalks.
2. Place pedestrian LCDs across the full wid…
3. For post mounted signs located near or ac… maintain a minimum 7' clearance from the … panel to the surface of the sidewalk.
4. "Sidewalk Closed" signs (R9-XX) may be mo… in accordance with the manufacturer's inst…
5. Omit the Advance Closure LCD if it blocks … facilities (e.g., transit stops, residences, …

SYMBOLS:

- Work Area
- Work Zone Sign
- Pedestrian Longitudinal Channe…
- Lane Identification and Direction of T…

LAST REVISION	REVISION	DESCRIPTION:
11/01/20		



PEDESTRIAN DETOUR

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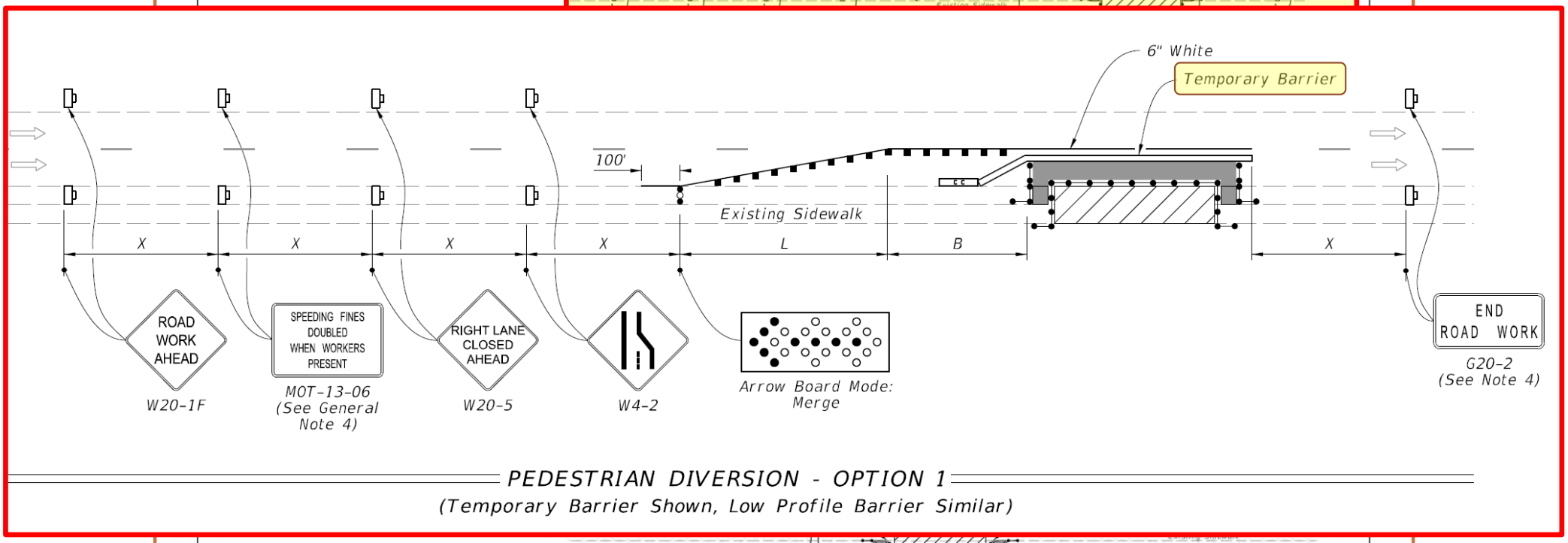

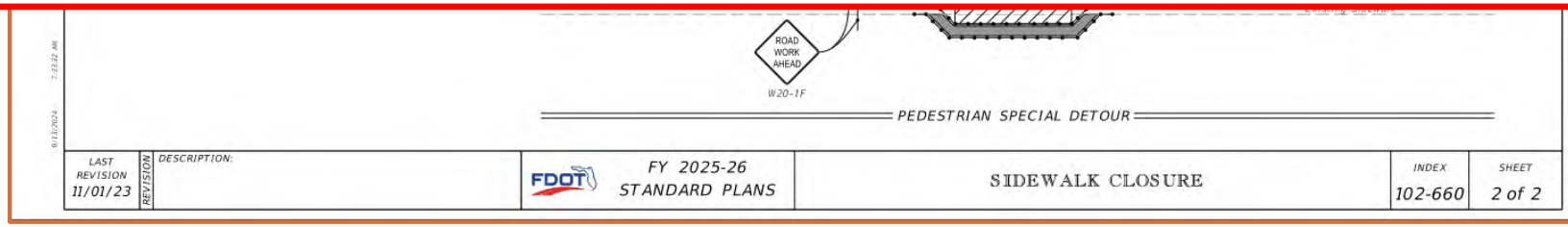

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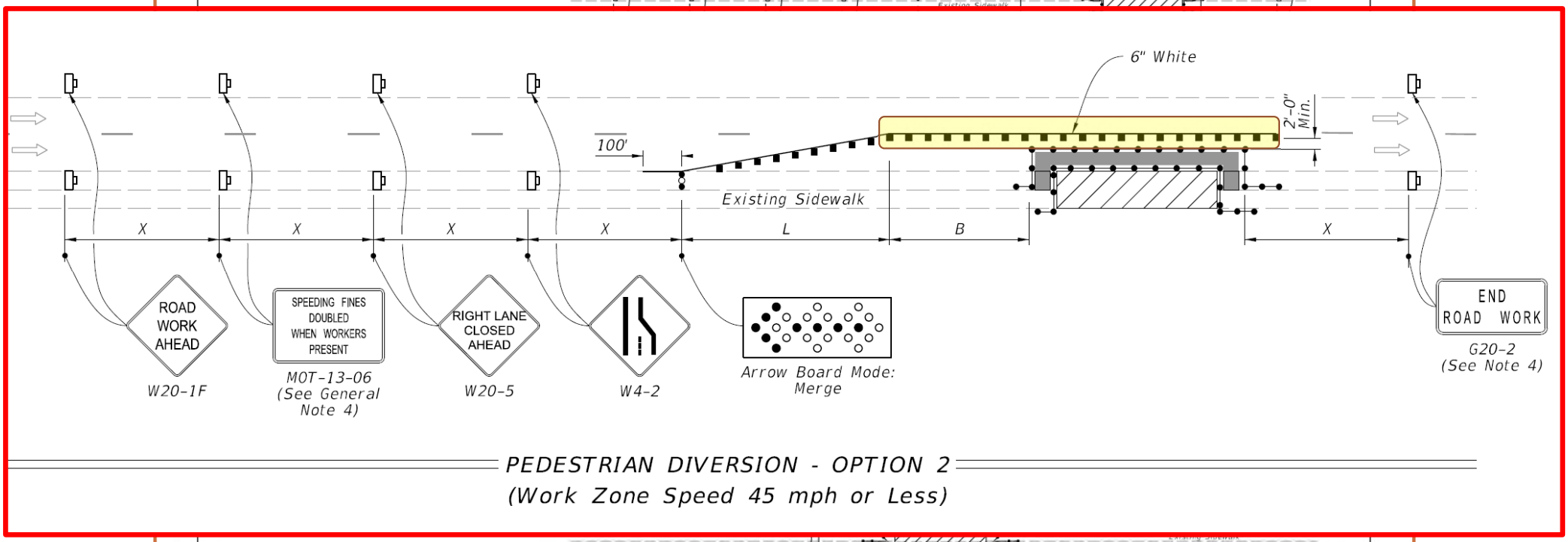
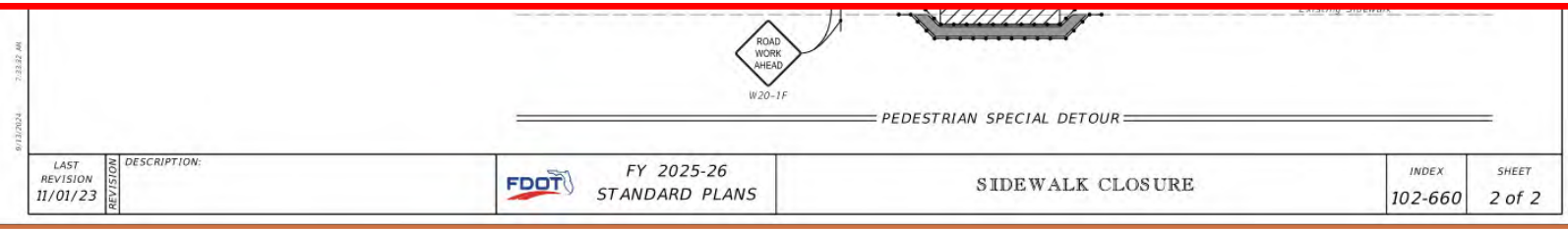


PEDESTRIAN DIVERSION - OPTION 2
(Work Zone Speed 45 mph or Less)



LAST REVISION	DESCRIPTION:	FDOT	FY 2025-26 STANDARD PLANS	SIDEWALK CLOSURE	INDEX	SHEET
11/01/23					102-660	2 of 2

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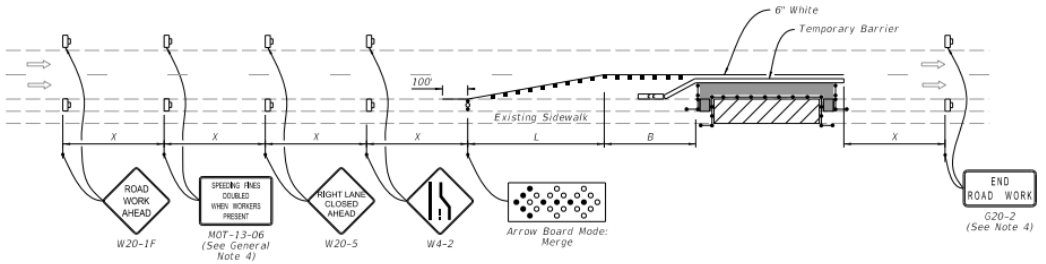
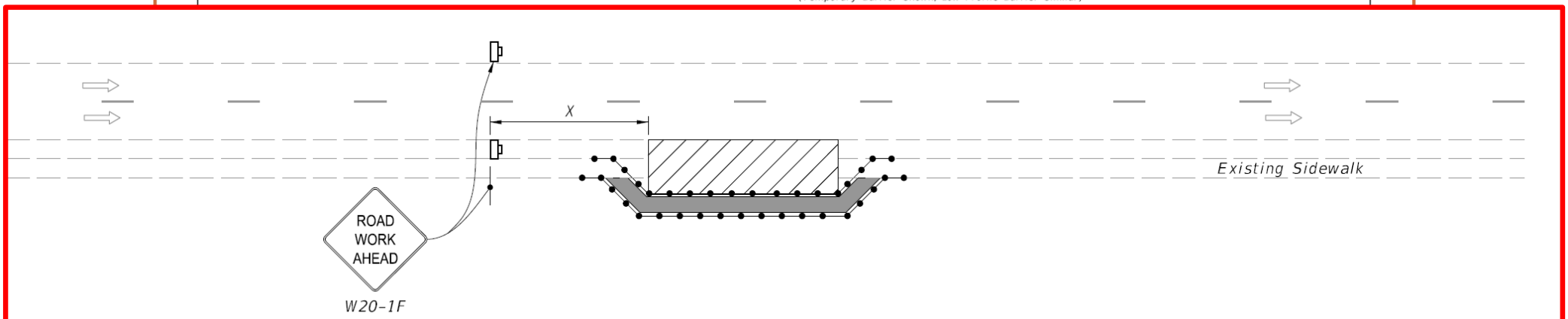
NOTES:

1. L = Taper Length
   B = Buffer Length
   X = Work Zone Sign Distance
   See Index 102-600 for "L", "B", "X", channelizing device spacing values.

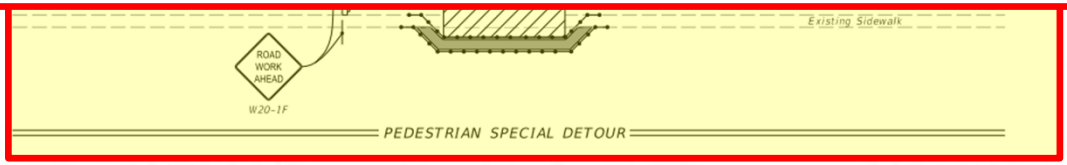
2. Provide a 5' wide temporary pedestrian way with a maximum cross-slope of 0.02, except where space restrictions warrant a minimum width of 4'. Provide a 5' x 5' passing space for temporary pedestrian ways less than 5' in width at intervals not to exceed 200'.



PEDESTRIAN DIVERSION - OPTION 1
(Temporary Barrier Shown, Low Profile Barrier Similar)



PEDESTRIAN SPECIAL DETOUR



PEDESTRIAN SPECIAL DETOUR

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11/01/23						102-660	2 of 2

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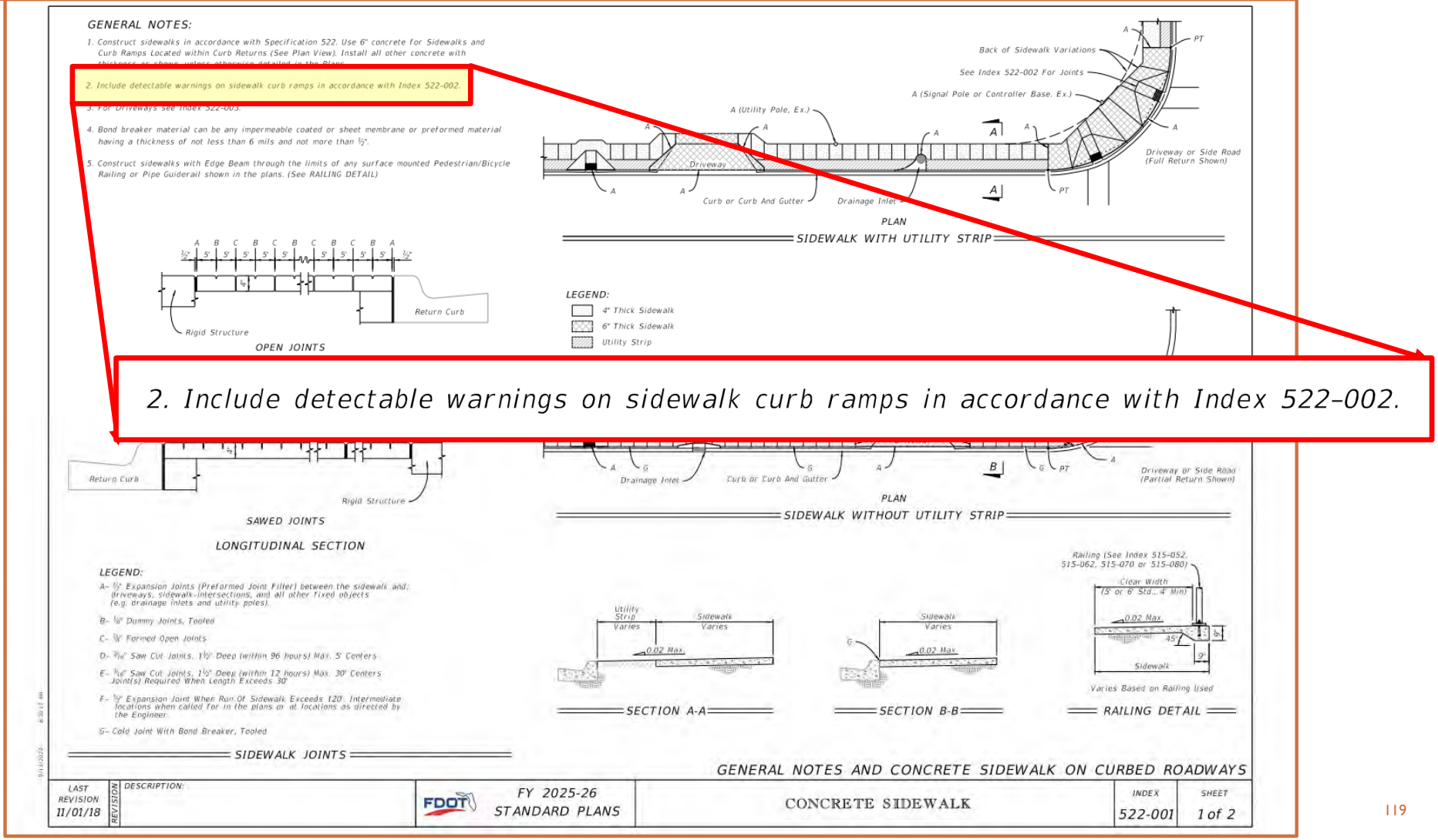

GENERAL NOTES:

1. Construct sidewalks in accordance with Specification 522. Use 6" concrete for Sidewalks and Curb Ramps Located within Curb Returns (See Plan View). Install all other concrete with thickness as shown unless otherwise detailed in the Plans.
2. Include detectable warnings on sidewalk curb ramps in accordance with Index 522-002.
3. For Driveways see Index 522-003.
4. Bond breaker material can be any impermeable coated or sheet membrane or preformed material having a thickness of not less than 6 mils and not more than ½".
5. Construct sidewalks with Edge Beam through the limits of any surface mounted Pedestrian/Bicycle Railing or Pipe Guiderail shown in the plans. (See RAILING DETAIL)

PLAN

SIDEWALK WITH UTILITY STRIP

OPEN JOINTS

LEGEND:

- 4" Thick Sidewalk
- 6" Thick Sidewalk
- Utility Strip

2. Include detectable warnings on sidewalk curb ramps in accordance with Index 522-002.

SAWED JOINTS

LONGITUDINAL SECTION

PLAN

SIDEWALK WITHOUT UTILITY STRIP

LEGEND:

A– ½" Expansion Joints (Prefarmed Joint Filler) between the sidewalk and: driveways, sidewalk-intersections, and all other fixed objects (e.g. drainage inlets and utility poles).

B– ½" Dummy Joints, Tooled

C– ½" Formed Open Joints

D– 3/16" Saw Cut Joints, 1½" Deep (within 96 hours) Max. 5' Centers

E– 3/16" Saw Cut Joints, 1½" Deep (within 12 hours) Max. 30' Centers Joint(s) Required When Length Exceeds 30'

F– ½" Expansion Joint When Run Of Sidewalk Exceeds 120'. Intermediate locations when called for in the plans or at locations as directed by the Engineer.

G– Cold Joint With Bond Breaker, Tooled

SIDEWALK JOINTS

SECTION A-A

SECTION B-B

Varies Based on Railing Used

RAILING DETAIL

GENERAL NOTES AND CONCRETE SIDEWALK ON CURBED ROADWAYS

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11/01/18						522-001	1 of 2

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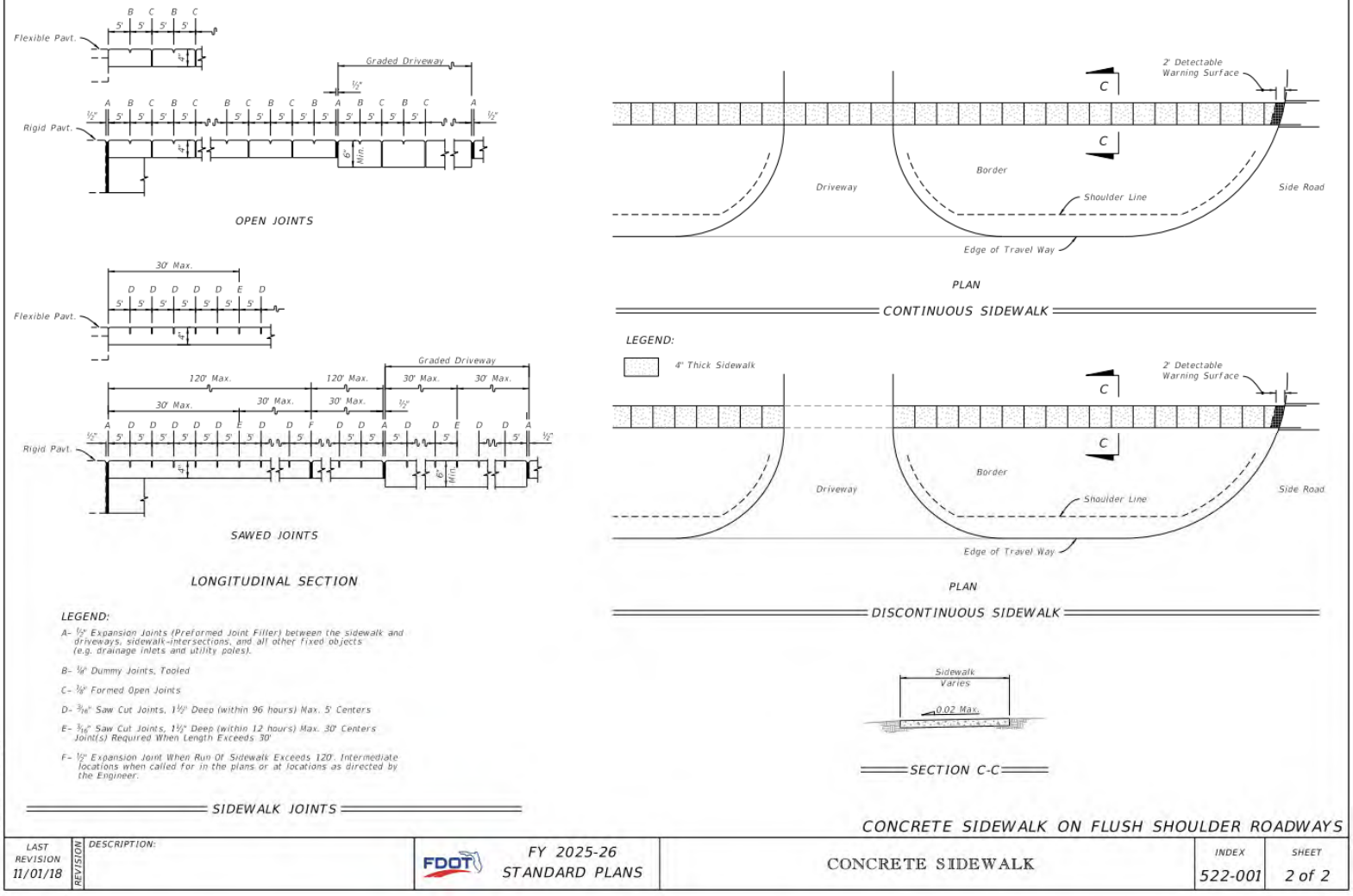


INDEX

GENERAL NOTES:

1. Cross Slopes and Grades:

   A. Sidewalk, ramp, and landing slopes (i.e. 0.02, 0.05, and 1:12) shown in this Index are maximums. With approval of the Engineer, provide the minimum feasible slope where the requirements cannot be met.

   B. Landings must have cross-slopes less than or equal to 0.02 in any direction.

   C. Maintain a single longitudinal slope along each side of the curb ramp. Ramp slopes are not required to exceed 15 feet in length.

   D. Joints permitted at the location of Slope Breaks. Otherwise locate joints in accordance with Index 522-001. No joints are permitted within the ramp portion of the Curb Ramp.

2. Curb, Curb and Gutter and/or Sidewalk:

   A. Refer to Index 522-001 for concrete thickness and sidewalk details.

   B. Remove any existing curb, curb and gutter, or sidewalk to the nearest joint beyond the curb transition or to the extent that no remaining section is less than 5 feet long.

   C. Width of Curb Ramp is 4'-0" minimum. Match sidewalk or Shared Use Path width as shown in the Plans.

3. Curb Ramp Alpha-Identification:

   A. Sidewalk curb ramp alpha-identifications (e.g. CR-A) are provided for reference purposes in the Plans.

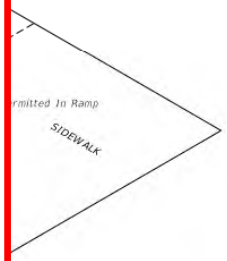
   B. Alpha-identifications CR-I and CR-J are intentionally omitted.

4. Detectable Warnings:

   A. Install detectable warnings in accordance with Specification 527.

   B. Place detectable warnings across the full width of the ramp or landing, to a minimum depth of 2 feet measured perpendicular to the curb line and no greater than 5 feet from the back of the curb or edge of pavement.

   C. If detectable warnings are shown in the Plans on slopes greater than 5%, align the truncated domes with the centerline of the ramp; otherwise, the truncated domes are not required to be aligned.



