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Observation Report

October 1, 2019

Matt Debus
Vail Management Company

Re: Meadow Creek Condominiums, Vail, CO
(Building K)
Project No. 0307-19 K

On September 17, 2019, at Matt Debus' request, I visited the property referenced above to observe the general condition of the exterior decks along the west side of the condominium building and to provide you with my observations. The opinions expressed in this report are based only on visual observation of the condition of the structure on this date, without disturbing any integrity of the decks or the residence. These opinions do not represent overall property review, structural analysis, or compliance with applicable building code. The original construction documents dated 01-02-1981 for the building were present at the time of my visit.

PURPOSE AND SCOPE:

The purpose of this report is to evaluate the structural integrity of the existing decks along the west side of the condominium for building K, and to provide recommendations of the remedial work that should be done in areas where structural problems and or damage is observed.

BACKGROUND:

The condominium complex is a cluster of buildings that are spread out over the property and appear to have some similarities in a common repetitive layout. According to limited Town of Vail Planning documents, the condominiums appear to be built in the late 1970s or early 1980s. Building K consists of 4 units (K1-K4), built on a flat lot. Also according to some of the older documents from the town it appears that the exterior decks for building K have been modified from the plans dated 01-02-1981. The exterior decks for the units in concern are located on the west side of building K. There were no construction documents for the modified decks at the time of my visit.

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OBSERVATIONS:

Building K consists of four units and staggers two units at a time from the northeast towards the southwest approximately 4 feet starting with units K4 and K3. The decks appear to have been remodeled at some point in time. The exterior decks are located on the west side of the building and are approximately 10'-9" above the finished grade. They extend approximately 9'-6" from the building and the span the length of the K building. There is a framed partition wall that divides the decks in half. This partition wall appears to be located between the two units at the party wall. The decks are accessed by an exterior door located on the west side of each individual unit. The exterior decks appear to be framed with 2x wood decking on 2x8 deck joists spaced at 19.2" apart. Most of the joists bear on mechanical steel hangers or are toe-nailed on the east end and cantilever approximately 8" on the west. The east end hangers are nailed to either a 2x8 ledger that is perpendicular with the deck joists or toe-nailed to a 2x8 ledger that is on an approximate 45 degree angle to the deck joists. The ledgers appear to be nailed to the side of the building. The cantilevered ends of the joists bear on a dropped 3 1/8 x 12 glulam beam. Some of the deck joists and nails appear to be weathered and show signs of rust. (See Image A, B, C, D and attached layouts)

Units K1 and K2: The glulam beam for these units spans continuously over four 6x6 rough sawn posts. The largest span appears to be on unit K1 and is approximately 12'-4" in length. The largest cantilevered span appears to be on unit K2 and is approximately 2'-4" in length. The post to the north of unit K1 appears to have a vertical crack along the length of the post. The top of all the posts appear to have a notch at the top where the glulam beam bears. There does not appear to be a mechanical steel cap or any type of bolts connecting the two members together. All of the posts bear on concrete circular piers and do not appear to have a mechanical steel base plate. The concrete pier to the south of unit K1 appears to be only 3 to 4 inches above the finished grade. (See Image E & F)

Units K3 and K4: The glulam beam for these units spans continuously over four 6x6 rough sawn posts. The largest span appears to between both units and is approximately 12'-7" in length. The largest cantilevered span appears to be on unit K3 and is approximately 2'-9" in length. The top of all the posts appear to have a notch at the top where the glulam beam bears. There does not appear to be a mechanical steel cap or any type of bolts connecting the two members together. All of the posts bear on concrete circular piers and do not appear to have a mechanical steel base plate.

