

Eichler

DESIGN STANDARDS



City of Orange, California

City of Orange, California

Eichler Design Standards

City of Orange, California
Adopted November 13, 2018
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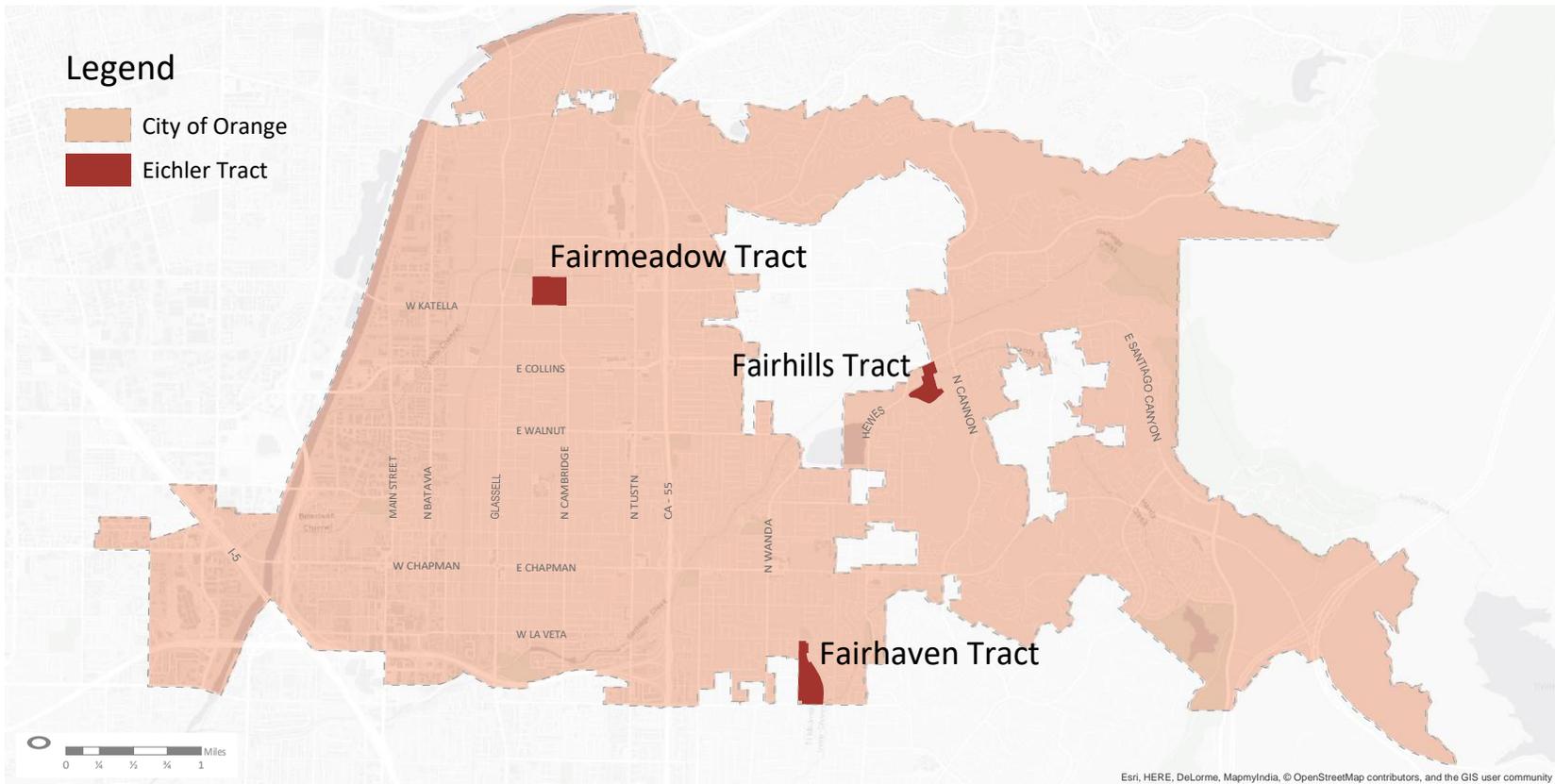
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Chapter 1:
INTRODUCTION



Eichler Historic Districts in Orange, California. For district boundaries and parcel-level maps, see Chapter 3.

