* Maximum landing slope in any direction is 2.0%. Minimum landing dimensions 5' x 5'. See Notes.

** Maximum cross slope on ramp is the same as that for sidewalk (2.0%). Running slope 5% - 7% (8.3% maximum) see Notes.

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** Maximum cross slope on ramp is the same as that for sidewalk (2.0%). Running slope 5% - 7% (8.3% maximum) see Notes.
**MAXIMUM LANDING SLOPE IN ANY DIRECTION IS 2.0%.  MINIMUM LANDING DIMENSIONS 5' x 5'.  SEE NOTES.**

**MAXIMUM CROSS SLOPE ON RAMP IS THE SAME AS THAT FOR SIDEWALK (2.0%).  RUNNING SLOPE 5% - 7% (8.3% MAXIMUM) SEE NOTES.**

### Sidewalk Ramp and Detectable Warning Details

**Sidewalk Ramp Type RF**

*Rolled / Flared Sides*

- **Section A-A**
- **Section Through Curb Cut**

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**Transition Adjacent Gutter Pan Cross Section to Provide 5% Maximum Counter Slope Across the Ramp Opening.**

**Maximum Slope Not to Exceed 8.3%**

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SIDEWALK RAMP TYPE M
(MEDIAN ISLAND)

SIDEWALK RAMP TYPE P
(PARALLEL RAMP)
DO NOT USE IN AREAS WHERE PONDING MAY OCCUR

SIDEWALK RAMP TYPE C
(COMBINATION RAMP)
USE 24" DEEP DETECTABLE WARNINGS IF MEDIAN WIDTH IS AT LEAST 6'-0". OTHERWISE NO DETECTABLE WARNING IS REQUIRED.

ALIGN CURB PARALLEL WITH CROSSWALK

7-26-2010

SIDEWALK RAMP TYPE M
(MEDIAN ISLAND)
** Maximum landing slope in any direction is 2.0%. Minimum landing dimensions 5' x 5'. See notes.

** Maximum cross slope on ramp is the same as that for sidewalk (2.0%). Running slope 5% - 7% (8.3% maximum) see notes.

SIDEWALK RAMP TYPE D
(DEPRESSED CORNER)

- "Non-walking" area
- Rolled curb
- 24" deep detectable warning, (Dome orientation is not significant on radius)
- Landing
- Maximum landing slope in any direction is 2.0%. Minimum landing dimensions 5' x 5'. See notes.
- Maximum cross slope on ramp is the same as that for sidewalk (2.0%). Running slope 5% - 7% (8.3% maximum) see notes.

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**SIDEWALK RAMP TYPE RR**
(Detectable Warning at Railroad Crossing)

*The detectable warning surface shall be located so that the edge nearest the rail crossing is 6' minimum and 15' maximum from the centerline of the nearest rail. Do not place detectable warning on railroad crossing material.*

**SIDEWALK RAMP TYPE FS**
(Detectable Warning at Flush Shoulder or Roadway)
SIDEWALK RAMP LOCATED IN RADIUS (TYPE R SHOWN) (GRADE BREAK GREATER THAN 5')

SIDEWALK RAMP LOCATED IN RADIUS (TYPE R SHOWN) (GRADE BREAK LESS THAN 5')

SIDEWALK RAMP PERPENDICULAR TO RADIAL CURB (TYPE F SHOWN) (USE WITH RADIAL CURB WHEN THE CROSSWALK AND SIDEWALK RAMP ARE NOT ALIGNED)

SIDEWALK RAMP PERPENDICULAR TO TANGENT CURB (TYPE F AND TYPE RF SHOWN)

**GRADE BREAK***
WHERE EITHER END OF THE BOTTOM GRADE BREAK IS MORE THAN 5' FROM THE BACK OF CURB, THE DETECTABLE WARNING SHALL BE LOCATED ON THE LOWER LANDING. (DOME ORIENTATION IS NOT SIGNIFICANT ON RADIUS)

WHERE BOTH ENDS OF THE BOTTOM GRADE BREAK ARE WITHIN 5' OF THE BACK OF CURB, THE DETECTABLE WARNING SHALL BE LOCATED ON THE RAMP SURFACE AT THE BOTTOM GRADE BREAK.

2% MAX. SLOPE UNDER GRADE BREAK

WHERE EITHER END OF THE BOTTOM GRADE BREAK IS MORE THAN 5' FROM THE BACK OF CURB, THE DETECTABLE WARNING SHALL BE LOCATED ON THE LOWER LANDING. (DOME ORIENTATION IS NOT SIGNIFICANT ON RADIUS)

WHERE BOTH ENDS OF THE BOTTOM GRADE BREAK ARE WITHIN 5' OF THE BACK OF CURB, THE DETECTABLE WARNING SHALL BE LOCATED ON THE RAMP SURFACE AT THE BOTTOM GRADE BREAK.

2% MAX. SLOPE UNDER GRADE BREAK AND DETECTABLE WARNING

* GRADE BREAKS AT THE TOP AND BOTTOM OF CURB RAMPS SHALL BE PERPENDICULAR TO THE DIRECTION OF RAMP RUN. AT LEAST ONE END OF THE BOTTOM GRADE BREAK SHALL BE AT THE BACK OF CURB.

