Orlando, FL

November 7-8, 2024

2024 TRANSPORTATION SYMPOSIUM

ADA for Design, Construction & Maintenance

Brad Bradley, FDOT

Carey Shepherd, FHWA

FDOT

safety & accessibility!

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

TRANSPORTATION SYMPOSIUM

safety & accessibility!

- **Brief History of the ADA**
- **FDOT Design Manual (FDM)**
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Capitol Crawl

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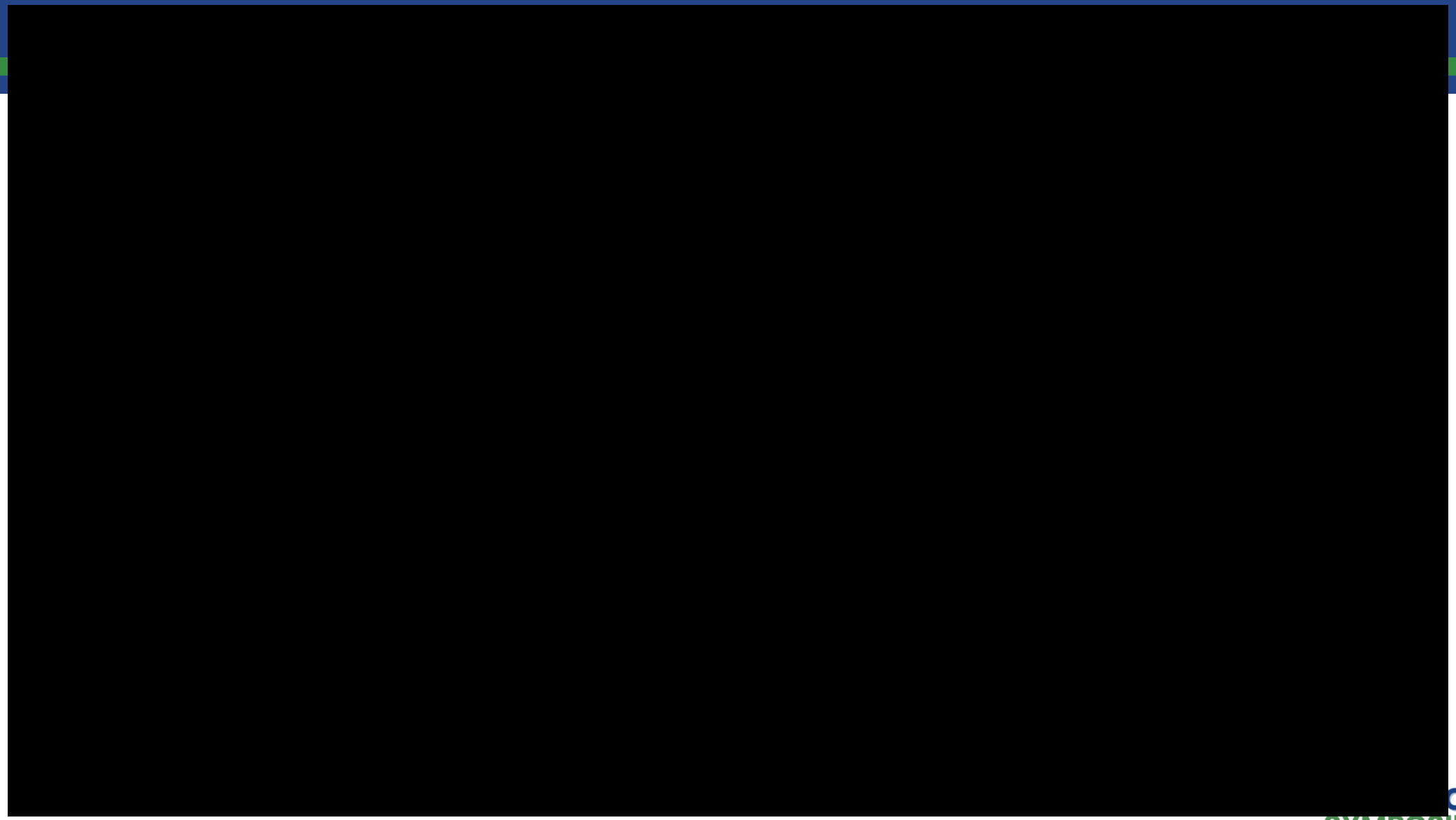
Capitol crawl

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

TRANSPORTATION SYMPOSIUM



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 Florida = FGB

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What's New with ADA

- GSA adopted PROWAG in 07/2024, establishing law for federally owned/operated facilities. This includes FHWA-Federal Lands, but not FHWA-Federal Aid.
- USAB published the PROWAG Final Rule in 08/2024, indicating significant movement toward nationwide applicability.
- USDOT NPRM comment period closed in 09/2024 for adoption of PROWAG as it applies to construction or alteration of transit stops.
- USAB issued NPRM in 09/2024 for EV Charging Stations, which would effectively amend ADAAG (1990) and ABA (1968). Comments due by 11/4/2024 via Fed Register or by emailing docket@access-board.gov.
- USDOJ has not yet issued a NPRM for adoption of PROWAG for all public rights of way.

Is PROWAG the Law of the Land?

- PROWAG is not yet law. It will not become enforceable until USDOJ and USDOT adopt accessibility standards through their own NRPM procedures.
- *However*, in Florida, this makes no difference, as we allow only two standards:
  - FDOT Design Manual – *applies to facilities on the state highway system*
  - Florida Greenbook – *applies to facilities on local roadways*
- These sources are substantially compliant with PROWAG.
- FDOT & the Greenbook Committee continuously scrub Florida standards to identify unmet needs, inconsistencies, or elements that impact safety/accessibility.

safety & accessibility!

- Brief History of the ADA
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- FDOT Standard Specifications
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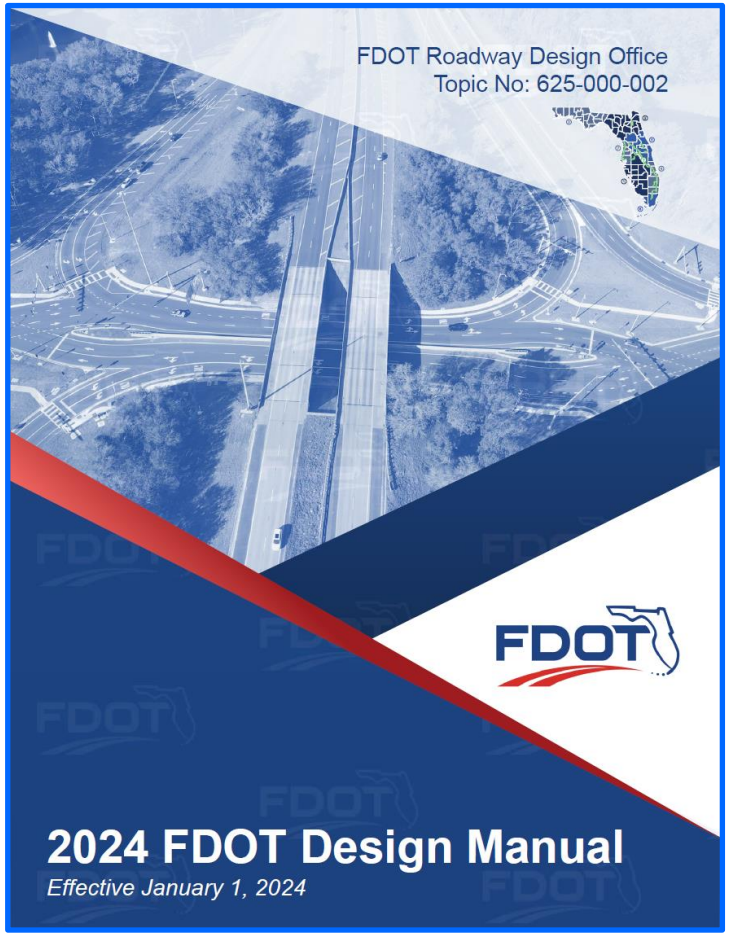


TRANSPORTATION SYMP

FDOT

FGB 8.A

FL Greenbook Ch. 8

Refer to latest editions and other chapters!

Fdm 222
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**.

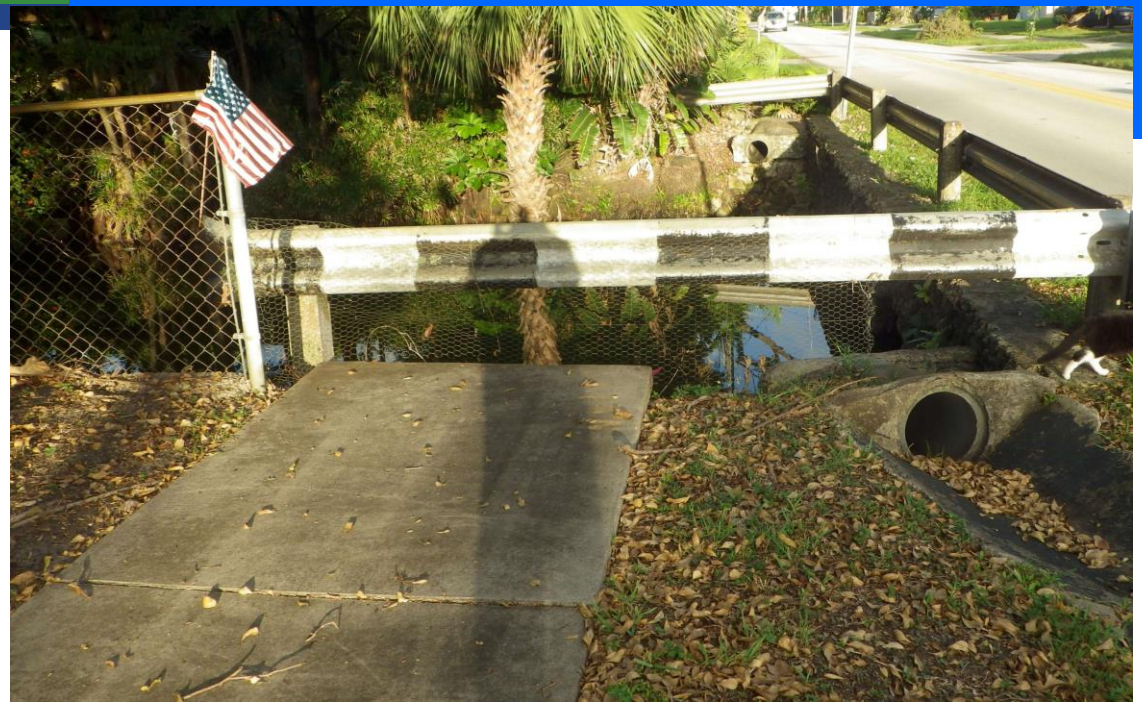
(2) The cost of providing pedestrian facilities would be **excessively disproportionate** to the need or probable use.

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

TRANSPORTATION SYMPOSIUM

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**.

(4) Providing **adequate lighting**.

Functional End-Point!

Applies during TTC too!

TRANSPORTATION SYMPOSIUM

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***.

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!

What is the required width of Florida sidewalks?

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

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

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:

- **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**

When FULL Compliance is not achievable...

Exhaust all other options FIRST!

TRANSPORTATION SYMPOSIUM

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!

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]

TRANSPORTATION SYMPOSIUM

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***.

TRANSPORTATION SYMPOSIUM

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.