CHAPTER 1: Introduction

Three of the five tract developments built by Eichler Homes, Inc. in Southern California are in the City of Orange. The three tracts—Fairhaven (1960), Fairmeadow (1962), and Fairhills (1964)—are among the most intact and well-preserved examples of these postwar, Mid-Century Modern neighborhoods in the state. Residents of the three tracts have long recognized how special these communities are, and have led the efforts to protect their unique character. In response, the City of Orange moved to establish historic district overlay zoning for each neighborhood that offers protection through a design review process.

WHY WERE THE HISTORIC DISTRICTS ESTABLISHED?

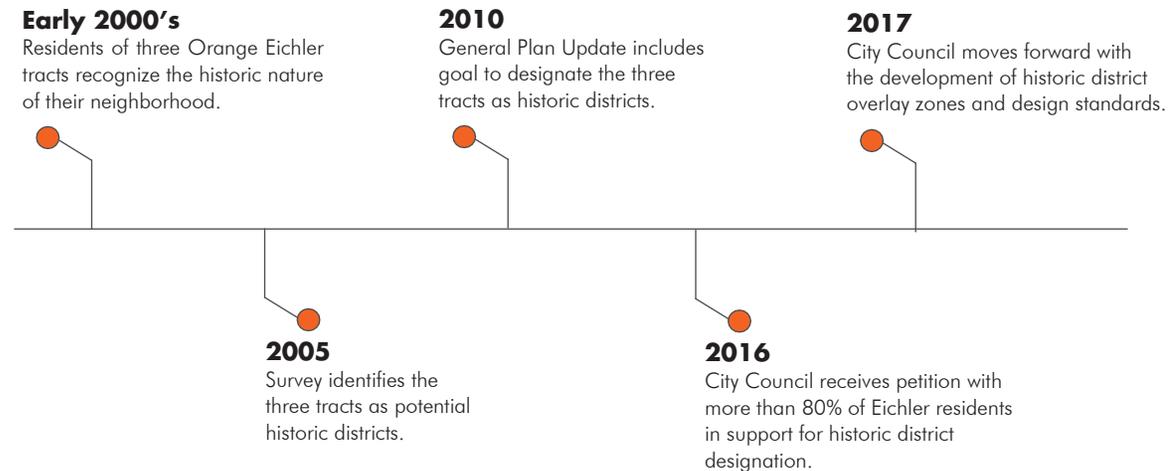
In the early 2000s, as awareness and appreciation of Mid-Century Modern design was increasing, residents of the three Orange Eichler tracts recognized the historic nature of their neighborhoods. Their interest prompted the City to conduct a survey of the Eichler homes. Prepared by preservation professionals with Chattel Architecture, Planning, & Preservation, Inc. in 2005, the survey identified the three tracts as potential historic districts. Residents organized to have the three tracts recognized as historic districts and in its General Plan Update in 2010, the City included a goal to designate the Eichler neighborhoods as local historic districts. Residents formed an informal network to share tips and information about repair methods and restoration resources.

In early 2016, the City held a community meeting at Grijalva Park on potential historic district designation. Over 70 residents attended and most voiced support for the idea.



Eichler residence in Orange, California

Timeline of the Orange Eichler Historic Districts



Some were concerned about whether designation would limit what they could do with their homes or would require expensive restorations.

City Council received a petition in the summer of 2016 with over 80 percent of Eichler residents expressing support for historic district designation. In the fall of 2017, City Council directed City staff to move forward with the process for designation of historic district overlay zones added to the existing Single-Family Residential (R-1-6) zoning. At the same time, the City engaged preservation consultant Page & Turnbull to write design standards that would accompany the designation and guide design review.

WHAT IS THE PURPOSE OF THE DESIGN STANDARDS?

The purpose of the Orange Eichler Design Standards (OEDS) is to protect the character of the Eichler Historic Districts and help homeowners, architects, the City's Design Review Committee (DRC), and City staff understand and preserve the unique features of Eichler homes and neighborhoods. The OEDS support the historic district designation by providing rules and guidelines on how best to preserve those features while allowing for change that is in keeping with the aesthetics of Eichler designs. The goal is to balance predictability with flexibility so the distinctive character of the Eichler neighborhoods will continue.

While the OEDS offer guidance on restoring Eichler homes, they do not require property owners to do so. The standards address future changes or projects once the historic districts are in place. Property owners are not required to reverse previous alterations nor are the houses required to be restored back to their original state.

