

Andrea Gaffney
MLA & MCP Graduate Work
2006 - 2009
Urban Design & Infrastructure

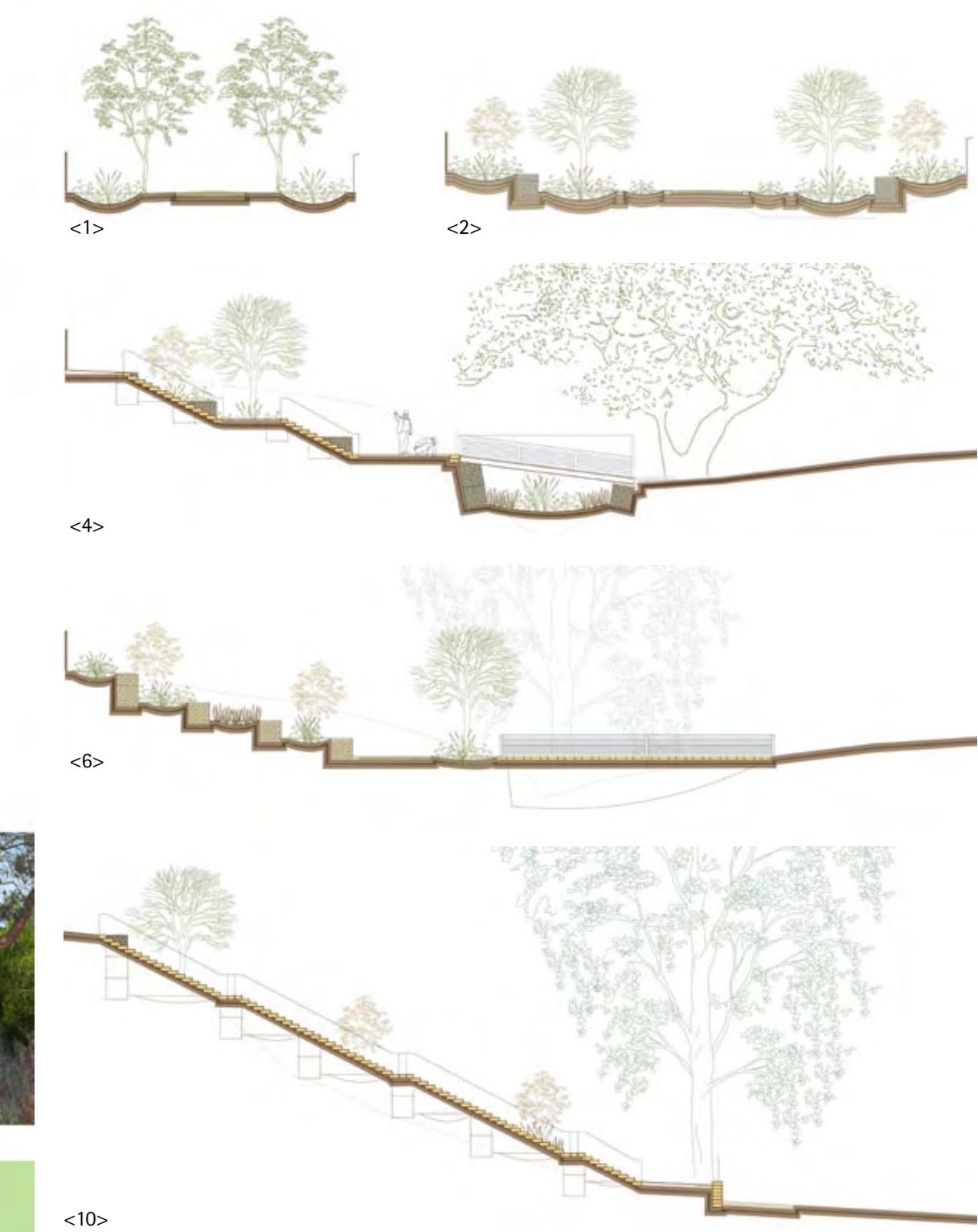


For additional professional and academic projects
1994-2006, please download my short portfolio at
<http://aeg7.com/assets/shortfolio.pdf>

Diffusing the Political Boundary: the Hercules-Rodeo Greenway

Ecological Factors in Urban Landscape Design Studio

Fall 2006



"Diffusing the Political Boundary" is a recreation trail along the political border of Rodeo and Hercules, connecting the two areas through multiple human and natural ecological layers. As the site is a steep slope, the integration of terraced swales manages erosion and storm water impacts. The design also strengthens a habitat connection between two larger open space patches and links up pieces of the Bay Trail.

LA201 Fall 2006 & 2007

Ecological Factors in Urban Landscape Design

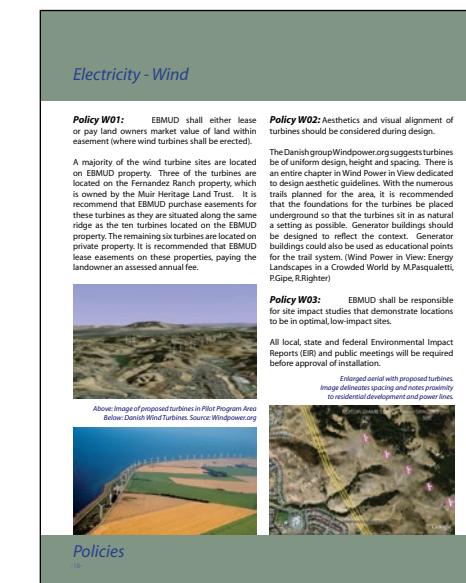
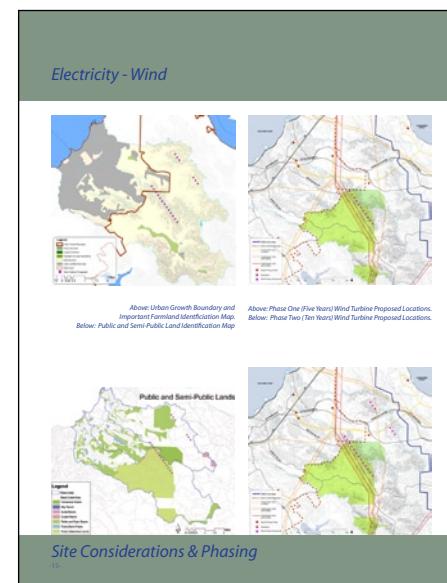
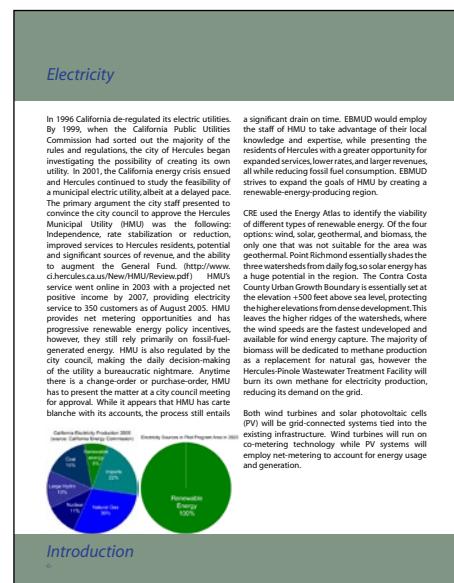
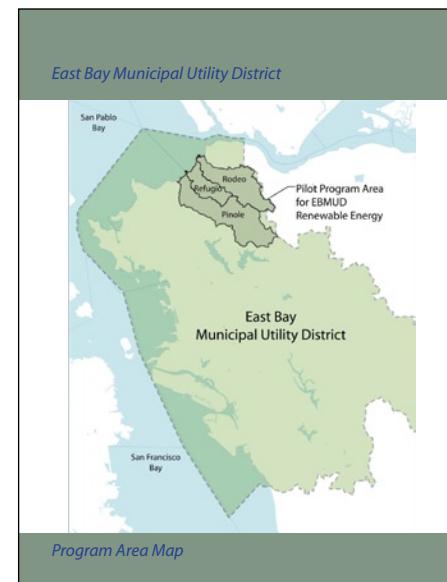
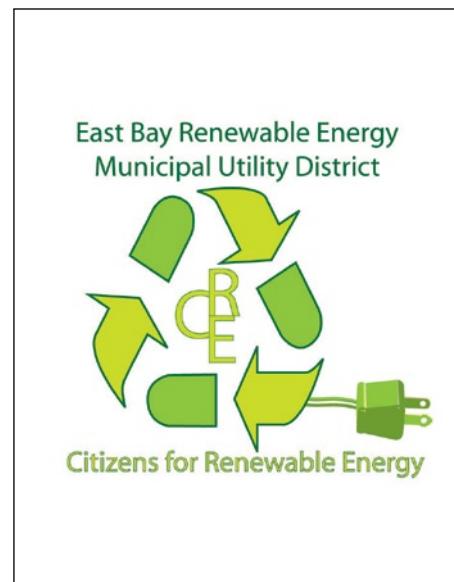
Alternative Energy Production in Rodeo, Refugio & Pinole Watersheds

Planning Report & Poster

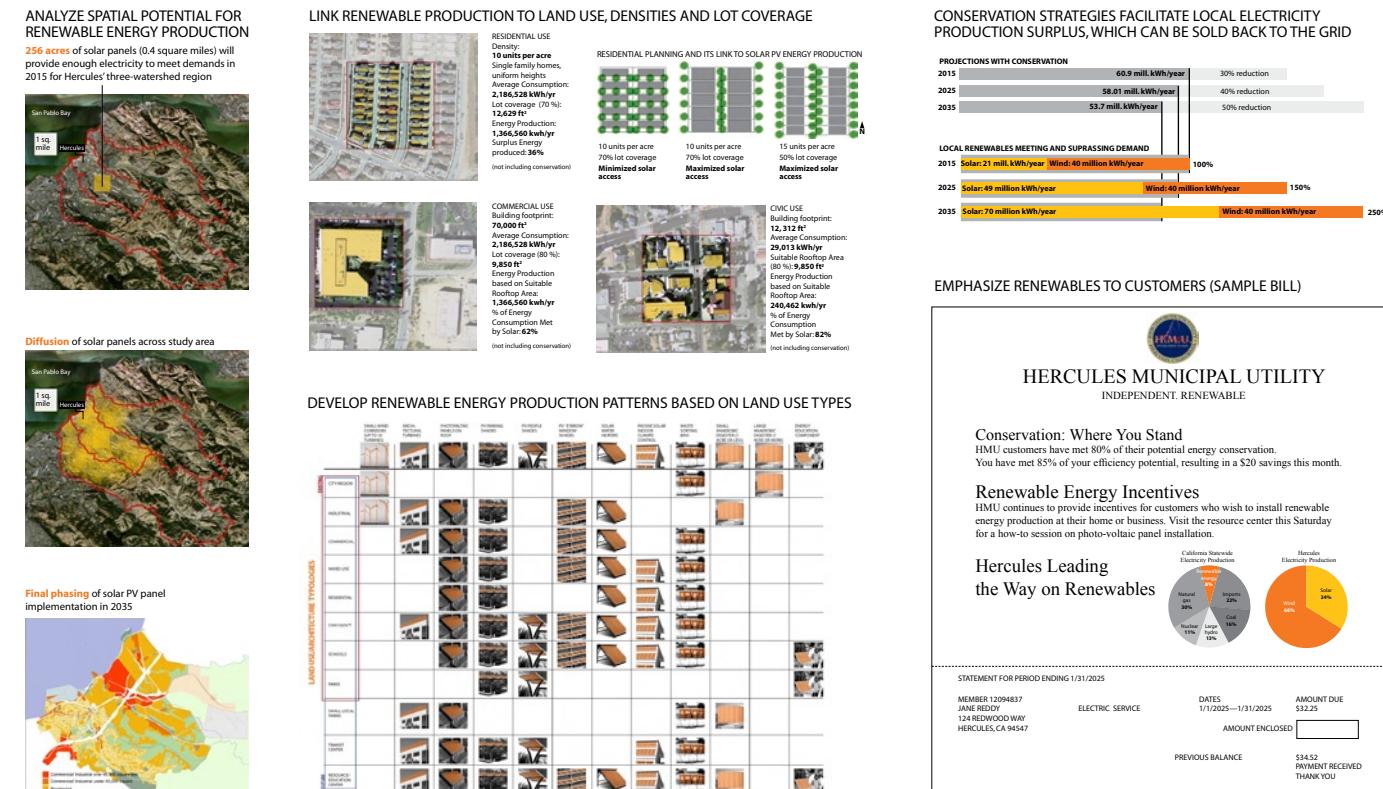
I designed and produced the publication for this group planning project. Three of us worked on the content, helping each other with research and graphics production, but my main contribution to the planning aspects consisted of the wind and hydro-turbine energy generation research and design.

The poster on the far right was presented at the Berkeley Renewable Energy Symposium in Spring 2008 and is based on my work from LA201 in Fall 2006 and my student and colleague Tim Mollette-Park's work from LA201 in Fall 2007. (I was the Graduate Student Instructor for LA201 for Fall 2007 and worked closely with the Alternative Energy group.) My contribution to the poster is the idea of linking excess energy-generation revenues and municipal revenues through municipal utilities to offset Proposition 13 fiscalization of land use issues. I used the solar generation information from my group report to generate the typology studies for the residential development. We also presented the poster as guest lecturers in a city planning course on infrastructure and land use planning taught by Fred Etzel in Spring 2009 at UC Berkeley.

California Proposition 13, passed by 65% of voters in 1978, is a constitutional amendment that reduced property tax rates by 57% and resulted in a dramatic reduction in the amount of local property tax revenue available for cities, counties, and especially for schools (PBS Merrow Report <http://www.pbs.org/merrow/tv/ftw/prop13.html>).



