

PERPENDICULAR CURB RAMPS

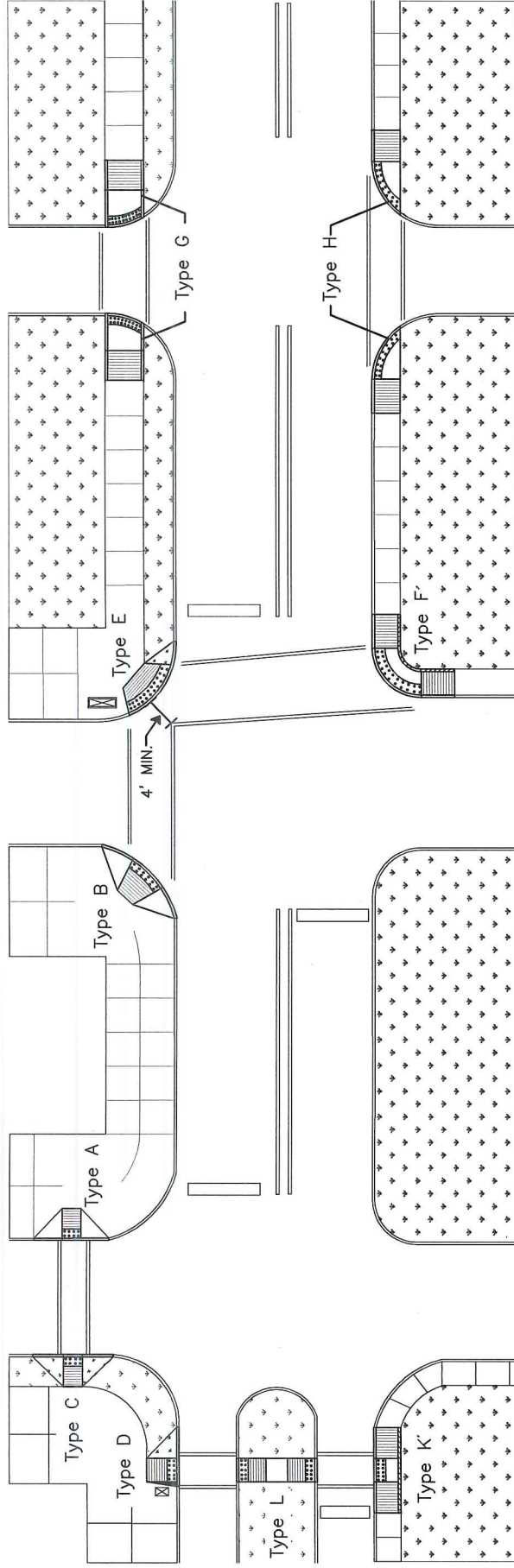
Types A, C, D, L, K

PARALLEL CURB RAMPS

Types B, E, F

ONE DIRECTIONAL CURB RAMPS

Types G, H



CURB RAMP DETAIL INDEX	
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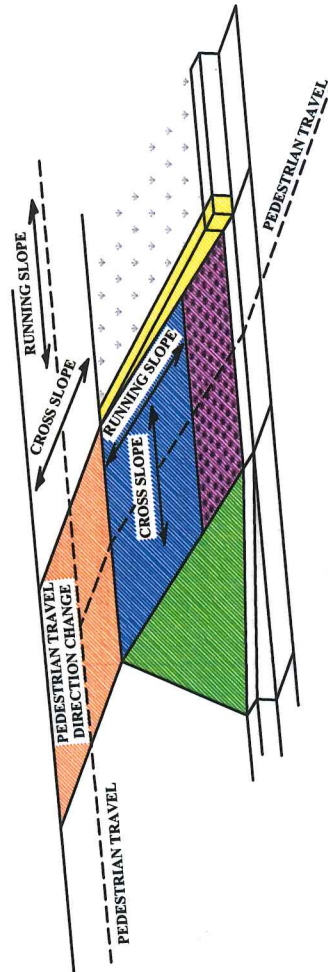
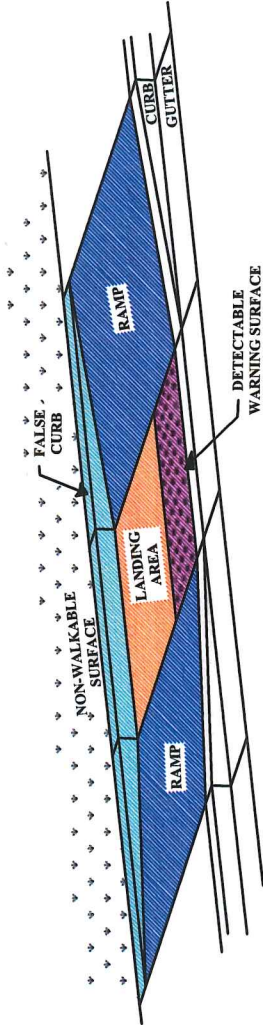
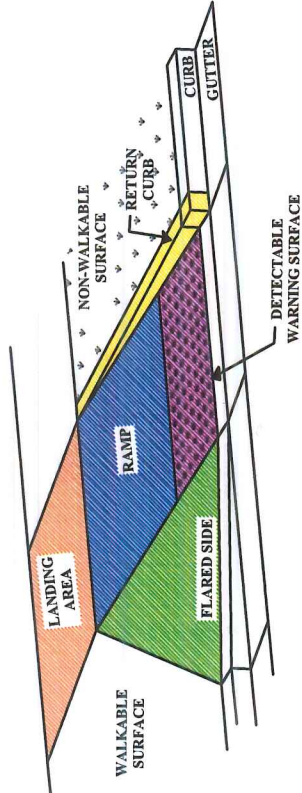
DETAIL CR-1 CURB RAMP LOCATIONS AND DRAWING INDEX