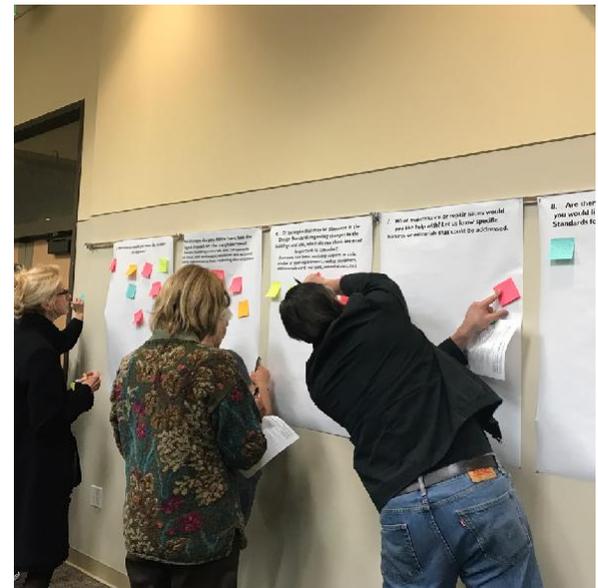
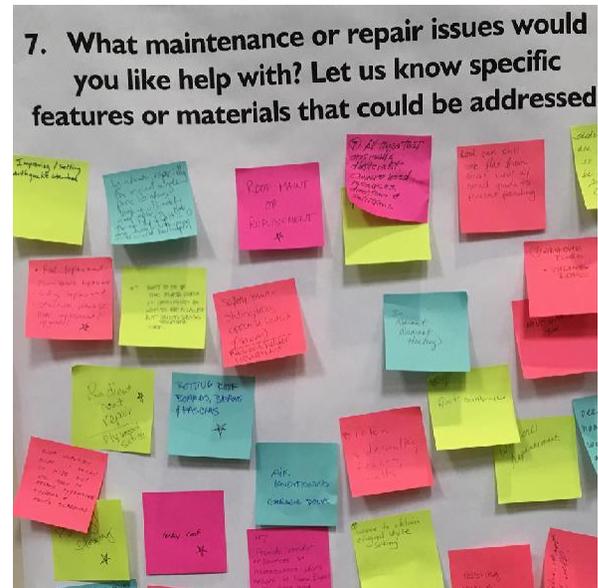
HOW WERE THE DESIGN STANDARDS DEVELOPED?

The OEDS were prepared through a collaboration of City staff, an Advisory Committee, and Page & Turnbull's team, with community input throughout the process. The nine-person Advisory Committee was comprised of three homeowners from each of the three tracts. The Advisory Committee members included architects, interior designers, and a former member of the City of Orange Design Review Committee, as well as individuals not involved in the design profession, such as a local business owner and an attorney. The Advisory Committee met four times with City staff and Page & Turnbull's team between February and April 2018 to discuss specific topics to be included in the OEDS.

In addition, residents of all three Eichler tracts were invited to a series of public workshops. The first was held on February 8, 2018 to introduce participants to the project and seek input on values and priorities to be addressed in the OEDS. A second public workshop was held on May 3, 2018 to present and gather feedback on the options discussed and developed during Advisory Committee sessions. Page & Turnbull then compiled an administrative draft of the Design Standards for review by City staff and the Advisory Committee.

After making revisions based on the feedback from the City and Advisory Committee, a Public Review Draft was posted online for public comment on July 12, 2018. A third public workshop was held on July 19, 2018 to present the OEDS. In August, the OEDS was presented to the Design Review Committee at two study sessions. Page & Turnbull made revisions to the OEDS based on public and DRC comments, which are reflected in the final document.

In fall 2018, a revised draft of the OEDS will be presented to the Design Review Committee and Planning Commission. Based upon their recommendations, it will go to the City Council for approval along with the historic district designation for the three Eichler neighborhoods.



The public workshops were a great way to understand how the design standards would best serve the community.

HOW DO OTHER PRESERVATION TOOLS WORK WITH THE DESIGN STANDARDS?

SECRETARY OF THE INTERIOR'S STANDARDS

The OEDS are based on the Secretary of the Interior's Standards for the Treatment of Historic Properties (Secretary's Standards), and the associated Guidelines for Preserving, Rehabilitating, Restoring and Reconstructing Historic Buildings (Secretary's Guidelines). Established by the National Park Service, the Secretary's Standards and Guidelines are nationally-recognized best practices for historic preservation. Federal agencies use the Standards and Guidelines in carrying out their historic preservation responsibilities. State and local officials use them in reviewing both federal and non-federal rehabilitation proposals.

