

Design approach

The unique habitat, specific micro-climate, site characteristics and the stage in the development of the region and specific neighborhood made it clear that what Bahia called for was not a "new development" but a careful infill - the repair of some scars in the landscape and the integration of a few additional elements that would complete the distinct character of this community.



One generation plants the trees; another gets the shade.

Misty Grove - Oak Woodland Restoration and Learning Center

Misty Grove (Parcel B) will remain entirely free of built development and instead become a park-like site where practices of land restoration and management can be observed and maintained.



- Bahia Woodland Features: 1 Oak Woodland Restoration, 2 Learning path/trail, 3 Shuttle stops, 4 Amphitheater, 5 Homes, 6 Water harvesting, 7 Solar Array, 8 Private Gardens, 9 Community Spaces, 10 Local Agriculture, 11 Food Forest, 12 Pocket Parks, 13 Cafe / Store

Food Forest and Local Agriculture: Bahia Terrace (Parcel A) is designed with several areas of food production. A multiplexed food forest simulates the stacked levels of a healthy native oak woodland with an assortment of edibles and other use plants...

To achieve this, cooperation with the County Open Space District (which manages adjacent Bush Creek Preserves), local environmental groups, a Registered Professional Forester and local, state and federal agencies will ensure restoration and management plan that combines the highest level of expertise and available public funding.

The Learning Path: The best practices are exhibited along a "learning path" that meanders uphill from the end of Misty Road through various phases and examples of land restoration.

The Amphitheater: The base and starting point for this path is a sunken amphitheater that serves a number of functions as a gathering space for the Bahia community...

The Learning Path could be extended through the intact oak grove on the parcel adjacent to the west - since this undisturbed landscape already demonstrates the desired final stage of the restoration effort...

Misty Grove Site Section: A small stone where residents can pick up a quart of milk. Sunday morning rolls, or some laundry detergent without having to go into their car.



A Garden Village

To ensure the continued success of Bahia as an enjoyable, safe and sustainable community, our design proposes to provide the following amenities:

The Bahia Store: A small store where residents can pick up a quart of milk. Sunday morning rolls, or some laundry detergent without having to go into their car. The Terrace Cafe: A gathering place for related afternoon tea, to grab a cup of coffee on your way into town, or into your neighbors for a chat, exchange news, and enjoy the company of others.

KEY ELEMENTS OF A GARDEN VILLAGE

SECURITY - BOUNDARIES AND APPROPRIATE SCALE: Clear, friendly boundaries (greenbelts or open spaces vs. fences and Gates) create a sense of place and let residents perceive the neighborhood as a Unit. The greater the sense of community, the lower the crime rates.

DIVERSITY

Diversity is the mark of a sustainable system: Buildings and Spaces that can integrate a variety of uses and settings offer flexibility for the inhabitant's changing needs and desires over time. Elements that ensure diversity in neighborhoods are: • Housing for people of various income levels and groups / Families of different sizes

A sense of place - shared open space

The terraces along Bahia Drive are prime vantage points from which to take in the beauty of the surrounding hills, the marsh and Bahia stretched out below. Rather than assuming this to be a low select new homes, these platforms are opened to the whole Bahia community...

Pocket Parks

The Terrace Cafe and Store - growing point at the "entrance" to Bahia - convenience and local produce store, small cafe, sundae, tables and benches, green open area for large gatherings.

Connections

A regular shuttle service to Novato will further reduce car dependency and environmental impact of the community. Shuttle stops at each learning path station along Topaz and Bahia Drive will make Bahia accessible for people of all ages.



Zero Net Energy

The Design of Misty Grove and Bahia Terrace incorporates proven techniques and innovative solutions from the fields of Sustainable Building, Permaculture Design, Habitat Restoration and Sustainable Community Development. It addresses all LEED for Homes Credits and a substantial number of Credits from the new LEED for Neighborhood Development Rating System...

Table with 4 columns: Category, Description, Value, and Unit. Includes Annual Domestic Demand, Renewable Energy, and Net Energy.

Heating / Cooling: Passive design strategies (see section) provide all the cooling and a substantial part of the heating needs in the homes. Natural ventilation is optimized by strategic placement of low and high openings - a simple attic vent provides additional uptake for the south-facing units to ensure adequate ventilation.

Hot Water: Energy + Atmosphere LEED Credits: 100% of hot water demand for the project is covered by a heliogenic closed loop system, one of the most efficient systems on the market today.

