

# Pocket Neighborhood

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## Site Location: Preston, IA

Our team was tasked with designing a residential neighborhood for the City of Preston, IA. The city is in the eastern part of Iowa and has a population of 1,000 people. Our site has an area of 3.25 acres and is located on the southwest side of the town. It is highlighted in the red box in Figure 1 below. It is currently used as farmland but has been bought by the city for development.



Figure 1. Location of Preston, IA and exact site location.

## Design Objectives and Approaches

A pocket neighborhood is to be designed to provide a new type of community-driven affordable housing that aims to rejuvenate the connection between neighbors. In 2017, it is critical to conserve land while providing housing for the growing population. One way to do this is to have smaller houses all sharing one plot of land. This way, families can still enjoy the privacy of their own home while sharing land with other neighbors. Work tasks for our team included the design of a pocket neighborhood: a planned community consisting of small single-family homes (<1,000 sq. ft.), structures, foundations, roadway, edible landscaping, and on-site storm-water management.

Our team utilized a variety of modeling software such as *Revit*, *Civil 3D*, and *ArcGIS* to illustrate each aspect of the project. This includes storm-water drainage, trails and sidewalks, a garden and patio area, foundation, horizontal and vertical alignment, vehicle tracking, and overall home design.



Figure 2. 3D Site Rendering.

## Final Designs

From left to right the images below show the detention basin, floor plan, site layout, foundation, and house design.

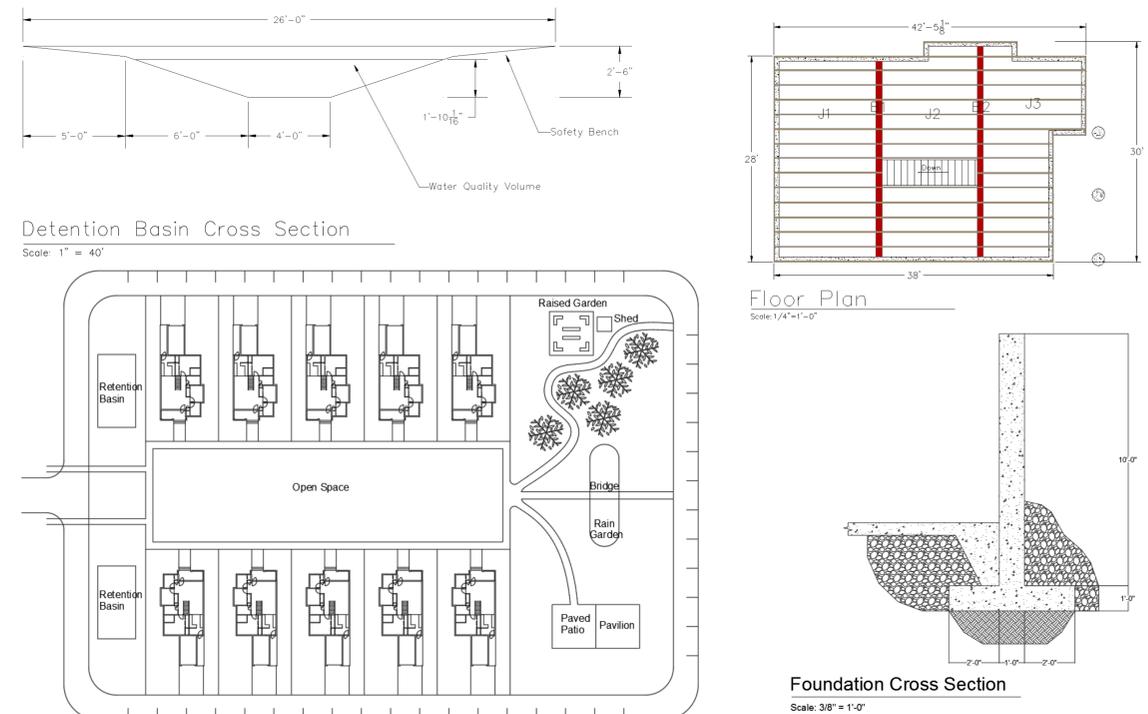
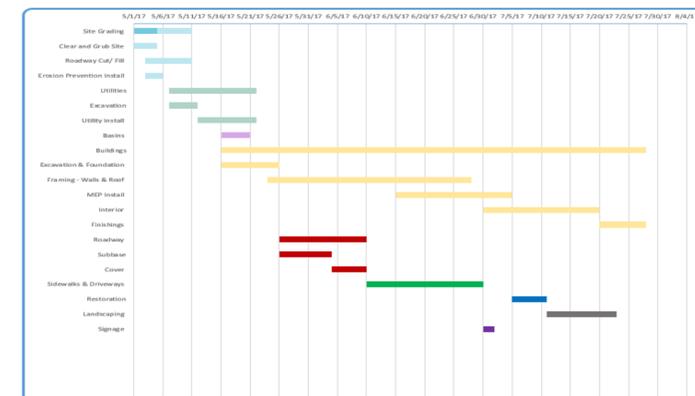


Figure 3. Final Designs drawings and illustrations.

## Construction Estimate and Schedule

Our team estimated the total cost of the project by dividing it into three sections; site work, landscaping & finishes, and residential home.

ESTIMATED COST	\$	2,067,000
Site Work	\$	423,000
Residential Home (10)	\$	1,643,000
Landscaping & Finishes	\$	9,000



## References

- American Society of Civil Engineers (ASCE) 7-10
- Iowa Storm Water Management Manual
- Statewide Urban Design and Specifications (SUDAS)