NO SCALE

REVISION DATE: 4-11-2018



ENGINEERING
DEPARTMENT





DETAIL CR-2

CURB RAMP - GENERAL NOTES

NO SCALE

REVISION DATE: 4-11-2018

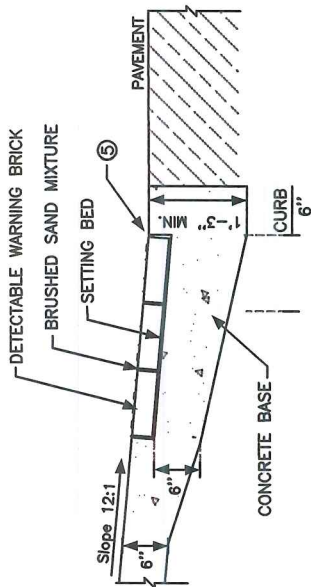
1. **CURB RAMP:** Provides access for a pedestrian from the street to the sidewalk. Curb ramp components include the ramp(s), flared sides, landing area (Types F, H, K, L), curb or curb & gutter, return curbs, and false curbs.
2. **RAMP:** A ramp shall be used to lower or raise the sidewalk to connect with the street, landing area, or to other sidewalk.
3. **LANDING AREA:** A landing area shall be provided at the top or bottom of the ramp or where the pedestrian travel requires a change in direction.
4. **FLARED SIDE:** A flared side shall be used adjacent to a walkable surface. A flared side may be used adjacent to a non-walkable surface.
5. **RETURN CURB:** A return curb is placed perpendicular to the roadway curb. A return curb may be used adjacent to a non-walkable surface. A return curb shall not be used adjacent to a walkable surface unless a bollard or other obstruction is placed to prevent pedestrian travel.
6. **FALSE CURB:** Curb placed behind the ramp(s) and landing area parallel to the roadway curb.
7. **DETECTABLE WARNING SURFACE:** A detectable warning surface shall be placed at each street, highway, or railroad crossing. A detectable warning surface shall extend a minimum of 2' in the direction of pedestrian travel and be placed the entire width of a ramp or landing area.
8. **WALKABLE / NON-WALKABLE SURFACE:** A walkable surface includes concrete, brick pavers, asphalt. A non-walkable surface includes grass, dirt, rock etc.
9. **PEDESTRIAN TRAVEL:** A continuous, unobstructed way of pedestrian passage by means of which the altered area may be approached, entered, and exited, and which connects the altered area with an exterior approach.
10. **CROSS SLOPE:** The slope measured perpendicular to the direction of pedestrian travel.
11. **RUNNING SLOPE:** The slope measured parallel to the direction of pedestrian travel.
12. All slopes are absolute rather than relative to the sidewalk or roadway grade. Slopes at least half of the maximum are preferred.
13. **Ramp(s) -** Shall not exceed a running slope of 8.33% and a cross slope of 2%. Ramps shall not exceed a length of 15'.
14. **Flared Sides -** Shall not exceed a slope of 10% measured parallel to the back of the curb.
15. **Landing Area -** Shall not exceed 2% in all directions.
16. Concrete for curb ramps shall be 3500psi.
17. Subgrade for curb ramps shall be a minimum of 2" thick of either "B" Borrow or No. 53 crushed stone and mechanically compacted.
18. All soft and yielding material shall be removed and replaced with acceptable material.
19. The bottom edge of the ramp and the top of curb shall be flush with the edge of the adjacent pavement or gutter line.
20. The gutter line shall follow the grade of the road and allow for positive drainage. If the existing conditions do not allow for positive drainage the path of pedestrian travel shall be kept free from ponding unless otherwise approved by the Engineer.
21. Performed $\frac{1}{2}$ " joint filler material shall be placed between the curb and the curb ramp and between the curb ramp and adjoining sidewalk if poured separately or otherwise approved by the Engineer, and around any utility structure.
22. Manholes, handholes, inlets, and other utility structures shall be placed outside the limits of the curb ramp when possible. Utilities located within the limits of the curb ramp shall match the running slope, cross slope, and shall be flush with the concrete that encompasses it.
23. Curb ramp surfaces shall be coarse broomed transverse to the running slope. Exposed edges shall be rounded to $\frac{1}{4}$ " radius.
24. Curb in the width of the curb ramp shall be painted in accordance with 2016 INDOT Standard Specifications, section 604.03(i). See individual ramp types for curb ramp limits.
25. The width of the ramp for Types A, B, C, D, E, L and the width of the landing area for Types F, G, H, K shall be placed within the marked crosswalk area unless approved otherwise by the plans or Engineer.

