Backyard Homes

Rethinking California’s Single Family Landscape
City of LA Single-Family Lots (based on zoning)

Legend
- Neighborhood Council Boundaries
- Single Family Lots
- City of Los Angeles
Skins may be digitally printed with graphics or reflective coatings to improve thermal performance.
Textile Envelope

Storefront Infill

Aluminum Frame

Composite Aluminum Deck

Helical Piles, 4’ O.C.

The frame is nested into a collapsed configuration for shipment

The frame expands once it reaches the backyard

Negative Pressure Facade Prototype, Werner Sobek

Aluminum Frame CNC Bent to Shape, stretch formed and heat treated

Bellcomb Flooring System

Floor CNC Cut to Fit

System Axonometric
**Life Cycle**

### Methods and Principles
- Material-Intensive Construction
- Foundations Damage Site
- Waste Material Largely Unmanaged
- Materials Sourced Globally and Shipped Individually
- Material Assemblies Permanently Bonded Together
- Material Becomes Landfill

### Methods and Principles
- Minimize Weight / Material
- Eliminate Permanent Foundations
- Minimize Waste
- Source and Ship Intelligently
- Assemble to Disassemble
- Recyclable / Reusable Materials

---

### Environmental Impact Category

<table>
<thead>
<tr>
<th>Impact Category</th>
<th>Typical Home (37m²)</th>
<th>Backyard Squeeze (37m²)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carcinogens (kg B(a)P)</td>
<td>0.45</td>
<td>0.13</td>
</tr>
<tr>
<td>Ozone (kg CFC11)</td>
<td>0.9</td>
<td>0.05</td>
</tr>
<tr>
<td>Heavy Metals (kg Pb)</td>
<td>46</td>
<td>0.7</td>
</tr>
<tr>
<td>Eutrophication (kg PO₄)</td>
<td>2,870</td>
<td>22</td>
</tr>
<tr>
<td>Summer Smog (kg C₂H₄)</td>
<td>2,281</td>
<td>35</td>
</tr>
<tr>
<td>Acidification (kg SO₂)</td>
<td>20,709</td>
<td>511</td>
</tr>
<tr>
<td>Winter Smog (kg SPM)</td>
<td>10,605</td>
<td>500</td>
</tr>
<tr>
<td>Energy Resources (Mj LHV)</td>
<td>156,398,338</td>
<td>1,757,326</td>
</tr>
</tbody>
</table>

*Source: Stanford University Preliminary Life Cycle Assessment*