



Reconstructing Property, Borders, and Sites: Nestling the Built

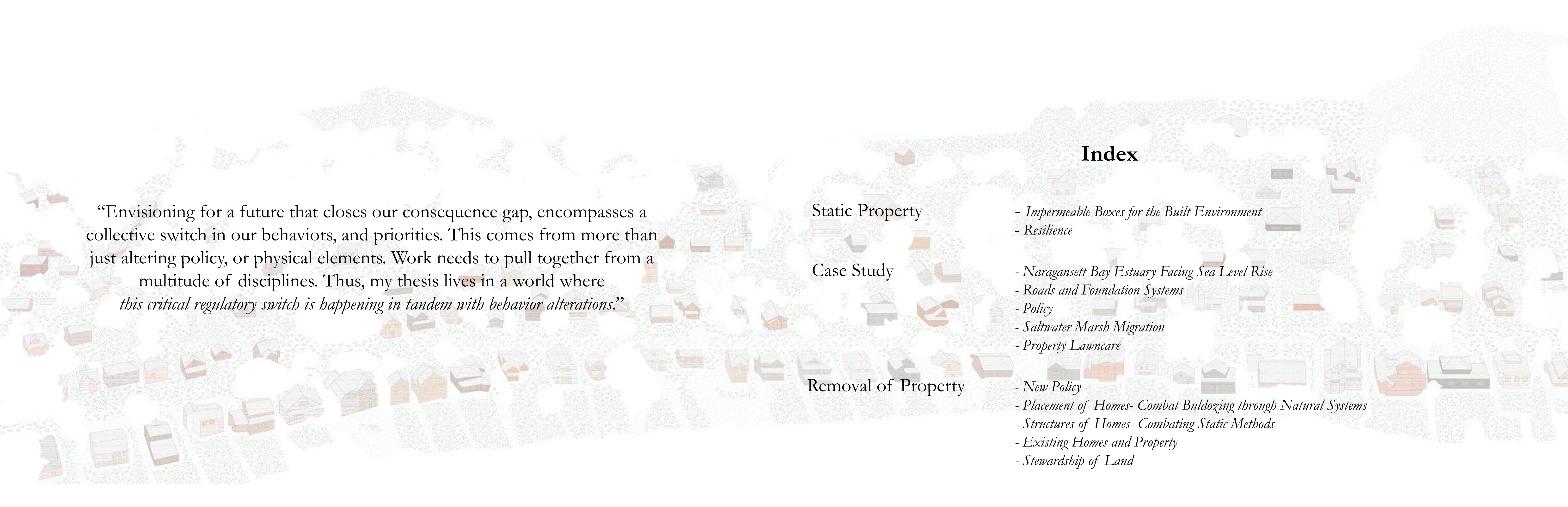
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“Envisioning for a future that closes our consequence gap, encompasses a collective switch in our behaviors, and priorities. This comes from more than just altering policy, or physical elements. Work needs to pull together from a multitude of disciplines. Thus, my thesis lives in a world where *this critical regulatory switch is happening in tandem with behavior alterations.*”

Static Property

- *Impermeable Boxes for the Built Environment*
- *Resilience*

Case Study

- *Naragansett Bay Estuary Facing Sea Level Rise*
- *Roads and Foundation Systems*
- *Policy*
- *Saltwater Marsh Migration*
- *Property Lawncare*

Removal of Property

- *New Policy*
- *Placement of Homes- Combat Bulldozing through Natural Systems*
- *Structures of Homes- Combating Static Methods*
- *Existing Homes and Property*
- *Stewardship of Land*

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Designing for
Denial: Private
Property on
Dauphin Island.
Maggie Tsang &
Isaac Stein



Figure 1. Dauphin Island
West Surf Beach Division at
1997 and 2014.

1. Static Property

Impermeable Boxes for the Built Environment

Individually owned property is prioritized and perpetuated in our capitalist economic system. Its current and past operations are problematic when facing pressing issues of our changing climate. I have studied what opportunities exist to deprioritize owned property within our current system, to allow for a dispersal of stewardship, and acknowledgment of natural systems.

New England
Hurricane 1938



Figure 2. Boston Public
Library, Leslie Jones
Collection

Resilience

The built environment is built for resilience, curated to have prominence over natural systems, measuring the magnitude and disturbance a system can tolerate and still persist. It is formulated to withstand, and rebuilt to withstand, once ruined, curating *static* building methods. The power of the biosphere is subverted, and building to protect *against* nature undermines opportunities within natural systems to protect us.

Sea Level Rise
1 foot, 3 feet, 5
feet.



Figure 3. Christina Truitt

2. Case Study

Naragansett Bay Estuary Facing Sea Level Rise

Sea level rises are expected to be between 3-5 feet by 2100, while the bay has already seen 6 inches rise since 1930. All elements of the built environment, including roads, bridges, homes and buildings are threatened.

This instability of land suggests a necessity for flexibility in the built environment and policies surrounding it. A dynamic of evolving shorelines, land and animal migration patterns, and topography opens doors for alternative methods of relating the built environment, to its “sites.”



Roads and Foundation Systems

Paved roads and foundations bulldoze right over plant and animal paths and movement, splitting ecosystems, centering the organization of human movement for speed and ease.

Because of property lines, interaction with natural systems within that boundary, and outside of, can be different.

We alter groundcover and air quality, with invisible property lines acting as a barrier from what is outside of it.

As high levels of erosion occurs, key soil nutrients can be stripped from heavy runoff, altering the biodiversity of the soil.

As well as, due to heavier rainfall, water retention in soil has an adverse effect, decreasing the amount of water it can retain.

