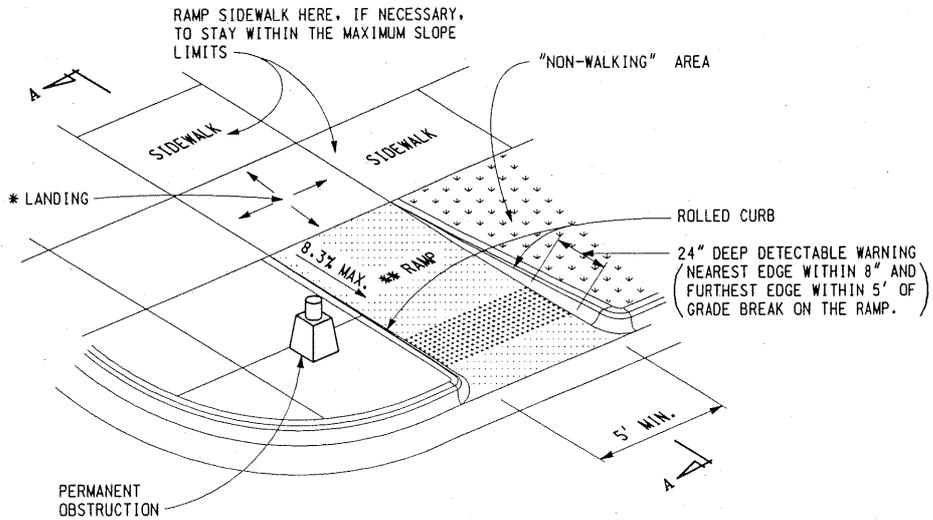
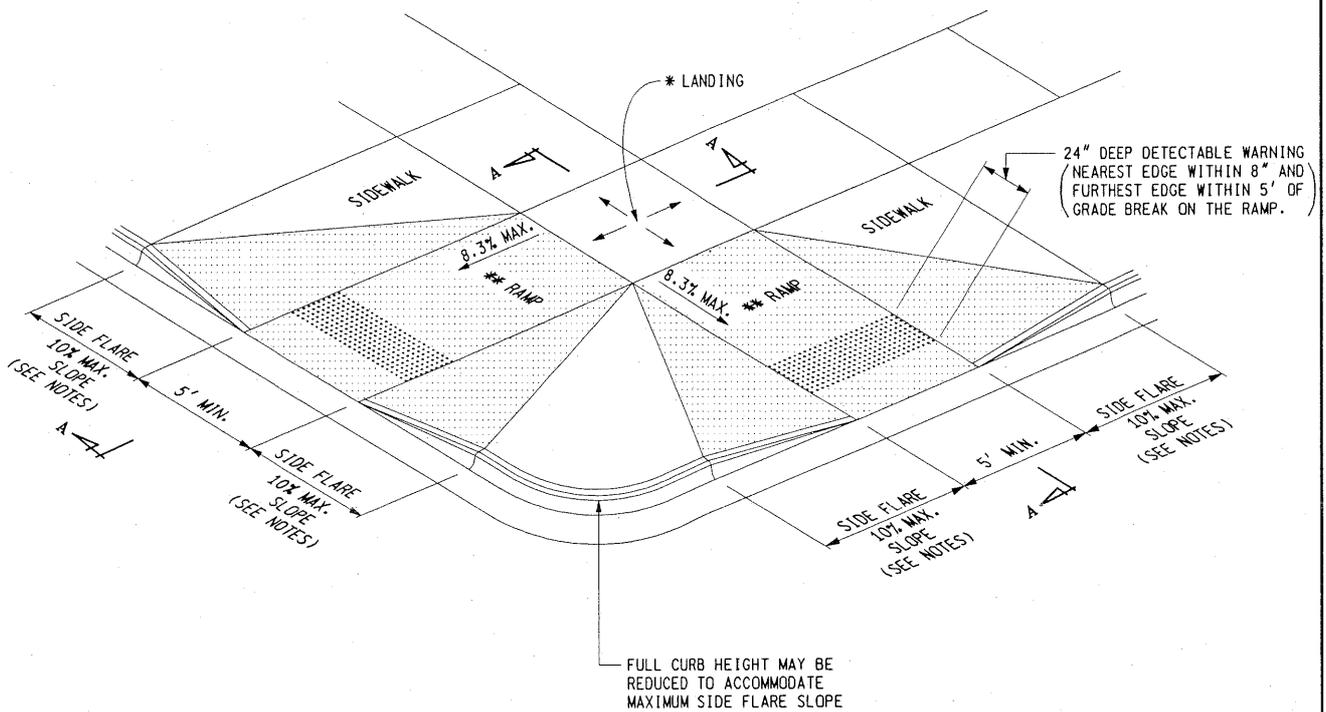


* MAXIMUM LANDING SLOPE IN ANY DIRECTION IS 2%.
MINIMUM LANDING DIMENSIONS 5' x 5'.

