

# Peak® Stair Risers and Peak® Stair Riser Connectors

# **Report of:**

- 2019 Alberta Building Code Part 9
- 2018 British Columbia Building Code Part 9
- 2020 National Building Code of Canada Part 9
- 2012 Ontario Building Code Part 9



Comply with all applicable building codes. Before using any of these products, ensure foundation is suitable. Not suitable for all applications or any commercial use. Do not overload. Wear protective attire and eyewear.



ENGINEER OUTSIDE THE BOY

# LATERA ENGINEERING INC.

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September 23, 2022 Project No: L21-037.3

Peak Products Manufacturing Inc.

www.peakproducts.com

**PROJECT**: Peak® Stair Riser Compliance.

SUBJECT: Structural Review of Peak® Stair Riser and Extension Bracket to Canadian Building Codes

This letter summarizes the findings of our review of the structural resistance of the Peak® Stair Riser.

## **Product Description**

Peak® Stair Risers come in 1 to 7 step configurations and are constructed of hollow structural steel sections with steel straps welded to the hollow section forming the horizontal tread support. All configurations have a step rise of 192 mm, a run of 264 mm, and are designed to support 2-2x6 or 1-1x12 treads. The specified steel strength of the hollow section and steel strap is 235 MPa.

A Stair Extension Bracket with supporting post and bracing can be used to extend the risers for heights up to 307 cm. Drawings of the various configurations are included in Appendix A.

#### **Structural Loads**

The Peak® Stair Risers were reviewed for their resistance to residential live load of 1.9 kPa. The dead load was calculated to be the self-weight of the riser with 2x12 wood treads. Deflection of the riser and treads was limited to the span divided by 240 (L/240).

# **Standards**

Peak® Stair Risers were evaluated in accordance with the following codes and standards:

- National Building Code of Canada (NBC) 2020
- British Columbia Building Code (BCBC) 2018
- National Building Code 2019 Alberta Edition
- 2012 Ontario Building Code including updates to April 29, 2022
- WOOD COMPONENTS: CSA O86-14 Engineering Design in Wood
- STEEL COMPONENTS: CSA S16-14 Limit States Design of Steel Structures
- WELDS: CSA W59-13 Welded Steel Construction (Metal Arc Welding)
   CSA W48-14 Filler Metals and Allied Materials for Metal Arc Welding

September 23, 2022 Project No.: L21-037.3



# **FINDINGS**

Peak<sup>®</sup> Stair Risers and Stair Extension Bracket provide adequate resistance to residential floor loads, with a maximum live load deflection of L/240, given the span limitations illustrated in Appendix A.

## Notes:

- 1. L is the sloping span of the riser.
- 2. Some jurisdictions may require closed risers.

## Closure

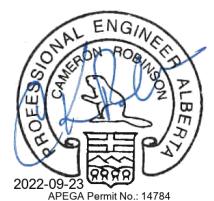
The Peak® Stair Risers were found to meet the requirements, for use in dwelling units, within Part 9 of the above noted Building Codes. Limitations of compliance are defined in the findings above, and in the assembly drawings presented in Appendix A.

# Yours truly,

Latera Engineering Inc.



2022-09-23 Permit to Practice: 1000301 Per: Cameron Robinson, P.Eng.



