

# Eichler Design Guidelines

City of Sunnyvale



Adopted  
July 28, 2009

**The cover photographs are examples of the range of typical Eichler homes found in Sunnyvale.**

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## ACKNOWLEDGMENTS

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## INTRODUCTION

Eichler homes are distinctive Post World War II examples of modern residential architecture - unique to California and having their birth in the City of Sunnyvale.

Joseph Eichler started his career as a finance-oriented business man, but turned to home building in his mid-40s. Having lived briefly in a house designed by the world famous architect Frank Lloyd Wright, he was strongly influenced by the architect's innovative fresh thinking and his integration of houses with the surrounding outdoor landscape.

His Sunnyvale Building Company's first homes were constructed in 1949. While modernist in character with flat roofs, broad overhangs and large windows, they were only a precursor of the highly refined post and beam designs that Eichler Homes, Inc. built shortly thereafter when he called upon architect Robert Anshen of the San Francisco firm of Anshen and Allen, and Southern California architects A. Quincy Jones and Frederick Emmons.

These architect-design homes were strongly modernist in spirit and quite different from the more traditional homes being built on the Peninsula and throughout the San Francisco Bay Area. They brought unique open floor plans combined with striking construction techniques and features that came to define the distinctive Eichler Style. The most prominent of those features are noted and illustrated on pages 9 through 10.

Eichler built around 11,000 production homes in Northern and Southern California with over 1,000 constructed in Sunnyvale between 1949 and 1972. These homes were constructed in the Post War Subdivisions shown on the map on page 6.

Interesting historical background on Joseph Eichler and the evolution of the unique Eichler Homes Style can be found in the following two books.

***Design for Living: Eichler Homes***

Jerry Ditto  
Lanning Stern  
Photography by Marvin Wax  
Chronicle Book 1995

***Eichler: Modernism Rebuilds the American Dream***

Paul Adamson  
Marty Arbunich  
Photography by Ernest Braun  
Sibbs Smith, Publisher 2002

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## WHY DIFFERENT GUIDELINES FOR EICHLERS?

In 2003, the City of Sunnyvale adopted Single Family Design Techniques to more clearly define community expectations regarding the remodeling of existing houses and the design of new homes in the city. However, the uniqueness of Eichler homes made application of those guidelines, which are better suited to more traditional homes styles, difficult. Homeowners did not have sufficient information to anticipate potential problems in the design and review process, and city decision makers lacked a suitable foundation for fair and consistent decisions for this home style.

Other evolving conditions suggested that some additional guidelines were needed. Sunnyvale, as is common throughout the Bay Area, has been experiencing more second story additions to existing homes as well as new two-story infill homes. Eichler homes, because of their open floor plans and large expanses of glass, are especially vulnerable to privacy intrusions from adjacent two-story tall homes or second story additions. Eichler homes being demolished and replaced by new and larger homes designed with architectural styles that seemed incompatible with the surrounding Eichler neighborhoods also raised concerns.

**These design guidelines replace the city's Single Family Design Guidelines for all homes within Eichler Neighborhoods. They focus on home exteriors visible from the street and adjacent neighbors, and do not apply to interior improvements.**

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## INTENT

These guidelines are intended to accomplish the following:

- Preserve the unique character of Eichler homes and their neighborhood.
- Assist property owners in designing new homes, expansions, and other exterior changes to respect and complement the scale and character of existing Eichler homes and their surrounding neighborhoods.

***For City staff assistance in the development review process, please contact the City's One-Stop Permit Center at (408) 730-7444.***

### APPLICABILITY

These design guidelines apply to all design review applications for the following:

- Exterior changes to homes originally built by the developer Joseph Eichler in the years following 1950.
- Exterior changes to non-Eichler homes within the boundaries of the neighborhoods shown on the map below.

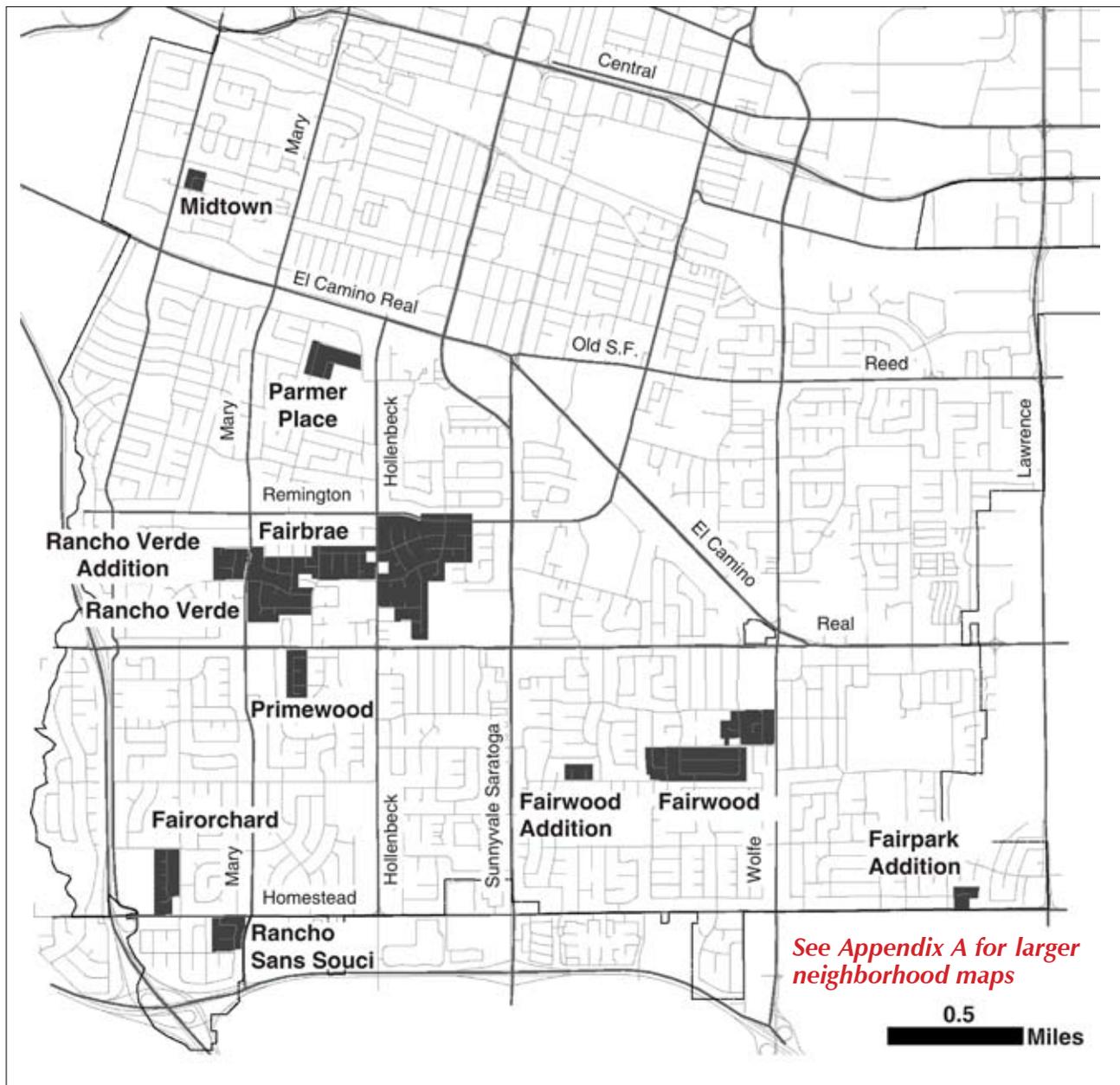
These guidelines are in addition to and subordinate to the zoning regulations. Zoning Code information can be found on the City's web site at:

