

March 2, 2020

CLIENT: The Trust of John Hazard

SUBJECT: Professional Service
File #200302BST
Limited Evaluation of Foundation Soundness
2214 Nielsen Street
El Cajon, California 92020

Dear Client:

In accordance with the Professional Engineering Services Contract between you and SD Engineering, SD Engineering conducted a visual examination of the above property on March 2, 2020. The specific purpose of this examination was to evaluate the condition of the foundation.

This evaluation report incorporates by reference, as though fully set forth herein, a copy of the SD Engineering contract with you. This report is based upon all of the contractual provisions stated therein, and we remind you, among other things, that this report is solely to benefit you, and no third parties. This report is not to be relied upon by any other parties.

The house is a single story wood frame structure with stucco siding and wood siding at the front. The dwelling is approximately 35 years old. For the purpose of this report it is assumed that the house faces north. The dwelling is situated on a flat lot that slopes down steeply at the front and west side. The configuration of the lot indicates that there may be fill soil present underneath the foundation, especially at the west side of the house. This evaluation is limited to the foundation and features of the house likely to exhibit symptoms of possible foundation movement.

FINDINGS & OPINIONS

The concrete pavers and the other concrete flatwork around the house were examined and are in satisfactory condition with only minor and hairline cracks. Gutters are present around the house and are in serviceable condition. The downspouts discharge away from the foundation and to underground drains. It is beyond the scope of this evaluation to determine the condition of the underground drainage system. The drainage around the perimeter of the house appears to be adequate at this time. Maintaining the drainage to limit the opportunity for water to run or pond near the foundation, and thereby infiltrate the soils underneath the foundation, should reduce the probability of future movement of the foundation.

The visible portions of the garage concrete foundation and slab are in satisfactory condition with only minor and hairline cracks. Portions of the garage foundation and slab are covered with storage and were not examined.

The wood siding at the front of the house is relatively flexible and is not expected to reflect long term movement of the structure typical of stucco or other more rigid siding systems.

The stucco siding was examined for significant cracking. There are only minor and hairline cracks noted in the stucco which are typical for this type of material.

The ceilings and walls throughout the house were examined for significant cracking. No significant cracks were observed.

The doors and door frames were examined for fit and squareness. The master bedroom southerly closet door rubs on the top of the door frame and is in need of planing. The frame for this door is relatively square and there is no evidence that this condition is structurally significant. The remainder of the doors operate freely, indicating no appreciable distortion of their frames, however, the frame for the master bathroom pocket door was noted to be out of square. This condition is possibly caused by some movement of the foundation.

The foundation system consists of concrete footings and a slab on grade. The portions of the foundation walls visible around the outside of the house were examined for possible cracks. There is a horizontal crack approximately 3 feet in length and approximately 1/16 inch in width in the north portion of the west foundation wall. The majority of this crack has been previously patched and painted. There is also a vertical crack approximately 1/16 to 1/8 inch in width in the west foundation wall

approximately 6 inches north of the chimney. The concrete along a portion of the horizontal crack described above has come loose and spalled off and there is corroded reinforcing steel visible in this location. The cracking described above is caused by the reinforcing steel and/or anchor bolt being located too close to the surface of the foundation wall. The foundation walls become wet and the moisture penetrates the concrete to the steel. The moist steel then rusts and expands producing the cracking and spalling. This process can be accelerated by the presence of certain additives or contaminants in the concrete. Portions of the foundation walls are inaccessible because of flatwork, storage, and/or vegetation and could not be examined.

The condition of the floor slab could not be determined because it was covered with flooring.

A manometer was used to perform a random floor level survey on the dwelling to determine the possibility of any differential settlement and/or movement which may have occurred. The floor level survey was not conducted in the garage. The variation of the floor level was determined to be approximately 2.3 inches. The levelness of the floors at the time of construction is not known, however, the average amount of variation is usually approximately 3/4 inch. The highest point measured is in the master bathroom and the lowest point measured is in the northwest corner of the house.

There is no visual evidence of structural distress or excessive movement of the superstructure noted at this time. The larger than average variation in floor levelness is possibly caused, at least in part, by differential settlement of fill soils, with the northwest portion of the floor slab settling the most. The levelness of the floors at the time of construction is not known, making it impossible to determine how much settlement or movement may have occurred. Evaluation of the potential for future foundation movement would require soil testing, which is beyond the scope of this evaluation. Maintaining the drainage to limit the opportunity for water to run or pond near the foundation, and thereby infiltrate the soils underneath the foundation, should reduce the probability of future movement of the foundation.

It is pointed out that SD Engineering can make no determination regarding the presence or absence of cracks in the floor slab because the floor slab was covered with flooring. Removal of the flooring would be required to determine the presence or absence of cracks.