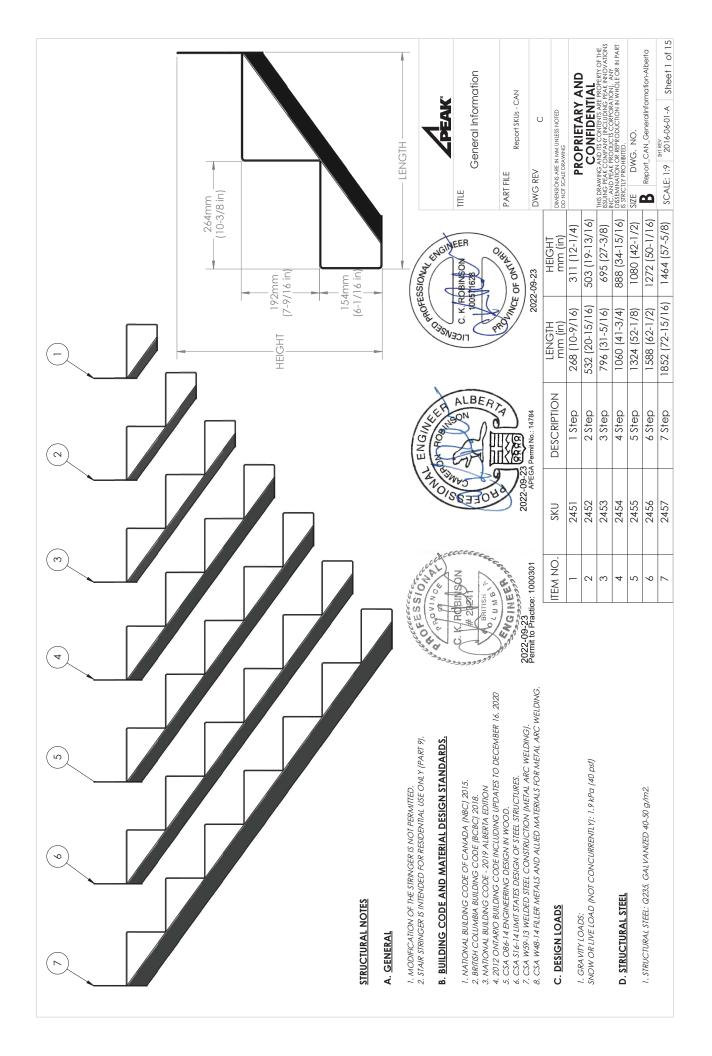
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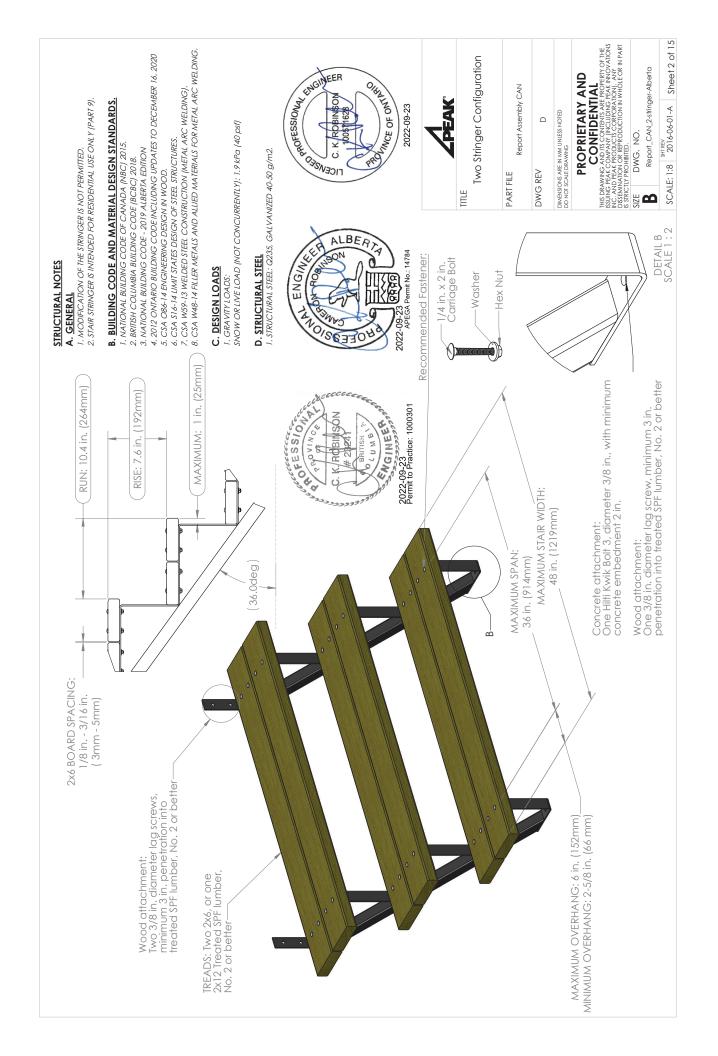


