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ABSTRACT

Turtle Shell is an architecture of community food production within a food desert, located within the extents of an existing centennial farm, directly North of Horseshoe Lake in Washtenaw County, Michigan. With its varying hierarchical campus, a protective shell hosts essential passive and active operational performance features, which include vertical gardens, aquaculture, and hydroponic facilities, in order to produce during peak production more clean food and water than the existing farm that this campus will inhabit. Through this careful integration of mechanical systems, mass timber structure, and interaction with the surrounding lake and wetlands, a new experience can be crafted for this now vacant site, which will help to harbor interactions with local flora and fauna as well as bring back some of the native ecosystem in order to bring some level of restitution to the site.