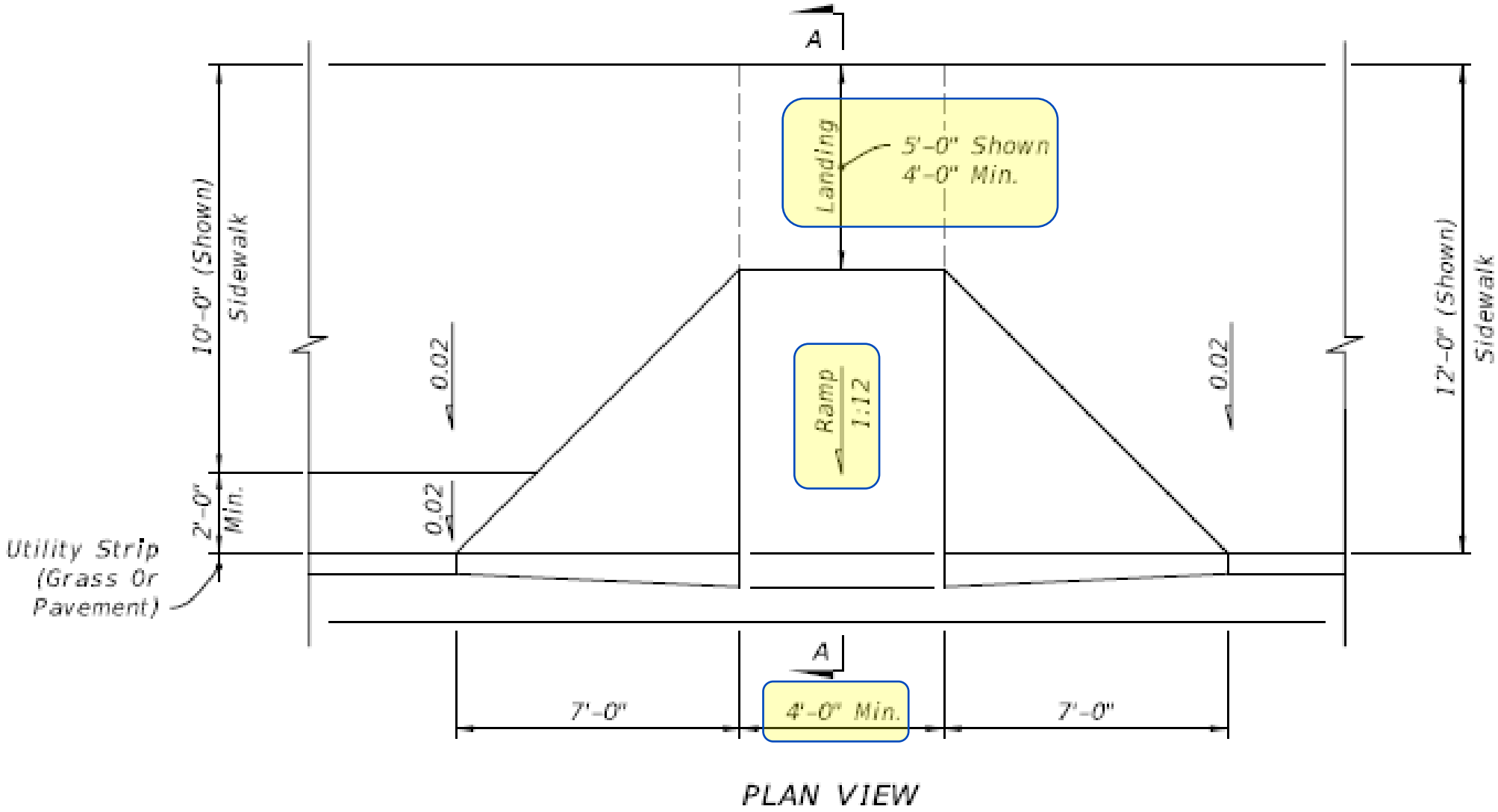
A **continuous accessible pedestrian route**, **including curb ramps** and **blended transitions** (e.g., depressed corners, raised street crossings, flush roadway connections) are **required** along **sidewalks** and **shared use paths**.

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

MUST condition!

TRANSPORTATION SYMPOSIUM

INDEX – 522-002 SHEET 2 OF 7



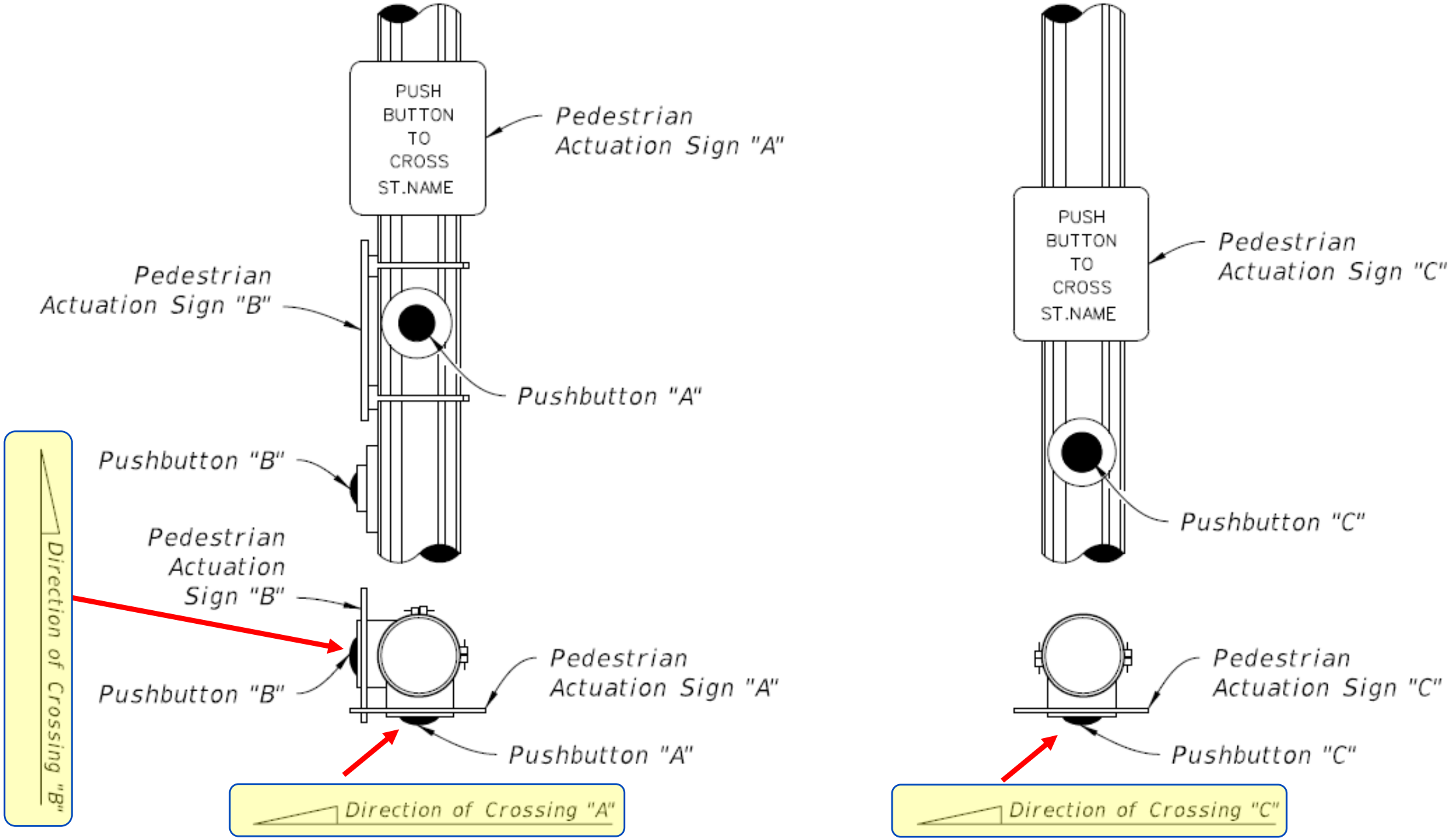
PLAN VIEW

SIDEWALK CURB RAMPS CR-A AND CR-B

LAST REVISION	REVISION	DESCRIPTION:	FDOT	FY 2024-25 STANDARD PLANS	DETECTABLE WARNINGS AND SIDEWALK CURB RAMPS	INDEX	SHEET
11/01/20						522-002	2 of 7


DIXIE HWY
PUSH
BUTTON
WAIT FOR
WALK
SIGNAL


TIME REMAINING
To Finish Crossing
STEADY
DON'T CROSS
PUSH BUTTON
TO CROSS
Columbus Dr
E Columbus
900 Dr 800


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"