RAMPS	INDEX	SHEET
	522-002	1 of 7


Magnolia CT

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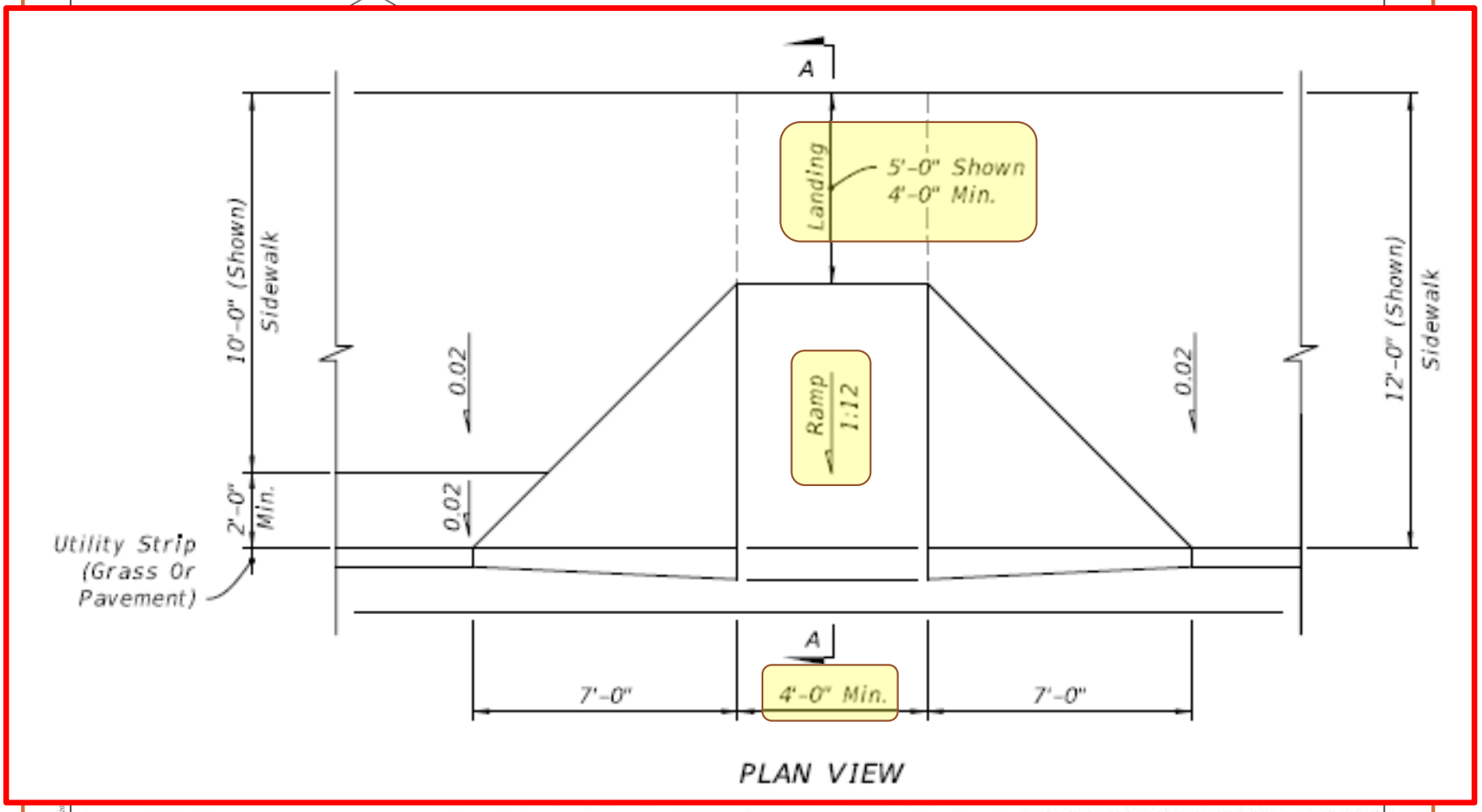

SIDEWALK CURB RAMPS CR-A AND CR-B

LAST REVISION	REVISION	DESCRIPTION:	FDOT	FY 2025-26 STANDARD PLANS	DETECTABLE WARNINGS AND SIDEWALK CURB RAMPS	INDEX	SHEET
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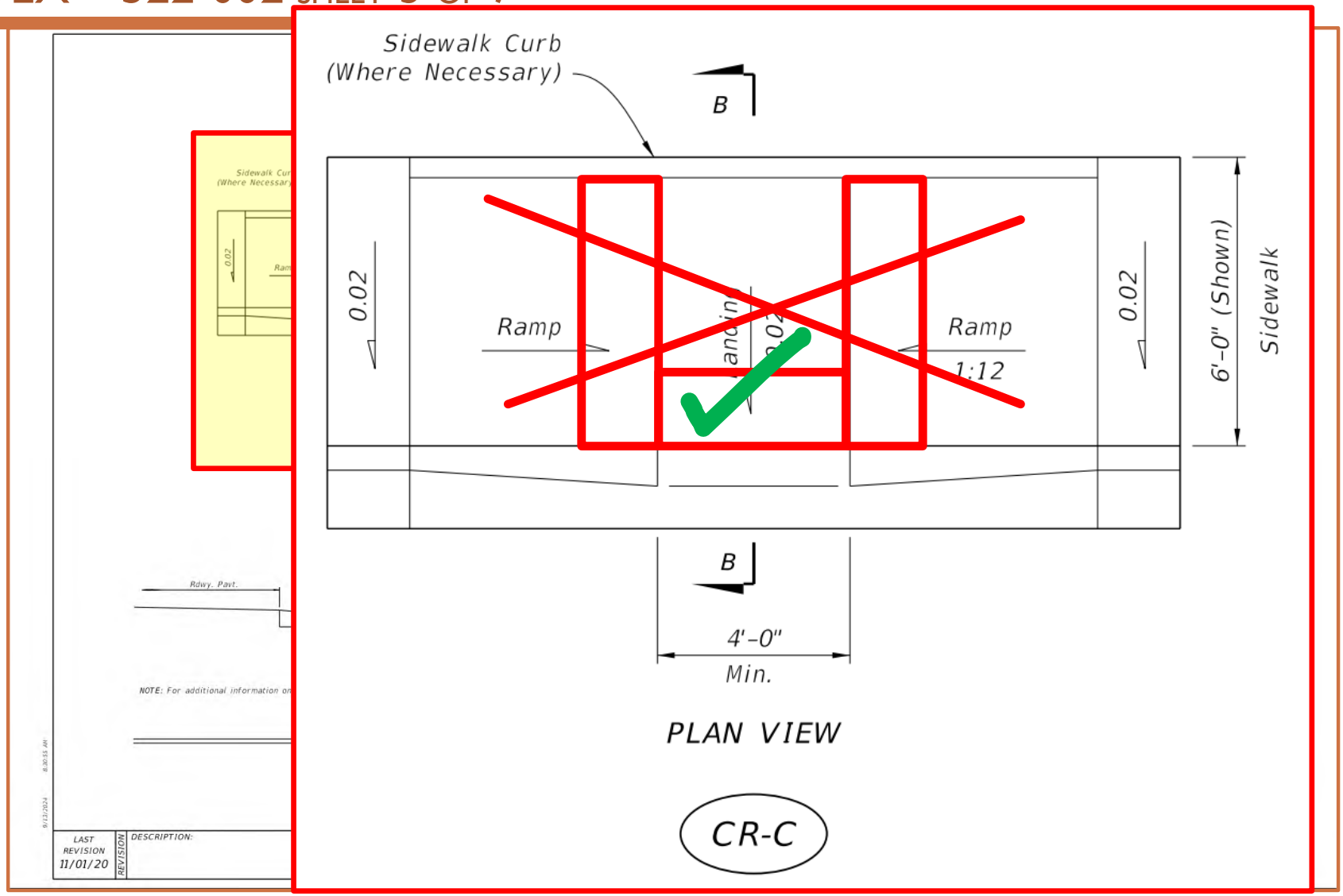

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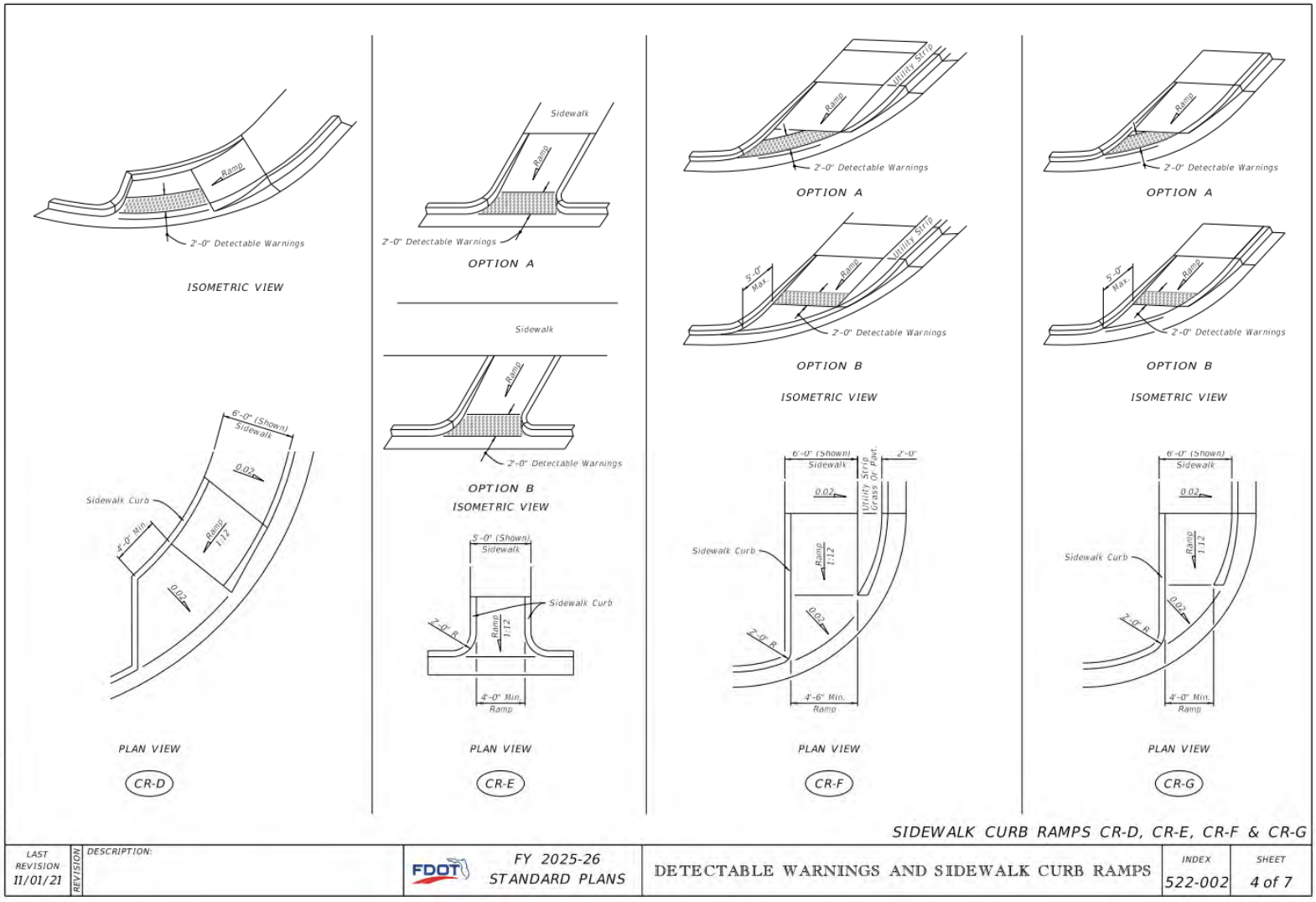

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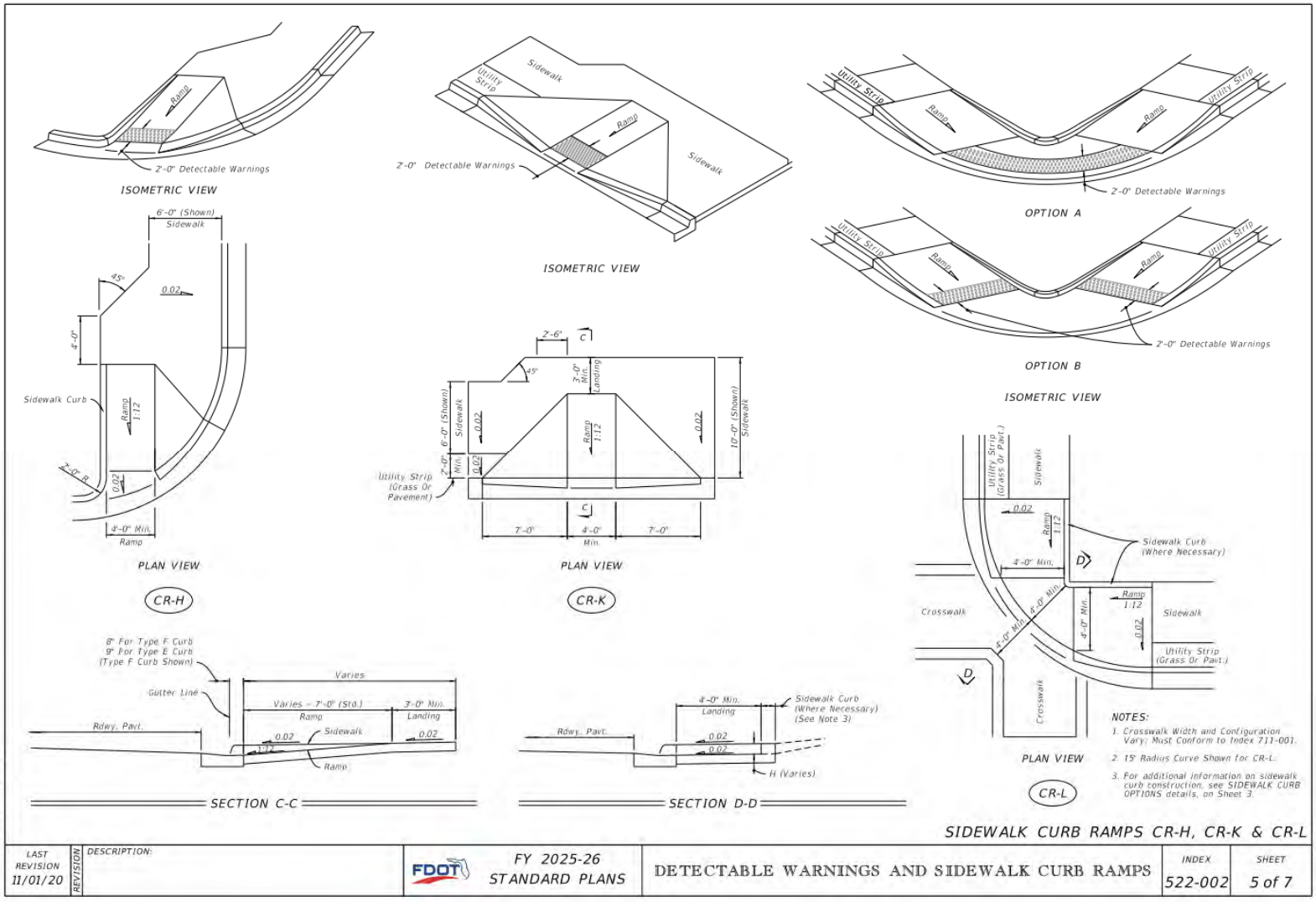

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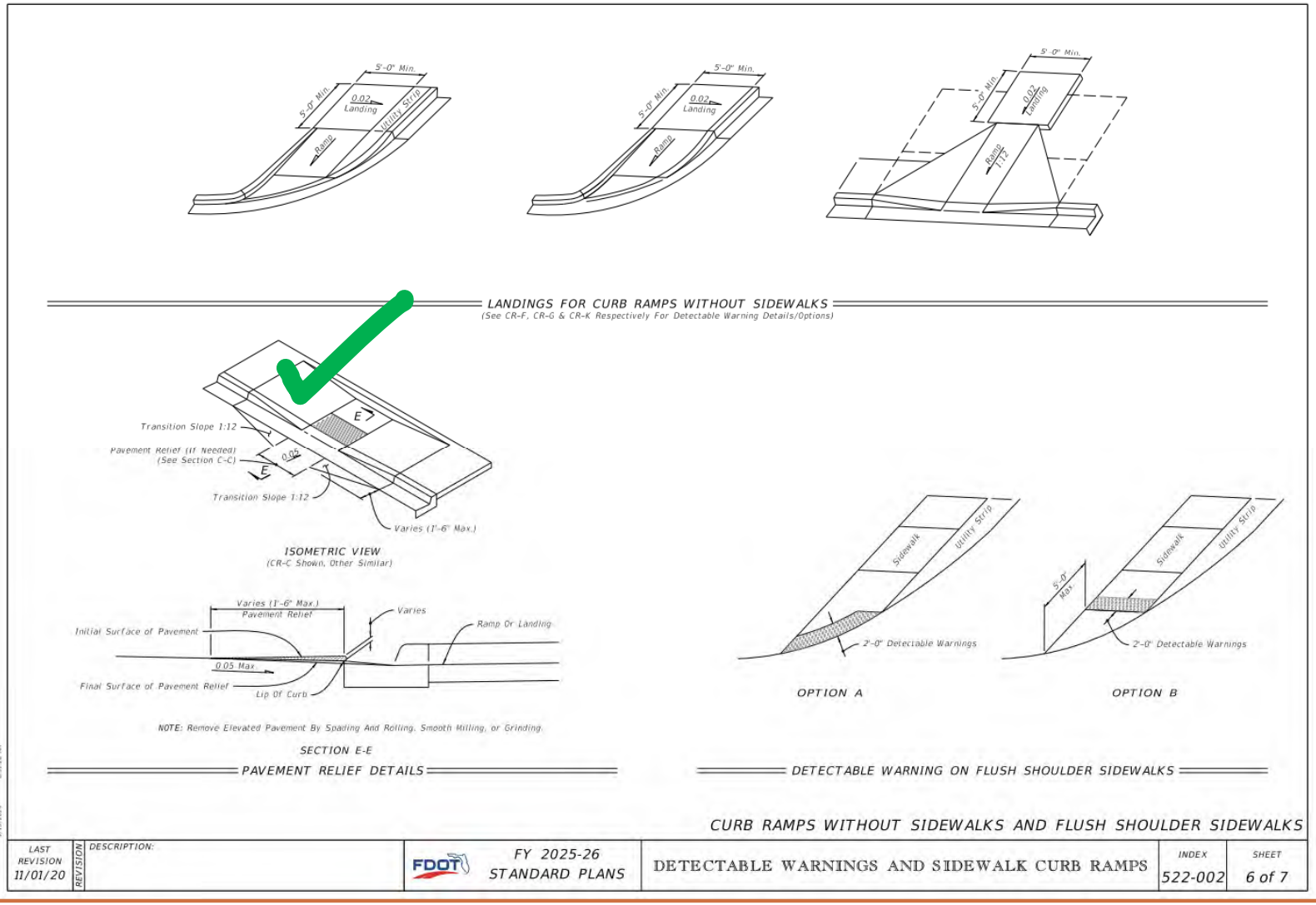

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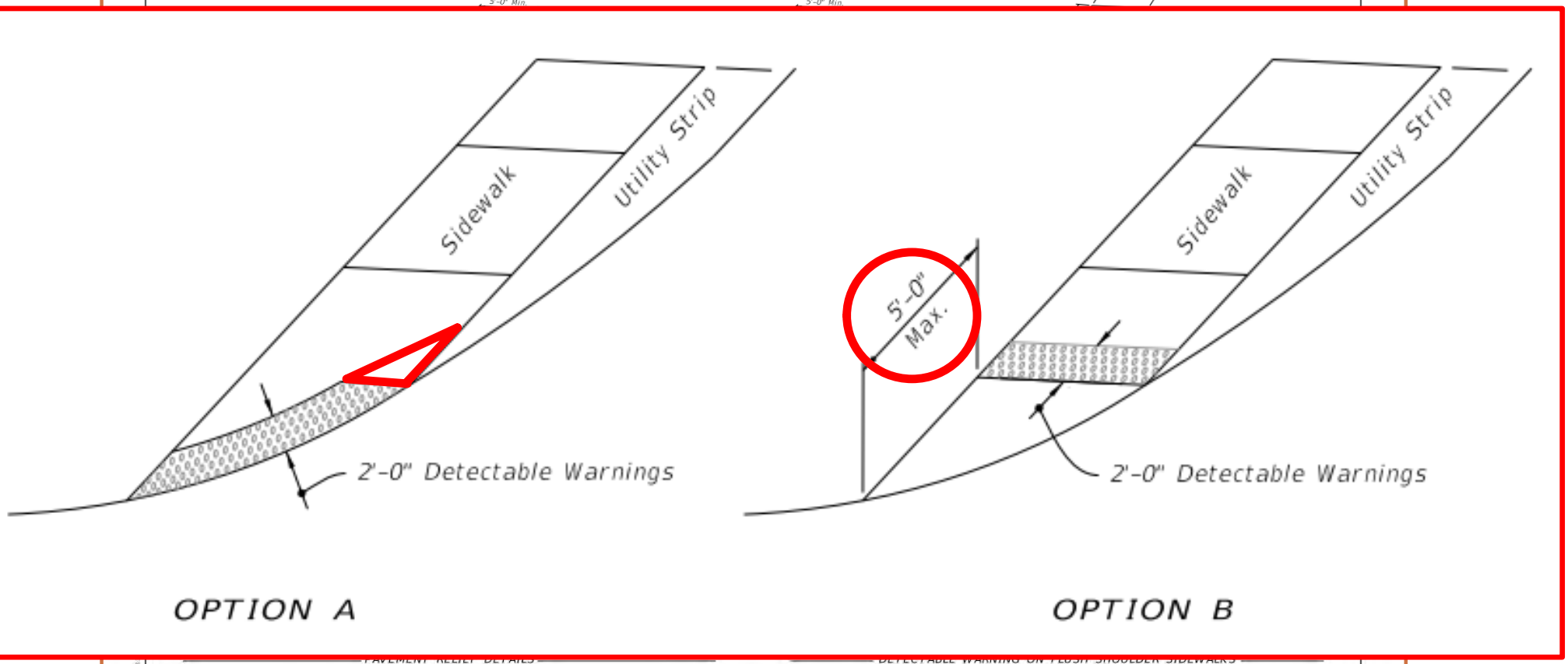

CURB RAMPS WITHOUT SIDEWALKS AND FLUSH SHOULDER SIDEWALKS

LAST REVISION 11/01/20	REVISION	DESCRIPTION:	FDOT FY 2025-26 STANDARD PLANS	DETECTABLE WARNINGS AND SIDEWALK CURB RAMPS	INDEX 522-002	SHEET 6 of 7

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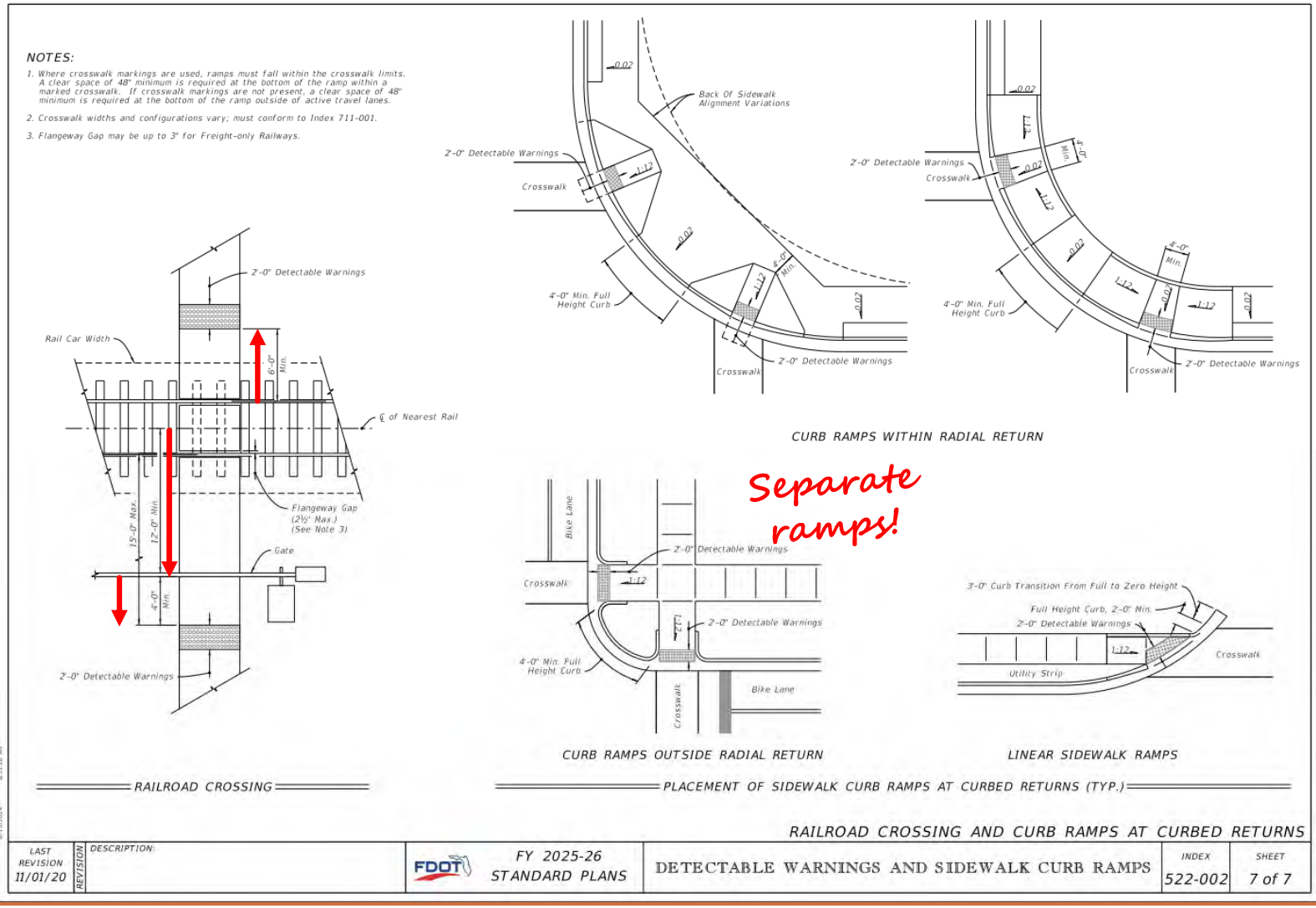


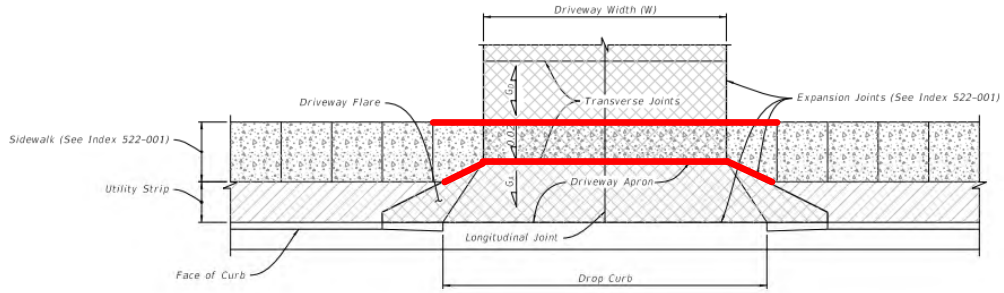
INDEX – 522-003 SHEET 1 OF 4

GENERAL NOTES:

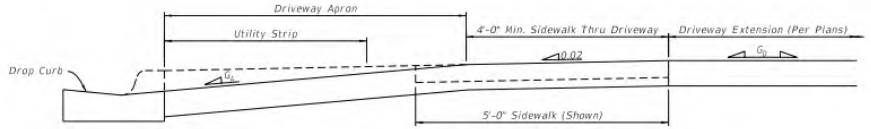
1. Work this Index with Specification 522.
2. Refer to Index 520-001 for drop curb details and Index 522-001 for joints between driveway, sidewalks, and curb.
3. Existing Curb and Gutter:
   Remove existing curb and gutter to either the nearest joint beyond the flared point or to where no remaining section is less than 5 feet long.
4. Grades and cross slopes shown are maximums.
5. Longitudinal Joints:
   Construct ⅛" open joints placed at equal (20' max.) intervals for driveways over 20' wide. Match joints in curb and gutter to match joints in driveways.
6. Transverse Joints:
   Construct ⅛" open joints @ 10' Centers and ½" expansion joints with preformed joint filler every 5th joint.
7. Construct driveways (6" thick concrete) to a uniform width (W) to the R/W line or the extent shown in the Plans.
8. Width of Sidewalk Thru Driveway is 4'-0" minimum. Match sidewalk width when shown in Plans or when utility strip width is equal to or greater than the depth of the Driveway Apron.
9. Alpha-Numeric Identification:
   Concrete Flared Driveway Alpha-Numeric Identifications (e.g. G4) are provided for reference purposes in the Plans.

