

SECTION 608 - SIDEWALKS, DRIVEWAYS, SHARED-USE PATHS, BRICK PAVING, GROUTED STONE BLOCK PAVING, AND PRECAST CONCRETE PAVING

I. SIDEWALKS (Including Curb Ramps)

A. Standards

Americans with Disabilities Act. With a couple of exceptions¹, facilities intended to accommodate pedestrians as a primary function are required to meet standards for accessibility under the Americans with Disabilities Act (ADA). The Department's ADA standard for all new construction and alterations is the U.S. Access Board's *Proposed Rights-of-Way Accessibility Guidelines* (PROWAG). Existing pedestrian facilities that were built or last altered before March 15, 2012, and are to remain in place, are considered compliant with the law if they meet the 1991 *Americans with Disabilities Act Guidelines* (ADAAG).

The guidelines provide values (e.g., slopes, cross slopes, dimensions, maximum surface discontinuities) that must be met for a facility to comply with the ADA. To allow for a construction tolerance and ensure the ADA standards ultimately will be met in the completed facility, NYSDOT has adopted more conservative values for the design and layout of pedestrian facilities. The values, along with the final values that must be met for a facility to be accepted, can be found on the "Critical Elements for the Design, Layout and Acceptance of Pedestrian Facilities" table on the Highway Design Manual Chapter 18 web page, and on the 608-01 Standard Sheets (NOTE: this is to be included in a pending revision of the 608-01 sheets)

Other Standards. In addition to ADA requirements, pedestrian facilities are required meet certain requirements of the New York State Building Code. These requirements are also included on the "Critical Elements for the Design, Layout and Acceptance of Pedestrian Facilities" ("Critical Elements" table on the Highway Design Manual Chapter 18 web page, and on the 608-01 Standard Sheets.

When Standards Cannot be Met. It is sometimes not possible, due to terrain, physical constraints, or engineering infeasibility, to build a pedestrian facility meeting the values in the standards. Any pedestrian facility that does not meet the applicable standard, and will remain in place, must be formally justified as a nonstandard feature. Nonstandard Feature Justifications are ideally completed during design, but may need to be completed during construction if constraints are identified at that time. The Nonstandard Feature Justification for Pedestrian Facilities can be found on the [Highway Design Manual Chapter 2 web page](#) (Exhibit 2-15a). Instructions for completing and filing the form are included in the file.

B. Inspection

The vast majority of pedestrian facilities that are built and inspected in the NYSDOT ROW are curb ramps, sidewalks, and crosswalks. When inspecting the construction of sidewalk and sidewalk ramps, and any associated curb treatments, inspector presence is required for work to be performed. Care must be taken to ensure that the dimensions, lines and grades shown on the plans are adhered to. The Contractor should establish the line and grade of the proposed sidewalk and sidewalk ramps prior to placement of the curb. Any adjustments to meet field conditions must consider the design standards for accessibility.

¹ Exceptions include trails that function solely as recreational routes and most highway shoulders. While shoulders are occasionally used by pedestrians, their primary function is not to serve as pedestrian accommodations.

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Refer to the “Critical Elements” sheet, Standard Sheets or Engineering Instructions before any changes are considered. Questions related to accessibility guidelines or accessible design should be referred to the Regional ADA Specialist(s).

Prior to placing surface material for curb ramps and sidewalks, verify that the layout of the facilities meets the “Layout” values on the “Critical Elements” sheet. Measurements should be made frequently: at a minimum, measure concrete forms prior to pouring, and after concrete has set. Standard methods of measurement and measurement tools are found on the “Critical Elements” sheet, in the “Inspection Methods and Acceptance Criteria” notes.

When pedestrian facilities cannot practicably meet the standard values (i.e., the “Acceptance” values on the “Critical Elements” sheet), a Nonstandard Feature Justification for Pedestrian Facilities (HDM Chapter 2, Exhibit 2-15a) is required. Nonstandard features may be identified and justified during preliminary design, final design, or construction.



Figure 1 Measure frequently

Notes for Curb Ramps:

- Curb ramps should generally be planar
- Grade breaks should be perpendicular to direction of pedestrian travel.
- Edges and joints should not be rounded for aesthetics.



