

In S.T.E.A.D:
A new frontier

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We propose that a new frontier can be found in the under-utilized spaces of our city. An aerial tour of the Southland reveals vast tracts of single-story industrial buildings. Just as Los Angeles's agriculture was displaced by higher forms of development, increasing density and land values pressure these industrial districts to be more economically productive. At the same time, retaining industrial activity within urban areas has obvious economic and environmental benefits. While farming itself would not produce the revenue necessary to justify an urban location, adding premium agricultural production to the roofs of existing industrial buildings may prove to be economically viable.

The 'stead is located atop an existing 292,000 square foot warehouse building. This six-and-a-half acre roof collects over two-and-a-half million gallons of water a year from rainfall and allows space for a mid-sized farm that can take advantage of Los Angeles mild climate to allow for continuous growing seasons.

To minimize weight, the farm uses an organic hydroponic film system that does not require a soil medium. All nutrients are delivered to the crops in a water solution. This solution is regularly sterilized and recirculated to minimize water consumption while rain water is collected and stored in cisterns inside the 'stead's loading dock.

Crops are planted in pipe-like trays that span between a roof-top structural rail system that distributes the new loads directly to the columns below. This rail system is also used by a mobile gantry system to maintain and harvest the crops.

Wind turbines are used to power this system and return excess power production to the electric grid.

The 'stead incorporates a dwelling for a four-person family, greenhouse, workshop, laboratory, office, machinery, and covered outdoor work areas.

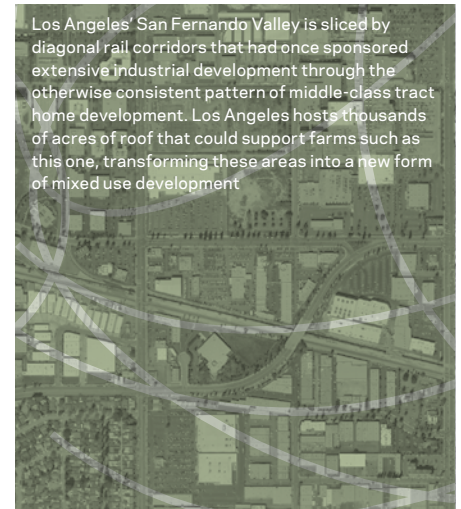
TECHNOLOGY AND OUR ENVIRONMENT:

Our most essential interactions with the environment are undertaken via remote and mysterious technologies. A good chunk of what we do as a species is ultimately about the collection

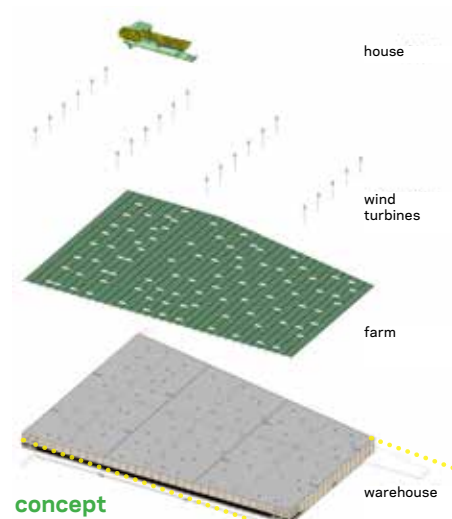
and distribution of resources for our comfort and survival, but most of us only see a tiny part of this machine. Highly specialized technologies are deployed in our vastly complex and global economy to collect potable water and harvest energy. As a result, few of us have any direct experience with the crucial infrastructure that provide for our existence and define our relationship with the world's resources. Water comes from faucets, light from switches, and food from packages at a store. This complex network of technologies has been central to our development, but it is also the cause of our personal alienation from the environment.

The technology of agriculture created the foundation for human civilization and continues to be one of the most fundamental ways in which we draw upon the resources of the world. Over 82% of Americans live in cities or suburbs, but the mythology of the single-family home is rooted in our rural origins and the formerly wide-open spaces of our now exhausted terrestrial frontiers. In an ironic coda to Thomas Jefferson's vision of an agrarian democracy, the "ranches" and "colonials" that are now crowded together in the suburbs are modeled on the houses of the settlers that began the process of transforming the American landscape to its current, and increasingly developed form.

While it is both improbable and undesirable for our society to revert to an economy of subsistence agriculture, the Urban Farming and Locavore movements seek to reconnect us with the process of food production while providing a more direct and personal connection to our environment. The mere presence of these farms within the urban fabric could serve as an effective reminder of our place in the world as both consumers and producers.