The Secretary's Standards are concepts about maintaining, repairing, and replacing historic materials, and designing new additions or making alterations. The Secretary's Guidelines offer general design and technical recommendations to assist in applying the Secretary's Standards to a specific property while the OEDS provide guidance specific to Orange Eichlers and community values and expectations.

The OEDS are written to be consistent with the Secretary's Standards and Guidelines, so projects found to conform with the OEDS generally are considered in conformance with the Secretary's Standards.

For more details about the Secretary's Standards and Guidelines and additional publications on preservation guidance, please see the Appendix.



The Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring and Reconstructing Historic Buildings, <https://www.nps.gov/tps/standards.htm>.

CALIFORNIA HISTORICAL BUILDING CODE

The City of Orange has adopted use of the California Historical Building Code (California Code of Regulations, Title 24, Part 8) for historic properties. The intent of the California Historical Building Code (CHBC) as stated in the code is to, “provide solutions for the preservation of qualified historical buildings or properties, to promote sustainability, to provide access for persons with disabilities, to provide a cost-effective approach to preservation, and to provide for the reasonable safety of occupants or users.” The CHBC requires the City to consider alternative solutions that are reasonably equivalent to the traditional building code when dealing with qualified historical properties. A qualified historical property is any building, site, object, place, location, district or collection of structures, and their associated sites, deemed of importance to the history, architecture, or culture of an area by an appropriate local, state or federal governmental jurisdiction. Contributors in the Eichler historic districts are qualified historical properties.

Although energy conservation is encouraged, one of the benefits of the CHBC is that it does not require historic buildings to meet energy requirements for building envelopes, though new mechanical equipment and lighting fixtures would have to comply with state energy codes. It also allows keeping original features and fabric, even if they are not compliant with current codes, so long as they pose no safety hazards. For example, the CHBC allows in-kind repair or replacement of windows and sliding doors—original features that contribute to the character of qualified Eichler homes—as doors and windows in qualified historic buildings do not need to meet the California Energy Code. The City’s Chief Building Official determines the appropriate use of the CHBC. If you anticipate that your project will require use of the CHBC, please contact the Historic Preservation Planner early in the process.

MILLS ACT

The Mills Act program assists property owners of qualified historic properties with a potential property tax reduction. In exchange, the property owner agrees to preserve, maintain, and rehabilitate their historic property in conformance with historic preservation standards.

The tax savings will vary property by property and will be calculated by the Orange County Office of the Assessor. Typically, recent owners are more likely to see sizable tax savings than long-term owners. However, the Mills Act can be an attractive selling point, as the contracts are recorded on the property deed and transferred to future owners who commit to maintaining the historic property.

Contributing properties in the Eichler historic districts qualify for a Mills Act contract. Non-contributors would need to be restored to a point where they have regained enough design integrity to be re-categorized as contributors to be eligible for the Mills Act program. For more information on this process, please contact the Historic Preservation Planner.



Chapter 2:
USING THE DESIGN
STANDARDS

CHAPTER 2: Using the Design Standards

WHERE AND WHEN DO THE DESIGN STANDARDS APPLY?

The OEDS and the historic district overlay zone apply to the properties within the boundaries of the original Eichler tracts. These areas have the historic district overlay zoning.

The rules and guidelines of the OEDS cover proposed exterior changes to properties, focusing on changes seen by the public; they do not cover changes to the interior of houses or backyard landscaping.

Only when homeowners propose a project do the OEDS apply. The Eichler Design Standards do not require homeowners to change their existing houses or to bring their homes into alignment with the OEDS. Unless and until homeowners have projects or changes proposed, the OEDS does not affect them.

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WHAT IS IN THE DESIGN STANDARDS?

The OEDS document begins with three informational chapters:

- **Chapter 1:** Introduction, with background information on why the OEDS were developed.
- **Chapter 2:** How to Use the Design Standards explains key principles in the OEDS and outlines the design review process.
- **Chapter 3:** History and Characteristics of Orange's Eichler Tracts summarizes the history of Eichler Homes, Inc. and the three tracts in Orange. It also outlines the features that characterize the neighborhoods.