RECOMMENDATIONS

As pointed out above, evaluation of the potential for future foundation movement would require soil testing, which is beyond the scope of this evaluation. It is recommended that the Client retain the services of a registered Geotechnical Engineer or Engineering Geologist if evaluation of the potential for future foundation movement is desired.

The foundation should be repaired as specified in Appendix A. The purpose of these repairs is to arrest/retard the corrosion to the reinforcing steel and anchor bolt and to restore the strength of the foundation wall at the cracked locations. The Client is advised that performing the recommended repairs will not significantly improve the ability of the foundation to resist forces which may be applied by future movement of the underlying soils. The Client is also advised that performing the recommended repairs will not level the floors and that the floors will still slope after completion of the repairs. Keeping water away from the foundation is essential to reducing the probability of future foundation movement and related structural distress. Maintenance recommendations to assist in keeping water away from the foundation are provided in Appendix B.

Should ceramic or clay tile flooring be installed in the future, it is recommended that a licensed flooring contractor be contacted for recommendations regarding methods of reducing the probability of cracks reflecting up through the tiles such as installing a slip sheet system or a reinforced mortar bed between the floor slab and the tile.

FOLLOW-UP SERVICES

SD Engineering offers to provide certification of the completed repair work, if desired. The Client is advised that certification of repairs, as defined in the Professional Engineers Act, Section 6735.5 of the California Business and Professions Code, constitutes an expression of professional opinion and does not constitute a warranty or guarantee, either expressed or implied. Our fee for returning to the property, observing the completed repairs, and preparing a written report is \$300.00. This fee is in addition to the fee for the original evaluation and is due at the time of the certification site visit. Any site visits in addition to the planned site visit shall be billed to you at a basic rate of \$200.00 each. This quote is available only to the above named Client. Extension of this quote to another Client is at the option of SD Engineering and would require the new Client to execute a separate services contract.

Providing additional information which may be required in order to obtain a building permit is not within the scope of our initial evaluation. Assistance in meeting permit requirements directly related to our design is available on an hourly basis. The fee for these services is \$120.00 per hour.

CLOSING

The Client is reminded that the opinions and recommendations provided in this report are based upon a limited visual evaluation of structural soundness without the benefit of geotechnical investigation or examination of the floor slab and that SD Engineering makes no representations or guarantees regarding future performance of the property. Remedial measures which may be recommended cannot guarantee that future movement of the foundation will not occur.

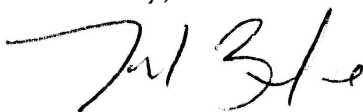
The Client is reminded that particular attention should be given to maintaining proper drainage as recommended in Appendix B.

It is recommended that this Company be retained to re-evaluate the house should any visible signs of distress appear or should any cracks be discovered in the floor slab in the future.

We remind you that this entire report incorporates by reference, as though set forth fully herein, all of the provisions of the contract between SD Engineering and you. It is thus necessary, should you have any questions regarding the scope of SD Engineering's services and responsibilities, that you consult the subject contract. A blank copy of the contract is attached to this report for reference.

We appreciate the opportunity to be of professional service to you in this matter. Should any questions arise or should you desire to retain SD Engineering to certify the completed repairs please feel free to contact our office.

Sincerely,



Trent Burdeno
B.S.C.E., R.C.E.

The Stamping and signing of this document indicates that the engineer of record has approved the findings, conclusions, and recommendations and does not indicate the approval of the local Building Official. Obtaining any necessary building permits is the responsibility of the property owner.



3/2/20

APPENDIX A

FOUNDATION REPAIR SPECIFICATION

2214 Nielsen Street, El Cajon, California 92020

1. The foundation system should be repaired as specified below.
2. The Client is advised that performing the recommended repairs will not level the floors and that the floors will still slope after completion of the repairs.
3. It shall be noted that for the purpose of this project it is assumed that the house faces north.
4. All work shall be performed in accordance with the California Building Code (CBC) as adopted by the appropriate local building authority. The following specifications are general in nature. The contractor performing the work is expected to have a thorough knowledge of the CBC requirements.
5. Recommendation for pressure injection of epoxy is referring to the injection of high strength epoxy adhesive using automated commercial injection equipment intended for this purpose. Cracks are to be properly cleaned/prepared prior to epoxy injection. Gravity filling or other methods of placement of epoxy are not recommended as a substitute for pressure injection.
6. Unforeseen conditions may require changes to the repair recommendations. Should unforeseen conditions be encountered, SD Engineering should be contacted for possible revision of the repair recommendations. Evaluation of such conditions and modification to the repair recommendations may require an additional fee.
7. Deviation from these recommendations may jeopardize the ultimate success of the repairs. It is recommended that the contractor performing the repairs be provided with a copy of these recommendations and that the contractor be encouraged to contact SD Engineering directly for any clarification of these recommendations. Proposed deviations from these recommendations should be reviewed and approved by SD Engineering prior to accomplishment of the work. Telephone requests for clarification will normally be returned no later than the evening received.
8. The cracked and spalled areas of the north portion of the west foundation wall described above should be repaired as specified below. The purpose of these repairs is to arrest/retard the corrosion to the reinforcing steel and anchor bolt and to restore