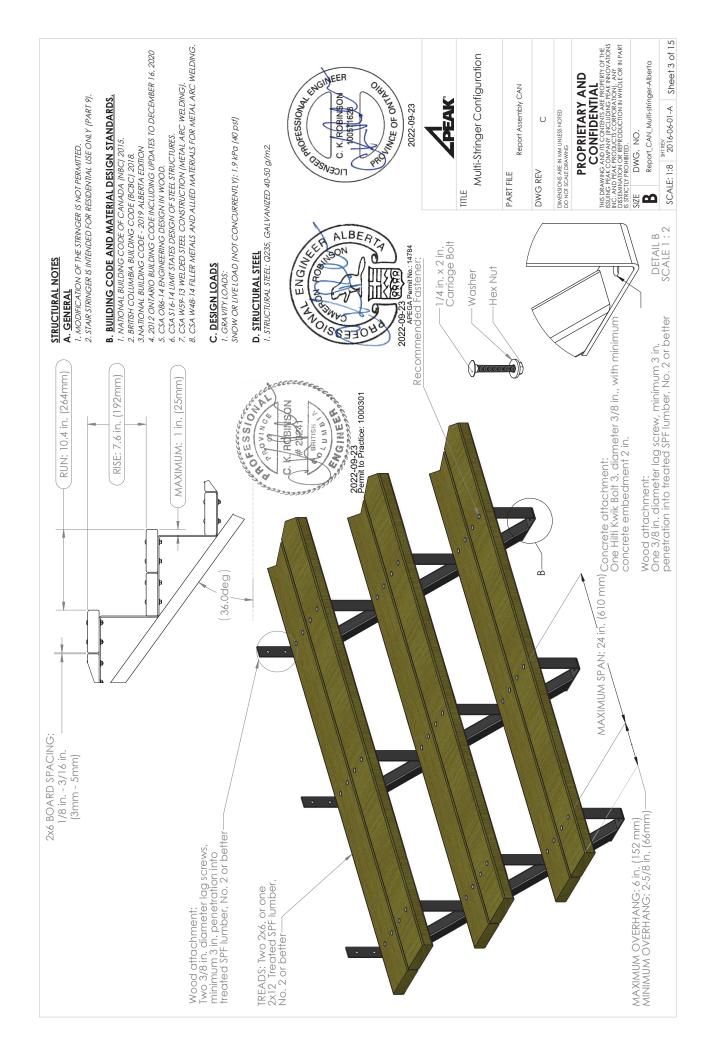
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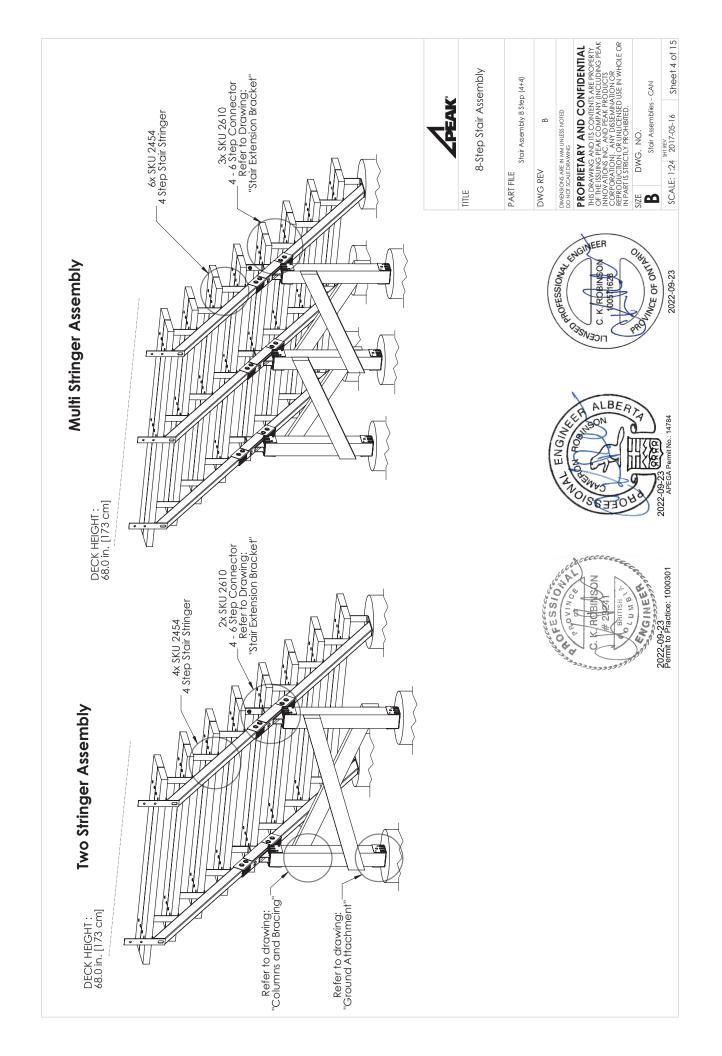
Appendix A

