In a business consisting of a boom and bust cycle, the oil industry is bringing rural North Dakota communities both fortune and burden. With a new population of migrant workers rushing to the area in search of employment, providing housing becomes a challenging objective. In an effort to survive the ‘bust’, it is imperative that a community does not over develop its infrastructure and housing. A temporary infrastructure provides a vital insurance to the community allowing it to develop at a rate which can be sustained into the future.

Can a housing system be designed to cope with the mass housing demand of an oil boom in rural North Dakota and be maintained or removed with the boom subsides?
Operable exterior solar shades on the south and east facades help regulate solar heat gains and also act as a light shelf bouncing light into the spaces.

Adjustable footings allow flexibility and adaptation to any terrain.

Transome windows on the north and west facades of the house bring natural light into the living and kitchen spaces.

Photovoltaic panels and solar thermal panels provide all the electricity and hot water consumed by the residence.

A raised floor system houses electrical, plumbing and HVAC components.

Structurally insulated panels with aerogel provide an R-value per inch of 40-50.

The Portable Living Unit arrives on site equipped with all essential living components to support one or two people. Sleeping for two, a kitchen and full bathroom provide a comfortable short-term living environment. A second delivery consists of all necessary components to expand the living environment into a family accommodating home.

The components are flat-pack delivered for efficient transportation, also via truck or rail.
The chosen site is located in Stanley, North Dakota, at the epicenter of an oil boom. Located just inside the city limits, the site is in close proximity to the railroad tracks, providing an efficient option for transportation of Boom Abodes. The design of the housing units is driven by climatic influences and sustainable strategies. The flexible and adaptive nature of the project makes it applicable in a variety of contexts including workforce housing, military camps, and disaster relief.

Incorporated in the community design are retail and dining conveniences, a day care facility, a maintenance shop, bus stops, and a variety of parks and recreation spaces. Solar powered street lights in the form of trees bring an artificial nature into the community.

Proposed Site Layout

The combination of modular and prefabricated construction methods reduces material and labor inputs, providing an option for construction in remote areas. The combination of modular and prefabricated construction methods also reduces the need for additional materials and labor inputs, providing an option for construction in remote areas. The combination of modular and prefabricated construction methods also reduces the need for additional materials and labor inputs, providing an option for construction in remote areas.

Structural Insulated Panels

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Plumbing System

To allow for complete removal of the community development in the future, an above ground infrastructure was designed to meet plumbing and wastewater treatment needs. An insulated utilidor is utilized for transferring of freshwater and wastewater throughout the community. Each unit is also integrated with a rainwater harvesting system, composting toilets, and efficient appliances. The community also uses biofilter units with wetland planting systems.