the strength of the foundation wall at the cracked locations. All cracked and loose concrete should be removed and the exposed reinforcing steel thoroughly cleaned. This area should then be coated with non-sag gel type high strength epoxy adhesive. The epoxy should extend a minimum of 3 inches above and below the exposed reinforcing steel. This area should then be covered with Hub "Five Star Structural Concrete", Atlas "Structural Repair Mortar Vertical & Overhead", or an equivalent high bond strength concrete repair material to fill in the spalled areas flush with the surface of the foundation wall. The horizontal and vertical cracks should be pressure injected with high strength epoxy.

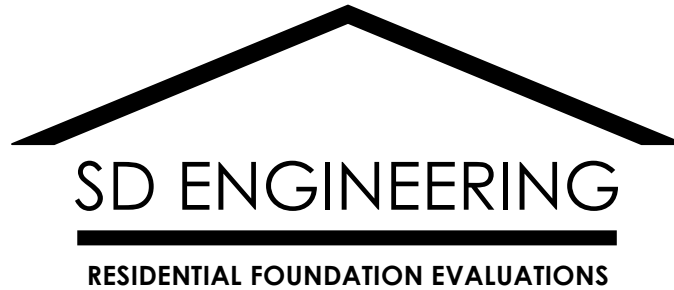
APPENDIX B

MAINTENANCE RECOMMENDATIONS

2214 Nielsen Street, El Cajon, California 92020

Keeping water away from the foundation is essential to reducing the probability of future foundation movement and related structural distress. The following maintenance recommendations are provided to assist in keeping water away from the foundation:

1. In maintaining and modifying the landscaping and the concrete flatwork around the house, care should be taken to ensure that the soil and the flatwork slope away from the foundation and runoff water drains freely to the street or to another proper drainage discharge area. Water should not be allowed to pond on the property, especially in the areas adjacent to the foundation. Drought resistant landscaping is recommended for areas around the foundation. In maintaining the drainage care must be taken to keep the soil level well below the bottom edge of the metal weep screed at the lower edge of the stucco to prevent possible moisture intrusion into the wall assembly and deterioration of the wood framing. In newly constructed homes the soil level must be a minimum of 4 inches below the bottom edges of metal weep screed, however, this may not have been required at the time of construction.
2. Irrigation should be kept to a minimum in the areas adjacent to the foundation.
3. The gutters should be kept clean and the downspouts maintained to ensure water is directed well away from the foundation. The underground drainage system should be kept clear of soil and debris and maintained in good working order.
4. The water bill should be regularly monitored and any unexpected increase in consumption investigated to ensure water from an underground leak does not infiltrate the soil underneath the foundation.
5. The slopes around the property should be maintained and any erosion which may occur should be promptly repaired.



PROFESSIONAL ENGINEERING SERVICES CONTRACT

PURPOSE:

The engineering service to be performed for the Client consists of providing a limited evaluation of the structural integrity of the dwelling foundation. The investigation will be limited to the observations made during the evaluation and any recommendations which may be provided will be based on the Engineer's opinions as well as generally accepted engineering practices. The report SD Engineering provides is neither a geological nor a geotechnical report. The engineer of record for these services is Trent Burdeno, R.C.E. #C87361. The condition of the property at any time following the evaluation may vary from the condition at the time of the evaluation and SD Engineering makes no representations or guarantees regarding future performance of the property. The evaluation report is for the sole use of the Client and is not transferable. SD Engineering does not intend that anyone other than the Client will rely upon this report, therefore, it is intended solely for the Client, to the exclusion of all others.

SCOPE:

The evaluation of the foundation will be based solely upon a visual examination of the exterior and interior of the dwelling. SD Engineering will examine the exterior siding and the interior ceilings and walls for significant cracking and other signs of movement. The doors and door frames will be examined for fit and squareness. For raised foundation dwellings, the accessible portions of the foundation crawl space will be examined. For slab-on-grade dwellings, a manometer will be used to perform a random floor level survey on the structure to determine the possibility of any differential settlement and/or movement which may have occurred. SD Engineering is not responsible for removal of carpeting or any other flooring coverings. The drainage around the perimeter of the dwelling will be visually examined.