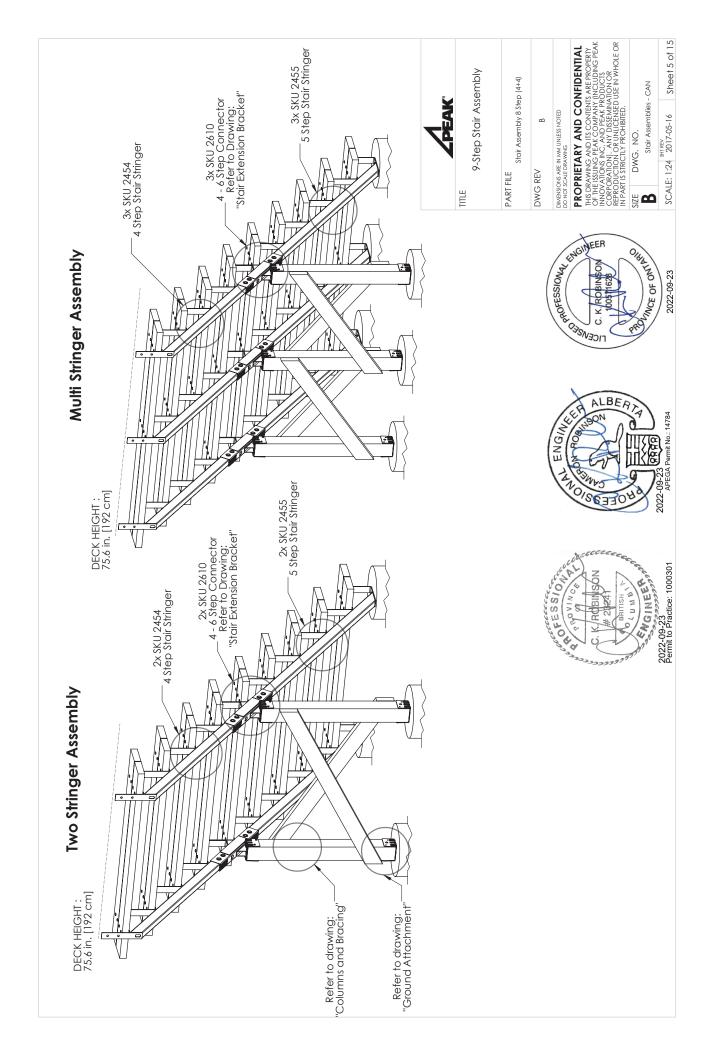
Drawings

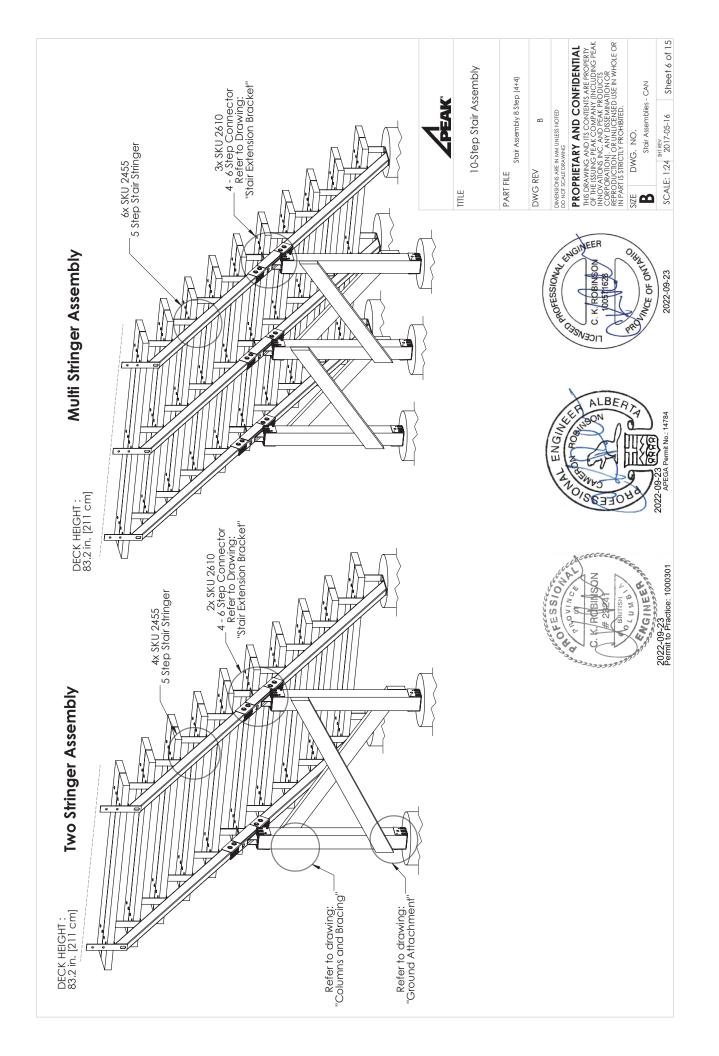


