

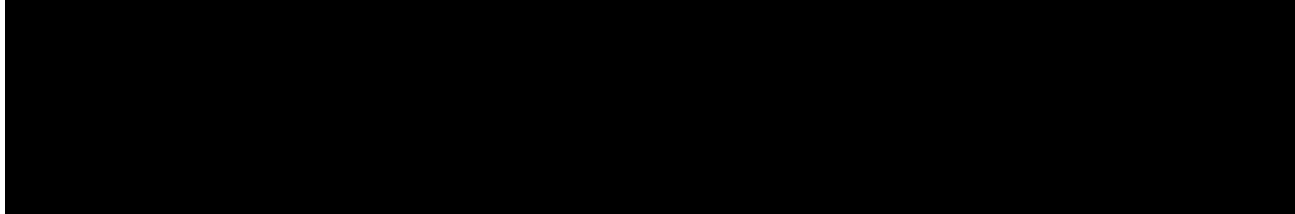


GREENBELT STRUCTURAL SERVICES
A DIVISION OF TAHI LLC

Prepared By:

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Prepared For:



TAHI Services and Greenbelt Structural performed a limited assessment at the above noted property. The purpose of the site visit was to assess the condition of the pool structure and surrounding outdoor features in order to collect additional information related to code and/or construction standard discrepancies identified in previous inspection reports.

Multiple limitations were present and additional issues, both minor and significant, may not be documented in this report or discovered during the assessment of the structure. The assessment process is not designed to be intrusive, destructive, or all encompassing. Rather, the assessment and report represent this inspector's professional opinion of the overall condition of the structure and associated systems. This 3rd party assessment and report has been provided to the prospective buyer for the purposes of due diligence, filing of available information, and additional buyer protection. The assessment process and report do not, in any manner, represent a guarantee or warranty of the above mentioned property.

Below is a limited list of information gathered at the time of assessment.

TAHI Inspections PLLC
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SITE ORIENTATION:

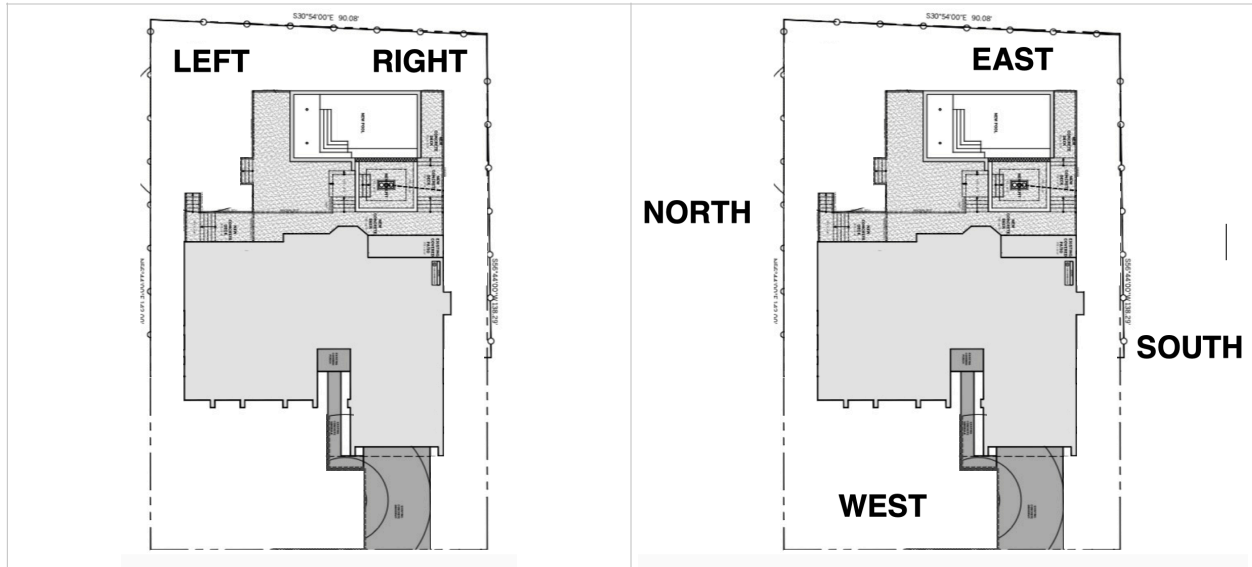
For the purposes of orientation, left and right, when referred herein this report, is always from the vantage point of an individual looking at the pool structure from the back porch.

