

State Of Alaska
Department of Transportation & Public Facilities
Central Region

ADA Curb Ramp Survey Instructions

Introduction

The Central Region ADA Curb Ramp Survey Instructions and Inspection Forms were developed by the DOT&PF Central Region ADA Working Group. The purpose of these documents is to establish a clear and consistent process for measuring curb ramps for ADA compliance within Central Region.

These documents closely follow the DOT&PF's adopted standards for ADA and incorporate PROWAG as a best use practice. They were developed to address the majority of situations that will be encountered in the field. These documents are not a full replacement of the currently adopted DOT&PF standards for ADA, only a summary of those parts most frequently encountered in curb ramp design and construction. Site specific situations may fall outside the scope of these documents and will necessitate usage of additional sections of the ADA standards and the application of engineering judgement.

The requirements outlined below are collectively known as the CR ADA Standards.

Equipment

- 24" Electronic level
- Tape measure
- Broom
- Blank CR ADA Curb Ramp Inspection Forms (1 per curb ramp)

Definitions

Clear Space: A 48" by 48" area beyond the bottom grade break, within the pedestrian street crossing, and wholly outside the parallel vehicle travel lane.

Curb Ramp: A short ramp cutting through a curb or built up to it. Curb ramps can be perpendicular or parallel, or a combination of parallel and perpendicular ramps.

Cross Slope: The grade that is perpendicular to the direction of pedestrian travel.

Curb Line: A line at the face of the curb that marks the transition between the curb and the gutter, street, or highway.

Detectable Warning Tile: A standardized surface feature built in or applied to walking surfaces or other elements to warn of hazards on a circulation path. See Section 705 of the 2006 and 2010 ADA Standards for specific requirements.

Grade Break: The line where two surface planes with different grades meet.

Landing (Turning Space): A level surface at the top or bottom of curb ramps that does not have a slope that exceeds 1:48 (2.0%) in any direction.

Pedestrian Access Route: A continuous and unobstructed path of travel provided for pedestrians with disabilities within or coinciding with a pedestrian circulation path. In regards to these instructions, it consists of the path a pedestrian follows to use the curb ramp.

For a Perpendicular Ramp: Includes the landing, ramp, detectible warning tiles, curb and gutter, and clear space. It typically does not include the flares.

For a Parallel Ramp: Includes the ramps, landing, detectible warning tiles, curb and gutter, and clear space.

For a Directional Curb Ramp: Includes the landing(s), ramp, detectible warning tiles, curb and gutter, and clear space.

Pedestrian Circulation Path: A prepared exterior or interior surface provided for pedestrian travel in the public right-of-way.

Ramp (Ramp Run): A surface that has a running slope steeper than 1:20 (5.0%).

Running Slope: The grade that is parallel to the direction of pedestrian travel.

Vertical Changes In Level: Vertical differences in level between two adjacent surfaces greater than one-quarter of an inch (1/4").

Degree of Accuracy in Measurement

The minimum and maximum values provided in the Measurement section of these instructions determined by the 2006 and 2010 ADA Standards, and supplemented by PROWAG. Per these documents, there is zero tolerance below or above those respective values.

Dimensions are subject to conventional industry tolerances and include tolerances for field conditions and/or tolerances that may be a necessary consequence of a particular manufacturing process.

Measurements shall be taken to the nearest inch (1"), one-tenth of a foot (0.1'), and one-tenth of a percent (0.1%). Vertical changes in level which shall be measured to the nearest one-eighth of an inch (1/8").

The measurement reported by the electronic level shall be accepted at face value with no adjustment for the inherent degree of accuracy reported by the manufacturer.