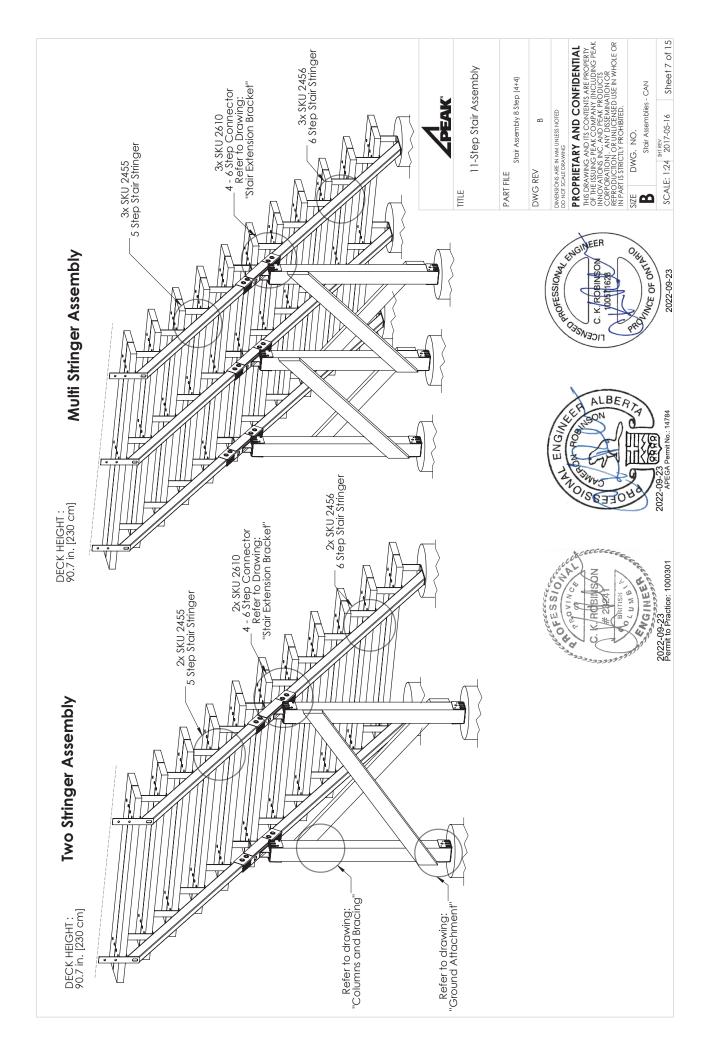


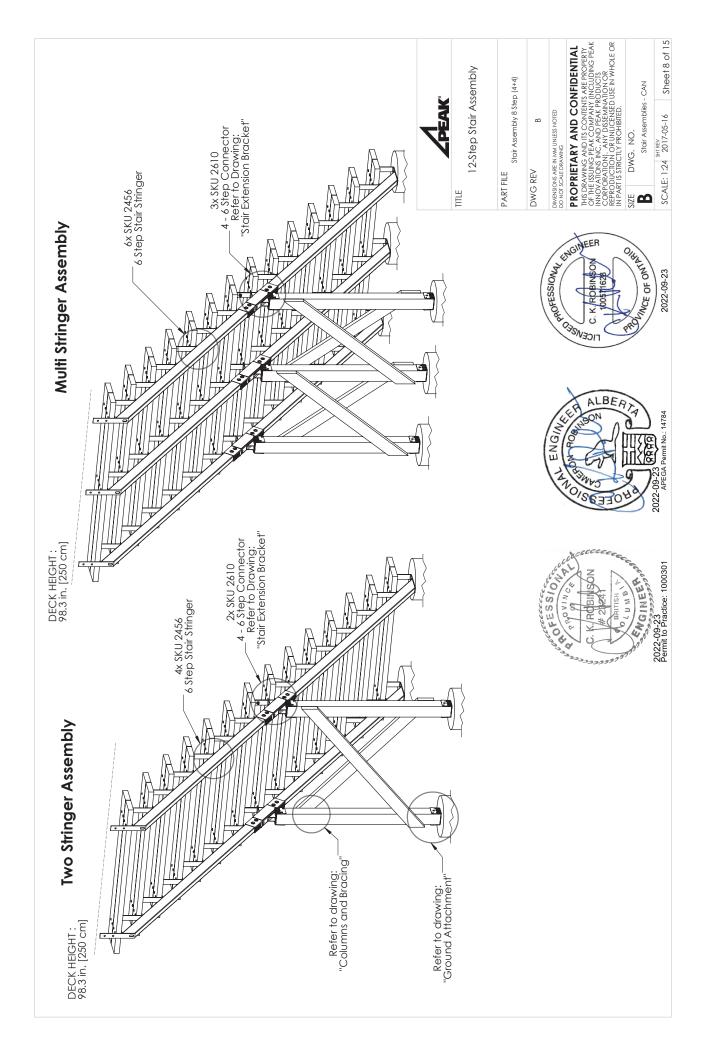


