

Novato Senior Housing

entrant no. 150

Concept

The units in this Senior Housing project cascade down Bahia Dr. like a wave breaking towards the bay. Roof slopes, material selection and open plans contribute to the nautical feeling associated with the development.

Density, the heart of sustainable cities, is achieved by concentrating all residential development along Bahia Dr. The Misty Rd. parcel will be maintained as a buffer between neighboring houses, with a small portion facing the cul-de-sac used as a transit hub and farmer's market. Residents can generate extra income by growing produce in their shared gardens and selling it on a weekly basis.

The majority of the components are pre-manufactured and pre-finished to reduce construction waste, erection time and off-gassing. Exterior finish materials will be locally reclaimed lumber and durable plaster. Costs will be reduced by the modular design of the plans.

Electric

Efficiency has been optimized to reduce energy consumption. A small 7kW/HV PV array will power the 1-Bedroom and Studio units. The 2-Bedroom plans with in-law units will require 10kW/HV systems. The PV inverter and electric panel are enclosed in the service closet beneath the stairway to the roof deck.

Lights will use 15 fluorescent lamps in public zones and CFL luminaires in private areas. All lights will be combined with occupant and daylight sensors to maximize efficiency and increase safety for the residents.

HVAC

Passive solar design will eliminate the need for active heating or cooling most of the year. Automated clerestory windows and operable glazing on the north and south elevations will induce natural ventilation and utilize the cooling tower effect to expel hot air.

When windows are closed, the buildings rely upon a Heat Recovery Ventilator in conjunction with a ground source heat pump. This ultra-efficient system, combined with a well insulated shell, 1" low-E glazing, and careful solar alignment, will allow the development to achieve "Net-Zero" status and provide healthy indoor air.

Structure

Structurally Insulated Panels will be used for all wall structures. These 6" thick, R25 panels eliminate thermal bridging and reduce construction time and waste due to pre-manufactured assembly in a factory.

The roof structure will consist of FSC-certified wood framing harvested from CA forests.

Floor slabs will be 4" thick "Ekocrete" concrete manufactured in CA, poured over 1.5 mil Stago Wrap and 4" of gravel with 12" wide x 18" deep footings.

Water

A rainwater catchment system will supply all of the water for landscaping, laundry and toilet fixtures. Rainwater Hogs, manufactured in CA, will be used for water storage in the exterior closet that also contains the on-demand water heater.

Stormwater runoff levels post-development will not exceed pre-development levels through the use of permeable paving and on-site infiltration with the shared gardens and living roofs.

Unit Summary

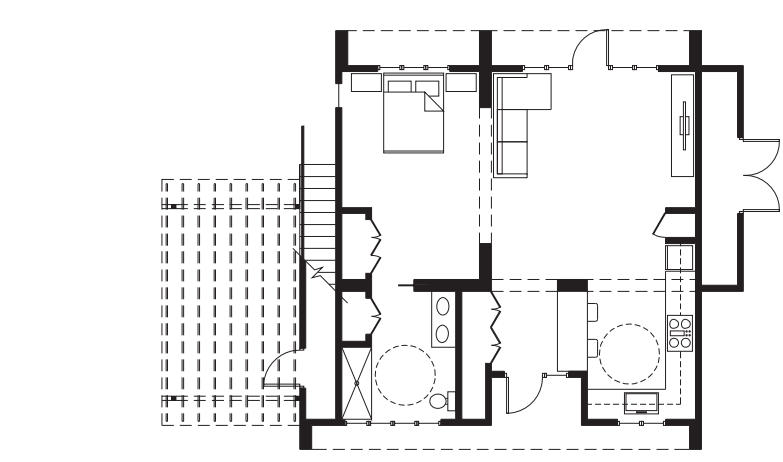
- (10) 1,000sf 1-Bedroom Units - (6) to be affordable
- (4) 1,000sf Studios - all affordable
- (4) 1,250sf 2-Bedroom Units with 700sf In-law Studios
- (18) Total Units with 51,800sf**
- (21) Covered Parking Spaces
- (8) Un-Covered Parking Spaces
- (29) Total Parking Spaces**