Procedure

1. Calibrate electronic level per manufacturer's instructions.
2. Sweep surface, removing any rock or loose material that may affect measurements.
3. Fill in required information in the CR ADA Curb Ramp Inspection Form heading. It may be beneficial to do this at the office prior to starting the fieldwork to keep things organized.
4. Follow Measurement guidelines as laid out below. Take one measurement for each required element in the middle of the feature. Measurements should be taken either parallel or perpendicular to the direction of travel, as shown on the Survey Forms.
 - a. Visually inspect area for inconsistencies. Measurements should be representative of entire area being surveyed. Supplemental measurements may be taken at the discretion

- of the Engineer to determine if the single measurement in the middle of the feature is representative.
- b. For perpendicular curb ramps, measurements G and H shall be measured along the back of curb.
 - c. For parallel curb ramps, measurements J, L, and N shall be measured at a distance of 4.0' from back of curb.
 - d. For all ramp types, the curb slope and gutter counter slope shall be measured parallel to the predominate direction of travel.
5. Answer questions at the bottom of the CR ADA Curb Ramp Inspection Form.
 6. Print name and date.
 7. Provide completed CR ADA Curb Ramp Inspection Forms to Project Engineer who will report findings to the Civil Rights Office and Construction through the Transfer to Construction Memo.

Measurements

1. Perpendicular Curb Ramp
 - A. Landing Cross Slope: 2.0% max
 - B. Landing Running Slope: 2.0% max
 - C. Ramp Cross Slope: 2.0% max
 - D. Ramp Running Slope: 8.3% max
 - E. Curb Slope: 8.3% max
 - F. Gutter Counter Slope: 5.0% max
 - G. Left Flare Slope: 10.0% max
 - H. Right Flare Slope: 10.0% max
 - I. Landing Width: 36" min (48" preferred)
 - J. Landing Depth: 36" min (48" preferred)
 - K. Ramp Width: 36" min (48" preferred)
 - L. Ramp Length: 15.0' max
2. Parallel Curb Ramp
 - A. Left Ramp Running Slope: 8.3% max
 - B. Left Ramp Cross Slope: 2.0% max
 - C. Landing Cross Slope: 2.0% max
 - D. Landing Running Slope: 2.0% max
 - E. Right Ramp Running Slope: 8.3% max
 - F. Right Ramp Cross Slope: 2.0% max
 - G. Curb Slope: 8.3% max
 - H. Gutter Counter Slope: 5.0% max
 - I. Left Ramp Width: 48" min
 - J. Left Ramp Length: 15.0' max
 - K. Landing Depth: 48" min
 - L. Landing Width: 60" min
 - M. Right Ramp Width: 48" min
 - N. Right Ramp Length: 15.0' max
3. Directional Curb Ramp
 - A. Landing Running Slope: 2.0% max

- B. Landing Cross Slope: 2.0% max
- C. Ramp Running Slope: 8.3% max
- D. Ramp Cross Slope: 2.0% max
- E. E₁: Pedestrian Access Route Running Slope: 5.0% max
- E. E₂: Lower Landing Running Slope: 2.0% max
- F. Pedestrian Access Route / Lower Landing Cross Slope: 2.0% max
- G. Curb Slope: 8.3% max
- H. Gutter Counter Slope: 5.0% max
- I. Landing Width: 48" min
- J. Landing Depth: 48" or 60" min
- K. Ramp Width: 48" min
- L. Ramp Length: 15.0' max
- M. Distance to Back of Curb: No min or max, controls orientation of detectable warning tile

Existing Physical Constraints

Where existing physical constraints make it impracticable for altered elements, spaces, or facilities to fully comply with the requirements for new construction, compliance is required to the extent practicable within the scope of the project. Existing physical constraints include, but are not limited to, underlying terrain, right-of-way availability, underground structures, adjacent developed facilities, drainage, or the presence of a notable natural or historic feature.