DEFINITIONS

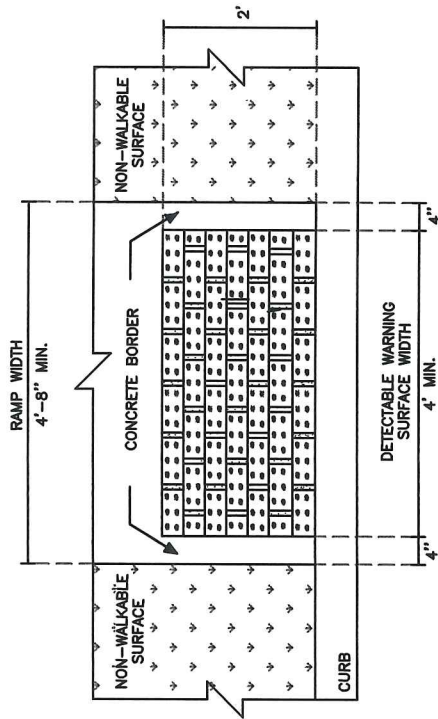
ADA SLOPES

CONSTRUCTION

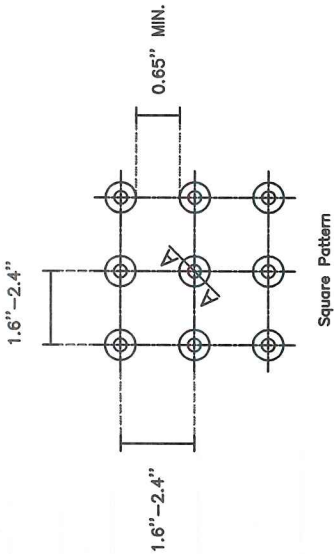
DETECTABLE WARNING SURFACE DETAILS



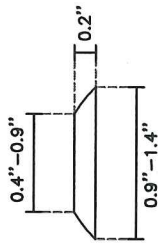
BRICK SURFACE CONSTRUCTION



BRICK DETECTABLE WARNING SURFACE WITH CONCRETE BORDER



TRUNCATED DOMES — PLAN VIEW



SECTION A-A

GENERAL NOTES

1. Detectable warning surfaces shall consist of truncated domes and shall be aligned in a square or radial grid pattern. Where truncated domes are arrayed radially, they may differ in diameter and center-to-center spacing within the ranges specified.
2. The detectable warning surface shall be manufactured to fit the radii. Field cutting shall not alter the truncated dome spacing between the adjacent panels outside of the allowable range.
3. The detectable warning surface shall contrast visually with adjacent surfaces, either light-on-dark or dark-on-light.
4. The detectable warning surface shall extend 2' in the direction of pedestrian travel and extend the full width of the ramp or landing area. A concrete border shall be placed if the detectable warning surface is adjacent to a non-walkable surface (Curb Ramp Types C, D, E, G, H, L).
5. All detectable warning surfaces (i.e. bricks, panels) shall be placed directly behind the curb line.
6. The detectable warning surface shall not be placed across a grade break.

CONSTRUCTION



DETAIL CR-3
DETECTABLE WARNING SURFACE

NO SCALE

REVISION DATE: 4-11-2018

ENGINEERING DEPARTMENT

Diagram illustrating the specifications for a wheelchair ramp, showing various components and dimensions:

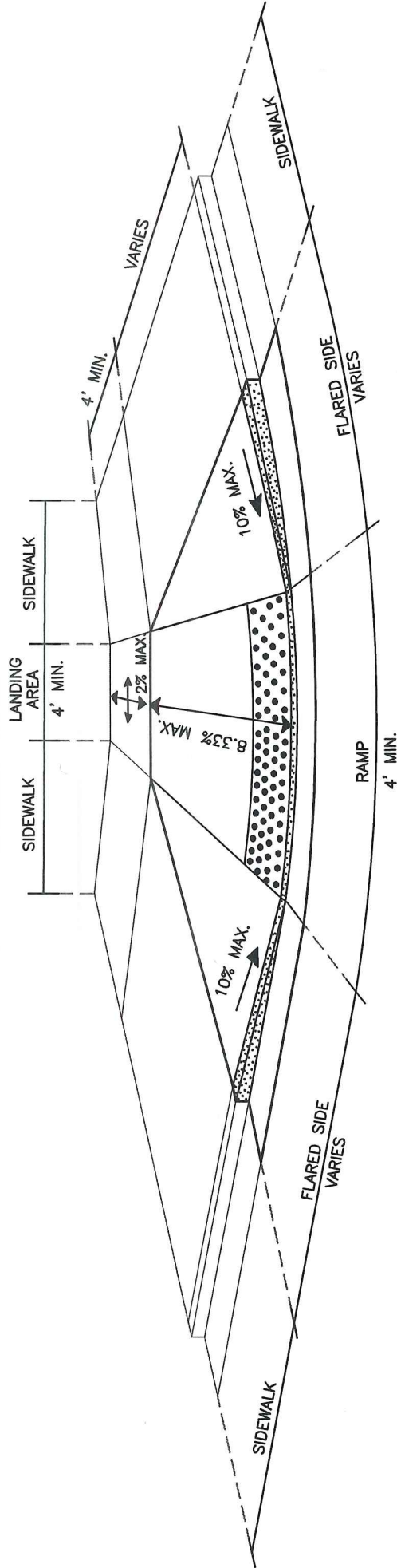
- LANDING AREA:** Minimum width of 4' MIN.
- SIDEWALK:** Minimum width of 4' MIN.
- FLARED SIDE:** Minimum width of 4' MIN.
- RAMP:** Minimum width of 4' MIN.
- Gradients:**
 - 2% MAX. (Landing Area)
 - 8.33% MAX. (Ramp)
 - 10% MAX. (Ramp)
- Other Labels:** VARIES, SIDEWALK, FLARED SIDE, RAMP.

