CITY OF KANSAS CITY, MISSOURI
SUPPLEMENT
TO
APWA DIVISION II
CONSTRUCTION and MATERIAL SPECIFICATIONS

SECTION 2300 – INCIDENTAL CONSTRUCTION

This is Kansas City, Missouri's supplement to APWA Section 2300 INCIDENTAL CONSTRUCTION, adopted by Kansas City Metropolitan Chapter APWA on December 17, 2002. The following additions, deletions, and/or revision shall become a part of Section 2300 for use in Kansas City Missouri. Text that supplements the Metro Chapter Specification is highlighted in ***bold italics***.

2301.2.A Materials: Paragraphs A and B are deleted in their entirety and replaced with the following:

A. Concrete Mix: Concrete shall conform to ***APWA Section 2209.2 as supplemented.***

B. ***Contractor shall recognize the effects of temperature, wind, and humidity when laying and curing concrete. When the ambient air temperature is 90 degrees F (32 degrees C) or higher, a retarder will be used in concrete mixes and concrete surface shall be kept continuously moist by fog spray or other effective means. Engineer will reject concrete not kept cool while curing.***

C. ***Special aggregate concrete shall be used In the Central Business District (CBD) of Kansas City, MO.***

1. ***The special aggregate shall conform to the requirements of 2209.2. as supplemented.***

2. ***Class F fly ash or slag shall be added as necessary to offset ACR potential. Fly Ash shall conform to ASTM C 618. Slag shall conform to ASTM C989, Strength Grade 120.***

3. ***Materials, submittals and testing shall conform to Section 2702.3 as supplemented.***

D. ***Reinforcement is not required under Public Works Department contracts or permits, except in the Central Business District. Reinforce with 6x6 – W2.9 x W2.9 welded steel wire fabric, or as shown on the plans.***

2301.3 Construction Details: Add the following to paragraph 2301.3:
Ramp construction and layout shall conform to APWA Standard Drawing "Sidewalk Ramp Details" which is an interpretation of ADAAG Section 4.7.

2301.4 Joints: Add the following to paragraph 2301.4A:
All joints shall be constructed on straight and true lines

2301.4 Joints: Add the following to paragraph 2301.4B:
Isolation joints are often referred to as "expansion joints" in referenced documents and drawings.

2301.5.B.2 Finishing: Paragraph 2 is revised as follows:

2. Do not finish concrete with water standing on the surface ***or when edging tool makes a ridge on its inside edge. Resume finishing when excess moisture evaporates.*** All edges of the slab shall be finished with a ¼ inch (6mm) radius edger.

2301.5.C. Curing: The first sentence of Paragraph C is revised as follows:

C. **Curing**: As soon as practical after the concrete is finished it shall be cured with an acceptable ***white pigmented liquid*** curing membrane applied according to manufacturers directions.

2301.9. Detectable Warnings. Add the following to paragraph 2301.9:
Detectable warnings shall be installed whenever sidewalk curb ramps are constructed or altered.

2301.9.D. Detectable Warnings. Add the following paragraphs:

D. Submittals shall include.

1***. Manufacturer product data and application instructions.***

2. ***Samples to visually demonstrate color contrast.***

3. ***Details of product composition, tests performed, product service experience, limitations to coating, application procedures, and Material Safety Data Sheets (MSDS).***

4. ***Manufacturers certification that the product(s) meets or exceeds these specifications.***

2302.4 Replace paragraph 2302.4 with the following:

2302.4 Bicycle/Pedestrian Paths: Asphalt bicycle/pedestrian paths shall be constructed in accordance with the provisions of Section 2205 "Asphalt Paving". ***Construct paths to the lines, grades, and thickness shown on the plans and to City Standard Drawing "ST-BL, Bike Lane Sections".***

2303.2 Rock Blanket Materials: Add the following to paragraph 2303.2:

When broken concrete is accepted, reinforcing shall be neatly clipped from all faces and shall not protrude from an in-place exposed face.

