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Anchor Bolt Forensic Evaluation

January 21, 2025

Alta Arizona Project No.: 240358-C

Prepared exclusively for:

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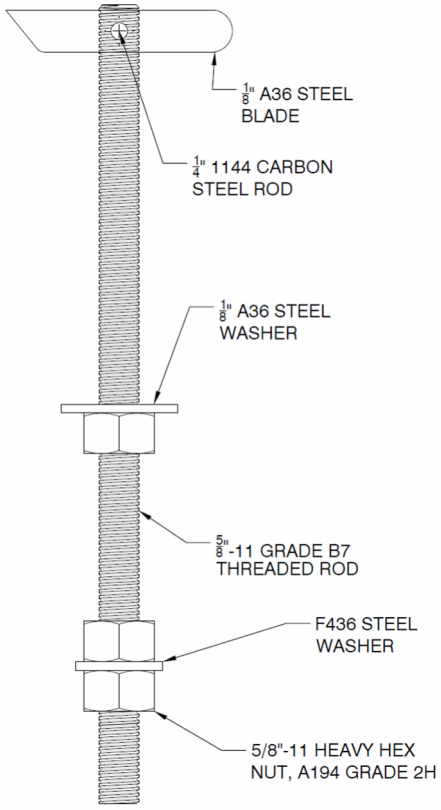
EXECUTIVE SUMMARY

ATTENTION: James Beleville, David Pounders

REFERENCE: Engineer's Evaluation of Improved Anchor Bolt Apparatus
Patent Pending serial number 17/984,732
Alta Arizona Project No.: 240358-C

In accordance with your request Alta Arizona (Alta) performed a pull test on August 22, 2024, for the client provided "Improved Anchor Bolt Apparatus". The intent of the testing protocol was to ensure the ability of the anchor to withstand a tensile force of at least 5,285 lbs for 10 minutes. Below is a visual representation of the tested anchor



The anchor was placed through a ¾" diameter hole that was bored through a piece of nominal 2x4 lumber. The blade anchor was laid flat against the lumber and the nut and washer were tightened to a torgue of 30 ft-lbs to secure the anchor to the lumber. A 25 KN force was applied to the anchor for 30 minutes while the blade was oriented perpendicular to the grain of the wood and again for 30 minutes with the blade oriented parallel to the grain of the wood. At the end of the 30-minute duration there were no indications of stress or strain on the lumber other than an indendation where the blade was oriented that measured approximately 1/32" of an inch in depth. A photo of the apparatus utilitzed in the testing can be seen below.

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Conclusion

The “Improved Anchor Bolt Apparatus” Patent Pending serial number 17/984,732 is capable of withstanding a tensile force of 5,620.2 lb (25KN) for a time period in excess of 30 minutes without causing visable damage to the nominal lumber and without compromising the integrity of the anchoring device. This exceeds the design strength of 5,285 lbs for 10 minutes as required to withstand wind load resistance for anchoring devices. Alta certifies that the “Improved Anchor Bolt Apparatus” has a tensile strength resistance of at least 5,620.2 lb when placed through a nominal piece of 2x4 lumber regardless of blade orientation.

Alta Arizona appreciates the opportunity to provide you with quality engineering and inspection services. If you have questions or require additional information, please us directly at (480) 656-1517.

Cordially,
Alta Arizona

Sean Fabor, PE
Principal

Registered Professional Engineer (Civil)
CERTIFICATE NO.
50685
SEAN P.
FABOR
Date Signed 01/25/25
ARIZONA, U.S.A.