The front door/walls will be referred to as the west facing side of the building/property.

The back walls will be referred to as the east facing side of the building/property.

The left walls will be referred to as the north facing side of the building/property.

The right walls will be referred to as the south facing side of the building/property.



SITE AND STRUCTURAL DESCRIPTION:

CONTRACTOR AND SPECIALISTS DETAILS

ORIGINAL CONTRACTOR: Wilson Central Texas Pools

PLAN REVIEW PERMIT APPLICANT: Next Level LLC (Listed on Permit #2021-031332 PR)

POOL DESIGNER: Anohco Drafting and Design

3RD PARTY POOL INSPECTION FIRM: A+ Pool Leak Detection and Inspection

SUBCONTRACTORS

RETAINING WALL CONTRACTOR: Venditti LLC

WATERPROOFING CONTRACTOR: Ruben Villanueva

RAILING CABLE CONTRACTOR: Hector Menchaca

DEMO AND REPAIR CONTRACTOR: Austin Cutting Edge

GENERAL POOL SERVICE/MAINTENANCE: Blue Ocean Pool Service

POOL AND EXTERIOR FEATURES INFORMATION

POOL STRUCTURE TYPE: Concrete, In Ground

POOL STRUCTURE SQ. FOOTAGE: 561

CONCRETE DECK SQ. FOOTAGE: 1258

BASIC TIMELINE OF EVENTS

ENTRY INTO POOL CONSTRUCTION CONTRACT: 12/29/2020

AMENDMENT TO CONTRACT: 12/18/2021 (AMENDMENT INCLUDE DEADLINE OF 02/01/2022)

CITY OF AUSTIN BUILD PERMIT ISSUED: 04/14/2021

DEMO/WATERPROOFING DEMO AND REINSTALLATION: 02/06/2022

CITY OF AUSTIN CORRECTION NOTICE ISSUED: 02/28/2022

3RD PARTY POOL INSPECTION: 06/22/2022

DEMO AND REBUILD OF DECKING TILE, STAIRS, FIREPIT: 07/15/2022

DOCUMENT REVIEW - GENERAL DESCRIPTION

During the research process, a pool inspection report published by A+ Pool Leak Detection on 06/22/2022 was reviewed. In the report, the inspector notes several areas of concern related to code discrepancies.

As requested by the client/homeowner, our firm conducted follow up research to confirm, correct, and/or provide additional details regarding the code and standard discrepancies identified by the pool inspector. It should be noted that, per City of Austin permit documents, applicable code type related to the pool construction project is listed as International Residential Code (IRC Edition 2015). As such, our review of code related discrepancies is based primarily on IRC 2015, however, mention various other commonly referenced standards, guidelines, and manuals are provided herein this report to highlight the common and universal nature of the identified code violations.

POOL INSPECTION REPORT STATEMENTS AND FINDINGS

Pool Inspection Report - Code Statement #1

Fire Pit & Water Wall, Several Code Violations:

I admit, I specialize in pools and not these types of areas, but can pick out what is not matching up to current code.

While it was apparently intended to build a sunken Fire Pit and seating area, I found it basically level with the pool water and several issues with stairs, handrails and landings.

TAHI/Greenbelt Findings - Code Statement #1

Code Statement #1 identified in the pool inspection report does not cite specific issues. Rather, the statement provides a general comment clarifying that the inspector is not a specialist in code specific identification. The statement goes on to note that several issues/concerns related to commonly applied installation code standards were noted during the pool inspection process. We find this statement to be notable in that it supports our own overall findings:

The type of code and standard violations pointed out by the pool inspector are considered to be items of common knowledge which most individuals specializing in construction, building repair, inspection, and the trades would have general awareness of.

Pool Inspection Report - Code Statement #2

Steps - Risers, Treads & Handrails - Code Violations:

I noticed two sets of steps on either side of the Fire Pit leading down from the upper deck to the Fire Pit and also Pool Area.

Deficient: Excess gap at stairs and retainment wall structure. All stairs risers and treads must be uniform. Notably, should the excess gap simply be tiled-over, this could create a significant safety hazard, as someone could fall through by breaking tile. Tile is a finish material and not a structural member.