** MAXIMUM CROSS SLOPE ON RAMP IS THE SAME AS THAT FOR SIDEWALK (2%).



SIDEWALK RAMP TYPE R
(ROLLED SIDES)



SIDEWALK RAMP TYPE F
(FLARED SIDES, TWO RAMPS SHOWN)



PREPARED BY
DESIGN DIVISION

DRAWN BY: B.L.T.

CHECKED BY: W.K.P.

DEPARTMENT DIRECTOR
Kirk T. Steudle

APPROVED BY: _____
ENGINEER OF DELIVERY

APPROVED BY: _____
ENGINEER OF DEVELOPMENT

MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAY DEVELOPMENT STANDARD PLAN FOR

**SIDEWALK RAMP AND
DETECTABLE WARNING DETAILS**

F.H.W.A. APPROVAL

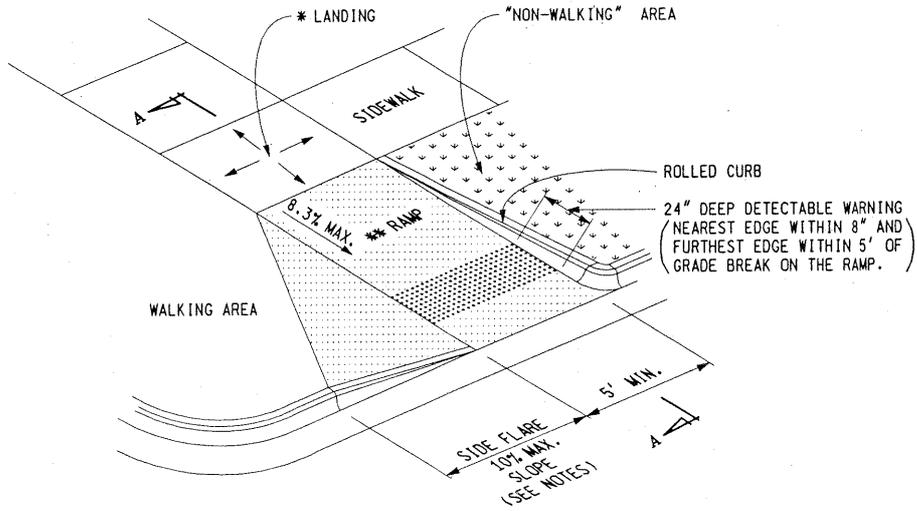
5-17-2007
PLAN DATE

R-28-F

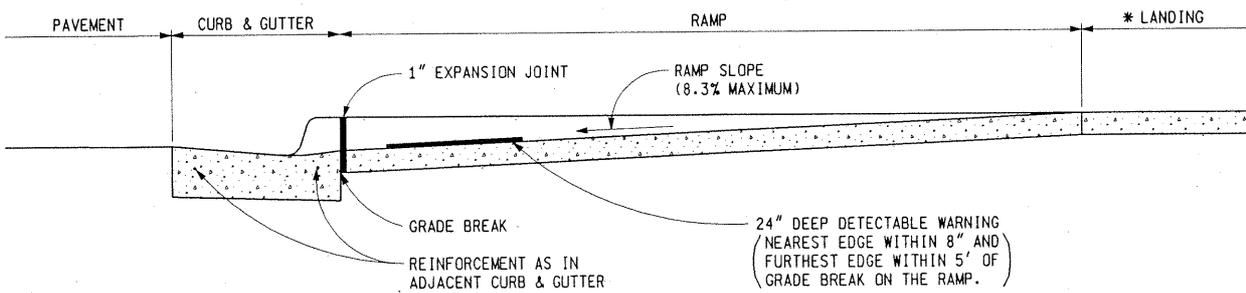
SHEET
1 OF 7

* MAXIMUM LANDING SLOPE IN ANY DIRECTION IS 2%.
MINIMUM LANDING DIMENSIONS 5' x 5'.