A CASE STUDY HERCULES MUNICIPAL UTILITY



LAND-USE TRANSFORMATIONS



Sources: Research conducted as part of studio course (LA 201: Ecological Factors in Landscape Architecture) by Andrea Gaffney, Tim Mollette-Parks, Maya Baraona, Erin O'Mahoney Cubbison, Nicholas Curtis, Robert D. Lemon, Francesca Francia, Chris Fullmer

Andrea Gaffney

Urban Land Institute
 Gerald D. Hines Student Urban Design Competition
 Phase 1 Winning Entry
 Spring 2007

First Street at the LA River, Downtown Los Angeles



Team Members:
 Andrea Gaffney, Chris Lollini, Robert McCracken, Aditi Rao, Brooke Ray Smith



Phase 2

Submission: Elaboration of Urban Design Scheme and a site-specific design and development pro-forma for the Mangrove site station area at corner of First and Alameda.

Personal Contribution awarded for the Eisner Prize in Urban Design from UC Berkeley in 2008.

My main responsibilities consisted of site analysis, analyzing and setting up a framework for consistent representation, diagramming, architectural and urban design, conceptual formulation for the project, land use decision-making, and site and building-integrated sustainable designs. I also worked closely with the financial person on the team to develop the appropriate mix and size of housing and commercial/retail space so that the numbers produced a net profit.

CP208 Spring 2007 Multi-disciplinary Urban Design Studio with Tongji University: Mixed-use Neighborhood District along a Transit Corridor in Jiaxing, China

Related publication: *Green Jiaxing: Sustainable Design Principles for a Harmonious City 2008* (publication designer and co-author).

"Mixed-use Neighborhood District in a Transit Corridor in Jiaxing, China" presents a piece of a collective effort by an entire studio to design an ecologically sensitive, self-sustaining transit corridor in a city faced with rapid urbanization. I worked with an inter-disciplinary team on the Mixed-use Neighborhood District to develop principles for development. Other students followed my framework and design principles to design both a district transit node and a neighborhood node within the district. (These projects are not included on this page.) I directed another student on the production of the density, land use and node diagrams which are presented on this page. I am responsible for completing all of the other work shown here with the exception of the precedent study, which is properly cited.



Sustainable Development Masterplan for a Tourism-based Economy in Koh Lanta Yai, Krabi, Thailand

University of California, Berkeley & Chulalongkorn Joint Environmental Planning Studio

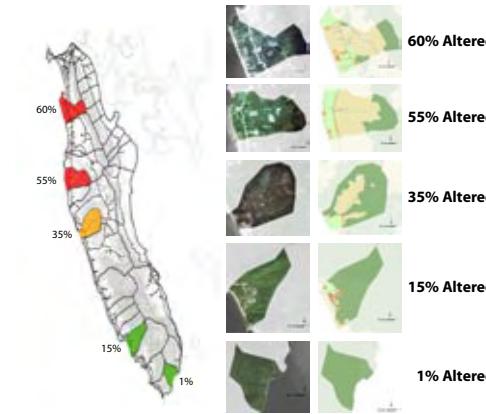
Summer 2007

FLOOD DIAGRAMS &

LAND ALTERATION

These diagrams reinforce the immediacy of need for better land planning and management practices. Continuing the current rate and type of development practices would threaten the tourism economy of the island by directly damaging the environment they are marketing.

Land alteration percentages presented by watershed and land use.

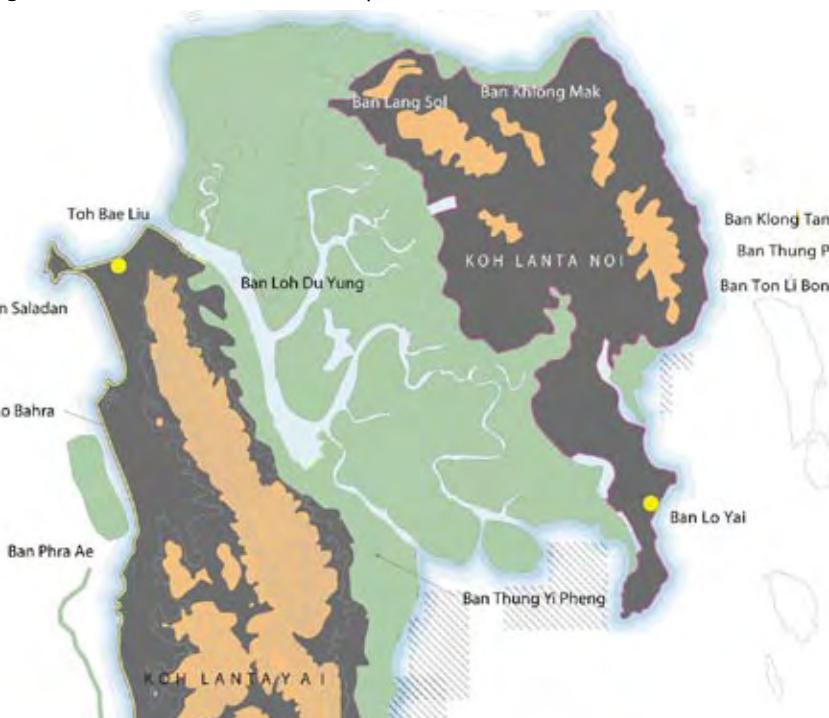


Mapping of stream channel alterations leading to flooding in resort areas.



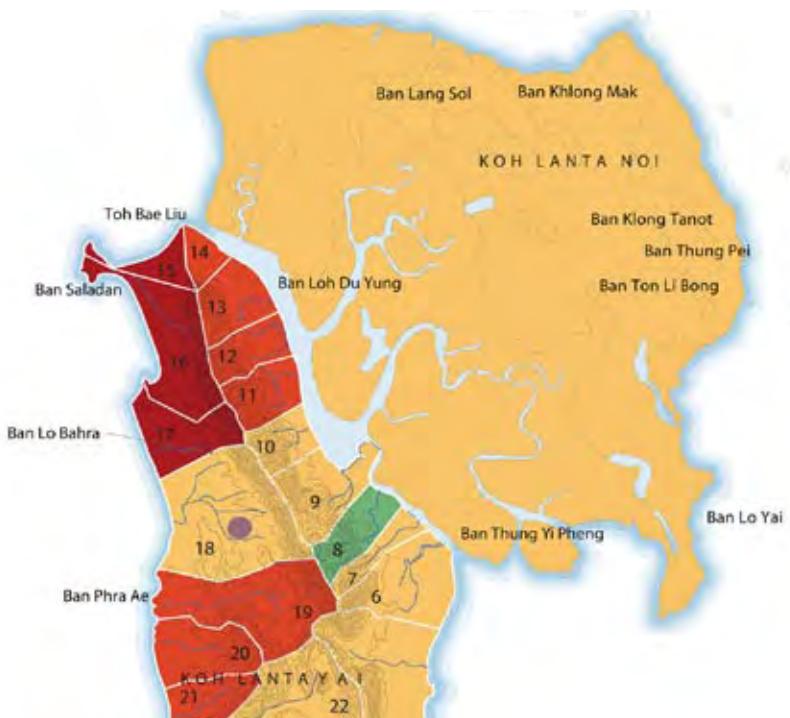
MAPS

I generated these maps based on a synthesis of information from the group work. The maps were presented to the Thai Public Policy Foundation and various levels of government officials to demonstrate the gaps in their current planning process, and suggestions for how to address issues relating to sustainable tourism development.



LAND VALUATION FOR TRANSFER OF DEVELOPMENT RIGHTS

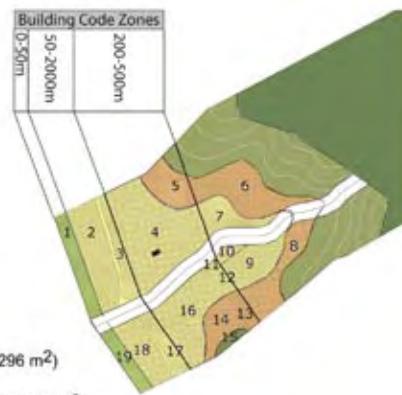
I worked with another planner to estimate the cost of trading development rights to focus development on the island, in order to minimize associated impacts.



Theoretical Land Parcel Areas
1) 17 887m ²
2) 39 457m ²
3) 14 477m ²
4) 84 591m ²
5) 20 548m ²
6) 42 514m ²
7) 18 888m ²
8) 29 004m ²
9) 24 266m ²
10) 3507m ²
11) 1842m ²
12) 2256m ²
13) 6075m ²
14) 18 330m ²
15) 4001m ²
16) 46 799m ²
17) 12 802m ²
18) 23 623m ²
19) 12 529m ²

Proposed Ministry of the Environment regulation (more restrictive than Building Code)

beach buffer zone 5 (35 482 m ²)
no further land alterations permitted (365 296 m ²)
75% vegetated open space sim. zone 6 (127 722 m ²)
forest management zone—maintain net forest coverage for habitat and species management (197 706 m ²)
national park

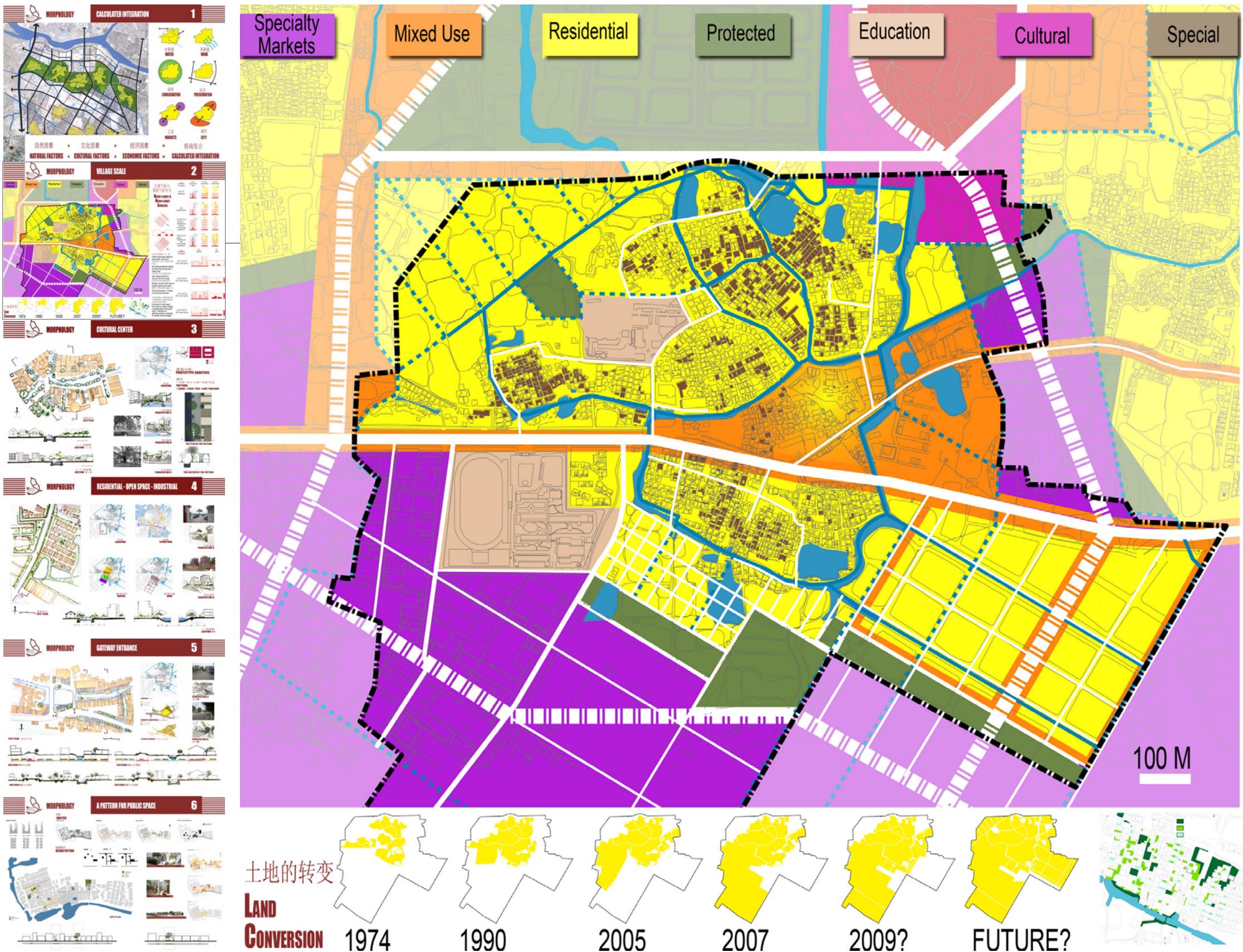


UC Berkeley Workshop with South China University of Technology January 2008

Dadun, a village in the Pearl River Delta facing rapid urbanization.

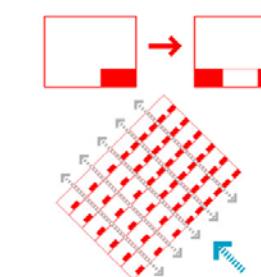
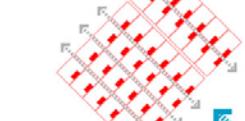
Related Publication: *Foshan: Dadun Village Workshop*, contributing author, UC Berkeley 2008

The land use plan and building development typologies set the framework and identified the locations for the site-specific designs executed by my colleagues.