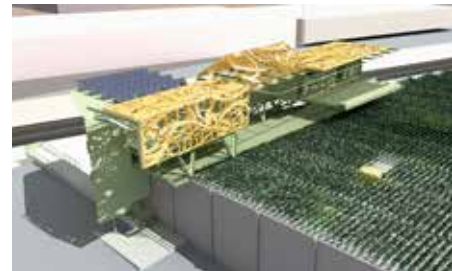
Los Angeles' San Fernando Valley is sliced by diagonal rail corridors that had once sponsored extensive industrial development through the otherwise consistent pattern of middle-class tract home development. Los Angeles hosts thousands of acres of roof that could support farms such as this one, transforming these areas into a new form of mixed use development



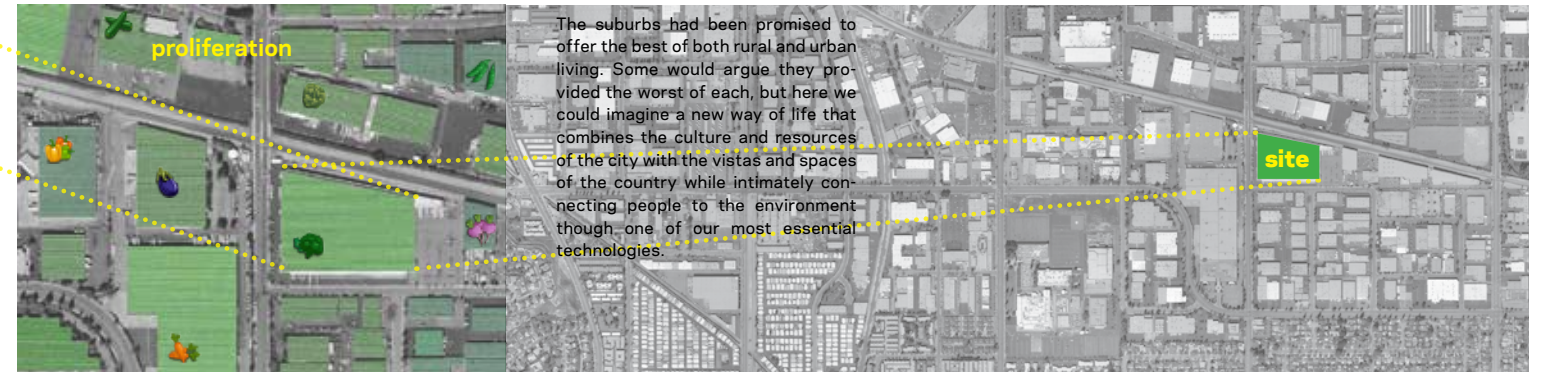
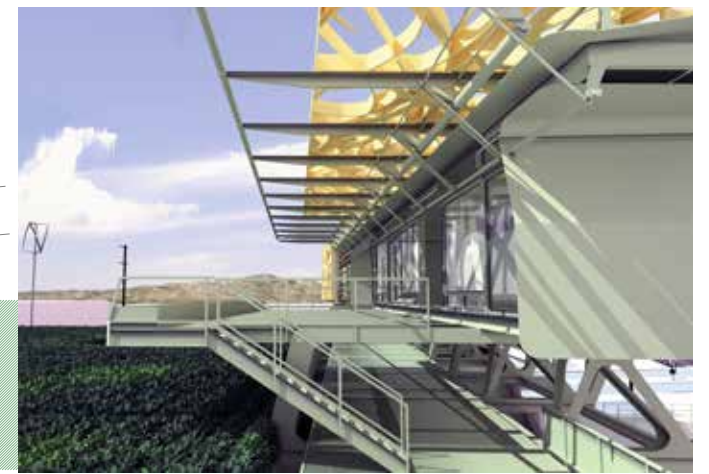
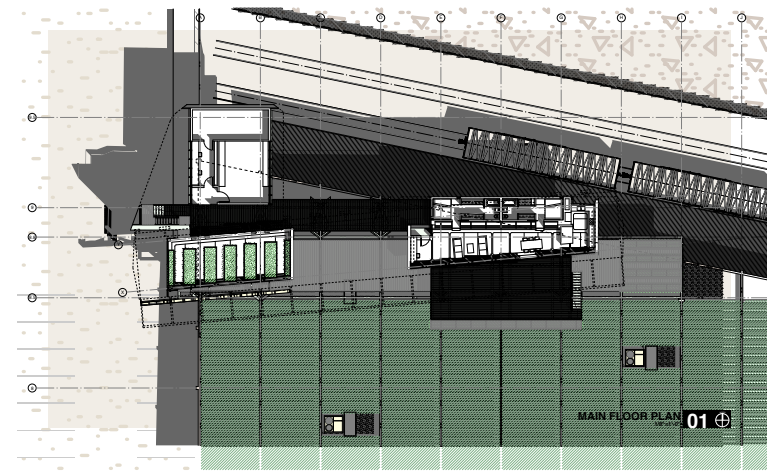
concept



The 'stead plugs into the existing infrastructure of the city to take advantage of its inherent efficiencies and reduced transportation distances. Local consumers will be able to purchase fresh organic crops produced at a farm they may drive past on during their daily commute.



By doubling the number of columns in this typical tilt-up warehouse (reducing column span from 60' to 30'), and using light-weight bio-composite construction, the 'stead and its farm can be supported with minimal impact upon the building's functionality.



The suburbs had been promised to offer the best of both rural and urban living. Some would argue they provided the worst of each, but here we could imagine a new way of life that combines the culture and resources of the city with the vistas and spaces of the country while intimately connecting people to the environment through one of our most essential technologies.



'stead sustainable technology experimental agricultural dwelling