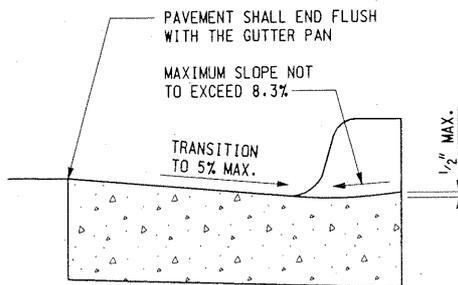
** MAXIMUM CROSS SLOPE ON RAMP IS THE SAME AS
THAT FOR SIDEWALK (2%).



SIDEWALK RAMP TYPE RF
(ROLLED / FLARED SIDES)



SECTION A-A
(TYPICAL ALL RAMP DETAILS)



SECTION THROUGH CURB CUT
(TYPICAL ALL RAMP TYPES)

MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAY DEVELOPMENT STANDARD PLAN FOR

**SIDEWALK RAMP AND
DETECTABLE WARNING DETAILS**

F.H.W.A. APPROVAL

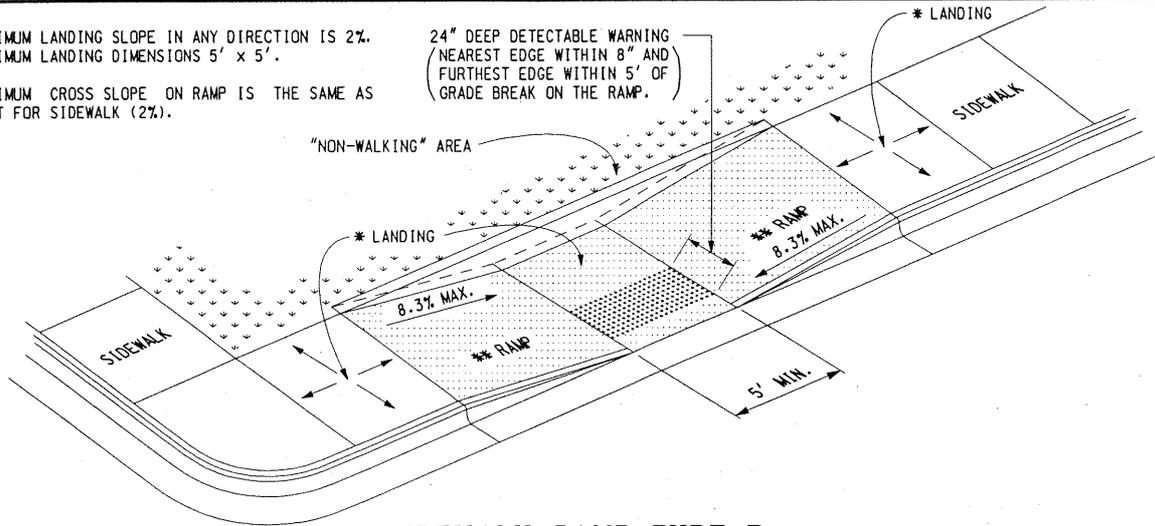
5-17-2007
PLAN DATE

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SHEET
2 OF 7

* MAXIMUM LANDING SLOPE IN ANY DIRECTION IS 2%.
 MINIMUM LANDING DIMENSIONS 5' x 5'.
 ** MAXIMUM CROSS SLOPE ON RAMP IS THE SAME AS
 THAT FOR SIDEWALK (2%).

24" DEEP DETECTABLE WARNING
 (NEAREST EDGE WITHIN 8" AND
 FURTHEST EDGE WITHIN 5' OF
 GRADE BREAK ON THE RAMP.)