Deficient: Missing guard railing. Current building standards require all platforms 30" above the grade have guardrails and intermediate rails (spindles). Code Reference: IRC (R312)

Deficient: Stair riser heights are not uniform. The riser height is measured vertically between leading edges of the adjacent treads. Current building standards require the maximum riser height to be 7 3/4 inches. The greatest riser height within any flight of stairs to not exceed the smallest by more than 3/8 inch riser heights of 7 3/4 inches. This could create a trip or fall hazard. Code Reference: IRC (R311)

Deficient: Stair tread depths are not uniform. The riser height is measured horizontally between edges of the treads. Current building standards require the The minimum tread depth to be 10 inches. This could create a trip or fall hazard. Code Reference: IRC (R311)

Deficient: Missing handrail. Current building standards require handrail for 4 or more risers (steps.)

Handrails must be graspable with a maximum 2.5 inches in diameter. Code Reference: IRC (R311.5.6)

Deficient: Missing handrail. Current building standards require handrail for 4 or more risers (steps.)

Handrails must be graspable with a maximum 2.5 inches in diameter. Code Reference: IRC (R311.5.6)

TAHI/Greenbelt Findings - Code Statement #2

In the first identified deficiency, the pool inspector notes an “excess gap at stairs and retainment wall structure”. The pool report does not cite specific code in regards to this issue, however, the statement does reference a need for uniformity. The need for stair uniformity is detailed in IRC 2015 R311.7.5.1. The code requirement states, in part, the following:

“The uniformity of risers and treads is a safety factor in any flight of stairs. The section of a stairway leading from one landing to the next is defined as a flight of stairs”

Based on our findings, we concur with the statement provided in the pool inspection report. The stair configuration, as it was discovered by the pool inspector, violated specific code (IRC 311) and various general installation standards which prohibit non-uniformity at stairways. Examples additional guidelines and standards which prohibit non-uniformity include, but are not limited to the following:

- IBC 2015 1011.5.4 Dimensional Uniformity
- 2018 NFPA 7.2.2.3.6 Dimensional Uniformity
- 30 Texas Administrative Code § 217.325 (f)

Review of photos provided in the pool inspection report are of note in that it appears the construction of the stairs was erroneous (as opposed to the issue being present due to incomplete construction). In the report photo (see Figure #1 below), it is apparent that the gap is located between the rough installed hand railing and stair tread. The concern associated with the construction method (as discovered during the pool inspection) is further noted on page 8 of the pool inspection report:

“Notably, should the excess gap simply be tiled-over, this could create a significant safety hazard, as someone could fall through by breaking tile. Tile is a finish material and not a structural member.”

TAHI/Greenbelt Findings - Code Statement #2 (cont.)

In the second through fourth identified deficiency, the pool inspector cites missing guard railing, hand rail issues, and stair tread uniformity issues. The pool inspector goes on to reference IRC 311 and IRC 312.

Section R311 of the 2015 IRC focuses primarily on means of egress and includes specific requirements as they relate to stairways and fall protection.

With respect to riser uniformity, the 2015 IRC states, in part, the following:

“R311.7.5.1 Risers. The greatest riser height within any flight of stairs shall not exceed the smallest by more than 3/8 inch (9.5 mm).”

With respect to tread depth, the 2015 IRC states the following:

“R311.7.5.2 Treads. The tread depth shall be not less than 10 inches (254 mm). The tread depth shall be measured horizontally between the vertical planes of the foremost projection of adjacent treads and at a right angle to the tread’s leading edge. The greatest tread depth within any flight of stairs shall not exceed the smallest by more than 3 /8 inch (9.5 mm).”

It should be noted that the pool inspection report specifically cites IRC R311.5.6 in reference to handrail/guardrail related discrepancies. Please note that a correction is required to properly reference the 2015 IRC. Handrail requirements are provided throughout subchapter R311.7 of the 2015 IRC, however, the general statements of concern provided by the pool inspector are, in our professional opinion, correct.

Section R312 of the 2015 IRC states, in part, the following:

“R312.1 Guards. Guards shall be provided in accordance with Sections R312.1.1 through R312.1.4.

R312.1.1 Where required. Guards shall be located along open-sided walking surfaces, including stairs, ramps and landings, that are located more than 30 inches (762 mm) measured vertically to the floor or grade below at any point within 36 inches (914 mm) horizontally to the edge of the open side. Insect screening shall not be considered as a guard.”

Based on our findings, we concur with the statement provided in the pool inspection report.

Please note that, during our site visit, stair measurements were collected and portions of the riser heights remained outside of applicable continuity requirements (no more than 3/8” difference). When conveying this information to the homeowners, we were informed that they (homeowners) were aware. They further explained that, due to the original construction errors, it was impossible to eliminate all construction discrepancies unless complete demo of the structure occurred. This action was deemed to be financially unfeasible.

