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3D Home Building Update

MUSCATINE, IA - There is one word that describes how building the first 3D printed home in Iowa has been approached: uncompromising.

Construction often comes with a bit of the unexpected, and that is true on this project. The Community Foundation of Greater Muscatine has recently been made aware that the printing materials utilized underperformed. The concrete formula selected met necessary specifications in lab testing, but during continuous quality checks it was determined there were variations in the field. This could have been remedied in several different ways, but partners on the project decisively chose the most uncompromising path. The subcontractor, Alquist 3D, will replace the structure using a grade of materials that is refined to consistently perform within field standards.

Although disappointing, it was collectively agreed that this will ensure that the standards of excellence expected from the beginning of the project are met. Alquist 3D is confident that their knowledge gained will further improve performance of processes and materials going forward. The structural engineer will evaluate specifications on the new material, and field testing will continue throughout the project. The cost of the rebuild will be absorbed by the subcontractor and not reflected in the future listing price of the home.

The plan remains to 3D print ten homes in Muscatine County - three in the Arbor Commons subdivision, six located in infill lots in Muscatine in partnership with Muscatine Center for Social Action and Muscatine County Habitat for Humanity, and at least one in West Liberty. The uncompromising decision to rebuild means that future builds will be pushed to next year for completion.

The Community Foundation is grateful to work with general contractor, Hagerty Earthworks; architect, Horizon Architecture; structural engineer, Axiom Consultants; and material tester, IMEG, who have collectively worked in lockstep with the Community Foundation and the ultimate buyers' best interests every step of the way.

It is an exciting time in the home building industry, especially as other 3D printed homes are popping up all over the globe. A partner on this project recently met with a community college and developer in Arizona who have achieved the goals set for 3D home building locally: 30/30. They are printing and finishing 3-bedroom homes in 30 days, and they are doing so at 30% less cost than stick-built construction. These finished homes are also reporting utility bills of \$400 a YEAR. So, the original goals stay firmly within reach.

Now is always the best time to work to improve our community - that is not debatable. Partners locally won't lose sight of that as work continues to collaboratively address housing in Muscatine County.

By the way, if you didn't hear, Muscatine was recently named one of eleven communities across the state to receive an inaugural Thriving Community designation acknowledging the innovative and collaborative housing and community development work happening locally. Cool stuff! Impressive community.

Thank you for the interest and continued support of 3D home printing. Stay tuned!

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The Community Foundation of Greater Muscatine is a county-wide charitable organization actively working to improve the quality of life in Muscatine County through philanthropy. For more information, call the Community Foundation at 563-264-3863 or visit the website at <u>www.givinggreater.org</u>.