

## UDBS: Hamnett Homestead Sustainable Living Center

JOHN E. FOLAN

Carnegie Mellon University

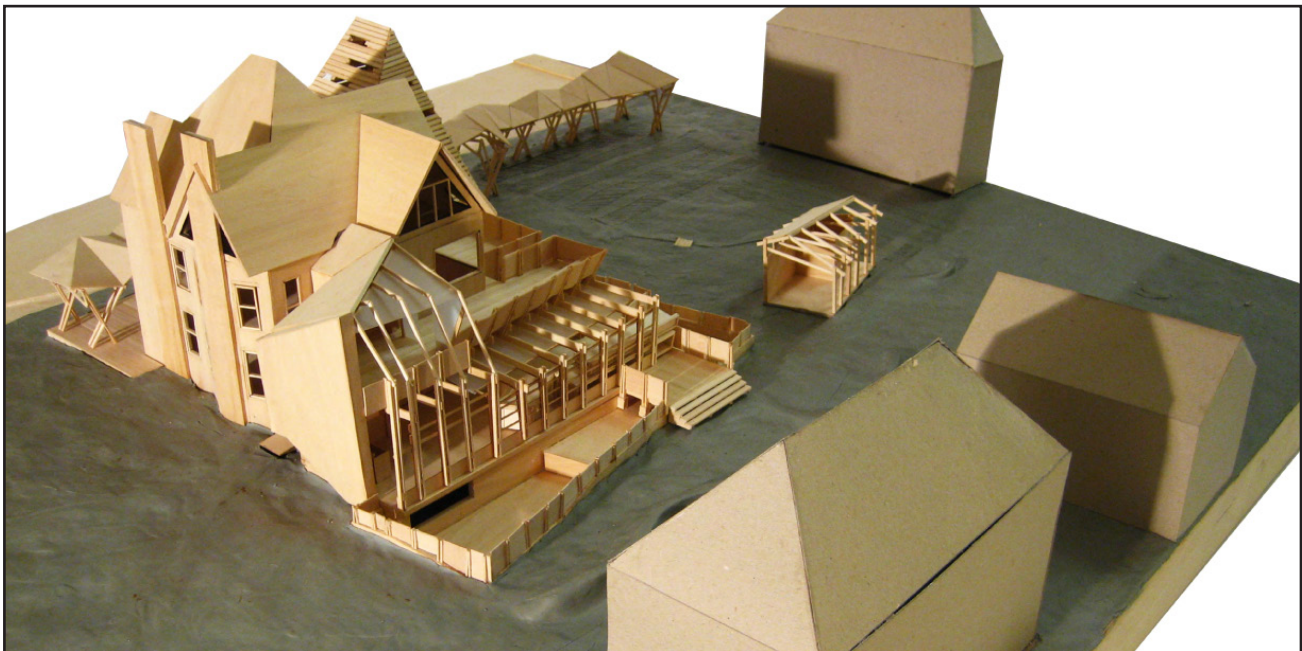


Figure 1: Hamnett Homestead Sustainable Living Center (HHSLC) comprehensive plan model developed by UDBS students with constituents; view from southwest looking northeast across the community greenhouse and farm.

The Hamnett Homestead Sustainable Living Center (HHSLC) is the pilot project of the newly formed Carnegie Mellon University URBAN DESIGN BUILD STUDIO (UDBS). (Figure 1) It is a catalytic demonstration project that was developed through a participatory design process involving the Borough of Wilkensburg, Pennsylvania and numerous regional constituencies. Those constituents included the Wilkensburg Neighborhood Transformation Initiative/WNTI, the Remaking Cities Institute/RCI, the Carnegie Mellon University Urban Laboratory/

UL, The Institute for Ecological Innovation/IEI (a non-profit agency focused on the implementation of sustainable urban agriculture strategies), Construction Junction/CJ (a non-profit materials repurposing center), the Heinz Endowments (granted \$150,000 for the completion of the project and implementation of IEI initiatives), the Pittsburgh History and Landmarks Foundation/PHLF, A Carnegie Mellon University Alumnus Donor (granted \$50,000 to support construction of the project), and multiple volunteer consultants.

The project, executed over the course of one year, commenced with a broad scale urban analysis and terminated with the completion of the HHSCLC PHASE ONE construction. The collaborative effort was initiated specifically as a mechanism to transform expectations regarding participatory design and planning processes in the Allegheny County Region; to leave behind tangible evidence of the process and elevate prospect for the future by implementing a built project for the community as an outcome.