TAHI/Greenbelt Findings - Code Statement #2 (cont.)

IRC 2015 Section 311 and 312 goes on to identify various specific requirements of guards and other forms of fall protection. Based on our review, we agree with the findings provided in the pool inspection report. It should also be noted that, in our professional opinion, guards, hand railing, and other standards related to fall protection are universally understood throughout the industry and have been in place for many decades. As an example of this, we reviewed The Guideline for Stair Safety published in 1979 for the U.S. Consumer Product Safety Commission. The guideline notes the presence of stairway and guardrail code standards amongst all major code publications in use at the time and goes on to recommend more uniformity throughout the publications. The document states the following:

“In general the codes specify minimum stair and landing width as well as minimum headroom. They [code/standard publications] also specify tread depth and riser height, although there is considerable variation in the exact measurements. Minimum and maximum numbers of risers between landings are frequently stipulated. The codes in general require handrails to be used where needed to keep occupants from falling. Yet there is wide variation in recommended handrail height, as well as in the number of handrails. Finally, there is considerable variation among the model codes with respect to the requirements for riser/tread uniformity. Some codes specify the extent of variation in inches while others only state that there should be uniformity throughout the run of the stair. Thus, a review of the codes indicates the nature of the physical characteristics of stairs believed to be important for ensuring stair safety. Details of code requirements are given in Appendix D.”

Over the years, code publications have substantially reduced variations in fall protection requirements. Although specifically observed standards may vary to a marginal degree based on jurisdiction and observed code publication, the basic parameters of the code standards have been universally known throughout the industry for some time. We find this information to be of importance due to the improper construction of the stairways (see Figure #1) and additional construction errors observed by a City of Austin code enforcement officer who failed the final inspection on or around 02/28/2022. Although some areas of concern noted within the pool inspection report may be attributed to the stage of construction (such as missing railing), improper construction of various items present during the inspection would not account for the issue.

Pool Inspection Report - Code Statement #3

Fire Pit & Pool Landings - Code Violation:

Deficient: Inadequate stair landings at fire pit and leading to pool. Current building standards require landings shall have a minimum dimension of 36 inches (914 mm) measured in the direction of travel.

Code Reference: IRC (R311)

TAHI/Greenbelt Findings - Code Statement #3

The pool inspector notes "Inadequate stair landings at fir pit and leading to pool." And referenced IRC R311.

2015 IRC states the following:

"R311.7.6 Landings for stairways. There shall be a floor or landing at the top and bottom of each stairway. The width perpendicular to the direction of travel shall be not less than the width of the flight served. Landings of shapes other than square or rectangular shall be permitted provided that the depth at the walk line and the total area is not less than that of a quarter circle with a radius equal to the required landing width. Where the stairway has a straight run, the depth in the direction of travel shall be not less than 36 inches (914 mm)."

Additionally, landing issues are specifically cited by a City of Austin code enforcement officer as contributing factor to the failed final inspection occurring on or around 02/28/2022.

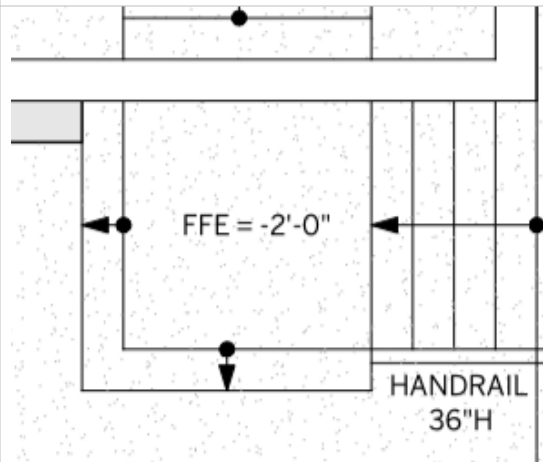
Based on our findings, we concur with the statement provided in the pool inspection report.

Please note that, given the location of the landing (adjacent a fire pit), this area is, in our professional opinion, and area which includes increased potential risk to building occupants and guests. As such, meeting of basic standards would be considered to be of elevated importance. As previously stated, it is our professional opinion that the basic minimal requirements for stair landings would be considered a universally known standard.