[www.sunnyvaleplanning.com](http://www.sunnyvaleplanning.com)

### WHEN IS DESIGN REVIEW REQUIRED?

Design review and approval is required under the following circumstances:

- For any new house constructed in the city.
- For any increase of floor area that equals or exceeds 20% of the existing house.
- For the addition of any second story component, including balconies.
- Homes exceeding the Floor Area Ratio (FAR) threshold in the Zoning Code, and any exterior modification which significantly changes the appearance of the home.



Eichler Neighborhoods in Sunnyvale

## EICHLER HOMES

Eichler homes are unique and distinctly modern in design. While they evolved over a period exceeding two decades, they retained a spirit, a construction approach, and a design aesthetic that is immediately recognizable as *an Eichler*.

Architects Anshen & Allen and Jones & Emmons - and later Claude Oakland - brought a wealth of design talent, as well as a knowledge of designing for mass produced housing, to the task of meeting the housing demand for growing families following World War II. The unabashedly modern style of the houses found a small, but devoted, following in the progressive environment of the San Francisco Peninsula of that era.

The homes were unique in that they incorporated modern features such as open plans and large areas of glass that made them seem much larger than their floor area suggested in mass-produced homes. Other innovations, such as a combined kitchen and family room and second bathrooms were trend setters as well. Several standard floor plans and elevations were mixed in individual neighborhoods, providing a richness and variety that was often lacking in many Post War housing subdivisions.

Some of the characteristics of the Eichler style home are noted on the following pages.

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## SPECIAL CHALLENGES

Eichler homes in Sunnyvale were originally constructed in the 1940s through the mid-1970s. The speed of construction during the early days of that period, and the materials shortages that were sometimes encountered later have increasingly led to the need for repairs and materials replacement. Also, the homes were built in a period when energy costs and issues were much different than they are today. Single pane windows along with limited roof and wall insulation often lead today's homeowners to undertake renovations in order to increase home comfort and reduce heating and cooling costs.

Because of their uncompromising modern design, with flat roofs, slab-on-grade construction, and open beam ceilings, renovations which maintain the modern spirit and unique design features of the home can often prove challenging. Some of the often encountered special challenges include the following:

- Updating windows to increase energy efficiency and meet current building code requirements.
- Improving heating and cooling systems while remaining sensitive to roof forms.
- Finding replacement materials.
- Creating additions that blend with the existing architectural design.
- Designing atrium covers that blend with the existing architectural design.



## Information Resources

*The goal of these design guidelines is to ensure that exterior improvements, additions to existing homes, and new homes that preserve and enhance the special qualities of the city's Eichler neighborhoods.*

*Because of the unique characteristics of Eichler homes and the special challenges associated with updating and adding to them, the use of architects, building designers, general contractors, and suppliers of materials and systems that are experienced with Eichler home design and construction is strongly encouraged.*

*One good homeowner resource is the online web site for the **Eichler Network** which contains links to architects, general contractors, manufacturers, and retailers who are experienced in Eichler home improvements. Along with recommended Bay Area service providers, the site contains a great deal of useful information on replacement and substitute materials, and solutions to problems common to Eichler homes. Also available are archived user discussions of their personal experiences and opportunities to communicate with other Eichler home owners for advice.*

**[www.eichlernetwork.com](http://www.eichlernetwork.com)**

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## EICHLER HOME CHARACTERISTICS

Eichler homes were developed as part of subdivisions of their day, and contained many standardized design and construction features. They were modern in their design spirit, floor plan layouts, and simple, clean detailing.

The features listed below and the photos on the following pages describe some of the most common of those features.

### Building Forms

- Interior/exterior floor plan relationships with large areas of glass in private yard areas
- Post and beam construction
- Low roof plate heights
- Horizontal design emphasis
- Modern, geometric forms
- Interior and entry atriums
- One and two-car front garages or combination of single garage and carport

### Roofs

- Flat and low pitched roof slopes (occasional steep pitches on some models)
- Wide roof overhangs
- Exposed roof beams (interior and exterior)
- Tongue and groove roof decking
- Gable ends with substantial glazing and open areas

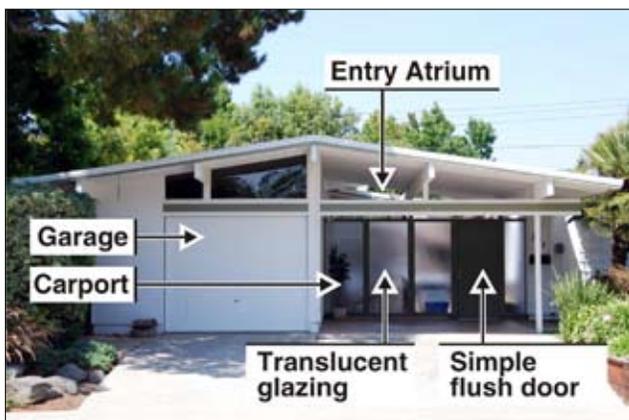
### Exterior Facades

- Relatively solid wall front facades
- Vertical-grooved wood siding
- Concrete masonry walls and chimneys with a stacked block pattern
- Recessed home entries
- Vertical slot windows on front facades and sidelights, often with translucent glazing
- Horizontal and triangular windows at roof eaves
- Simple, modern detailing
- Simple, flush wood entry doors without detailing flanked by glass sidelights and transoms
- Simple wood garage doors faced with vertical-grooved siding to match house walls
- Trellises to add visual interest and sun shading at windows

