

ASLA 2011 Professional Awards  
Planning Category  
Project Fact Sheet

**Project Title:** GrowHaus Master Plan  
**Project Location:** Denver, Colorado  
**Project Type:** Master Development Plan

**Project Summary:** The GrowHaus is an innovative and cutting edge non-profit focused on sustainable, community-based urban agriculture, food education and distribution based out of a formerly abandoned 20,000-square-foot greenhouse. The GrowHaus Master Plan envisions the greenhouse as a catalyst for sustainable, community-driven revitalization of the Elyria-Swansea neighborhood and an innovative center for testing and applying sustainable urban agricultural technologies.

**Project Narrative:**

**The Context:** The GrowHaus is located in the middle of Denver's Elyria-Swansea neighborhood, a low-income, primarily Hispanic community that is spatially isolated by industrial uses and Interstates 25 and 70. The neighborhood has the dubious distinction of being the most polluted Zip code in the state of Colorado and has been used as a textbook example of environmental justice. Multiple Superfund sites and heavy industrial facilities, including a Purina factory, dot the area. Moreover, Elyria-Swansea is located in the large "food desert" of northeast Denver. Since the nearest full-service grocery store is more than two miles away most of the neighborhood is serviced by small corner stores with severely limited healthy and affordable food options.

**The Process:** Given the spatial isolation and lack of availability of healthy food in the neighborhood, The GrowHaus was established in 2009 with the purchase of the abandoned greenhouse. Throughout the initial stages, the greenhouse was always envisioned as a local center for growing food, teaching about food and distributing food and as a facility for the promotion of innovative urban agricultural concepts, including aquaponics and hydroponics. The master plan originated in 2011 as a way to elevate these initial concepts into tangible, locally based applications of urban agriculture and food justice. Community involvement was significant throughout the master planning process as well as a lot of brainstorming by members of the design team and The GrowHaus about how to align the program with the key principles of the organization:

1. Alignment with food production, distribution and education for Elyria-Swansea and surrounding communities;
2. Reasonable cost;
3. Maximize sustainability in use of water, energy and materials;
4. Preservation and reuse of existing structures and materials; and
5. Community engagement throughout the process.

**The Plan:** Fixing a broken food system--even for just one neighborhood--is a monumental task, one requiring years of care and dedication. The master plan is a starting point that provides an initial assessment of existing needs, shared consensus with various community stakeholders and The GrowHaus staff around future needs, a baseline renovation budget, then places those renovations into a prioritized timeline.

Developed with the above-listed key principles in place, the master plan primarily focused on the following key programmatic elements of The GrowHaus:

- Hydroponics;
- Food market;
- Aquaponics;
- "Growasis," an educational/community garden space; and

- Outdoor improvements.

*Hydroponics:* The hydroponics facility is a 5,000-square-foot commercial hydroponics farm where high-value, fresh, leafy greens are grown for distribution throughout Elyria-Swansea and local restaurants and markets. The facility is designed with an “climate battery” that cools or heats the space through the use of the thermal mass of the soil underneath the facility.

*Market:* The site’s only permanent structure is an old building that, with the help of the funding from the Maxwell Grant, is being transformed into a healthy corner store and plaza space that will serve both produce grown “in-Haus” and other local products sourced from partner networks and neighborhood-produced goods. Products will be affordably priced to ensure accessibility to all residents, while the market will serve as a much needed indoor/outdoor social space where local residents can gather and connect.

*Aquaponics:* Another 5,000 square feet of greenhouse space has been designed as a commercial aquaponics facility. The aquaponics system is an emerging agricultural science involving the recirculation of symbiotic fish and plant production. The Grow-Haus facility is designed to eventually yield more than 4,000 pounds of fish and 50,000-plus plants annual while reducing water usage by more than 80% from traditional water.

*Growasis:* The Growasis, is envisioned as a hands-on demonstration farm exhibiting a multitude of techniques for sustainable food production. The area will host school groups, workshops and neighborhood residents year round and house numerous community indoor garden plots that will allow local residents to garden throughout the year and with vegetables and plants not usually able to grow in Colorado.

*Outdoor Improvements:* Creating an important interface with the neighborhood, the outdoor spaces provide a first impression and, as such, are critical to creating harmonious, inviting integration into the neighborhood. The landscape is envisioned as entirely edible with heavy use of fruit and nut trees. In addition to parking and entry areas, an outdoor patio space is proposed adjacent to the market as an amenity that can be shared by the community.

**Role of the Landscape Architect:** As agricultural and food production becomes a much bigger component of the built environment, landscape architects will increasingly need to incorporate these skills and knowledge into their practices. In this master plan, the landscape architect played a major role in working through concepts of food production and agricultural viability. Because of extensive use of agricultural concepts in both the interior and exterior spaces, the landscape architect was heavily involved in the visioning and design of the indoor spaces in addition to the design of the outdoor environment.

**Special Factors:** This plan was created and executed by the landscape architects as a pro bono service to The Grow-Haus. Using free online resources such as Dropbox and Google Docs, the master plan was produced on a shoe-string budget in a timely and efficient manner.

**Significance:** The master plan is a groundbreaking piece of work that addresses the ever-growing trend toward integration of urban agricultural into the built environment. Not only did this master plan push the envelope in terms of envisioning cutting edge technologies to incorporate food production in Denver, this plan did so with extensive community involvement and incorporating the three e’s of sustainability: environmental, equity and economic sustainability).

Drafted as a living document, the master plan already has been instrumental in securing key funding sources from the Maxwell House as well as a continued grant from the Colorado Health Foundation. Shortly after the master plan was completed in June 2011, construction began on the market area, and construction of the hydroponics facility was completed in September 2011.