FIGURE #1



Gap at Stairs



Intended Stair Construction

SITE VISIT - DESCRIPTION AND OBSERVATIONS:

At the homeowner’s request, our firm conducted research of previous inspection reports and documents in order to provide verifications, findings, and professional opinions related to code and construction discrepancy concerns identified in a pool inspection report.

In conjunction with document research, our firm conducted a site visit on 03/14/2023. During the site visit, we observed the pool and surrounding decks/features to be in the final phase of construction and installation (roughly 90% complete).

Although most areas of concern had been addressed and City of Austin build permits related to the project were closed, we did observe several areas which remained incomplete or outside of commonly applied construction standards. Below are descriptions of our site visit observations and findings.

<p>Riser Height Continuity: Stair measurements were collected and portions of the riser heights remained outside of applicable continuity requirements (no more than 3/8” difference). When conveying this information to the homeowners, we were informed that they (homeowners) were aware. They further explained that, due to the original construction errors, it was impossible to eliminate all construction discrepancies unless complete demo of the structure occurred. This action was deemed to be financially unfeasible.</p>
<p>Safety Railing: Stairs terminating near the swimming pool have not been provided railing. Review of the original construction drawings call for a total of 2x stair risers in this location, however, the final structure includes 5x risers. During a consultation with the homeowners, it was explained that, due to the original construction errors, there was a need for multiple changes to the original plans. When questioned about change orders (a process typically employed when unexpected alterations are required), the homeowners were unaware of any approved changes to submitted plans.</p>
<p>Landing: The stair landing nearest the fire pit remains less than minimum standards (36”). During a consultation with the homeowners, it was explained that, due to the original construction errors, the fire pit required full demolition in order to pass City of Austin code inspections. During reconstruction of the fire pit, it was determined that - in order for the feature meet design and other architectural expectations, a 36” landing would not be feasible.</p>
<p>General Incomplete Work and Known Previous Repair/Alteration Needs: A partial list of known previous repairs and alterations conducted by additional contractors other than Wilson Central Texas Pools (or subcontractors working under Wilson) has been provided in the attachments below. Identified issues, concerns, or incomplete work noted during our site visit include the following: -Incomplete installation of coping at walls surrounding the fire pit area -Incomplete installation of pony walls surrounding pool equipment -Atypical weld connections near the water feature under the main deck -Loose deck tile support between water feature and deck tiles -Protruding anchor bolts remain at side wall of concrete deck -Isolated railing runs exceed 38” from finished floor surface</p>

FINAL CONCLUSIONS AND PROFESSIONAL OPINIONS:

Based on the totality of our findings and review of available information, we have concluded that the known code discrepancies present at the time of the pool inspection were obvious and based on long established standards. We find it reasonable to assume that most construction contractors would have or should have a general understanding and knowledge of the code standard which ultimately flagged the project for a jurisdictional inspection failure (City of Austin Permit #2021-054362 BP).

As detailed above, several of the code discrepancies identified by the city and subsequent inspectors were caused by erroneous construction (as opposed to the code violation being related to incomplete installation). These construction errors ultimately led to a need for partial structural demolition and reconstruction. In some cases, financial and/or other limitations prevented homeowners and follow-up contractors from fully meeting commonly applied code standards.

In our professional opinion, it is not the role of a general contractor to be a subject matter expert on jurisdictional code nor is it our assertion that any code related issues taking place during a construction project are solely the responsibility of the general contractor. We do, however, find it reasonable to assume that a general contractor will have a basic understanding of common code which would allow the contractor to identify potential violations of common and universally applied standards. As stated above, code related to stairs and fall protection have a long established history with origins dating back to (at least) the 1970s. Furthermore, the noted types of code discrepancies would most certainly be known to a contractor specializing in the construction of pools and surrounding decking as their particular area of expertise would regularly include the applicable features.

During our review of documentation related to this project, it was noted that both the original contract and a subsequent amendment to the contract included agreements that the contractor would address all permitting needs to include passing of the final inspection. Based on our findings, we have determined that the original contractor failed to meet these contract requirements.

NOTICE OF LIMITATIONS

LIMITED SCOPE INSPECTION:

The property assessment performed was limited in scope to the items identified on page 1 of this report (where accessible and inspectable). A full inspection did not take place at the request of the client. Limited assessments and visual checks of non-structural and mechanical items may be included (as a courtesy to the client), however, these inclusions should be considered limited and not construed to be an indication that a full inspection occurred. Possible issues and damage at non-inspected areas should be anticipated and budgeted for.