Cost Estimate

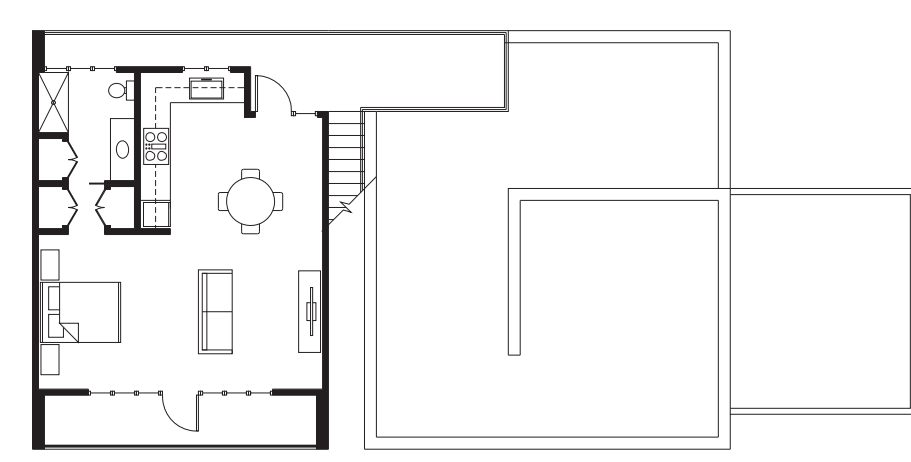
Building Costs (51,800sf x \$150/sf)	7,770,000
Green Strategies (10% Increase)	777,000
Site Cost (allowance for DD)	7,000,000
Total Construction Cost	\$15,547,000

LEED

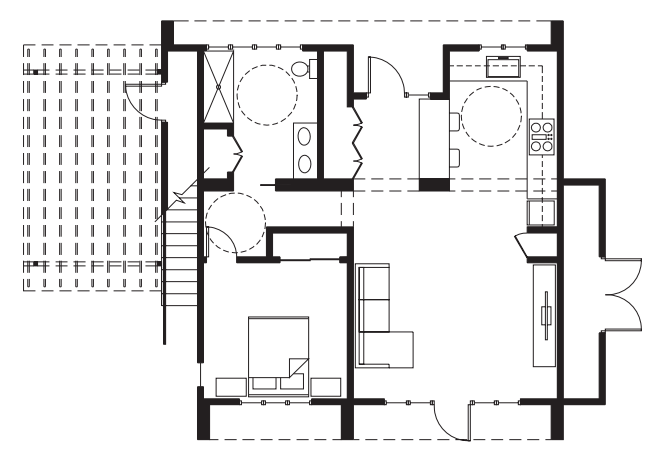
- NC v2.2
- Site Selection (1)
- Alternative Transportation (1)
- Site Development (2)
- Stormwater Design (2)
- Heat Island Effect - Roof (2)
- Light Pollution Reduction (1)
- Water Efficient Landscaping (2)
- Innovative Wastewater Technologies (1)
- Water Use Reduction (2)
- Optimize Energy Performance (10)
- On-Site Renewable Energy (3)
- Enhanced Commissioning (1)
- Measurement & Verification (1)
- Enhanced Refrigerant Management (1)
- Construction Waste Management (2)
- Materials Reuse (1)
- Recycled Content (2)
- Regional Materials (2)
- Rapidly Renewable Materials (1)
- Certified Wood (1)
- Outdoor Air Delivery Monitoring (1)
- Increased Ventilation (1)
- Construction Indoor Air Quality (2)
- Low-Emitting Materials (4)
- Contractability of Systems (2)
- Thermal Comfort (2)
- Daylight & Views (2)
- Innovation (4)
- LEED AP (1)
- Platinum - (57) Total Points**



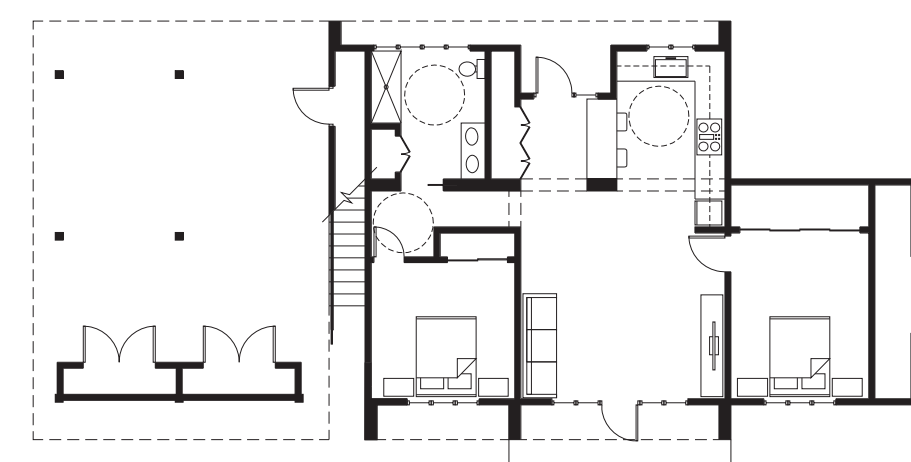
Studio Floor Plan (1,000sf) 1/16"=1'-0"