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(Image A, Unit 1 & 2)

(Image B, Unit 3 & 4)

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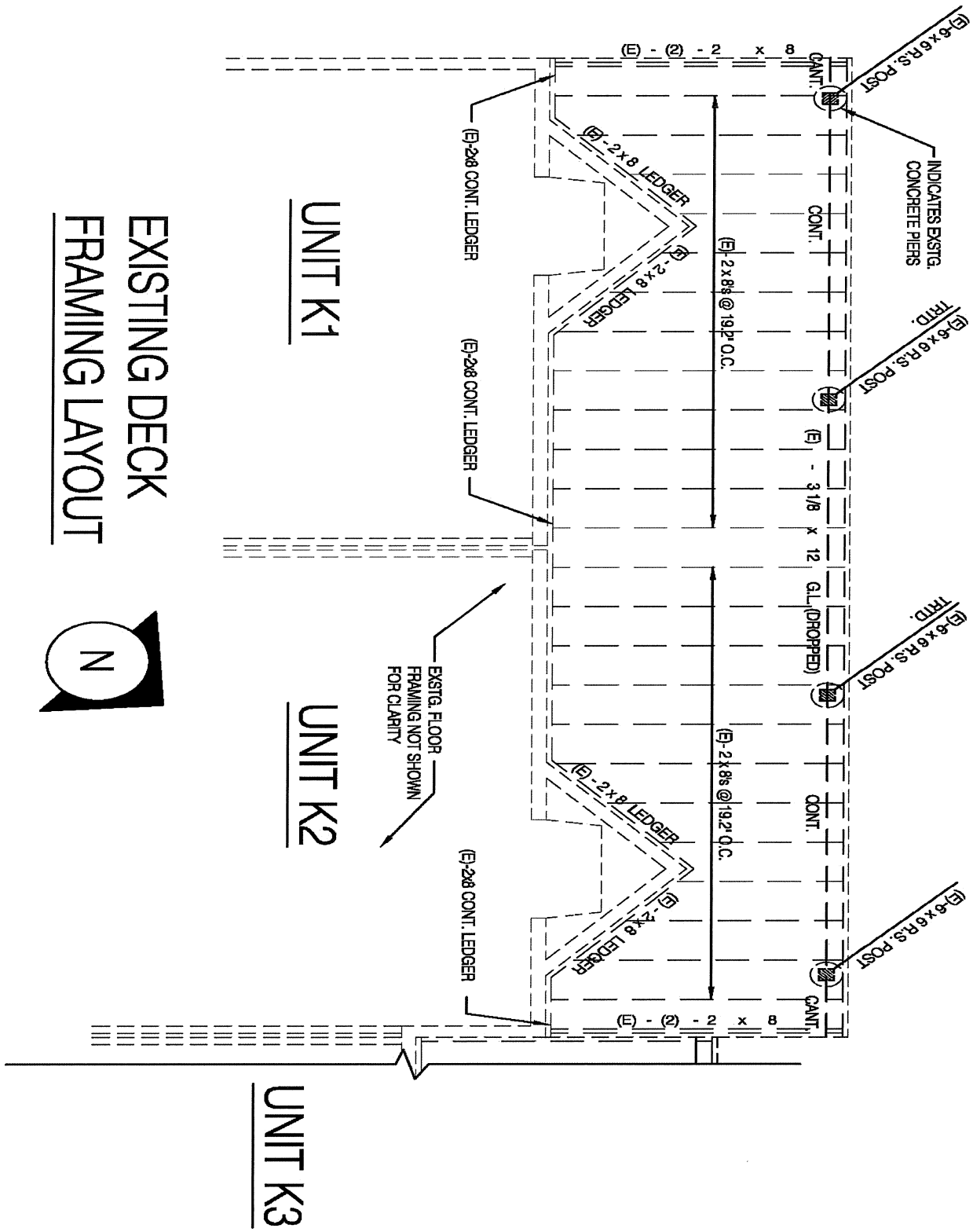