TRANSPORTATION SYMPOSIUM

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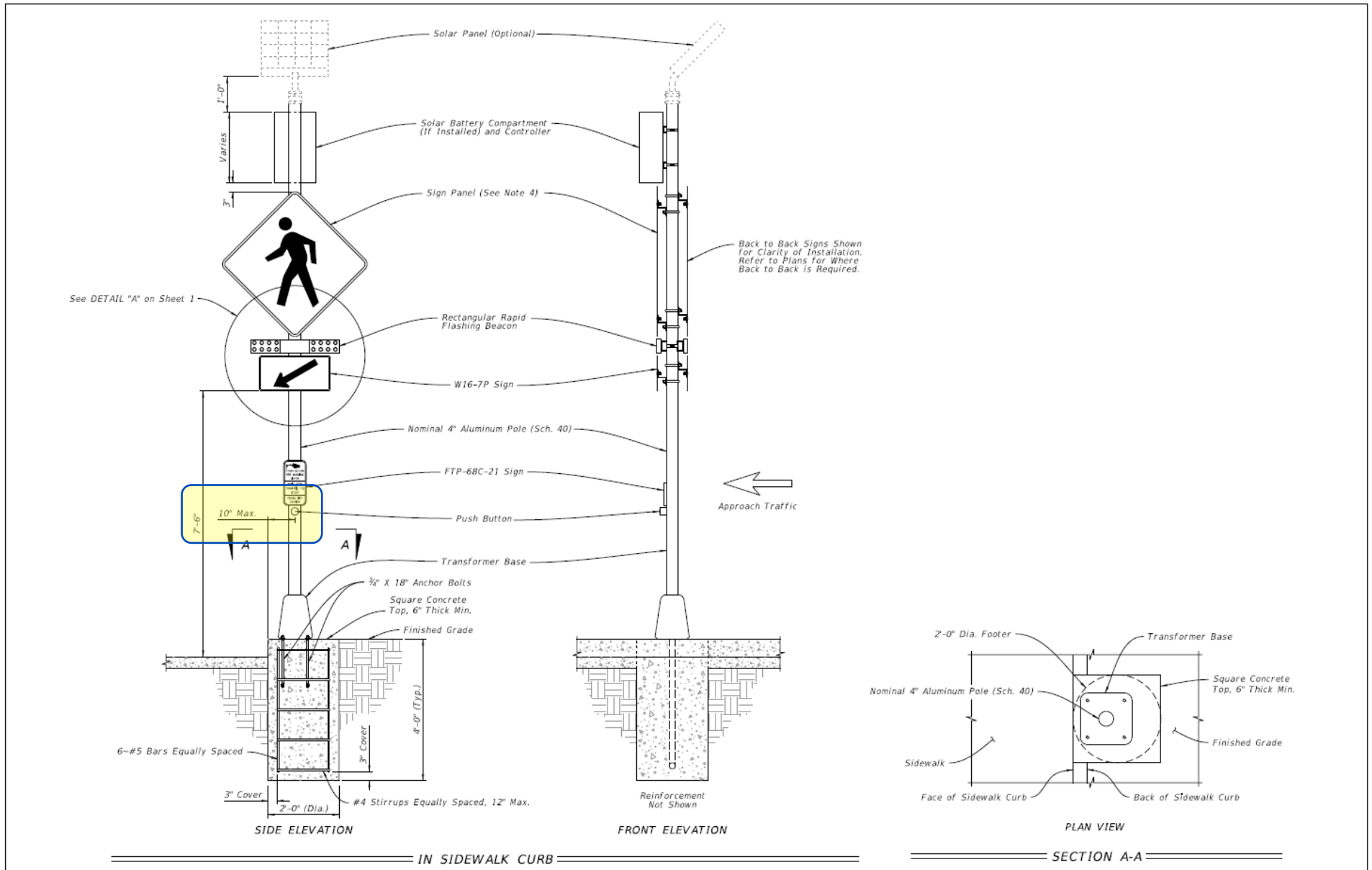
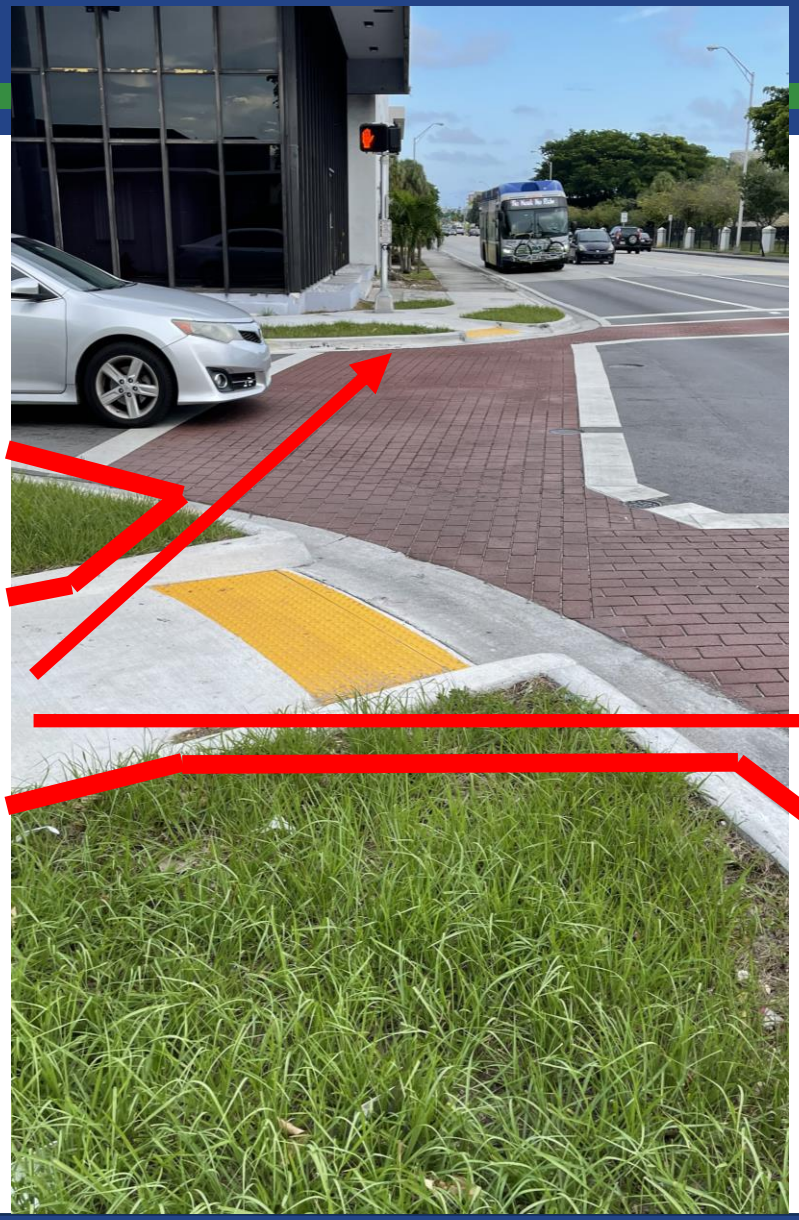


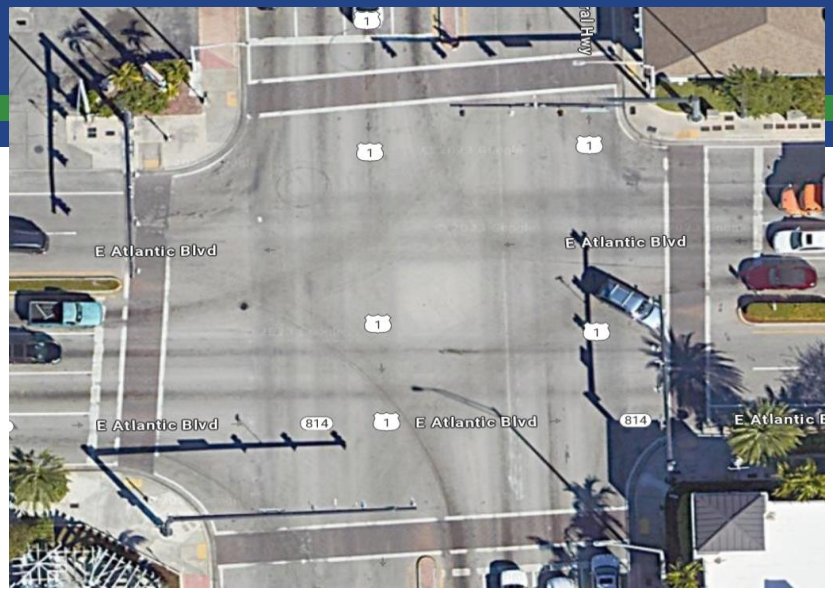
FGB 8.G.2



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

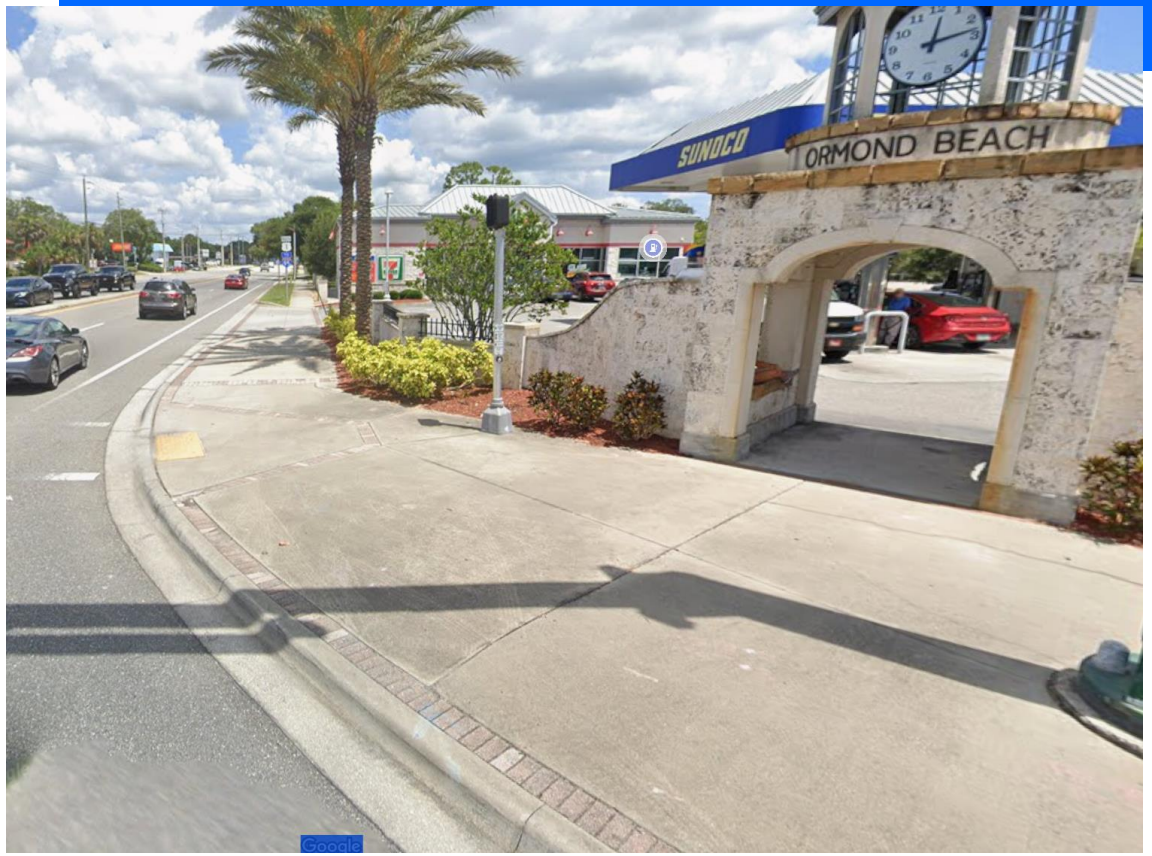
- All **intersections** and **driveways** with curbed returns. **Include a landing** at the top of each ramp.
- On **curbed** roadways between intersections where a **crosswalk** has been established.

Nice use of separate ramps!



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.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***.

TRANSPORTATION SYMPOSIUM

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**:

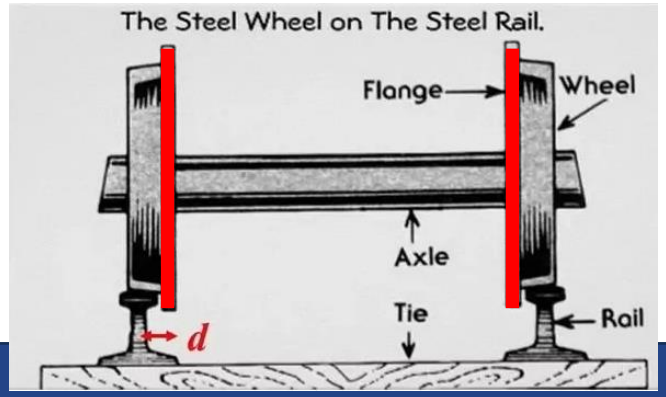
- Firm, **stable** and slip resistant,
- **Level and flush** with the top of rail at the outer edges of the rails, and
- Area between the rails **aligns with the top of rail**.