LEGEND:

- Sidewalk
- Flared Driveway (6" Thick Concrete)
- Sidewalk Thru Driveway (6" Thick Concrete)
- Utility Strip
- G_A Grade of Apron
- G_D Grade of Driveway (Per Plans)



PLAN



ELEVATION

CONCRETE FLARED DRIVEWAY NOMENCLATURE

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11/01/18			FDOT FY 2025-26 STANDARD PLANS	CONCRETE FLARED DRIVEWAYS	522-003	1 of 4

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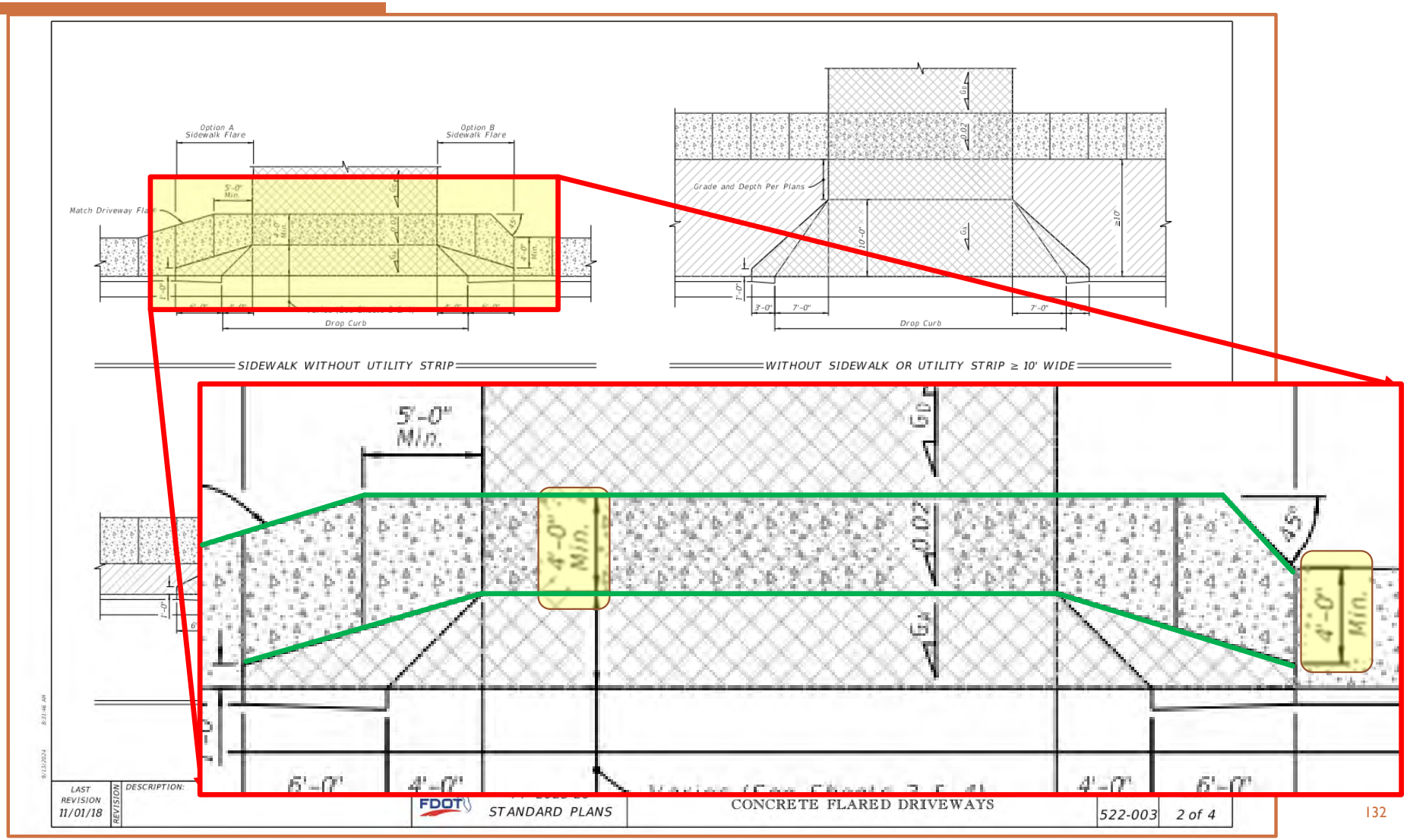

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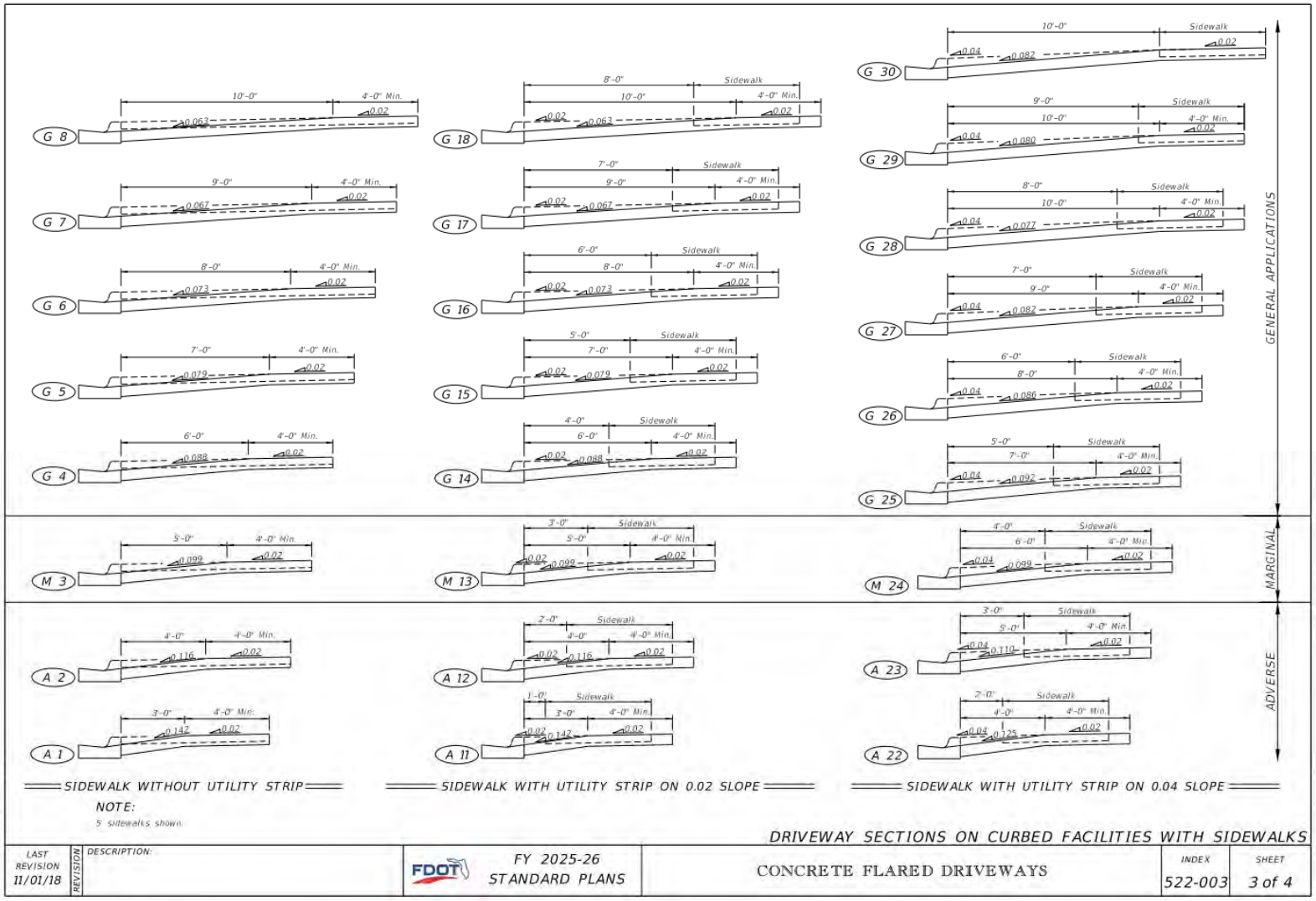

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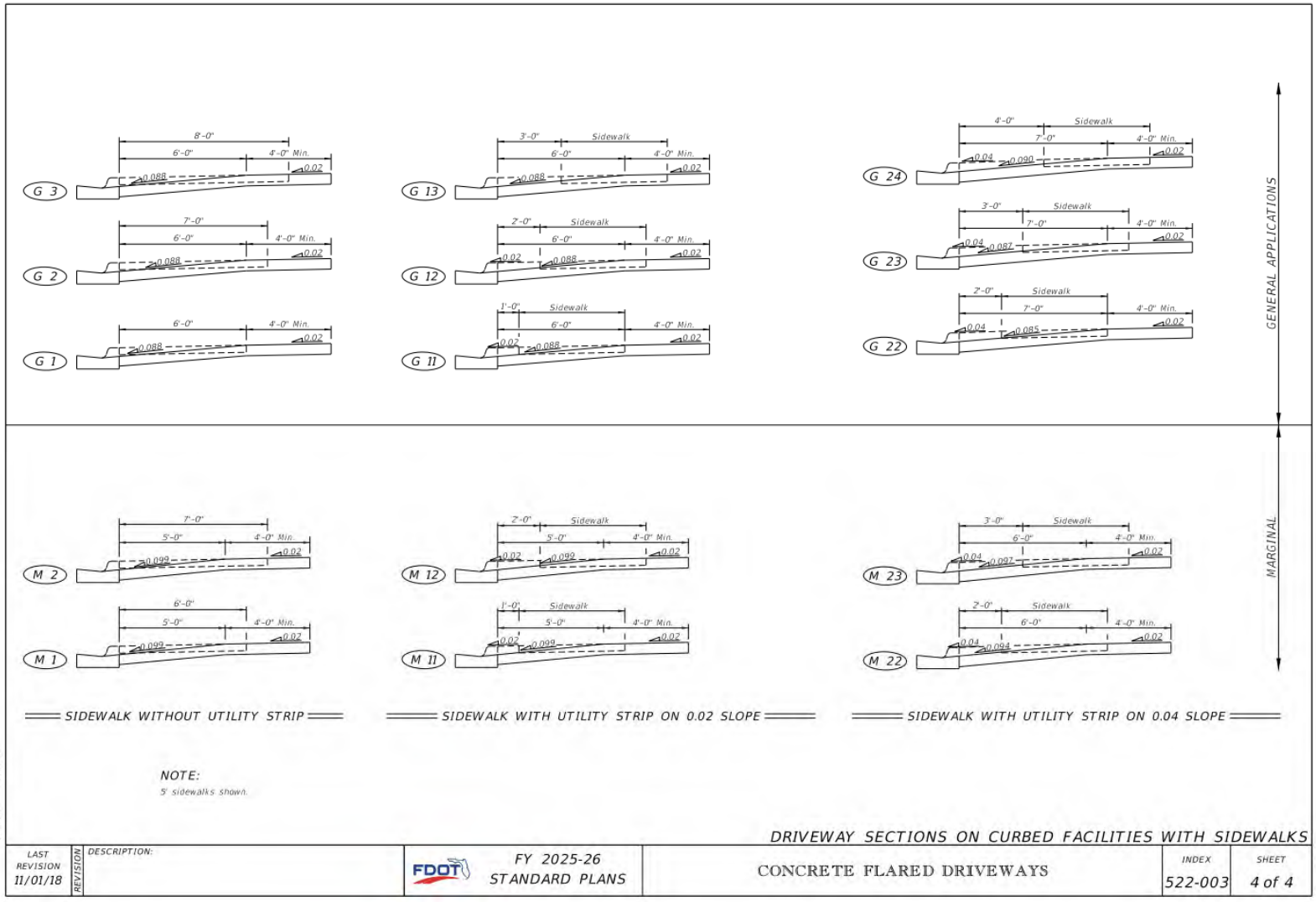
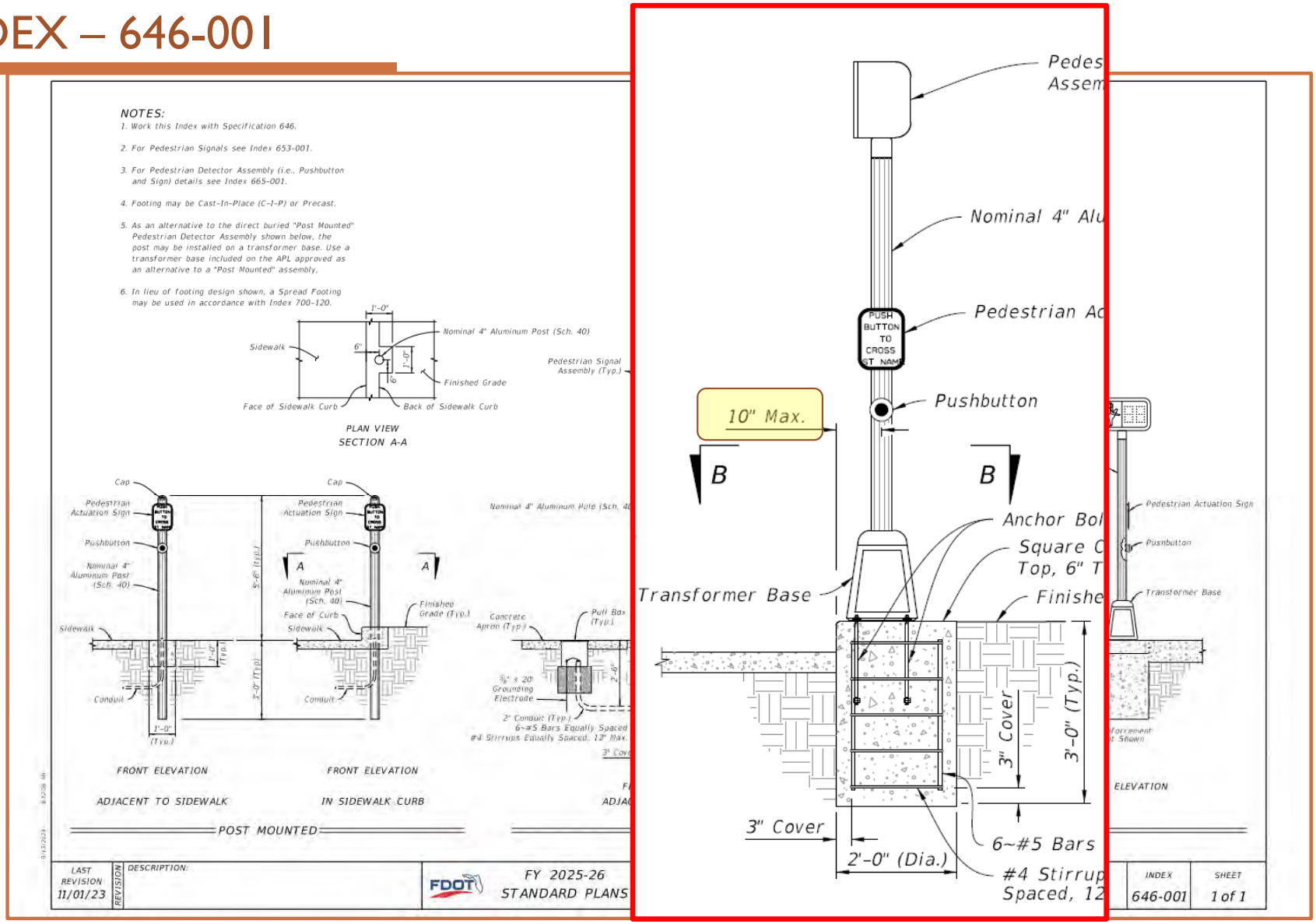


INDEX – 646-001

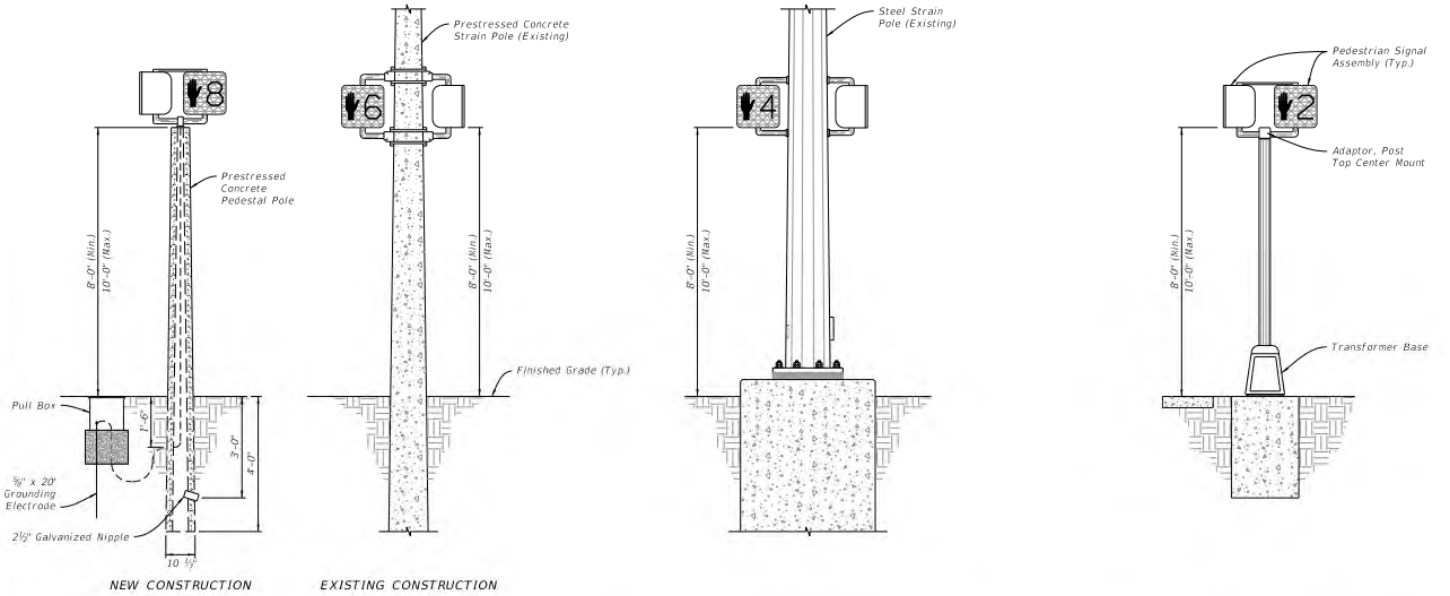



TIMER
To Finish Crossing
STEADY
DON'T CROSS
PUSH BUTTON
TO CROSS
Cort Rd

INDEX – 653-001

NOTES:

1. As an option, pedestrian signals may be installed on concrete poles and pedestals using lead anchors (two bolts same size per hub) in lieu of the stainless steel bands.
2. Repair drilled or punched holes in galvanized steel poles or pedestals in accordance with Specification 562. Install grommets or bushings in each hole.
3. Meet grounding requirements of Specification 620.
4. See APL for Department-approved Pedestrian Signal Assemblies and hardware.
5. For Prestressed Concrete Poles see Index 641-010.
6. For Steel Strain Poles see Index 649-010.
7. For Pedestal Mounted Signal posts and foundations see Index 646-001



LAST REVISION	REVISION	DESCRIPTION:			INDEX	SHEET
11/01/20			FY 2025-26 STANDARD PLANS	PEDESTRIAN CONTROL SIGNAL INSTALLATION DETAILS	653-001	1 of 1

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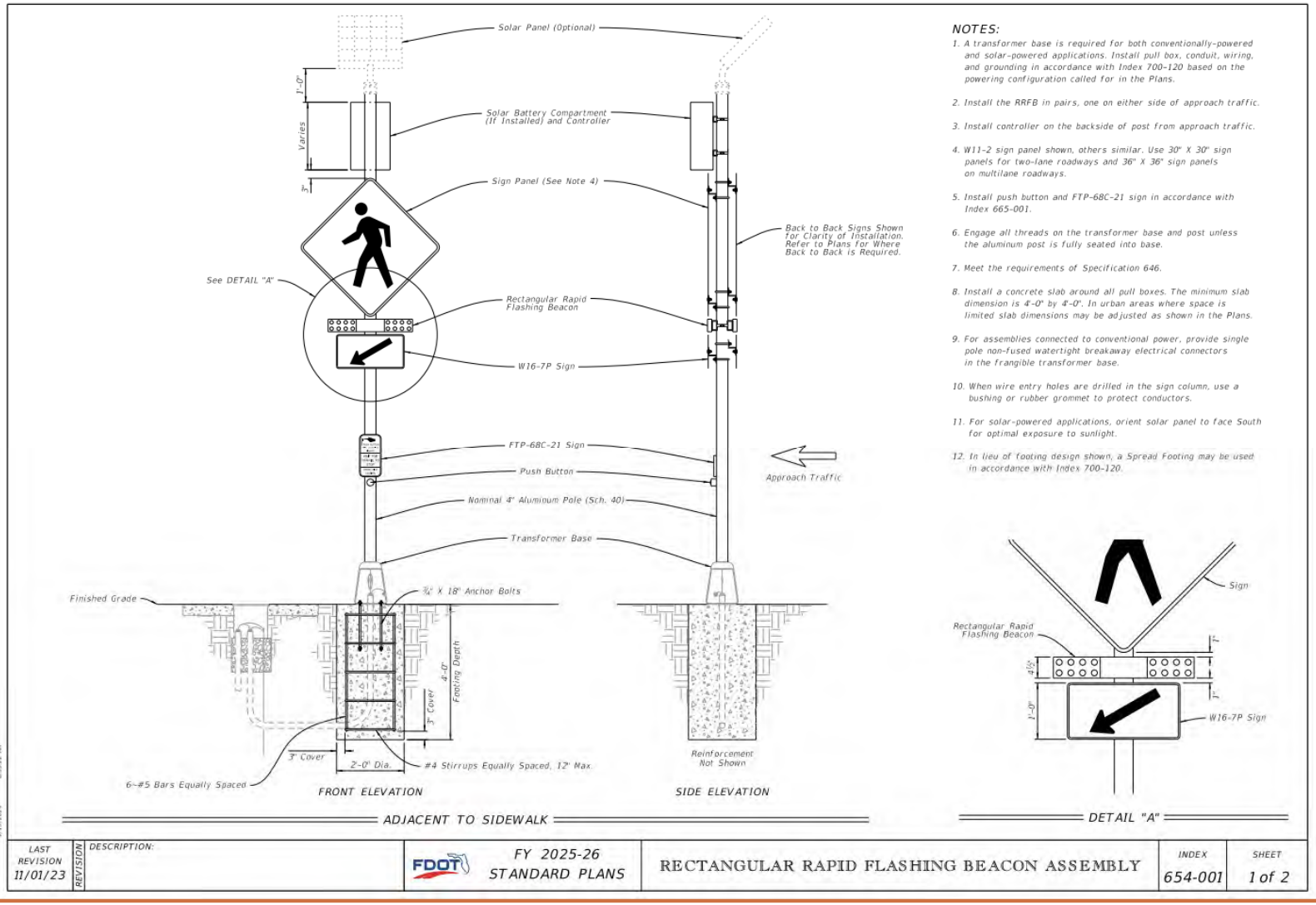