Chapters 4 through 8 are the design standards themselves arranged by features or project types:

- **Chapter 4:** Standards for Original Eichler Features
- **Chapter 5:** Standards for Additions and Accessory Structures
- **Chapter 6:** Standards for Setting and Common Landscape
- **Chapter 7:** Standards for Non-Contributing Buildings
- **Chapter 8:** Standards for New (Infill) Construction

At the end of the document is an appendix, with profiles of the house models in each Eichler tract, a glossary of helpful terms and acronyms, additional resources and works cited, and more information on the architects who designed the Orange Eichler homes.

HOW TO USE THE DESIGN STANDARDS

Chapters 4 through 8 outlines broad considerations and concepts that should inform the thought process behind a project's development. The concepts are organized by feature or type of project, and then into specific standards ("shall") and guidelines ("should," "appropriate," "encourage,") that will assist with design decisions. The standards and guidelines cannot anticipate every specific case that will arise, and not all will apply to specific projects. Nevertheless, they represent design objectives that can be applied to many different situations and result in a project that is integrated into its Eichler neighborhood context. Each guideline is followed by additional and clarifying information in a bulleted list.

Components of the Design Standards

DESIGN STANDARDS FOR GARAGE DOORS

4.4.1 The original placement of garages at the front facade shall be preserved.

- a. Locations, sizes, patterns, proportions, and detailing of original garage openings shall not be altered.
- b. Infilling garages with habitable space is not appropriate.
- c. For side-by-side garage doors, the center wood post should be retained, or reinstalled if its removal caused structural issues.

OVERARCHING BUILDING FEATURE OR TYPE OF PROJECT

DESIGN OBJECTIVE

CLARIFYING BULLET LIST WITH SPECIFIC APPLICATIONS

Garage Doors

- The original garage doors had vertical-groove plywood siding matching the house's exterior cladding to create a continuous surface.
- Single-car garages had manual tilt-up doors
- Two-car garages had side-by-side sliding doors with a wood post between the doors that provided some structural support. The sliding doors were manually operated.

SIDEBARS
OFFER
ADDITIONAL
INFORMATION

EXAMPLE

Terminology

Terms used for design standards mean:

- **Shall** = required (standard)
- **Should** = recommended (guideline)
- **Appropriate** = acceptable, likely approved
- **Not appropriate** = not acceptable, likely not approved
- **Encourage** = usually preferred, but not required or recommended
- **Discourage** = usually not preferred, but not prohibited
- **Consider** = suggested

GUIDING PRINCIPLES OF THE DESIGN STANDARDS

In working with the Advisory Committee, certain guiding principles for the OEDS came to the forefront:



- 1. Each Eichler tract is a historic resource.** Changes may occur at individual properties so long as the cumulative changes do not alter the tract to the extent that, as a whole, the district's character is diminished.
- 2. Roof forms and roof lines of the Eichler homes should not be significantly altered.** While minor alterations to improve drainage or to add insulation may be acceptable, the roof shape should generally appear as it did originally for that model. Modifications affecting the roof, including atrium covers, mechanical equipment, HVAC ductwork, solar panels, etc., should follow the roof form and be kept as low and tight to the roof as possible. Vertical (second-story) additions located over the existing roof are prohibited.
- 3. Each model should be authentic unto itself.** What changes are considered appropriate may vary between models. A unique feature or material that is original to one model may not be appropriate to another. Proposed changes are evaluated against the original features of a particular model.



4. **Original features and materials should be retained and preserved.** If an original feature or material exists, the preferred option is to retain it in place and repair as needed. Replacement of the feature is considered when repair is not possible. The replacement should match the original in design, material, proportion, texture, detail, and finish.
5. **When changes are considered, such as replacing an altered feature, adding a new element, altering the landscaping, or changing an original feature, they should be compatible with the aesthetics of the Eichler tracts.** Compatibility should consider the scale, proportions, rhythms, patterns, spatial relationships, solid-to-void relationships, limited materials palette, and overall philosophy of the original Eichler houses, which emphasized simple, affordable, well-designed, mass-produced homes that connected the interior to the exterior while offering privacy from the public sphere.

KEY CONCEPTS IN THE DESIGN STANDARDS

CONTRIBUTOR VS. NON-CONTRIBUTOR

The OEDS apply to all properties in the three Eichler tracts, but a different range of standards are used for contributing versus non-contributing properties. Each Eichler neighborhood contains contributing and non-contributing buildings identified through a historic resource survey. A **contributor** was constructed when the tract was developed (its period of significance) and retains integrity. “Integrity” means it retains the primary design elements and materials that allow the building to convey its associations with the original Eichler development through its historic materials and forms. Contributing buildings are historically significant.

