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Foundation Inspection Report

Date:
Client:
Address:
Phone:
Email:
Job Address:

Structural findings: (Yes)
Amount: (3)

Structural Foundation issue #1, in location of main point loaded caring beam on the ((D) Delta side) facing garage and driveway.

Complication: a structural crack is in the main location of the beam that supports the homes main span from (D delta) side to (B bravo) side and everything in its entirety between the foundation, above the beam. There is a compound crack in this location that starts from top of the foundation and fully travels to the bottom of the foundation. At this time, it should also be noted that the main beam does not sit into its designed engineered foundation pocket, instead the microlaminated beams sit on top of the foundation above of the pocket. With a compound crack in the location of the point loaded beam can cause adverse effects on the home's footing, foundation, also the homes structural integrity above this beam. **It should also be noted that the home is not in imminent danger of collapse and or foundation failure at this time.**

Recommendation: grind and prepare the crack surface approximately 8" beyond the entire crack bilaterally to remove paint and loose and/or any foreign martial. Remove sand, dirt and organic material by process of forced pressurized air infiltration into the cracks (midpoint) or core to allow for maximum saturant adhesion and bonding. Measure and layout for Rhino® cracklock® carbon fiber foundation ties, approximately 16" on center. Drill holes for the Rhino® cracklock® ties approximately 2" into the face of the concrete foundation. Saw cut into the concrete foundation with a line connected to the two drill marks aproximally 1½" deep. Use Sika® high strength anchoring epoxy to install the Rhino® cracklock® ties on the recommended lay-out. Set structural injection ports on the crack from bottom to top approximately every 6-10" with Sika® high strength anchoring epoxy. Seal the rest of the crack with Sika® high grade anchoring epoxy. Inject Rhino® high grade structural resin saturant into the crack through the installed injection ports, starting at the bottom of the wall crack until resin starts flowing out of the to the next port above the port being injected, repeat this process until resin flows from the top of the foundation with 100% of voids and crack incased in structural resin. Let the foundation cure and saturate for 1-3 days depending on humidity. Re-grind the surface of the crack bilaterally to remove ports and Sika® high strength anchoring epoxy until the foundation is smooth again. install Rhino® carbon fiber lamination saturant to the prepared area from top to bottom to saturate and bond to the concrete. Install Rhino® carbon fiber matting from the top of the crack to the bottom of the crack and laminate to the floor in the location of the crack.

estimated cost of repairs needed [redacted]

At a later date, as an aggressive option we would recommend a licensed experienced structural carpenter under the direction of the building official with a permit, to install blocking into the existing main beam pockets to help support and disburse the weight the point loaded beam. We would also recommend installing a lally column approximately 6-8" of the wall with a 1x1x1' concrete footing to further disburse the weight.

estimated cost of repairs needed [redacted]

Structural Foundation issue #2, in location of main point loaded caring beam on the ((B) Bravo side) facing the side yard

Complication: a structural crack is in the main location of the point loaded beam that supports the homes main span from (B bravo) side to (D delta) side and everything in its entirety above the beam between the foundation. There is a compound crack in this location that starts from top of the foundation and fully travels to the bottom of the foundation this crack shows evidence of water infiltration into the home. At this time, it should also be noted that the main beam does not sit into its designed engineered foundation pocket, instead the microlaminated beam sits on top of the foundation above the pocket! With a compound crack in the location of the point loaded beam can cause adverse effects on the home's footing, foundation, also the homes structural integrity above this beam. **It should also be noted that the home is not in imminent danger of collapse and or foundation failure at this time.**

Recommendation: as the electrical plywood panel is in the way of the repair, a licensed electrician to move the plywood panel and the reinstall once work is completed if and as needed. grind and prepare the crack surface approximately 8" beyond the entire crack bilaterally to remove paint and loose and/or any foreign martial. Remove sand, dirt and organic material by process of forced pressurized air infiltration into the cracks (midpoint) or core to allow for maximum saturant adhesion and bonding. Measure and layout for Rhino® cracklock® carbon fiber foundation ties, approximately 16" on center. Drill holes for the Rhino® cracklock® ties approximately 2" into the face of the concrete foundation. Saw cut into the concrete foundation a line connected to the two drill marks approximately 1½"deep. Use Sika® high strength anchoring epoxy to install the Rhino® cracklock® ties on the recommended lay-out. Set structural resin injection ports on the crack from bottom to top approximately every 6-10" with Sika® high strength anchoring epoxy. Seal the rest of the crack with Sika® high grade anchoring epoxy. Inject Rhino ®high grade structural resin saturant into the install resin injection ports starting at the bottom of the wall crack until resin starts flowing out of the to the next injection port above the port being injected, repeat this process until resin flows from the top of the foundation with 100% of voids and crack incased in structural resin. Let the foundation cure and saturate for 1-3 days depending on humidity. Regrind the surface of the crack bilaterally to remove ports and sika® high strength anchoring epoxy until the foundation is smooth again, install Rhino® carbon fiber lamination saturant to the prepared area from top to bottom to laminate and bond to the concrete. Install Rhino® carbon fiber matting from the top of the crack to the bottom of the crack and laminate to the floor in the location of the crack.