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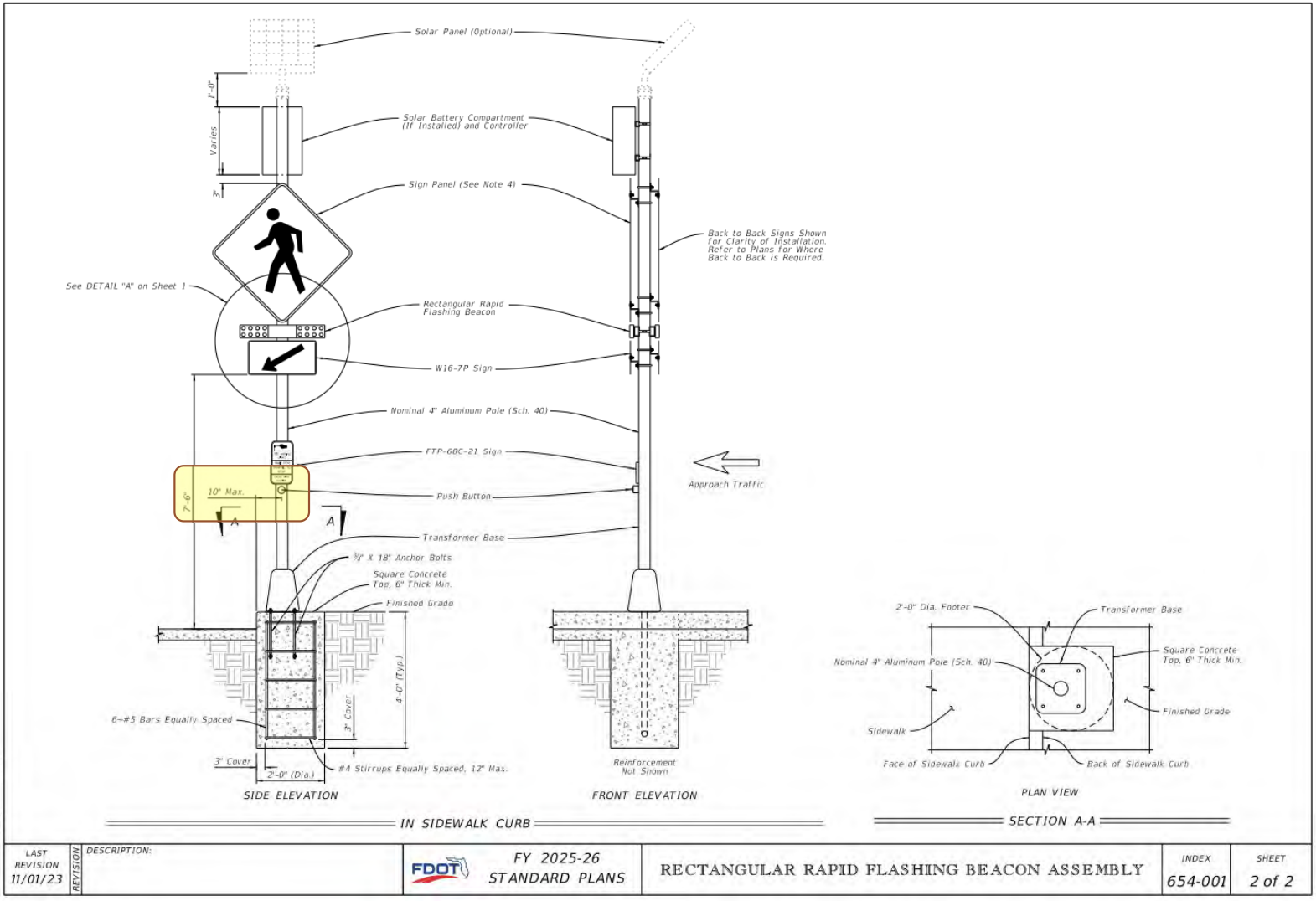

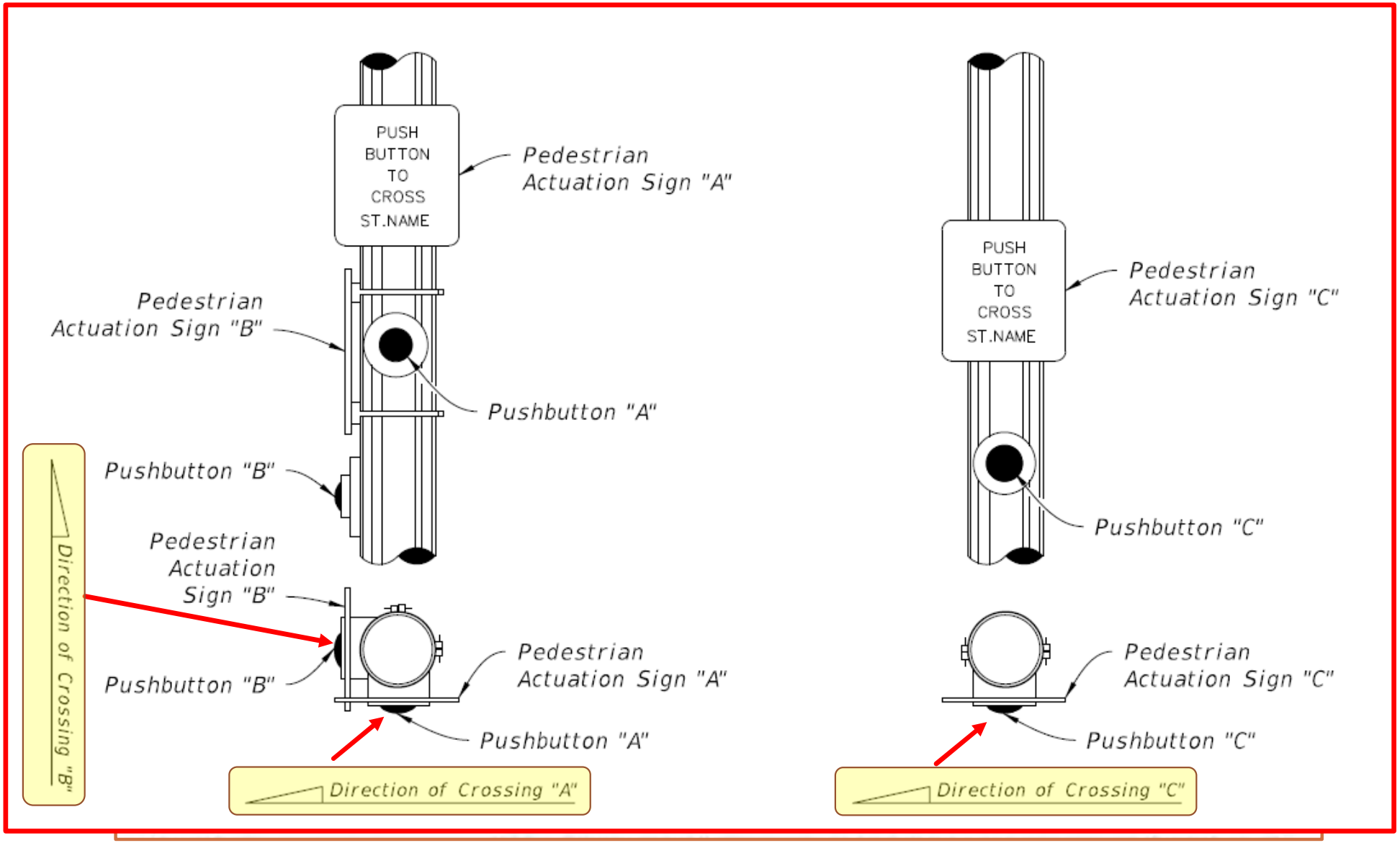
PUSH
BUTTON
TO
CROSS
ST.NAME
Pedestrian
Actuation Sign "A"
Pedestrian
Actuation Sign "B"
Pushbutton "A"
Pushbutton "B"
Pedestrian
Actuation
Sign "B"
Pushbutton "B"
Pedestrian
Actuation Sign "A"
Pushbutton "A"
Direction of Crossing "B"
Direction of Crossing "A"
PUSH
BUTTON
TO
CROSS
ST.NAME
Pedestrian
Actuation Sign "C"
Pushbutton "C"
Pedestrian
Actuation Sign "C"
Pushbutton "C"
Direction of Crossing "C"

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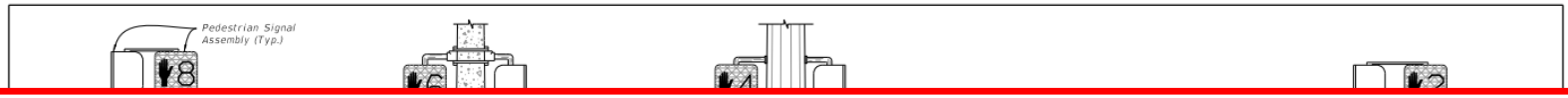

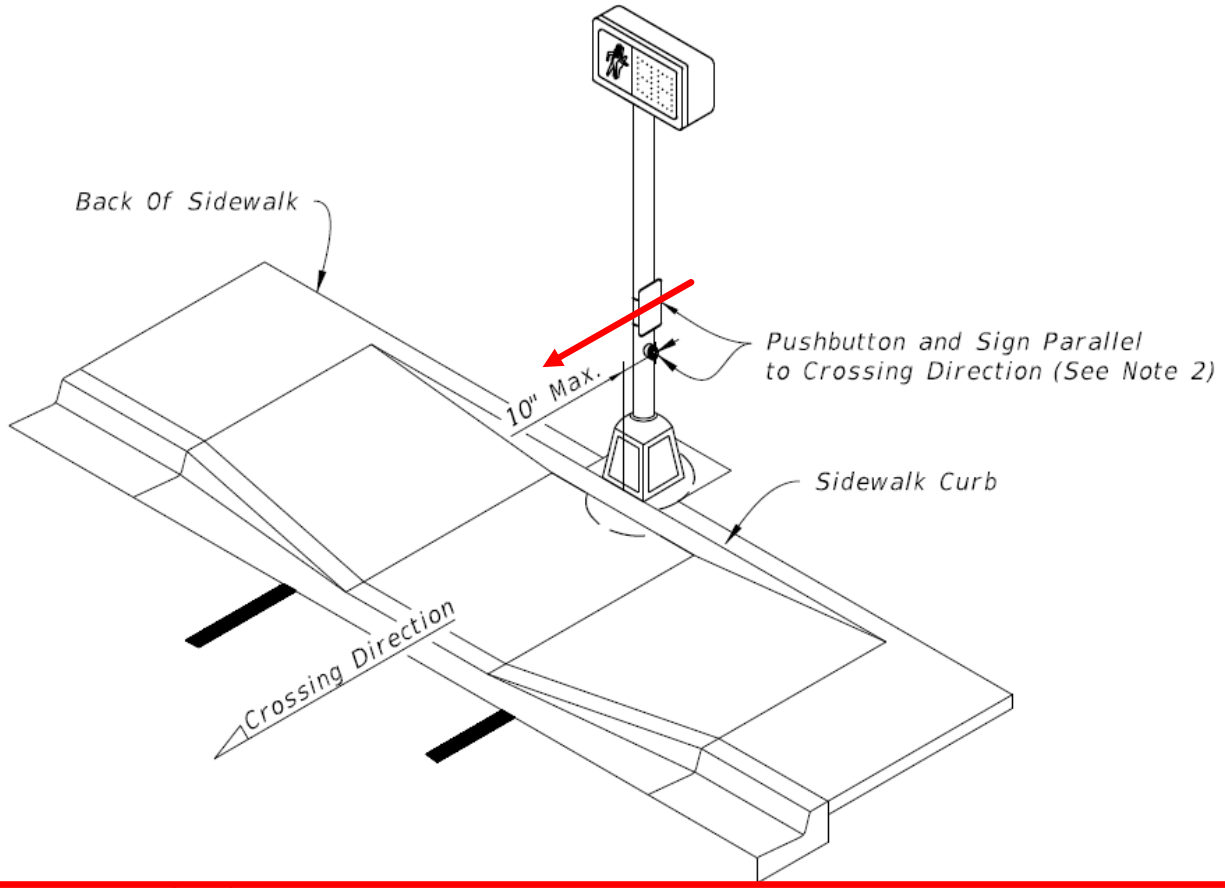

NOTES:

1. Mount Signs above the detectors. See Index 700-102 for sign details.
2. Install Pushbuttons and Pedestrian Actuation Signs with faces parallel to the crossing direction, see DETAIL "B".
3. Mount pushbuttons and Signs in accordance with Specification 665.
4. Pushbutton mounting height shown is taken at the center of the actuation switch.
5. for pedestrian control signal see index 653-001.
6. For Aluminum Pole and Pedestal supports see Index 646-001.

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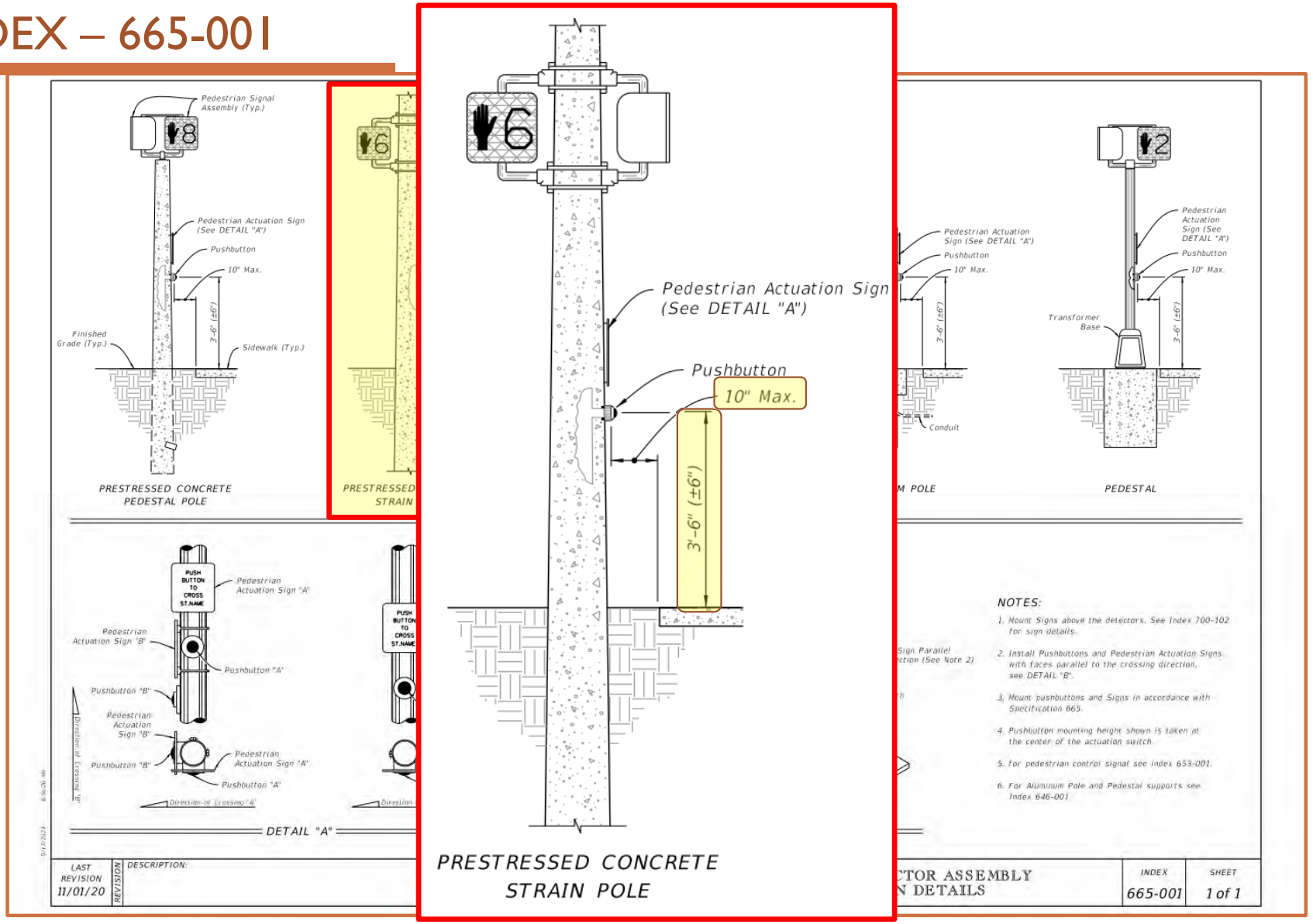
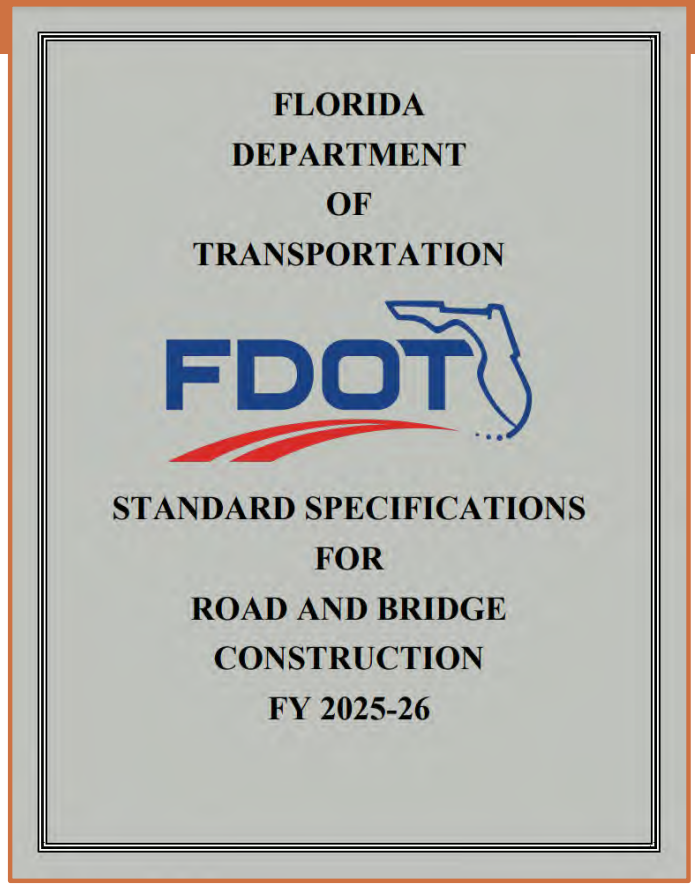



DIXIE HWY
PUSH
BUTTON
WAIT FOR
WALK
SIGNAL

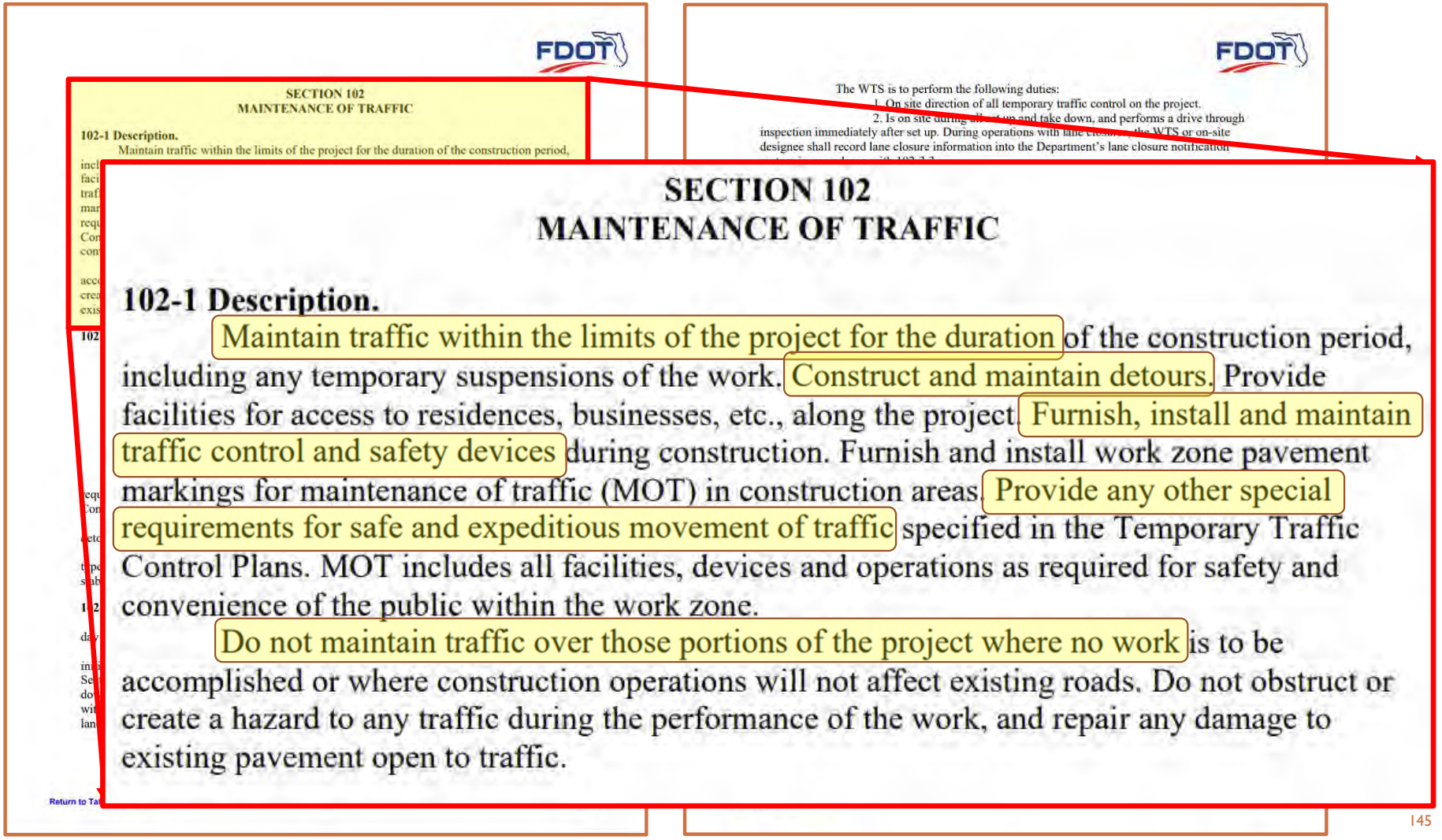

If Started
TIME REMAINING
To Finish Crossing
TIMER
STEADY
DON'T CROSS
PUSH BUTTON
TO CROSS
Columbus Dr
E Columbus
Dr

SAFETY & ACCESSIBILITY!

- Brief History of the ADA
- FDOT Design Manual (FDM)
- FDOT Standard Plans
- FDOT Standard Specifications
- FDOT Maintenance Rating Program Handbook (MRP)



SECTION 102 – MAINTENANCE OF TRAFFIC



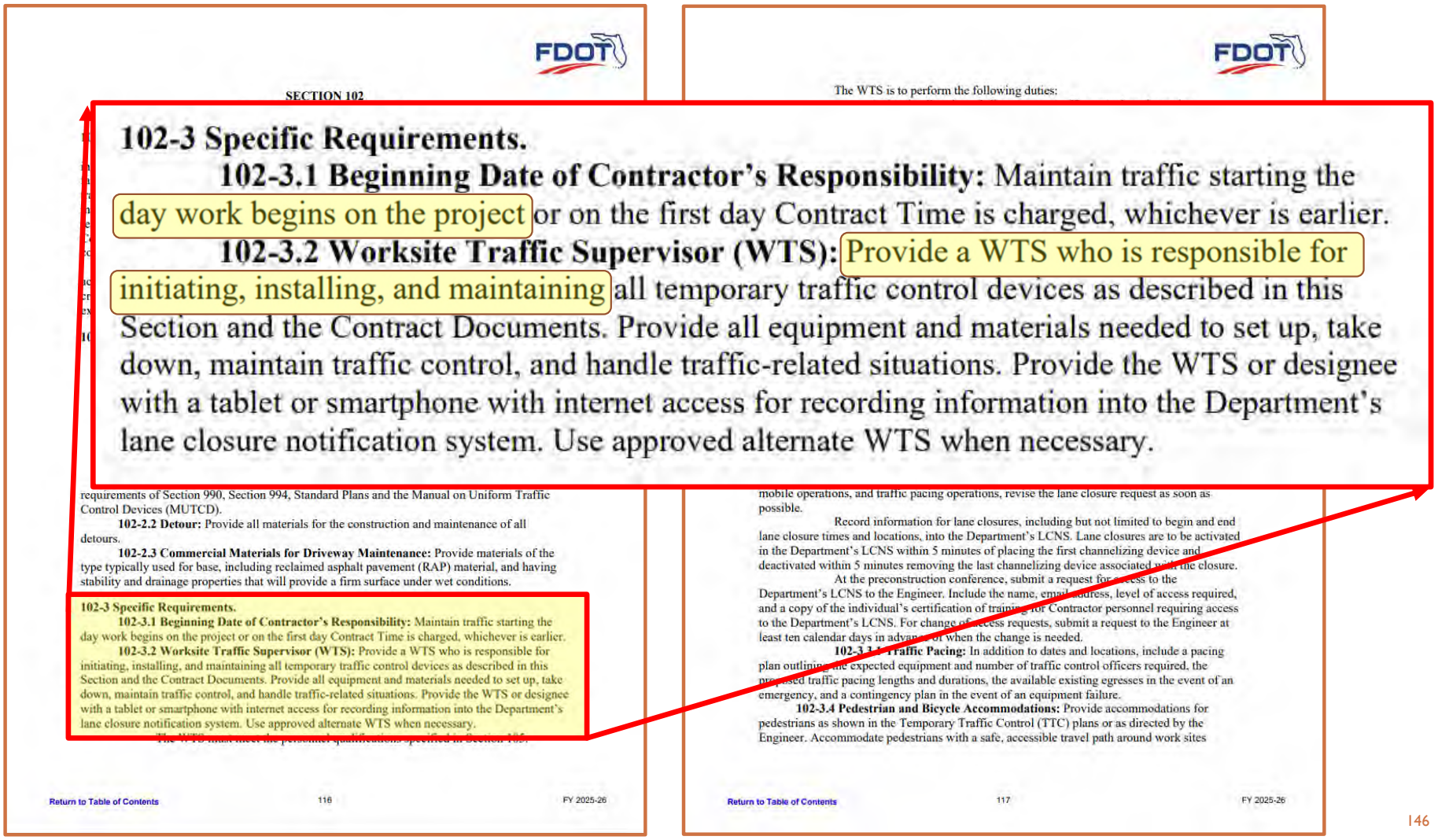
SECTION 102
MAINTENANCE OF TRAFFIC

102-1 Description.

Maintain traffic within the limits of the project for the duration of the construction period, including any temporary suspensions of the work. Construct and maintain detours. Provide facilities for access to residences, businesses, etc., along the project. Furnish, install and maintain traffic control and safety devices during construction. Furnish and install work zone pavement markings for maintenance of traffic (MOT) in construction areas. Provide any other special requirements for safe and expeditious movement of traffic specified in the Temporary Traffic Control Plans. MOT includes all facilities, devices and operations as required for safety and convenience of the public within the work zone.

Do not maintain traffic over those portions of the project where no work is to be accomplished or where construction operations will not affect existing roads. Do not obstruct or create a hazard to any traffic during the performance of the work, and repair any damage to existing pavement open to traffic.