	=	Reflective Yellow Paint With Silica Sand
	=	Detectable Warning Surface
	=	Type A Curb Ramp Limits In Bold

TYPE A CURB RAMP DIMENSIONS			
CURB RAMP SECTION	LENGTH	WIDTH	THICKNESS
RAMP	Varies	4' Min.	6" Min.
DETECTABLE WARNING SURFACE	2'	Entire width of ramp	See Detail CR-3
FLARED SIDES	Varies	Varies	6" Min.
LANDING AREA	4' Min.	4' Min.	4" Min.

	DETAIL CR-3A
	CURB RAMP - TYPE A
	NO SCALE
	REVISION DATE: 4-11-2018

TYPE B – PARALLEL CURB RAMP



LEGEND

- = Reflective Yellow Paint With Silica Sand
- = Detectable Warning Surface
- = Type B Curb Ramp Limits In Bold

GENERAL NOTES

TYPE B CURB RAMP DIMENSIONS			
CURB RAMP SECTION	LENGTH	WIDTH	THICKNESS
RAMP	Varies	4' Min.	6" Min.
DETECTABLE WARNING SURFACE	2'	Entire width of ramp	See Detail CR-3
FLARED SIDES	Varies	Varies	6" Min.
LANDING AREA	4' Min.	4' Min.	4" Min.



DETAIL CR-3B
CURB RAMP - TYPE B

NO SCALE

REVISION DATE: 4-11-2018

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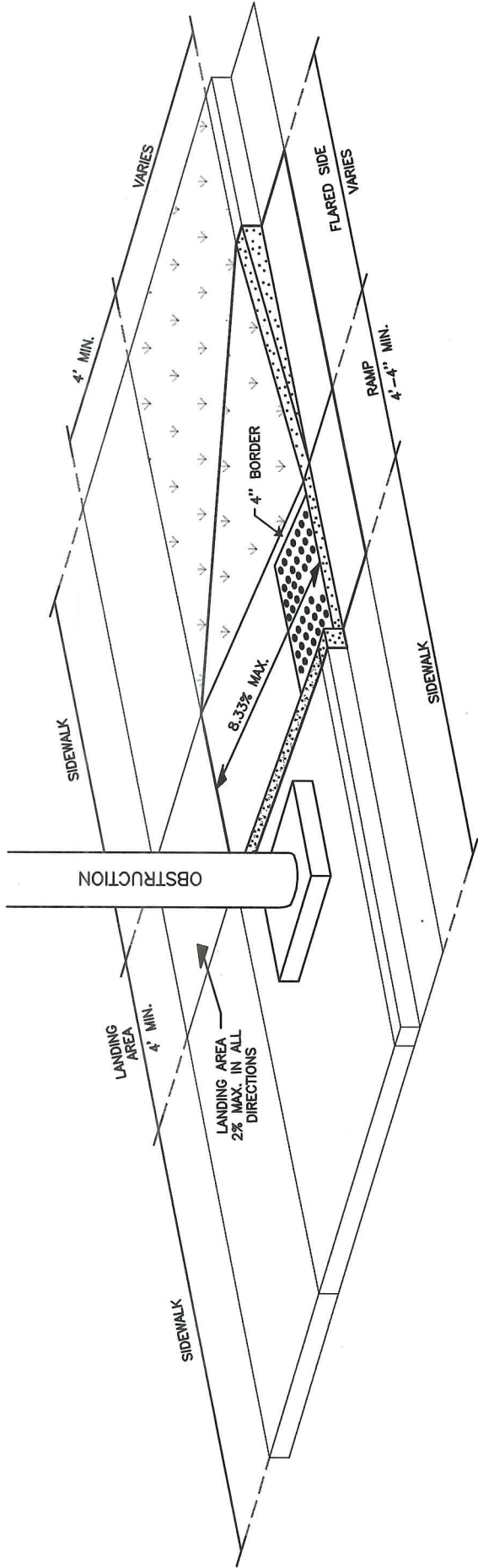
Diagram illustrating the layout of a ramp and landing area, showing dimensions and labels:

- LANDING AREA**: 4' MIN.
- 2% MAX.**: Slope indicator.
- 8' MIN.**: Width of the ramp.
- 8% MAX.**: Slope indicator.
- RETURN CURB**: Indicated on both sides of the ramp.
- NON WALKABLE SURFACE**: Indicated on both sides of the ramp.
- RAMP**: 4' MIN.
- SIDEWALK**: Indicated on both sides of the landing area.
- VARIES**: Indicated for the width of the ramp.

