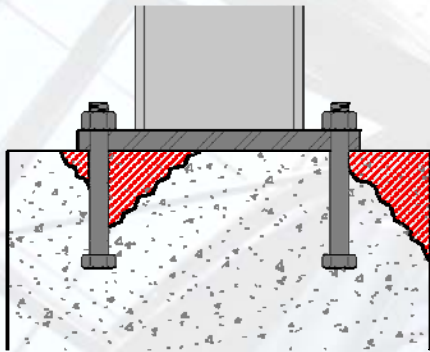


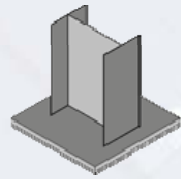
RISA Webinar



Exploring Anchor Bolt Pullout with RISABase

Presenter: Matt Brown, P.E.

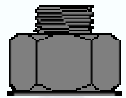




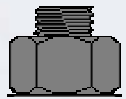
RISABase

Version 2.0.3

LATEST VERSION



RISABase Overview



Anchor Bolt Failure Modes



Seismic Considerations



Interpreting Results

- First Released: 1998
- Finite Element Analysis
- Biaxial Analysis, Optimization
- Custom Anchor Placement

- ACI-318, Appendix D
- 2005 Edition (IBC 2006)
- Seven Failure Modes
- Individual vs. Group Failure

Tensile Failures

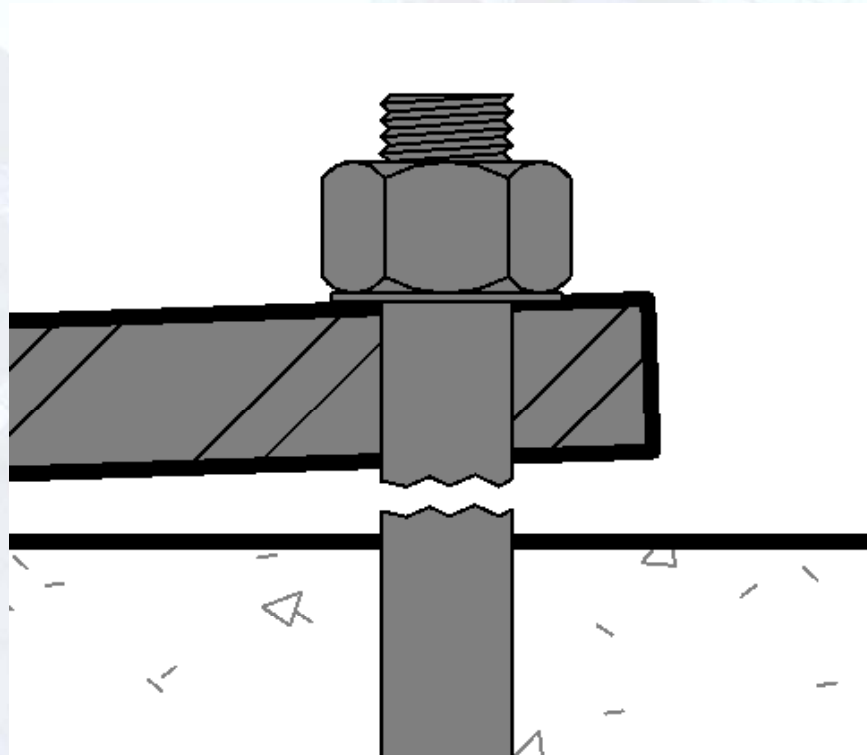
- Anchor Bolt Steel
- Concrete Breakout (Cone)
- Anchor Bolt Pullout
- Side-Face Blowout