宏观气候与
微观气候导引

MACRO-CLIMATE & MICRO-CLIMATE GUIDELINES

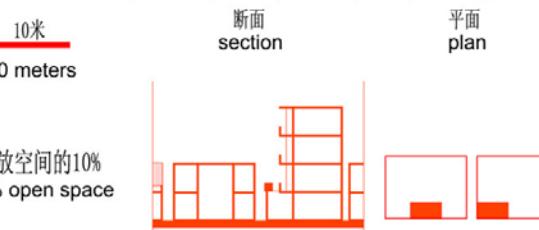
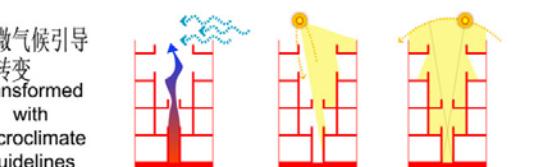
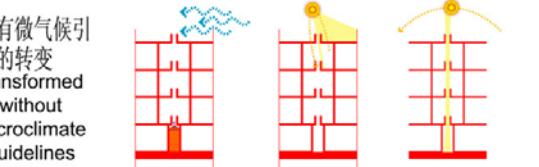
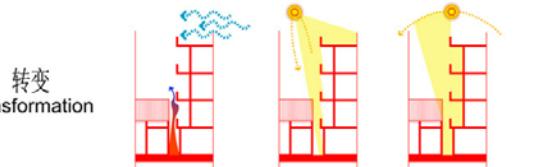
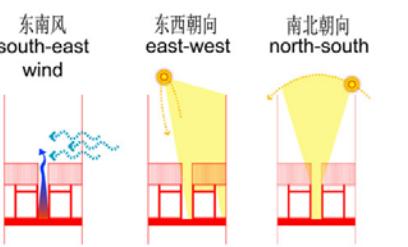


引导私人空间朝向水、风、太阳
Orient private open spaces towards water, wind & sun.
如巷道宽度小于2米，房屋构件不得伸出巷道。

No building projections allowed into lanes that are less than 2 meters wide.
开放空间应至少占空地面积的25%
Open space should be a minimum 25% of lot area.
保持两旁的房屋有通道通向巷道
Maintain access to both sides of property opening onto lanes.
楼房第二和第四层的阳台需退后1.5米
Set back balconies 1.5 meters on the 3rd and 4th floors.

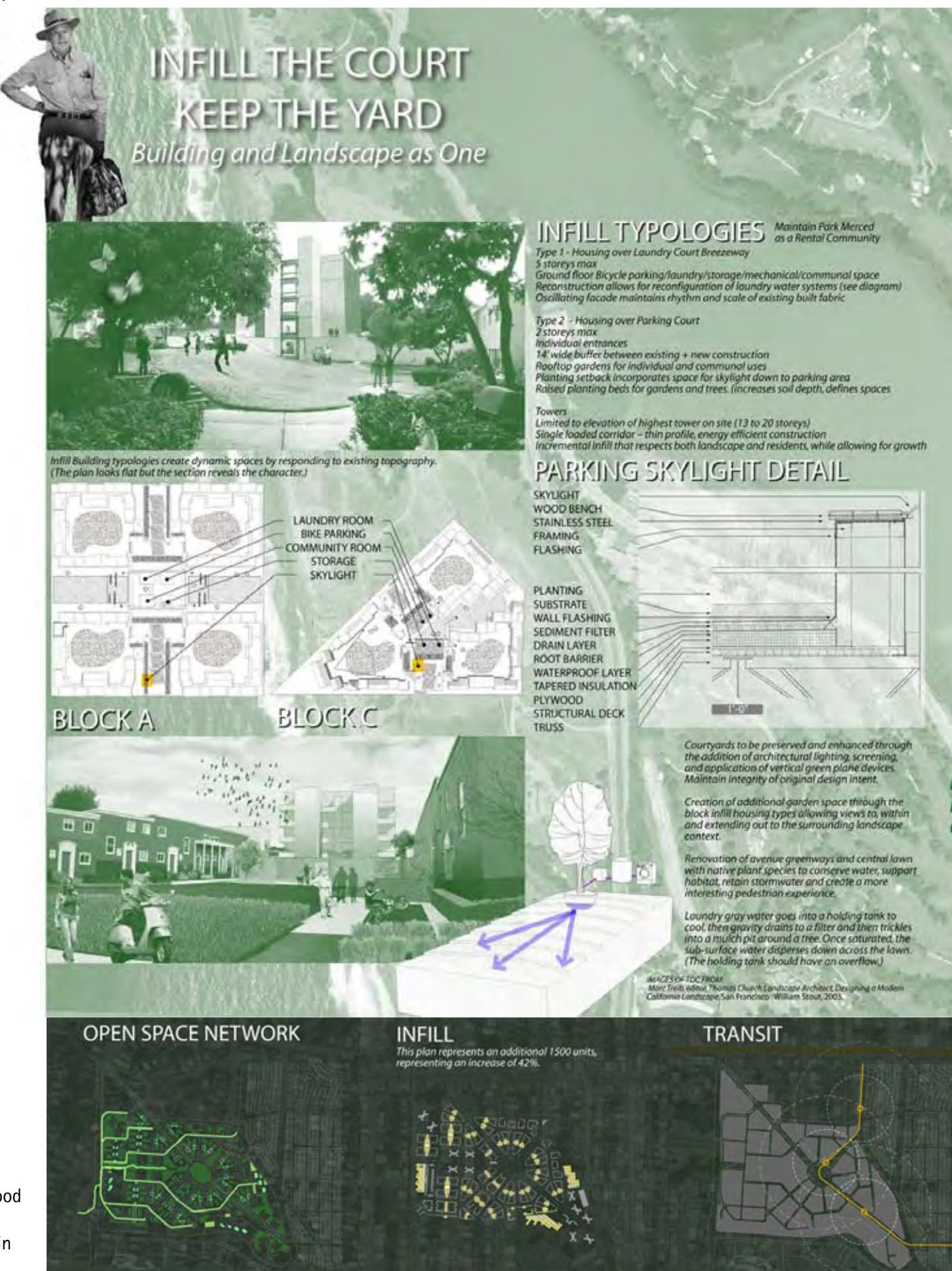
从开放空间到私人空间的转变指示着
公共领域的转换。聚集空间的营造对
文化遗产的保存是必需的。

Conversion of open space
from public to private indicates
a transformation of the public
realm. Fortification of
gathering spaces is necessary
to maintain cultural heritage.



Infill the Court, Keep the Yard

Thomas Church
Memorial Design
Competition
Winning Entry
January 2008



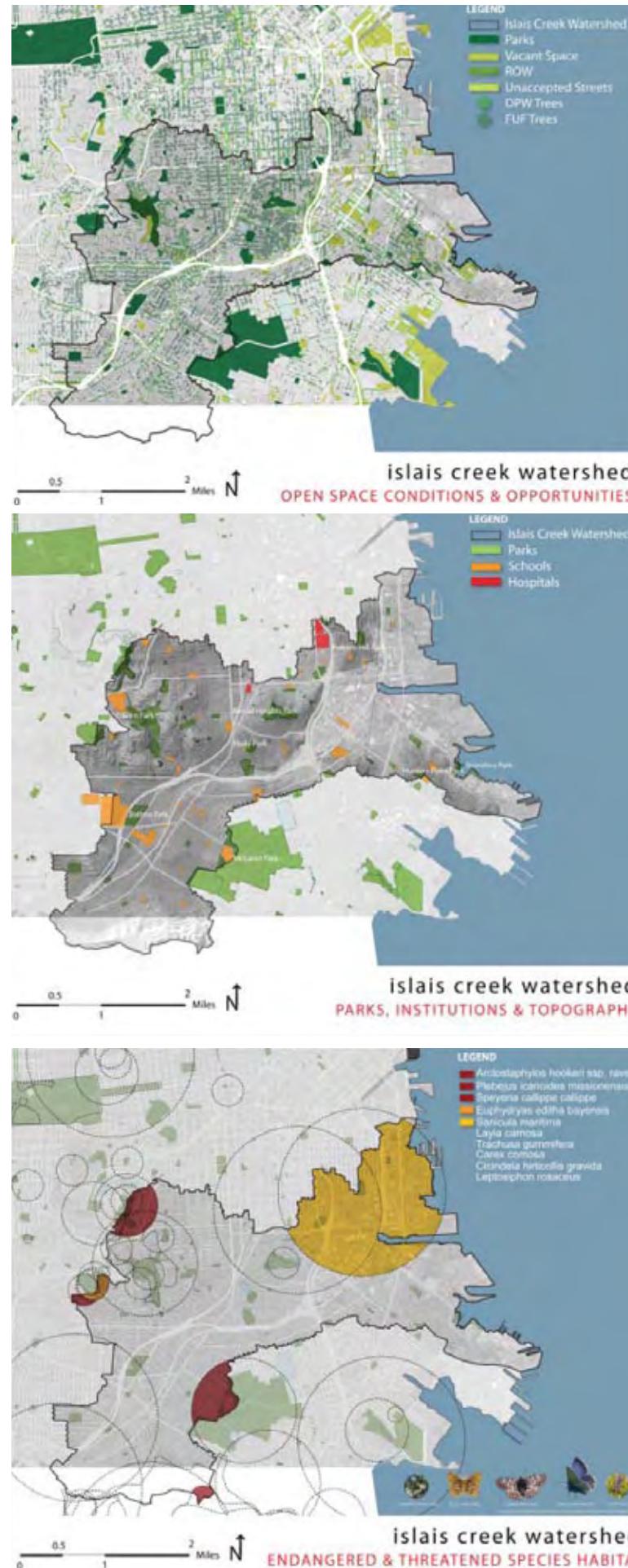
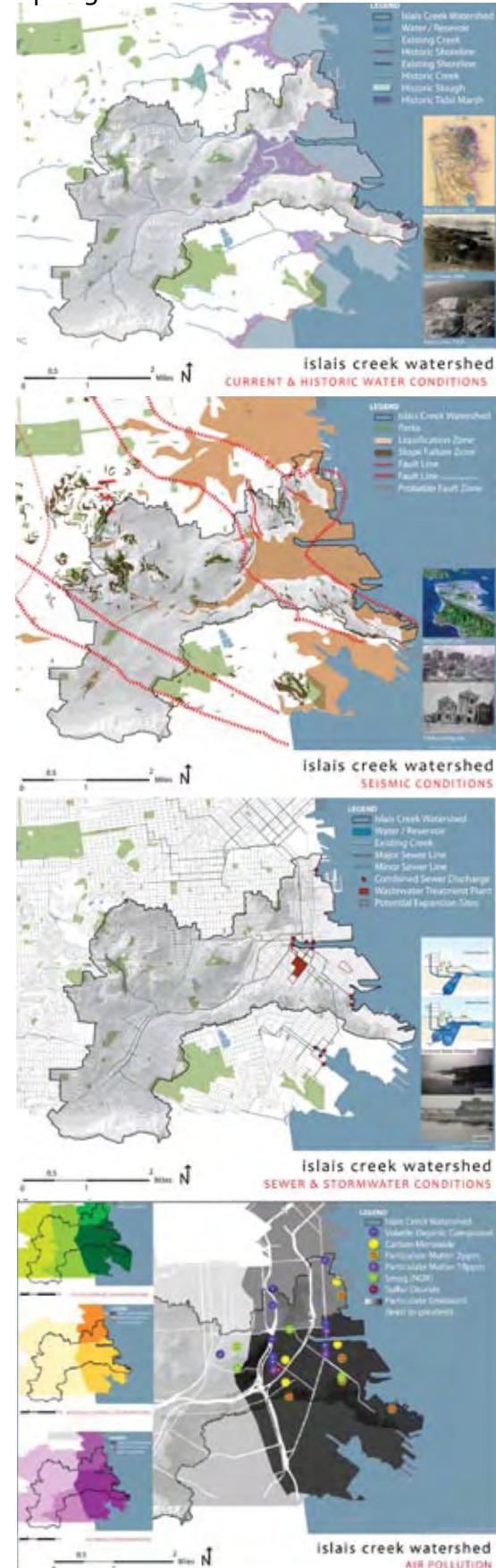
Park Merced neighborhood densification and green infrastructure proposal in San Francisco, CA.