	=	Reflective Yellow Paint With Silica Sand
	=	Detectable Warning Surface
	=	Type C Curb Ramp Limits In Bold

TYPE C CURB RAMP DIMENSIONS			
CURB RAMP SECTION	LENGTH	WIDTH	THICKNESS
RAMP	Varies	4' Min.	6" Min.
DETECTABLE WARNING SURFACE	2'	Entire width of ramp	See Detail CR-3
FLARED SIDES	Varies	Varies	—
LANDING AREA	4' Min.	4' Min.	4" Min.

TYPE D - PERPENDICULAR CURB RAMP



LEGEND

- = Reflective Yellow Paint With Silica Sand
- = Detectable Warning Surface
- = Type D Curb Ramp Limits In Bold

GENERAL NOTES

TYPE D CURB RAMP DIMENSIONS			
CURB RAMP SECTION	LENGTH	WIDTH	THICKNESS
RAMP	Varies	4' Min.	6" Min.
DETECTABLE WARNING SURFACE	2'	Entire width of ramp	See Detail CR-3
FLARED SIDES	Varies	Varies	—
LANDING AREA	4' Min.	4' Min.	4" Min.

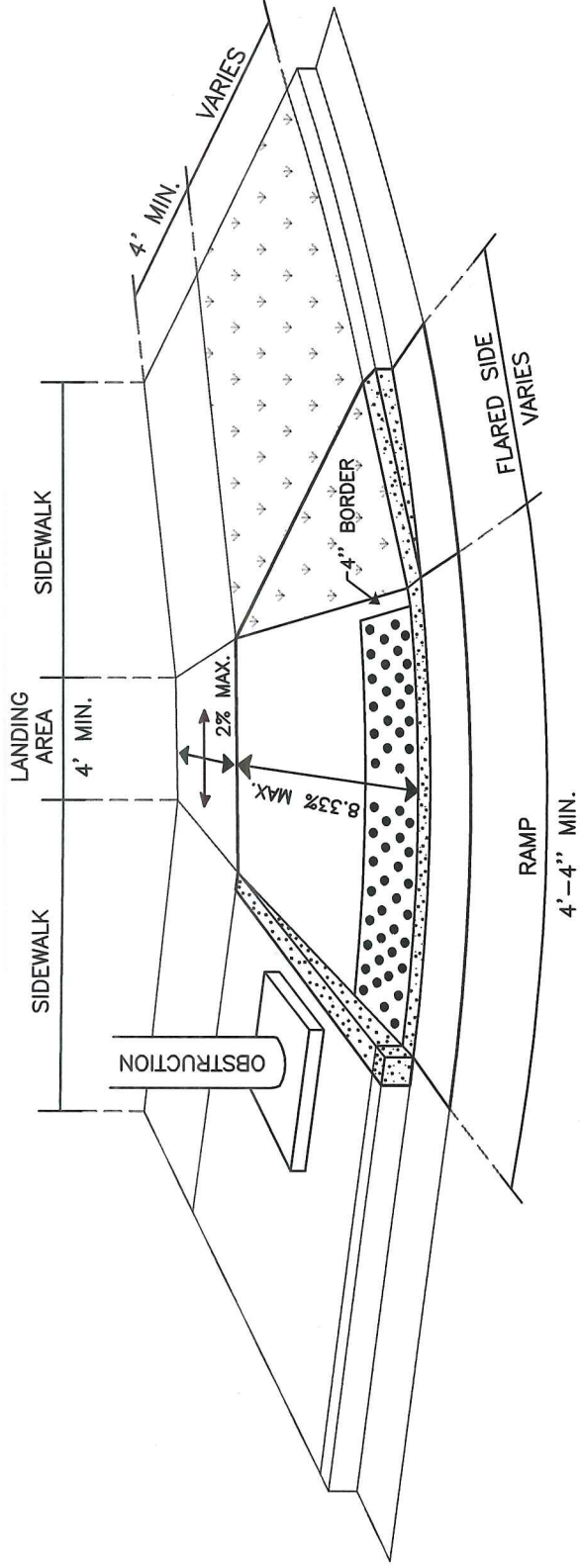
DETAIL CR-3D

CURB RAMP - TYPE D

NO SCALE

REVISION DATE: 4-11-2018

TYPE E - PARALLEL CURB RAMP



LEGEND

- | | | |
|---|---|--|
|  | = | Reflective Yellow Paint With Silica Sand |
|  | = | Detectable Warning Surface |
|  | = | Type E Curb Ramp Limits In Bold |

GENERAL NOTES

TYPE E CURB RAMP DIMENSIONS			
CURB RAMP SECTION	LENGTH	WIDTH	THICKNESS
RAMP	Varies	4' Min.	6" Min.
DETECTABLE WARNING SURFACE	2'	Entire width of ramp	See Detail CR-3
FLARED SIDES	Varies	Varies	—
LANDING AREA	4' Min.	4' Min.	4" Min.