**Context:** Wilkesburg, Pennsylvania is a community that has been experiencing characteristic challenges affecting jurisdictions, municipalities, and neighborhoods throughout the Allegheny County Region. Declining population as a result of out-migration has resulted in the erosion of tax bases, the elimination of community facilities, and gross reductions in public service. Abandonment and underutilization of buildings, coupled with decaying commercial business districts, have made the impact of these transformative trends apparent in the physical environment of many communities. (Figure 2) The initial steps in the participatory process were focused on establishing an understanding of place and the social condition.

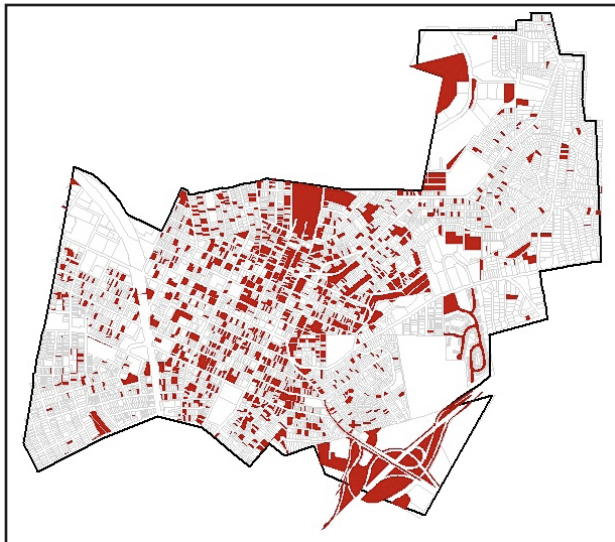


Figure 2: GIS Mapping of vacant land in Wilkesburg, Pennsylvania created by students in the Carnegie Mellon University Urban Laboratory Studio.

**Process:** Three community meetings /workshops were held in the fall of 2008. The first, held on September 17th, focused on sharing, understand-

ing, and setting goals. That workshop was devoted to dissemination of initial analysis work executed by Carnegie Mellon University School of Architecture students. A series of interactive exercises were developed by the Urban Laboratory students as a method for community members to identify Issues and Objectives critical to a positive future in Wilkesburg. (Figure 3) identification of primary *Issues and Objectives* perceived by the community members and stakeholders. The second workshop, held on October 15th, functioned as a design charrette. Working with community participants, student led teams presented strategic masterplans, discussed, and revised alternative intervention schemes. This work ultimately provided a flexible Urban Design Framework for social and economic growth. The third meeting/workshop, held on December 6th, provided a public forum for the presentation of, commentary on, and amendment to, the collaborative design work.



Figure 3: Community members engaging during interactive exercises at the first community meeting.

**Constituents:** The work executed since the fall of 2008 has been informed by, and continues to be informed by, three distinct constituencies. The first constituency is represented by government, collaborators, stakeholders and peer groups affiliated with the Hamnett Place Neighborhood in Wilkesburg, PA, the location of the HHSCLC Project. The second constituency is represented by population-based entities in distressed urban neighborhoods. The third constituency is represented by local, regional, national and international collaborators, with whom the IEI has common objectives in disseminating strategies employed in the realization of

the HHSLC. At the conclusion of the second meeting representatives of the three constituencies strongly supported initial frameworks that looked at the influence that the community could have on the regions problems with water and watershed management. Wilksburg is located directly over The Nine Mile Run, and is located entirely within the boundaries of the Nine Mile Run Watershed. The combined sewer system in Pittsburgh and the outlying Boroughs is undersized; that condition is further exacerbated by an abundance of impervious surface area within the watershed. Each year the Nine Mile Run watershed causes significant damage to the environment via non-point-source pollution and flooding. The decision was made to leverage the current demographic trends in Wilksburg, reduce impervious surfaces, and restore the behaviors of the natural physiography through a series of natural/passive water management interventions.

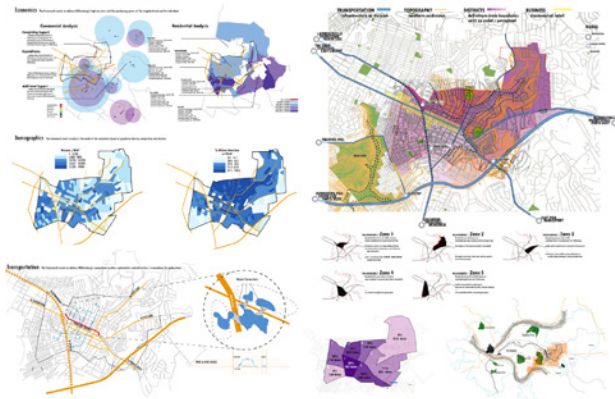


Figure 4: Excerpts from collaboratively developed Urban Design Frameworks

Recognizing that the region is likely never to return to the peak population of the late 1950's, the community, design studio, and constituencies began focusing on viable strategies for the implementation of an appropriate urban framework. (Figure 4) The students, working with consultants in the design studio, developed strategies for a broad scale deconstruction effort that would remove the threat of blighted structures, increase natural terrain, enable large scale material harvesting, create a regional material re-use bank, and stimulate job growth through training in a skill that has both regional and national demand.