Urban Design Studio

Part 1:

Natural Factors Analysis

Spring 2008



PRODUCTION ZONE

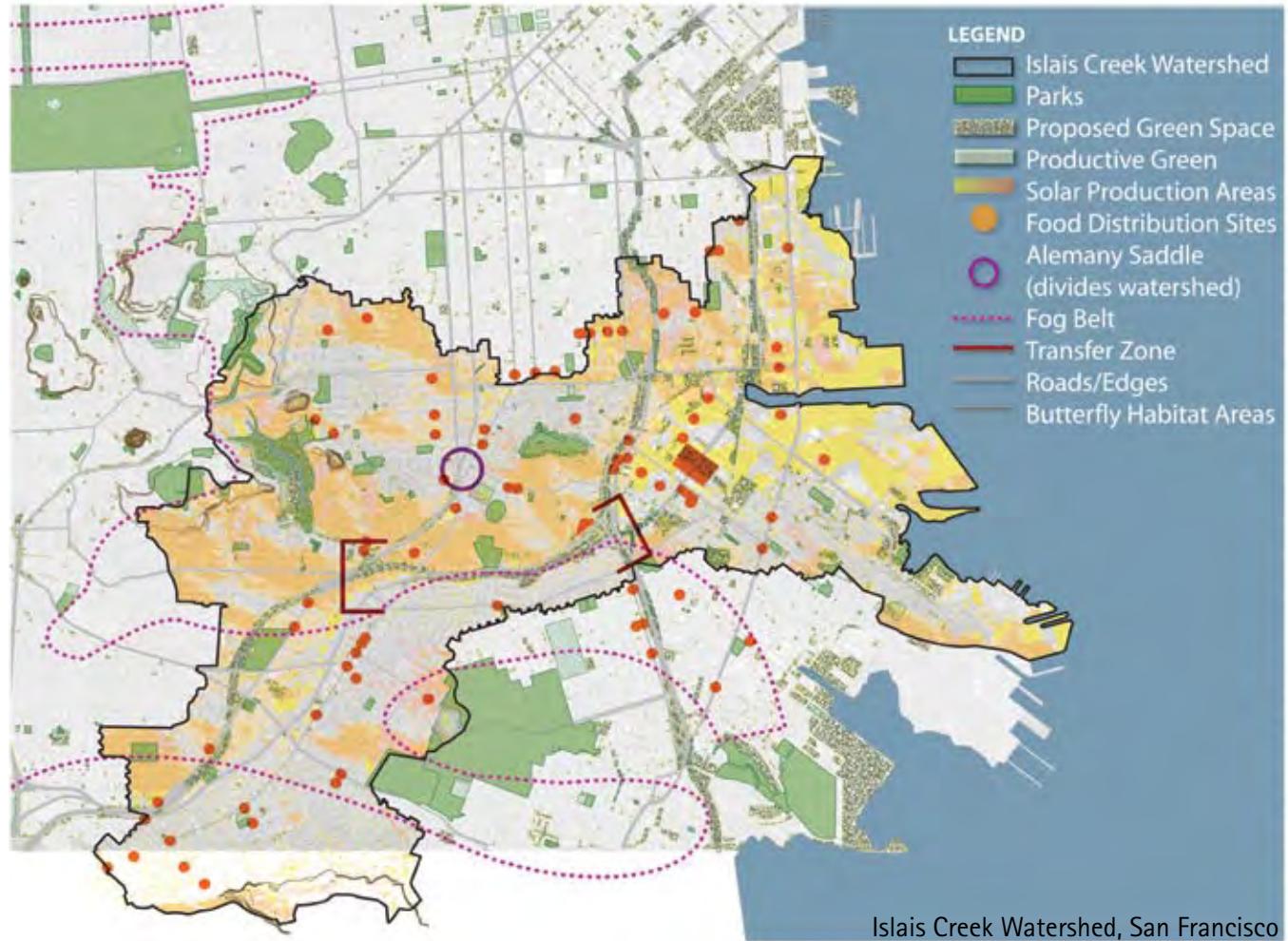
Slopes that are considered seismically hazardous for structures can serve as urban agriculture sites, creating multi-functional connections between areas of different elevations. High solar aspects are good for photovoltaic energy production as well as food energy production. The watershed map locates points of food distribution, so why not create a similar landscape of food production?

These areas can also provide habitat for the endangered butterflies of the region.



TRANSFER ZONE

This area facilitates the movement of people, animals, food and water along and across the gap. The final point of the transfer is the Alemayeh Farmer's Market.

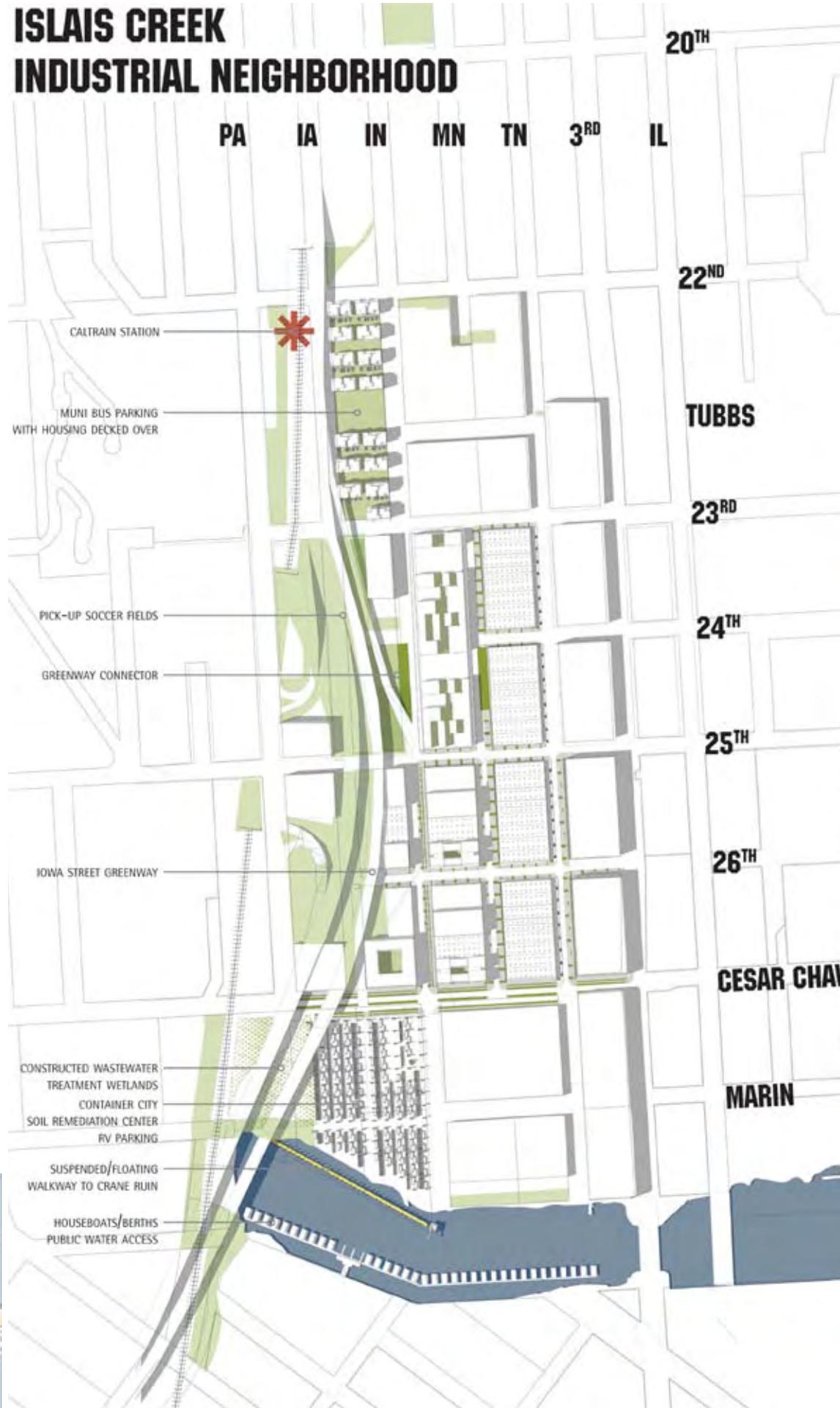


DEPOSITION ZONE

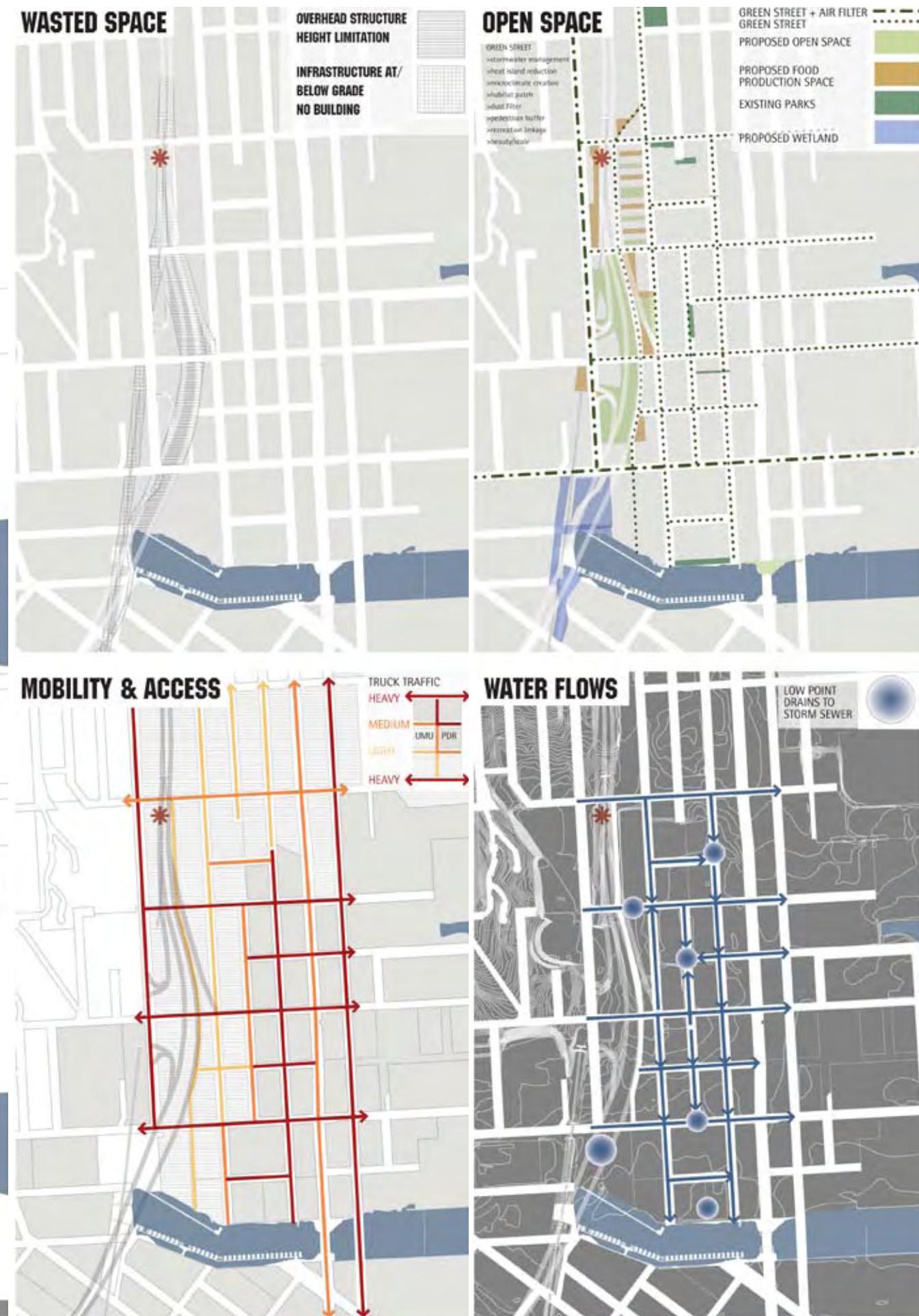
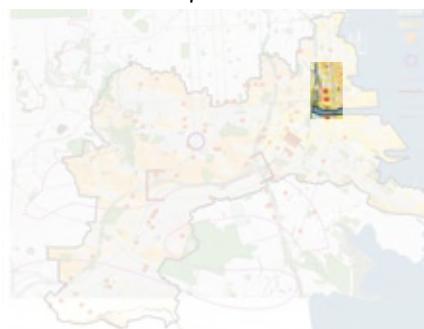
Elements settle, mix and rejuvenate the landscape.



Islais Creek
Industrial Neighborhood
Urban Design Studio
Part 2:
Urban Design Proposal
Spring 2008



Dogpatch Neighborhood & Mixed-use Industrial Neighborhood in San Francisco, CA



CP248 Spring 2008

Urban Design Studio Part 2:

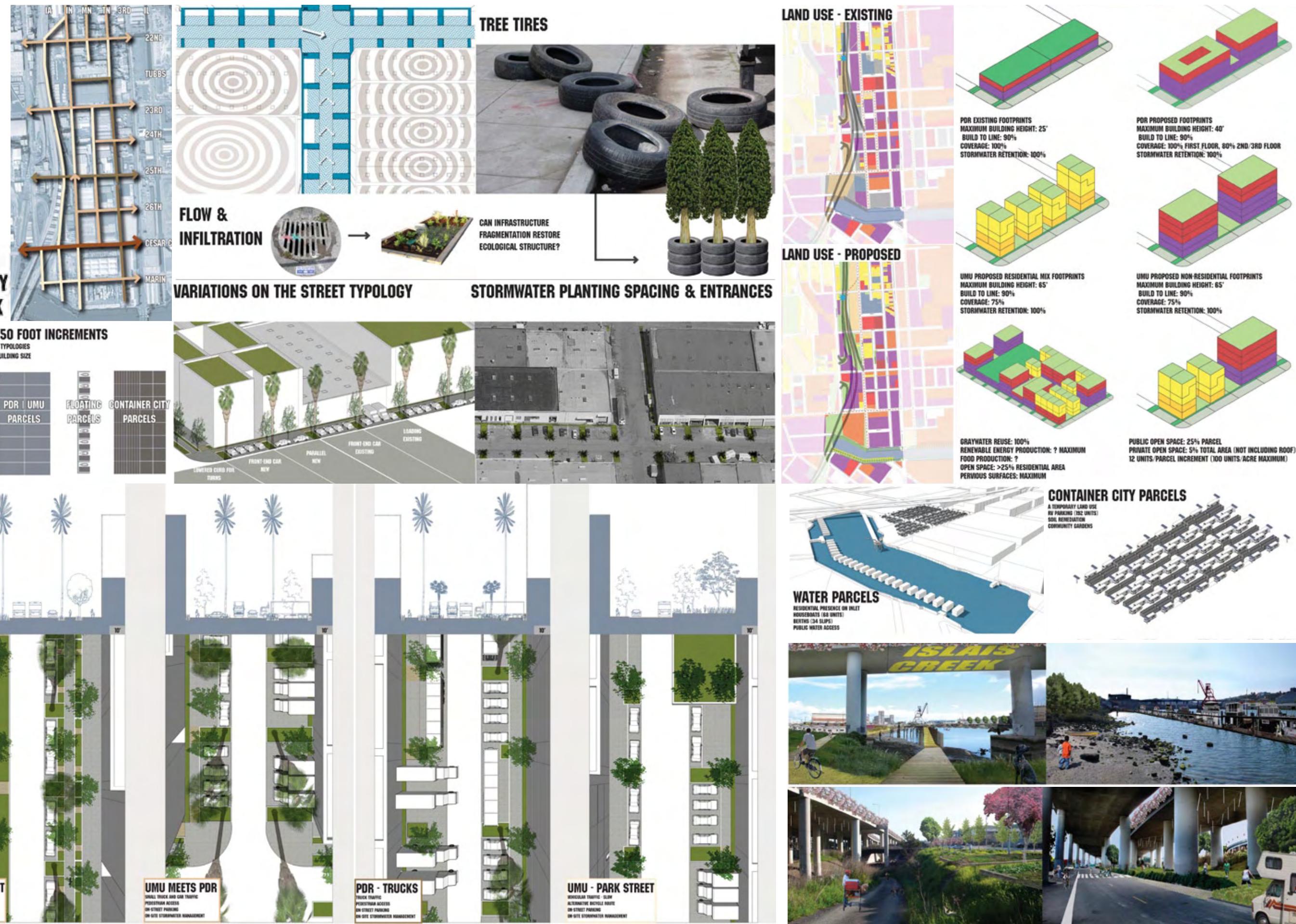
Urban Design Proposal

Open Space & Block Typologies,

Dogpatch Neighborhood &

Mixed-use Islais Creek Industrial

Neighborhood, San Francisco



International Ateliers of Urban Design & Planning Cergy-Pontoise, France Workshop 2008: "A Reconsideration of Infrastructure"

Original project presentation in oral/digital format. Transcript available on website.