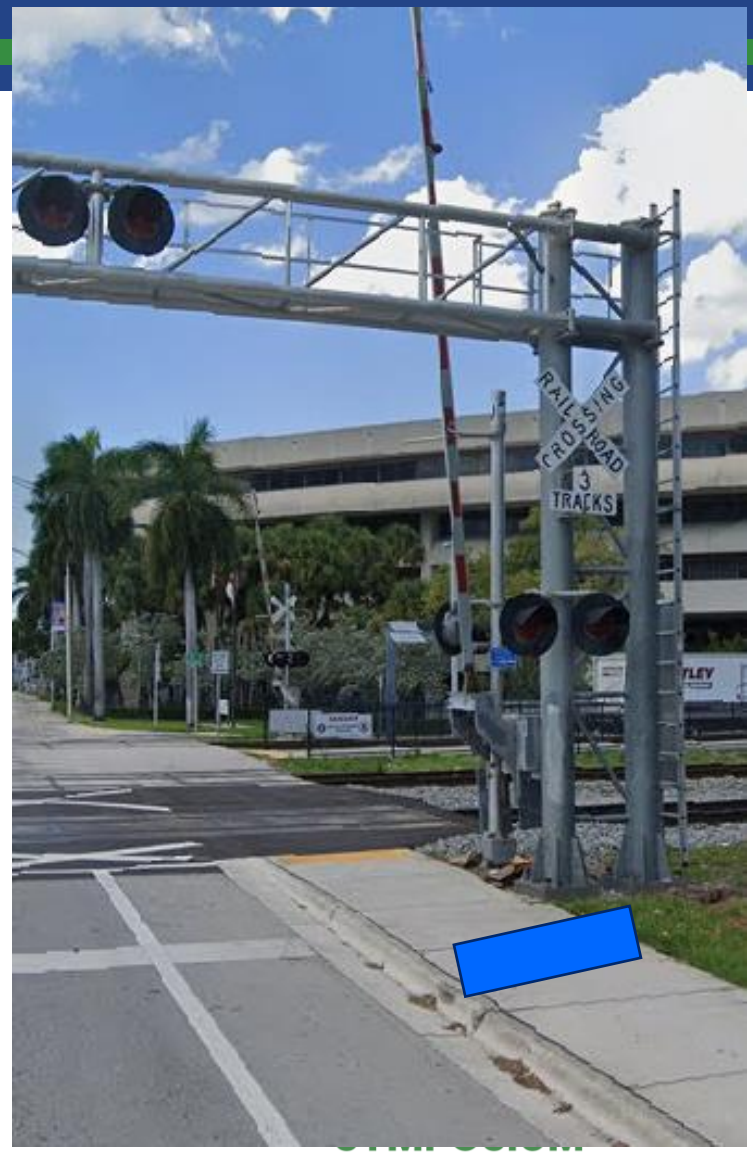
222.2.4 At-Grade Railroad Crossings - **Flangeway gaps**

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

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.

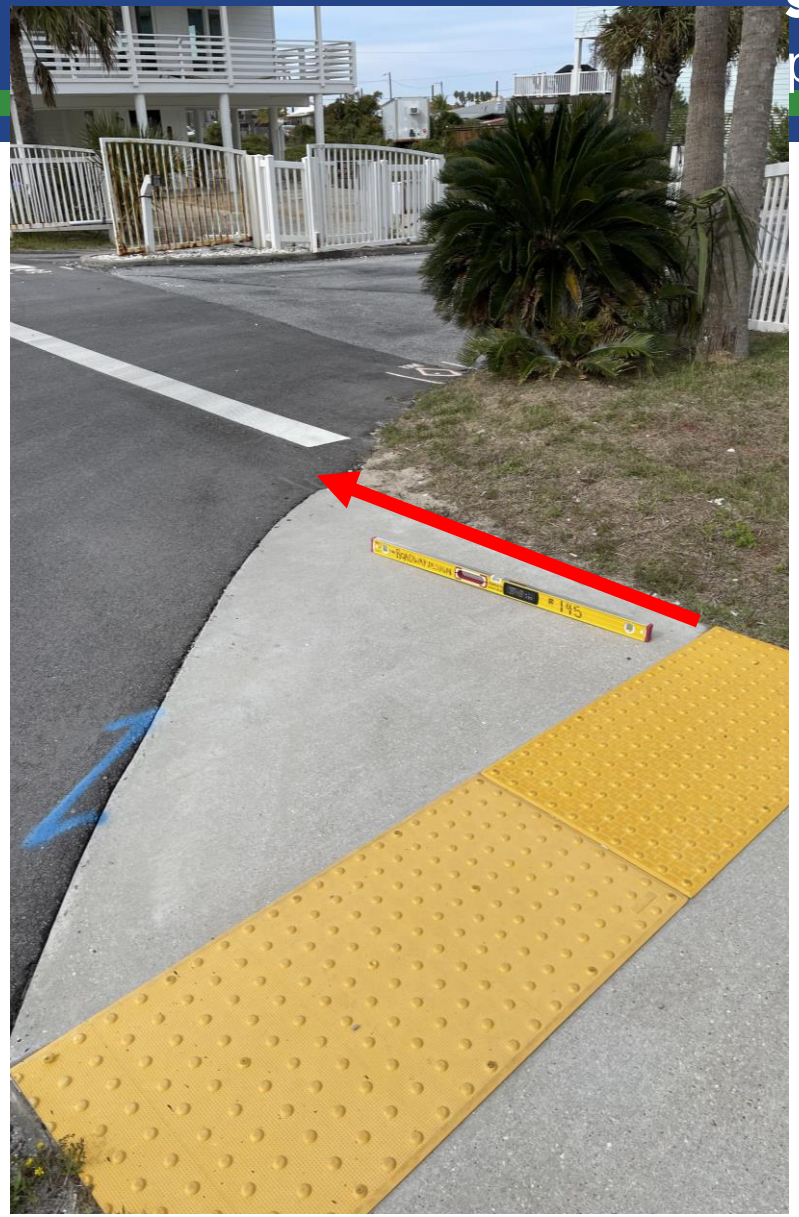
A **maximum flangeway gap** is required for all at-grade pedestrian rail crossings of **2½”** for all **non-freight** rail track and **3”** for **freight** rail track.





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.



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

...in direction of ped travel!

ON

FGB 8.F

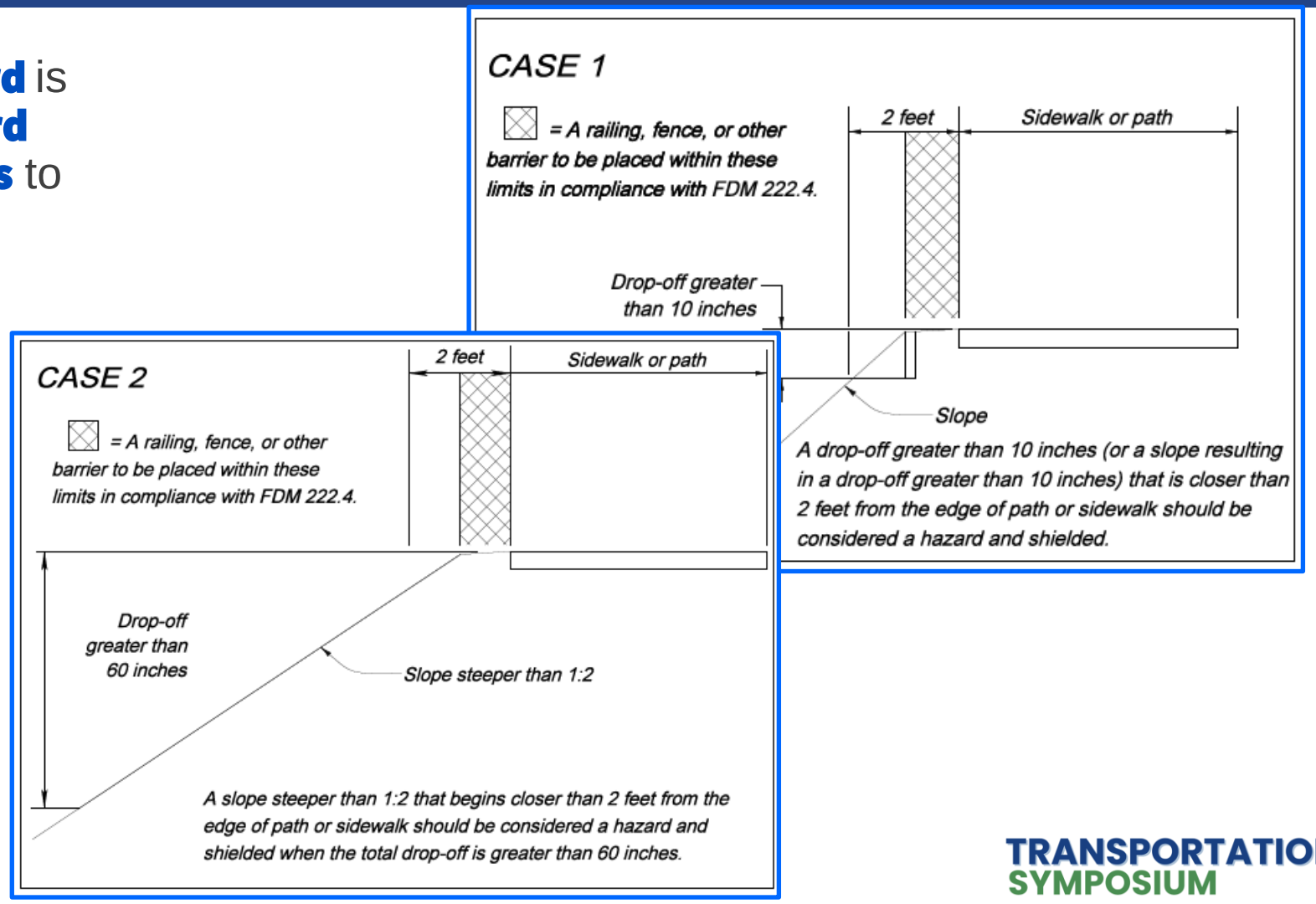
222.4 Pedestrian Drop-off Hazards and Railings

Figure 222.4.1 drop-off hazards for pedestrians

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**.