Figure 2 Grade breaks and edges of a ramp should not be rounded, as shown here

Notes for Detectable Warnings:

- Detectable warning surfaces are required at all pedestrian street and railway crossings, and pedestrian crossings of stop- or yield-controlled driveways. They are not required at driveways without stop or yield control.
- Detectable warnings must cover 24 in. in the direction of pedestrian travel across the entire width of the pedestrian access route. (See Figures 3 through 5)
- If the lower grade break of a curb ramp is no more than 5 ft. from the back of curb, the detectable warnings are to be placed on the ramp, at the lower grade break (see Figure 4).

If any part of the lower grade break of a curb ramp is more than 5 ft. from the back of curb, the detectable warnings are to be placed at the back of cur (see Figure 5). The front edge of the detectable warning surfaces must be no more than 2 in. from the back of curb (see Figure 6).

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- Domes should be oriented perpendicular to the lower grade break of ramp. They are not intended or used for wayfinding: orientation to the pedestrian crossing is not necessary. Dome orientation is more important when placed on ramps slopes over 5% due to wheelchair tracking (see Figure 7).



Figure 3 This detectable warning installation is incorrect: the surface does not cover entire width of the accessible route.

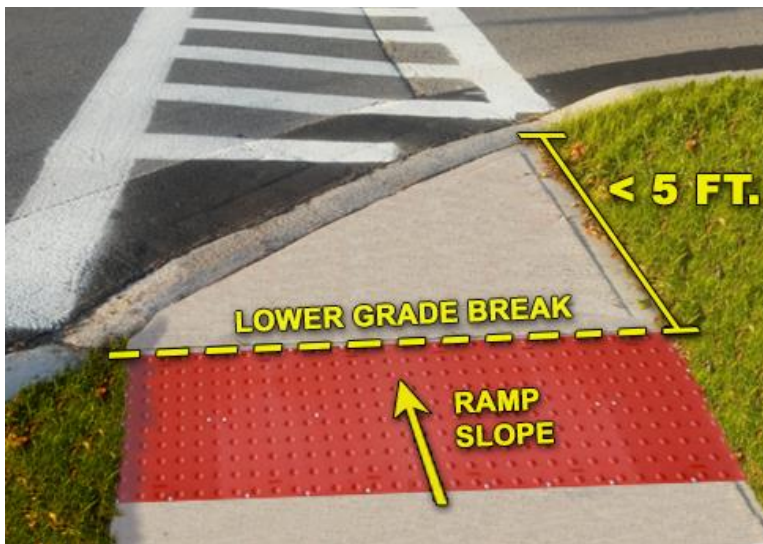


Figure 4 This detectable warning installation is correct: the surface covers the entire width of the accessible route. It is placed just above the lower grade break of the ramp when the lower grade break is entirely within 5 ft. of the back of curb.

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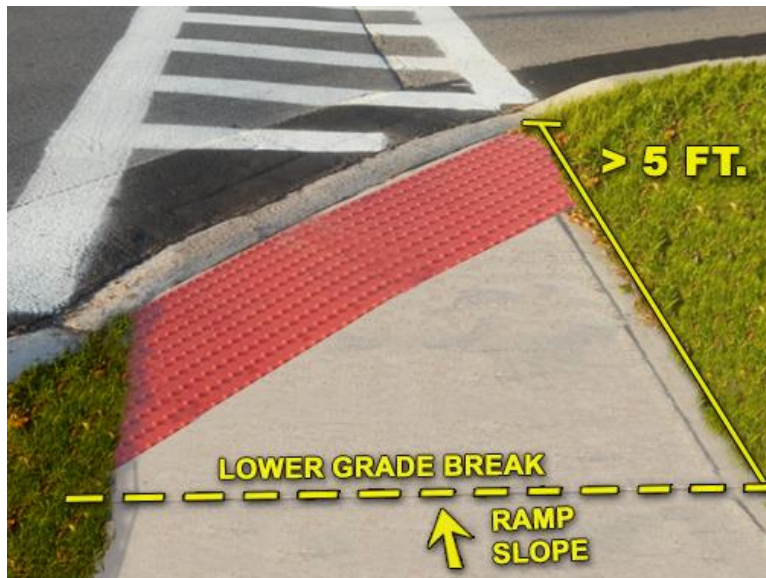


Figure 5 This detectable warning installation is correct: the surface covers the entire width of accessible route. It is placed at the back of curb when any part of the lower grade break is more than 5 ft. away from the back of curb. Note that orientation is perpendicular to curb line, not lower grade break.



Figure 6 The front edge of detectable warnings placed at the back of curb cannot be more than 2 in. from the back of the curb. Rectilinear units used on a radius typically need to be cut to maintain a compliant, continuous detectable warning surface along the entire the width of the pedestrian access route.

