Release Notes for RISACalc

Version 4.1 - June 15, 2023

- Wind Load Generator:
  - Added a wind load generator for the main wind force-resisting system (MWFRS). Supported design codes include:
    - ASCE 7-16
    - ASCE 7-10
- Hot Rolled Steel:
  - Added the analysis and design of back-to-back hot rolled channel members.
- Retaining Walls:
  - Fixed a graphical issue in the Detail Report where the rebar spacing was not reported in the Rebar Diagram for masonry retaining walls.
  - Resolved a graphical issue in the Detail Report where the governing load combination was not fully displayed in the Wall Force Diagrams section.
  - Fixed a graphical issue in the Detail Report where the horizontal load was pointing in the opposite direction in the Loading Diagram.
- Spread Footing:
  - Resolved an issue where spread footing explicit top bar rebar quantity was not retained.
- Detail Report:
  - Added the ABIF and SF factors to the Load Combinations section in the Detail Report for retaining walls and wall footings.
  - Fixed a graphical issue where -1 bars were reported in the concrete member Detail Report.
  - Fixed inconsistencies to report deflection load combinations in both the Loads tab and the Detail Report for beams and composite beams.
- General:
  - Resolved an issue which prevented a project from opening immediately when it was requested from another user.
  - Resolved an issue where the 'Show All' toggle in the Load Combination settings was affecting the load combinations being solved.
  - Fixed an issue where the PDF report was not downloading for some wall footing components.

Version 4.0 - April 20, 2023

- General:
  - Added compliance with the 2021 International Building Code.
  - Added Load Combinations compatible with IBC 2021.
- Detail Report:
  - Added a summary table of results in the Calculations section for Spread Footings.
  - Updated the description for S and Z as the Elastic Section Modulus and Plastic Section Modulus.
  - Fixed an issue where the deflection results were not showing in the Detail Report for rotated beams.
  - Fixed a units issue where the retaining wall and wall footing components were multiplying the reported weights by 12.
  - Resolved a units issue where steel joist UTL and capacity were in units of plf despite being reported as klf.
  - Resolved various graphical display issues within the Detail Report across multiple materials that were inconsequential to the final results.
- Aluminum:

    - Resolved a graphical issue for the calculation of Bc in the Axial Compression check for aluminum members that referenced incorrect equations from Table B4.2 when the value used equations from Table B4.1.
- Cold Formed Steel:
    - Resolved an issue where the P-Delta amplification factor was not included for theAISI S100-16 ASD solution.
- Concrete:
    - Added a warning message when no strength Load Combinations are solved for concrete members.
    - Enhanced the calculation of the moment gradient factor to include value limits in compliance with the CSA code.
    - Fixed an issue with the wall shear capacity calculation for strip footings and retaining walls using the ACI 318-19 code.
    - Corrected the governing concrete shear strength calculation for concrete beams, columns, and drilled piers.
    - Resolved a graphical error for the PCA Notes equation reference in the Detail Report for multiple ACI 318 building codes.
    - Fixed a graphical issue with the equation for the minimum development length.
- Hot Rolled Steel:
    - Added more information to variables that are used within the detail report for hot rolled steel members.
    - Added the L-torque design parameter for hot rolled steel beams, columns, and composite beams designed with CSA S16-14.
    - Corrected the calculation of the elastic critical buckling stress (Fe) when calculating critical buckling stress.
    - Resolved an issue with the properties of certain HSS shapes in the Canadian Hot Rolled Steel database.
- Masonry:
    - Implemented larger reinforcement spacing options for masonry wall design.
- Wood:
    - Resolved an issue displaying detail reports for wood members solved with CSA O86-09: Ultimate design code.