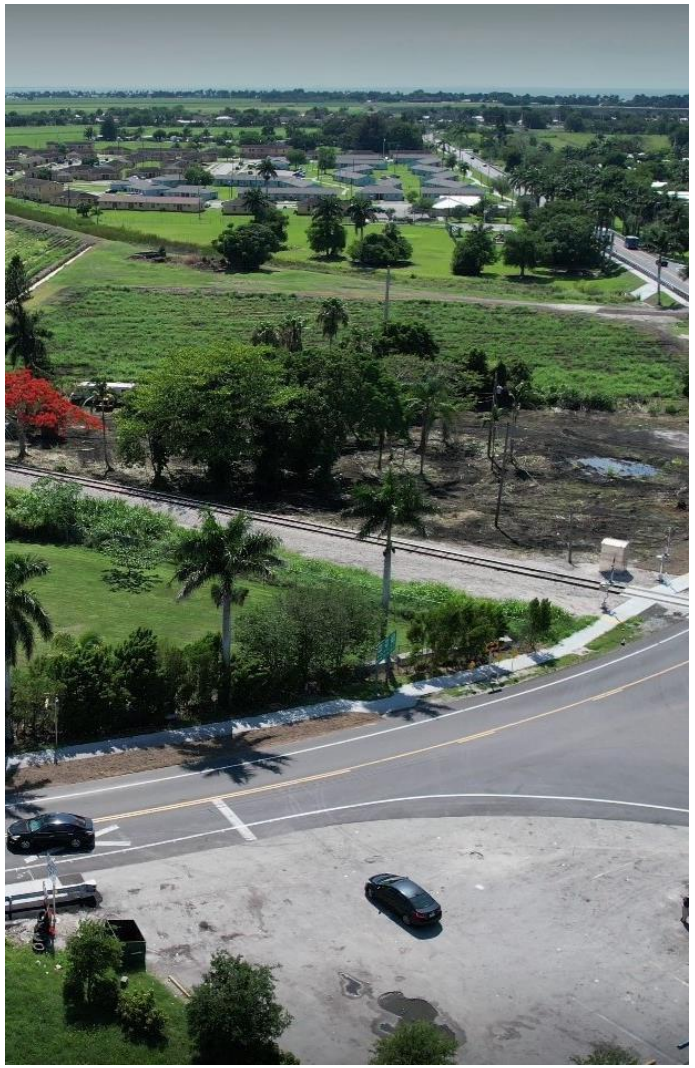
TRANSPORTATION SYMPOSIUM

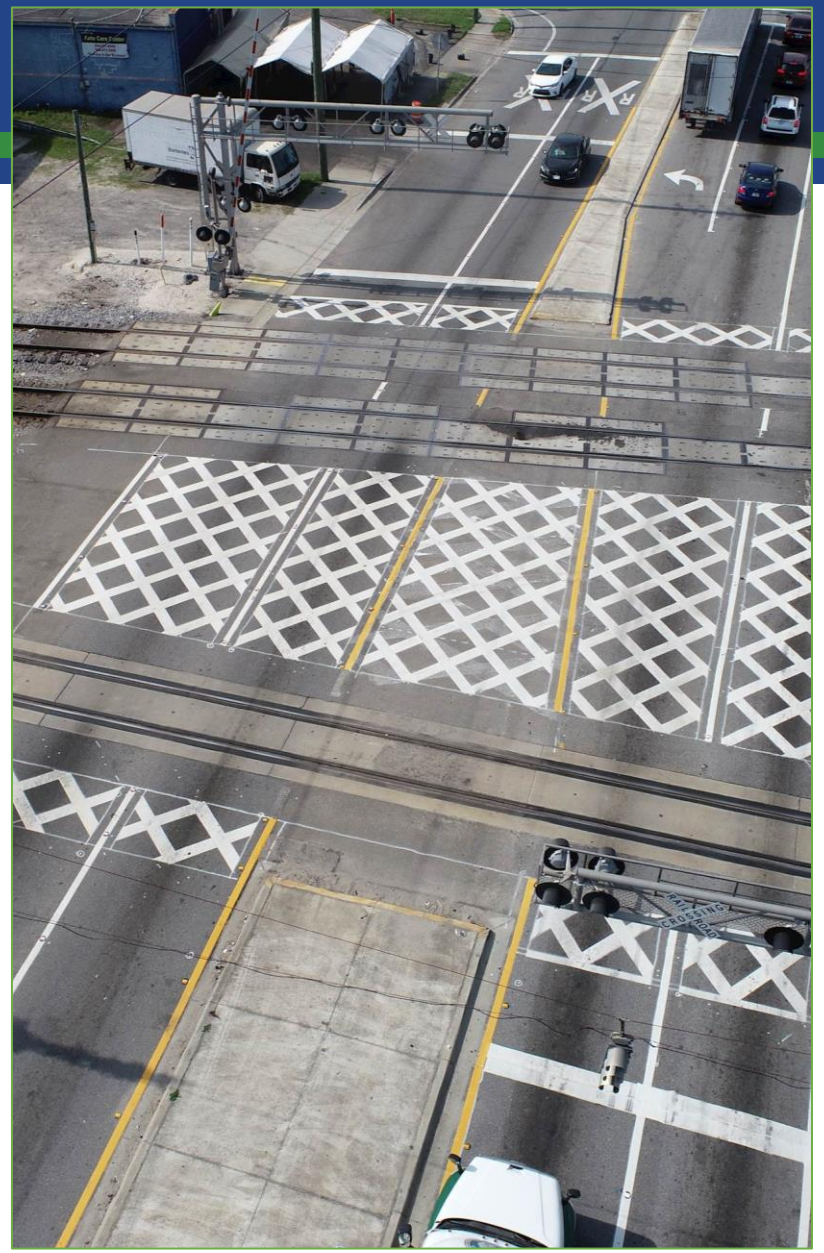
114.1.1 Improvements in RRR Projects - RRR projects *must* **meet** ***FDM Part 2*** **criteria** and **requirements**.

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**).



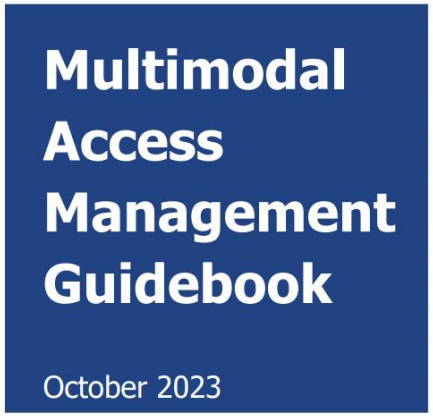


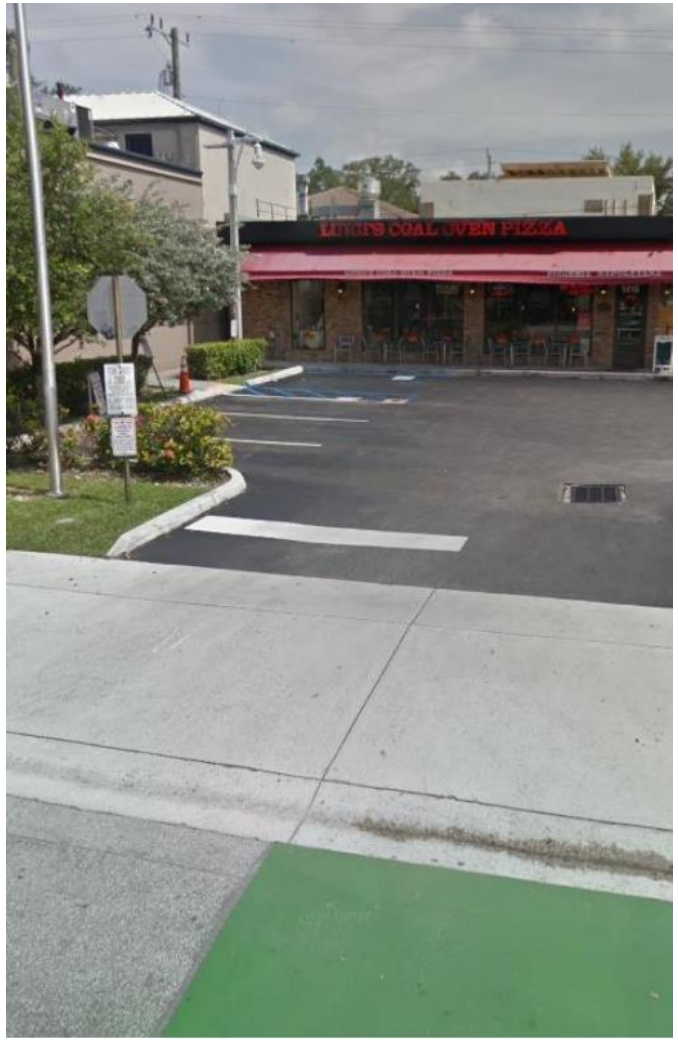
114.1.4 Pavement Only Projects and Ride Only Projects - This chapter **does not apply** to projects programmed as **POPs** or **Ride Only Projects** other than meeting **ADA** **curb ramp** and **detectable warning requirements**.

FDM 214
Driveways

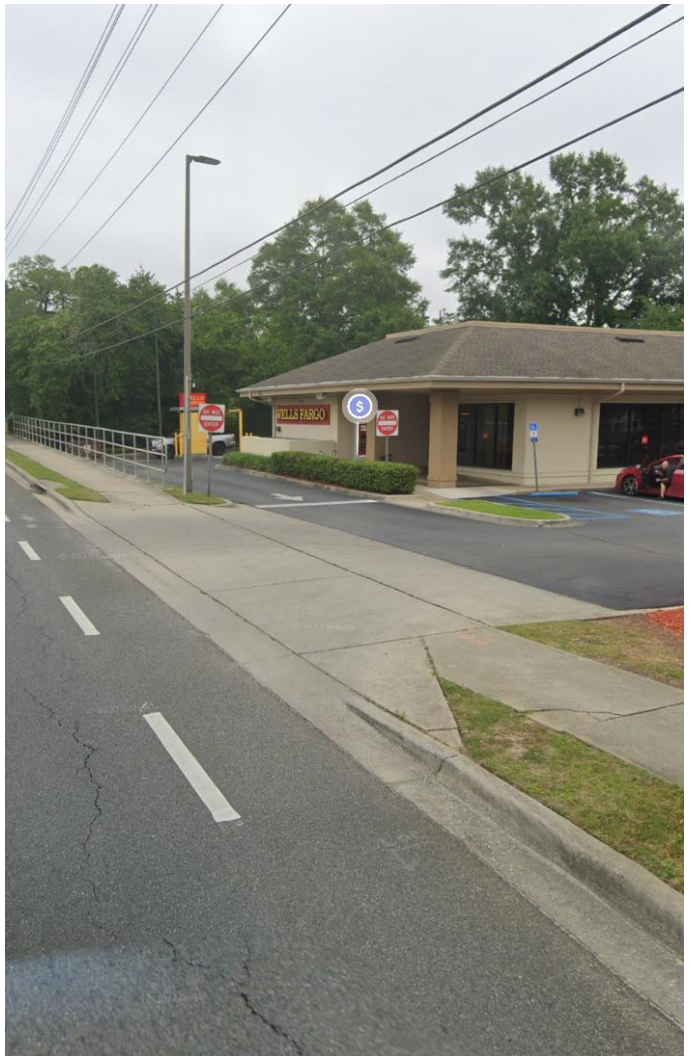
214.1 General - This chapter provides **driveway design criteria** and **requirements** for **connections** to the State Highway System.

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





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

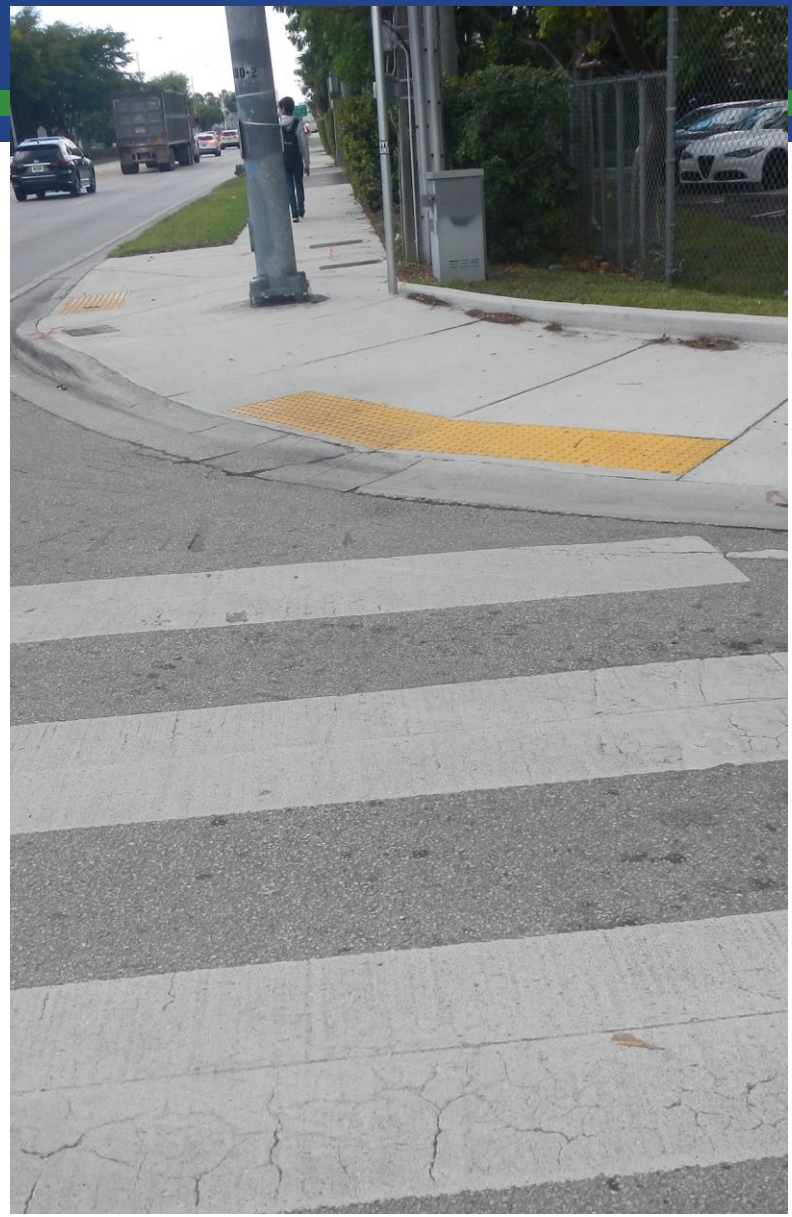


New Construction criteria must be met for **new** and **reconstruction** projects, and for **proposed improvements** included within **RRR** projects.