DETAIL CR-3E

CURB RAMP - TYPE E

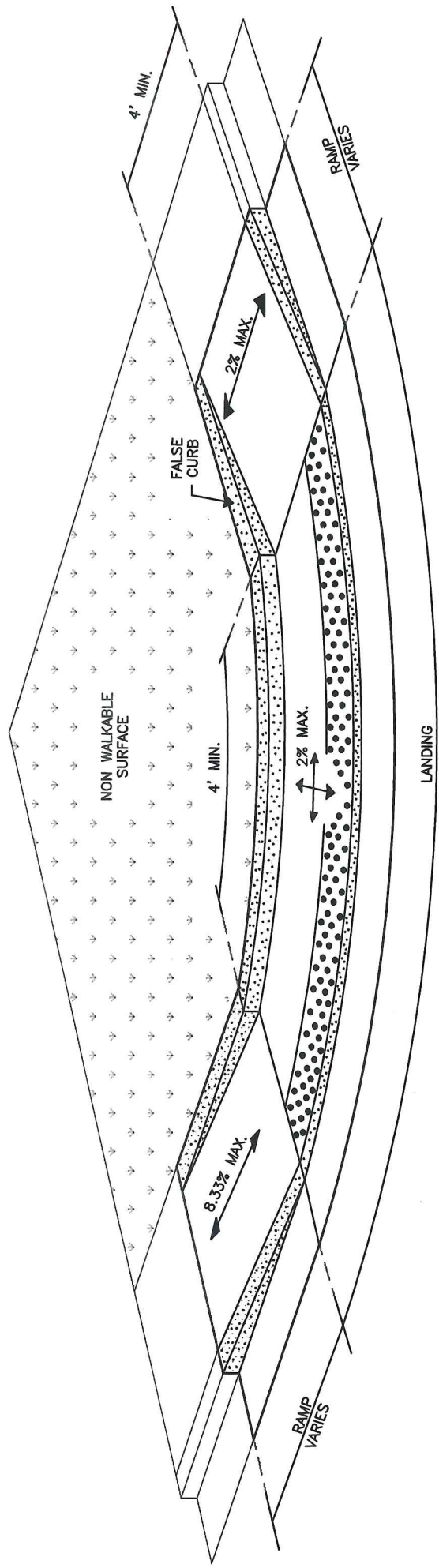
NO SCALE

REVISION DATE: 4-11-2018



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TYPE F – PARALLEL CURB RAMP



LEGEND

- = Reflective Yellow Paint With Silica Sand
- = Detectable Warning Surface
- = Type F Curb Ramp Limits In Bold

GENERAL NOTES

TYPE F CURB RAMP DIMENSIONS			
CURB RAMP SECTION	LENGTH	WIDTH	THICKNESS
RAMP(S)	Varies	4' Min.	6" Min.
DETECTABLE WARNING SURFACE	2'	Entire width of ramp	See Detail CR-3
LANDING AREA	4' Min.	4' Min.	6" Min.