SECTION 102 – MAINTENANCE OF TRAFFIC



SECTION 102

requirements of Section 990, Section 994, Standard Plans and the Manual on Uniform Traffic Control Devices (MUTCD).

102-2.2 Detour: Provide all materials for the construction and maintenance of all detours.

102-2.3 Commercial Materials for Driveway Maintenance: Provide materials of the type typically used for base, including reclaimed asphalt pavement (RAP) material, and having stability and drainage properties that will provide a firm surface under wet conditions.

102-3 Specific Requirements.

102-3.1 Beginning Date of Contractor's Responsibility: Maintain traffic starting the day work begins on the project or on the first day Contract Time is charged, whichever is earlier.

102-3.2 Worksite Traffic Supervisor (WTS): Provide a WTS who is responsible for initiating, installing, and maintaining all temporary traffic control devices as described in this Section and the Contract Documents. Provide all equipment and materials needed to set up, take down, maintain traffic control, and handle traffic-related situations. Provide the WTS or designee with a tablet or smartphone with internet access for recording information into the Department's lane closure notification system. Use approved alternate WTS when necessary.

The WTS must meet the personnel qualifications specified in Section 105.

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The WTS is to perform the following duties:

mobile operations, and traffic pacing operations, revise the lane closure request as soon as possible.

Record information for lane closures, including but not limited to begin and end lane closure times and locations, into the Department's LCNS. Lane closures are to be activated in the Department's LCNS within 5 minutes of placing the first channelizing device and deactivated within 5 minutes removing the last channelizing device associated with the closure.

At the preconstruction conference, submit a request for access to the Department's LCNS to the Engineer. Include the name, email address, level of access required, and a copy of the individual's certification of training for Contractor personnel requiring access to the Department's LCNS. For change of access requests, submit a request to the Engineer at least ten calendar days in advance or when the change is needed.

102-3.3 Traffic Pacing: In addition to dates and locations, include a pacing plan outlining the expected equipment and number of traffic control officers required, the proposed traffic pacing lengths and durations, the available existing egresses in the event of an emergency, and a contingency plan in the event of an equipment failure.

102-3.4 Pedestrian and Bicycle Accommodations: Provide accommodations for pedestrians as shown in the Temporary Traffic Control (TTC) plans or as directed by the Engineer. Accommodate pedestrians with a safe, accessible travel path around work sites

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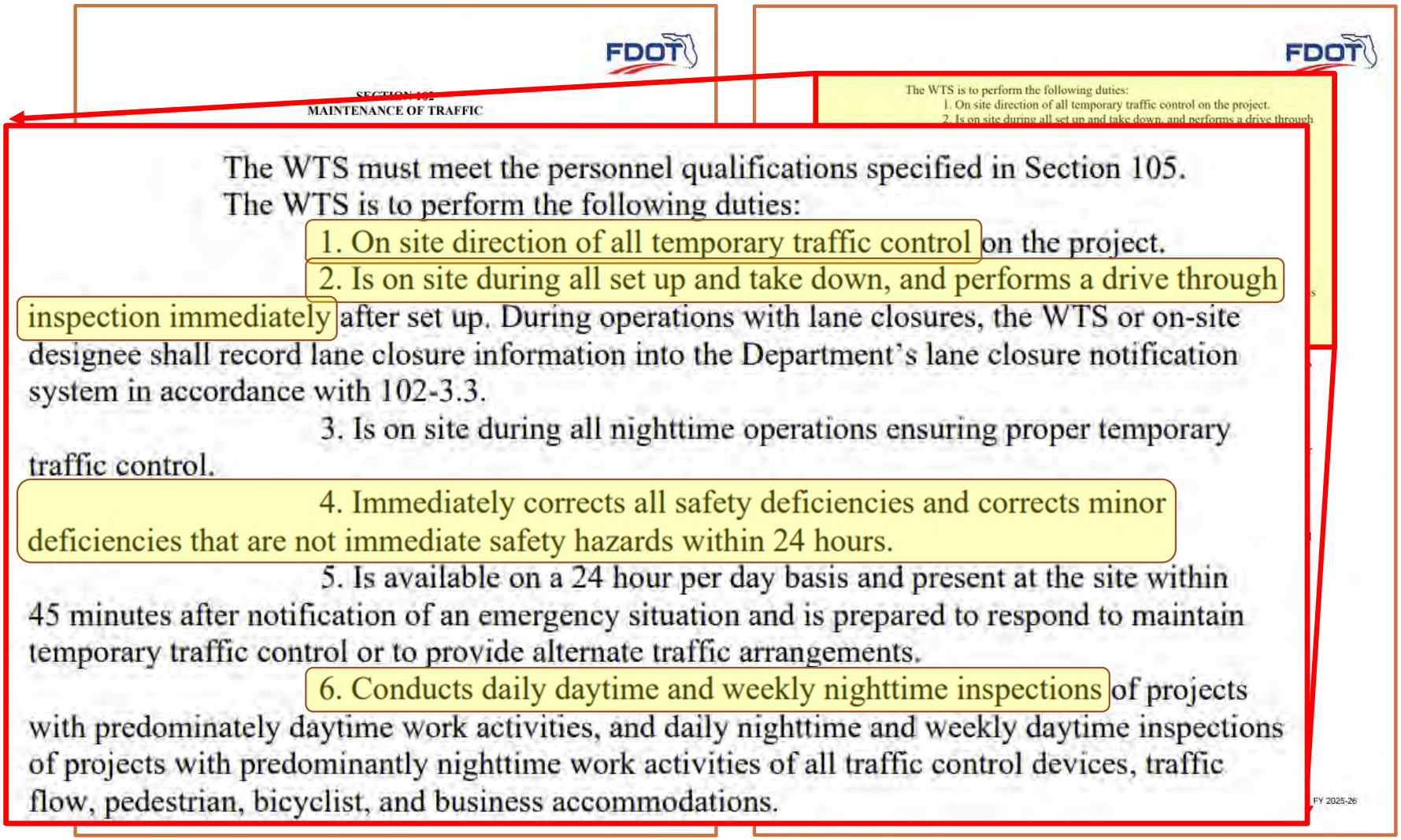
SECTION 102 – MAINTENANCE OF TRAFFIC



SECTION 102
MAINTENANCE OF TRAFFIC

The WTS must meet the personnel qualifications specified in Section 105.
The WTS is to perform the following duties:

1. On site direction of all temporary traffic control on the project.

2. Is on site during all set up and take down, and performs a drive through inspection immediately after set up. During operations with lane closures, the WTS or on-site designee shall record lane closure information into the Department's lane closure notification system in accordance with 102-3.3.

3. Is on site during all nighttime operations ensuring proper temporary traffic control.

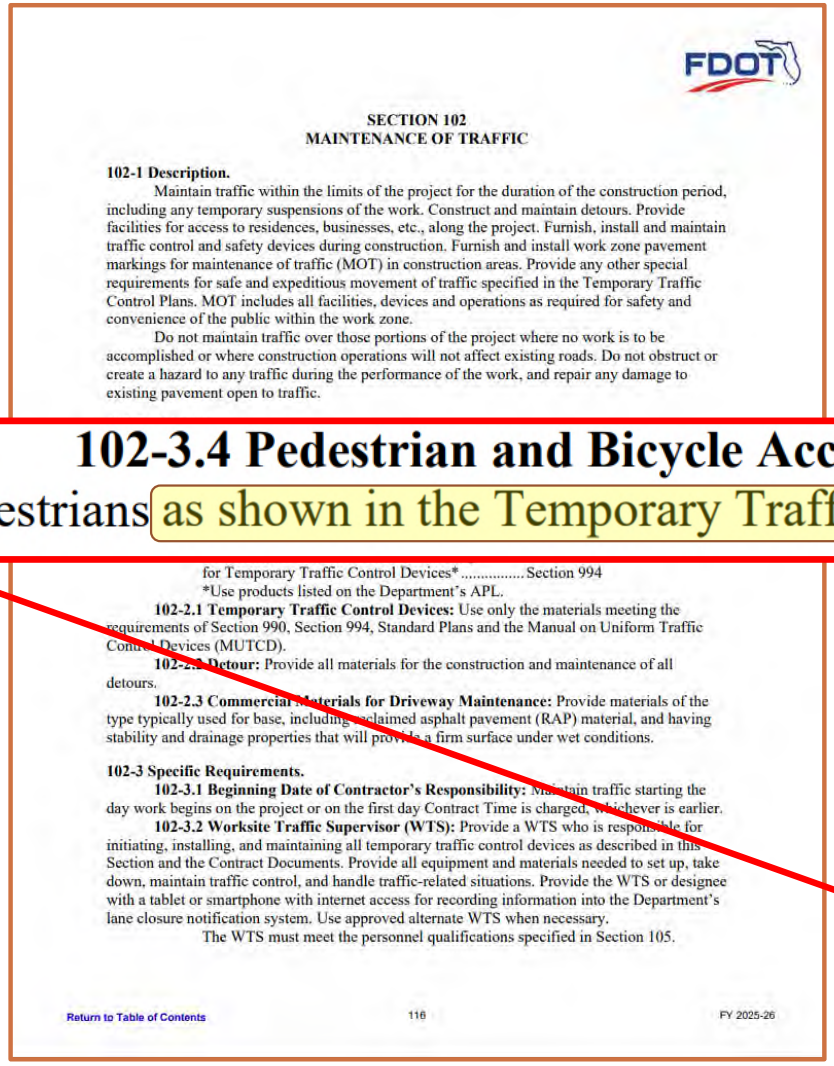
4. Immediately corrects all safety deficiencies and corrects minor deficiencies that are not immediate safety hazards within 24 hours.

5. Is available on a 24 hour per day basis and present at the site within 45 minutes after notification of an emergency situation and is prepared to respond to maintain temporary traffic control or to provide alternate traffic arrangements.

6. Conducts daily daytime and weekly nighttime inspections of projects with predominately daytime work activities, and daily nighttime and weekly daytime inspections of projects with predominantly nighttime work activities of all traffic control devices, traffic flow, pedestrian, bicyclist, and business accommodations.

The WTS is to perform the following duties:
1. On site direction of all temporary traffic control on the project.
2. Is on site during all set up and take down, and performs a drive through

SECTION 102 – MAINTENANCE OF TRAFFIC



SECTION 102
MAINTENANCE OF TRAFFIC

102-1 Description.

Maintain traffic within the limits of the project for the duration of the construction period, including any temporary suspensions of the work. Construct and maintain detours. Provide facilities for access to residences, businesses, etc., along the project. Furnish, install and maintain traffic control and safety devices during construction. Furnish and install work zone pavement markings for maintenance of traffic (MOT) in construction areas. Provide any other special requirements for safe and expeditious movement of traffic specified in the Temporary Traffic Control Plans. MOT includes all facilities, devices and operations as required for safety and convenience of the public within the work zone.

Do not maintain traffic over those portions of the project where no work is to be accomplished or where construction operations will not affect existing roads. Do not obstruct or create a hazard to any traffic during the performance of the work, and repair any damage to existing pavement open to traffic.

for Temporary Traffic Control Devices* ..... Section 994

*Use products listed on the Department's APL.

102-2.1 Temporary Traffic Control Devices: Use only the materials meeting the requirements of Section 990, Section 994, Standard Plans and the Manual on Uniform Traffic Control Devices (MUTCD).

102-2.2 Detour: Provide all materials for the construction and maintenance of all detours.

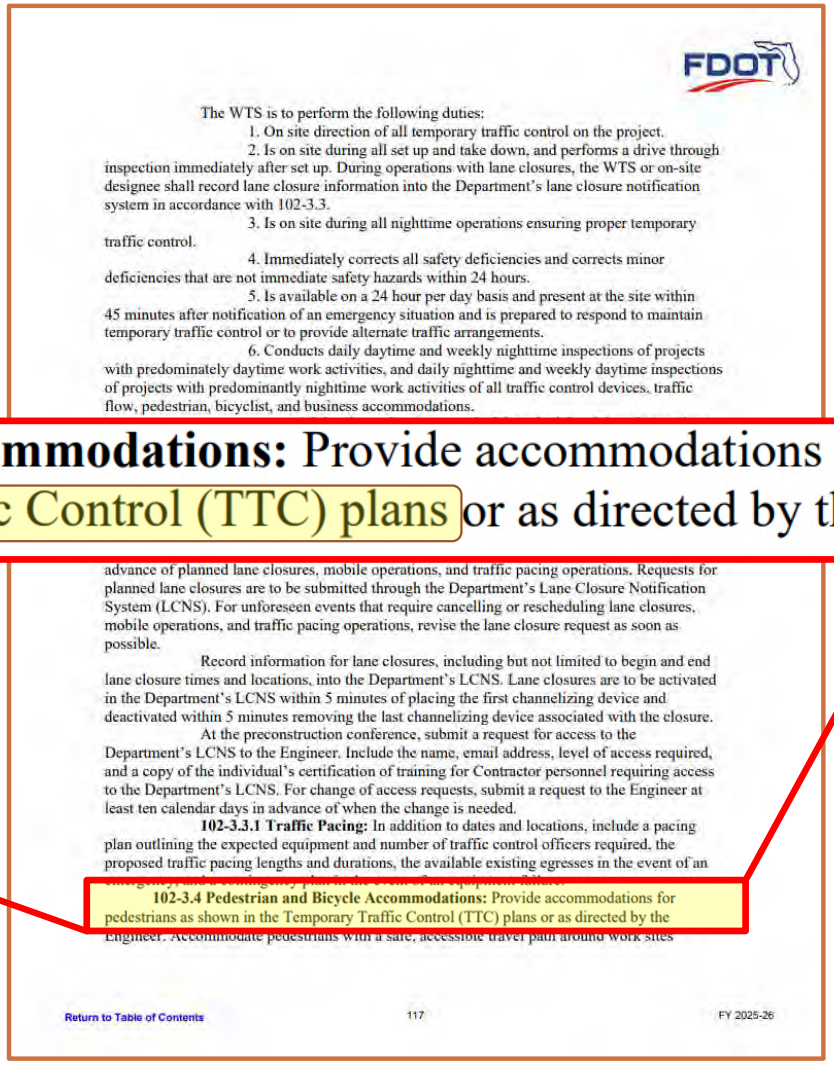
102-2.3 Commercial Materials for Driveway Maintenance: Provide materials of the type typically used for base, including reclaimed asphalt pavement (RAP) material, and having stability and drainage properties that will provide a firm surface under wet conditions.

102-3 Specific Requirements.

102-3.1 Beginning Date of Contractor's Responsibility: Maintain traffic starting the day work begins on the project or on the first day Contract Time is charged, whichever is earlier.

102-3.2 Worksite Traffic Supervisor (WTS): Provide a WTS who is responsible for initiating, installing, and maintaining all temporary traffic control devices as described in this Section and the Contract Documents. Provide all equipment and materials needed to set up, take down, maintain traffic control, and handle traffic-related situations. Provide the WTS or designee with a tablet or smartphone with internet access for recording information into the Department's lane closure notification system. Use approved alternate WTS when necessary.

The WTS must meet the personnel qualifications specified in Section 105.



The WTS is to perform the following duties:

1. On site direction of all temporary traffic control on the project.
2. Is on site during all set up and take down, and performs a drive through inspection immediately after set up. During operations with lane closures, the WTS or on-site designee shall record lane closure information into the Department's lane closure notification system in accordance with 102-3.3.
3. Is on site during all nighttime operations ensuring proper temporary traffic control.
4. Immediately corrects all safety deficiencies and corrects minor deficiencies that are not immediate safety hazards within 24 hours.
5. Is available on a 24 hour per day basis and present at the site within 45 minutes after notification of an emergency situation and is prepared to respond to maintain temporary traffic control or to provide alternate traffic arrangements.
6. Conducts daily daytime and weekly nighttime inspections of projects with predominately daytime work activities, and daily nighttime and weekly daytime inspections of projects with predominantly nighttime work activities of all traffic control devices, traffic flow, pedestrian, bicyclist, and business accommodations.

advance of planned lane closures, mobile operations, and traffic pacing operations. Requests for planned lane closures are to be submitted through the Department's Lane Closure Notification System (LCNS). For unforeseen events that require cancelling or rescheduling lane closures, mobile operations, and traffic pacing operations, revise the lane closure request as soon as possible.

Record information for lane closures, including but not limited to begin and end lane closure times and locations, into the Department's LCNS. Lane closures are to be activated in the Department's LCNS within 5 minutes of placing the first channelizing device and deactivated within 5 minutes removing the last channelizing device associated with the closure.

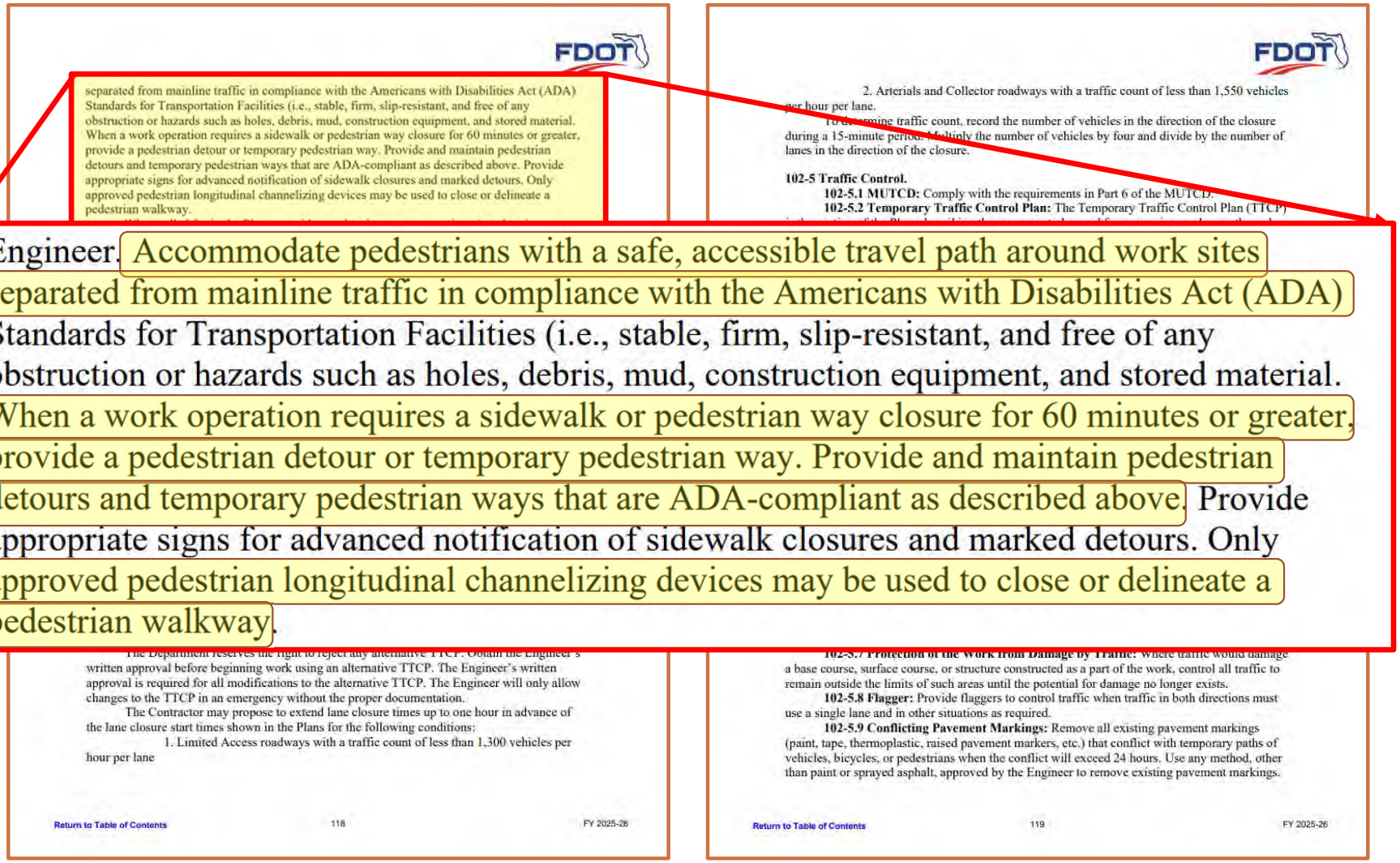
At the preconstruction conference, submit a request for access to the Department's LCNS to the Engineer. Include the name, email address, level of access required, and a copy of the individual's certification of training for Contractor personnel requiring access to the Department's LCNS. For change of access requests, submit a request to the Engineer at least ten calendar days in advance of when the change is needed.

102-3.3.1 Traffic Pacing: In addition to dates and locations, include a pacing plan outlining the expected equipment and number of traffic control officers required, the proposed traffic pacing lengths and durations, the available existing egresses in the event of an

102-3.4 Pedestrian and Bicycle Accommodations: Provide accommodations for pedestrians as shown in the Temporary Traffic Control (TTC) plans or as directed by the Engineer. Accommodate pedestrians with a safe, accessible travel path around work sites

102-3.4 Pedestrian and Bicycle Accommodations: Provide accommodations for pedestrians as shown in the Temporary Traffic Control (TTC) plans or as directed by the

SECTION 102 – MAINTENANCE OF TRAFFIC



separated from mainline traffic in compliance with the Americans with Disabilities Act (ADA) Standards for Transportation Facilities (i.e., stable, firm, slip-resistant, and free of any obstruction or hazards such as holes, debris, mud, construction equipment, and stored material. When a work operation requires a sidewalk or pedestrian way closure for 60 minutes or greater, provide a pedestrian detour or temporary pedestrian way. Provide and maintain pedestrian detours and temporary pedestrian ways that are ADA-compliant as described above. Provide appropriate signs for advanced notification of sidewalk closures and marked detours. Only approved pedestrian longitudinal channelizing devices may be used to close or delineate a pedestrian walkway.

Engineer. Accommodate pedestrians with a safe, accessible travel path around work sites separated from mainline traffic in compliance with the Americans with Disabilities Act (ADA) Standards for Transportation Facilities (i.e., stable, firm, slip-resistant, and free of any obstruction or hazards such as holes, debris, mud, construction equipment, and stored material. When a work operation requires a sidewalk or pedestrian way closure for 60 minutes or greater, provide a pedestrian detour or temporary pedestrian way. Provide and maintain pedestrian detours and temporary pedestrian ways that are ADA-compliant as described above. Provide appropriate signs for advanced notification of sidewalk closures and marked detours. Only approved pedestrian longitudinal channelizing devices may be used to close or delineate a pedestrian walkway.

written approval before beginning work using an alternative TTCP. The Engineer's written approval is required for all modifications to the alternative TTCP. The Engineer will only allow changes to the TTCP in an emergency without the proper documentation.

The Contractor may propose to extend lane closure times up to one hour in advance of the lane closure start times shown in the Plans for the following conditions:

1. Limited Access roadways with a traffic count of less than 1,300 vehicles per hour per lane

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2. Arterials and Collector roadways with a traffic count of less than 1,550 vehicles per hour per lane.

To determine traffic count, record the number of vehicles in the direction of the closure during a 15-minute period. Multiply the number of vehicles by four and divide by the number of lanes in the direction of the closure.

102-5 Traffic Control.

102-5.1 MUTCD: Comply with the requirements in Part 6 of the MUTCD.

102-5.2 Temporary Traffic Control Plan: The Temporary Traffic Control Plan (TTCP)

102-5.7 Protection of the Work from Damage by Traffic: Where traffic would damage a base course, surface course, or structure constructed as a part of the work, control all traffic to remain outside the limits of such areas until the potential for damage no longer exists.

102-5.8 Flagger: Provide flaggers to control traffic when traffic in both directions must use a single lane and in other situations as required.

102-5.9 Conflicting Pavement Markings: Remove all existing pavement markings (paint, tape, thermoplastic, raised pavement markers, etc.) that conflict with temporary paths of vehicles, bicycles, or pedestrians when the conflict will exceed 24 hours. Use any method, other than paint or sprayed asphalt, approved by the Engineer to remove existing pavement markings.