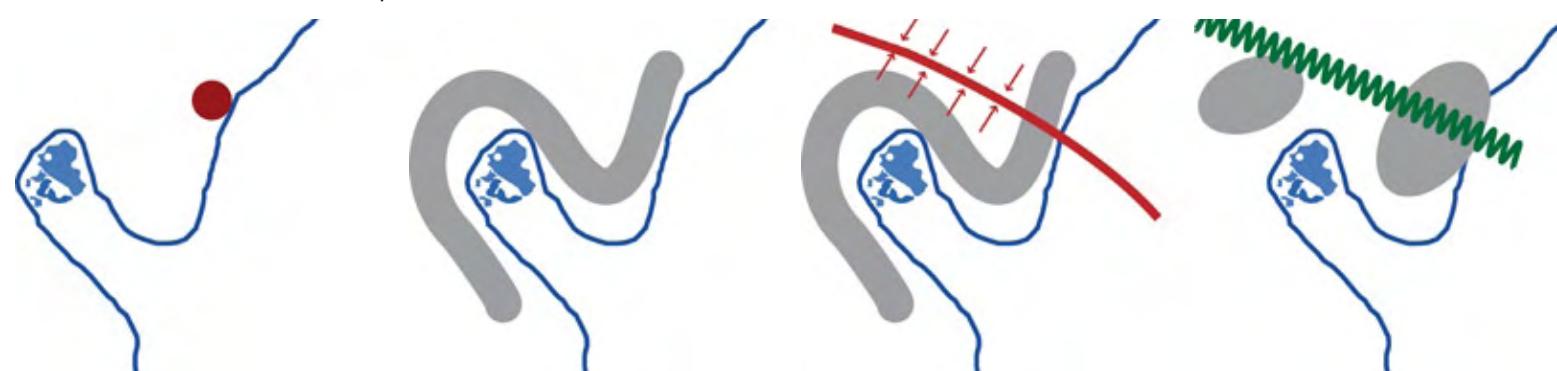


Project Team:
Andrea Gaffney
Sophie Bolzinger
Nikolas Rogge
Claire Vige Helie
Pongpol Thongsomchit
Anjing Tang

How do you transform a conurbation with a history urban experimentation into a fossil-fuel free city?



Stop and reverse automobile dependent development.
Remediate existing auto-dependent land uses to allow for a multi-modal system.
Localize food and energy production.
Create economies that reduce fossil fuel dependency in the region.
Create demand for carbon-free products.



Historic Pontoise



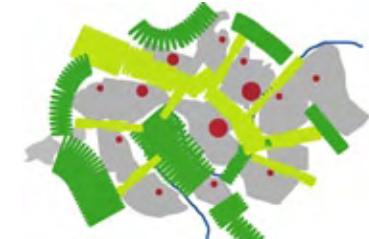
Municipalities & their Centers

Ville Nouvelle Cergy-Pontoise



Increase Connections

The A15 & Cergy-Pontoise



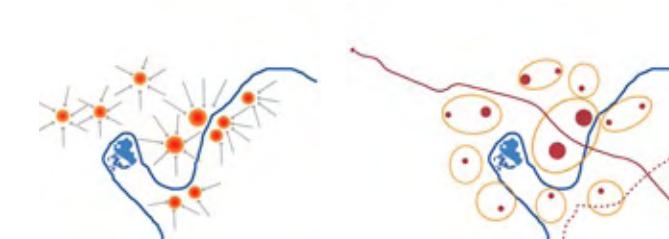
Define Edges to Focus on Centers

Boulevard Vexin & Cergy-Pontoise

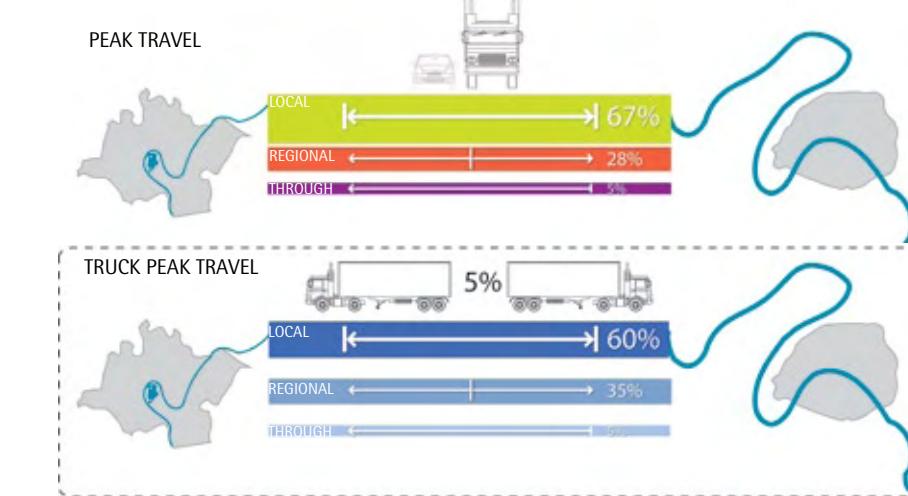


Polycentric Con-Urbation

Fossil-Fuel-Free Cergy-Pontoise

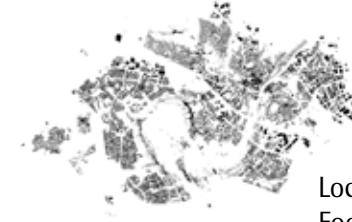
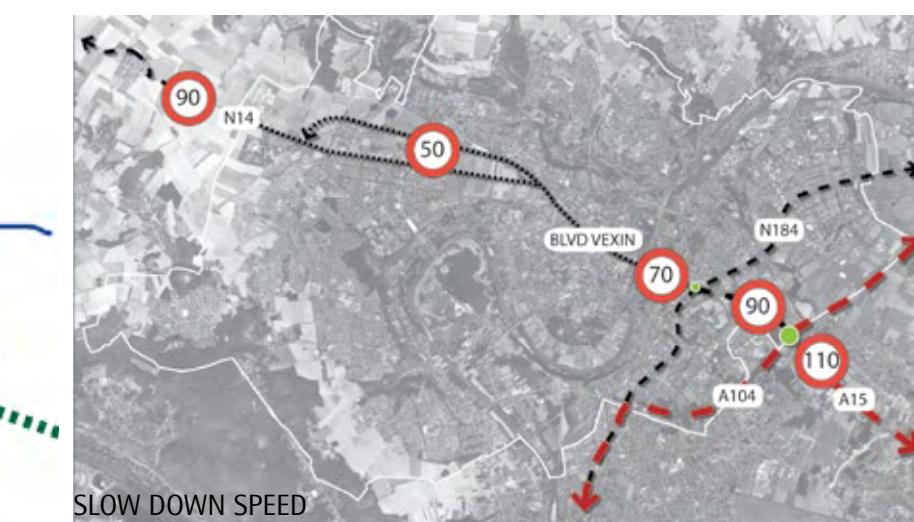


Focus Density at Transit Nodes

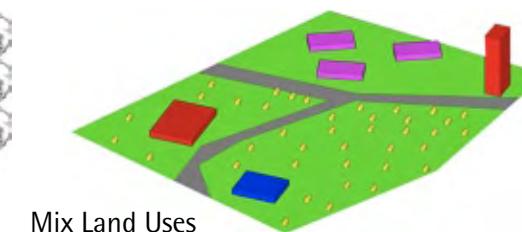
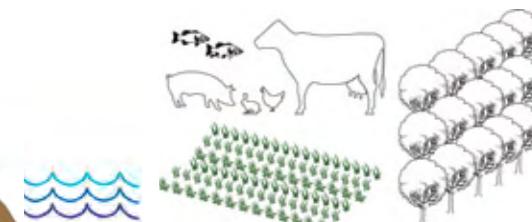


A15 + A104 = BOULEVARD VEXIN

Cergy-Pontoise falls under the economic mega-region of Paris, but is too far away to be included in the debate about the Grand Paris. For this reason, C-P needs to reassert itself, and find an unique purpose for that contributes to the regional identity.



Local Energy & Food Production

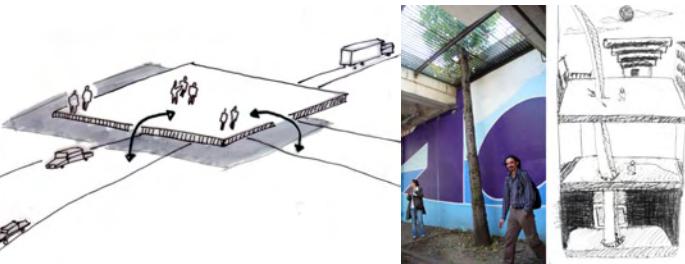
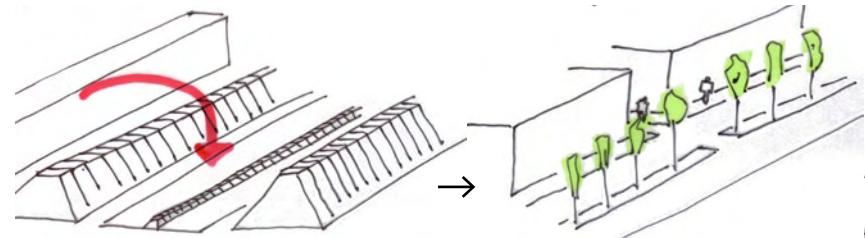


Mix Land Uses



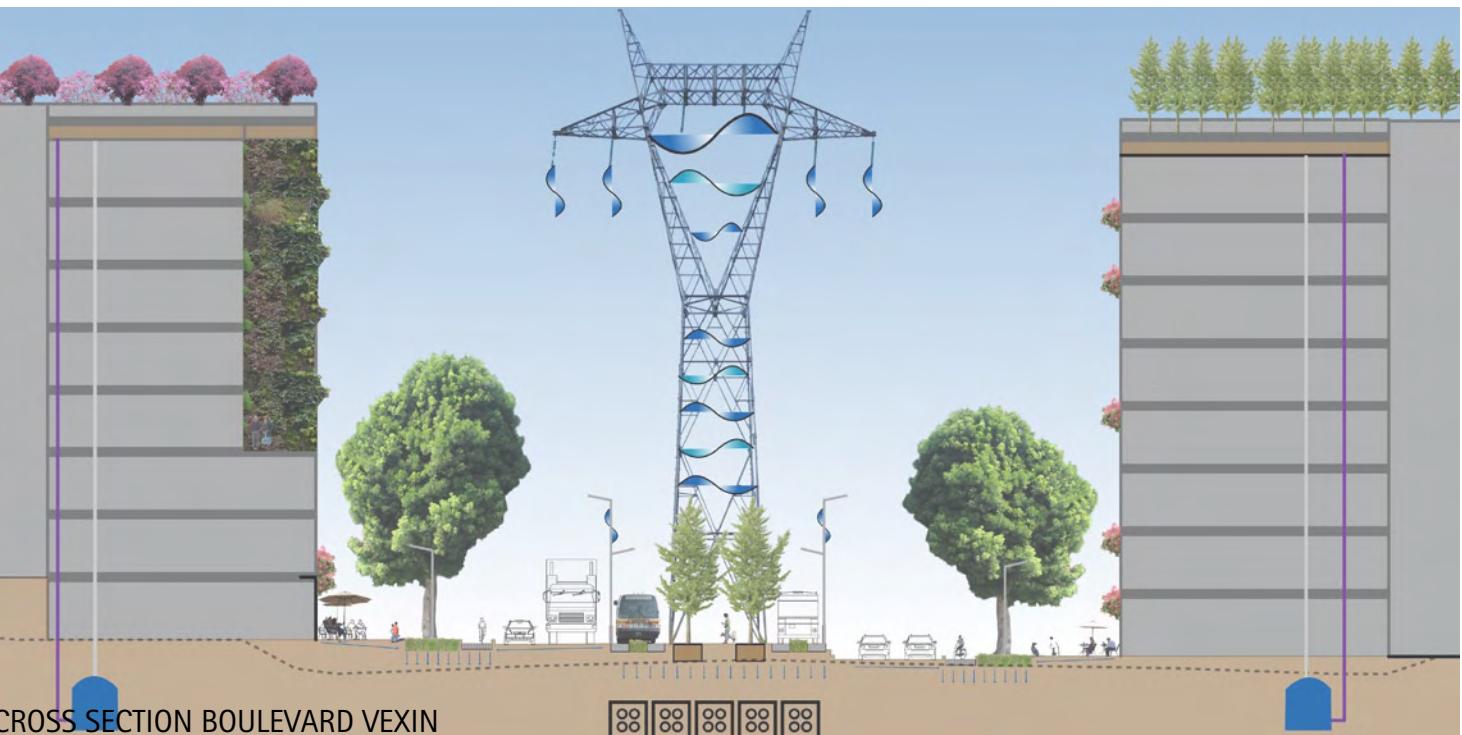
TAKE THE GAS OUT OF THE CAR CITY

Separated, single-use systems are the paradigms of modern planning and infrastructure, therefore re-configuring these systems into multi-valent and multi-functional networks becomes a method for reconsidering the landscape.