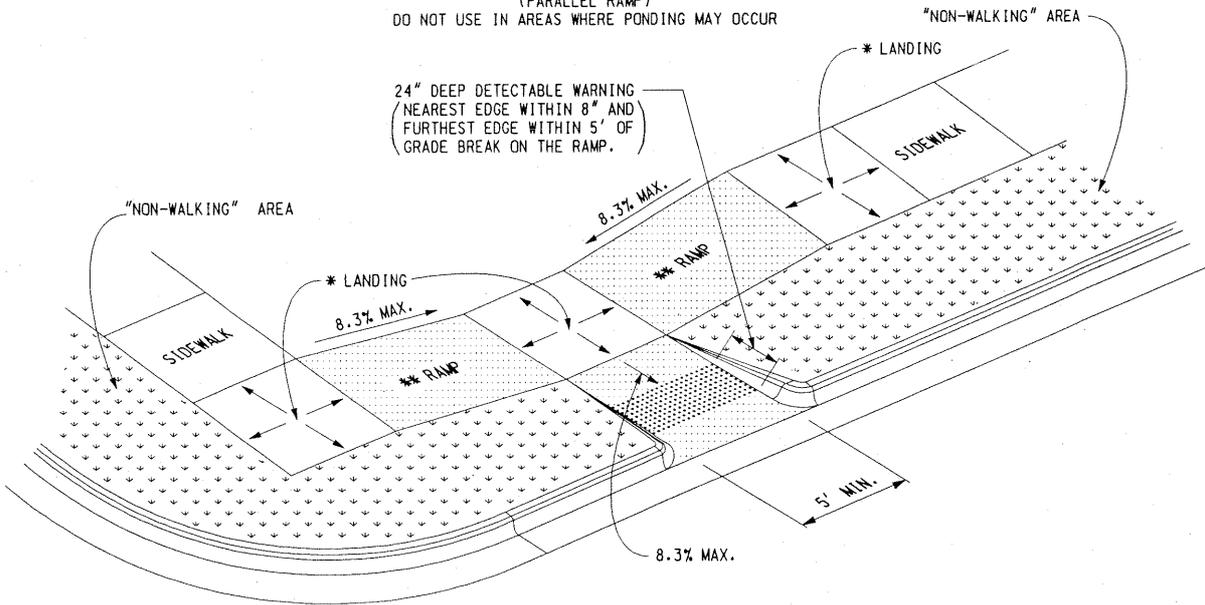


SIDEWALK RAMP TYPE P

(PARALLEL RAMP)

DO NOT USE IN AREAS WHERE PONDING MAY OCCUR

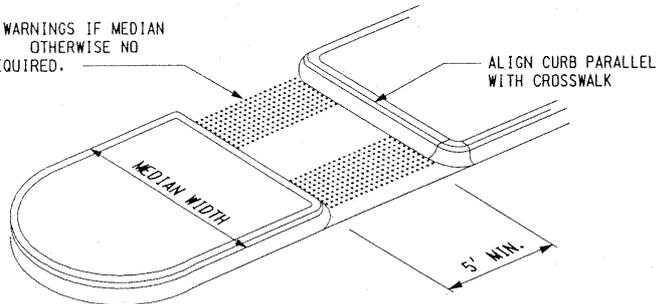
24" DEEP DETECTABLE WARNING
 (NEAREST EDGE WITHIN 8" AND
 FURTHEST EDGE WITHIN 5' OF
 GRADE BREAK ON THE RAMP.)



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.



SIDEWALK RAMP TYPE M

(MEDIAN ISLAND)