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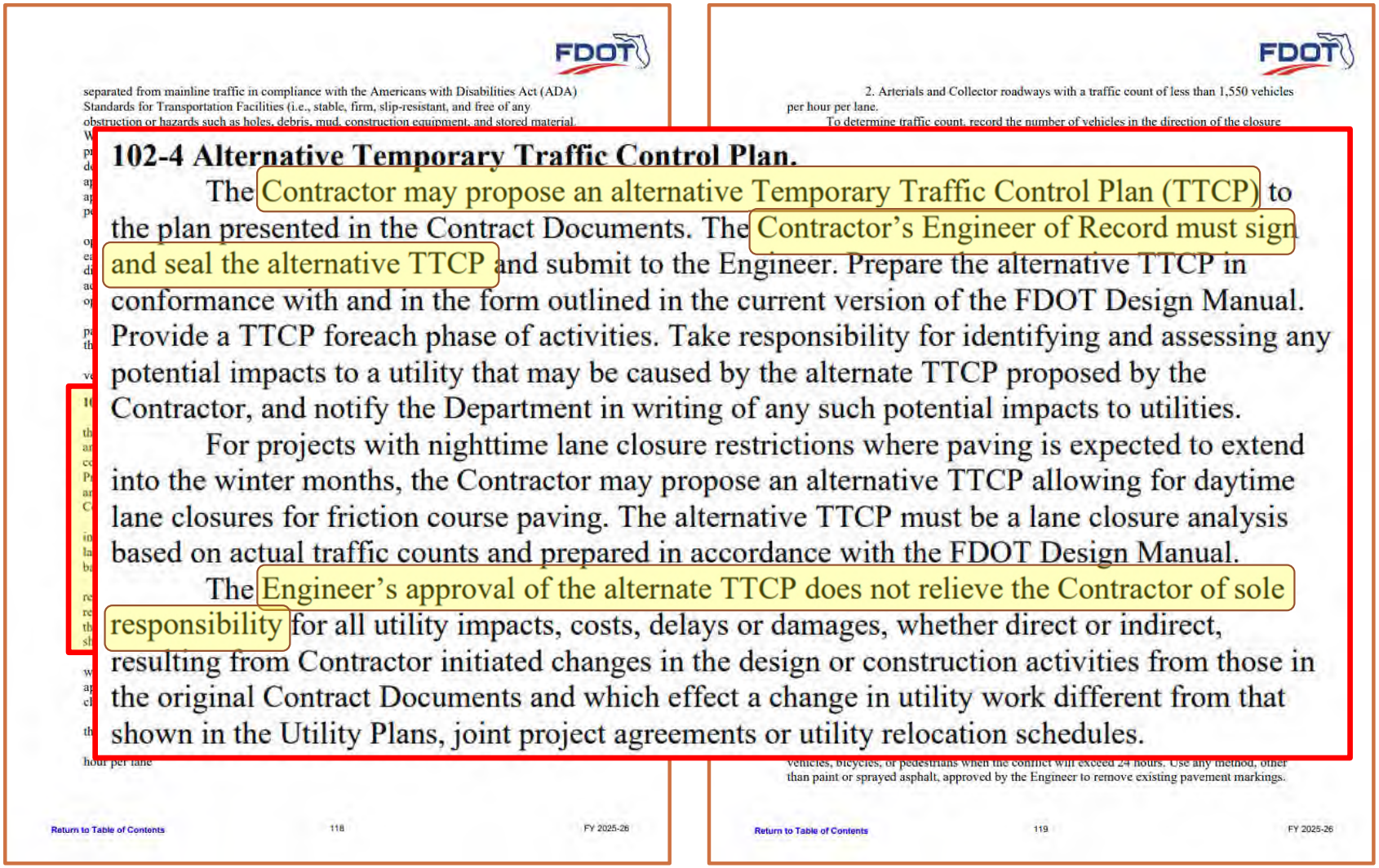
SECTION 102 – MAINTENANCE OF TRAFFIC



separated from mainline traffic in compliance with the Americans with Disabilities Act (ADA) Standards for Transportation Facilities (i.e., stable, firm, slip-resistant, and free of any obstruction or hazards such as holes, debris, mud, construction equipment, and stored material.

102-4 Alternative Temporary Traffic Control Plan.

The Contractor may propose an alternative Temporary Traffic Control Plan (TTCP) to the plan presented in the Contract Documents. The Contractor's Engineer of Record must sign and seal the alternative TTCP and submit to the Engineer. Prepare the alternative TTCP in conformance with and in the form outlined in the current version of the FDOT Design Manual. Provide a TTCP foreach phase of activities. Take responsibility for identifying and assessing any potential impacts to a utility that may be caused by the alternate TTCP proposed by the Contractor, and notify the Department in writing of any such potential impacts to utilities.

For projects with nighttime lane closure restrictions where paving is expected to extend into the winter months, the Contractor may propose an alternative TTCP allowing for daytime lane closures for friction course paving. The alternative TTCP must be a lane closure analysis based on actual traffic counts and prepared in accordance with the FDOT Design Manual.

The Engineer's approval of the alternate TTCP does not relieve the Contractor of sole responsibility for all utility impacts, costs, delays or damages, whether direct or indirect, resulting from Contractor initiated changes in the design or construction activities from those in the original Contract Documents and which effect a change in utility work different from that shown in the Utility Plans, joint project agreements or utility relocation schedules.

hour per lane

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2. Arterials and Collector roadways with a traffic count of less than 1,550 vehicles per hour per lane.

To determine traffic count, record the number of vehicles in the direction of the closure

vehicles, bicycles, or pedestrians when the conflict will exceed 24 hours. Use any method, other than paint or sprayed asphalt, approved by the Engineer to remove existing pavement markings.

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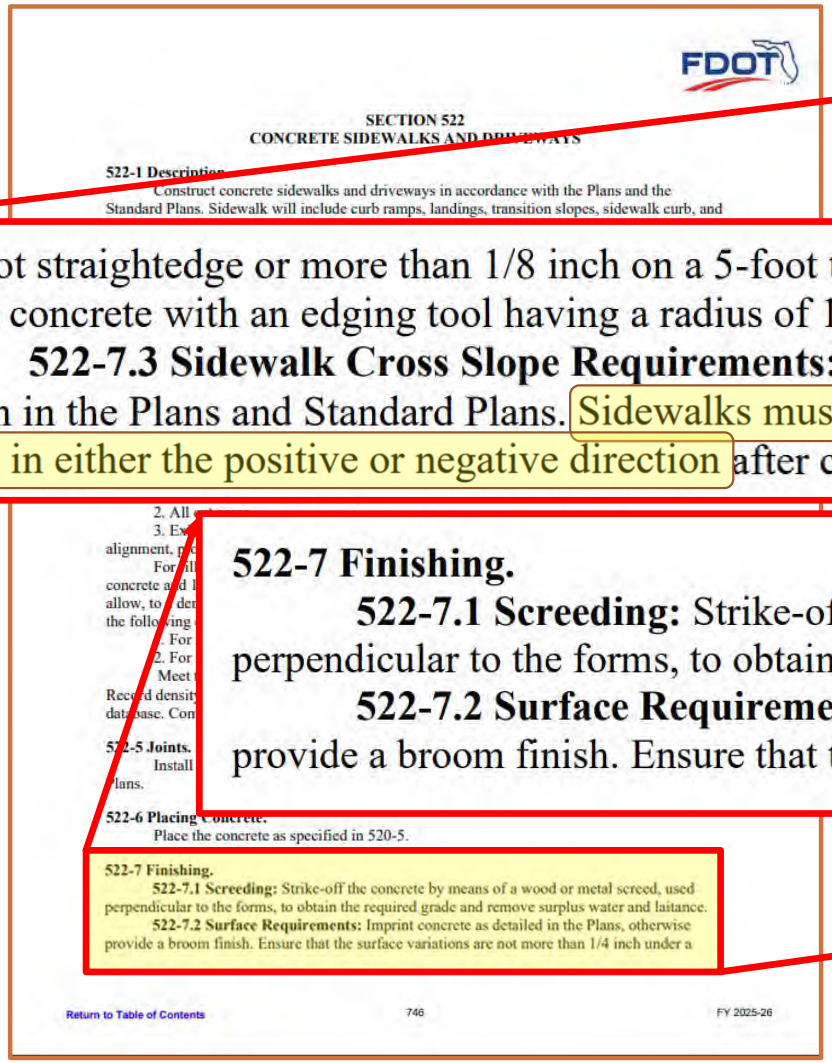
SECTION 522 – CONCRETE SIDEWALKS AND DRIVEWAYS



SECTION 522
CONCRETE SIDEWALKS AND DRIVEWAYS

522-1 Description.
Construct concrete sidewalks and driveways in accordance with the Plans and the Standard Plans. Sidewalk will include curb ramps, landings, transition slopes, sidewalk curb, and

522-6 Placing Concrete.
Place the concrete as specified in 520-5.

522-7 Finishing.
522-7.1 Screeding: Strike-off the concrete by means of a wood or metal screed, used perpendicular to the forms, to obtain the required grade and remove surplus water and laitance.
522-7.2 Surface Requirements: Imprint concrete as detailed in the Plans, otherwise provide a broom finish. Ensure that the surface variations are not more than 1/4 inch under a

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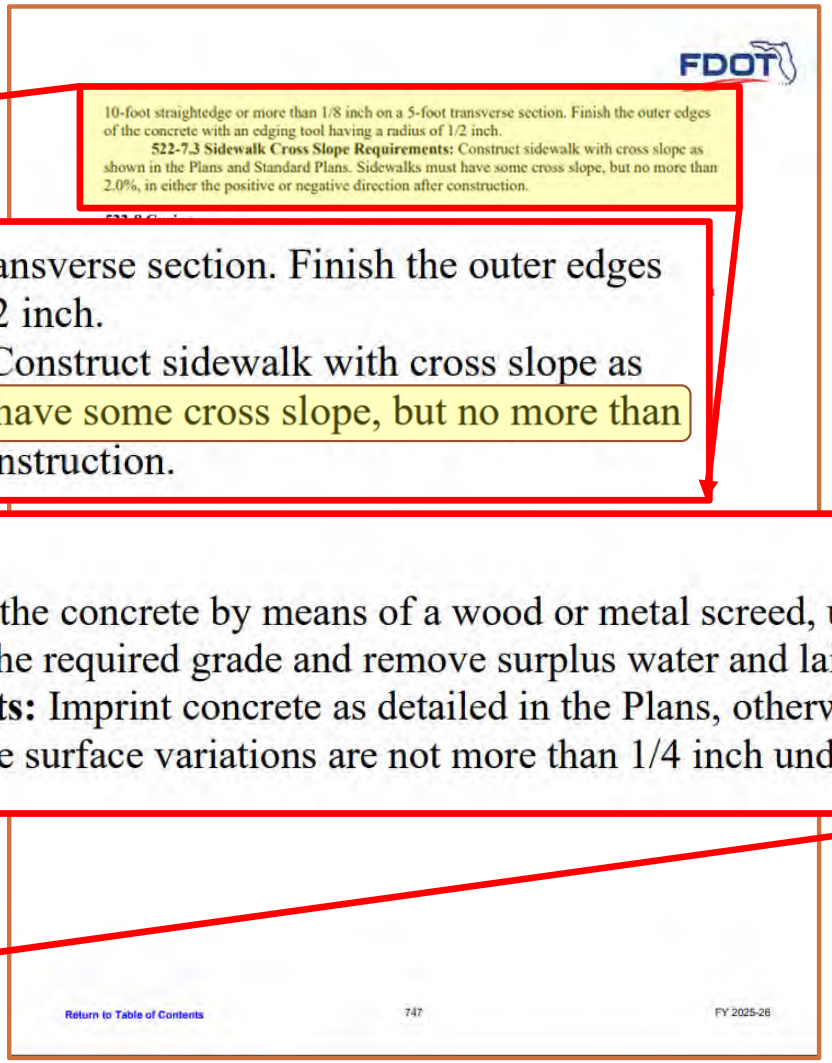

10-foot straightedge or more than 1/8 inch on a 5-foot transverse section. Finish the outer edges of the concrete with an edging tool having a radius of 1/2 inch.
522-7.3 Sidewalk Cross Slope Requirements: Construct sidewalk with cross slope as shown in the Plans and Standard Plans. Sidewalks must have some cross slope, but no more than 2.0%, in either the positive or negative direction after construction.

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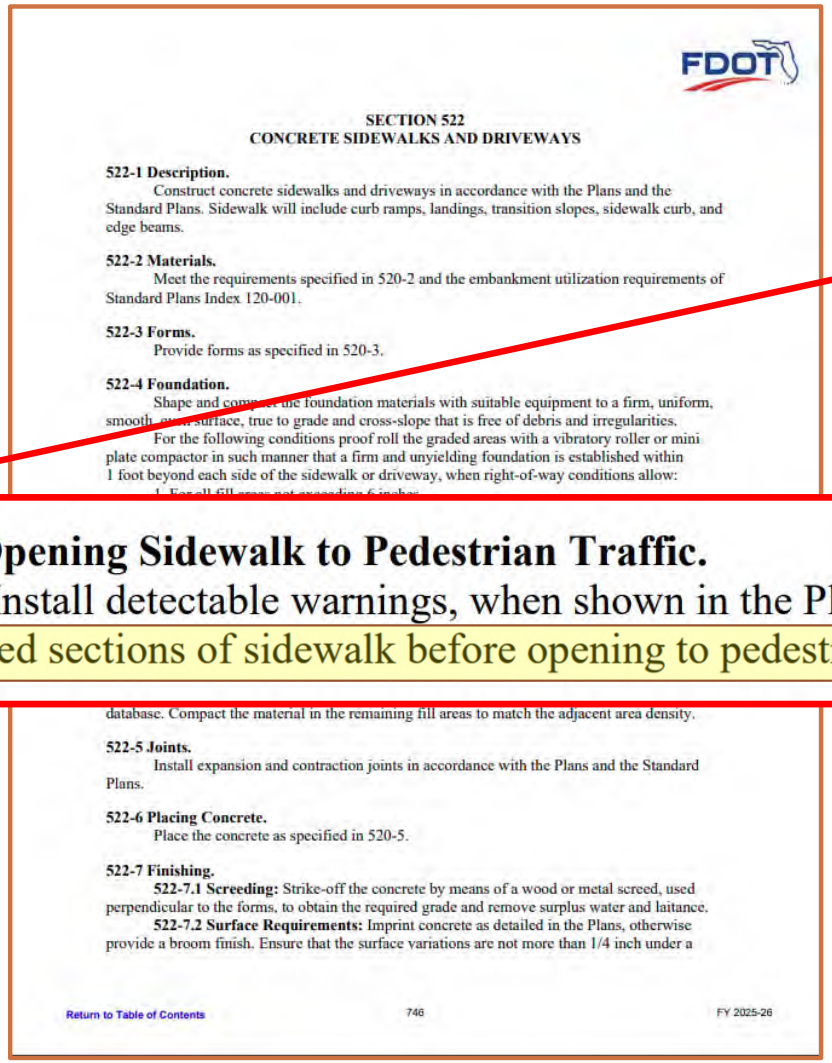
10-foot straightedge or more than 1/8 inch on a 5-foot transverse section. Finish the outer edges of the concrete with an edging tool having a radius of 1/2 inch.
522-7.3 Sidewalk Cross Slope Requirements: Construct sidewalk with cross slope as shown in the Plans and Standard Plans. Sidewalks must have some cross slope, but no more than 2.0%, in either the positive or negative direction after construction.

522-7 Finishing.
522-7.1 Screeding: Strike-off the concrete by means of a wood or metal screed, used perpendicular to the forms, to obtain the required grade and remove surplus water and laitance.
522-7.2 Surface Requirements: Imprint concrete as detailed in the Plans, otherwise provide a broom finish. Ensure that the surface variations are not more than 1/4 inch under a

SECTION 522 – CONCRETE SIDEWALKS AND DRIVEWAYS



SECTION 522
CONCRETE SIDEWALKS AND DRIVEWAYS

522-1 Description.
Construct concrete sidewalks and driveways in accordance with the Plans and the Standard Plans. Sidewalk will include curb ramps, landings, transition slopes, sidewalk curb, and edge beams.

522-2 Materials.
Meet the requirements specified in 520-2 and the embankment utilization requirements of Standard Plans Index 120-001.

522-3 Forms.
Provide forms as specified in 520-3.

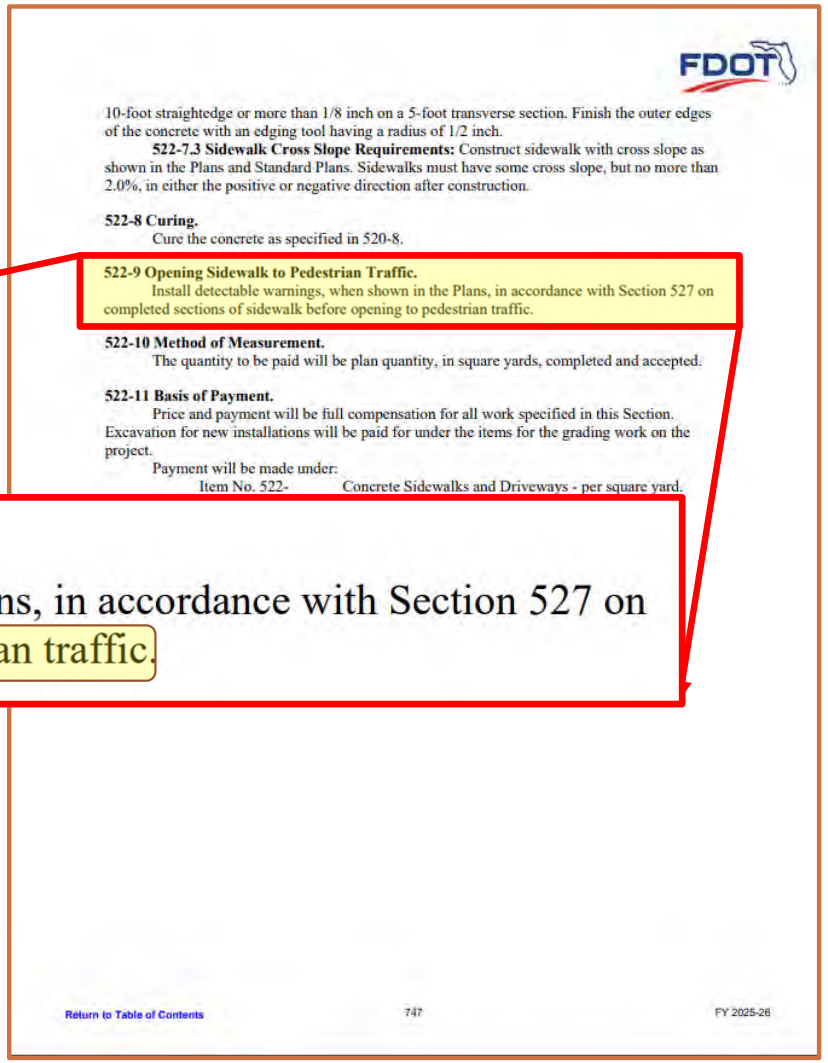
522-4 Foundation.
Shape and compact the foundation materials with suitable equipment to a firm, uniform, smooth, even surface, true to grade and cross-slope that is free of debris and irregularities.
For the following conditions proof roll the graded areas with a vibratory roller or mini plate compactor in such manner that a firm and unyielding foundation is established within 1 foot beyond each side of the sidewalk or driveway, when right-of-way conditions allow:
1. For all fill areas not exceeding 6 inches

database. Compact the material in the remaining fill areas to match the adjacent area density.

522-5 Joints.
Install expansion and contraction joints in accordance with the Plans and the Standard Plans.

522-6 Placing Concrete.
Place the concrete as specified in 520-5.

522-7 Finishing.
522-7.1 Screeding: Strike-off the concrete by means of a wood or metal screed, used perpendicular to the forms, to obtain the required grade and remove surplus water and laitance.
522-7.2 Surface Requirements: Imprint concrete as detailed in the Plans, otherwise provide a broom finish. Ensure that the surface variations are not more than 1/4 inch under a



10-foot straightedge or more than 1/8 inch on a 5-foot transverse section. Finish the outer edges of the concrete with an edging tool having a radius of 1/2 inch.
522-7.3 Sidewalk Cross Slope Requirements: Construct sidewalk with cross slope as shown in the Plans and Standard Plans. Sidewalks must have some cross slope, but no more than 2.0%, in either the positive or negative direction after construction.

522-8 Curing.
Cure the concrete as specified in 520-8.

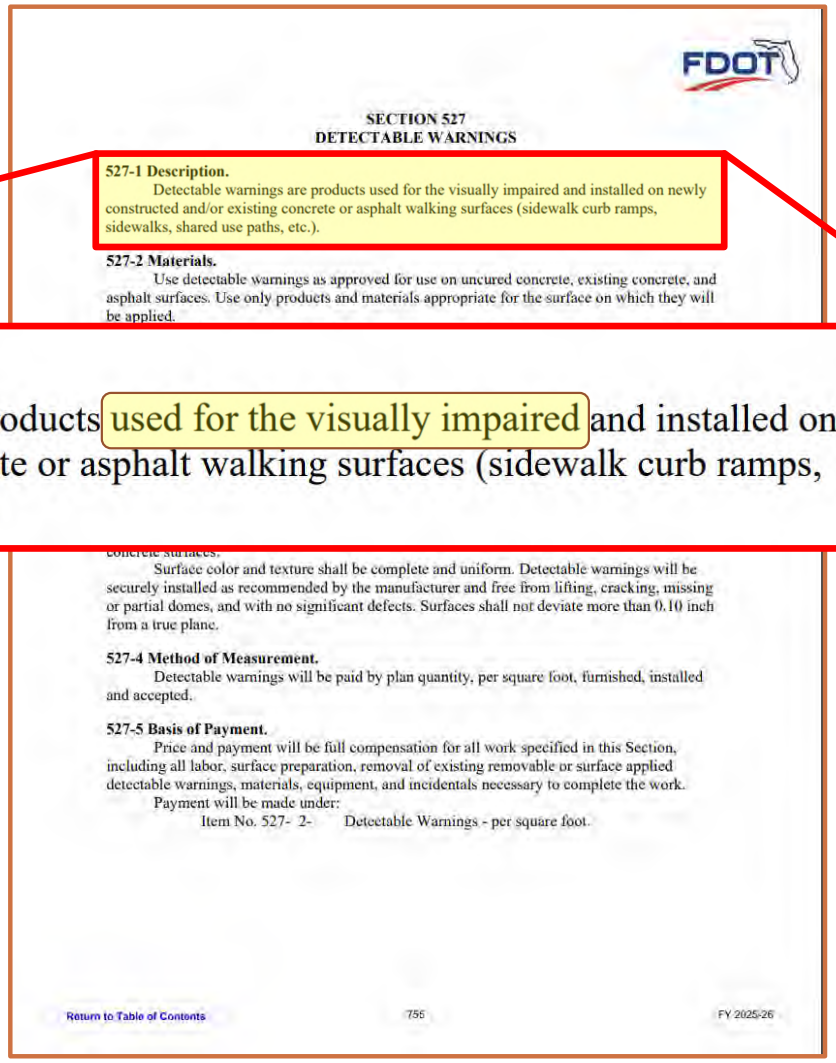
522-9 Opening Sidewalk to Pedestrian Traffic.
Install detectable warnings, when shown in the Plans, in accordance with Section 527 on completed sections of sidewalk before opening to pedestrian traffic.

522-10 Method of Measurement.
The quantity to be paid will be plan quantity, in square yards, completed and accepted.

522-11 Basis of Payment.
Price and payment will be full compensation for all work specified in this Section. Excavation for new installations will be paid for under the items for the grading work on the project.
Payment will be made under:
Item No. 522- Concrete Sidewalks and Driveways - per square yard.

522-9 Opening Sidewalk to Pedestrian Traffic.
Install detectable warnings, when shown in the Plans, in accordance with Section 527 on completed sections of sidewalk before opening to pedestrian traffic.

SECTION 527 – DETECTABLE WARNINGS



SECTION 527
DETECTABLE WARNINGS

527-1 Description.
Detectable warnings are products used for the visually impaired and installed on newly constructed and/or existing concrete or asphalt walking surfaces (sidewalk curb ramps, sidewalks, shared use paths, etc.).

527-2 Materials.
Use detectable warnings as approved for use on uncured concrete, existing concrete, and asphalt surfaces. Use only products and materials appropriate for the surface on which they will be applied.

Surface color and texture shall be complete and uniform. Detectable warnings will be securely installed as recommended by the manufacturer and free from lifting, cracking, missing or partial domes, and with no significant defects. Surfaces shall not deviate more than 0.10 inch from a true plane.

527-4 Method of Measurement.
Detectable warnings will be paid by plan quantity, per square foot, furnished, installed and accepted.

527-5 Basis of Payment.
Price and payment will be full compensation for all work specified in this Section, including all labor, surface preparation, removal of existing removable or surface applied detectable warnings, materials, equipment, and incidentals necessary to complete the work.
Payment will be made under:
Item No. 527- 2- Detectable Warnings - per square foot.

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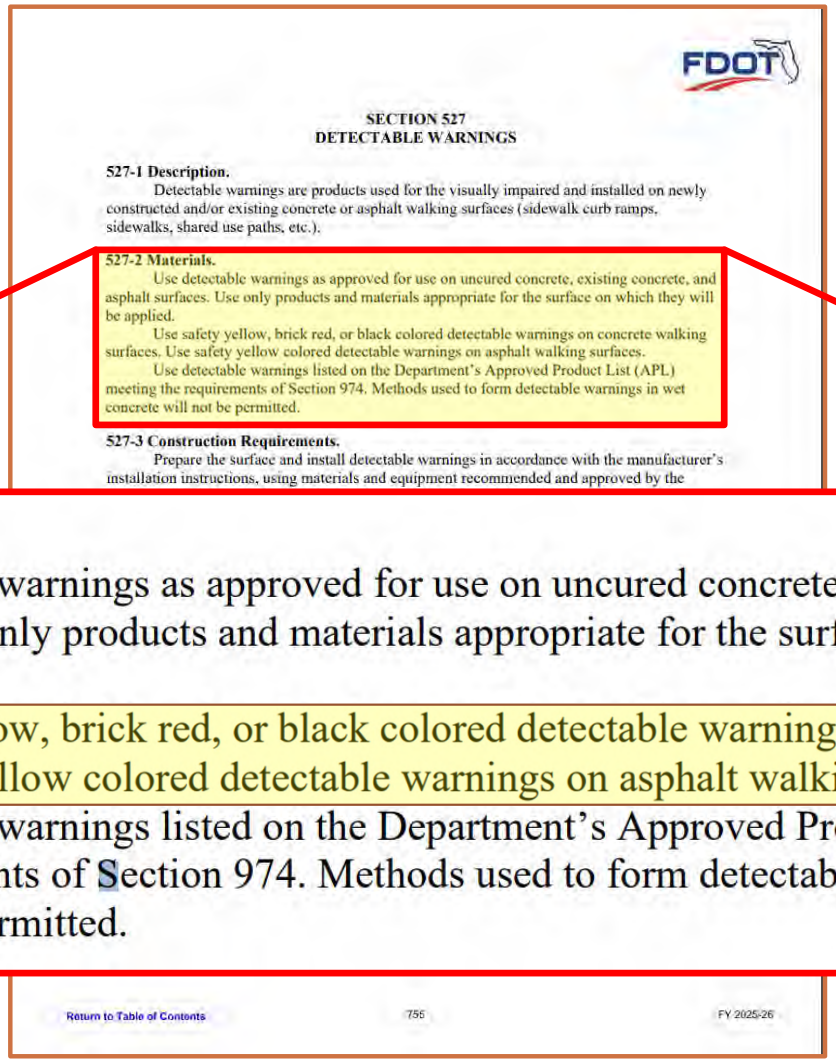
527-1 Description.

