

November 05, 2018

Mr. Lawrence Bettencourt, District Representative
Newcastle Fire District

Re: Letter of Initial Structural Observation
Newcastle Firestation
9211 Cypress Street, Newcastle CA 95658

Mr. Bettencourt,

During the initial, limited, and guided structural observation conducted on November 01, JLSE was asked to observe the condition of a single existing, interior, timber column, at the first level of the building, within in the apparatus bay.

This column supports two steel beams, which in turn support a substantial portion of the floor above.

Three of four sides of the square column were readily observable, between the steel beam above, and the top of slab-on-grade below, although it appears the column may extend below the top of slab. On the fourth side, observation was blocked by a continuous 2x timber, which is stitched to the side of the column.

The column timber is showing checks on all three observable sides. On at least one side, the check is considered structurally severe, running continuously for the full height of the observable portion of the column. On this side, the check was measured at approximately one-half of an inch wide (1/2in), and at least four inches deep (4in). The side opposite this check, is the side that was not observable due to the aforementioned stitched 2x.

Furthermore, it is my understanding, based on discussions with those present, including but not limited to Mr. Lawrence Bettencourt, and Mr. Kirk Kushen, Fire Chief, that the width of the checks have grown from less than three-sixteenths of an inch (3/16in) to approximately one-half of an inch (1/2in), in approximately two years.

Based on these observations and discussions, it is my understanding that the column is in a state of progressing failure. Although the growth of the width of the severe check has been relatively slow over the last couple of years, it is anticipated that the rate of failure will accelerate,

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eventually resulting in a sudden collapse as the column splits through, and begins to act as two or more timbers.

As such, my recommendations are as follows:

- Immediately provide temporary shoring of the floor above. The shoring should be designed by a licensed design professional who specializes in shoring.
- Replace the column with another column, to be specified by a licensed design professional who specializes in the structural design of building structures.

Please feel free to contact me with any questions or concerns.

Thank you.



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JLSE
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