MICHIGAN DEPARTMENT OF TRANSPORTATION
 BUREAU OF HIGHWAY DEVELOPMENT STANDARD PLAN FOR

**SIDEWALK RAMP AND
 DETECTABLE WARNING DETAILS**

F.H.W.A. APPROVAL

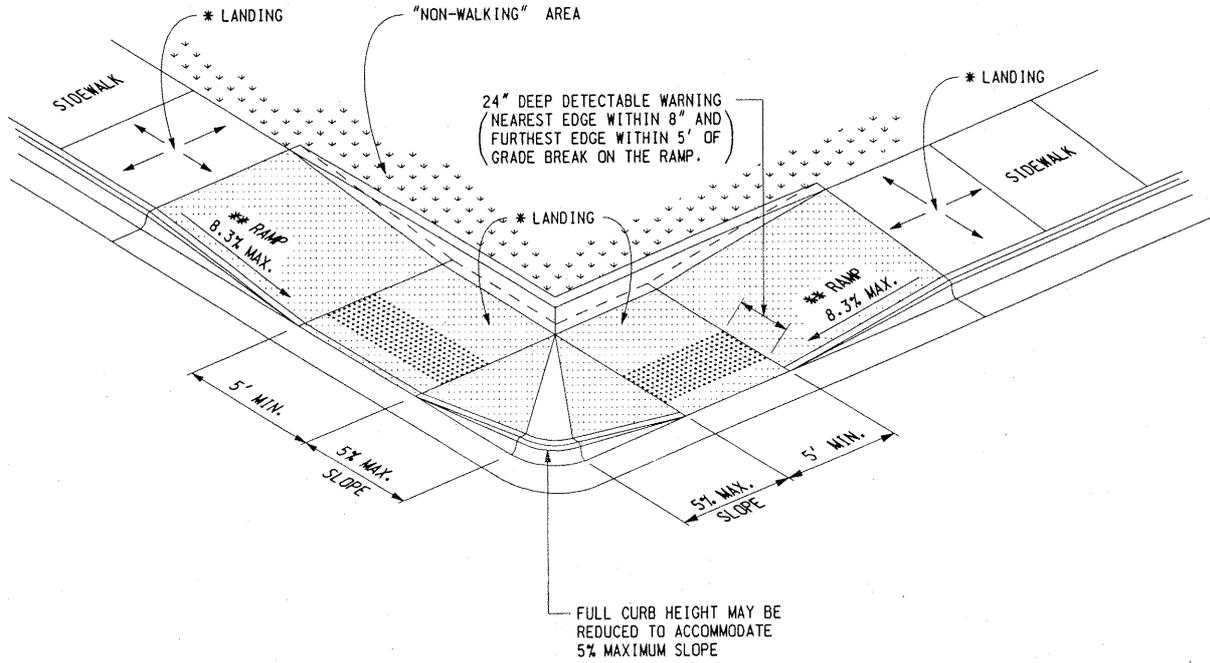
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SHEET
 3 OF 7

* MAXIMUM LANDING SLOPE IN ANY DIRECTION IS 2%.
 MINIMUM LANDING DIMENSIONS 5' x 5'.

** MAXIMUM CROSS SLOPE ON RAMP IS THE SAME AS
 THAT FOR SIDEWALK (2%).



SIDEWALK RAMP TYPE PF
 (PARALLEL WITH FLARE)

MICHIGAN DEPARTMENT OF TRANSPORTATION
 BUREAU OF HIGHWAY DEVELOPMENT STANDARD PLAN FOR

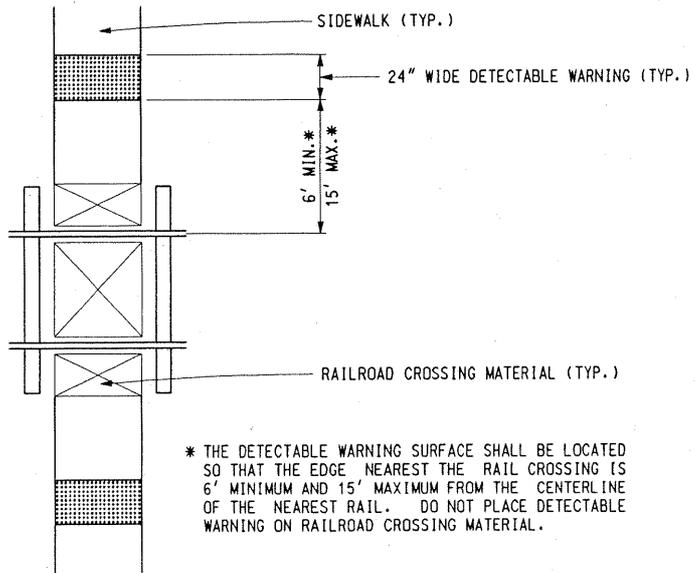
**SIDEWALK RAMP AND
 DETECTABLE WARNING DETAILS**