Detectable warnings are products used for the visually impaired and installed on newly constructed and/or existing concrete or asphalt walking surfaces (sidewalk curb ramps, sidewalks, shared use paths, etc.).

SECTION 527 – DETECTABLE WARNINGS



SECTION 527
DETECTABLE WARNINGS

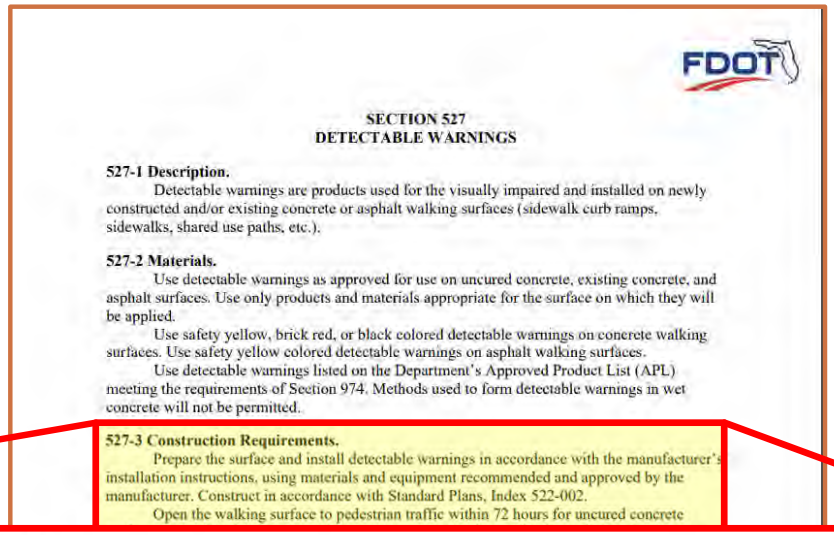
527-1 Description.
Detectable warnings are products used for the visually impaired and installed on newly constructed and/or existing concrete or asphalt walking surfaces (sidewalk curb ramps, sidewalks, shared use paths, etc.).

527-2 Materials.
Use detectable warnings as approved for use on uncured concrete, existing concrete, and asphalt surfaces. Use only products and materials appropriate for the surface on which they will be applied.
Use safety yellow, brick red, or black colored detectable warnings on concrete walking surfaces. Use safety yellow colored detectable warnings on asphalt walking surfaces.
Use detectable warnings listed on the Department's Approved Product List (APL) meeting the requirements of Section 974. Methods used to form detectable warnings in wet concrete will not be permitted.

527-3 Construction Requirements.
Prepare the surface and install detectable warnings in accordance with the manufacturer's installation instructions, using materials and equipment recommended and approved by the

527-2 Materials.
Use detectable warnings as approved for use on uncured concrete, existing concrete, and asphalt surfaces. Use only products and materials appropriate for the surface on which they will be applied.
Use safety yellow, brick red, or black colored detectable warnings on concrete walking surfaces. Use safety yellow colored detectable warnings on asphalt walking surfaces.
Use detectable warnings listed on the Department's Approved Product List (APL) meeting the requirements of Section 974. Methods used to form detectable warnings in wet concrete will not be permitted.

SECTION 527 – DETECTABLE WARNINGS



SECTION 527
DETECTABLE WARNINGS

527-1 Description.
Detectable warnings are products used for the visually impaired and installed on newly constructed and/or existing concrete or asphalt walking surfaces (sidewalk curb ramps, sidewalks, shared use paths, etc.).

527-2 Materials.
Use detectable warnings as approved for use on uncured concrete, existing concrete, and asphalt surfaces. Use only products and materials appropriate for the surface on which they will be applied.
Use safety yellow, brick red, or black colored detectable warnings on concrete walking surfaces. Use safety yellow colored detectable warnings on asphalt walking surfaces.
Use detectable warnings listed on the Department's Approved Product List (APL) meeting the requirements of Section 974. Methods used to form detectable warnings in wet concrete will not be permitted.

527-3 Construction Requirements.
Prepare the surface and install detectable warnings in accordance with the manufacturer's installation instructions, using materials and equipment recommended and approved by the manufacturer. Construct in accordance with Standard Plans, Index 522-002.
Open the walking surface to pedestrian traffic within 72 hours for uncured concrete

527-3 Construction Requirements.

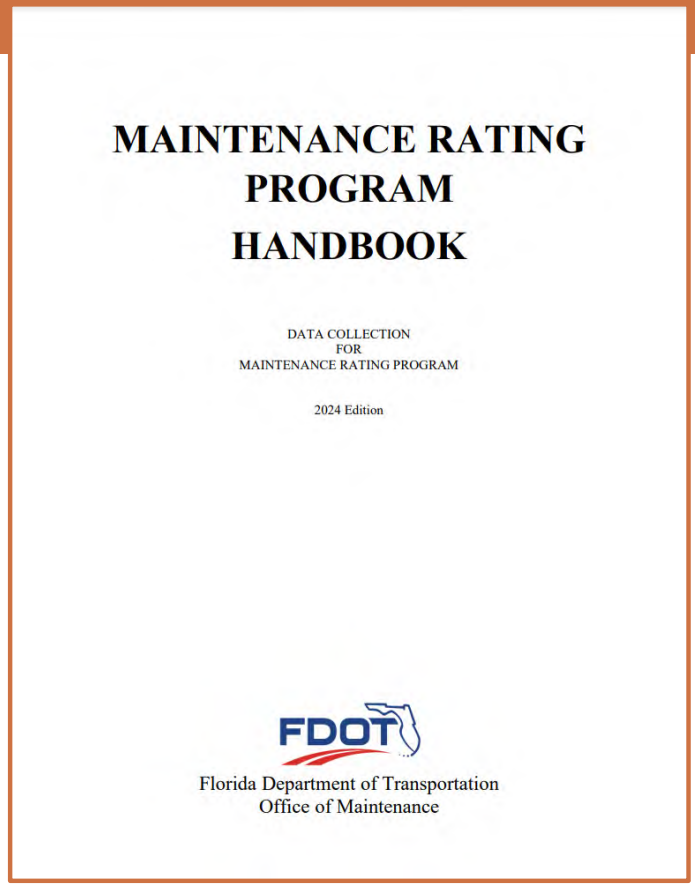
Prepare the surface and install detectable warnings in accordance with the manufacturer's installation instructions, using materials and equipment recommended and approved by the manufacturer. Construct in accordance with Standard Plans, Index 522-002.

Open the walking surface to pedestrian traffic within 72 hours for uncured concrete surfaces. Immediately open the walking surface to pedestrian traffic for asphalt and existing concrete surfaces.

Surface color and texture shall be complete and uniform. Detectable warnings will be securely installed as recommended by the manufacturer and free from lifting, cracking, missing or partial domes, and with no significant defects. Surfaces shall not deviate more than 0.10 inch from a true plane.

SAFETY & ACCESSIBILITY!

- Brief History of the ADA
- FDOT Design Manual (FDM)
- FDOT Standard Plans
- FDOT Standard Specifications
- FDOT Maintenance Rating Program Handbook (MRP)


MAINTENANCE RATING PROGRAM HANDBOOK

DATA COLLECTION FOR MAINTENANCE RATING PROGRAM

2024 Edition

FDOT

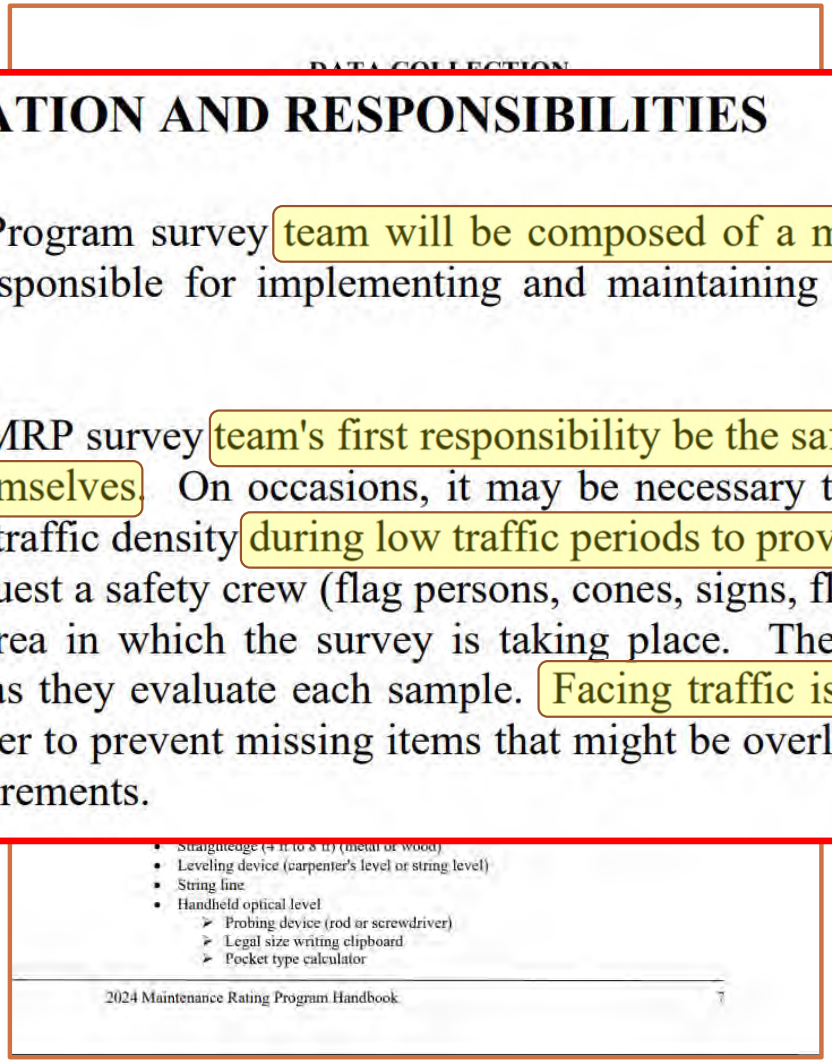
Florida Department of Transportation
Office of Maintenance

MRP: DATA COLLECTION

CREW ORGANIZATION AND RESPONSIBILITIES

A Maintenance Rating Program survey team will be composed of a minimum of two persons. Each district will be responsible for implementing and maintaining the Maintenance Rating Program.

It is mandatory that the MRP survey team's first responsibility be the safety of the pedestrian and motoring public and themselves. On occasions, it may be necessary to schedule the survey of those samples with high traffic density during low traffic periods to provide proper safety. It may become necessary to request a safety crew (flag persons, cones, signs, flashing directional arrow) from the maintenance area in which the survey is taking place. The survey team shall walk together, facing traffic, as they evaluate each sample. Facing traffic is for safety of the survey team and walking together to prevent missing items that might be overlooked by one person and to permit accurate measurements.


- Straightedge (4 ft to 8 ft) (metal or wood)
- Leveling device (carpenter's level or string level)
- String line
- Handheld optical level
  - Probing device (rod or screwdriver)
  - Legal size writing clipboard
  - Pocket type calculator

2024 Maintenance Rating Program Handbook 7

MRP STANDARDS: SIDEWALK

SIDEWALK: 99.5% of sidewalk area is free of vertical misalignments greater than ¼ inch, horizontal cracks greater than ½ inch, or spalled areas greater than ½ inch in depth, and no visible hazards.

Sidewalk – Sidewalk is constructed of various materials and is subject to misalignments caused by growing tree roots, settling or deterioration. This measurement includes the normal sidewalk joint and the sidewalk to curb joint. Sidewalk should be projected across an urban flared paved turnout and that area evaluated as sidewalk. Any bike path located outside the roadway pavement area will be evaluated as sidewalk. Paved utility strips are evaluated as sidewalk if they are intended to be used as sidewalk.

Sidewalk shall not be evaluated across dedicated streets. Spalled areas greater than ½ inch in depth do not meet desired conditions. Uniform deviation from original grade that has vertical misalignments or cracks greater than ¼ inch do not meet desired maintenance conditions. Changes in level up to ½ inch may be beveled with a slope that complies with Fig. 7. For purposes of evaluating this characteristic, one

area. Then multiply the total area by 0.005 to determine the maximum area that can have vertical misalignments greater than ¼ inch or horizontal cracks greater than ½ inch. Measure any rigid objects protruding from concrete sidewalk greater than ¼ inch in height, also measure for single misalignment, or deviations greater than 1½ inches.

SIDEWALK TABLE

Total Length (ft)	Width (ft)	Area (sq ft)	99.5% (sq ft)	0.5% (sq ft)
528	6	3168	3152	16
1056	6	6348	6316	32
528	5	2640	2627	13
1056	5	5280	5254	26
528	4	2112	2101	11
1056	4	4224	4203	21

Sidewalk does not meet MRP standards when the following exist:

1) More than 0.5% of the sidewalk area has vertical misalignments greater than ¼ inch, horizontal cracks greater than ½ inch, or spalled areas greater than ½ inch in depth.

2) Any rigid objects protruding from concrete greater than ¼ inch in height, or any single misalignment, or deviations greater than 1½ inches.

Sidewalk cracking. Measure each horizontal crack greater than ½ inch wide. For MRP purposes, each linear foot of horizontal crack greater than ½ inch equals 1 sq. ft. of crack area. Vertical misalignments greater than ¼ inch equals 1 sq. ft. of crack area.

Sidewalk cracking. Measure each horizontal crack greater than ½ inch wide. For MRP purposes, each linear foot of horizontal crack greater than ½ inch equals 1 sq. ft. of crack area.

Any single vertical misalignment measured greater than 1½ inch would not meet desired maintenance conditions.

SIDEWALK: 99.5% of sidewalk area is free of vertical misalignments greater than ¼ inch, horizontal cracks greater than ½ inch, or spalled areas greater than ½ inch in depth, and no visible hazards.

MRP STANDARDS: SIDEWALK

SIDEWALK: 99.5% of sidewalk area is free of vertical misalignments greater than ¼ inch, horizontal cracks greater than ½ inch, or spalled areas greater than ½ inch in depth, and no visible hazards.

Sidewalk – Sidewalk is constructed of various materials and is subject to misalignments caused by growing tree roots, settling or deterioration. This measurement includes the normal sidewalk joint and the sidewalk to curb joint. Sidewalk should be projected across an urban flared paved turnout and that area evaluated as sidewalk. Any bike path located outside the roadway pavement area will be evaluated as sidewalk. Paved utility strips are evaluated as sidewalk if they are intended to be used as sidewalk.

Sidewalk shall not be evaluated across dedicated streets. Spalled areas greater than ½ inch in depth do not meet desired conditions. Uniform deviation from original grade that has vertical misalignments or cracks greater than ¼ inch do not meet desired maintenance conditions. Changes in level up to ½ inch may be beveled with a slope that complies with Fig. 7. For purposes of evaluating this characteristic, one linear foot of misalignment or cracking not meeting desired conditions equals one square foot of sidewalk area. Do not exceed one linear foot of cracking in a one square foot area. Unsealed joints greater than ½

(ft)	(ft)	(sq ft)	(sq ft)	(sq ft)
528	6	3168	3152	16
1056	6	6348	6316	32
528	5	2640	2627	13
1056	5	5280	5254	26
528	4	2112	2101	11
1056	4	4224	4203	21

Sidewalk does not meet MRP standards when the following exist:

1) More than 0.5% of the sidewalk area has vertical misalignments greater than ¼ inch, horizontal cracks greater than ½ inch, or spalled areas greater than ½ inch in depth.

2) Any rigid objects protruding from concrete greater than ¼ inch in height, or any single misalignment, or deviations greater than 1½ inches.

Sidewalk cracking. Measure each horizontal crack greater than ½ inch wide. For MRP purposes, each linear foot of horizontal crack greater than ½ inch equals 1 sq. ft. of crack area. Vertical misalignments greater than ¼ inch equals 1 sq. ft. of crack area.

Sidewalk – Sidewalk is constructed of various materials and is subject to misalignments caused by growing tree roots, settling or deterioration. This measurement includes the normal sidewalk joint and the sidewalk to curb joint. Sidewalk should be projected across an urban flared paved turnout and that area evaluated as sidewalk. Any bike path located outside the roadway pavement area will be evaluated as sidewalk. Paved utility strips are evaluated as sidewalk if they are intended to be used as sidewalk.

MRP STANDARDS: SIDEWALK

SIDEWALK: 99.5% of sidewalk area is free of vertical misalignments greater than ¼ inch, horizontal cracks greater than ½ inch, or spalled areas greater than ½ inch in depth, and no visible hazards.

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Sidewalk shall not be evaluated across dedicated streets. Spalled areas greater than ½ inch in depth do not meet desired conditions. Uniform deviation from original grade that has vertical misalignments or cracks greater than ¼ inch do not meet desired maintenance conditions. Changes in level up to ½ inch may be beveled with a slope that complies with Fig. 7. For purposes of evaluating this characteristic, one linear foot of misalignment or cracking not meeting desired conditions equals one square foot of sidewalk area. Do not exceed one linear foot of cracking in a one square foot area. Unsealed joints greater than ½ inch do not meet desired maintenance conditions.

For MRP purposes, no rigid objects protruding from concrete greater than ¼ inch in height, or any single misalignment, or deviations greater than 1½ inches.

For MRP purposes if an entire slab is missing in a continuous section of sidewalk, multiply the length of the missing section by the width to get the area missing. For example, if a 5 ft. section of sidewalk 5 ft. wide is missing the area would be 25 sq. ft. If the area missing combined with the total area of cracking

cracks greater than ½ inch, or spalled areas greater than ½ inch in depth.

2) Any rigid objects protruding from concrete greater than ¼ inch in height, or any single misalignment, or deviations greater than 1½ inches.

Sidewalk cracking. Measure each horizontal crack greater than ½ inch wide. For MRP purposes, each linear foot of horizontal crack greater than ½ inch equals 1 sq. ft. of crack area. Vertical misalignments greater than ¼ inch equals 1 sq. ft. of crack area.

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Evaluation: Measure the length of sidewalk and multiply by the width of sidewalk to determine the total area. Then multiply the total area by 0.005 to determine the maximum area that can have vertical misalignments greater than ¼ inch or horizontal cracks greater than ½ inch. Measure any rigid objects

2) Any rigid objects protruding from concrete greater than ¼ inch in height, or any single misalignment, or deviations greater than 1½ inches.

Sidewalk cracking. Measure each horizontal crack greater than ½ inch wide. For MRP purposes, each linear foot of horizontal crack greater than ½ inch equals 1 sq. ft. of crack area. Vertical misalignments greater than ¼ inch equals 1 sq. ft. of crack area.

Sidewalk cracking. Measure each horizontal crack greater than ½ inch

Any single vertical misalignment measured greater than 1½ inch would

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MRP STANDARDS: SIDEWALK

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MRP STANDARDS: SIDEWALK

Sidewalk cracking. Measure each horizontal crack greater than ½ inch wide. For MRP purposes, each linear foot of horizontal crack greater than ½ inch equals 1 sq. ft. of crack area.

Any single vertical misalignment measured greater than 1¼ inch would not meet desired maintenance conditions.

1/4"

MRP STANDARDS: SIDEWALK

These pictures are examples of utility strips that have been paved with brick and concrete. For MRP purposes these areas should be rated as sidewalk.

MRP STANDARDS: SIDEWALK

This is an urban flared turnout. The sidewalk should be projected across the turnout and evaluated as sidewalk. In this case turnout would not be evaluated.

Rigid objects protruding from concrete greater than ¼ inch in height.

MRP STANDARDS: SIDEWALK

ADA

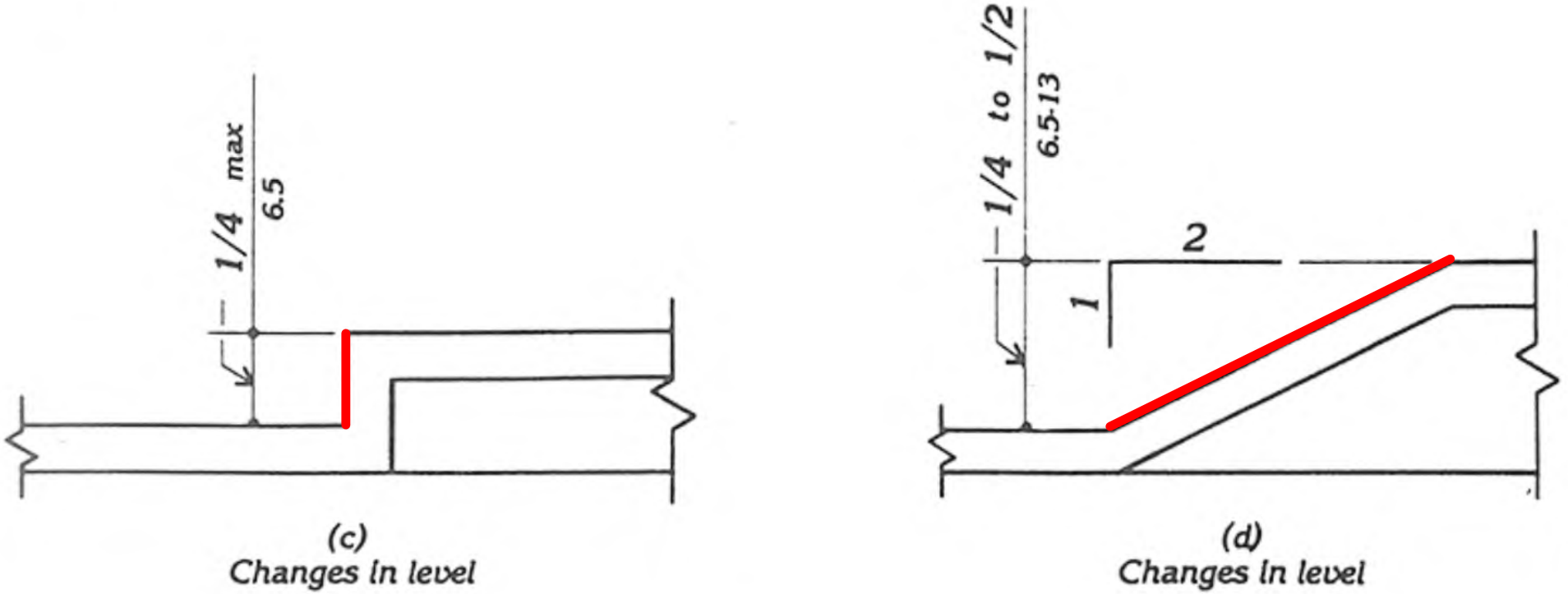


Fig. 7
Accessible Route

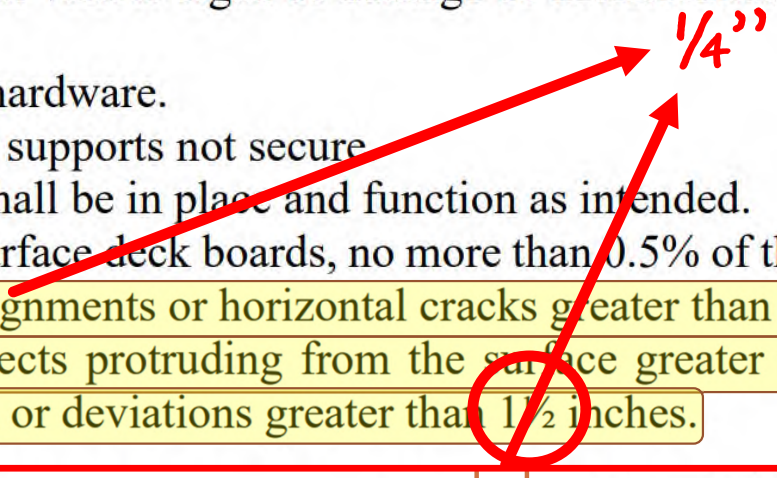
MRP STANDARDS: SIDEWALK

Wooden sidewalks/boardwalks: All wooden/sidewalks/boardwalks within the right-of-way, maintained by the department, shall be included in the sidewalk evaluation.

Evaluation: The evaluation shall include inspection of support pilings/posts, "X" bracing (if installed), hardware (nuts, bolts, washers, and fasteners), spindles (if installed), handrails (wood or pipe), and surface deck boards.

Wood sidewalks / boardwalks do not meet MRP standards when the following exists;

1) Any significant visible signs of damage or deterioration of support piling, post. "X" or cross bracing.
2) Any missing hardware.
3) Handrails and supports not secure.
4) All spindles shall be in place and function as intended.
5) No missing surface deck boards, no more than 0.5% of the surface deck boards are loose, have vertical misalignments or horizontal cracks greater than ½ inch.
6) Any rigid objects protruding from the surface greater than ¼ inch in height, or any single misalignment, or deviations greater than 1½ inches.



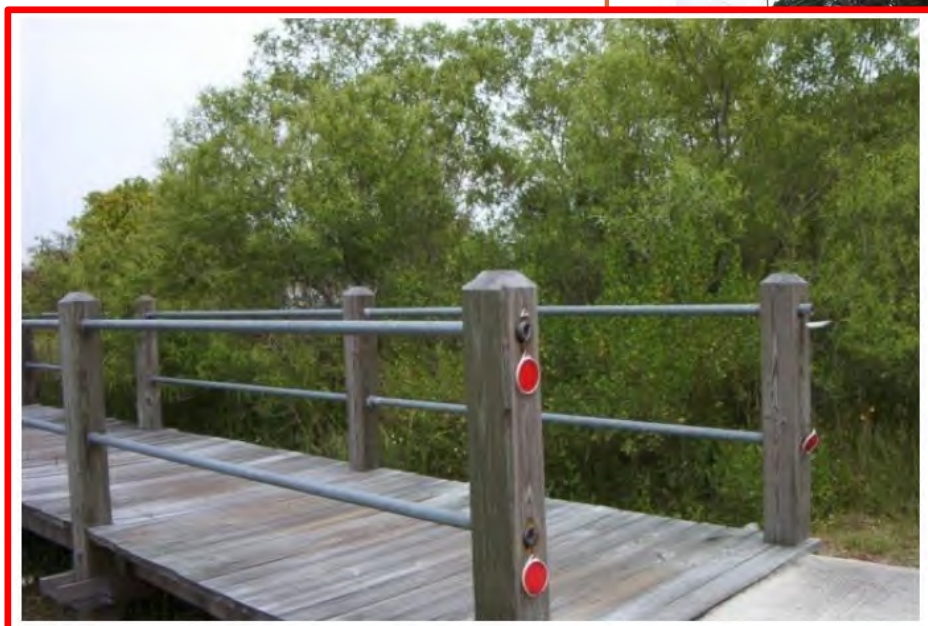
MRP STANDARDS: SIDEWALK

Wood sidewalk / boardwalk

Spindles or pickets on handrail

Surface deck boards with misalignments.