ANCHOR BOLT FAILURE MODES

Shear Failures

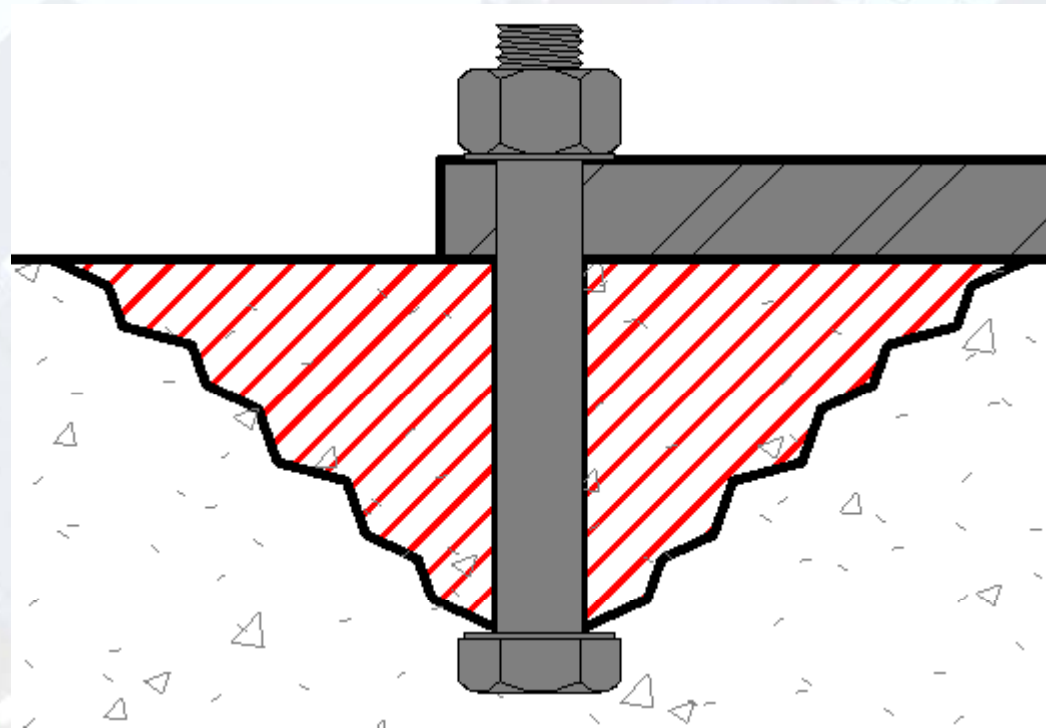
- Anchor Bolt Steel
- Concrete Breakout (Cone)
- Anchor Bolt Pryout

Anchor Bolt Steel (Nsa)