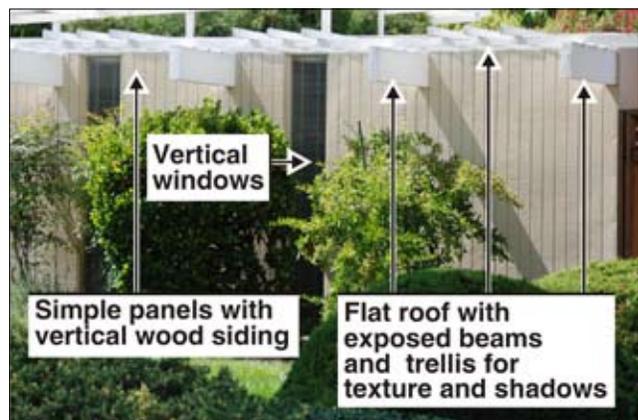
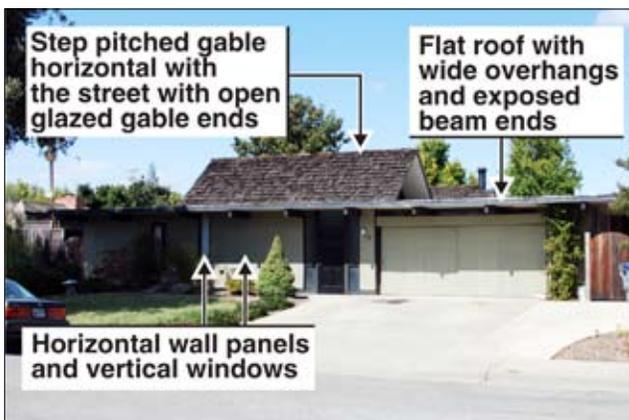
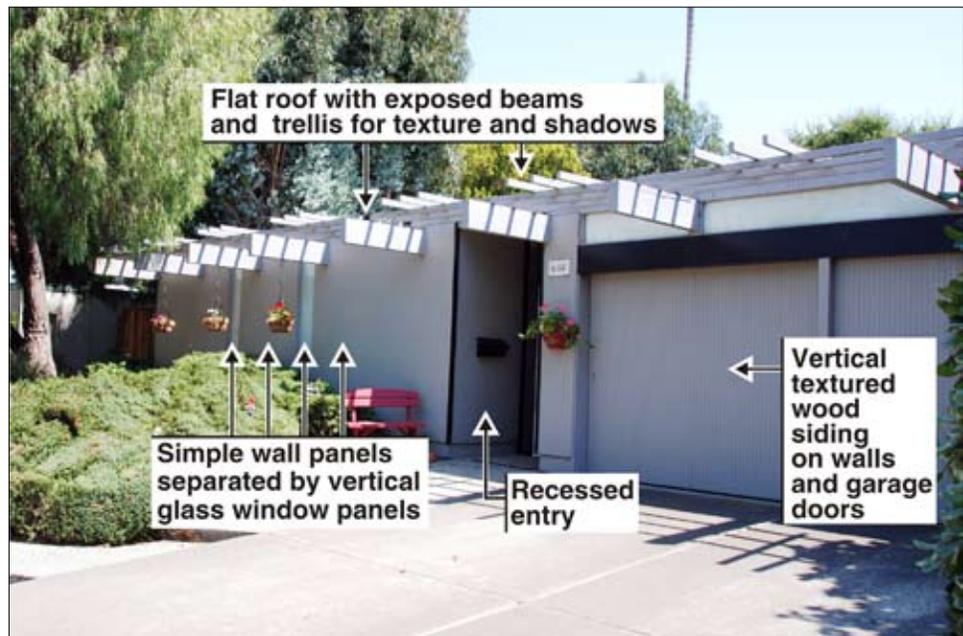
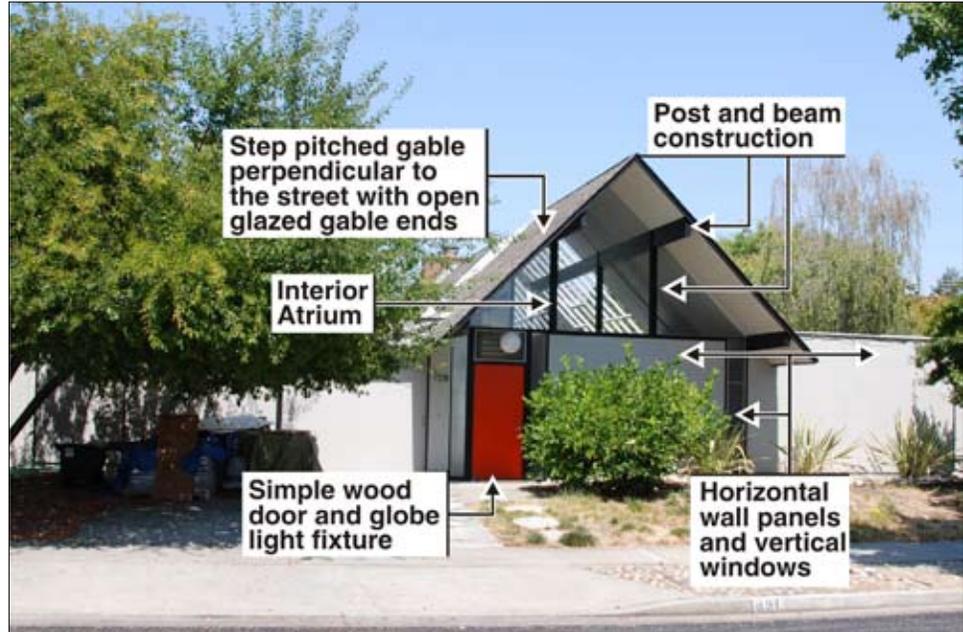
### Other Features

- Slab-on-grade construction
- Radiant floor heating

**TYPICAL EICHLER FEATURES**



**TYPICAL EICHLER FEATURES**



## DESIGN GUIDELINES

Eichler homes are very distinctive, and quite unlike other more typical suburban homes in Sunnyvale. In order to preserve this unique modern Eichler character, the design guidelines in this section will be used by staff and the Planning Commission in reviewing all discretionary approvals and permits to Eichler homes, and to all other houses in the Eichler neighborhoods found on the map on page 6. These guidelines are primarily intended to address design issues that are visible from the street. However, there are also guidelines that may deal with privacy and other issues that impact adjoining neighbors.

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### 3.1 GENERAL GUIDELINES

The following guidelines apply to all homes in the Eichler neighborhoods identified on the boundary map on pages 6.

#### 3.1.1 Utilize traditional Eichler building forms consistent with Eichler homes in the surrounding neighborhood

- a) Maintain flat and/or shallow slope roof forms with a maximum slope of 3:12, except in neighborhoods containing Eichler home styles with steeper pitched roofs (e.g., upper photo on page 10).
- b) Avoid hip roofs and other forms not common to Eichlers
- c) Retain and repeat wide roof overhangs and exposed beams consistent with Eichler designs.
- d) Maintain recessed entries, except on original homes that did not have that type of entry.

#### 3.1.2 Utilize traditional Eichler materials and details

- a) Retain and repeat the Eichler post and beam construction methods with exposed beams.
- b) Use vertical-grooved wood siding and exposed concrete block for exterior walls. Cement plaster, brick, real stone with a relatively flat and smooth finish, real wood shingles, or wood siding with horizontal grooves may be considered when used in simple panels similar to the traditional Eichler use of wood panels with vertical grooves.
- c) Do not use stone facing with a rough or irregular texture, and clapboard siding with overlapping edges that create a sawtooth profile.
- d) Use simple, rectangular, windows with narrow frames. Triangular shaped windows are acceptable at gable eave lines in Eichler homes.
- e) Avoid windows with arched tops or other non-rectangular shapes.
- f) Use simple wood entry and garage doors.