The RIFT: Highway A15

In terms of regional traffic, the A15 west of the planned A104 ring road is a local road with minimal through-traffic. The completion of the A104 will completely short-circuit this function of the A15 in Cergy-Pontoise. The following project presents an opportunity for reconsidering this infrastructural rift and how it could transform to reinforce multi-valent connections with the rest of the conurbation: Boulevard Vexin. a re-interpretation of a culturally significant street type into a high performance infrastructure.



CROSS SECTION BOULEVARD VEXIN



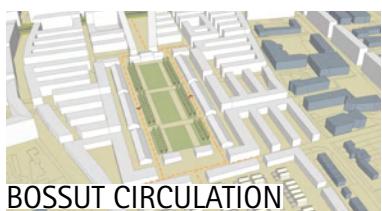
EXISTING SITE PLAN



PROPOSED SITE PLAN



SLAB CIRCULATION



BOSSUT CIRCULATION



PROPOSED LAND USE & MASSING
QUARTIER BOSSUT SITE



EXISTING FOOTPRINTS



PROPOSED FOOTPRINTS



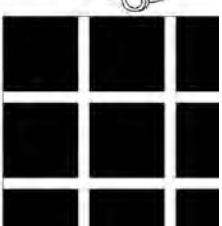
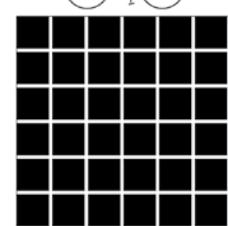
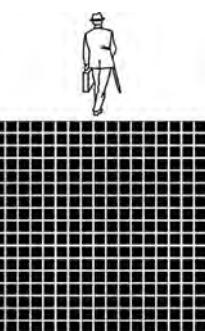
RENDERING BOULEVARD VEXIN



RENDERING QUARTIER BOSSUT

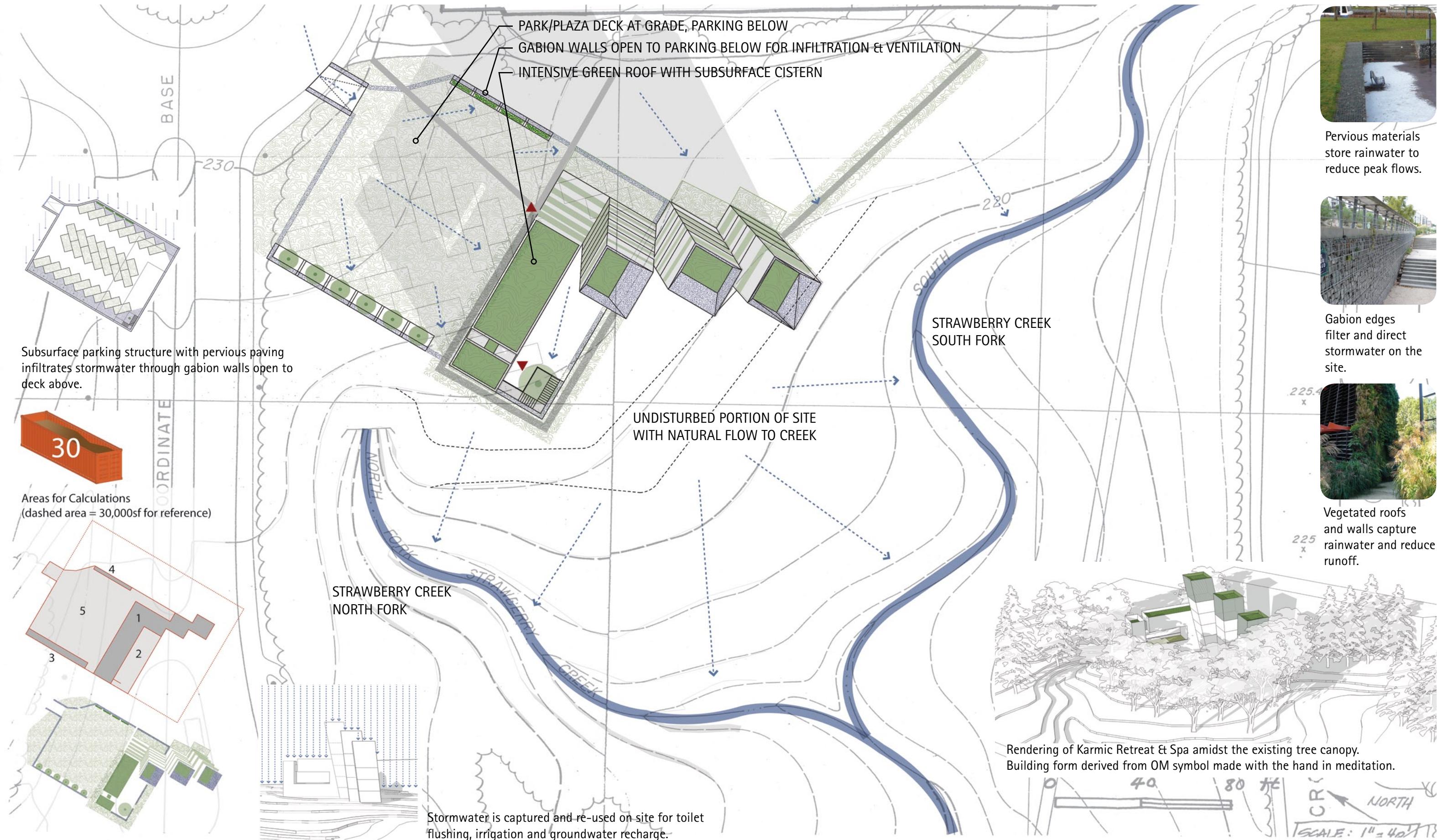


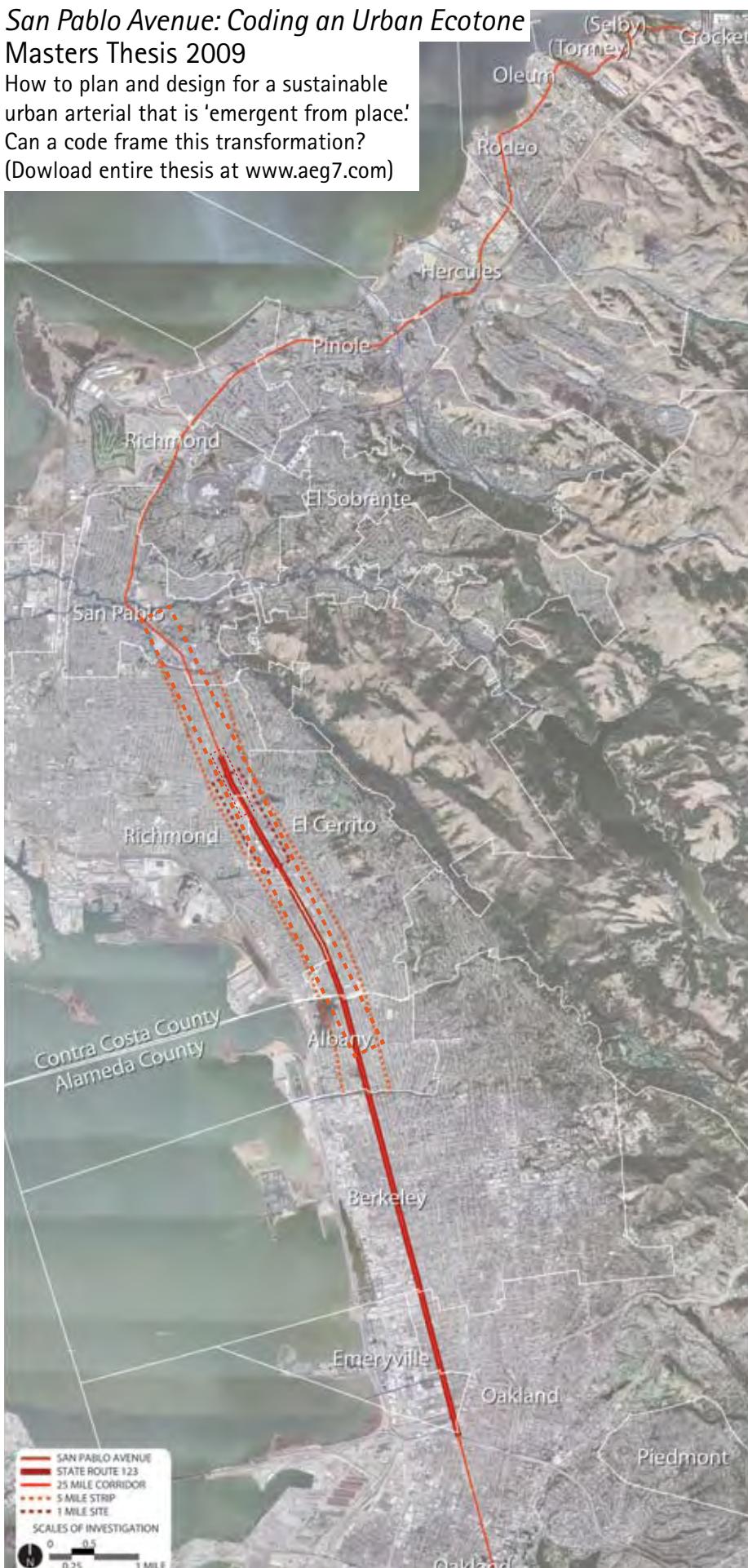
RENDERING QUARTIER BOSSUT



LA222 Hydrology for Planners Spring 2009 Exercise 4: Karmic Retreat & Spa for Faculty & Staff at UC Berkeley

The assignment required retention and treatment of all stormwater runoff on-site. Albeit a kitsch, po-mo building form (a flippant 5-minute design,) the site performs significant infrastructure feats while minimizing site impacts.

