



ICC-ES Evaluation Report

Reissued May 2022

ESR-4148

This report is subject to renewal May 2023.

DIVISION: 05 00 00—METALS
Section: 05 52 00—Metal Railings

REPORT HOLDER:

AGS STAINLESS, INC.

EVALUATION SUBJECT:

CASCADIA STAINLESS STEEL RAILING SYSTEM

1.0 EVALUATION SCOPE

Compliance with the following codes:

2018, 2015, 2012, 2009, and 2006 *International Residential Code® (IRC)*

For evaluation for compliance with codes adopted by Los Angeles Department of Building and Safety (LADBS), see [ESR-4148 LARC Supplement](#).

Property evaluated:

Structural

2.0 USES

The CASCADIA Stainless Steel Railing System described in this report is recognized for exterior or interior use as a 36 inch (914 mm) or 42 inch (1067 mm) guard for balconies, porches, decks and stairs for one- and two-family dwellings constructed in accordance with the IRC.

3.0 DESCRIPTION

3.1 General: The CASCADIA Stainless Steel Railing System is a railing system consisting of top-mount posts supporting round infill tubes. When a top rail (not included) is attached, the height of the system will be at least either 36 inches (914 mm) or 42 inches (1067 mm). Components are a brushed, satin finish.

3.2 Material:

3.2.1 Posts, infill tubes, and fasteners:

Each CASCADIA Stainless Steel Railing system is comprised of posts and infill tubes. The posts have three components: post body, base plate, and adjustable stem reducer. The plate and reducer are welded to the body. The post body is 1½ inch (38.1 mm) x 1½ inch (38.1 mm) x 0.12 inch (3.0 mm) thick grade 316L stainless steel tubing ($f_y = 40$ ksi min); the base plate is ¼ inch (6.4 mm) thick x

3 ½ inch (88.9 mm) x 3½ inch (88.9 mm) grade 316 stainless steel ($f_y = 40$ ksi min); the stem reducer has a 1½ inch (38.1 mm) x 1½ inch (38.1 mm) base with a ¾ inch (19.0 mm) diameter stem and a 1½ inch x 3¹/₈ inch top plate and is assembled from cast 316 stainless steel elements.

The hole layout in the post body accommodates the infill tube fitting assembly which consists of a ⁵/₁₆ inch (7.9 mm) – 18 NC cone-tipped set screw and a cast fitting. Both components are grade 316 stainless steel.

Infill tubes are ⁵/₈ inch (15.9 mm) diameter x .048 inch (1.2 mm) thick grade 316L stainless steel tubing ($f_y = 40$ ksi min). At the end of a run of infill tube, there is a ⁵/₈ inch (15.9 mm) diameter cap cast from grade 316 stainless steel.

See Figure 1 for details of the components of the railing system.

4.0 DESIGN AND INSTALLATION

4.1 Design:

The CASCADIA Stainless Steel Railing System is rated to comply with loads specified in IRC Table R301.5, when installed at a maximum center to center post spacing of 42 inches (1067mm).

4.2 Installation:

Installation must be in accordance with the manufacturer's published installation instructions, this report, and guard height and opening limitations provisions specified in IRC Section R312. The manufacturer's published installation instructions must be available at the jobsite at all times during construction.

Infill fittings are attached to the installed post with cone-tipped set screws such that the cone tip does not protrude into the fitting void. The infill tubes are fed through the infill fittings and locked into place by tightening the cone-tipped set screws against the post.

5.0 CONDITIONS OF USE

The CASCADIA Stainless Steel Railing System described in this report complies with, or is a suitable alternative to what is specified in, those codes listed in Section 1.0 of this report, subject to the following conditions:

5.1 This product is limited to exterior or interior use as a guard for balconies, porches, decks, and stairs for

one- and two-family dwellings constructed in accordance with the IRC. When a top rail (not included) is attached and meets the applicable code requirements, the system also functions as a handrail. The top rail (not included) must be designed, including the connections between the top rail and posts, by a registered design professional and approved by a building code official.

- 5.2 Installation must comply with this report, the manufacturer's published installation instructions and the applicable code. When the manufacturer's published installation instructions differ from this report, this report governs.
- 5.3 Only those fasteners and fastener configurations described in this report have been evaluated for the installation of the CASCADIA Stainless Steel Railing System. The compatibility of the post base plate's fasteners with the supporting construction, including chemically treated wood, is outside the scope of this report.
- 5.4 The CASCADIA Stainless Steel Railing System must be directly fastened to supporting construction having adequate strength and stiffness. Where required by the code official, engineering calculations and construction documents consistent with this report must be submitted for approval. The calculations must verify that the supporting construction complies with the applicable building code requirements and is adequate to resist the loads imparted upon it from the products and systems discussed in this report. The documents must contain details of the attachment to the supporting structure consistent with the requirements of this report. The documents must be

prepared by a registered design professional where required by the statutes of the jurisdiction in which the project is to be constructed.

6.0 EVIDENCE SUBMITTED

Data in accordance with the ICC-ES Acceptance Criteria for Handrails and Guards (AC273), dated June 2017 (Editorially revised January 2019).

7.0 IDENTIFICATION

- 7.1 The CASCADIA Stainless Steel Railing System described in this report are identified by a label on each individual piece or on the packaging bearing the report holder's name (AGS Stainless), the product name, the allowable span, and the ICC-ES evaluation report number (ESR-4148).