## Eichler Siding Information

*Most Eichler homes used vertical-grooved siding with flat surfaces (i.e., without overlapping edges that create a sawtooth profile as is common for traditional horizontal siding). The siding was produced as plywood or redwood panels with vertical grooves cut into the panel surface. Grooves were typically spaced 1 5/8", 2" or 8" on center and 1/8", 3/8" or 1/4" wide. Panel thickness was usually 3/8", 1/2" or 5/8".*

*Specially manufactured plywood panels are available to match original Eichler siding. Links to suppliers can be found on The Eichler Network web site. Some home owners have their contractor cut and groove plywood panels to match the typical Eichler design standards.*

*Plywood panels often have a rougher texture today than those available when the homes were originally constructed, and are sometimes slightly surface sanded - especially when they need to match adjacent existing siding. Care should be given to selecting a panel thickness that matches the original siding.*

*Another material often considered as an alternative to plywood siding is MDO (Medium Density Overlay). It is, however, usually much smoother than the original plywood siding.*

*Plywood siding may be stained or painted. Staining shows up the natural grain of the wood more and better retains the crisp edges of the vertical grooves, but tends to need reapplication more frequently than paint.*

### **Window Selection Information**

Original windows in Eichler homes were usually single pane windows which are not very energy efficient. Replacement windows are typically double pane windows with a sealed air space between the panes of glass.

For the large fixed windows, the single pane of glass was usually held in place against the adjacent wood posts or walls by wood trim on both the exterior and interior. This simple and clean detail was very much a part of the Eichler Style. A similar detail can be achieved with an insulated double pane of glass, but more commonly a window with a very narrow anodized aluminum metal frame section is selected.

Similar narrow aluminum frame sliding windows are usually selected for operable windows. They can also often be detailed to fit within the depth of the wall thickness like the original windows. When window trim is needed around the window on the wall surface, it should be narrow in width and profile. The Eichler look is usually best achieved when the window trim is painted to match, rather than contrast with, the adjacent wall color.

#### **3.1.3 Integrate exterior improvements and new construction with the original house forms and materials**

- a) Improvements and additions should appear to have been constructed with the original house.
- b) Minimize external visual impacts of utility elements (e.g., solar panels, HVAC ducts) by integrating them into the roof forms as much as possible.

#### **3.1.4 Design homes with architectural integrity**

Architectural materials and details should be carried around to all sides of the house to avoid a “false front” look, and to avoid the presentation of poorly articulated facades to neighboring homes and public view. Street-facing facades are most important. More variation, within reason and consistent with the overall design, may be permitted on secondary facades as long as it is not visually disruptive, awkward, or results in a “false front” look.

#### **3.1.5 Use high quality materials and craftsmanship**

Quality materials require less maintenance to remain attractive over time, and they convey a sense of pride in one’s home.

#### **3.1.6 Preserve mature landscaping.**

Wherever possible, mature trees and landscaping should be protected during construction and integrated into new landscape plans.

*While the following guidelines in this document are organized into categories that are likely to coincide with planned improvements, homeowners should read all of the guidelines in this document. There are important guidelines in each section that will be applicable to many proposed projects. If you have questions, consult with city planning staff.*

### 3.2 PLANNING FOR A GROUND FLOOR ADDITION

Eichler homes were designed around a series of standard floor plans which evolved over time, but have many common characteristics. One typical floor plan example is shown in the diagram to the right. While there are some individual model variations, most of the Eichler floor plans in Sunnyvale included one or more of the following characteristics:

- Recessed entries and carports
- Off-sets in front wall planes
- Interior or entry atriums
- Visually private living and exterior spaces

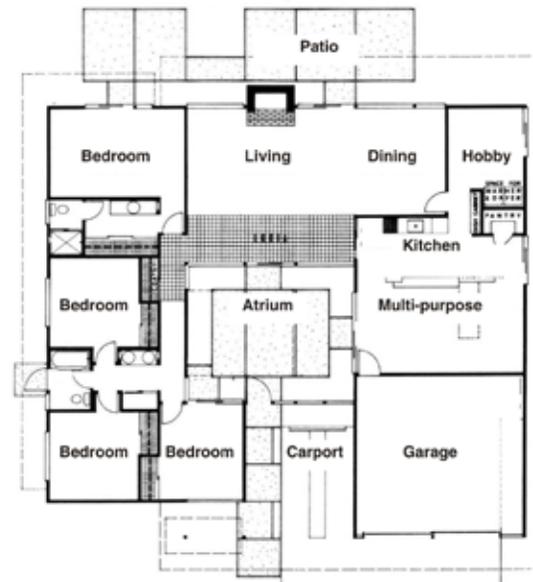
#### 3.2.1 Locate ground level additions at the rear or side of the existing house, whenever possible.

a) Although additions to the front of the house are sometimes the best or only solution, other options should be explored first in cases where front additions would cover up significant features of the existing house. Consider a rear yard addition or the enclosure of an atrium before planning an addition to the front of the house. For example, filling in the carport and entry recesses (see photo below) would cover up the distinctive translucent front wall of the entry atrium.



*Filling in the carport and entry of Eichler homes would cover up major character features of the house and other options should therefore be considered*

b) When additions must be placed at the front of the house, design the forms and details to appear as though they are a part of the original house. Looking at examples of other Eichler models may help in creating forms and details that are consistent with the Eichler Style. The book resources noted on page 5 have good plan and photo examples.



*One of the typical Sunnyvale Eichler floor plans*



*This Eichler home has been expanded to allow larger bedrooms along the left side of the structure for the full depth of the house*

**Exit Windows**

The California Building Code requires all bedroom rooms to contain one emergency exit window/door. The purpose of the window/door is to provide, in the event of an emergency, a clear space where a person within the building can escape or a fire fighter can pass through to enter a building for rescue or fire suppression purposes. Contact the Building Safety Division for the current dimensional requirements for emergency exit windows.

**www.SunnyvaleBuilding.com**

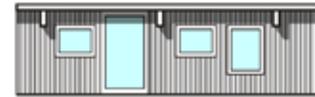
**3.2.2 Additions should be modern in form and detailing, and compatible with the existing house.**

- a) Match the form and materials of the original house.
- b) Flat roofs for additions are likely to be most successful. Low pitched roofs may be considered when they do not conflict with original sloped roof forms. Steeper pitched roofs will only be considered in neighborhoods where other Eichler homes have similar steep pitches.
- c) Windows should be sympathetic to the original Eichler design. In general, the following techniques will assist in achieving that goal:

- 1) Windows should be placed in organized patterns, not randomly scattered. Original Eichler home exteriors were usually organized into a series of wall and grouped window panels.



**Do This**  
*Organize window and wall elements in panels as is typical in Eichler houses*



**Not This**  
*Avoid random window placement and sizes*

- 2) Use vertical window proportions rather than horizontal proportions. Strongly consider the use of narrow vertical windows, similar to those used on many Eichler homes, where they face the street. When operable windows for emergency egress are required (see sidebar to the left), consider using a smooth panel board above and below the operable window to achieve the wall and window panel forms typical of the Eichler homes. See the example on page 20.