F.H.W.A. APPROVAL

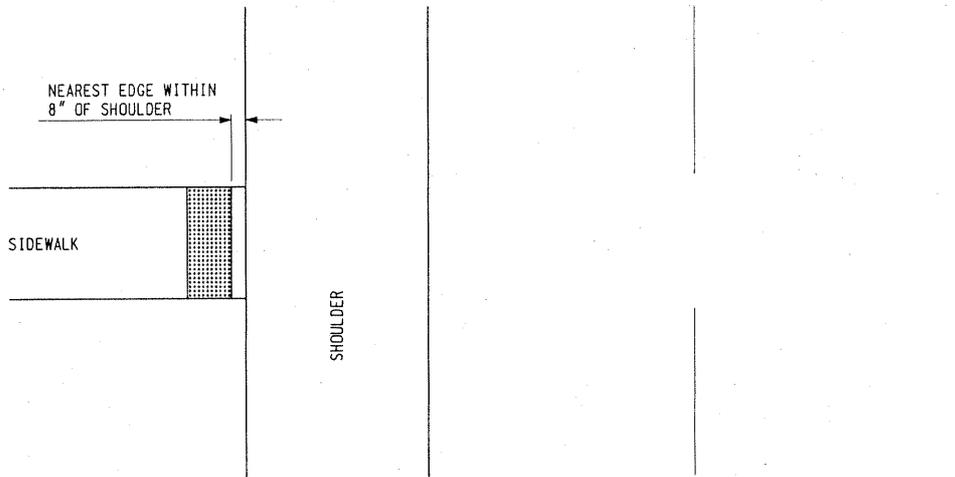
5-17-2007
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SIDEWALK RAMP TYPE RR
(DETECTABLE WARNING AT RAILROAD CROSSING)



SIDEWALK RAMP TYPE FS
(DETECTABLE WARNING AT FLUSH SHOULDER)

MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAY DEVELOPMENT STANDARD PLAN FOR

**SIDEWALK RAMP AND
DETECTABLE WARNING DETAILS**

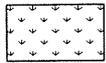
F.H.W.A. APPROVAL

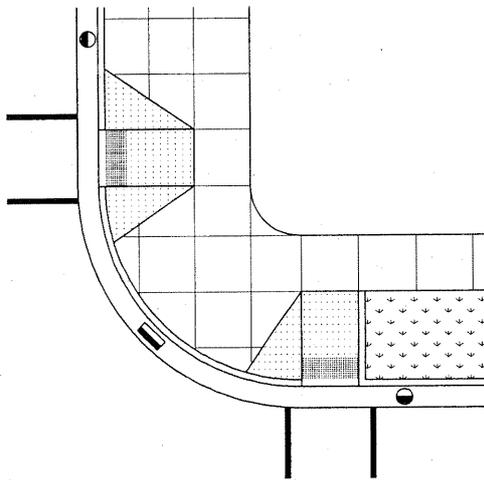
5-17-2007
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R-28-F

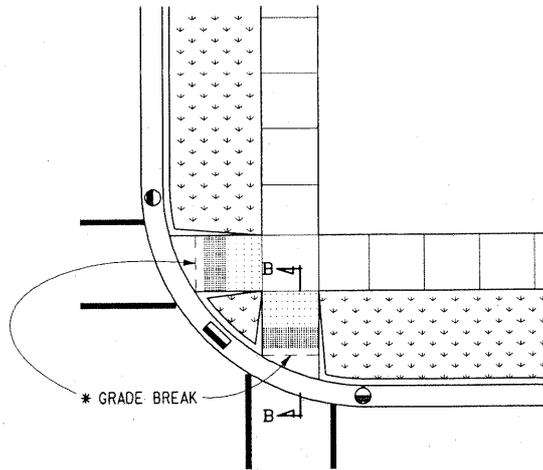
SHEET
5 OF 7

LEGEND

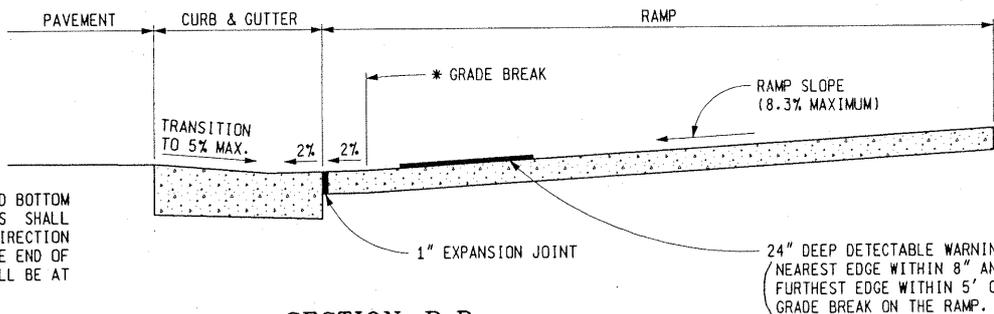
-  SIDEWALK RAMP
-  "NON-WALKING" AREA
-  CROSSWALK MARKING
-  PREFERRED LOCATION OF DRAINAGE INLET (TYP.)
-  ALTERNATE LOCATION OF DRAINAGE INLET (TYP.)