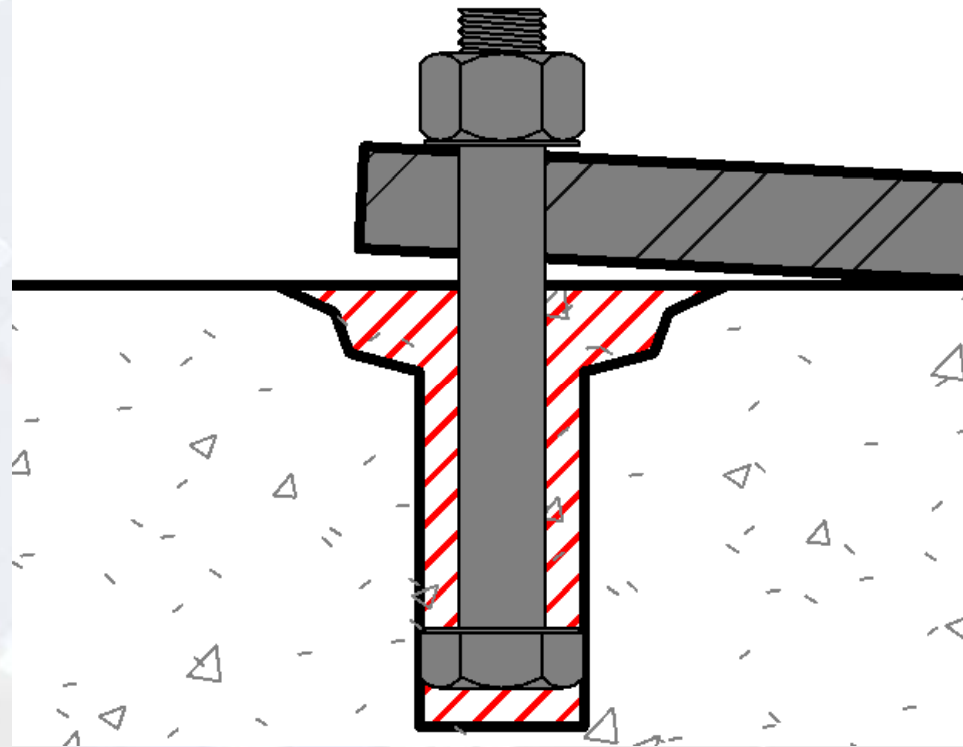
ANCHOR BOLT FAILURE MODES

Concrete Breakout (Ncb)



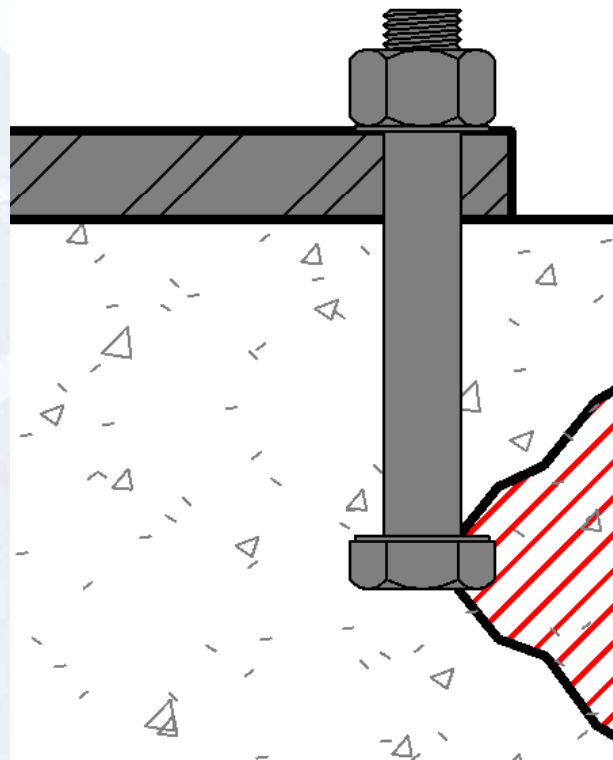
ANCHOR BOLT FAILURE MODES

Anchor Bolt Pullout (N_{pn})