- 3) Where operable windows are required or desired, recess the window frames to emphasize the wall panels and minimize the window frames.

### 3.3 PLANNING FOR A SECOND FLOOR ADDITION

Establishing design guidelines for second floor additions to Eichler homes is difficult since only a few original two-story Eichler homes were constructed to provide reliable precedents. However, there have been a few good examples of second floor additions in the Bay Area that, combined with the basic design motifs of Eichler homes, can offer assistance in designing appropriate additions.

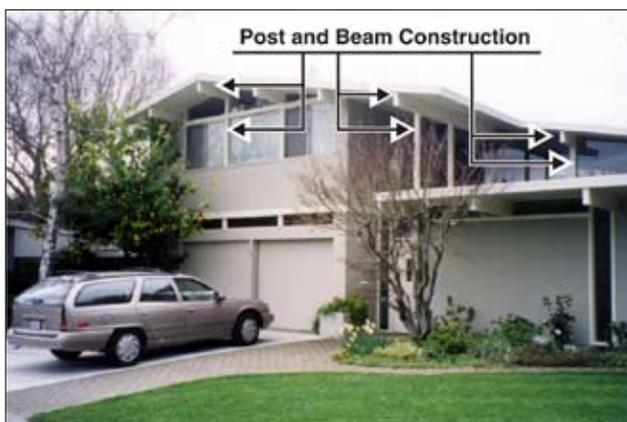
Since second story additions have the potential for disrupting the scale and character of the surrounding Eichler neighborhood and negatively impacting the privacy of adjacent homes, other options for ground floor additions should be explored first. All second floor additions will receive additional scrutiny. The following guidelines are intended to provide some general assistance in the design approach for second floor additions to Eichler homes.

#### Common problems and concerns with second floor additions to Eichler homes

- Potential privacy intrusions on adjacent Eichler windows and yards.
- Difficulty in maintaining the strong horizontal character of the typical Eichler home.
- Tendency of many second floor additions to look like boxes stacked on top of the original house.
- Frequent use of construction techniques, window forms, and details that are at odds with the original Eichler design approach.

#### 3.3.1 Design second floor additions to appear as though they were part of the original Eichler design construction.

- a) Use flat or low pitch roofs similar to the original house and/or nearby neighboring houses.
- b) Repeat the post and beam construction of the original house.
- c) Match the original house materials and details.



*Repeat the post and beam construction and original house materials and details*

### Second Floor Restrictions

Second floors are allowed in all Eichler neighborhoods except those zoned with the Single-Story (S) Combining District. Individual neighborhoods have the option of petitioning for single-story overlay zone status.

For information on the process for a neighborhood's application for a zoning change to limit house heights to one-story, please contact the City's One-Stop Permit Center at (408) 730-7444.

### Second Floor Addition Examples

Many second floor additions and new two-story infill homes may be seen in The Highlands Eichler neighborhood in San Mateo. Some are good examples while others are not very sympathetic to the surrounding Eichler neighborhood, but they may be helpful in envisioning some of the approaches that others have used. The Highlands may be reached via the Bunker Hill Drive exit from Interstate 280.



*This second floor addition is sensitive to the Eichler style, but the large areas of glass on the sides and rear would depend on adjacent homes privacy*



**Don't Do This**  
*Avoid shed roofs like this which create very tall walls adjacent to one-story homes. Flat and shallow-pitched roofs, shown below, are more sensitive to adjacent homes.*



*The two homes above have incorporated important Eichler Style elements in their design*

**3.3.2 Maintain a horizontal emphasis of the overall building form.**

- a) Minimize second floor plate heights to maintain horizontal emphasis of the Eichler style.
- b) The use of flat or shallow-pitched (3:12 maximum) gable roof forms, rather than shed roof forms, are more effective in minimizing the appearance of tall second stories.
- c) Wide roof overhangs will assist in emphasize horizontal massing.

**3.3.3 Avoid windows looking into adjacent homes' windows and private outdoor space.**

- a) Locate large windows mainly to the front of the house whenever possible.
- b) Limit second floor windows where they would provide views into adjacent homes' living space windows and private outdoor space. Windows larger than the minimum required for emergency egress are strongly discouraged along the sides and rear of the home. Whenever possible, windows should be clerestory or frosted and textured glass.
- c) Avoid second floor balconies and bay windows on side and rear elevations.

**3.3.4 Avoid second floor additions that look like boxes on top of the house.**



**Don't Do This**  
*Avoid box-like second floor additions - especially ones like that that overhang the first floor*

### 3.4 PLANNING FOR AN ATRIUM COVER

Atriums open to the sky are common features of many Eichler homes, and some home owners have added atrium covers to increase usable interior space. The primary challenge is to ensure that these covers are visually integrated into the design of the Eichler home.

#### Common problems and concerns with atrium covers on Eichler homes

- \* Very large atrium covers that overwhelm the scale of the house.
- \* Form and details often unrelated to the original house design.
- \* Construction systems frequently counter to the typical post and beam construction of the Eichler house.
- \* Faux beam ends added to stud walls to mimic the Eichler post and beam construction.
- \* Heavy and bulky covers that overwhelms the original house.

#### 3.4.1 Minimize the visual bulk and impact of the cover.

- a) Use low profile covers with flat or shallow-pitched roofs unless steep-pitched roof elements over atriums are common in the neighborhood.
- b) Use low height covers for skylight-type atrium covers
- c) Utilize post and beam construction with large areas of glazing for larger atrium covers.



*This skylight-type cover is simple in form and does not overwhelm the main structure.*

### Atrium Covers

Requirements of the California Building Code may limit the ability to install an atrium cover on some Eichler floor plans. Where bedroom emergency exit windows (see page 14) open onto the courtyard area, atrium covers may not be permitted. Prior to designing an atrium cover, contact the Building Safety Division to discuss the building code requirements.

[www.SunnyvaleBuilding.com](http://www.SunnyvaleBuilding.com)



*These examples above have compatible post and beam construction and large areas of glazing*



*Walls and windows organized into panels are reflective of the Eichler Style*



*These sliding windows which are grouped organized into panels are reflective of the Eichler style with clear and translucent glass panels are a good exterior upgrade that is sympathetic to the Eichler Style*



*Avoid projecting garden windows*

### 3.5 PLANNING FOR EXTERIOR IMPROVEMENTS

Eichler homes in Sunnyvale were constructed from the late 1940s up until the early 1970s. Many are in need of maintenance and owners often desire upgrades to more current standards. The challenge and the goal is to meet these needs while doing so in a manner that is sympathetic to the original modern design spirit of the homes.

**See the General Guidelines on pages 11-12 for additional information and guidance.**

#### **Common problems and concerns with exterior improvements to Eichler homes**

- \* Siding replacement with materials inappropriate to the Eichler style,
- \* Highly detailed or elaborately shaped replacement windows
- \* Windows shapes, types and details that are not sympathetic to the Eichler style.
- \* Entry and garage doors with elaborate windows or details
- \* Replacement of sloped roof covering with concrete tiles

#### **3.5.1 Match the original house materials and details.**

- a) Repair existing materials and details, if possible.
- b) When repair of the original materials and details is not possible, match the original as closely as possible.