Notes

1. Curb ramp designs put forth in the Plans and/or Alaska Standard Plans are more conservative than the CR ADA Standard values identified within this document. Build to the design values whenever possible.
2. For existing perpendicular ramps, flare slopes shall be 10.0% max except for the following (rare) situation:
 - a. Where an upper landing is not provided (36" min x 36" min) due to existing constraints, the flare slope shall be 8.3% max. In these instances, the flare becomes part of the Pedestrian Access Route.
3. All surfaces and grade breaks of the curb ramp that are part of the Pedestrian Access Route shall be flush. Vertical changes in level that exceed one-quarter inch (1/4") are not permitted.
4. All surfaces and grade breaks of the curb ramp that are part of the Pedestrian Circulation Path, but not within the Pedestrian Access Route, shall adhere to the vertical changes in level standards.
 - a. Allowable vertical changes in level shall be one-half inch (1/2") maximum. Vertical changes in level between one-quarter inch (1/4") and one-half inch (1/2") shall be beveled with a slope not steeper than 50%. The bevel shall be applied across the entire vertical change in level.

5. Per Alaska Standard Plans I-21 and I-22, ramp runs are not required to exceed 15.0'. The resulting ramp slope at a 15.0' length is acceptable, even if it exceeds 8.3%. This is a provision of PROWAG that is being used as a best practice.
6. Parallel Curb Ramps are not defined in the 2006 and 2010 ADA Standards. This is a provision of PROWAG that the DOT&PF Central Region is using as a best practice.
7. Directional Curb Ramps are not defined in the 2006 and 2010 ADA Standards. This is a provision of PROWAG (Perpendicular Ramps) that the DOT&PF Central Region is using as a best practice.

References

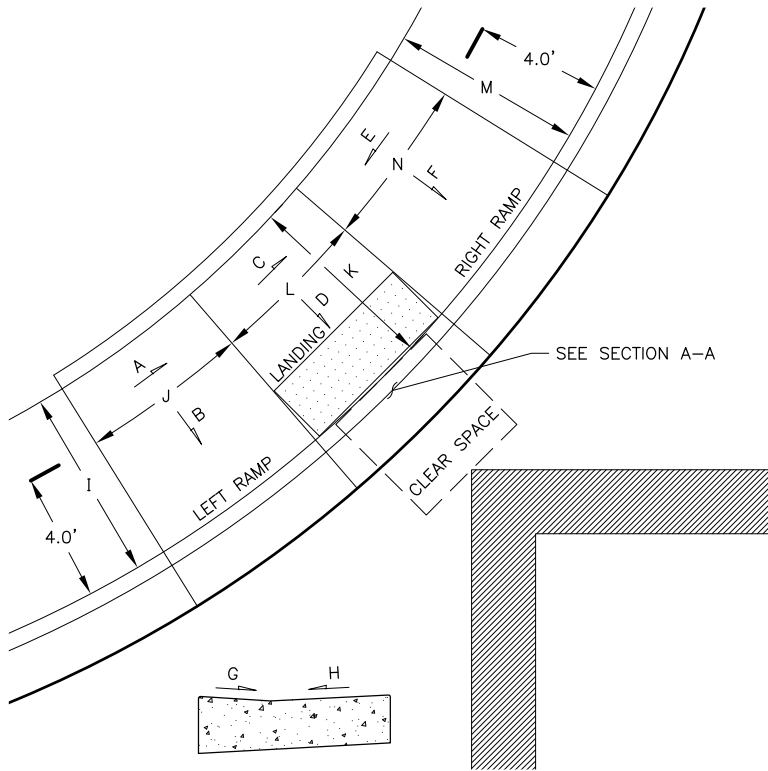
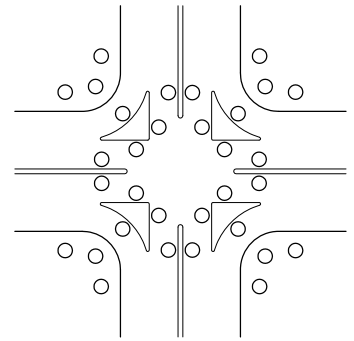
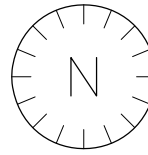
- DOT&PF Alaska Highway Preconstruction Manual Table 1100-1 Adopted Design Standards
- DOT&PF Alaska Standard Plans
 - Curb Cut, Curb and Gutter, and Curb Ramp Details (I-20)
<http://www.dot.state.ak.us/stwddes/dcsprecon/assets/pdf/stdwgs/eng/i2020.pdf>
Note: I-20 is typically replaced in Plans as E-sheet details
 - Parallel Curb Ramp (I-21)
<http://www.dot.state.ak.us/stwddes/dcsprecon/assets/pdf/stdwgs/eng/i2111.pdf>
 - Perpendicular Curb Ramp (I-22)
<http://www.dot.state.ak.us/stwddes/dcsprecon/assets/pdf/stdwgs/eng/i2211.pdf>
- Americans with Disabilities Act (ADA) Standards
<https://www.access-board.gov/attachments/article/983/ADA-Standards.pdf>
 - This is the current Standard adopted by the DOT&PF
 - The link includes both:
 - Department of Transportation ADA Standards for Transportation Facilities (2006)
 - Department of Justice ADA Standards (2010)
- Proposed Guidelines for Pedestrian Facilities in the Public Right-of-Way (PROWAG 2011)
<https://www.access-board.gov/attachments/article/743/nprm.pdf>
 - This is considered best practice guidance by DOT&PF

