GROWING CITY
AGRICULTURAL RESEARCH STATION DESIGN

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HISTORY

US STEEL SOUTH WORKS

EMPTY SINCE 1994
CONDITION

Neighborhood:
1. bad image
2. food desert
3. unemployment
4. low education
5. crime
6. vacant plots

Site:
1. empty
2. nice view to the lake
3. hard border
GOAL
1. urban development on site
2. improve the living condition of the neighborhood
3. diminish the segregation
URBAN DESIGN

IMAGINATION
Of course we could imagine a fancy urban development like what SOM already proposed for the site.
BACKGROUND
But we have to live with the fact that the US is in crisis, which is an obstacle to the implementation of SOM's top-down masterplan.

Crisis: Short Of Money
Since there is not enough financial support for a large urban development at once, we need to think in the other direction.
STRATEGY
Growing City:
1. To design a guideline of the growing process;
2. To define several pivotal projects which enable
3. For the rest, just let it grow.
URBAN DESIGN

START
The start should be low-cost, temporary, visible, and easy to get local people involved.
MAYOR EMANUEL LAUNCHES NEW “FARMERS FOR CHICAGO” NETWORK FOR CHICAGO URBAN FARMERS

FOR IMMEDIATE RELEASE
March 15, 2013
URBAN DESIGN

SUPPORT
support from local urban farming organizations

GROWING POWER ACHIEVEMENTS

Altgeld Gardens Urban Farm
The Chicago Lights Urban Farm
Grant Park “Art on the Farm” Urban Agriculture Potager
Iron Street Urban Farm
Jackson Park Urban Farm and Community Allotment Garden
62nd and Dorchester Community Garden
65th and Woodlawn Community Garden
Altgeld Sawyer Corner Farm
Lincoln Square Community Garden
Merchant Park Community Garden
Monticello Avenue Community Garden
Monarch Community Garden
Peterson Garden
Ruby Garden (In Schreiber Park)
GUIDELINE

Farming  Researching  Living

local people  people from outside  mixed population
1. current situation
2. urban farming and planting
3. pivotal projects
4. mixed and balance urban development
PIVOTAL PROJECTS(SEEDS)

Community Center  Market  Agricultural Research Station  Agricultural College

Farming  Researching  Living
LOCATION CHOICE

Since the seeds are relatively small projects, it's wise to place them where existing elements concentrate so that they can take advantage of the existing elements to save cost or to get stronger identity.
FOCUSING AREA
THE ORE WALLS
Strong identity of the ore walls can help bind the pivotal projects into a whole. And the projects may bring added value to the deserted ore walls to avoid it to be demolished.
SPECIFIC LOCATION

Community center:
approximity to the neighborhood

Market:
next to the lakeshore drive; using the ore walls as structure.

Ag research station:
space between the ore walls as enclosed scientific farm; conference with view to the lake; research covering the ecological research of Lake Michigan.
URBAN DESIGN

ORE WALL NETWORK

Market Warehouse  Ore Wall Farm  Research cultivation

guest houses

Experiencing Route

Products Route

Visiting Route
ORE WALL NETWORK
URBAN DESIGN

DESIGN LAYERS

1. Extend the existing infrastructure in the neighborhood.
2. Create linear landscape strips.
3. Old factory remanent foundations.
4. Pivotal projects.
PHASING

3 years

5 years

10 years

30 years
URBAN DESIGN

FINAL MASTERPLAN
INDIVIDUAL ARCHITECTURAL DESIGN
ARCHITECTURAL DESIGN

ROLE
To lead the transition from farming to researching in the whole growing process.
ORE WALL

Two most relevant elements: farm & ore walls
STRATEGY
ARCHITECTURAL DESIGN
PUBLIC ROUTING

Visitor

public route on roof 1 (finally to the lakefront)

Visitor

public route on roof 2 (finally entering the building)
ARCHITECTURAL DESIGN

VIEW
NODES
ARCHITECTURAL DESIGN

PROGRAM

tools to the field
harvest from the field

wind

view to the lake

sheep exercising
cow exercising
entrance garden
PROGRAM

2  pick your own orchard

4  entrance garden

5  livestock excercising area
east facade facing lakefront woods
ARCHITECTURAL DESIGN

PROGRAM

- lab
- office
- storage
- cow exercising
- milk room
- pick your own orchard
- visitation path
view to the courtyard from the visiting route
ARCHITECTURAL DESIGN

PROGRAM
ARCHITECTURAL DESIGN

STRUCTURE

WOODEN BEAM TYPES:
- open web parallel cord trusses
- laminated veneer lumber beam

open web parallel cord trusses

I-joist

prefabricated floor slab with I-joist
CONSTRUCTION
ARCHITECTURAL DESIGN

SUSTAINABILITY
CONCLUSION

GOAL OF URBAN STRATEGY ACHIEVED:

1. Farming and researching are well combined in the building. It is able to lead the transition from farming to researching.
2. Public routing defined in urban strategy are well integrated in the building.
3. The building provides space not only to researchers from outside, but also to local people from the neighborhood, which help bring a mixed population.

ARCHITECTURAL INTENTION ACHIEVED:

The building emphasizes the combination of urban farming and the ore walls by means of inheriting the nature of the ore walls which is being frame, and using it to frame the urban farming activities. It really becomes a mediator in the combination.