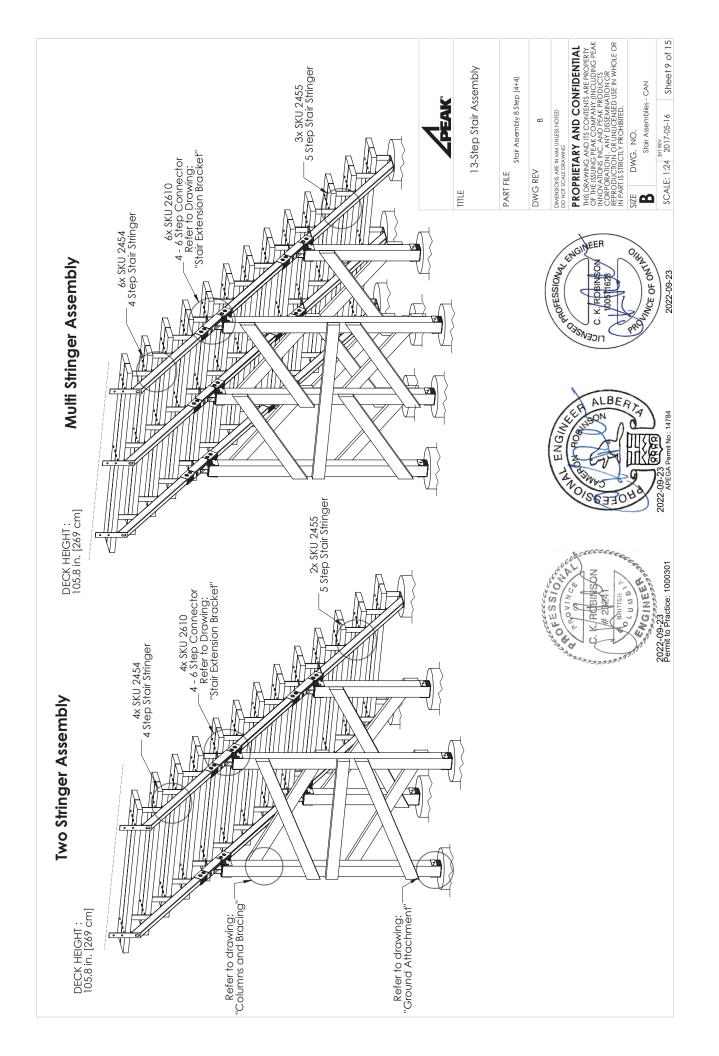


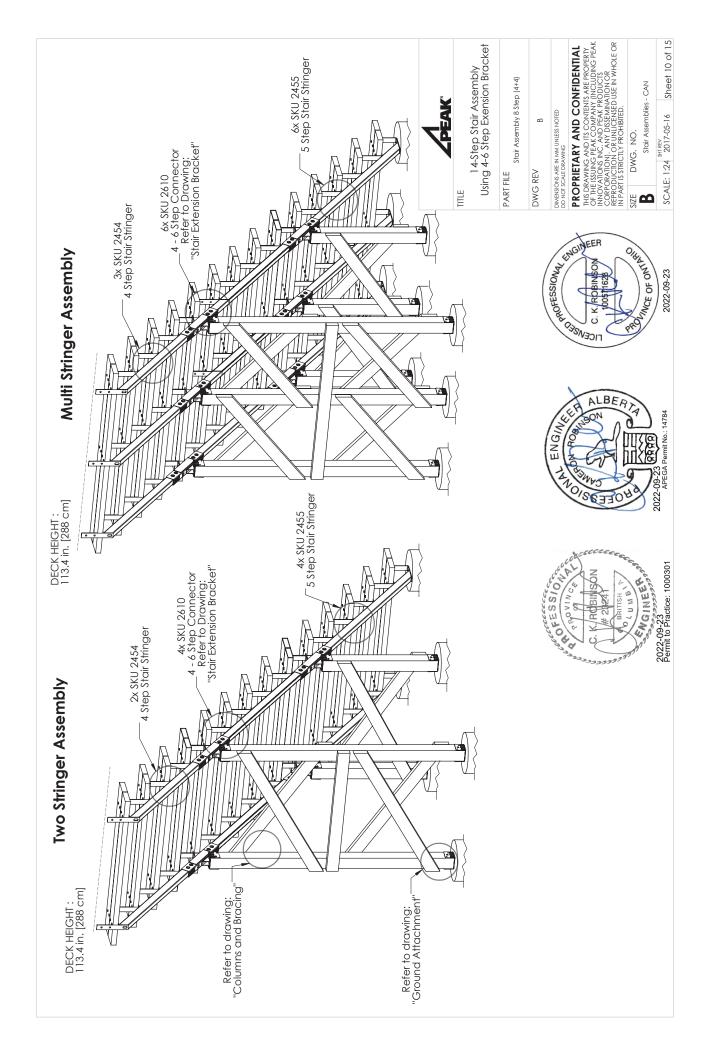