MRP STANDARDS: SIDEWALK



Pipe handrail

Wood with pipe handrail

Surface deck boards with misalignments.

MRP STANDARDS: SIDEWALK

Support piling / post with bracing.

Deterioration of supports.

Surface deck boards with misalignments.

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MRP STANDARDS: SIDEWALK

Surface deck boards with misalignments.

MRP STANDARDS: HANDRAIL

Handrail – Handrail is installed to protect pedestrians from drop-offs adjacent to sidewalk.

Evaluation: Visually determine the general condition of the handrail within the sample. Check for bent or misaligned handrail as well as missing, cracked, or broken hardware, neoprene/resilient pads or obvious missing sections. Fence attached to the handrail must be in place and securely fastened to meet desired maintenance conditions.

Each single run of handrail does not meet MRP standards when any of the following exist:

1) The handrail is not secured in place, bent or misaligned and does not function as intended.
2) One or more anchor bolts, nuts, or neoprene/resilient pads are missing on the base plate.
3) Missing, cracked, or broken hardware.
4) If fence is attached to the handrail, the fence must be in place and securely fastened to the handrail.
5) It is obvious that handrail was installed but is now missing.

Handrail – Handrail is installed to protect pedestrians from drop-offs adjacent to sidewalk.

MRP standards.

MRP STANDARDS: HANDRAIL

Handrail – Handrail is installed to protect pedestrians from drop-offs adjacent to sidewalk.

Handrail meets desired maintenance conditions.

Missing handrail, this does not meet MRP standards.

MRP STANDARDS: HANDRAIL

Picket railing protecting drop-off next to sidewalk.

Picket railing missing steel sleeve at expansion joint. This does not meet MRP standards.

MRP STANDARDS: HANDRAIL

Handrail – Handrail is installed to protect pedestrians from drop-offs adjacent to sidewalk.

Evaluation: Visually determine the general condition of the handrail within the sample. Check for bent

Handrail meets desired maintenance conditions.

Cracked or broken hardware would not meet desired maintenance conditions.

MRP STANDARDS: HANDRAIL

Handrail – Handrail is installed to protect pedestrians from drop-offs adjacent to sidewalk.

Broken welds will not meet desired maintenance conditions.

Handrail with wired mesh meets desired maintenance conditions.

MRP STANDARDS: SIGNS

Sign Height:

1. Roads with curb and gutter:
   7 feet minimum height measured from top of curb to bottom of sign (measure from sidewalk, if present).

2. Roads without curb and gutter:
   5 feet minimum height measured from edge of driving lane to bottom of sign.

3. Limited access ramps:
   6 feet minimum height measured from edge of driving lane to bottom of sign.

4. Limited access medians:
   7 feet minimum height measured from edge of driving lane to bottom of sign.

5. Limited access roads:
   7 feet minimum height measured from edge of driving lane to bottom of sign.

MRP STANDARDS: SIGNS

SIGNS LESS THAN OR EQUAL TO 30 SQ. FT. 95% of the signs are functioning as intended.

SIGNS GREATER THAN 30 SQ. FT. 85% of the signs are functioning as intended.

Sign Lateral Clearance:

1. Rural roads, urban roads and limited access ramps:
   12 feet minimum offset from edge of driving lane and where 12 feet cannot be met.
   6 feet minimum from edge of paved shoulder to edge of sign.

2. Limited access mainline:

Sign Lateral Clearance:

1. Rural roads, urban roads and limited access ramps:
   12 feet minimum offset from edge of driving lane and where 12 feet cannot be met.
   6 feet minimum from edge of paved shoulder to edge of sign.

2. Limited access mainline:
   40 feet minimum offset from edge of mainline driving lane to edge of sign.

3. Roads with curb and gutter:
   2 feet minimum offset from face of curb to edge of sign.

4. Signs behind guardrail:
   2 feet minimum from the face of the rail to the edge of sign.

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NOTES:

1) Highway signs shall be evaluated using two characteristics:
   - Ground signs greater than 30 square feet (including all over-lane signs).
   - Ground signs 30 square feet or less.
2) **MRP definition of a secondary sign:** A secondary sign is mounted below a primary sign and its message is not related to the primary sign message. Example: A "Do Not Block Intersection" sign mounted with a no U-turn sign below it.
3) The height to the bottom of a secondary sign mounted below another sign may be one foot less than the appropriate height except where signs are over sidewalks (a route marking assembly consisting of a route marker with an auxiliary plate is treated as a single sign).
4) Do not rate overhead school signs or county/city signs on signal cables.
5) Do not rate logo signs.
6) Do not rate wildflower signs.
7) For purposes of these guidelines, a turn lane will be considered a driving lane. Merge, rest area, signs on islands and exit gore signs shall be evaluated according to the Standard Plans.
8) If it is obvious the minimum lateral clearance cannot be met, the sign shall be considered to meet acceptable maintenance conditions. The presence of sidewalk by itself shall not be considered a reason a sign cannot meet the minimum lateral clearance.
9) A sign less than 30 square feet mounted to a sign greater than 30 square feet is evaluated as part of the sign greater than 30 square feet.
10) For MRP purposes, two post installations with round aluminum tubing less than or equal to 3 ½ inches meets maintenance conditions.
11) Signs in the median, as outlined in the Standard Plans are not evaluated for lateral clearance.
12) Do not rate slip bases for shims.
13) Retroreflective strips for signs - The retroreflective sign strips must be fastened in a manner that does not require drilling of holes in the column. Retroreflective sign strips must be 2 inches in width and a height of 5 feet for all signs except for when signs are mounted at 4 feet, then retroreflective sign strip will be 2 feet in height. Match the color of the retroreflective sheeting to the background color of the sign except for YIELD signs and DO NOT ENTER signs, where the color must be red.

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MRP STANDARDS: ROADWAY SWEEPING

These photos depict valley gutter which should be rated for roadway sweeping.

MRP STANDARDS: ROADWAY SWEEPING

ROADWAY SWEEPING: Material accumul
foot in the trave
continuous foot i

Roadway Sweeping – This characteristic appli
urban limited access roadways. It also applies
of State Roads.

Do not rate curb inlet throats for sweeping.

In areas with curb and gutter and sidewalk, rate
with curb and gutter and no sidewalk, do not ra

Items evaluated as litter will not be included in

Evaluation: Review urban limited access ro
all curb and gutter, all valley gutter, all barrier
buildup. Measure the depth and length of any b
it does not meet desired maintenance condition

Roadway Sweeping does not meet MRP stand

1) The accumulation of material is greate
way.
2) The material accumulation exceeds 1½
gutter, or paved shoulder urban limited
3) Material accumulation exceeds ¾ inch

These pictures show example of sand buildup
sidewalk. Sweeping should be rated around t

2024 Maintenance Rating Program Handbook

Material accumulation exceeds ¾ inch deep at marked pedestrian crossings and would not meet MRP standards.

y sweeping.

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MRP STANDARDS: VEGETATION AND AESTHETICS

FLORIDA DEPARTMENT OF TRANSPORTATION
MAINTENANCE RATING PROGRAM STANDARDS

VEGETATION AND AESTHETICS

THE FOLLOWING CHARACTERISTICS MEET THE DESIRED MAINTENANCE CONDITIONS WHEN:

ROADSIDE MOWING: No more than 1% of vegetation exceeds (varies) inches high. This excludes allowable seed stalks and decorative flowers allowed to remain for aesthetics.

RURAL LIMITED ACCESS	5 inches – 18 inches
RURAL ARTERIAL	5 inches – 12 inches
URBAN LIMITED ACCESS	5 inches – 12 inches
URBAN ARTERIAL	9 inches maximum

TREE TRIMMING: No encroachment of trees, tree limbs or vegetation in or over travel way or clear zone, lower than 14½ feet or lower than 8½ feet over sidewalks and curb and gutter clear zones. No vegetation shall violate the horizontal clearance as defined by this standard.

inches for more than 10 continuous feet.
No deviation of soil of more than 4 inches above or 2 inches below the top of curb or sidewalk for more than 10 continuous feet.

LITTER REMOVAL: The volume of litter does not exceed 3 cubic feet per acre excluding all travel way pavement. No unauthorized graffiti/stickers within the state right-of-way on state owned property. No litter hazards are present in the roadway or on the paved shoulder, or clear recovery zone.

TURF CONDITION: Turf in the mowing area is 75% free of undesired vegetation. Unwanted vegetation found growing on or out of Mechanically Stabilized Earth (MSE) and Sound Wall greater than 6 inches in length and in 8 separate locations, and / or no more than 7-1/2 square feet of unwanted vegetation for any 50 square foot area of paved shoulder, pavement joints, concrete traffic separators, curb/asphalt joints and under guardrail. No vegetation exists causing damage or displacement to the evaluated asset structure. Vegetation damage is defined as defects both greater than 0.5 square feet in area and deeper than 1½ inches when measured. Vegetation displacement is defined as vertical, horizontal, or lateral movement in an MSE / Sound Wall of more than 1 inch or in a Pavement Structure of more than 2 inches.

VEGETATION AND AESTHETICS

ROADSIDE MOWING: No more than 1% of vegetation exceeds (varies) inches high. This excludes allowable seed stalks and decorative flowers allowed to remain for aesthetics.

FACILITY TYPE	CLASSIFICATION	DESIRED HEIGHT
1	Rural Limited Access	5 inches – 18 inches
2	Rural Arterial	5 inches – 12 inches
3	Urban Limited Access	5 inches – 12 inches
4	Urban Arterial	9 inches maximum

Roadside Mowing – This characteristic is the control of planted or natural grasses and vegetation for protection of soil shoulders and slopes, safety and aesthetics purposes.

Evaluation: Calculate the mowing area in the sample point. Determine the area of vegetation above the standard height by measuring with a rule or stick marked at the appropriate heights. Calculate the area of the

Except for turf mowed by adjoining property owner, turf mowed at less than 5 inches on Facility Types 1, 2 and 3 does not meet desired maintenance conditions.

Do not evaluate mowing areas where wet conditions prevent mowing.

Do not evaluate mowing in areas of natural occurring or designated wildflower planting areas. Mowing should be evaluated by roadway (one pass) and outside the planted or natural area of wildflowers.

Roadside Mowing does not meet MRP standards when any of the following exist:

1) More than 1% of the vegetation varies from the standard height.
2) The turf is mowed less than 5 inches on facility types 1, 2 and 3, except turf mowed by adjoining property owner.

MRP STANDARDS: VEGETATION AND AESTHETICS

TREE TRIMMING: No encroachment of trees, tree limbs or vegetation in or over the travel way or clear zone lower than 14½ feet or lower than 8½ feet over sidewalks and curb and gutter clear zones. No vegetation violates the horizontal clearance as defined by this standard.

present a hazard to vehicles, adjacent property owners or pedestrians does not meet desired conditions.

For MRP purposes, trees to be evaluated should have a diameter greater than 4 inches as measured 6 inches above the ground. Also evaluated for tree trimming, are tree limbs greater than 1 inch in diameter greater than 3 feet above the ground.

In areas with curb and gutter, there should be no vegetation over the roadway lower than 14½ feet from the face of curb to the face of curb.

In areas without curb and gutter, there should be no tree or tree limbs over the roadway and shoulder lower than 14½ feet.

In cases where guardrail is present, there should be no vegetation lower than 14½ feet from the face of guardrail. In areas with sidewalk, there should be no encroachment of trees, tree limbs or vegetation over the sidewalk lower than 8½ feet.

In an area with a bike path, there should be no encroachment of trees, or tree limbs over the bike path lower than 8½ feet.

Rate trees in all landscape areas for tree trimming.

Tree trimming does not meet MRP standards when any of the following exist:

1) In curb and gutter areas, vegetation is lower than 14½ feet over the roadway from the face of curb to the face of curb.
2) In areas without curb and gutter, vegetation over the roadway and shoulder is lower than 14½ feet.
3) In areas with guardrail, trees or tree limbs are lower than 14½ feet from face of guardrail.
4) Vegetation encroachment of trees, tree limbs or vegetation over the sidewalk is lower than 8½ feet.
5) Dead or dying trees within the right-of-way that could fall in the clear zone, across the right-of-way fence or present a hazard to vehicles, adjacent property owners or pedestrians.
6) Trees and/or vegetation that obscure the message of a sign.
7) Encroachment of trees, tree limbs or vegetation over a bike path lower than 8½ feet.

Trees, tree limbs or vegetation should be no lower than 8½ feet over sidewalk. This does not meet MRP standards.

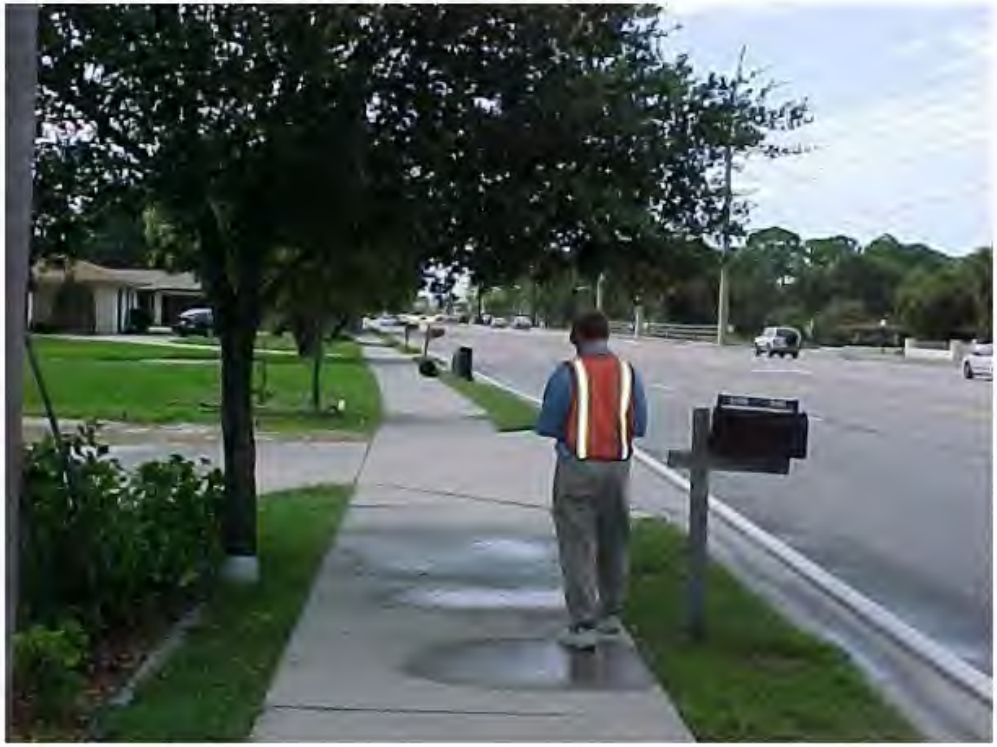
This tree limb appears lower than 8½ feet over the sidewalk. This does not meet MRP standards.

Examples of trees over roadway if measured lower than 14½ feet it would not meet MRP standards.

Landscape areas should be rated under the tree trimming characteristic.

MRP STANDARDS: VEGETATION AND AESTHETICS

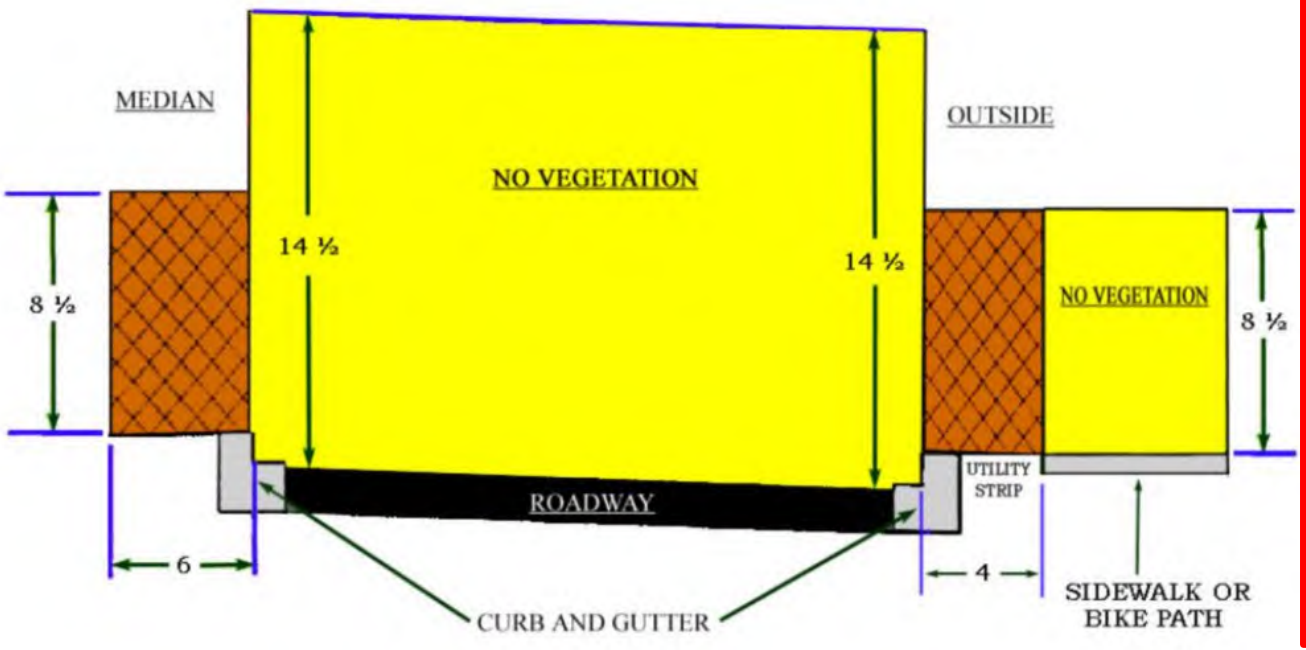
Trees, tree limbs or vegetation should be no lower than 8½ feet over sidewalk. This does not meet MRP standards.



This tree limb appears lower than 8½ feet over the sidewalk. This does not meet MRP standards.

MRP STANDARDS: VEGETATION AND AESTHETICS

CLEAR ZONE VEGETATION CRITERIA



e than 6 inches onto the curb or

2 inches below the top of curb or

erformed for safety and aesthetic
zard.

ly evaluate sidewalks within the

MRP STANDARDS: VEGETATION AND AESTHETICS

Curb/Sidewalk Edging does not meet MRP standards when any of the following exist:

1) Any encroachment of vegetation or debris for more than 6 inches onto the curb or sidewalk for more than 10 continuous feet.
2) Any encroachment of vegetation more than 6 inches over the curb or sidewalk for 10 continuous feet.
3) Any deviation of soil of more than 4 inches above the top of curb or sidewalk for more than 10 continuous feet.
4) Any deviation of soil more than 2 inches below the top of curb or sidewalk for more than 10 continuous feet.
5) Any defect (not covered by another characteristic) within the clear zone or to the front edge of sidewalk, whichever is greater, and more than ½ square foot in area with a depth of 6 inches or greater.
6) Any encroachment of vegetation or debris for more than 6 inches onto a bike path for more than 10 continuous feet.
7) Any deviation of soil more than 4 inches above the bike path for more than 10 continuous feet.
8) Any deviation of soil more than 2 inches below the bike path for more than 10 continuous feet.

These pictures are examples of vegetation growing over the sidewalk. This obstructs the use of the sidewalk by pedestrians. If there is encroachment of vegetation onto the sidewalk more than 6 inch it does not meet MRP standards.

MRP STANDARDS: VEGETATION AND AESTHETICS

This is an example of a sidewalk that meets MRP standards for curb/sidewalk edging.

MRP STANDARDS: VEGETATION AND AESTHETICS

This vegetation is encroaching onto the sidewalk more than 6 inches for a continuous 10 feet. This does not meet MRP standards for curb/ sidewalk edging.

This vegetation is encroaching the curb more than 6 inches for more than 10 feet. This does not meet MRP standards for curb/sidewalk edging.

MRP STANDARDS: VEGETATION AND AESTHETICS

This vegetation encroachment on the sidewalk does not meet MRP standards for curb/sidewalk edging.

This is a soil buildup greater than 4 inches in the utility strip. It is built up more than 10 continuous feet and, therefore, does not meet MRP standards.

MRP STANDARDS: VEGETATION AND AESTHETICS

These pictures are examples of vegetation growing over the sidewalk. This obstructs the use of the sidewalk by pedestrians. If there is encroachment of vegetation onto the sidewalk more than 6 inch it does not meet MRP standards.

MRP STANDARDS: LITTER REMOVAL

LITTER REMOVAL: The volume of litter does not exceed 3 cubic feet per acre excluding all travel way pavement. No unauthorized graffiti/stickers within the state right-of-way on state owned property. No litter hazards are present in the roadway or on the paved shoulder.

Litter Removal – Removal of litter and graffiti from roadway and roadside areas is performed for aesthetic and safety reasons. It is desired to present a pleasing appearance to the motoring and pedestrian traffic but is more important to provide safety. Litter in roadway and on paved shoulders presents an increased possibility of hazards to the traveling public.

Litter or debris may consist of varied sizes of bottles, cans, paper, tires, tire pieces, lumber, building materials, furniture, household items, dead animals, livestock, vehicle parts, metal junk, fallen trees, tree limbs greater than 1 inch in diameter, brush, campaign and advertising signs, and other debris.

Evaluation: The evaluation area for litter includes the mowing areas, parking areas, paved shoulders, crossovers, all medians, sidewalks, bike paths, driveways, traffic separators, gutters, travel way, and drainage structures. The evaluation area for unauthorized graffiti and/or stickers is all surfaces on state owned property within the right-of-way.

Do not include the volume of litter in the portion of the right-of-way that is continually under water.

Litter in the roadway, on the paved shoulder, or clear recovery zone has the potential of being a hazard. For MRP purposes; a hazard is defined as the following:

- In the roadway or on the paved shoulders any object greater than ½ square foot in area and exceeds ½ inch in height.
- Any rigid object above the ground greater than 4 inches in height located in the clear recovery zone.

Note: If the hazard is in the roadway it should be called into the local maintaining maintenance unit, if it can be removed safely from the roadway by the rating team, the object should be placed in a safer location, and rate the characteristic "N" for not meeting.

Items (leaves, bagged trash, tree-trimming residue) that appear to be those which will be picked up during the normal waste collection process will not be considered as litter.

Litter Removal does not meet MRP standards when any of the following exist:

1. There is more than 3 cubic feet of litter per acre within the right-of-way of the sample point.
2. Any object in the roadway, paved shoulder, or sidewalk greater than ½ sq. ft. in area, and exceeds ½ inch in height.
3. Any rigid object above the ground greater than 4 inches in height located in the clear recovery zone.
4. Any form of unauthorized graffiti on any state-owned surface within the right-of-way.
5. 4 or more stickers on any state-owned surface within the right-of-way of the sample point.

MRP STANDARDS: UNDESIRABLE VEGETATION

Note that this area has vegetation growing around the tree within the sidewalk/utility area. Turf and possibly Curb/Sidewalk Edging would be evaluated for this instance.

MRP STANDARDS: UNDESIRABLE VEGETATION

Area may not meet maintenance conditions if more than 7½ square feet of unwanted vegetation for any 50 square foot area of curb/asphalt joint and curb/sidewalk joint.

SAFETY & ACCESSIBILITY!

How do you contact me?

Randy E. (Brad) Bradley II, P.E.

Office of Design / Project Management

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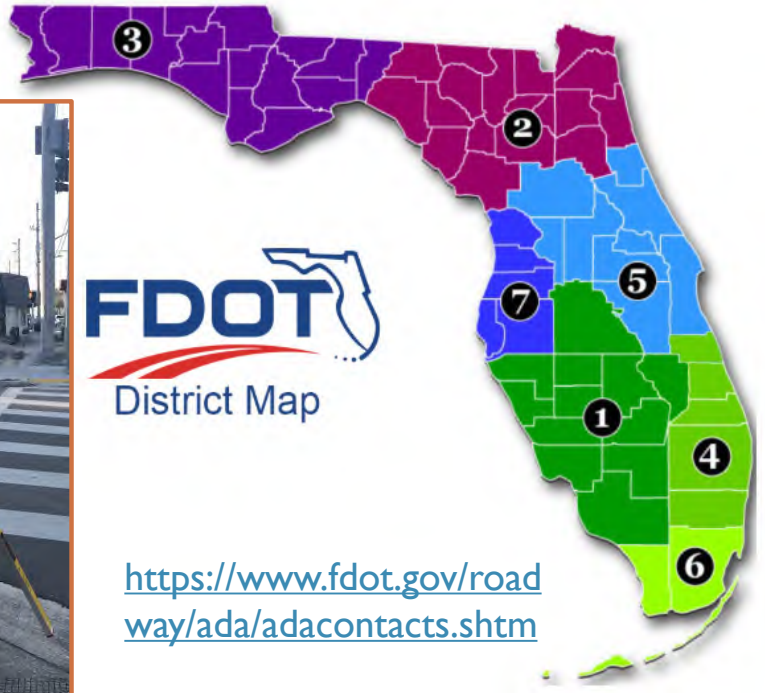

FDOT District Map

https://www.fdot.gov/roadway/ada/adacontacts.shtm

FDOT