2304.1 Replace paragraph 2304.1 with the following:

2304.1 Summary: This section governs the furnishing of all labor, equipment and tools, and for the performance of all work necessary to construct concrete paver stone paving ***and alternate median treatment.***

2304.3.C.2 The first sentence of paragraph C2 is revised as follows:

The finished base course shall be ***sufficiently cured and*** approved by the Engineer before placing the sand course.

2304.4 and 2304.5 are replaced with the following three sections:

2304.4 Alternate Median Treatment

A. **General:** ***This section governs construction of concrete median, median strip, and impressed red tinted concrete in conformity with the lines, grades, dimensions and typical sections shown on the plans. Concrete median shall consist of a paved median constructed between curbs on a prepared subgrade. Median strip shall consist of a monolithic paved median laid over and doweled to previously constructed pavement. Impressed red tinted concrete is concrete colored full depth and dressed to resemble a brick surface. Concrete work shall be placed in accordance with the requirements of MCIB Section 4-4 and the following:***

B. Materials:

1. Concrete shall conform to MCIB Mix WA 610-1-4-0.410.

2. Red tinted concrete shall be produced with Davis "Red Brick" Color #160 or approved equal. The tinting material shall contain 7 to 10% red oxide pigment. The material shall be free from oil, grease, dirt, and nonferrous particles.

3. The contractor shall submit to the Engineer for approval a sample of the finished surface material that clearly demonstrates the impression pattern and color of material.

4. Dowel bars shall conform to ASTM A-615.

5. Curing compound for red tinted concrete and adjacent curbs shall be an acceptable, non-pigmented, clear liquid membrane-forming compound.

C. Median Strip Construction. Drill holes and grout dowel bars into the median base material (surface asphalt should be removed). Uniformly dampen the surface before paving. Hand float only as needed to produce a uniform surface. The top surface shall receive a broom finish. Saw traverse contraction joints on concrete pavement to match the pavement joint lines. Saw contraction joints over asphalt pavement at 10 foot centers. Otherwise jointing shall comply with 2301.4.

D. Construction: Red Tinted Concrete shall be installed in accordance with the manufacture's recommendations. Protect adjacent surfaces from the red stain. Float finish and impress with brick pattern. Immediately after impressing and as soon as marring of the surface will not occur, cover and cure the entire surface and exposed edges with clear membrane or with polyethylene sheeting for not less than 72 hours.

2304.5 Method of Measurement: Concrete Pavers ***and Alternate Median Treatment*** shall be measured by the square foot (square meter or tenth part thereof).

2304.6 Basis of Payment: Concrete Pavers ***and Alternate Median Treatment*** will be paid for by the Contract unit bid price.

2306.7 Pavement Markings The first sentence of 2306.7 Method of Installation is revised as follows:

The proposed permanent markings shall be laid out by the Contractor ***as shown on the plans.***

2306.7.B.3 Application Temperatures: Add the following to paragraph 2306.7.B.3:

The material shall not break down or deteriorate if held at the plastic temperature for a period of four (4) hours or by reason of three (3) reheatings to the plastic temperature (400^{o} F to 450^{o} F).

2306.10 Method of Measurement: change 2306.10 to read as follows: Pavement Markings ***and Removal of Pavement Markings*** will be measured by one of the following: …

2306.11 Basis of Payment: change 2306.11 to read as follows: Pavement Markings ***and Removal of Pavement Markings will be paid for by the contract unit or lump sum price listed on the Bid Form Unit Prices schedule.***

Add the following ***new section*** 2308**:**

2308 FENCING

2308.1 Summary: This section governs the installation, and removal of fence.

Referenced Standards: The following standards are referenced directly in this section. The latest version of these standards shall be used.

Missouri Standard Specifications For Highway Construction
Section 1043 Fence Materials
Section 607 Chain – Link Fence
MCIB, Section 4.1

2308.2 Materials:

A. All materials used for the installation of a permanent chain link fence shall be new material conforming to Section 1043 of the Missouri Standard Specification for highway construction except concrete for posts shall be MCIB Mix No. A543-1-4-0.479 or approved equal.

B. All material used for the installation of permanent decorative fence shall be new material as specified, or as shown on the plans or match the existing fence.