*** TRANSITION ADJACENT GUTTER PAN CROSS SECTION TO PROVIDE 5% MAXIMUM COUNTER SLOPE ACROSS THE RAMP OPENING.

24" DEEP DETECTABLE WARNING, EXTENDING THE WIDTH OF THE RAMP.
NOTES:

DETAILS SPECIFIED ON THIS PLAN APPLY TO ALL CONSTRUCTION, RECONSTRUCTION, OR ALTERATION OF STREETS, CURBS, OR SIDEWALKS BY ALL PUBLIC AGENCIES AND BY ALL PRIVATE ORGANIZATIONS CONSTRUCTING FACILITIES FOR PUBLIC USE.

SIDEWALK RAMPS ARE TO BE LOCATED AS SPECIFIED ON THE PLANS OR AS DIRECTED BY THE ENGINEER.

RAMPS SHALL BE PROVIDED AT ALL CORNERS OF AN INTERSECTION WHERE THERE IS EXISTING OR PROPOSED SIDEWALK AND CURB. RAMPS SHALL ALSO BE PROVIDED AT WALK LOCATIONS IN A-DECK-BLOCK IN THE VICINITIES OF HOSPITALS, MEDICAL CENTERS, AND LARGE ATHLETIC FACILITIES.

SURFACE TEXTURE OF THE RAMP SHALL BE THAT OBTAINED BY A COARSE BROOMING, TRANSVERSE TO THE SLOPE OF RAMP.

SIDEWALK SHALL BE RAMPS WHERE THE DRIVEWAY CURB IS EXTENDED ACROSS THE WALK.

CARE SHALL BE TAKEN TO ASSURE A UNIFORM GRADE ON THE RAMP, FREE OF SAGS AND SHORT GRADE CHANGES, WHERE CONDITIONS PERMIT. IT IS DESIRABLE THAT THE SLOPE OF THE RAMP BE IN ONLY ONE DIRECTION, PARALLEL TO THE DIRECTION OF TRAVEL.

RAMP WIDTH SHALL BE INCREASED, IF NECESSARY, TO ACCOMMODATE SIDEWALK SNOW REMOVAL EQUIPMENT NORMALLY USED BY THE MUNICIPALITY.

PROVIDE LANDINGS WHERE PEDESTRIAN TURNING MOVEMENTS ARE REQUIRED.

WHEN 5' MINIMUM DIMENSIONS ARE NOT FEASIBLE, RAMP WIDTH MAY BE REDUCED TO NOT LESS THAN 4' AND LANDING DIMENSION TO NOT LESS THAN 4' x 4'.

FOR NEW ROADWAY CONSTRUCTION, THE RAMP CROSS SLOPE MAY NOT EXCEED 2%. FOR ALTERATIONS TO EXISTING ROADWAYS, THE CROSS SLOPE MAY BE TRANSITIONED TO MEET AN EXISTING ROADWAY GRADE. THE CROSS SLOPE TRANSITION SHALL BE APPLIED UNIFORMLY OVER THE FULL LENGTH OF THE RAMP.

THE MAXIMUM RUNNING SLOPE OF 8.3% IS RELATIVE TO A FLAT (0%) REFERENCE. HOWEVER, IT SHALL NOT REQUIRE ANY RAMP OR SERIES OF RAMPS TO EXCEED 15 FEET IN LENGTH.

DRAINAGE STRUCTURES SHOULD NOT BE PLACED IN LINE WITH RAMPS. THE LOCATION OF THE RAMP SHOULD TAKE PRECEDENCE OVER THE LOCATION OF THE DRAINAGE STRUCTURE. WHERE EXISTING DRAINAGE STRUCTURES ARE LOCATED IN THE RAMP PATH OF TRAVEL, USE A MANUFACTURER'S ADA COMPLIANT GRADE. OPENINGS SHALL NOT BE GREATER THAN 1/2". ELONGATED OPENINGS SHALL BE PLACED SO THAT THE LONG DIMENSION IS PERPENDICULAR TO THE DOMINANT DIRECTION OF TRAVEL.

TRANSITION THE GUTTER PAN CROSS SECTION SUCH THAT THE COUNTER SLOPE IN THE DIRECTION OF RAMP TRAVEL IS NOT GREATER THAN 5%. MAINTAIN THE NORMAL GUTTER PAN CROSS SECTION ACROSS DRAINAGE STRUCTURES.

THE TOP OF THE JOINT FILLER FOR ALL RAMP TYPES SHALL BE FLUSH WITH THE ADJACENT CONCRETE.

CROSSWALK AND STOP LINE MARKINGS, IF USED, SHALL BE SO LOCATED AS TO STOP TRAFFIC SHORT OF RAMP CROSSINGS. SPECIFIC DETAILS FOR MARKING APPLICATIONS ARE GIVEN IN THE "MICHIGAN MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES".

FLARED SIDES WITH A SLOPE OF 10% MAXIMUM, MEASURED ALONG THE CURB LINE, SHALL BE PROVIDED WHERE A CIRCULATION PATH ACROSS THE SIDEWALK RAMP. FLARED SIDES ARE NOT REQUIRED WHERE THE EDGES OF A SIDEWALK RAMP ARE PROTECTED BY LANDSCAPING OR OTHER BARRIERS TO TRAVEL BY WHEELCHAIR USERS OR PEDESTRIANS ACROSS THE EDGE OF THE SIDEWALK RAMP.