In-Law 2nd Floor (700sf) 1/16"=1'-0"



1-Bed Floor Plan (1,000sf) 1/16"=1'-0"



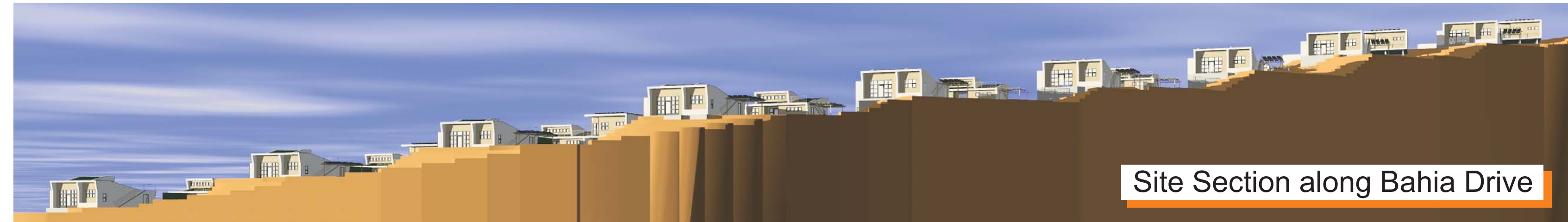
2-Bed 1st Floor (1,250sf) 1/16"=1'-0"



1-Bed & Studio Perspectives



2-Bed w/ In-Law Perspectives



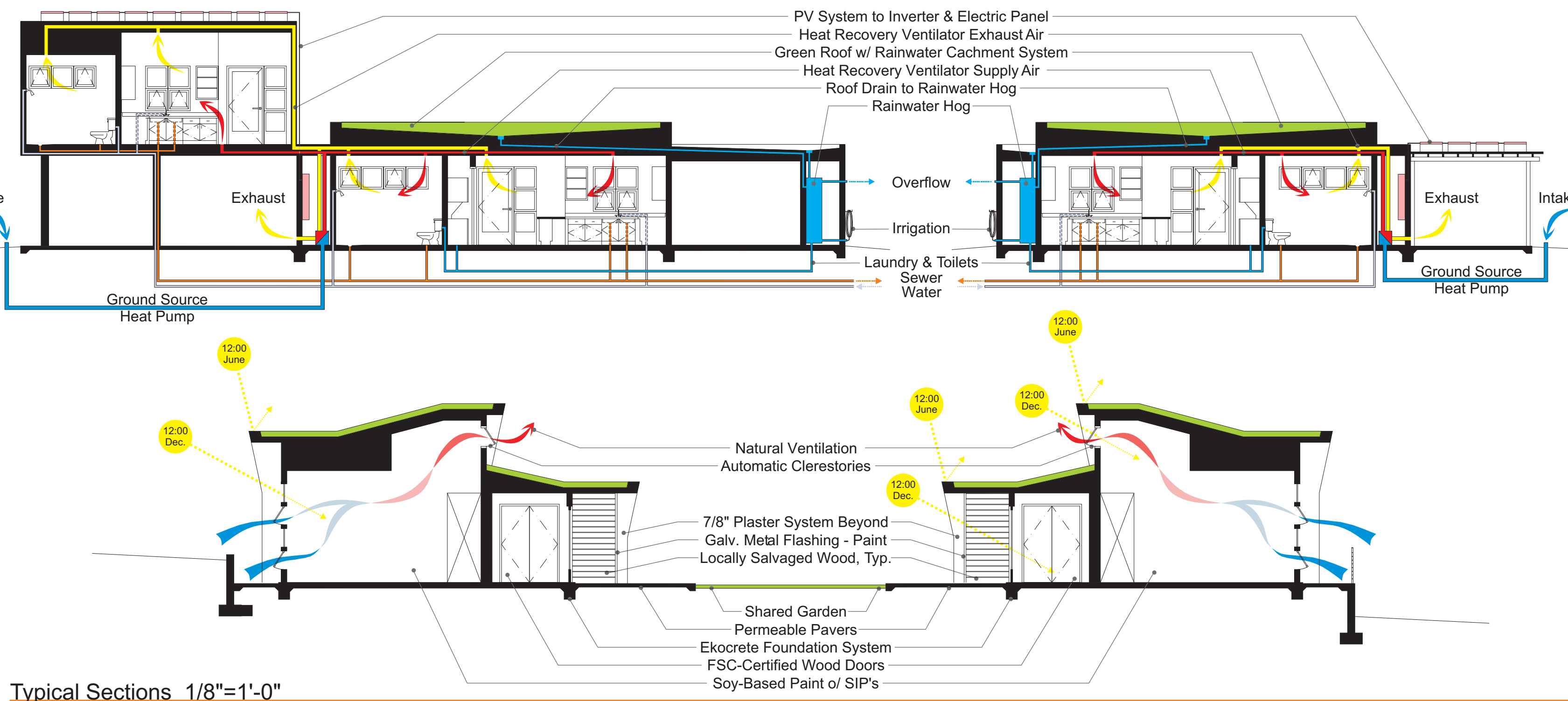
Site Section along Bahia Drive



Site Plan 1"=50'