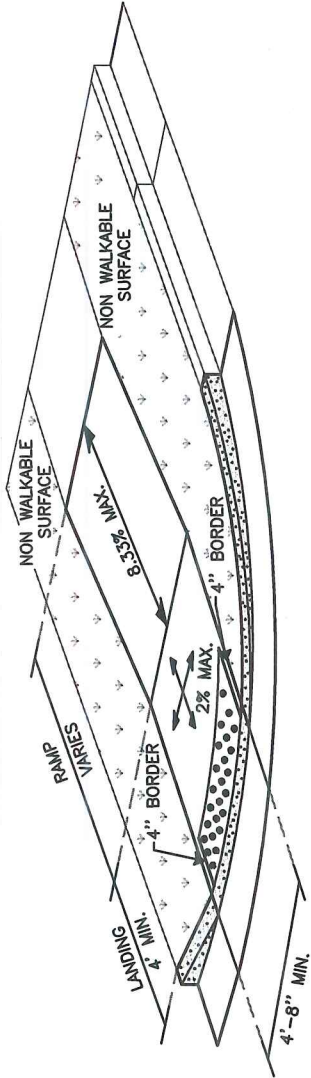
DETAIL CR-3F

CURB RAMP - TYPE F

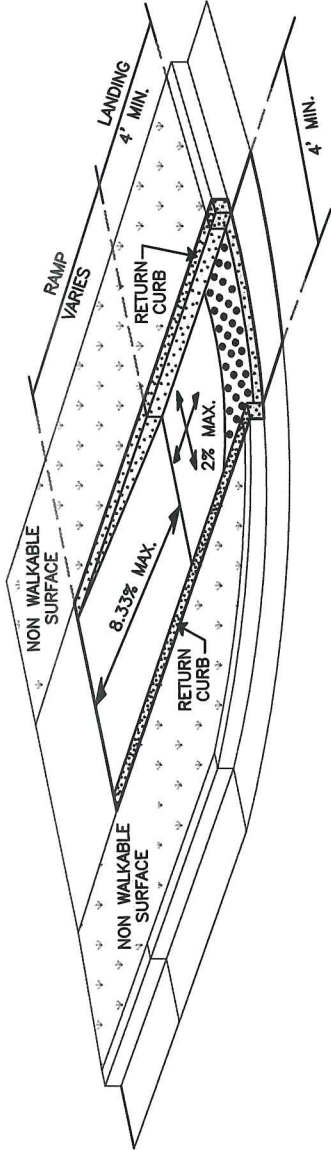
NO SCALE

REVISION DATE: 4-11-2018

TYPE G – ONE DIRECTIONAL CURB RAMP



CURB RAMP, TYPE G WITH TAPER CURB



CURB RAMP, TYPE G WITH RETURN CURB

LEGEND

-  = Reflective Yellow Paint With Silica Sand
-  = Detectable Warning Surface
-  = Type G Curb Ramp Limits In Bold

GENERAL NOTES

TYPE G CURB RAMP DIMENSIONS			
CURB RAMP SECTION	LENGTH	WIDTH	THICKNESS
RAMP(S)	Varies	4' Min.	6" Min.
DETECTABLE WARNING SURFACE	2'	Entire width of ramp	See Detail CR-3
LANDING AREA	4' Min.	4' Min.	6" Min.



DETAIL CR-3G

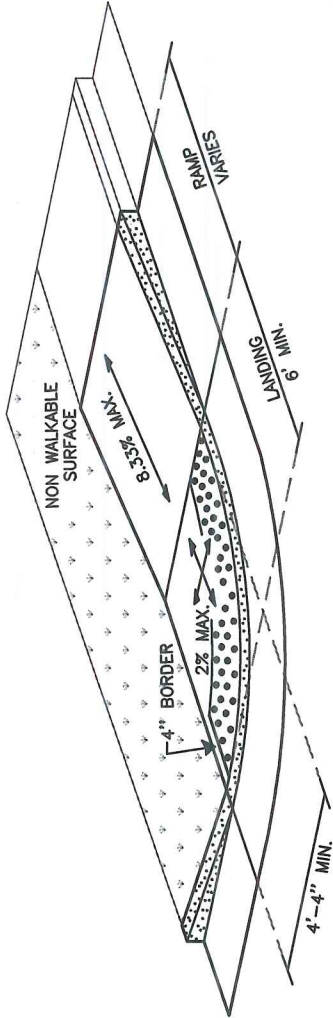
CURB RAMP - TYPE G

NO SCALE

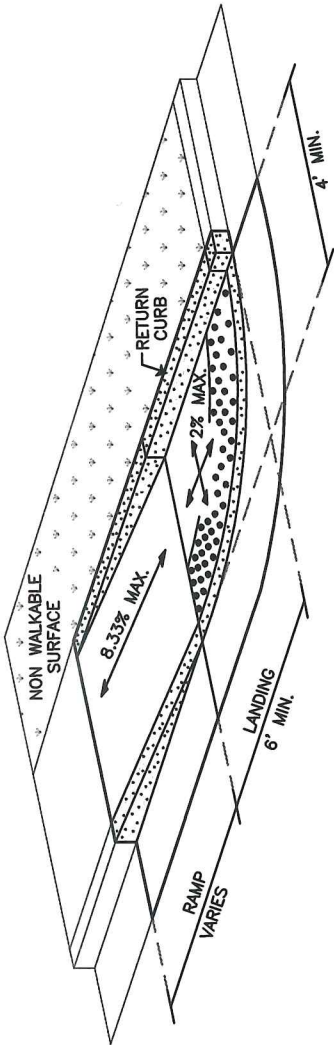
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TYPE H - ONE DIRECTIONAL CURB RAMP



CURB RAMP, TYPE H WITH TAPER CURB



CURB RAMP, TYPE H WITH RETURN CURB

LEGEND

-  = Reflective Yellow Paint With Silica Sand
-  = Detectable Warning Surface
-  = Type H Curb Ramp Limits In Bold

GENERAL NOTES

TYPE H CURB RAMP DIMENSIONS			
CURB RAMP SECTION	LENGTH	WIDTH	THICKNESS
RAMP	Varies	4' Min.	6" Min.
DETECTABLE WARNING SURFACE	2'	Entire width of ramp	See Detail CR-3
LANDING AREA	4' Min.	4' Min.	6" Min.