2208.3 Construction Details:

A. Removal: Existing fence shall be removed as specified or as shown on the plans or as directed by the Engineer. Removed fencing may be used for temporary fencing only with the Engineer's approval.

B. Chain-Link Fence. Chain-Link Fence shall be installed at the locations shown or as directed by the Engineer in accordance with Section 607 of the Missouri Standard Specifications For Highway Construction except that the bottom of the fabric shall be not more than 1 ½ inches (38 mm) above the finished ground line. All residential fence shall have a top rail and all edges of fence fabric shall be knuckled.

C. Decorative Fence: Decorative shall be installed at the locations shown or as directed by the engineer in accordance with the manufactures instructions and recognized industry standards or as directed by the Engineer.

2308.4 Measurement and Payment

A. Fence: Fence shall be measured along the slope of the fence to the nearest linear foot (.05m). Vehicle gates shall not be included in this measurement.

B. Gates: Gates shall be measured per each for the size and type specified.

C. Temporary Fence: Temporary fence will be measured by one of the following.
- No measurement made.
- Per foot measured along the slope to the nearest linear foot

D. Fence Removal: Fence removal will be measured by one of the following.
- No measurement made.
- Per linear foot to nearest foot.

E. Payment. Fence of the respective type and size will be paid for as listed on the Bid Form – Unit Prices. There will be no separate payment for pedestrian gates; they are subsidiary to the fence pay item.

Add the following ***new section*** 2309**:**

SECTION 2309 STEEL BEAM GUARDRAIL

2309.1 Scope: This section governs furnishing materials for and installation of steel beam guardrail.

2309.2 Materials:

A. Steel Posts: All poses, terminal post connectors, and steel blocks for guardrail shall be formed from a structural steel meeting the requirements of ASTM A-36.

B. Guardrail and Hardware: All guardrail and hardware shall conform to the requirements of AASHTO M-180 Class A, Type 1.

2309.3 Erection:

A. Setting Posts: Posts shall be set to the depth and spaced at the intervals shown on the construction plans or standard drawings. They shall be set

vertical and true to line and grade. Steel posts may be driven by a power hammer or may be set in dug or bored holes of a size sufficient to permit thorough compacting of the backfill around the post. The backfill material shall be dry sand, placed in layers not exceeding 12 inches (30.5 cm) in thickness to height 12 inches (30.5 cm) below the finished grade. After erecting and adjusting the rail to true line and grade, the sand backfill shall be compacted by flooding. The final 12 inches (30.5 cm) of backfill consisting of suitable earth material shall then be compacted in six inch (15.24 cm) lifts. Any "mushrooming" of the top of a post shall be removed and damaged spelter coating on posts shall be repaired by the zinc alloy stick method while the surface is heated to approximately 600° F (315° C). Other methods of repairing the spelter coating shall receive prior approval of the Engineer.

B. Erecting Guardrail: Bolt holes shall be shop punched. Field punching, reaming and drilling will not be permitted. Guardrail beams shall be spliced, only at posts by lapping in the direction of traffic, using the required number of splice bolts. Beams for twisted turned down terminal sections may be either field or shop twisted. Sufficient twist shall be introduced such that the beam shall retain the required shape in a relaxed condition. Beams to be erected on a radius of 150 feet (45.7 m) or less shall be shop-curved as shown on the plans.

Each end of every installation of guardrail shall have an end, bridge anchor, or terminal section of the design and type shown on the construction plans or standard drawings. They shall be of the same material and shall be galvanized in accordance with the requirements for the guardrail beam.

Galvanized rail shall be handled in a manner to avoid damage to the galvanized coating. Any sections of rail, end sections or terminal sections on which the spelter coating has been bruised or broken shall be rejected, or may, with the prior approval of the Engineer, be repaired by the method prescribed for repairing damaged spelter coating of steel posts.

2309.4 Measurement and Payment

Steel beam guardrail will be measured from center of terminal post to center of terminal post per linear foot and quarter part thereof. Payment will be made at the contract unit or lump sum bid price. There will be no separate payment for terminal end sections except when specified in the project manual.