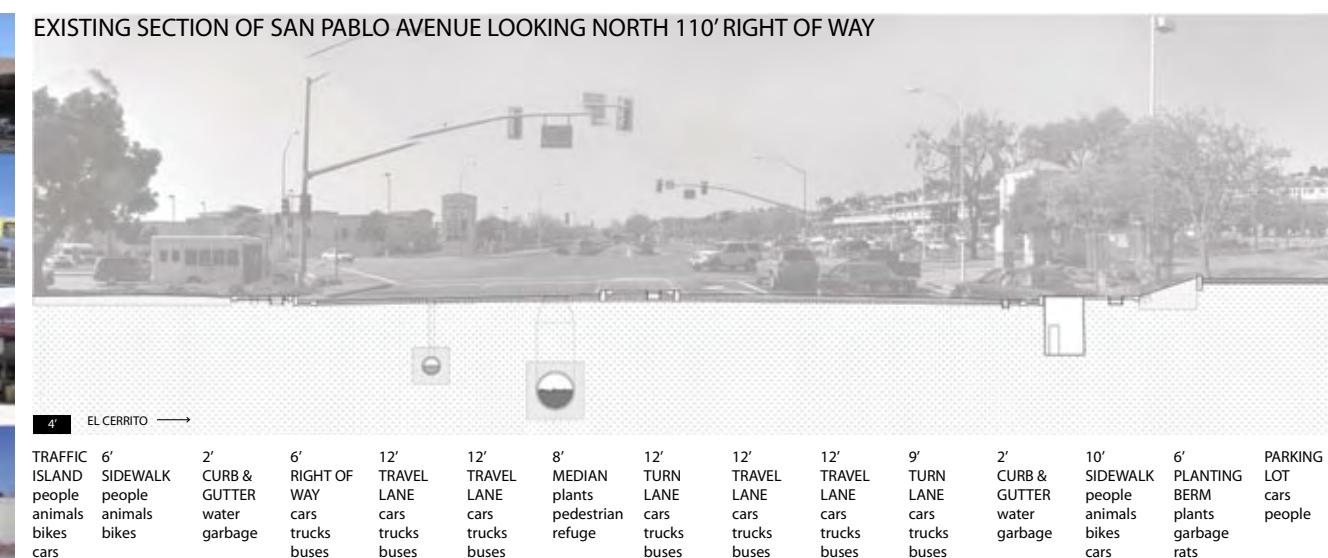
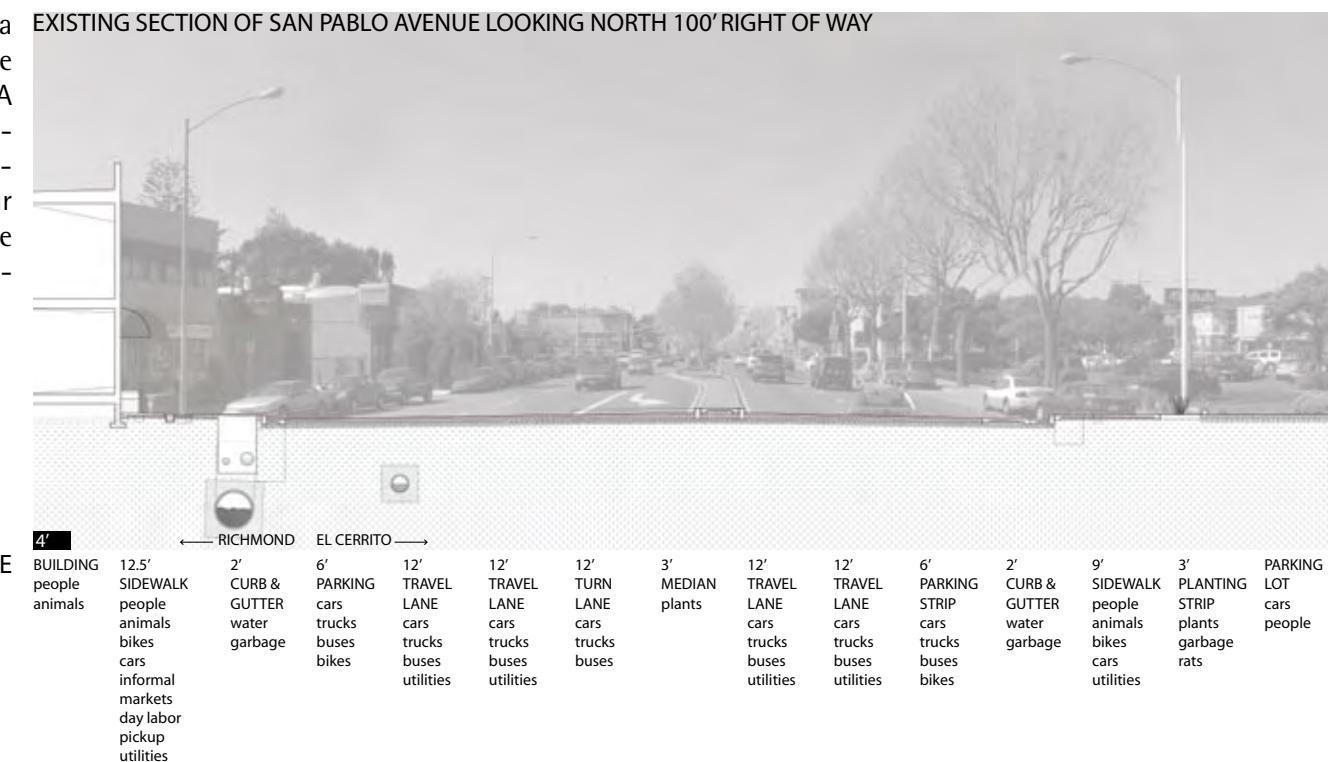
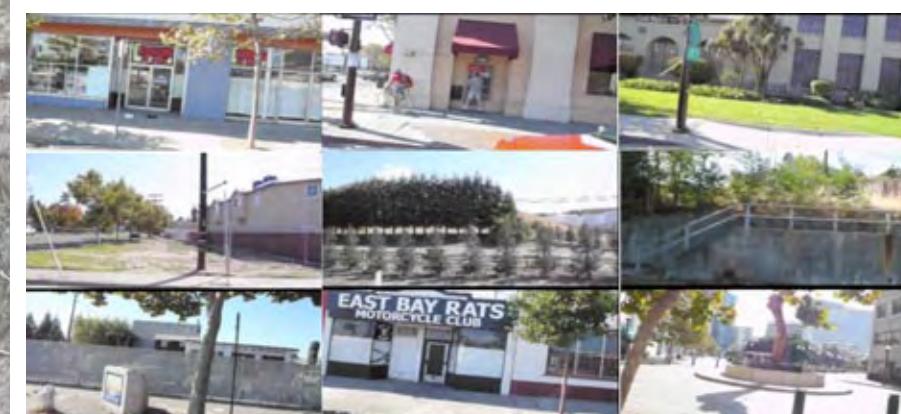




Urban arterials, the oft-neglected spaces of cities where there is a convergence of a multitude of land uses and vast systems of infrastructure and mobility, can become significant sites of sustainable transformation. A hybrid form/performance-based code can negotiate these complex, multi-jurisdictional spaces towards an ecologically-, equitably- and economically-balanced future. A significant portion of the transformation can occur through a reconsideration of infrastructure that is located within the space of the corridor by taking single-use systems and retooling them for multi-functional benefits (Gaffney 2009, 3).



VIDEO STILLS FROM 'DRIVING SAN PABLO AVENUE'



AUTO-DOMINANT STREET (EXISTING CONDITION)



MULTI-MODAL STREET (PROPOSED CONDITION)

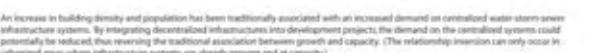
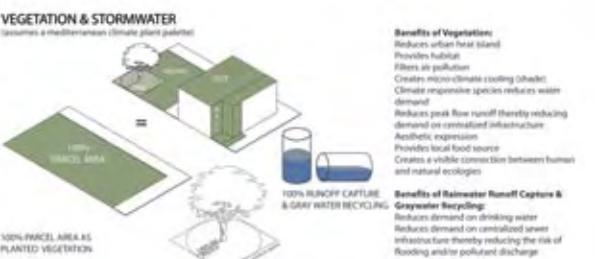
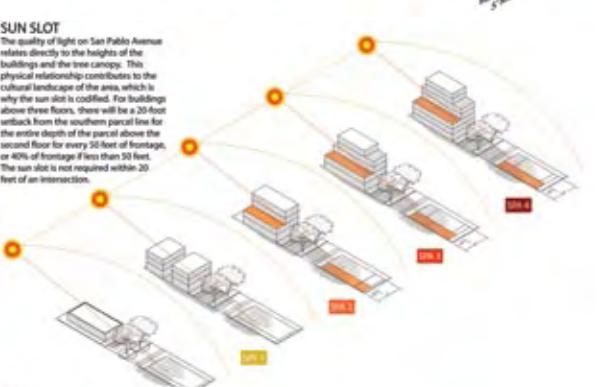
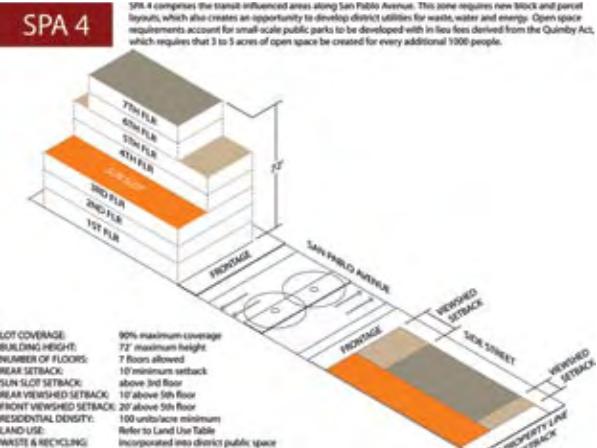
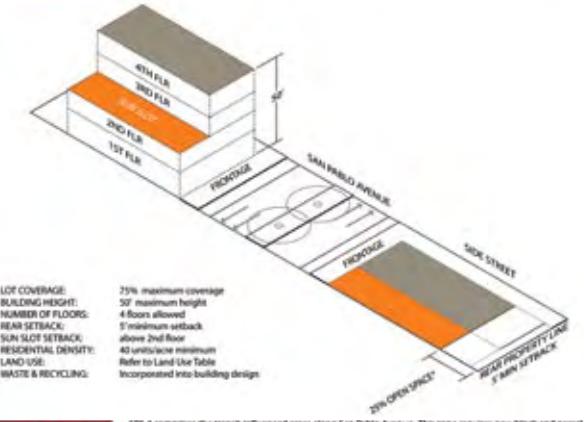
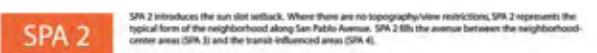
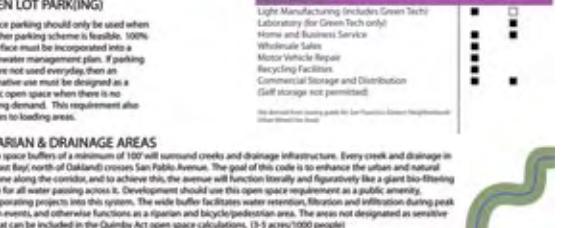
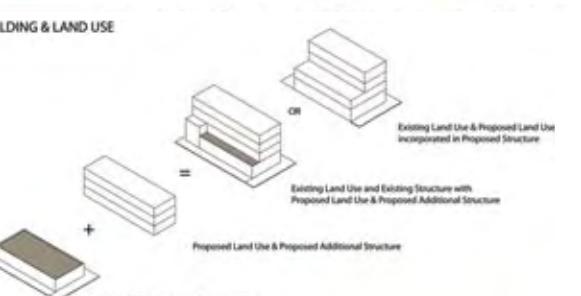
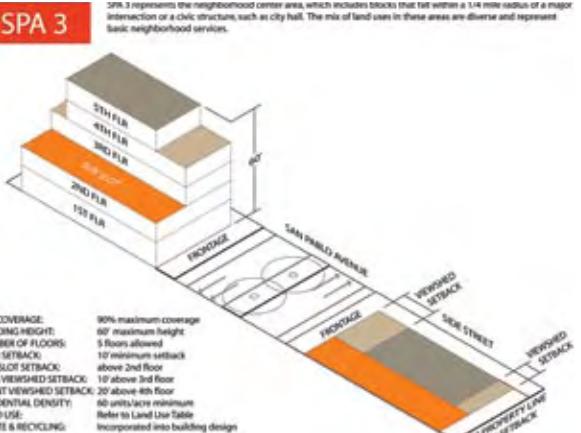
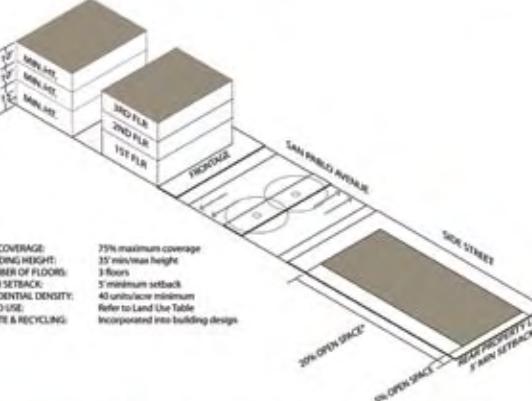
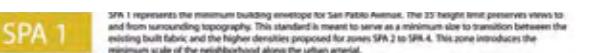
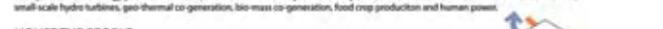
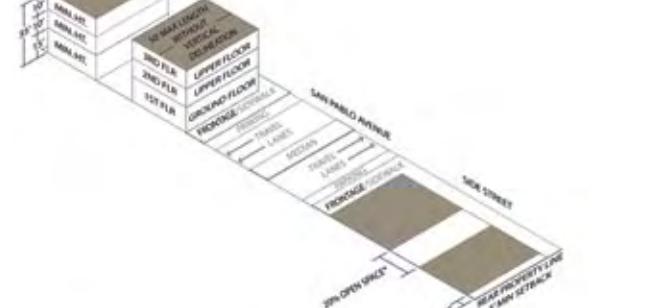
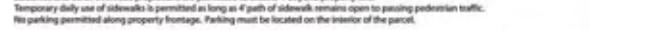
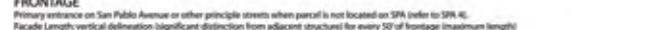
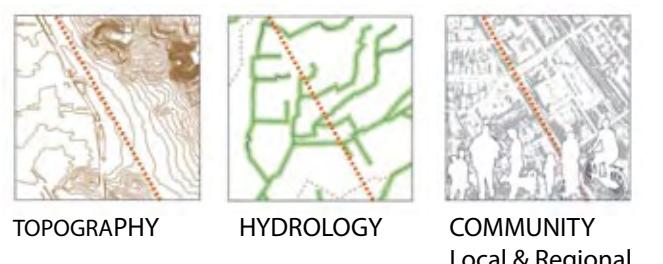