South Elevation



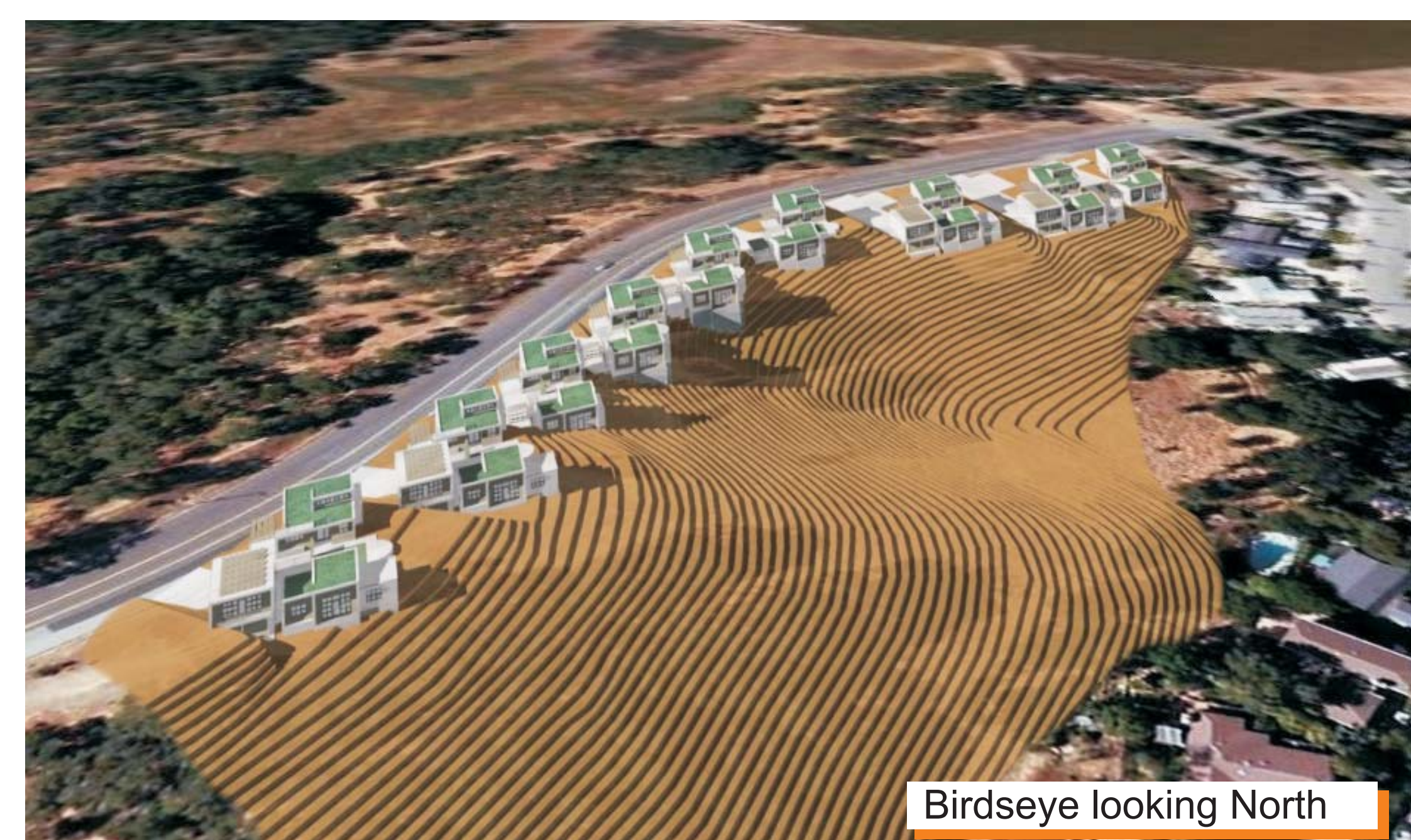
Typical Sections 1/8"=1'-0"



Community Master Plan



Perspective to Bahia Dr.



Birdseye looking North



Perspective from Bahia Dr.



Birdseye looking SW