Standard Drawings Adopted:

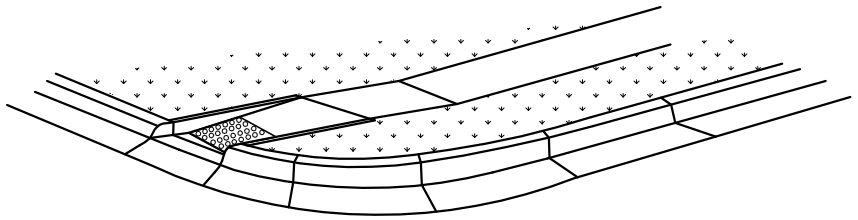
APWA drawing "Sidewalk Ramp Details", dated October 23, 2002, is adopted for use in Kansas City. Old Standard Drawings SW-1 and SW-2 are deleted from the adopted list and shall not be used in Kansas City.

KCMO Standard Drawing "ST-BL, Bike Lane Sections" was adopted for use in Kansas City by Ordinance 011288, August 15, 2002.

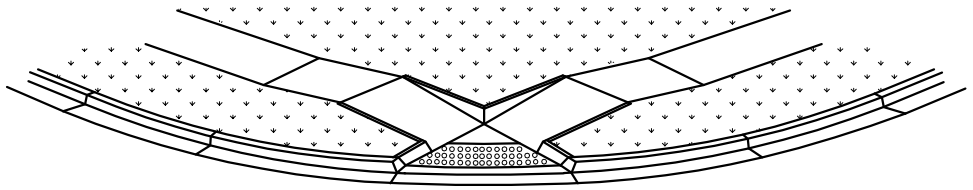
This supplement shall become effective January 1, 2004. It replaces all previous supplements to this section.

Approved and adopted as Official Document No. 030146 this 3rd day of November 2003.

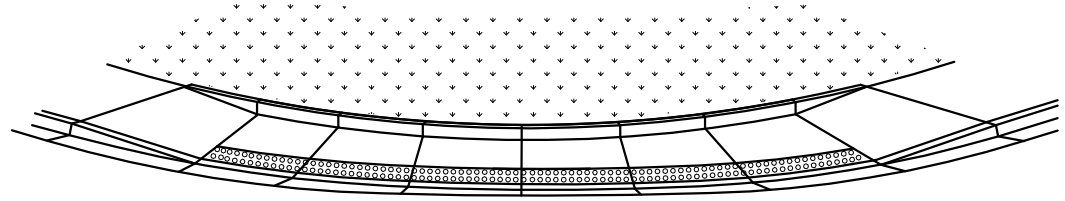
Larry W. Frevert, P.E.
Director of Public Works
Kansas City, Missouri



3–D View Type A
Sidewalk Ramp
Not to Scale



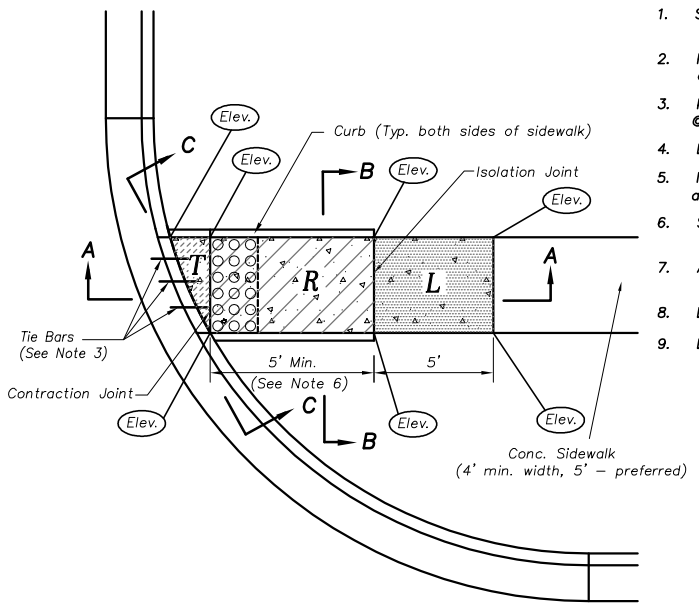
3–D View Type B
Sidewalk Ramp
Not to Scale