Questions/Comments

Contact: Steven Rzepka, P.E., steven.rzepka@alaska.gov, (907) 269-0592

PROJECT NAME: _____
 PROJECT NUMBER: _____
 PRIMARY STREET: _____
 SECONDARY STREET: _____
 LEVEL MAKE/MODEL: _____

MARK LOCATION OF RAMP AND DRAW ARROW TO INDICATE DIRECTION OF NORTH



SECTION A-A
 CURB RAMP
 CURB AND GUTTER

	MEASURED	CR ADA STANDARD
A		8.3% MAX
B		2.0% MAX
C		2.0% MAX
D		2.0% MAX
E		8.3% MAX
F		2.0% MAX
G		8.3% MAX
H		5.0% MAX
I		48" MIN
J		15.0' MAX
K		48" MIN
L		60" MIN
M		48" MIN
N		15.0' MAX

- IS THE CURB RAMP CONSTRUCTED OF STABLE, FIRM, AND SLIP RESISTANT MATERIALS? YES NO
- ARE ANY VERTICAL CHANGES IN LEVEL LESS THAN 1/4" FOR ALL SURFACES AND GRADE BREAKS OF THE CURB RAMP? YES NO
- IS THE TRANSITION BETWEEN THE CURB AND THE GUTTER PAN SMOOTH? YES NO
- ARE ALL GRADE BREAKS PERPENDICULAR TO THE DIRECTION OF THE RAMP RUN? YES NO
- ARE RAMPS, LANDINGS, AND GUTTER LINES DRAINING PROPERLY? YES NO
- IF DRAINAGE GRATES ARE LOCATED WITHIN THE PEDESTRIAN ACCESS ROUTE, DOES THE GRATE PROHIBIT PASSAGE OF A SPHERE GREATER THAN 1/2" IN DIAMETER? ARE ELONGATED OPENINGS PLACED SO THE LONG DIMENSION IS PERPENDICULAR TO THE DOMINANT DIRECTION OF TRAVEL? YES NO N/A
- DOES A 24" DETECTABLE WARNING TILE STRIP EXTEND THE FULL WIDTH OF THE CURB RAMP OPENING AND ARE THE TRUNCATED DOMES ORIENTED FOR THE PREDOMINATE DIRECTION OF TRAVEL? YES NO N/A
- IF MARKED CROSSWALKS ARE USED, IS A 48" X 48" CLEAR SPACE PROVIDED BEYOND THE BOTTOM GRADE BREAK, WITHIN THE PEDESTRIAN CROSSING, AND WHOLLY OUTSIDE THE PARALLEL VEHICLE LANE? YES NO N/A
- DOES THE CURB RAMP COMPLY WITH CR ADA STANDARDS, AS OUTLINED ABOVE? IF THE ANSWER IS NO, COORDINATE WITH THE ENGINEER OF RECORD TO PROVIDE ADDITIONAL DOCUMENTATION DESCRIBING WHY. YES NO