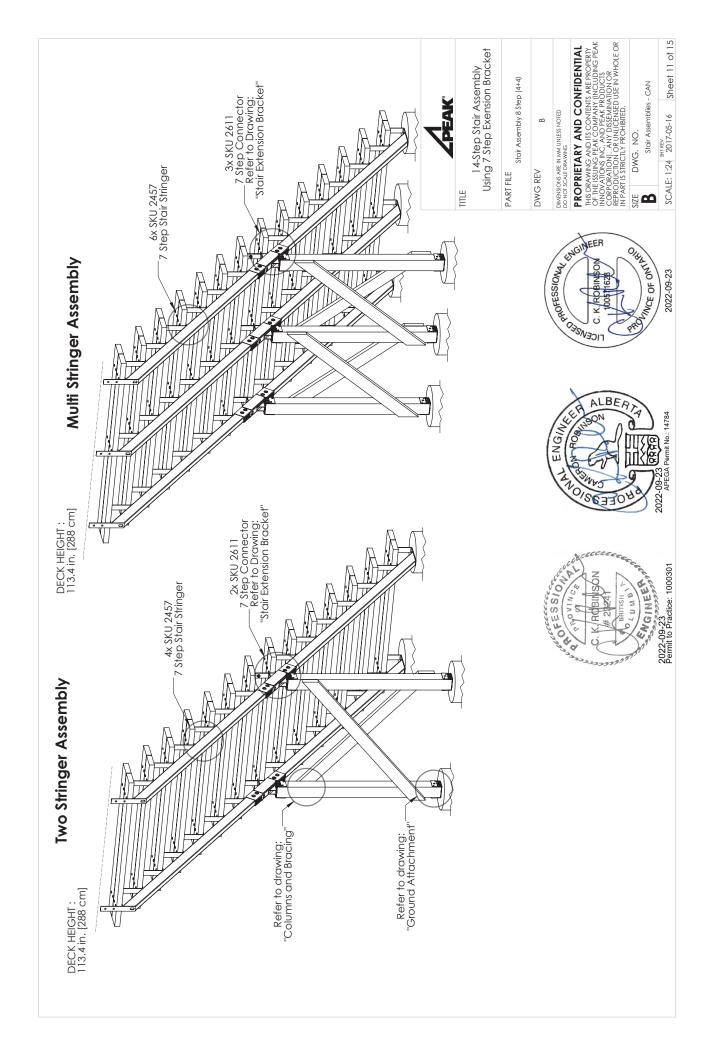


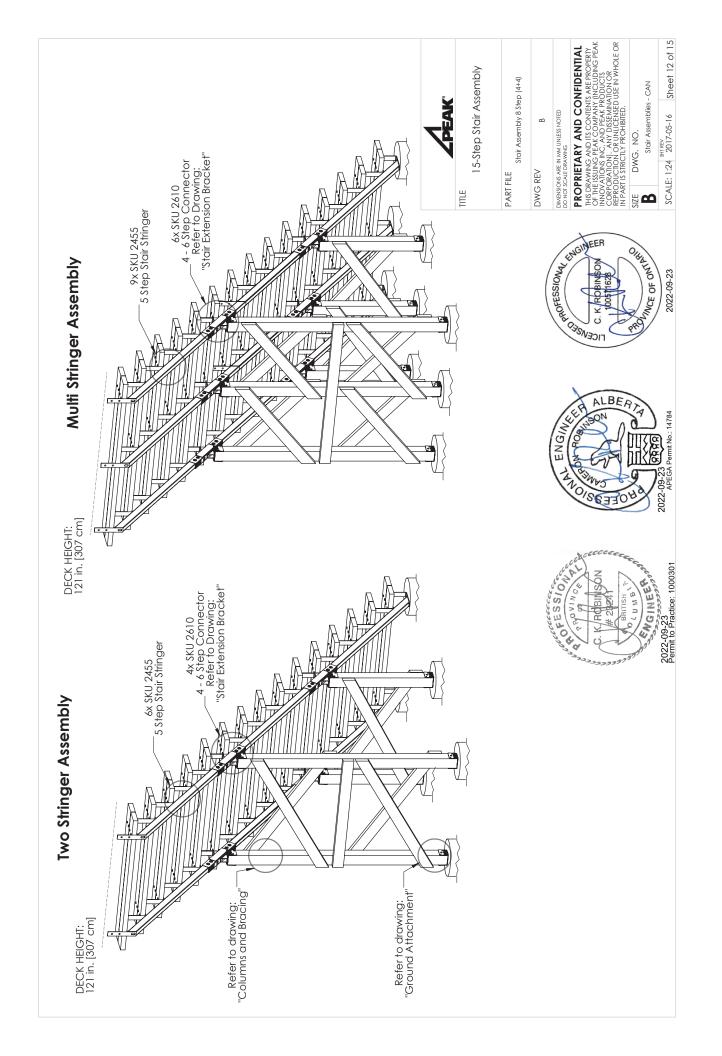