Meadow Creek Condominiums (Building K), Vail, CO **#0307-19 K**

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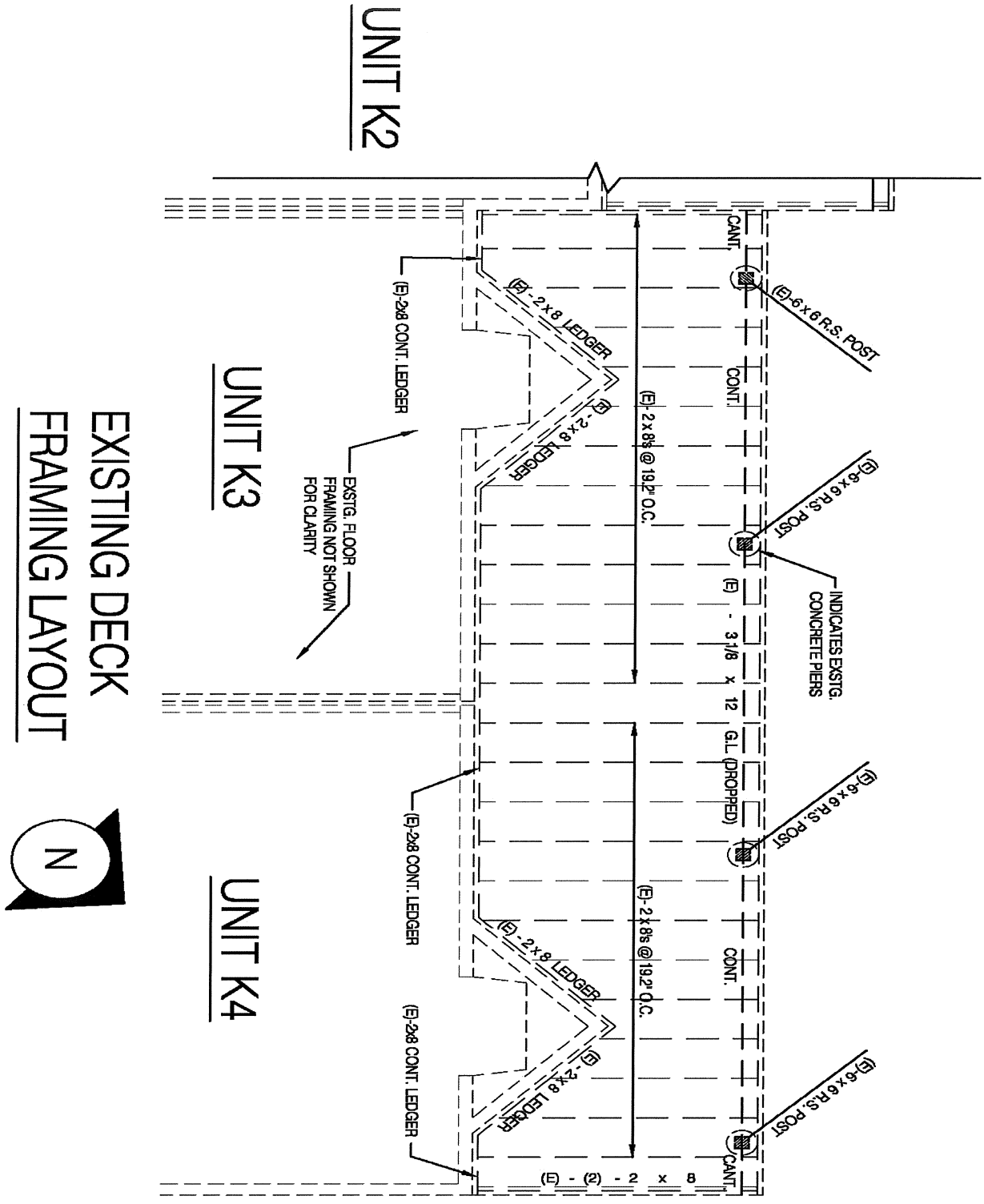
EXISTING DECK FRAMING LAYOUT



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(Image C)

(Image D)