estimated cost of repairs needed [redacted]

At a later date, as an aggressive option we would recommend a licensed structural carpenter under the direction of the building official with a permit to Install blocking into the existing main beam pockets to help support and disburse the weight the point loaded beam. We would also recombed installing a lally column approximately 6-8 with a 1x1x1'concrete footing of the wall to further disburse the weight.

estimated cost of repairs needed [redacted]

Structural Foundation issue #3 in location of main point loaded caring beam on the ((C) Charlie side) facing the backyard

Complication: a structural crack is in the location of the beam that supports the homes entrance off the kitchen to the sunroom span from ((C)Charlie) and everything in its entirety between the foundation cove and point loaded above. This crack is a major concern as this is aproximally ¼" and has shown that it has moved out of the plane with signs of soil and water erosion and soil and water infiltration to the home. The cracks location is on the foundation corner, with no foundation support to the right of foundation into the center of the home this foundation crack is of immediate concern! This is a compound crack with compound lateral cracks in this location. The crack starts from top of the foundation and fully travels to the bottom of the foundation. At this time, it should also be noted that this beam does sit into its designed engineered foundation pocket, instead of the other TWO the microlaminated beams sit on top of the foundation on top of the pocket. However, it should also be noted that this beam is starting to migrate inward to the home's interior. With a compound crack in the location of a corner and also at the location of point loaded beam can cause adverse effects on the home's footing, foundation, also the homes structural integrity above this beam. **It should also be noted that the home is not in imminent danger of collapse and or foundation failure at this time. **** you may want to have this crack evaluated by a structural engineer as a second opinion*****

Recommendation: grind and prepare the crack surface approximately 8" beyond the entire crack bilaterally, also starting at the bottom of the foundation grind on a layout of 24" horizontally in about 6" x 4'on each side of the corner on center to remove paint and loose and/or any foreign martial. Remove sand, dirt and organic material by process of forced pressurized air infiltration into the cracks (midpoint) or core to allow for maximum saturant adhesion and bonding. Measure and layout for Rhino® cracklock® carbon fiber foundation ties, approximately 16" on center. Drill holes for the Rhino® cracklock® ties approximately 2" into the face of the concrete foundation. Saw cut into the concrete foundation and connect the two drill marks aproximally 1½" deep. Use sika® high strength anchoring epoxy to install the Rhino® cracklock® ties on the recommended lay-out. Set structural resin injection ports on the crack from bottom to top approximately every 6-10" with Sika® high strength anchoring epoxy. Seal the rest of the crack with Sika® high grade anchoring epoxy. Inject Rhino ®high grade structural resin saturant into the crack starting at the bottom injection port until resin starts flowing out of the to the next port above the injection port being injected, repeat this process until resin flows from the top of the foundation with 100% of voids and crack incased in structural resin. Let the foundation cure and saturate for 1-3 days depending on humidity. Regrind the surface of the crack bilaterally to remove ports and Rhino® high strength anchoring epoxy until the foundation is smooth again, install Rhino® carbon fiber lamination saturant to the prepared area and the proposed horizontal layout from top to bottom to adhere and bond to the concrete. Install Rhino® carbon fiber matting from the top of the crack to the bottom of the crack and laminate to the floor in the location of the crack. Then install horizontal Rhino® 4' carbon fiber straps from the floor to the top of the foundation in 24'' on center layout or until the foundation top is reached.

estimated cost of repairs needed [redacted]

along with the above repair, we would recommend strongly recommend a experienced licensed structural carpenter under the direction of the building official with a permit to Install blocking into the existing beam pocket to stop the beam from migrating out of plum/plane any further, this could also be achieved from using Simpson® engineered metal connectors. This will also help disburse the weight the point loaded beam. We would also recombed installing a lally column approximately 6-8" of the wall with a 1x1x1' concrete footing to further disburse the weight in the location of this crack.

estimated cost of repairs needed [redacted]

if any of this work is completed a full refund of the inspection report ( ) will be credited at the time of the final payment. Receipt of inspection payment in the amount of check number paid in full $0 balance due.

Adam R. Mercurio

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HIC 153653
HE 165758