3–D View Type C
Sidewalk Ramp
Not to Scale

Sidewalk Ramp Notes:

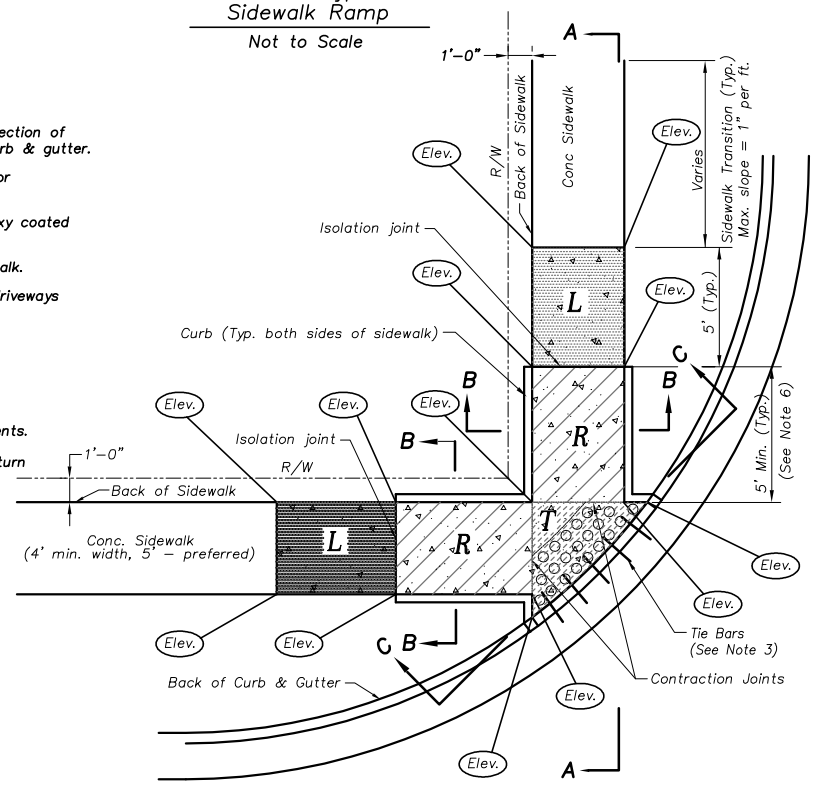
1. Sidewalk ramp location determined from the intersection of the extension of back of sidewalk and back of curb & gutter.
2. Plan drawings shall include a table of elevations for all points labelled as (Elev.).
3. Key all construction joints or use tie bars #4 epoxy coated @ 12" o.c.
4. Longitudinal joint spacing to match width of sidewalk.
5. Isolation joints shall be placed where walk abuts driveways and similar structures, and 250' centers max.
6. Sidewalk Ramp shall be lengthened to provide ADA compliance slope but need not exceed 15'.
7. ADA maximum ramp slope = 1"/Ft. ADA maximum cross slope = 2%.
8. Detectable warnings to comply with ADA requirements.
9. Landing for Type C ramp along the entire curb return is preferred, but may be shortened to minimum ADA compliant dimension.