Flooding and soil alteration puts access roads, local roads, and foundation systems at risk.

Damage



Figure 5 & 6.
Christina Truwit

Built Structure
Setback.



Figure 7. Christina Truwit

Policy

To develop along shoreline property, the Coastal Resources Management Council has jurisdiction of all features within a 200 foot contiguous area of the shore. However, once plots of land have been purchased and permits have been approved, the restrictions to govern what happens on that land, is now curated by each individual owner of the land.

Currently, building setbacks for areas with rip-rap barriers is a minimum of 50, but you'll see some are much less due to age of existence. and with areas of erosion, they are determined using the annual rates of change times 30. Thus, setbacks only account for max. 30 years of planning. With the average home in Narragansett bay built more than 20 years ago, most of these shoreline

homes are in high risk zones. As the current organization of property forces building methods that are not easily moveable, those that are stuck in these zones, will obtain excessive flooding or shoreline erosion. They can pay to alter their homes to become more resilient against flooding, yet that form of resilience only works for a set number of years.

Saltwater Marsh



Saltwater Marsh Migration

With building so close to the shore, and not being cognizant of natural systems, our homes are at more risk than they could be.

Saltwater marshes, coastal wetlands, are intertidal habitats that are essential for protecting shorelines from erosion, and reducing flooding.

The arrangement of these marshes relies on plant migration to respect natural erosion patterns of the shore. Each layer of plant life is arranged in a stratified manner so

the plants closer to the water can absorb more salinity. As sea level rises, space and flexibility for the movement of these plants backwards is necessary to utilize

this natural barrier for erosion and nutrient filtration.

A food desert
for a bee.



Figure 10. Christina Truweit

Property Lawncare

With ownership of the land, and not just the built, individuals have jurisdiction over their landscape aesthetics. Lawn care has been perpetuated through cultures of wealth, parading well trimmed greenery as a luxury because one could afford the maintenance. The selling point of maintained full grass lawns was durability, and attractiveness.

Publicity through the American Garden Club, convinced homeowners around the 1880s that it was their civic duty to maintain a green “healthy” lawn. With very few environmental understandings backing this fad, it is unfortunate to find out that in fact,

A green lawn with no wildflowers or weeds is a food desert for a bee.

Green lawncare is tied explicitly to property ownership, and encourages *individual stewardship* in areas that were naturally structured to symbiotically interact with a larger network of systems.

Subverting
Prominence



Figure 11. Christina Truwit

3. Removal of Property

New Policy

What would this coastal land look like if we removed the opportunity to own property, and an individual or communal ownership revolved exclusively around features of the built.

How would building methods be altered both structurally and aesthetically?

Currently properties that are prioritized in government buyouts of land are ones that are *already* within high floodzones. So to do this for homes that are *going* to be affected, we must change policy. For voluntary owners, land could be bought back to return it to open space, wetlands, etc. However, this would include an option of resettling elsewhere, more inland, or being included in the restructuring process.

Nestle



Figure 12. Christina Truwit

Placement of Homes- Combat Bulldozing Through Natural Systems

Synthesizing, key elements for moving forward, to combat the issues previously noted, includes building methods that can be *moved or altered* easily, and structures that are *not reliant on soil structure, nor tied to a specific plot of land*. To start, organization of where to build could be strictly based off spaces *between* natural systems, instead of cutting into topography, altering waterflow, and migration paths, nestle building spots, so as not to disturb healthy interactions.

Size of the built can be determined by these found nestle spots. To not exclusivise coastal communities to just communal or just individual, the mode of domesticity could be based off the surrounding elements.

Continuous
Modularity



Structures of Homes- Combating Static Methods

To build for flexibility instead of resilience *against* natural systems, opens doors for structures that can be moved or altered when migratory or growth patterns

change and need more room , or when disaster strikes. Not owning the land *underneath*, enforces building methods that aren't tied to a particular spot.

This aids in issues of foundation structure with soil alteration overtime, as well as allows for movement between nestle spots.

To create structures not tied to the ground, I looked at pre-existing methods in nature that could be employed. Arrangement of topography utilizes a stacking

method to create strength, and curvature and slope interact with windloads to snake along curves, and redirect, rather than creating strength to deflect against.

When mixing this with intentions for movement and rearrangement, modular components can be organized with slope and stacking around a core to fulfill these needs.

Figure 13.
Christina Truwit

Mix & Prepare



Figure 14. Christina Truweit

Existing Homes and Property

For homeowners that are not voluntarily open to the buyout. I propose another alteration in policy, within insurance that enforces homes not only within high floodzone areas, but also with in areas that will be affected in any way by sea level rise, such as soil alteration, plant migration, or future flooding etc. To begin altering their homes for these events, with the proposed new building methods, so overtime homes will be able to transform into this more flexible opportunity, without wasting materials.

Coupling the Science of Knowing with the Science of Caring.



Stewardship of Land

The removal of ownership of land questions *who* stewardship of land is transferred to. By nestling between features, there's space for native plants and wildflowers to grow, those are

already maintained by natural systems. Saltwater marshes can be planted along the shoreline and when sea level rise starts affecting migration of these marshes, homes can be relocated to

allow for this movement. Monitoring of land systems could still fall under jurisdiction of engaged groups today, such as Save the Bay, CRMC, Audobon Society.

With new policy structuring where a home can be placed, residents are forced to learn, respect, and care for the surrounding environment to continue to place

their built structure in its current position. Homes that are degrading or interfering with natural systems must be moved.

Figure 15. Christina Truweit





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