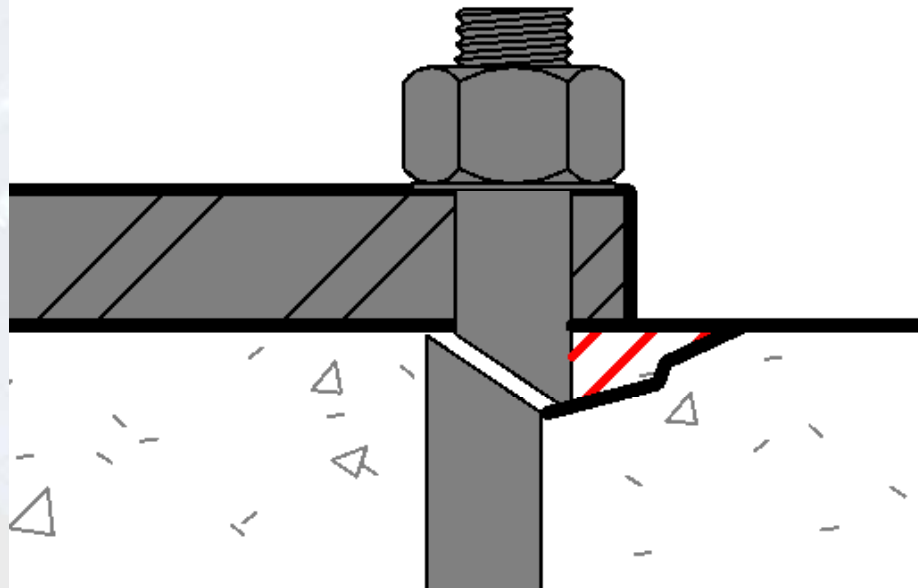
ANCHOR BOLT FAILURE MODES

Side-Face Blowout (Nsb)



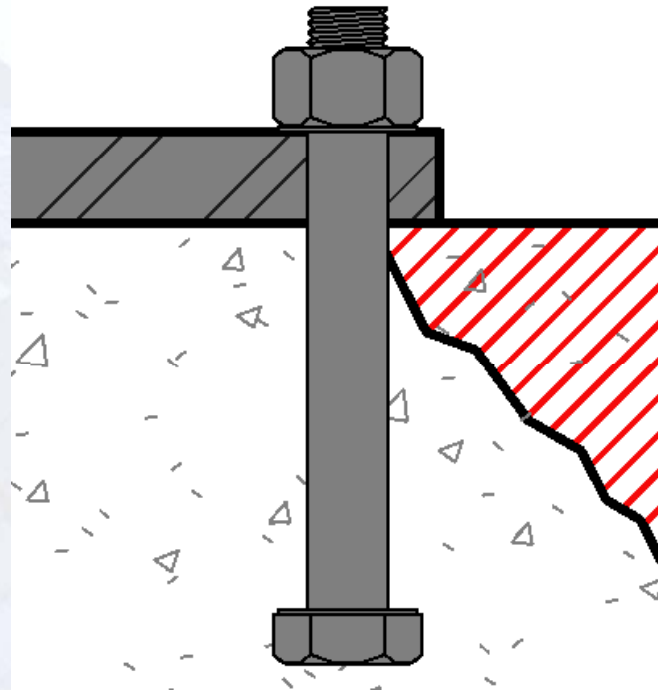
ANCHOR BOLT FAILURE MODES

Anchor Bolt Steel (Vsa)