#### **3.5.2 Use windows appropriate to the Eichler Style**

a) For fixed windows, use double glazing held in place by wood trim similar to the original Eichler designs or select windows with narrow frames.

b) For operable windows, use sliding or casement windows with narrow jamb, head and sill profiles, preferably anodized aluminum. The following are discouraged in general, and must be avoided when visible from the street:

- \* Double hung windows
- \* Bay windows
- \* Divided light windows
- \* Windows with snap in grids
- \* Projecting garden windows.

c) Use narrow wood trim around windows.

d) Maintain the Eichler style use of rectangular panels of wall and window elements. Approaches to adding new windows in existing walls are shown in the photos to the upper left and include:

- \* Floor to ceiling glass between solid wall panels.
- \* Solid or glass panels above and/or below operable windows between solid wood wall panels.

### 3.5.3 Keep entries low and simple as appropriate to the Eichler Style

- a) Use flush wood entry doors. Avoid doors with detailed paneling or windows.
- b) Refinish original garage doors, if possible.
- c) Keep new garage doors simple in detail.
- d) Maintain the low profile of the front facade, and avoid focal point entry features - especially elements that extend above the roof eave line.



*Avoid detailed doors with decorative shaped windows*



*Simple garage doors are appropriate*



*Curved and decorative garage doors are not in keeping with the clean, modern spirit of Eichler homes*

### 3.5.4 Integrate fencing with the house style

- a) Fences that are taller than 3 feet in height require a permit from the City's Planning Division.
- b) Fences that are 6 feet or more in height are required to be set back a minimum of 15 feet from the front property line.
- c) The design of fences should be simple and modern in appearance. A fences with a strong vertical or horizontal emphasis, as is common in Japanese garden design, is a common approach that fits well with the Eichler Style. Two examples are shown to the right. In some models, fences are part of the original architecture, and necessary to protect front yard privacy. These fences should be maintained or replaces, as necessary. In most cases, simple wood fencing, without lattice, is the appropriate design. Concrete block fencing is allowed where it is found in the subdivision.



*Appropriate fence examples*

### **Ductless mini split heat pumps and air conditioners**

*Ductless mini split heat pumps and air conditioners, like central air conditioning units, have two main components: an outdoor unit or compressor/condenser, and an indoor unit or evaporator/air-handling unit. The two units are connected by power cables, refrigerant tubing, suction tubing, and a condensate drain in a conduit that is usually only about 3 inches in diameter.*

*These connecting pipes link the outdoor and indoor units through a small hole that is drilled in the wall of the house. The advantages of ductless mini split air conditioner are their small size and flexibility for heating or cooling individual rooms or zones within the house. Since each of the ductless mini split air conditioner zones or rooms will have an individual thermostat, only that area where someone is present needs to be conditioned, saving additional energy and money for the consumer.*

### **Small duct central heating and air conditioning systems**

*Small duct central heating and air conditioning systems are designed to actively circulate air using smaller ducts than conventional systems. Higher velocity air movement allows smaller duct sizes, and keep the air moving consistently. The system allows for the use of smaller ducts to distribute the air instead of the larger sheet metal duct work typical of regular HVAC systems.*

*The smaller size of the ducts allow them to be placed in the spaces behind walls, floors, and ceilings in many cases. Where they must be routed above the house roof, their smaller, often rectangular size allows encasement in a low profile roof insulation and finish treatment.*

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## **3.6 PLANNING FOR HVAC IMPROVEMENTS**

Eichler homes were constructed in the post World War II period when HVAC (Heating, Ventilation, and Air Conditioning) standards and expectations were different, and some materials were in short supply. Radiant heated floors, when copper piping was not available, often deteriorated, and wall and roof insulation was often minimal. As a result, many owners of Eichler homes desire to upgrade their heating and air conditioning systems. These upgrades can be visually detrimental to the appearance of the homes' style and character due to unattractive roof top mechanical equipment that are clearly visible from the street.

### **Common problems and concerns with HVAC improvements to Eichler homes**

- \* Exposed roof top mechanical equipment and ducts.
- \* Exposed views of foam roofing.
- \* Large solar panels that visually dominate the house form.

#### **3.6.1 Conceal supply ducts within the house for central heating and cooling systems, whenever possible.**

#### **3.6.2 Consider using one of the following in-lieu of a standard ducted central HVAC system:**

- Baseboard heaters.
- Individual room heat pumps/air conditioners.
- Plastic tubing radiant heating.
- Ductless mini split heat pumps and air conditioners.
- Small duct central heating and air conditioning system (e.g., Unico).

*More information about these systems is provided in the sidebar to the left.*

#### **3.6.3 Minimize visual impact of HVAC equipment and ducts with screening or painting.**

- a) For standard size ducts placed on the roof, if no other option is feasible, paint the equipment and ducts to match the roof color or the house color.

#### **3.6.4 Integrate solar panels into the design form of the house as much as possible.**

State law limits the city's ability to regulate roof top solar panels. The City of Sunnyvale supports the increased use of solar energy, but suggests that homeowners consider the following voluntary guidelines.

- Work with the solar panel installer to utilize panel profiles and angles that are less visually obtrusive. Often, panel angles are a compromise with the optimum, and may not reduce the systems efficiency markedly.
- Consider systems that can be integrated into other architectural features (e.g., atrium covers).

### 3.7 PLANNING FOR A NEW HOUSE

Constructing new houses in established Eichler neighborhoods offers special challenges and opportunities. Typical Ranch and Mediterranean Style homes found elsewhere in Sunnyvale would look distinctly out of place among the crisp design style and flat or shallow-sloped roofs of the Eichler neighborhood. Conversely, modern style homes, which might look awkward in more traditional neighborhoods, can feel quite at home among the Eichlers.

The planning and design of a new house in an Eichler neighborhood should focus on standing out by way of superior modern design, not by the use of a distinctly different architectural style.

Since every home has a different setting, each new home proposal will be evaluated in the context of that unique neighborhood context. The applicant must demonstrate how the design will relate to and complement nearby Eichler homes.

**Applicants for new houses should review all of the other design guidelines in this document to assist in understanding the Eichler Style, and in creating a design that is a sympathetic neighbor.**

#### Common problems and concerns with new houses in Eichler neighborhoods

- \* Tall and bulky building forms which strongly contrast with the low profile Eichler homes.
- \* Non-modernist styles which conflict with the predominant neighborhood style.