The label includes the phrase "For use in One- and Two-Family Dwellings Only."

- 7.2 The report holder's contact information is the following:

AGS STAINLESS, INC.
7873 NE DAY ROAD W
BAINBRIDGE ISLAND, WASHINGTON 98110
(206) 842-9492
www.agsstainless.com

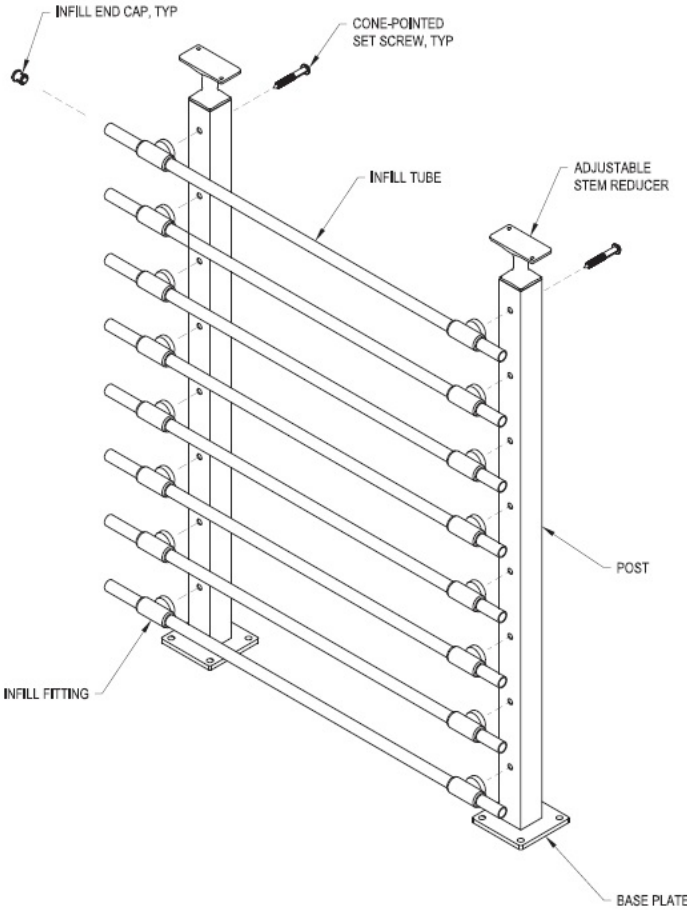


FIGURE 1—CASCADIA STAINLESS STEEL RAILING SYSTEM COMPONENTS

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REPORT HOLDER:

AGS STAINLESS, INC.

EVALUATION SUBJECT:

CASCADIA STAINLESS STEEL RAILING SYSTEM

1.0 REPORT PURPOSE AND SCOPE

Purpose:

The purpose of this evaluation report supplement is to indicate that the CASCADIA Stainless Steel Railing System, described in ICC-ES evaluation report [ESR-4148](#), has also been evaluated for compliance with the code noted below as adopted by the Los Angeles Department of Building and Safety (LADBS).

Applicable code edition:

- 2017 *City of Los Angeles Residential Code* (LARC)

2.0 CONCLUSIONS

The CASCADIA Stainless Steel Railing System, described in Sections 2.0 through 7.0 of the evaluation report [ESR-4148](#), complies with the LARC, and is subjected to the conditions of use described in this supplement.

3.0 CONDITIONS OF USE

The CASCADIA Stainless Steel Railing System described in this evaluation report must comply with all of the following conditions:

- All applicable sections in the evaluation report [ESR-4148](#).
- The design, installation, conditions of use and identification of the CASCADIA Stainless Steel Railing System are in accordance with the 2015 *International Residential Code*® (2015 IRC) provisions noted in the evaluation report [ESR-4148](#).
- Under the LARC, an engineered design in accordance with LARC Section R301.1.3 must be submitted.

This supplement expires concurrently with the evaluation report, reissued May 2022.

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1.0 REPORT PURPOSE AND SCOPE**Purpose:**

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Applicable code edition:

- 2016 *California Residential Code* (CRC)

2.0 CONCLUSION

The CASCADIA Stainless Steel Railing System, described in Sections 2.0 through 7.0 of the evaluation report ESR-4148, complies with CRC Chapter 3, provided the design and installation are in accordance with the 2015 *International Residential Code*® (IRC) provisions noted in the evaluation report.

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Applicable code edition:

- 2017 Florida Building Code—Residential

2.0 CONCLUSIONS

The CASCADIA Stainless Steel Railing System, described in Sections 2.0 through 7.0 of the evaluation report ESR-4148, complies with the *Florida Building Code—Residential*, provided the design and installation are in accordance with the 2015 *International Residential Code*® provisions noted in the evaluation report.

Use of the CASCADIA Stainless Steel Railing System has also been found to be in compliance with the High-Velocity Hurricane Zone provisions of the *Florida Building Code—Residential*.

For products falling under Florida Rule 9N-3, verification that the report holder's quality assurance program is audited by a quality assurance entity approved by the Florida Building Commission for the type of inspections being conducted is the responsibility of an approved validation entity (or the code official when the report holder does not possess an approval by the Commission).

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