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**.

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 judgement

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.

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 VI***

(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***

TRANSPORTATION SYMPOSIUM

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***.

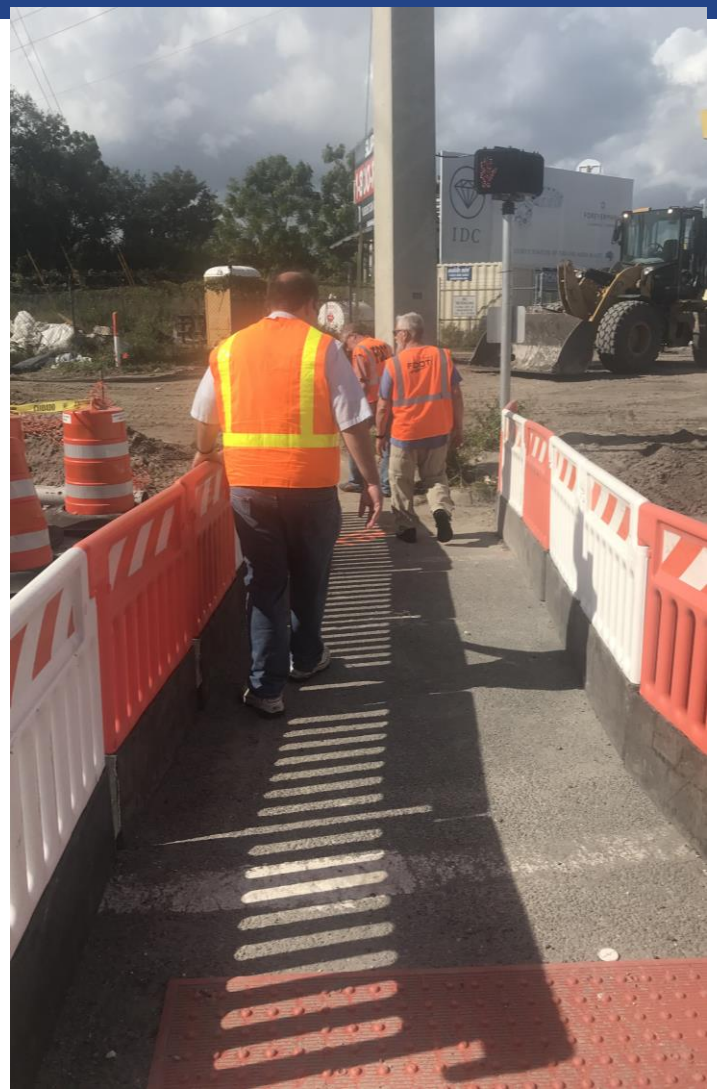
Most work zones will **require further development** of the typical applications to address **project-specific** conditions.

EOR's responsibility!!

'Engineered' Solutions!

TRANSPORTATION SYMPOSIUM

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.

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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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000-511	Superelevation Transitions – Low Speed Roadways
000-525	Ramp Terminals
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	Maintenance of Traffic
102-100	Temporary Barrier
102-110	Type K Temporary Concrete B
102-120	Low Profile Barrier
102-600	General Information for Traffic
102-601	Two-Lane and Multilane Roadway
102-602	Two-Lane and Multilane, Work on
102-603	Two-Lane, Two-Way, Work Within
102-604	Two-Lane, Two-Way, Intersection
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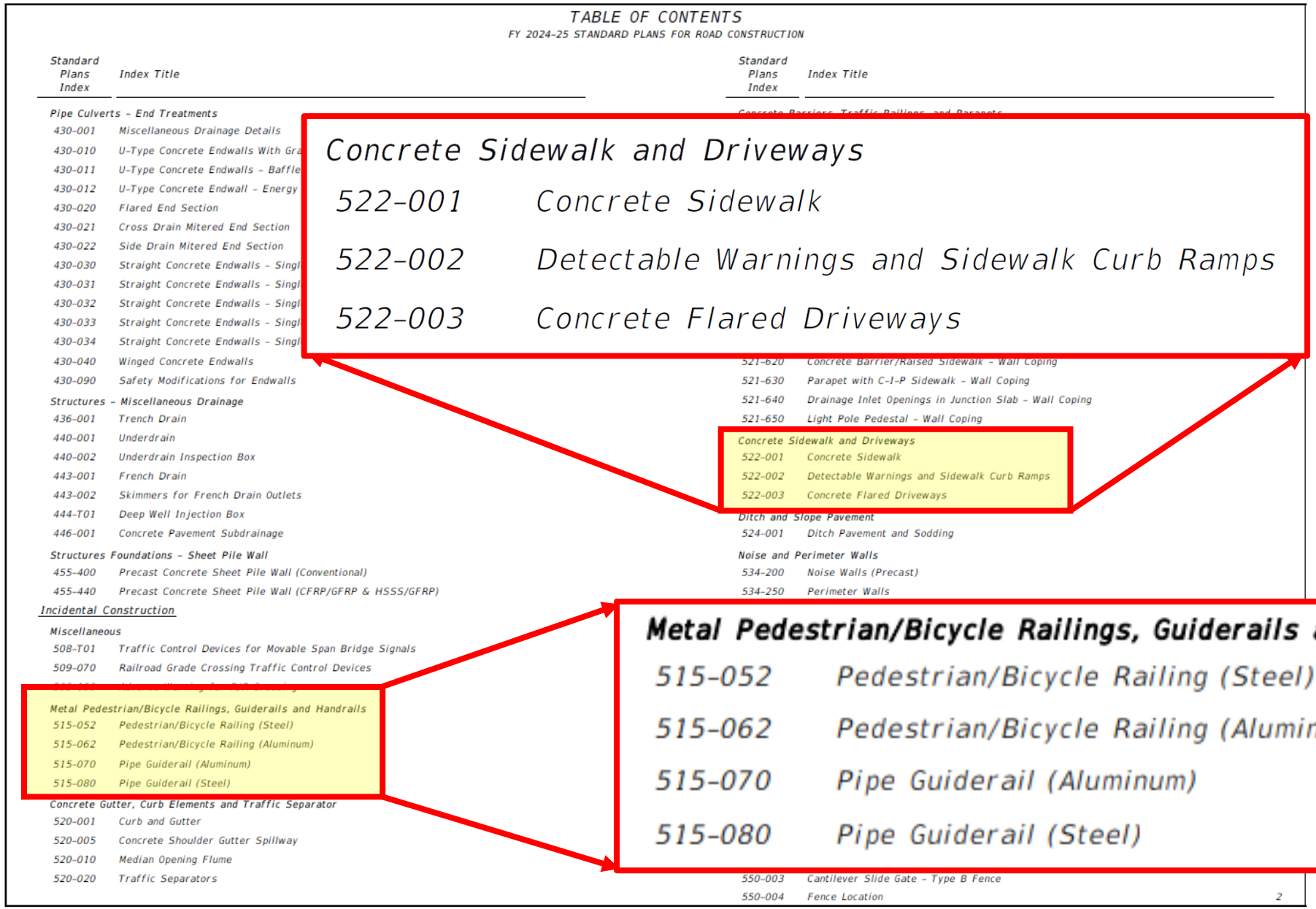

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Concrete Sidewalk and Driveways

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522-003 Concrete Flared Driveways

Metal Pedestrian/Bicycle Railings, Guiderails and Handrails

515-052 Pedestrian/Bicycle Railing (Steel)

515-062 Pedestrian/Bicycle Railing (Aluminum)

515-070 Pipe Guiderail (Aluminum)

515-080 Pipe Guiderail (Steel)

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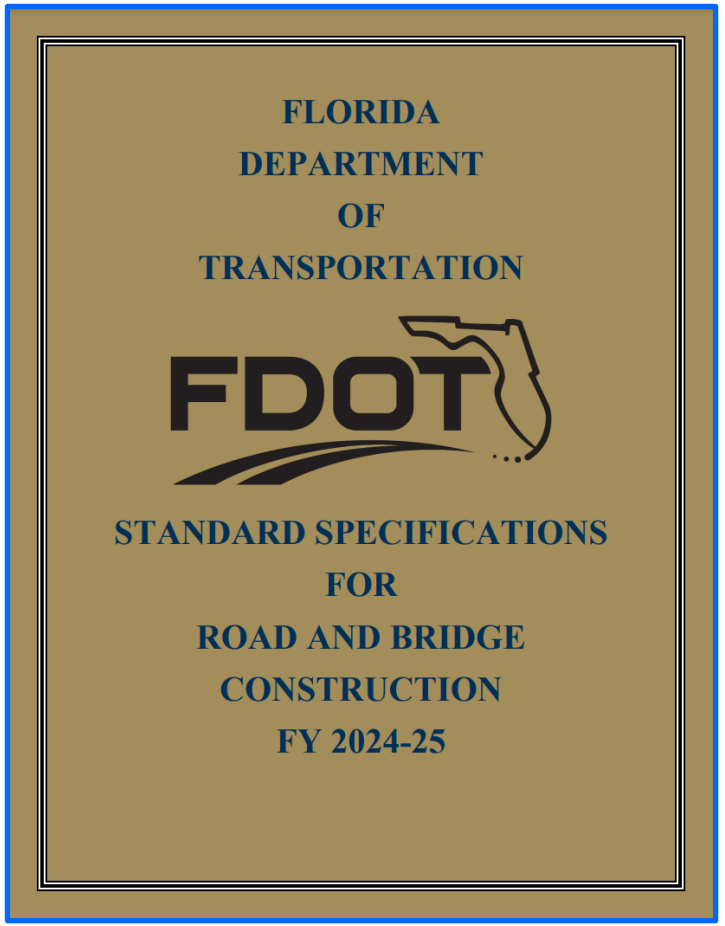
safety & accessibility!