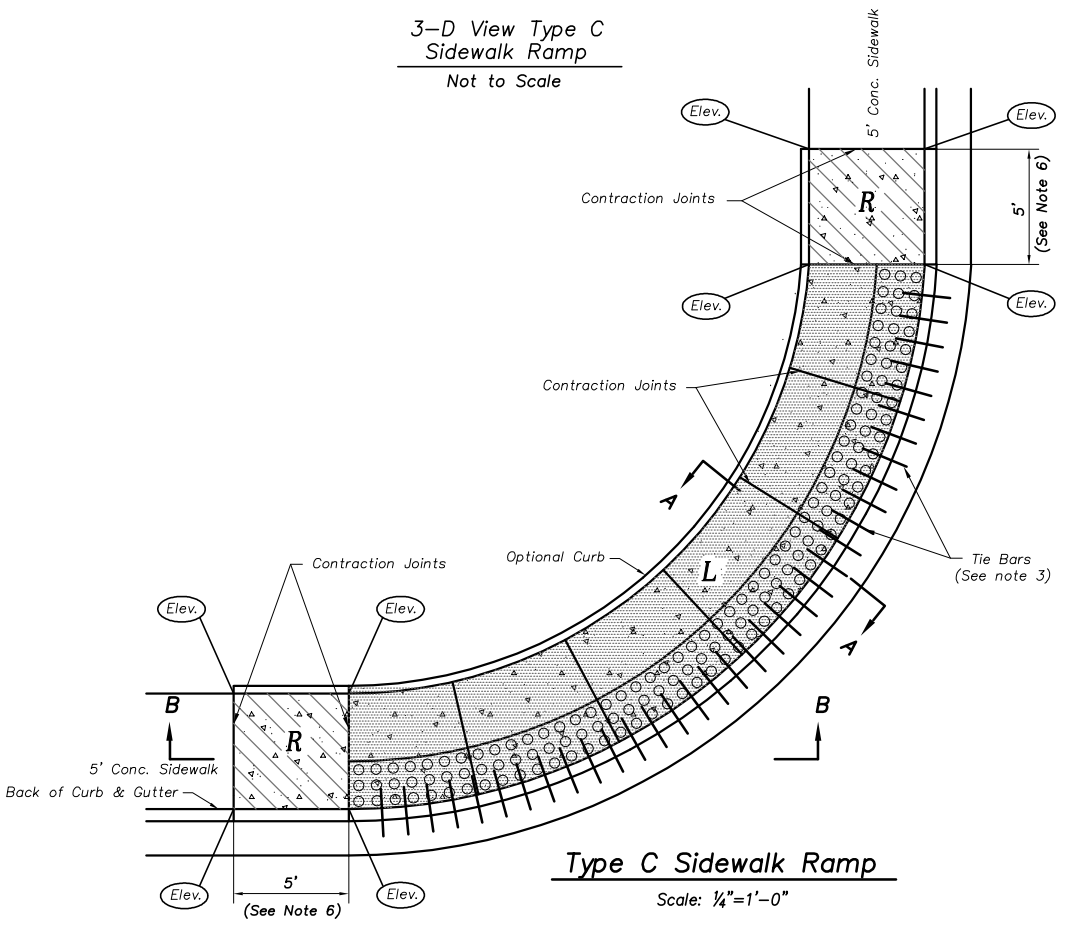
Type A Sidewalk Ramp
Scale: ¼"=1'–0"

Legend:

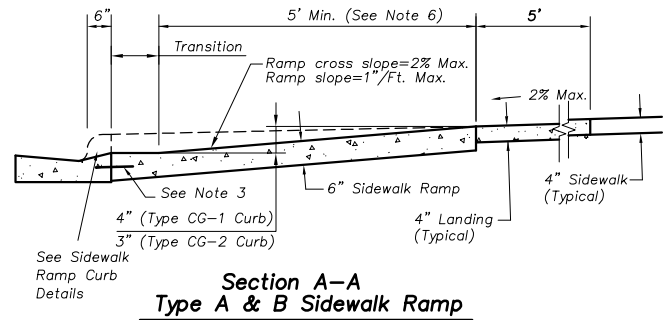
- R — Ramp
- L — Landing
- 2' Wide Detectable Warning
- T — Transition



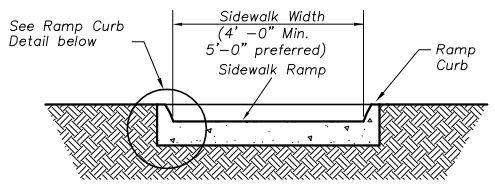
Type B Sidewalk Ramp
Scale: ¼"=1'–0"



