EDGE CITY: re-envisioning the urban edge of Hanoi, Vietnam

Vertical Cities Asia Design Competition 2013: Everyone Harvests
Edge City is cited along the urban edge boundary to re-envision its potential.

**EDGE AS INTERFACE**

Edge as interface views agriculture as a resource to be engaged, not developed.

Incoming fresh food is processed, packaging and distributed at the edge. Food is also retailed + consumed right here.

**EDGE AS INTERFACE**

Incoming fresh food is sent to separate processing, packaging + distribution centers. Occasionally it even returns here through the distribution chain.

**CLEAN WATER CONNECTED COMMUNITIES COMPACT LIVING HARVESTING ECONOMY**

- Farmland Processing and distribution Field dimensions Open space Agricultural service roads
- Constructed wetland Urban drainage wetland Irrigation canals Tail water re-use canals Existing water Tile drainage canals Existing roads Pedestrian access Market road Neighborhood roads Tertiary connectors Agricultural distribution road Light rail station

**Vie**

Vietnamese tubehouse typology re-interpreted: density achieved through phasing and climatic strategies.
PHASED URBAN GROWTH: Building on an agricultural landscape

An initial set of infrastructure investments in levees and clean water for farming sets the framework for gradual growth into a productive urban and agricultural landscape.

TODAY: infrastructure of canals, wetlands and service roads makes the entire site available for healthy farming and clean water.

WORKING: As more facilities collect along spine road, residential and commercial development occurs incrementally along east-west connectors.

GROWING: East-west levee roads connect to existing villages, while processing and distribution facilities collect along a north-south spine.

LIVING: Infrastructure of canals, wetlands and service roads makes the entire site available for healthy farming and clean water.
WATER

Rainfall per year on site: 1,345,025 m²

Rainwater captured & treated/month in DRY season: 7,784 m²

Rainwater captured & treated/month in WET season: 111,191 m²

EDGE CITY

Runoff from excessive fertilizer use, industrial waste, and dumping of raw sewage has degraded Vietnam’s rivers and canals.

CONSTRUCTED WETLANDS

30 ha of constructed treatment wetlands ensure clean water in the canal system. It will serve as a source of infrastructure and recreation.

Stormwater is directed south at buildings and treated in bioswales and culverts en route to constructed wetland canals for treatment at center of site.

Clean irrigation water is transported via culvert from northern wetlands. Tail water drains north and is pumped south for reuse. Tailwater with high levels of salts, nitrates, and phosphorus is treated on-/off-field in constructed wetlands.

Domestic grey and rainwater is treated and stored at the buildings. During winter months of water deficit, this clean irrigation water is sent back to fields.
Situated on the beautiful grounds of Glen Canyon Park, in San Francisco, the popular Silver Tree Day Camp houses a day camp for school-age children during the summer and a nursery during the remainder of the year. The goal for my proposal was to achieve a synthetic co-existence between building and landscape. The building then came to be designed as site infrastructure: where retaining walls along the hillside make way for a building that's sunken into the earth, allowing for the surrounding nature to be the primary element of experience for both camp children and park visitors.
thermal mass for natural heating

external circulation takes advantage of San Francisco's moderate climate

rain water catchment & filtration for building use

CLIMATIC STRATEGIES

cross ventilation & stack effect strategies
section_elevation

interior wall: 2x4 wood framing, 5/8" drywall, batt-insulation, 1/2" plywood, stucco finish.

roofing: reinforced poured concrete, rigid insulation, 3" concrete for extra insulation, waterproothing layer, topped with layer of gravel & peat moss.

low-e highly reflective glazing

16" retaining wall

soil beyond

built-in cubbies for children’s belongings

interior wall: 2x4 wood framing, 5/8" drywall, batt-insulation, 1/2" plywood, stucco finish.

opening for outside viewing at children’s eye level