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# K GARTNER ENGINEERING

TEXAS FIRM No. 22401

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10 January 2023

Sondra Tucker  
12322 Burgoyne  
Houston, TX 77077

REF: 12322 Burgoyne  
Houston, TX 77077

Dear Ms. Tucker,

Per your request, the referenced property was inspected for assessment of foundation performance. The inspection was limited to a visual observation of the interior and exterior cosmetic finished surfaces and a relative elevation survey of the interior floors. This limited inspection consisted of observation of only those components of the building and structure that were visible at the time of inspection and were related to the foundation performance. It is not the purpose of this report to document all cosmetic surface or structural damages in the dwelling, but to utilize noted symptoms of movement to provide a determination of the foundation condition.

The dwelling consists of a single story, wood frame structure, set upon a concrete slab on grade foundation. The rear porch is monolithic to the dwelling foundation. It is reported the structure was constructed in 1982. For purposes of this report, directions are taken as the viewer is standing in the front of the property, facing into the property.

## GENERAL

Although this inspection was made by a Texas Licensed Professional Engineer, this assignment cannot be considered a formal and in-depth engineering inspection, as no physical testing or soil/geological testing was employed. In addition, conditions below grade were not evaluated and design analyses of the existing structure were not performed by the undersigned. The locations of geological faults and their relation to this property are excluded from this inspection. This is considered a Level B foundation inspection as set forth by the Texas Section of the American Society of Civil Engineers (ASCE).

For this inspection, Keith A. Gartner has acted as an engineering consultant to provide a visual review of the foundation performance for the structure. The purpose of the inspection was to observe current conditions and provide an opinion as to whether the foundation is performing the design purpose and intended function, or if remedial repairs are recommended to correct conditions.

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## FOUNDATION OBSERVATIONS

The dwelling foundation is a conventionally reinforced concrete slab on grade. Observations of the perimeter concrete beam face revealed no significant cracking of the face beam surface. The interior slab floor surface in the garage was noted to have a crack passing along the step-down ledge in the floor, a common location for stress cracks to develop.

No indications of piers/ pilings having been placed at the foundation perimeter were noted. Pier locations would be indicated by concrete patches in the exposed perimeter slabs, such as the driveway, sidewalk, or rear patio.

## EXTERIOR FINISHES

The exterior finish of the structure was of brick veneer at the front and sides and siding at the rear wall. Several locations were noted with brick cracks that had been repaired by caulking or grouting of the original crack. One area was at the rear right side, outside the kitchen. These cracks were holding well since the repairs. The other area was at the left side of the garage and master bedroom perimeter wall. These cracks had also been repaired, but were slightly open to hairline state, with one at the front left side of the garage, which was opened slightly more than hairline and ran diagonally from the lower front corner towards the upper passage door corner. This would indicate slight settlement at the left side wall of the garage.

## INTERIOR FINISHES

The interior of the dwelling was of standard drywall and texture finish. Only slight drywall separations were noted at the rear door to the rear patio, in the ceiling at the door from the entry to the den, and a drywall buckle was noted between the entry door and the door to the utility room. These slight damages would indicate the dwelling has remained fairly stable through the recent drought period.

The interior doors were aligned and functioning properly.

No detectable floor slopes were noted in the dwelling by walking across the floors.

## RELATIVE ELEVATIONS

Elevation readings were taken of the floor surface through the dwelling. A Technidea Zip Level was used to record the elevation readings. Please note that most residential concrete foundations are constructed in differing extents of levelness. With this as a consideration, elevation surveys alone are not always a true method of determining foundation movement. However, elevation surveys do indicate current conditions and, in conjunction with other observations, are useful in the overall foundation analysis.

The normalized elevation readings taken in the site visit are shown in the attached diagram. The mapped elevations reveal the right rear corner of the dwelling is generally high and the low area is

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located at the front wall of the garage. Between the high point and the low point, the floor levels differ approximately 2.7 inches.

The elevations at the perimeter of the garage are generally lower than the remainder of the dwelling, which is a typical condition for a foundation of this configuration. The high elevations at the rear right corner are fairly localized and appear to be due to heaving at that corner, possibly due to the installation of the pool and associated patio at that area allowing the soils below the foundation to retain more moisture than at the sides and front.

Of interest are the elevations within the garage, which are lower than the dwelling, but are fairly level throughout the garage. The crack on the left side brick wall of the garage indicates settlement towards the passage door. However, the repaired cracks on that side would indicate settlement towards the front corner of the garage. This condition may be due to the front corner having originally settled to the front, then experiencing heave, causing the crack to open towards the door, giving the appearance there is settlement towards the passage door.

Analysis of the floor elevations show the floor slopes through the dwelling to be within acceptable tolerances for a structure of this age. The elevations at the utility room just slightly exceed the tolerance, but the lack of damages in that immediate area would indicate the foundation to be stable.

It should also be noted the elevations at the right side of the kitchen show a downward slope from the rear corner towards the front corner. However, elevation readings of the kitchen cabinets along this wall show the countertops to be level. This would indicate the foundation had experienced slight movement, in the form of heaving at the rear corner, prior to the remodel of the kitchen. With the cabinets being level and the lack of other damages in the kitchen, the apparent heave at the rear corner should be considered as permanent heave.

Tolerances for floor slopes are based on L/240 deflection slopes in the floors for a house of this age. This typically translates into a 0.5 inch difference in elevations across ten feet of floor span.

#### ANALYSIS OF FOUNDATION PERFORMANCE

The observable evidence indicates prior settlement had occurred at the front of the garage. The brick crack at the side of the garage wall indicates the front of the garage has experienced heaving due to the rains after the recent drought, or possibly there are existing piers at the front wall of the garage. The heaving at the right rear corner appears to be a permanent condition, based on the lack of current damages in the kitchen area.