While there were many other aspects to the urban framework, including commercial development, re-

zoning strategies, and broad scale policy making, the work executed in the spring and summer of 2009 via the design build studio had to be calibrated toward finding a manageable project that could synthesize the aspirations of the broader urban framework. Critical to the success of that endeavor was the identification of a site that would be of greatest communal significance to the constituencies invested in the project. At the third community meeting held in the fall of 2008, The Hamnett Homestead site was identified as the site that could leverage the broadest concentration of the community. (Figure 5)



Figure 5: Narrative mapping created by Urban Lab/UDBS student Jared Friedman to illustrate the multiple constituencies and their relative connections to one another and he selected site of the Catalytic project in the Hamnett Place Neighborhood.

At the conclusion of the fall participatory design process, the decision was made by the constituencies to pursue the development of the HHSLC, a community center and urban farm/homestead. Three contiguous vacant parcels and two vacant structures formed the context for the realization of the catalytic demonstration project.

In January 2009, the students commenced work on the HHSLC utilizing an integrated design process that involved volunteer professional consultants and interdisciplinary academic units. The students were required to work with the community and affiliated non-profit in developing a program, understanding environmental requirements, site utilization requirements, and a critical path to a five year phased construction plan for the proposed 12,000SF facility.



The design of the HHSLC is informed by a comprehensive systems based approach that includes consideration of food, transportation, shelter and landscape components. Programmatically, initial stages of adaptive re-use have been oriented toward the maximization of near term occupancy and outreach. Subsequent phases will be focused on sustenance of broader global aspirations and the expansion of the homestead's demonstrative urban farming capabilities.

The first phase of construction, initiated by the UDBS in June of 2009, is represented by the HHSLC Community porch pavilion. (Figure 6) The geometry of the structure is informed by a number of conditions. It is a pre-fabricated modular system that inflects to form smaller scale catchment basins that can be utilized for irrigation of the organic farm. As a replicable system, it can expand or contract as necessary to maintain continuity in the urban context where deconstruction has been utilized; forming clear, but transparent, spatial boundaries in the landscape. The scale and geometry are derived from roofscapes and other formal elements that already exist in the urban context while representing sensibilities essential to the mission of the IEI and urban homesteading in general: efficiency in use of resources. The triangulated structure acts as an occupiable three-dimensional truss, reducing the amount of material utilized in traditional porch construction by approximately 30%. The ability of the system to be flat packed enables it to be pre-fabricated and integrated on other sites in the community – reinforcing the regional porch culture and extending the strategic dissemination capabilities of the IEI.

Phase One construction finished in August of 2009. The project was ultimately constructed from 30% reconstituted materials salvaged from local deconstruction projects and remains as a tangible physical/functional artifact resulting from an urban scale participatory planning process.

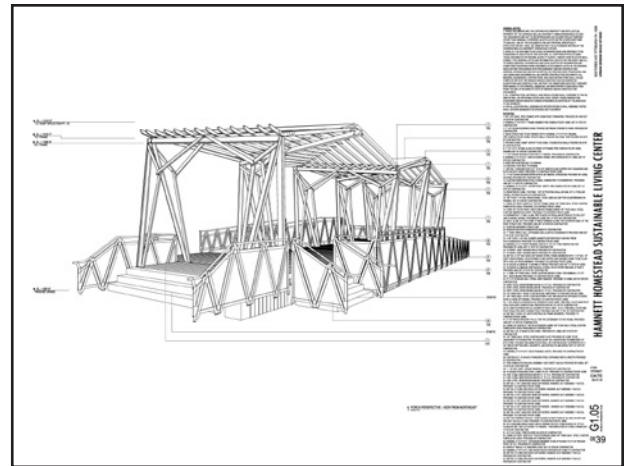


Figure 6: Top to bottom: UDBS rendering of Pavilion by Jared Friedman – view from North; excerpt from construction documents; construction photo of pavilion. View from northeast.