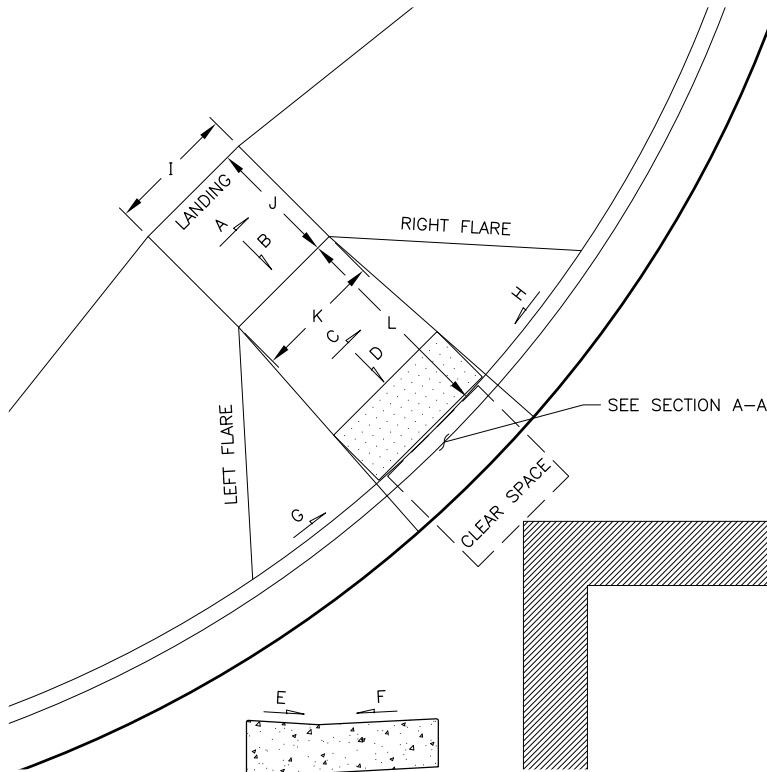
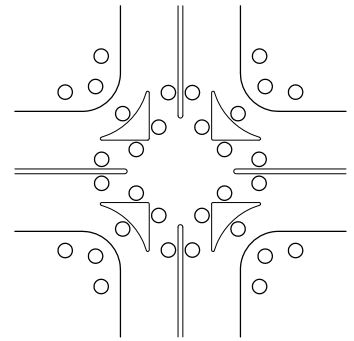
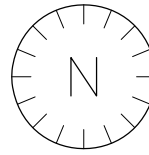
PRINTED NAME: _____ DATE: _____

STATE OF ALASKA
 DEPARTMENT OF TRANSPORTATION
 AND PUBLIC FACILITIES
 CENTRAL REGION

**PARALLEL
 CURB RAMP**

PROJECT NAME: _____
 PROJECT NUMBER: _____
 PRIMARY STREET: _____
 SECONDARY STREET: _____
 LEVEL MAKE/MODEL: _____

MARK LOCATION OF RAMP AND DRAW ARROW TO INDICATE DIRECTION OF NORTH



SECTION A-A
 CURB RAMP
 CURB AND GUTTER

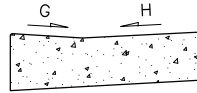
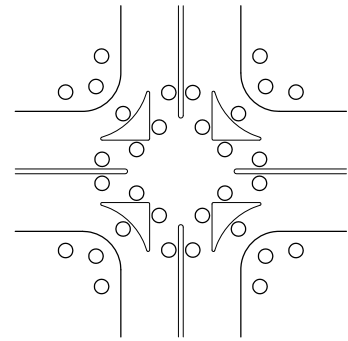
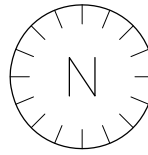
	MEASURED	CR ADA STANDARD
A		2.0% MAX
B		2.0% MAX
C		2.0% MAX
D		8.3% MAX
E		8.3% MAX
F		5.0% MAX
G		10.0% MAX
H		10.0% MAX
I		36" MIN
J		36" MIN
K		36" MIN
L		15.0' MAX