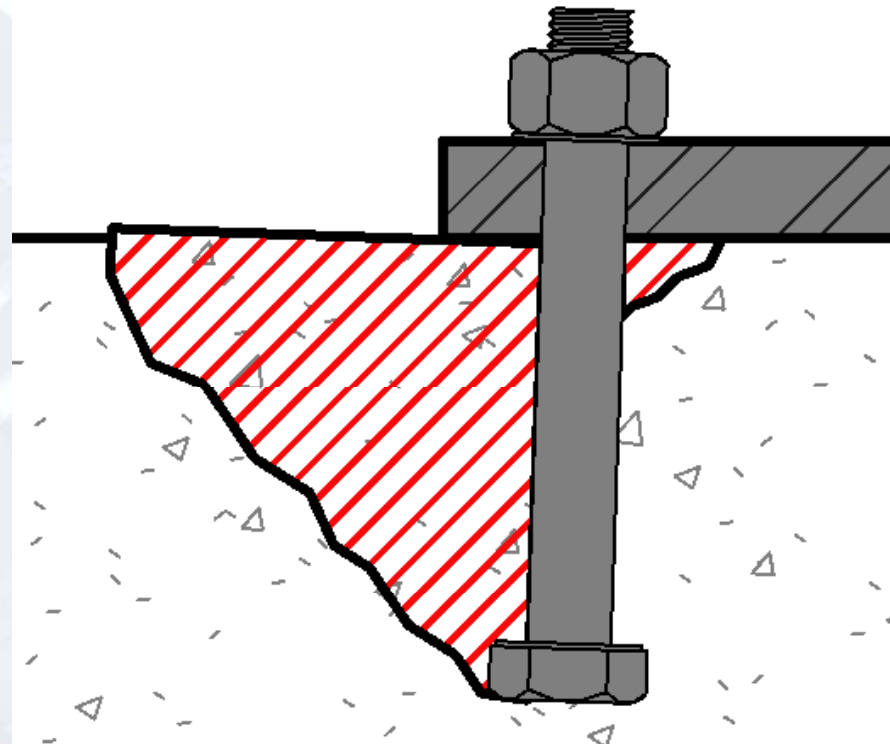
ANCHOR BOLT FAILURE MODES

Concrete Breakout (Vcb)



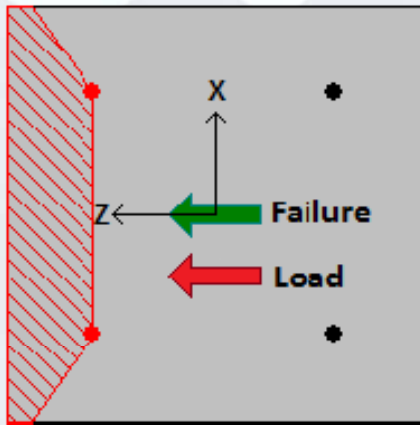
ANCHOR BOLT FAILURE MODES

Anchor Bolt Pryout (V_{cp})

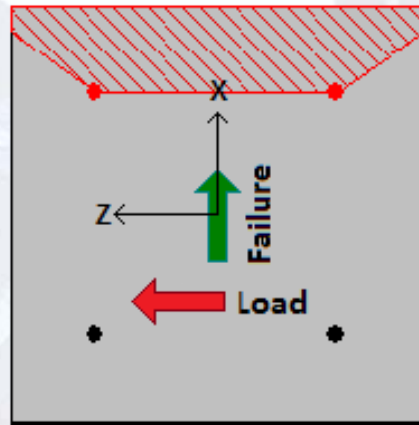


ANCHOR BOLT FAILURE MODES

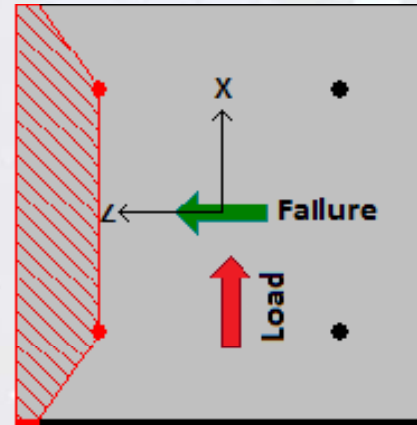
Group Failure



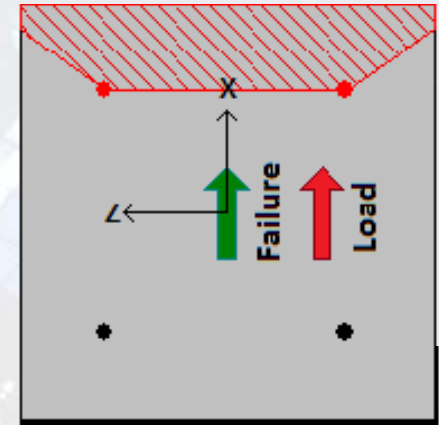
VcbZz



VcbZx



VcbXz



VcbXx

ANCHOR BOLT FAILURE MODES

- 25% Strength Reduction
- Seismic failure must be Ductile
- Ductile: Steel yields first
- Supplemental Reinforcement

Example

- W14x99
- 3'-0" x 3'-0" Pedestal
- Dead + Live + Earthquake
- Uniaxial Bending



Questions?

Please let us know if you have questions.

We will answer as many questions as time permits during the webinar.

Once the webinar is closed, we will post all Q&A's, as well as the Quick Reference Guide, to our website: www.risatech.com

For further information, contact us at: info@risatech.com

Thank you for Attending!