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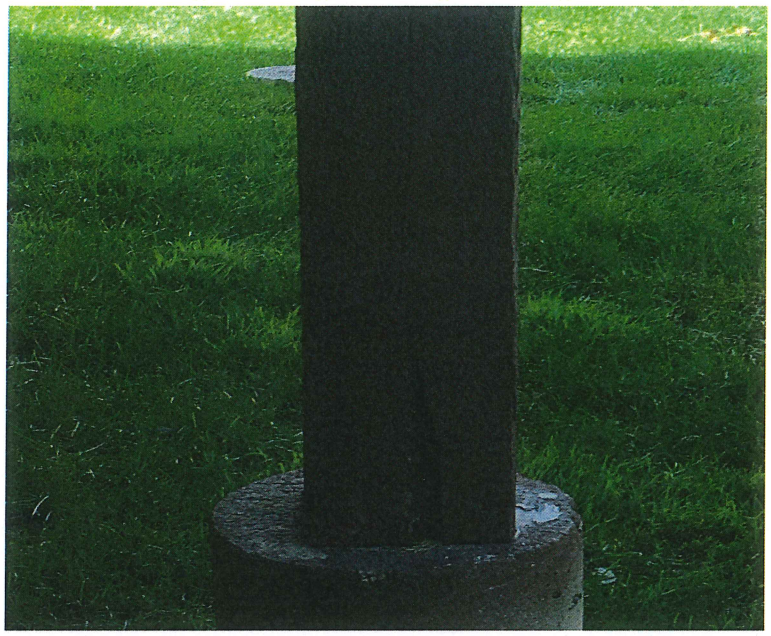

(Image E)

(Image F)

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CONCLUSIONS:

At this time, I do not believe that the exterior decks on the west side of Building K will fail structurally but they should be attended to with some remedial work. Besides the deck being weathered in some areas, I do not believe they will fail structurally. Although I do not believe the decks will fail structurally, I do feel that the existing decks are not constructed to today's building codes. I feel that the 2x8 deck joists at 19.2" on center spacing are not adequate to support the current Town of Vail design load criteria. I feel that the nails that are showing signs of rust may eventually become too corroded to support their imposed loads.

Other concerns that I feel will shorten the workability of the decks is the supporting posts and all other non-treated wood members should bear on a concrete pier that is a minimum of 8" above the grade and a minimum 48" below grade. These wood members should also have the correct steel mechanical connections. All 2x8 ledgers should be connected to a solid rim-board with a fastener that can withstand withdraw loading and not just nailing.

RECOMMENDATIONS:

I do recommend the following items have immediate remedial work completed on them:

1. Provide Simpson ABU66Z base plates to all 6x6 posts.

2. Add (3)-4" x 3/16" diameter Timber-Lok screws at 16" on center to all existing 2x8 ledgers that are attached to the building rim-board.

3. Replace all deck joists that are showing any signs of rot with new ones.

4. Add (2)-1/2" diameter through bolts to the glulam and the top of the 6x6 posts spaced six inches apart from the center of the beam.

5. For unit K1, replace the 6x6 post that has the vertical crack in it and provide a base plate and bolts as described above.

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The following items are recommended to help prolong the workability of the existing exterior decks:

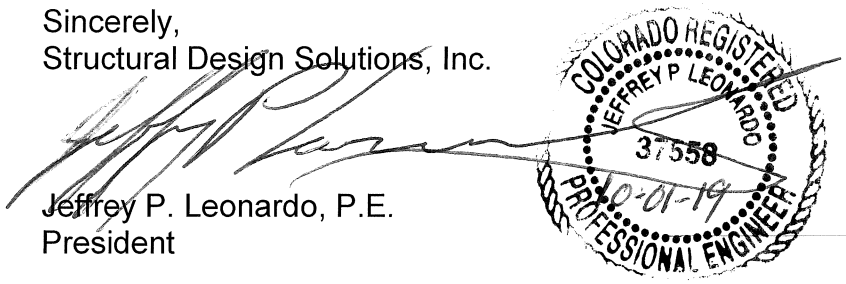
1. Install Simpson LS70 or Simpson LUS26 hangers on all deck joists that are missing them.

2. Add one more 2x8 deck joist to the existing 2x8 deck joist to meet current building code load criteria or replace all deck joists with 2x10's spaced at 16" on center.

3. Maintain decks by regularly monitoring them, clearing them of snow and ice, and by resealing them with the proper stain/sealer and or paint.

If you would like to discuss this report, or if we can be of further service to you, please do not hesitate to contact us.

Sincerely,
Structural Design Solutions, Inc.



Jeffrey P. Leonardo, P.E.
President