#### FOUNDATION CONCLUSION

The overall dwelling has slight sloping, but this is expected and typical for a dwelling of this age. Overall slopes in the floors are within acceptable tolerances. Observed damages are minor in nature and are also normal for a dwelling of this age, especially one having experienced a recent drought. As such the dwelling foundation is functioning as intended and no remedial correction of the foundation is required at this time.

As no remedial foundation repairs are recommended, repairs to the minor drywall damages and the brick veneer cracking may proceed at this time. These repairs are to the cosmetic surfaces and are to improve the appearance of the dwelling.

CERTIFICATION

I hereby certify that I did the inspection of the residence located at 12322 Burgoyne, Houston, Texas, on 03 January 2023, and that I have properly reported my findings and conclusions based upon my observations and my experience. I further certify that the information contained herein is based upon visible evidence and that no attempt was made to investigate any latent defects not readily detectable from visual observation.

This inspection, observations, findings, conclusions, and recommendations apply to the current condition of the foundation only and do not represent a warranty against possible future failure of performance of the foundation or any contractor-performed repairs.

Respectfully,

  
Keith A. Gartner

Licensed Professional Engineer

Texas License No. 107325

Firm No. 22401

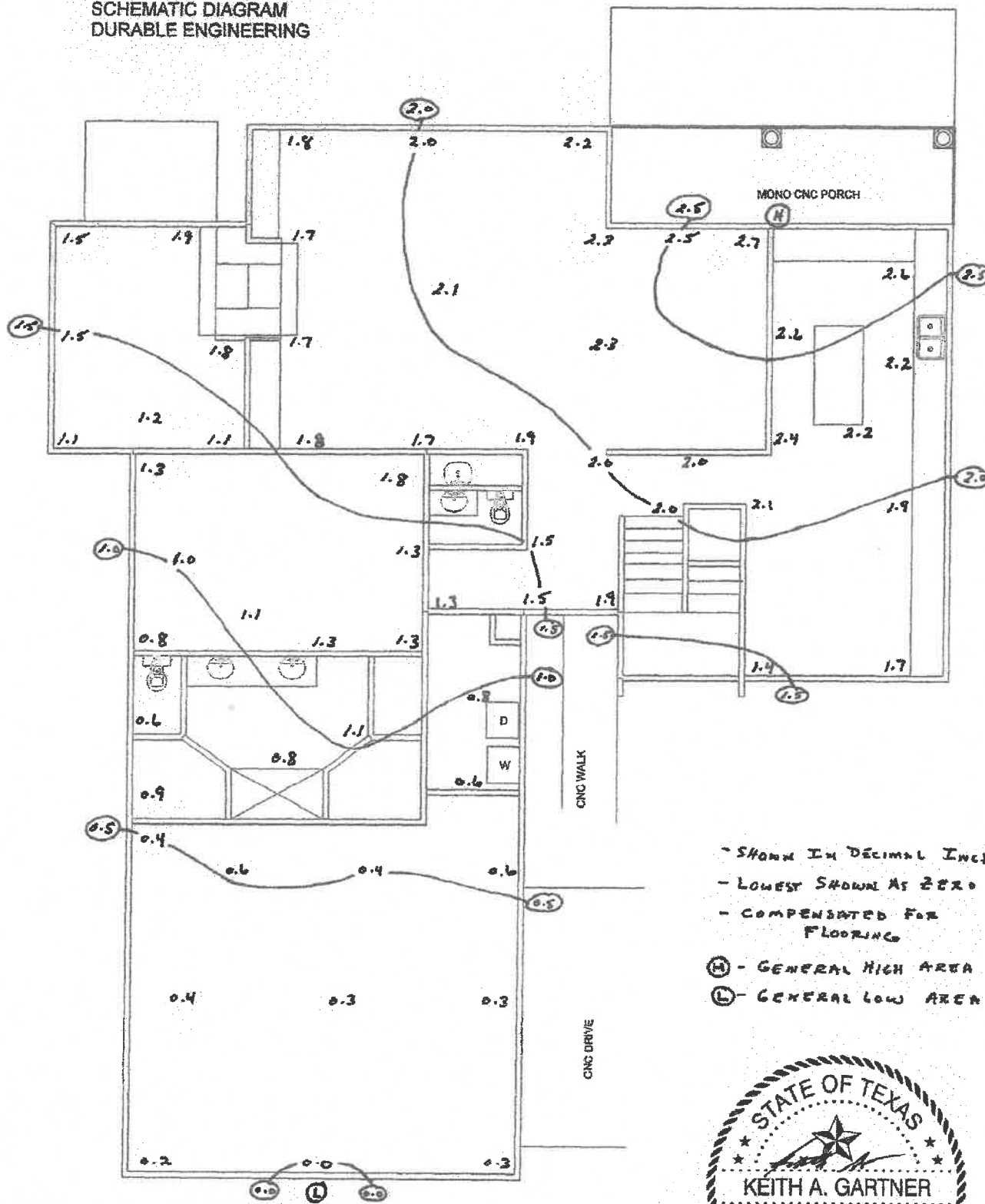


10 JAN 2023

# FOUNDATION INSPECTION

RELATIVE ELEVATIONS - 03 JAN 2023

TUCKER RESIDENCE  
 12322 BURGOYNE  
 HOUSTON, TX 77077  
 TWO STORY, BRICK VENEER  
 SCHEMATIC DIAGRAM  
 DURABLE ENGINEERING



- SHOWN IN DECIMAL INCHES
- LOWEST SHOWN AS ZERO
- COMPENSATED FOR FLOORING
- (H) - GENERAL HIGH AREA
- (L) - GENERAL LOW AREA

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