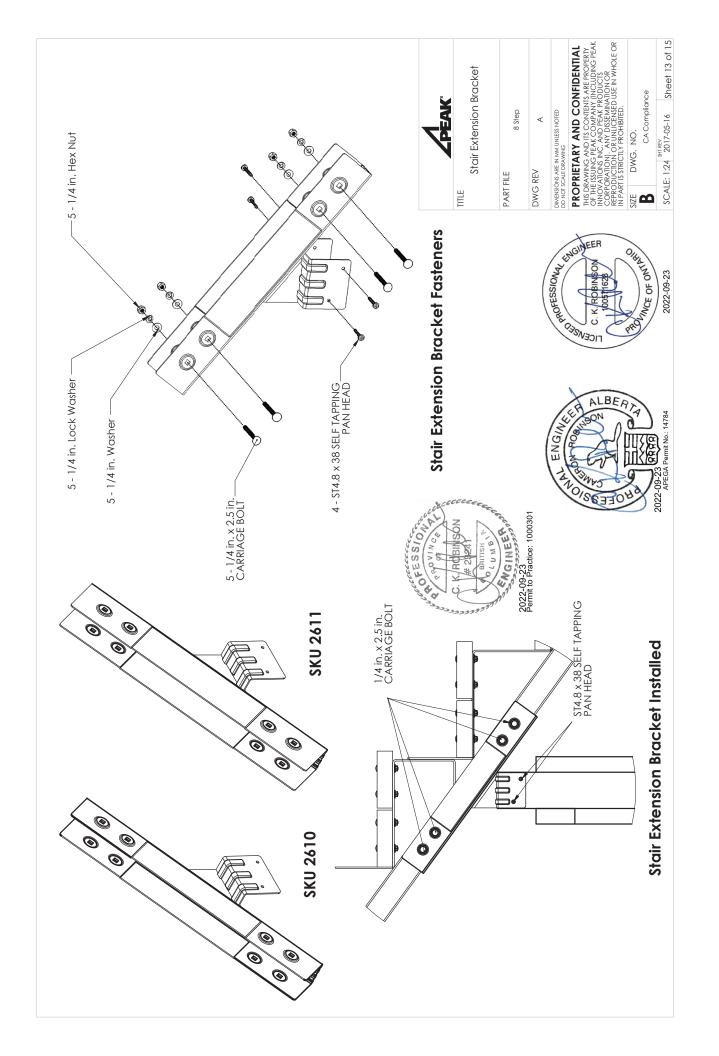












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