Table with 4 columns: Unit Type, SF, No. of Units, and Total SF. Lists various housing units and their counts.

Square Footage Summary: Table with 4 columns: Unit Type, SF, No. of Units, and Total SF. Includes Parking and other areas.

Rainwater Harvesting, Surface Water Management and Erosion Control

Site A: Rainfall and erosion are the main water management concerns on both sites. Analysis revealed that the rocky soils do not hold a lot of ground water - therefore our strategies focus on the collection rainwater runoff from the landscaped site and the building roofs. Based on long-term average monthly rainfall rates, the estimated potential for collection is nearly 600,000 gallons of rainwater.

Site B: The Forest and Grassland restoration will mitigate most of the runoff and erosion problems on the site. An estimated 60,000 gallons of remaining runoff can be collected and either stored in three cisterns or used for the main irrigation and the catchment amphitheater.

Table with 2 columns: System and Capacity. Lists rainwater harvesting systems and their storage capacities.

Greywater: A greywater system recycles sink and shower water for flushing toilets and for irrigation of the planting areas immediately around the house; the planting strip along the walkway, the planter areas between the decks, and the roof terraces are fed via a subsurface irrigation system.

Blackwater: Blackwater treatment through Living Machine® Systems such as Worm Water Technologies can provide full regeneration of the project's blackwater. Proprietary technology and years of R&D know-how make Living Machine® the most tested and reliable ecological wastewater treatment solution available.

Building Materials and Fire Safety: All building materials will be selected subject to public approval, and comply with the following criteria: blend into the natural aesthetic of the existing fabric...

Table with 2 columns: System and Cost. Lists various systems and their associated costs.

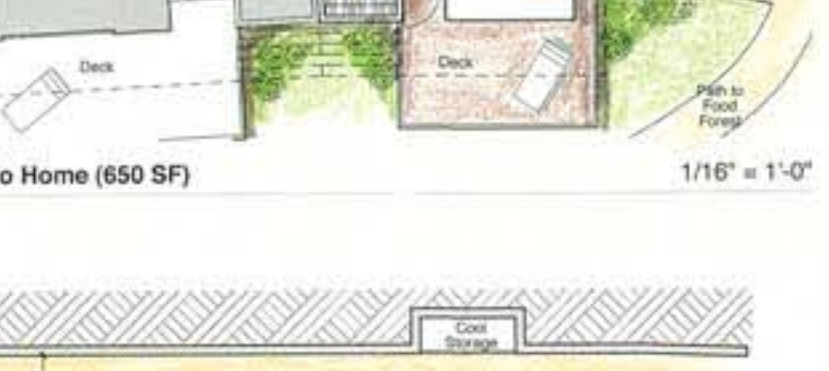
Bahia Terrace - Homes for Intergenerational Living



Topaz Drive Elevation (typical) 1/16" = 1'-0"



Studio Home (50 SF) 1/16" = 1'-0"



2 Bedroom Home (1,250 SF) 1/16" = 1'-0"



Auxiliary Unit (150 - 750 SF) 1/16" = 1'-0"



Bahia Drive Elevation (typical) 1/16" = 1'-0"

Bahia Terrace Homes: The homes are aligned like a string of pearls along the hills that follows the natural contour of the land for level access to all units. A minimal rise (1 in 20) from east to west and partial immersion into the hills keeps the buildings out of the ridge view of the neighbors below.

Accessibility: The entire site is ADA accessible with pathways at a maximum incline of 1:12; additional landscape steps that create a variety of options to explore the site.

Flexibility: 19 primary homes are accessible via a curvilinear pathway sunk into the hill. This pathway is covered to protect from the elements while a planting strip that is open to the sky provides cross ventilation and daylight to the entrance side of the homes.

Design for Aging: All units are designed for barrier-free living that is equally comfortable, aesthetically pleasing and appealing to people of all ages and physical abilities.

Following ADA guidelines and the Principles of Universal Design, special attention is given to the needs and concerns of seniors: • Elevation of grabrails/fall heads (thresholds, floor surfaces, steps and other obstacles)

Square Footage Summary: Table with 2 columns: Category and Total SF. Lists various areas and their total square footage.

Conceptual Cost Estimate: Table with 2 columns: Category and Cost. Lists various construction and material costs.

Water + Rainfall Management System: Table with 2 columns: Item and Cost. Lists water management components and their costs.

Cost Estimate: Table with 2 columns: Category and Total Cost. Lists various construction and material costs.