DIMENSIONS

DETAIL CR-3H
CURB RAMP - TYPE H

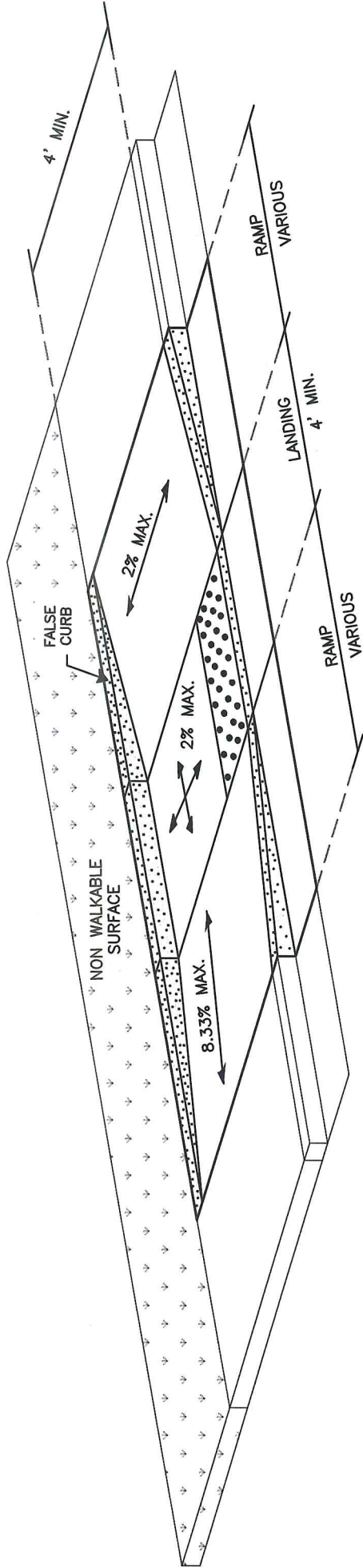


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NO SCALE

REVISION DATE: 4-11-2018

TYPE K - PERPENDICULAR CURB RAMP



LEGEND

- = Reflective Yellow Paint With Silica Sand
- = Detectable Warning Surface
- = Type K Curb Ramp Limits In Bold

GENERAL NOTES

TYPE K CURB RAMP DIMENSIONS			
CURB RAMP SECTION	LENGTH	WIDTH	THICKNESS
RAMP	Varies	4' Min.	6" Min.
DETECTABLE WARNING SURFACE	2'	Entire width of ramp	See Detail CR-3
LANDING AREA	4' Min.	4' Min.	6" Min.



DETAIL CR-3K

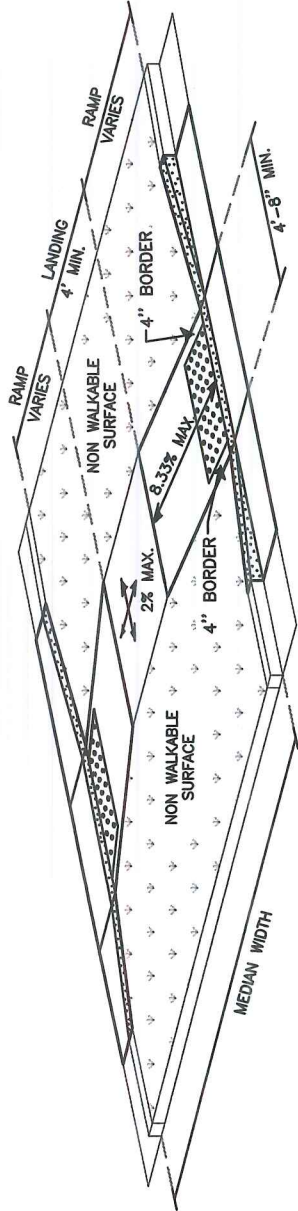
CURB RAMP - TYPE K

NO SCALE

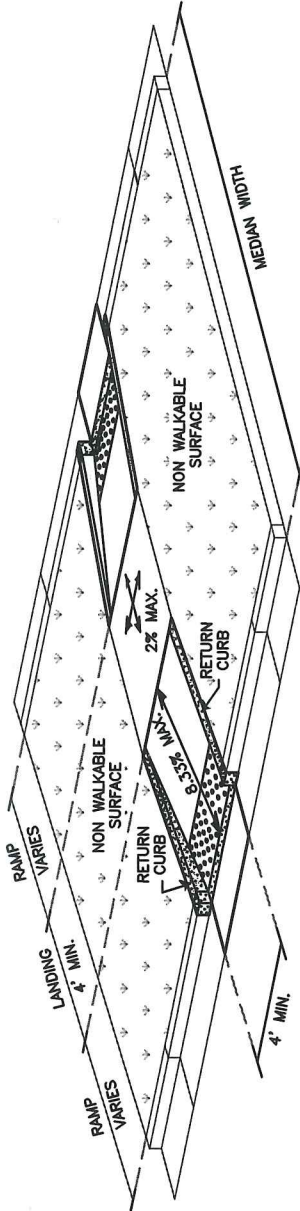
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TYPE L – PERPENDICULAR CURB RAMP / PEDESTRIAN REFUGE ISLAND



CURB RAMP, TYPE L WITH TAPER CURB



CURB RAMP, TYPE L WITH RETURN CURB

LEGEND

-  = Reflective Yellow Paint With Silica Sand
-  = Detectable Warning Surface
-  = Type L Curb Ramp Limits In Bold

GENERAL NOTES

TYPE L CURB RAMP DIMENSIONS			
CURB RAMP SECTION	LENGTH	WIDTH	THICKNESS
RAMP	Varies	4' Min.	6" Min.
DETECTABLE WARNING SURFACE	2'	Entire width of ramp	See Detail CR-3
LANDING AREA	4' Min.	4' Min.	4" Min.



DETAIL CR-3L

CURB RAMP - TYPE L

NO SCALE

REVISION DATE: 4-11-2018

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