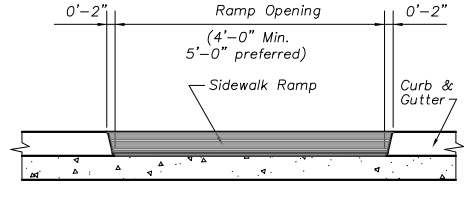
Type C Sidewalk Ramp
Scale: ¼"=1'–0"



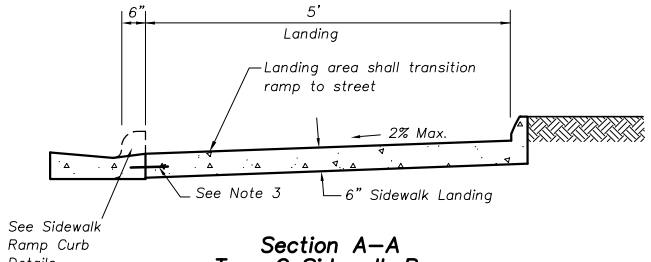
Section A–A
Type A & B Sidewalk Ramp
Scale: ½"=1'–0"



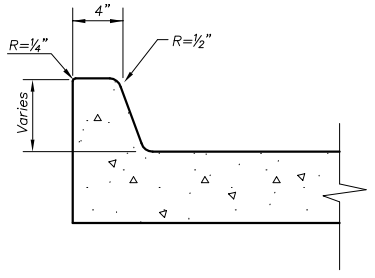
Section B–B
Type A & B Sidewalk Ramp
Scale: ½"=1'–0"



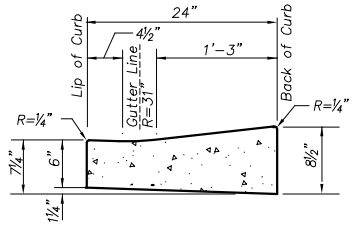
Section C–C
Type A & B Sidewalk Ramp
Scale: ½"=1'–0"



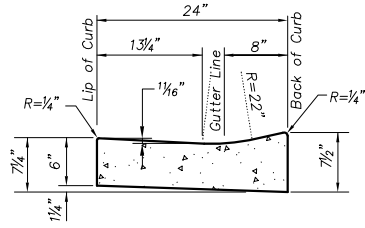
Section A–A
Type C Sidewalk Ramp
Scale: ½"=1'–0"



Ramp Curb Detail
Scale: 1 1/2" = 1'–0"

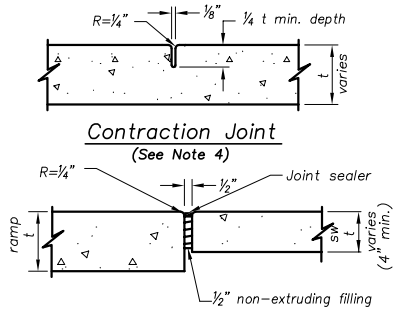


Use With Type CG–2 Curb
Scale: 1"=1'–0"



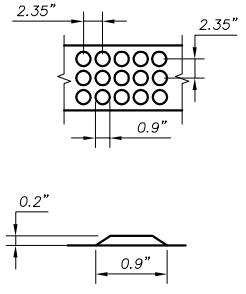
Use With Type CG–1 Curb
Scale: 1"=1'–0"

Street Curb Detail at Ramp

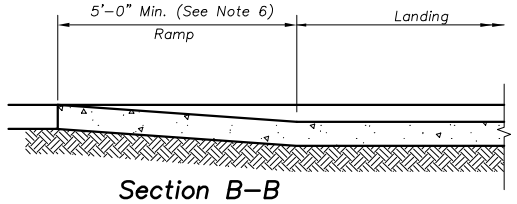


Contraction Joint
(See Note 4)

Isolation Joint
(See Note 5)



Detectable Warning
Dome Spacing and Section
Not to Scale



Section B–B
Type C Sidewalk Ramp
Scale: ½"=1'–0"

AMERICAN PUBLIC WORKS ASSOCIATION

KANSAS CITY
METROPOLITAN CHAPTER

SIDEWALK RAMP DETAILS

STANDARD DRAWING
NUMBER SW - 1

ADOPTED:
DECEMBER 18, 2002