#### 3.7.1 Incorporate a Modernist Style sympathetic to the forms and style of the Eichler homes nearby.

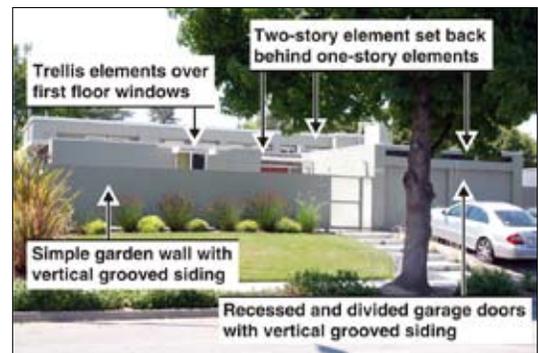
- Use simple floor plans with rectangular shapes similar to Eichler homes.
- Provide front facade offsets and/or insets similar to typical Eichler floor plans.
- Provide a strong horizontal emphasis to the home design.



*Other Modern Style houses with broad overhangs, high quality materials, and a simple treatment of wall and glass elements may be considered. The applicant must demonstrate how the design will relate to and complement nearby Eichler homes.*

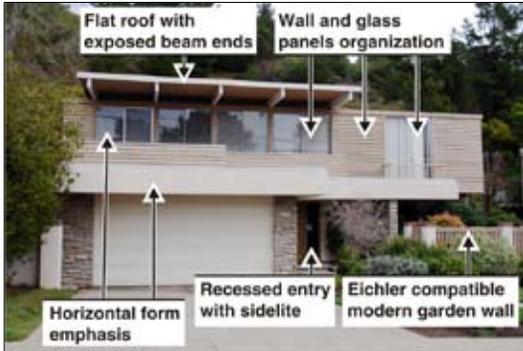
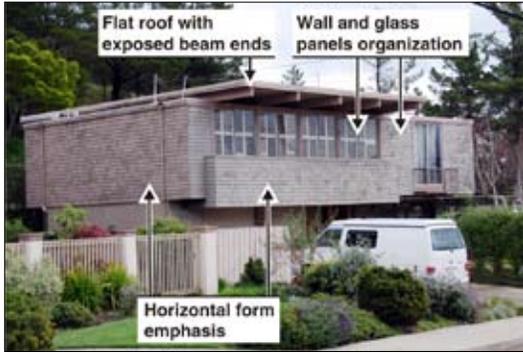


*Avoid designs that mimic the Eichler Style, but lack their fundamental modernist design principles*



*This Sunnyvale home has many features that assist in making it a good neighbor to the surrounding older Eichler homes*





*The two new houses in San Mateo's The Highlands subdivision have a strong modern spirit and many Eichler homes design elements that make them good neighbors to the surrounding neighborhood*



*The many Eichler Style features and the one-story element makes this house a good neighbor to the surrounding Eichler neighborhood*



*The strong modern design of this house and its use of familiar Eichler Style features helps it to fit in*

- d) Use flat or low pitched roofs with wide overhangs. Steeper pitches may be allowed in neighborhoods with Eichler homes which utilized steeper pitched roofs.
- e) Use post and beam construction methods.

**3.7.2 Use building volumes that are compatible with the surrounding Eichler neighborhood.**

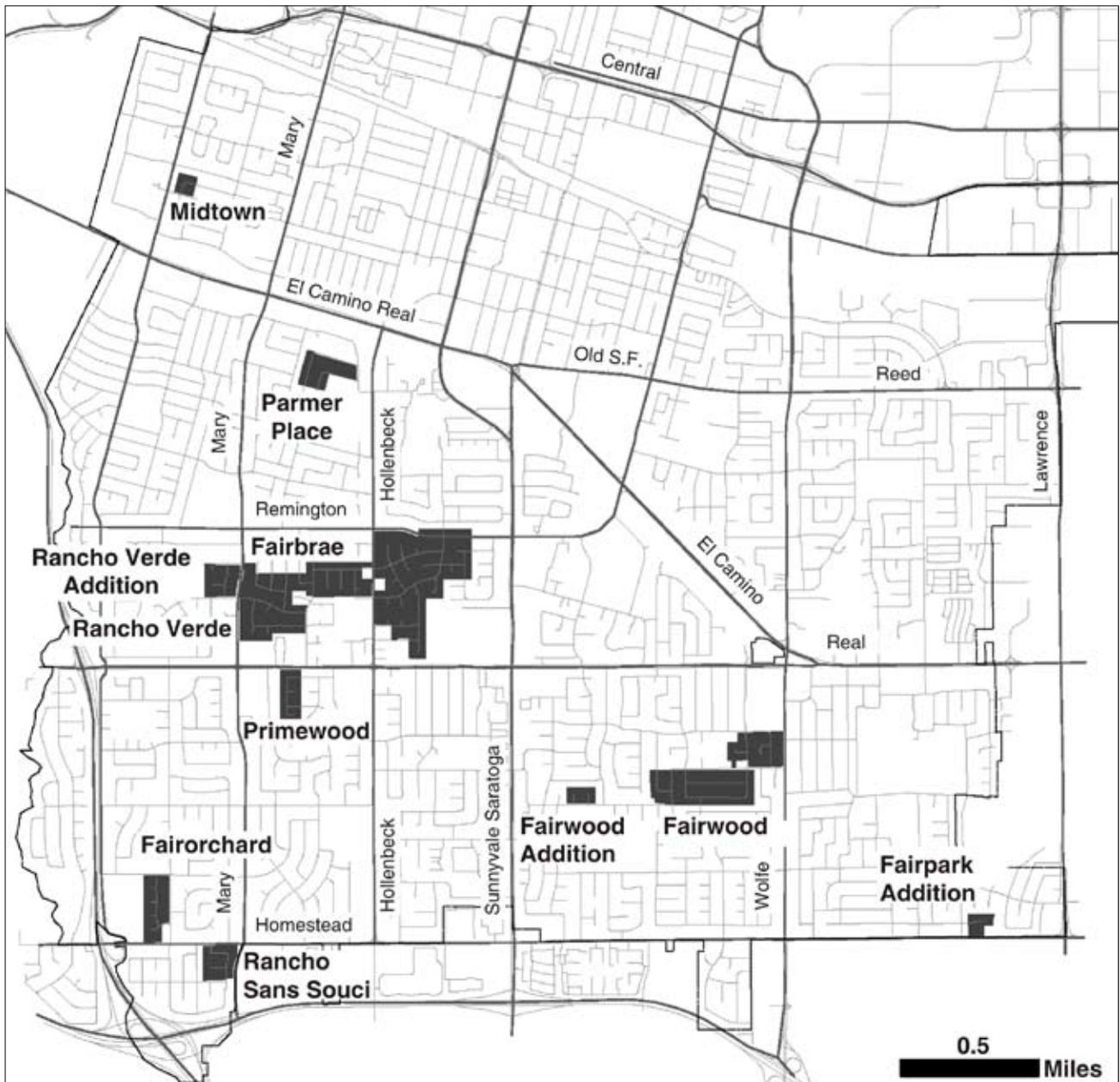
- a) One-story homes will be easier to fit into Eichler neighborhoods than two-story houses.
- b) If a two-story house is proposed:
  - Limit floor-to-floor heights to a maximum of 10 feet.
  - Provide large second floor roof overhangs of at least 3 feet.
  - Provide some detail elements at the second floor line to relate to the one story height of nearby Eichler homes. Some techniques include:
    - \* Deeply recessed garage doors.
    - \* One-story elements forward of two-story walls.
    - \* Horizontal projecting bands
    - \* Trellis elements