- IS THE CURB RAMP CONSTRUCTED OF STABLE, FIRM, AND SLIP RESISTANT MATERIALS? YES NO
- ARE ANY VERTICAL CHANGES IN LEVEL LESS THAN 1/4" FOR ALL SURFACES AND GRADE BREAKS OF THE CURB RAMP? YES NO
- IS THE TRANSITION BETWEEN THE CURB AND THE GUTTER PAN SMOOTH? YES NO
- ARE ALL GRADE BREAKS PERPENDICULAR TO THE DIRECTION OF THE RAMP RUN? YES NO
- ARE RAMPS, LANDINGS, AND GUTTER LINES DRAINING PROPERLY? YES NO
- IF DRAINAGE GRATES ARE LOCATED WITHIN THE PEDESTRIAN ACCESS ROUTE, DOES THE GRATE PROHIBIT PASSAGE OF A SPHERE GREATER THAN 1/2" IN DIAMETER? ARE ELONGATED OPENINGS PLACED SO THE LONG DIMENSION IS PERPENDICULAR TO THE DOMINANT DIRECTION OF TRAVEL? YES NO N/A
- DOES A 24" DETECTABLE WARNING TILE STRIP EXTEND THE FULL WIDTH OF THE CURB RAMP OPENING AND ARE THE TRUNCATED DOMES ORIENTED FOR THE PREDOMINATE DIRECTION OF TRAVEL? YES NO
- IF MARKED CROSSWALKS ARE USED, IS A 48" X 48" CLEAR SPACE PROVIDED BEYOND THE BOTTOM GRADE BREAK, WITHIN THE PEDESTRIAN CROSSING, AND WHOLLY OUTSIDE THE PARALLEL VEHICLE LANE? YES NO N/A
- DOES THE CURB RAMP COMPLY WITH CR ADA STANDARDS, AS OUTLINED ABOVE? IF THE ANSWER IS NO, COORDINATE WITH THE ENGINEER OF RECORD TO PROVIDE ADDITIONAL DOCUMENTATION DESCRIBING WHY. YES NO

PRINTED NAME: _____ DATE: _____

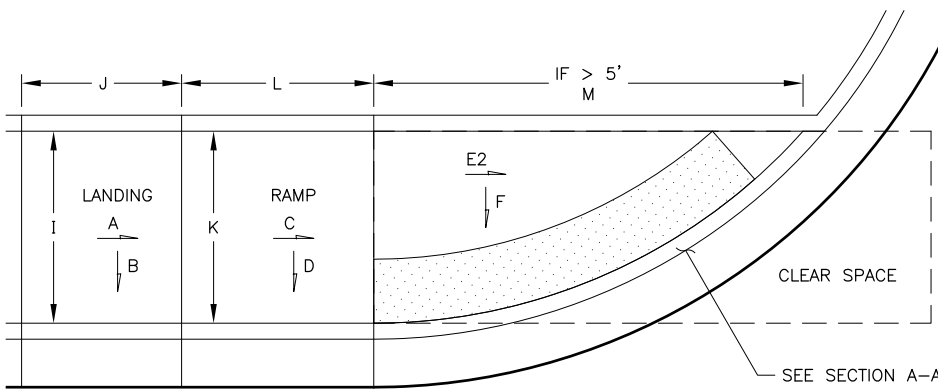
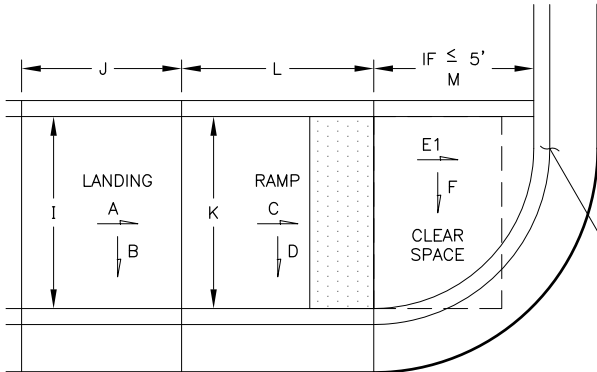
PROJECT NAME: _____
 PROJECT NUMBER: _____
 PRIMARY STREET: _____
 SECONDARY STREET: _____
 LEVEL MAKE/MODEL: _____