San Pablo Avenue: Coding an Urban Ecotone
Masters Thesis 2009



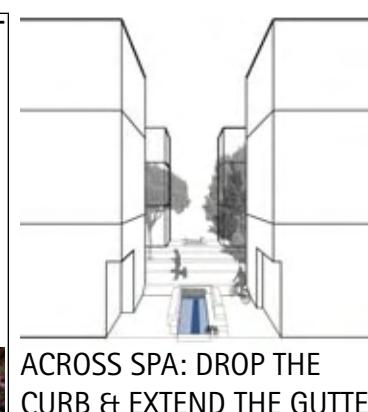
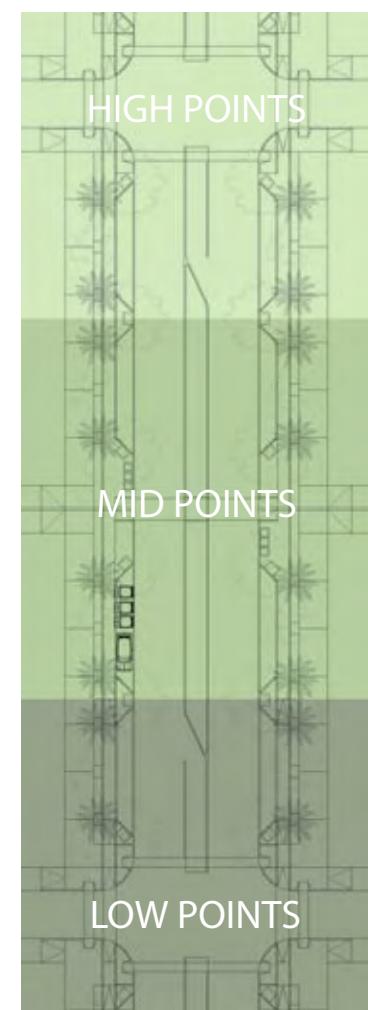
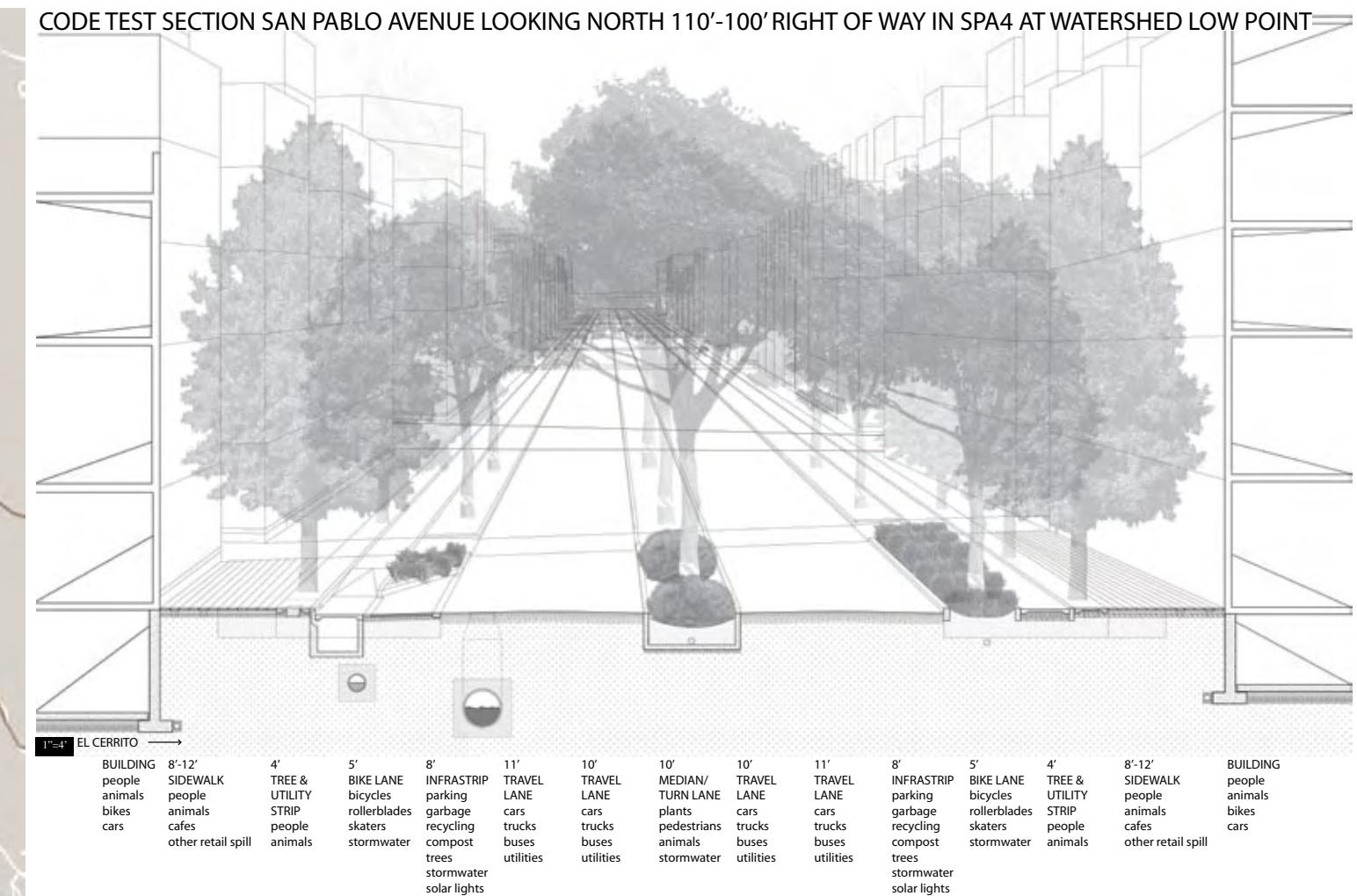
THE DEVELOPMENT CODE

This masters thesis formulates and tests the Urban Ecotone Code on San Pablo Avenue, a 25-mile urban arterial in the San Francisco Bay Area. The code incorporates both the public and private realms of the corridor, and employs local and regional topography, hydrology and community for its fundamental framework. After significant analysis, I designed a code for a representative 5-mile section of the avenue. Within this section, nine design professionals tested the code on a variety of sites which were then used to refine the code. I produced a tenth code test design for a transit district to represent SPA4, the most intensive development typology assigned to the corridor.

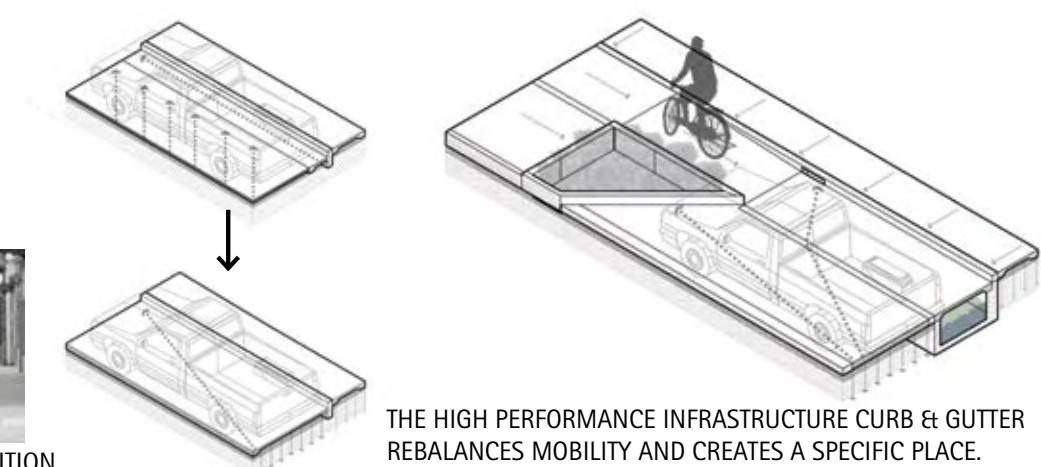
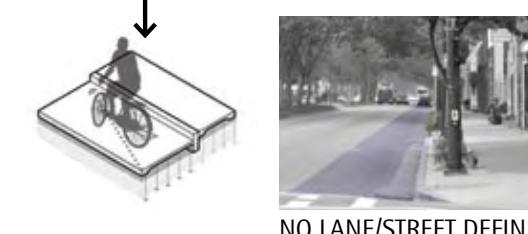


San Pablo Avenue: Coding an Urban Ecotone

Masters Thesis 2009



THE CURB & GUTTER
A mono-functional, standardised infrastructure used to convey stormwater away from the driving surface as fast as possible.



San Pablo Avenue: Coding an Urban Ecotone

Masters Thesis 2009

JORNALERO PARK/
DAY LABOR PICK UP AREA
(FLOOD CONTROL PARK)

BAXTER CREEK GREENWAY

HOME DEPOT
WITH HOUSING ABOVE
(BROWNFIELD SITE)

OHLONE GREENWAY
EXTENSION PARKS

INTERSTATE AIR FILTER
TERRACES & GREENWAY
STORMWATER FILTER PARK

HONDA DEALERSHIP
WITH HOUSING ABOVE

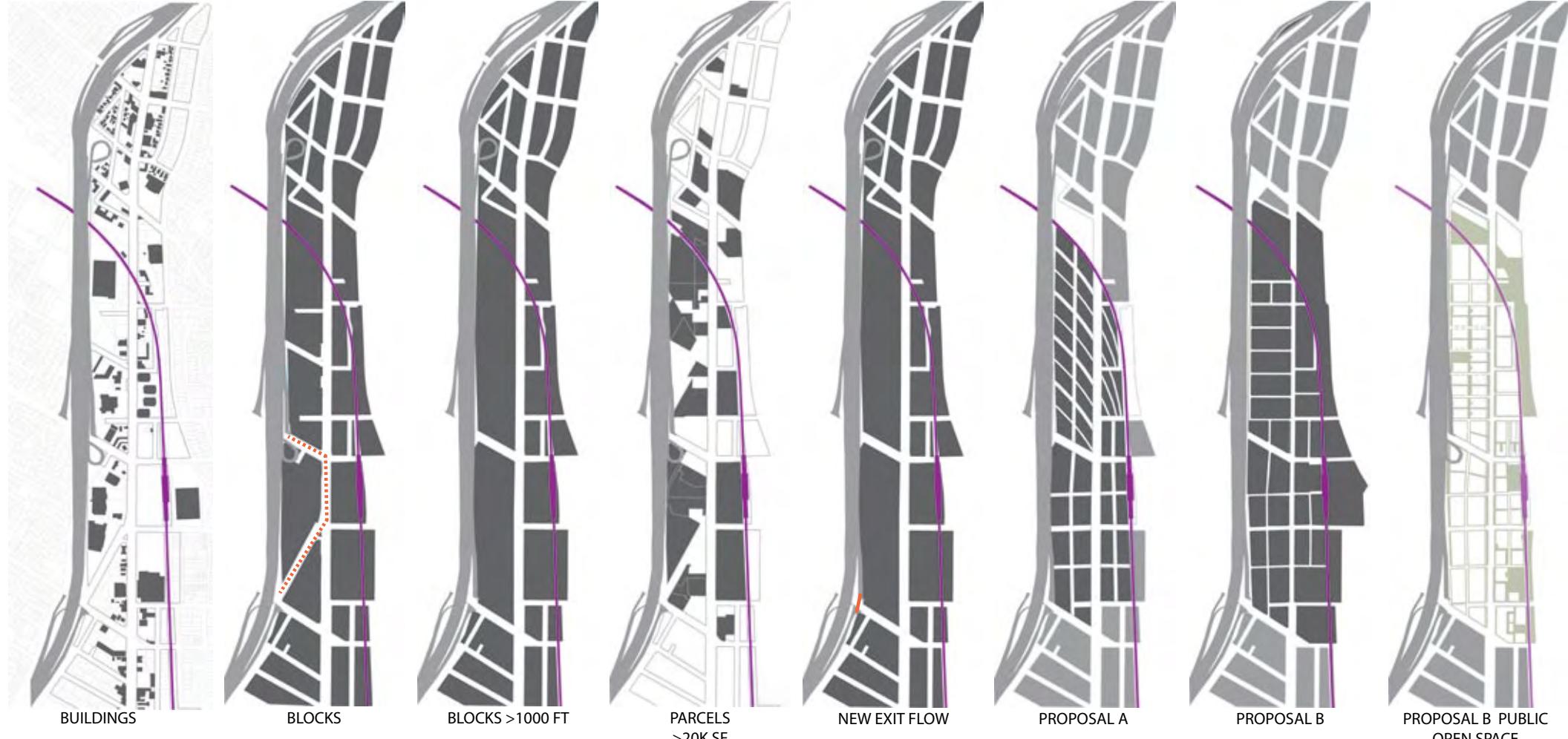
BUS TERMINAL PARK

EL CERRITO DEL NORTE
BART STATION

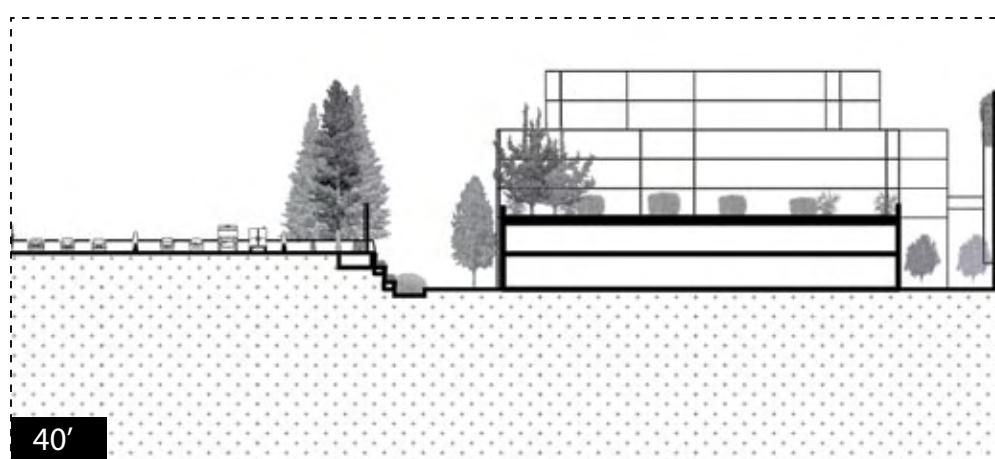
TARGET STORE
WITH HOUSING ABOVE

RELOCATED INTERSTATE
I-80 EXIT

SPA 4 CODE TEST #10
TRANSIT CENTER &
MIXED USE NEIGHBORHOOD
(24 hour code test)



CODE TEST ANALYSIS



CROSS SECTION OF DISTRICT