The basic evaluation fee includes repair recommendations provided that any repairs which may be deemed advisable are relatively simple and do not require soil testing, design calculations, or the preparation of extensive specifications. If the repairs are more complex, a fee for designing repairs will be quoted in the evaluation report. Certification of the completed repair work is available for an additional fee. The Client is advised that certification of repairs, as defined in the Professional Engineers Act, Section 6735.5 of the California Business and Professions Code, constitutes an expression of professional opinion and does not constitute a warranty or guarantee, either expressed or implied. The fee for certification of any recommended repairs will be quoted in the evaluation report.

Any recommended repairs will be predicated upon the original construction meeting accepted standards at the time of construction. Discovery of sub-standard original construction or other conditions not known to SD Engineering at the time of the evaluation may require modification of the repair recommendations. Any such conditions not noted in the original report should be reported to SD Engineering for evaluation and possible modification to the original repair recommendations. Evaluation of such conditions and modification to the recommendations may require an additional fee.

The report may include recommendations which require a building permit. Obtaining any necessary building permits is the responsibility of the property owner. SD Engineering provides only the repair design and does not provide other information which may be required including, without limitation, floor plans, plot plans, legal descriptions, or any other documents. Satisfaction of all permit fees and requirements is the responsibility of the property owner.

Revised 1/1/19

EXCLUSIONS:

The scope of this evaluation does not include any determination of permit status or code compliance for the original construction or for any additions, alterations, or repairs.

No soil samples will be taken and no soil tests will be performed. The report which will be provided will not be a geological or geotechnical report.

No visual examination or tests will be performed for asbestos, radon, mold, mildew, fungus, pests (including, without limitation insects and rodents), lead paint, pollutants, or other hazardous organic or inorganic materials or substances. This evaluation also excludes items which would normally be included in Structural Pest Control and Physical Inspections.

Determination of compliance with lot line setbacks or other zoning requirements, location of the property lines, and measurement of lot or home size or other matters pertaining to surveys are beyond the scope of this evaluation.

NO WARRANTIES OR GUARANTEES:

SD Engineering does not guarantee or warrant, expressly or impliedly, the services being provided hereunder.

LIMITATION OF LIABILITY:

In recognition of the relative risks and benefits to both of the parties, the parties have allocated their contractual and other risks such that the Client agrees, to the fullest extent permitted by law, to limit the liability of SD Engineering, its agents, employees, directors, officers, and principals for any and all claims, demands, losses, liabilities, attorney fees, or injuries, whether sounding in tort, contract, indemnity, law, equity, or otherwise, so that the total aggregate liability of SD Engineering to the Client shall not exceed \$5,000. It is intended that this limitation shall apply to any and all liabilities, causes of action, or claims for relief, however alleged or arising, unless otherwise prohibited by law.

INDEMNITY:

The Client agrees to defend, indemnify, and hold harmless SD Engineering from and against any and all claims, demands, losses, injuries, or liabilities arising out of this contract to the fullest extent permitted by law.

MEDIATION:

In the event a dispute, other than one regarding the payment of SD Engineering's fee, arises between SD Engineering and the Client, the parties agree to (a) first attempt to reach an informal resolution of the dispute with a face-to-face meeting, and (b) in the event the meeting fails to be depositive, the parties agree to mediate their

dispute before the Judicial Arbitration and Mediation Service ("JAMS") in San Diego California with each party paying half of the JAMS mediation fee. Such mediation is a condition precedent to litigation between the parties, except with respect to a fee dispute.

CANCELLATION & SEVERABILITY:

This contract may be cancelled by either party prior to the performance of the services upon reasonable notice. Should any portion of this contract be declared void or unenforceable, the remaining portions shall remain in effect.

COMPLETE AGREEMENT:

This contract is the complete embodiment of the parties' intentions to the exclusion of any prior oral or written agreements between them respecting its subject matter.

NO THIRD PARTY BENEFICIARIES:

There are no third party beneficiaries to this contract. The contract is solely to benefit the executing parties.

CLIENT ACKNOWLEDGEMENT:

I/We hereby acknowledge that I/we understand and are in agreement with the terms and conditions of this contract and agree to pay the evaluation fee quoted below. If this contract is executed on behalf of Client by any third party, the person executing this contract expressly represents that he/she has the full and complete authority to execute this contract on Client's behalf and to fully and completely bind Client to all of the terms of this contract. Fees are due at the time of the evaluation unless other prior arrangements are made. Any additional services requested by the Client may require additional fees.

File # _____ Fee \$ _____

Property Address

City, State, Zip

Client Name

Client Signature

Date

Client Signature

Date

SD Engineering Signature

Date

Revised 1/1/19