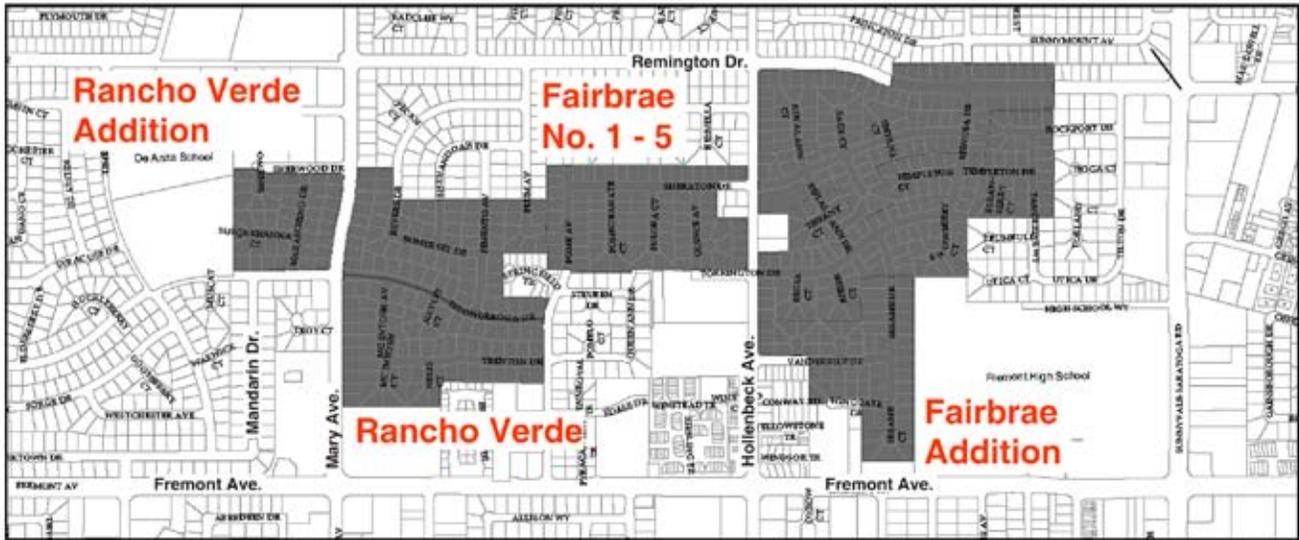
**3.7.3 Use crisp exterior wall materials organized into wall and window panels similar to the Eichler modernist design spirit.**

- Vertical or horizontal grooved siding
- Stucco panels
- Brick or concrete block
- Smooth stone veneer
- Shingles

**3.7.4 Design with window shapes and types that are compatible with the Eichler Style.**

- a) Use fixed, sliding or casements windows.
- b) Use windows with small jamb, head and sill profiles.
- c) Avoid bay windows - especially on the primary facades that face the street.
- d) Avoid arched and oddly-shaped window forms that are not commonly seen on original Eichler homes.





0.5

**Miles**

### **HERITAGE RESOURCE DISTRICTS**

For Eichler homes located within a Heritage Resource District, projects shall be evaluated more closely for adherence to these Guidelines. The purpose of the Heritage Resources District is to call out their special status as being important to the history of the City and to prevent changes that would destroy the historic integrity of the structure and the area or neighborhood.

All alterations and modifications to Heritage Resource properties are evaluated against the Secretary of the Interior's Standards for Rehabilitation, and, by incorporation, the "Guidelines for Rehabilitation." per Sunnyvale Municipal Code Section 19.96.095(d). These guidelines are reproduced at the end of this section.

### **MINOR CHANGES OR ALTERATIONS**

For minor changes or alterations to a property within a Heritage Resource District, the project will be considered through the standard administrative Design Review process. During this process, staff will ensure that there are no significant aesthetic alterations being made to original look of the structure as visible from the street. As with general Eichler Design Guidelines, these historic guidelines do not preclude seismic safety upgrades, window upgrades, solar panel installation or other types of safety and energy improvements.

To maintain the original look of the structure from the street and the character of the Heritage Resource District, the following guidelines will be emphasized:

1. Maintain the one-story character,
2. Keep the original roof pitch,
3. Do not enclose an entryway or carport space.  
*Atrium enclosures may be considered provided the covers are not obviously visible from the public way.*
4. Use exterior materials that are identical to or closely resemble the original materials, especially where they will be visible from the public way.
5. Preserve defining architectural features such as the wide eave overhangs, supporting rafters, decorative eave trellis, front windows, masonry wall in the front yard or other original design aspects.

### **MAJOR ADDITIONS OR PROJECTS**

For projects that are proposing major additions or that do not meet the above guidelines, it is likely the proposed alterations will be considered a material change and require a Resource Alteration Permit (RAP) to be approved by the Heritage Preservation Commission. The Director of Community Development will make the final determination regarding whether a RAP is required. Resource Alteration Permits are specific permits to evaluate modifications to Heritage Resource properties. In order to approve a Resource Alteration Permit, the commission must find that the action proposed is consistent with the purposes of this chapter and the action will not be detrimental to a structure or feature of significance as a heritage resource, or that the action is necessary to correct an unsafe or dangerous condition or that denial of the application will cause an immediate undue and substantial hardship.

**THE SECRETARY OF THE INTERIOR'S STANDARDS FOR REHABILITATION**

1. A property shall be used for its historic purpose or be placed in a new use that requires minimal change to the defining characteristics of the building and its site and environment.
2. The historic character of a property shall be retained and preserved. The removal of historic materials or alteration of features and spaces that characterize a property shall be avoided.
3. Each property shall be recognized as a physical record of its time, place, and use. Changes that create a false sense of historical development, such as adding conjectural features or architectural elements from other buildings, shall not be undertaken.
4. Most properties change over time; those changes that have acquired historic significance in their own right shall be retained and preserved.
5. Distinctive features, finishes, and construction techniques or examples of craftsmanship that characterize a property shall be preserved.
6. Deteriorated historic features shall be repaired rather than replaced. Where the severity of deterioration requires replacement of a distinctive feature, the new feature shall match the old in design, color, texture, and other visual qualities and, where possible, materials. Replacement of missing features shall be substantiated by documentary, physical, or pictorial evidence.
7. Chemical or physical treatments, such as sandblasting, that cause damage to historic materials shall not be used. The surface cleaning of structures, if appropriate, shall be undertaken using the gentlest means possible.
8. Significant archeological resources affected by a project shall be protected and preserved. If such resources must be disturbed, mitigation measures shall be undertaken.
9. New additions, exterior alterations, or related new construction shall not destroy historic materials that characterize the property. The new work shall be differentiated from the old and shall be compatible with the massing, size, scale, and architectural features to protect the historic integrity of the property and its environment.
10. New additions and adjacent or related new construction shall be undertaken in such a manner that if removed in the future, the essential form and integrity of the historic property and its environment would be unimpaired.