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



SIDEWALK RAMP LOCATED IN RADIUS, WITH ORIENTATION
AS DESCRIBED IN SECTION B-B (TYPE R SHOWN)

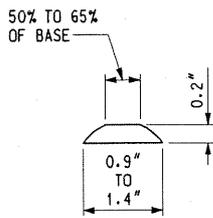


* GRADE BREAKS AT THE TOP AND BOTTOM OF PERPENDICULAR CURB RAMPS SHALL BE PERPENDICULAR TO THE DIRECTION OF RAMP RUN. AT LEAST ONE END OF THE BOTTOM GRADE BREAK SHALL BE AT THE BACK OF CURB.

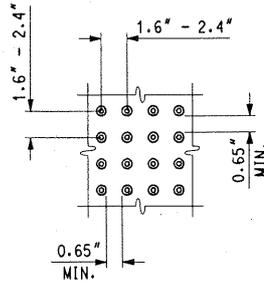
SECTION B-B

SIDEWALK RAMP ORIENTATION

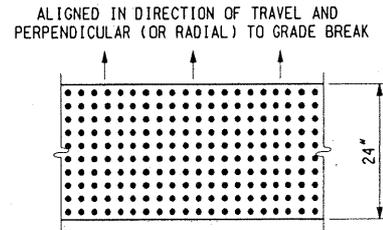
MICHIGAN DEPARTMENT OF TRANSPORTATION BUREAU OF HIGHWAY DEVELOPMENT STANDARD PLAN FOR			
SIDEWALK RAMP AND DETECTABLE WARNING DETAILS			
F.H.W.A. APPROVAL	5-17-2007 PLAN DATE	R-28-F	SHEET 6 OF 7



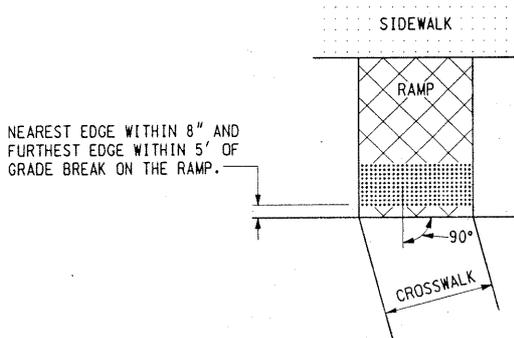
DOME SECTION



DOME SPACING



DOME ALIGNMENT



DETECTABLE WARNING DETAILS

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 MID-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 RAMPED 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.

IF POSSIBLE, DRAINAGE STRUCTURES SHOULD NOT BE PLACED IN LINE WITH RAMPS. EXCEPT WHERE EXISTING DRAINAGE STRUCTURES ARE BEING UTILIZED IN THE NEW CONSTRUCTION, LOCATION OF THE RAMP SHOULD TAKE PRECEDENCE OVER LOCATION OF DRAINAGE STRUCTURE.

THE SLOPE OF THE GUTTER PAN SHALL BE TRANSITIONED TO A MAXIMUM OF 5% IN THE AREA OF THE CURB CUT OF THE SIDEWALK RAMP. MAINTAIN THE NORMAL GUTTER PAN SLOPE ACROSS THE DRAINAGE STRUCTURE INLETS.

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".

DETECTABLE WARNINGS SHALL EXTEND THE FULL WIDTH OF THE CURB RAMP. THEY SHALL BE LOCATED SO THAT THE NEAREST EDGE OF THE DETECTABLE WARNING IS WITHIN 8" AND THE FURTHEST EDGE WITHIN 5' OF THE GRADE BREAK ON THE RAMP.

FLARED SIDES WITH A SLOPE OF 10% MAXIMUM, MEASURED ALONG THE CURB LINE, SHALL BE PROVIDED WHERE A CIRCULATION PATH CROSSES 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.

MICHIGAN DEPARTMENT OF TRANSPORTATION
 BUREAU OF HIGHWAY DEVELOPMENT STANDARD PLAN FOR

**SIDEWALK RAMP AND
 DETECTABLE WARNING DETAILS**

F.H.W.A. APPROVAL	5-17-2007 PLAN DATE	R-28-F	SHEET 7 OF 7
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