- 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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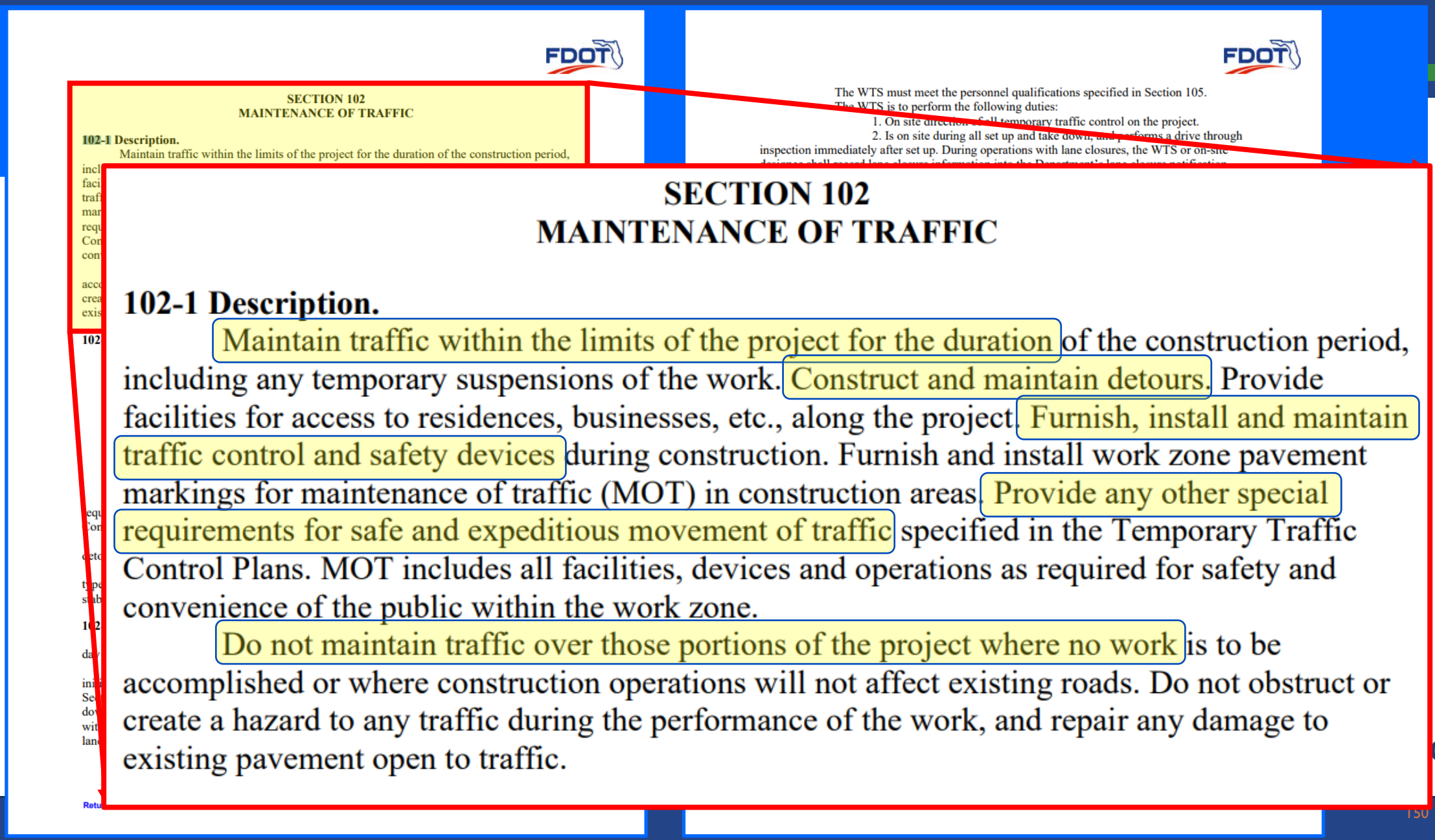
SECTION 102 – MAINTENANCE OF TRAFFIC



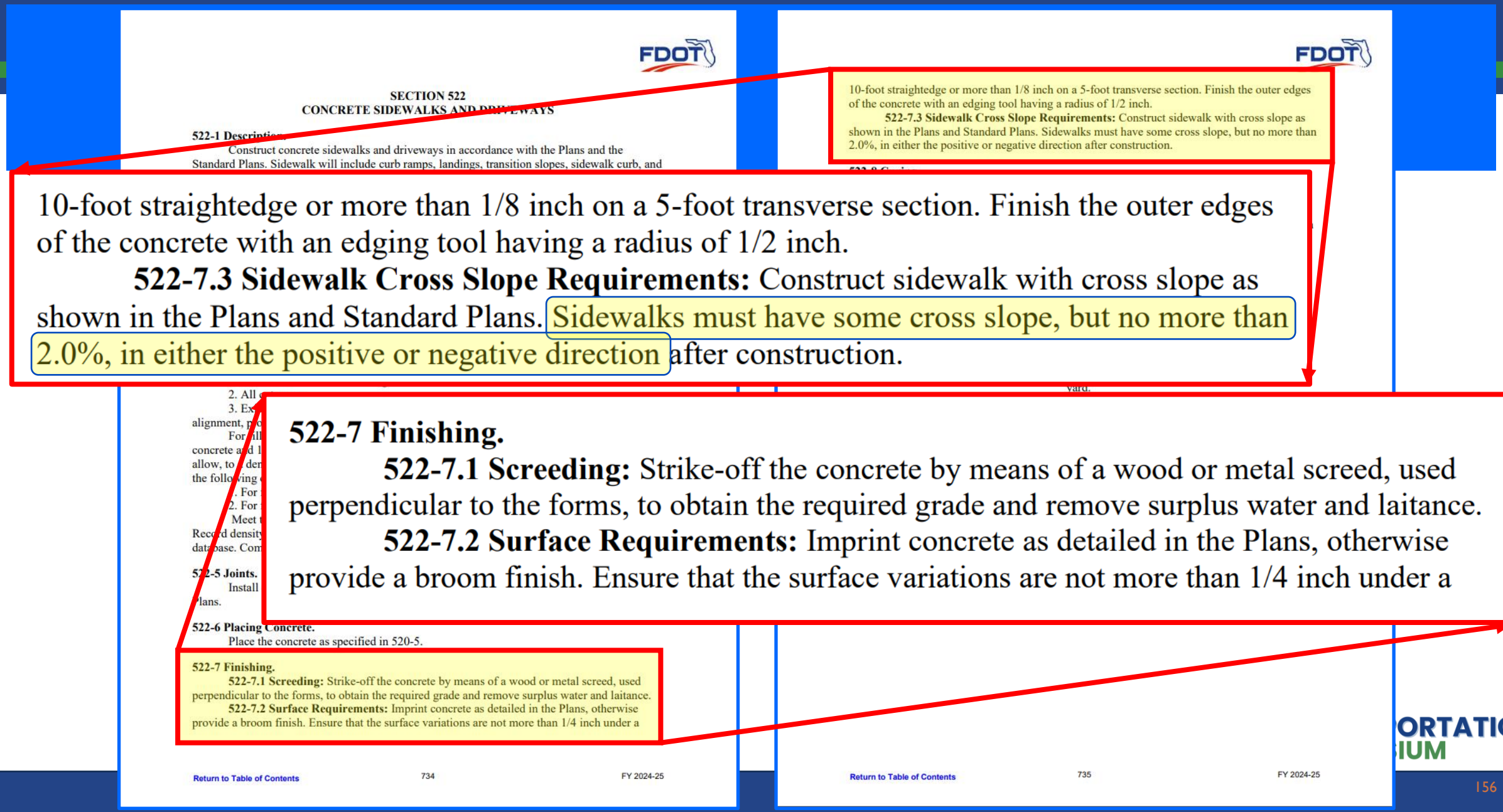
SECTION 102
MAINTENANCE OF TRAFFIC

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 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

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.

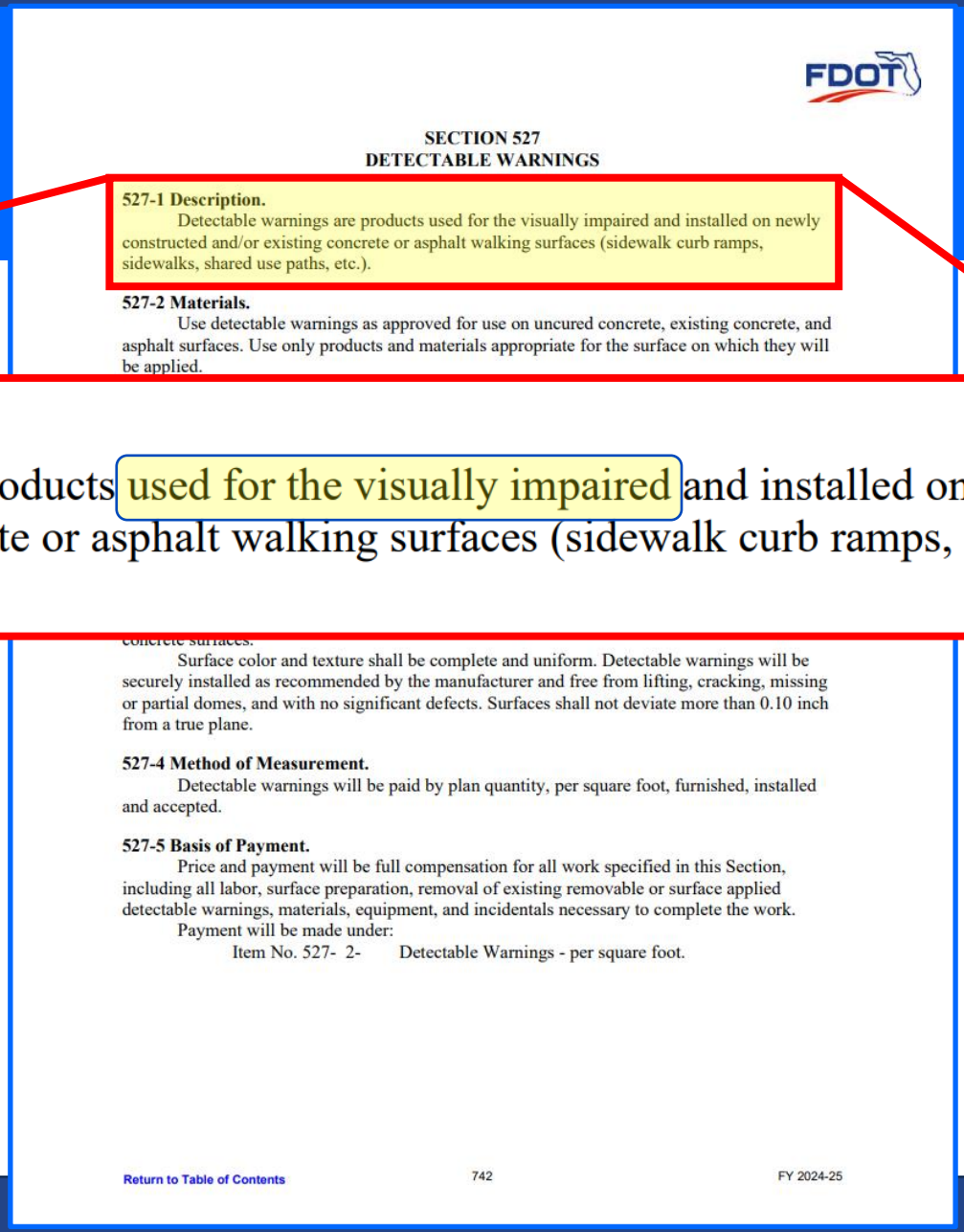
522-7.1 Screeding: Strike-off the concrete by means of a wood or metal screed, used perpendicular to the forms, to obtain the required grade and remove surplus water and laitance.

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

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

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.).

safety & accessibility!