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Figure 7 The domes of detectable warnings should be oriented perpendicular to the lower grade break of a ramp. They do not need to be oriented to the pedestrian crossing. Both of these installations are correct.

II. DRIVEWAYS

Field reports indicate a wide variance in the restoration of driveways. With respect to driveway restoration, the following guidelines shall apply:

1. Comply with the Department's "Policy and Standards for Entrances to State Highway" (M.A.P. Code 7.12-34) governing entrances to state highways. The location and geometrics of such entrances are shown in this policy. The current edition booklet is available from the NYSDOT Business Administration Plan Sales Office. Comply with the Departments "Policy and Standards for the Design and entrances to State Highways"
2. Restore driveways in kind. If the drive was a gravel drive, restore it as a gravel drive, NOT a bituminous drive. When necessary, provide an asphalt driveway apron to control gravel kickback from getting onto the travel lane.
3. Whenever possible, try to maintain original profile grade of the driveway. Adjust driveway entrances so that a car does NOT drag on entering or leaving. Driveway grades should be field tested prior to paving.
4. Adjustment or restoration of any driveway shall be limited to that length which is required for a reasonable transition from the highway to the driveway. A rule of thumb the driveway should be paved a minimum of 10' beyond the edge of the travel lane due to concerns of overwashing and tracking gravel onto the travel lane.
5. Where the driveway is not a paved driveway, bituminous paving of the drive may extend from the edge of the pavement to a point no farther than the back of the ditch line or the curb line as the case may be. Where there is a curb, it may be necessary to pave a relatively short distance in back of the curb to meet the sidewalk or sidewalk area.
6. Entrances into open fields, or entrances that have very infrequent use, are not to be paved. Let the stabilized shoulder suffice.

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7. Where there is a concrete driveway that has to be restored, the restoration from the edge of the pavement to the extreme edge of the shoulder shall be bituminous pavement, NOT Portland Cement Concrete.
8. A release from the property owner is needed before adjustments are made on private property. Refer to Section 107-14 of the Contract Administration Manual for further information regarding a release. Refer to § 105-15 Office of Construction- ROW/ Releases.
9. The portion of a driveway that serves as an accessible pedestrian route must meet the dimensional, slope and surface requirements of the ADA standards (Refer to “Critical Elements for the Design, Layout, and Acceptance of Pedestrian Facilities”) or be justified as nonstandard.

III. SHARED-USE PATHS

Shared-use paths are pedestrian and bicycle facilities that are separated from vehicular traffic. It is Department policy that these facilities meet the standards in the AASHTO *Guide for the Development of Bicycle Facilities* (Bike Guide). Also, as pedestrian facilities, shared-use paths must meet new construction or alteration ADA requirements of the PROWAG. The values provided in the Bike Guide meet or exceed the PROWAG requirements. For example, the Bike Guide minimum shared-use path width value of 10 ft. well exceeds PROWAG requirements. However, when PROWAG standards for elements such as cross slope, running slopes, crossings or surface requirements cannot be met due to terrain, physical constraints, or engineering infeasibility, nonstandard feature justification using PDM Exhibit 2-15a is required. Provision of detectable warnings at crossings is also required.

To allow for a construction tolerance and help ensure ADA standards ultimately will be met in the completed facility, the applicable values for the design and layout of pedestrian facilities on the “Critical Elements for the Design, Layout and Acceptance of Pedestrian Facilities” table should be used.

IV. BRICK PAVING, STONE BLOCK PAVING, AND PRECAST CONCRETE PAVING

MISSING???

References

Policy and Standards for the Design and entrances to State Highways:

https://www.dot.ny.gov/divisions/engineering/design/dqab/hdm/hdm-repository/HDM_Ch_5_Appendix_5A.pdf

Highway Design Manual, Chapter 18

https://www.dot.ny.gov/divisions/engineering/design/dqab/hdm/hdm-repository/chapt_18.pdf

Office of Construction, ROW/ Releases:

<https://www.dot.ny.gov/main/business-center/contractors/construction-division/forms-manuals-computer-applications-general-information/row-releases>

Highway Design Manual Chapter 2

<https://www.dot.ny.gov/divisions/engineering/design/dqab/hdm/chapter-2>

Critical Elements for the Design, Layout, and Acceptance of Pedestrian Facilities

https://www.dot.ny.gov/divisions/engineering/design/dqab/hdm/hdm-repository/Critical_Elements_Ped_Facilities.xls