MARK LOCATION OF RAMP AND DRAW ARROW TO INDICATE DIRECTION OF NORTH



SECTION A-A
 CURB RAMP
 CURB AND GUTTER

SEE SECTION A-A



	MEASURED	CR ADA STANDARD
A		2.0% MAX
B		2.0% MAX
C		8.3% MAX
D		2.0% MAX
E1		5.0% MAX
E2		2.0% MAX
F		2.0% MAX
G		8.3% MAX
H		5.0% MAX
I		48" MIN
J		SEE QUESTION 8
K		48" MIN
L		15.0' MAX
M		SEE QUESTION 9

- IS THE CURB RAMP CONSTRUCTED OF STABLE, FIRM, AND SLIP RESISTANT MATERIALS? YES NO
- ARE ANY VERTICAL CHANGES IN LEVEL LESS THAN 1/4" FOR ALL SURFACES AND GRADE BREAKS OF THE CURB RAMP? YES NO
- IS THE TRANSITION BETWEEN THE CURB AND THE GUTTER PAN SMOOTH? YES NO
- ARE ALL GRADE BREAKS PERPENDICULAR TO THE DIRECTION OF THE RAMP RUN? YES NO
- ARE RAMPS, LANDINGS, AND GUTTER LINES DRAINING PROPERLY? YES NO
- IF DRAINAGE GRATES ARE LOCATED WITHIN THE PEDESTRIAN ACCESS ROUTE, DOES THE GRATE PROHIBIT PASSAGE OF A SPHERE GREATER THAN 1/2" IN DIAMETER? ARE ELONGATED OPENINGS PLACED SO THE LONG DIMENSION IS PERPENDICULAR TO THE DOMINANT DIRECTION OF TRAVEL? YES NO N/A
- DOES A 24" DETECTABLE WARNING TILE STRIP EXTEND THE FULL WIDTH OF THE CURB RAMP OPENING AND ARE THE TRUNCATED DOMES ORIENTED FOR THE PREDOMINATE DIRECTION OF TRAVEL? YES NO
- FOR MEASUREMENT J, IS THE VALUE EITHER (i) AT LEAST 60" IF A CONSTRAINT EXISTS AT THE BACK OF SIDEWALK WHAT WOULD INHIBIT TURNING, OR (ii) AT LEAST 48" IF NO CONSTRAINTS EXIST? YES NO
- IS THE DETECTABLE WARNING TILE STRIP INSTALLED AT A LOCATION CONSISTENT WITH THE MEASUREMENT M REQUIREMENT? YES NO
- IS MARKED CROSSWALKS ARE USED, IS A 48" X 48" CLEAR SPACE PROVIDED BEYOND THE BOTTOM GRADE BREAK, WITHIN THE PEDESTRIAN CROSSING, AND WHOLLY OUTSIDE THE PARALLEL VEHICLE LANE? YES NO N/A
- DOES THE CURB RAMP COMPLY WITH CR ADA STANDARDS, AS OUTLINED ABOVE? IF THE ANSWER IS NO, COORDINATE WITH THE ENGINEER OF RECORD TO PROVIDE ADDITIONAL DOCUMENTATION DESCRIBING WHY. YES NO

PRINTED NAME: _____ DATE: _____