- Brief History of the ADA
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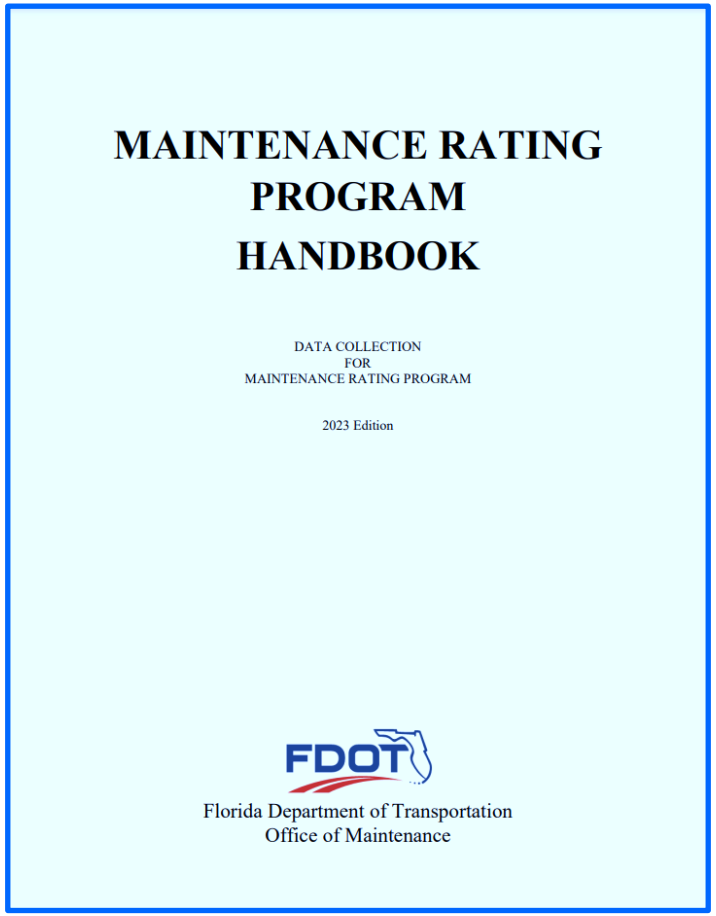
- FDOT Maintenance Rating Program Handbook (MRP)



MAINTENANCE RATING PROGRAM HANDBOOK

DATA COLLECTION
FOR
MAINTENANCE RATING PROGRAM

2023 Edition

FDOT

Florida Department of Transportation
Office of Maintenance

TRANSPORTATION SYMP

FDOT

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

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.

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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.

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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
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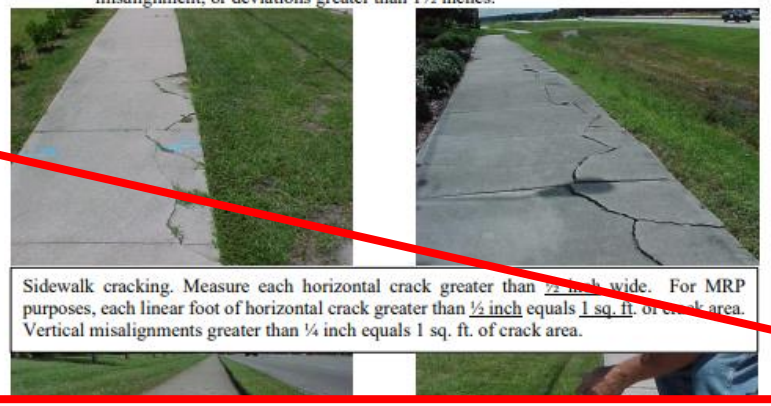

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For MRP purposes, no rigid objects protruding from concrete greater than ¼ inch in height, or any single misalignment, or deviations greater than 1½ inches.

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.

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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

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.

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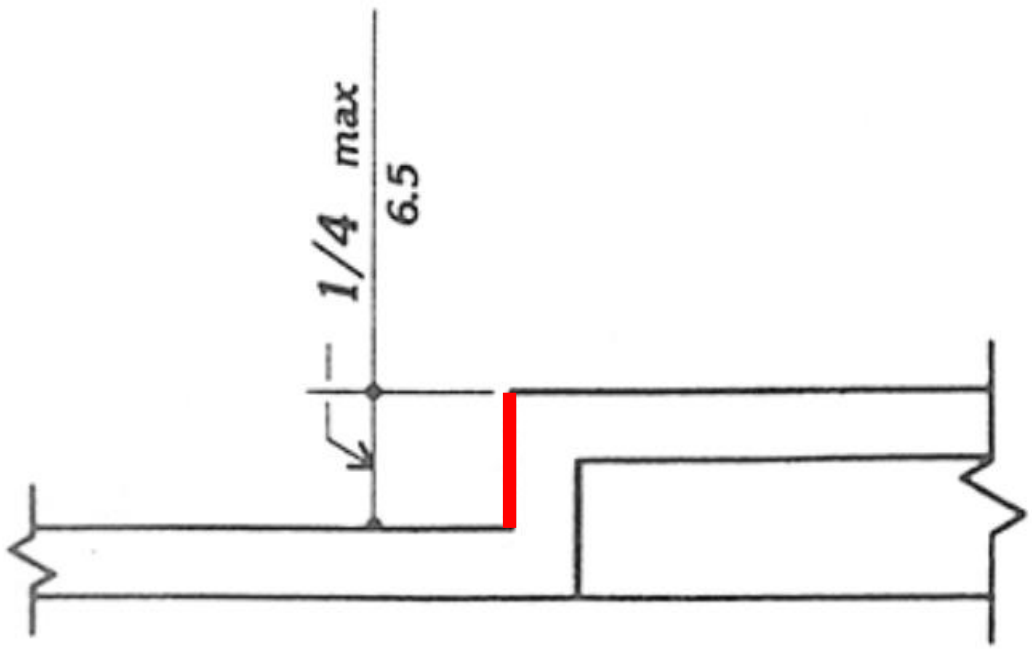
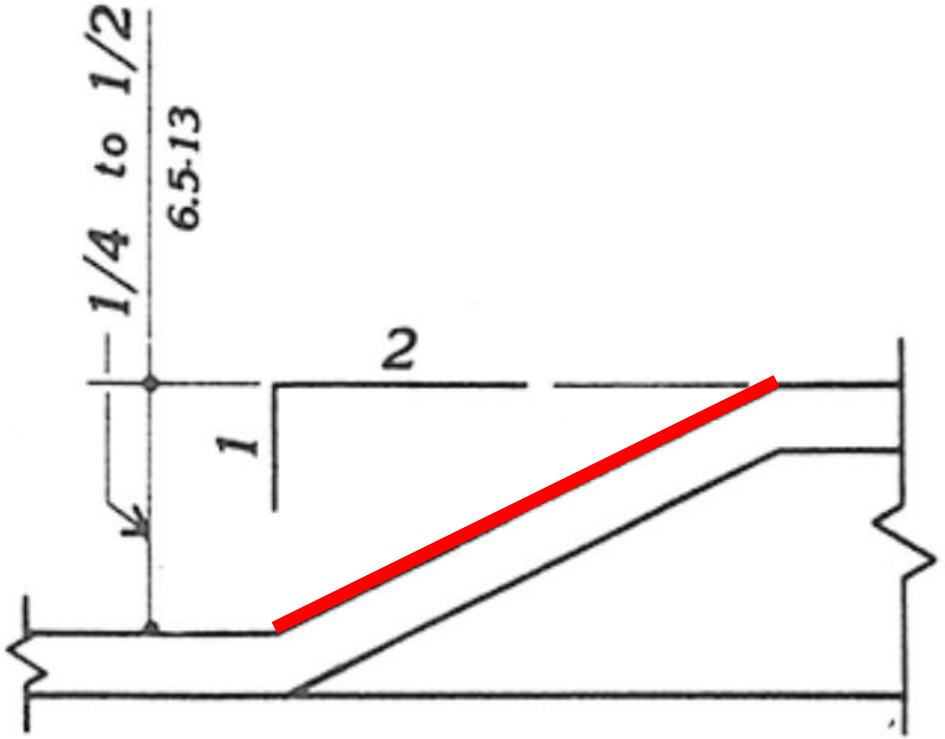
MRP STANDARDS: SIDEWALK

ADA



(c)
Changes in level

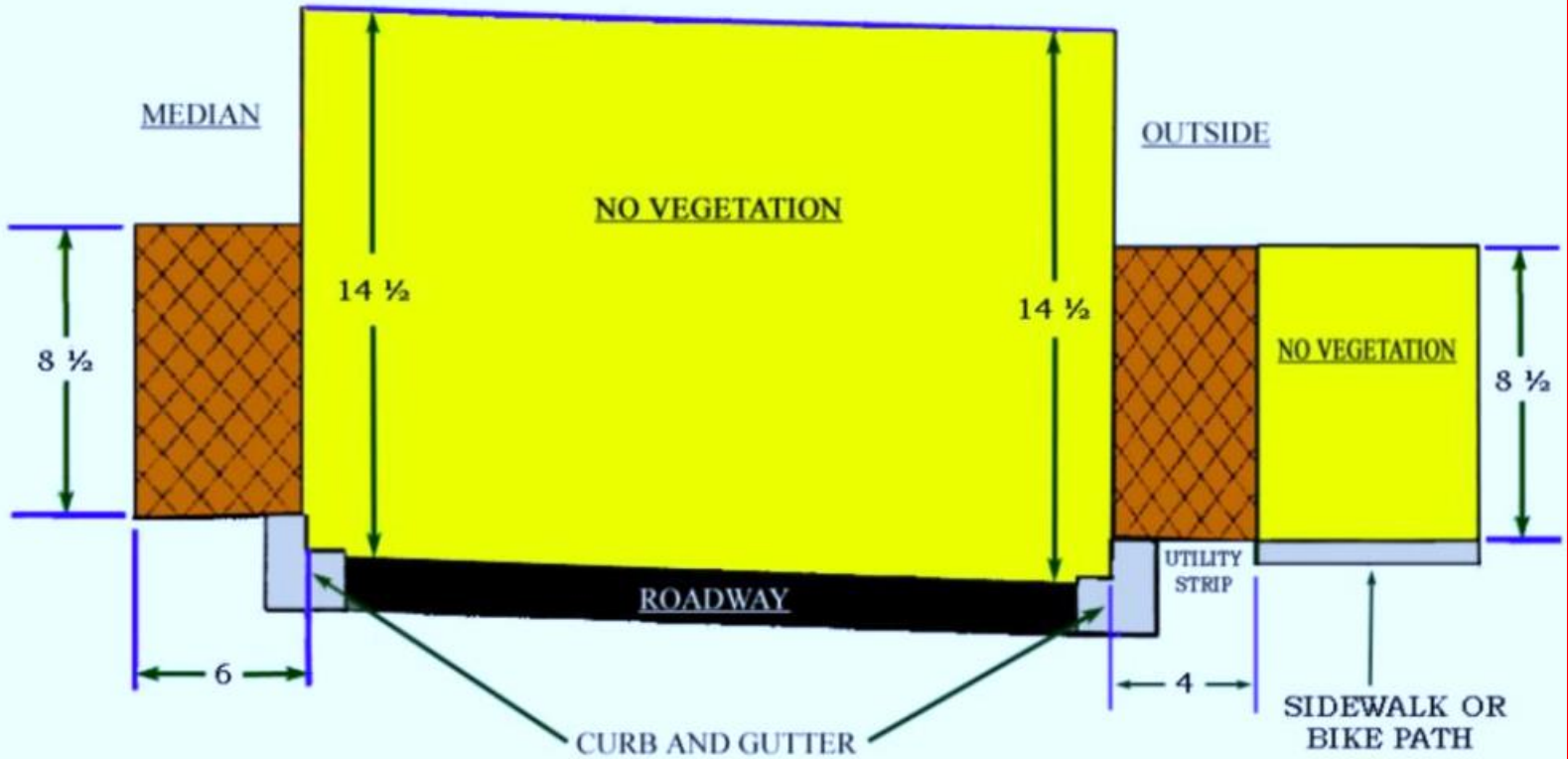


(d)
Changes in level

Fig. 7
Accessible Route

MRP STANDARDS: VEGETATION AND AESTHETICS

CLEAR ZONE VEGETATION CRITERIA



2023 Maintenance Rating Program Handbook 117

than 6 inches onto the curb or

2 inches below the top of curb or

erformed for safety and aesthetic
azard.

ly evaluate sidewalks within the

2023 Maintenance Rating Program Handbook 118

Safety Message

TRANSPORTATION SYMPOSIUM

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