A **non-contributor** either was constructed outside of the period of significance or its primary features have been altered so much that it no longer retains integrity as an original Eichler design. Non-contributing buildings are not historically significant within the context of the historic district. However, because changes to non-contributors have the potential to affect the character of the historic district, proposed changes are reviewed for compatibility.

Maps of the contributing and non-contributing properties within the Eichler tracts are available at the City’s website:

<http://www.cityoforange.org/1790/Eichlers>.

Please contact Planning Division staff to confirm if your property is a contributor to the historic districts.



Contributors are recognizably Eichler homes with the primary features intact (top). Non-contributors (below) have been altered so the properties no longer have integrity as Eichler designs. Here the wood cladding has changed to stucco and the carport infilled.

PUBLIC VS. PRIVATE REALMS

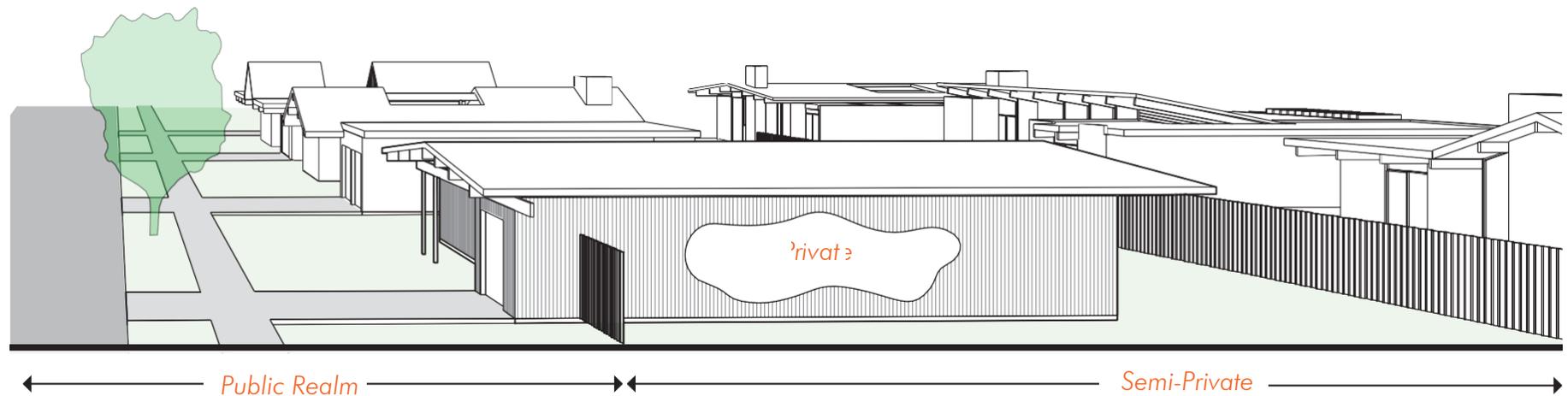
The OEDS recognize a distinction between the “public” and “private” realms of residential properties. The **public realm** generally refers to the portion of a property visually accessible “from the street,” which in this document means from the public street, sidewalk, and parkway. This includes the front façade, front yard, roof, and portions of the side façades and side yards. Since Orange’s Eichler neighborhoods were designed as cohesive tracts with clear patterns of setbacks, massing, roof lines, and yard layouts, these features contribute to the historic neighborhood character.

The **private realm** generally refers to the interior of the residence while **semi-private** refers to the side and rear yards. These areas are private

to the homeowner and/or resident, and do not directly contribute to the experience of the neighborhood from the street. Nonetheless, what occurs in the rear and side of the building and the lot has the potential to affect neighboring properties, especially since the Eichler homes have large window walls at the back of the buildings.

Alterations and additions made in the semi-private realm will have greater flexibility than those in the public realm. Changes to the interior of the buildings, including inside the atrium, are not reviewed under the OEDS, unless they are visible from the street.

Alterations to the front of buildings at the public realm will have a greater level of review than those in the semi-private realm at the rear and sides, where changes have the potential to affect neighboring properties. The private realm inside the homes is not subject to the OEDS, unless changes are visible from the public realm.



PRIMARY AND SECONDARY ORIGINAL FEATURES

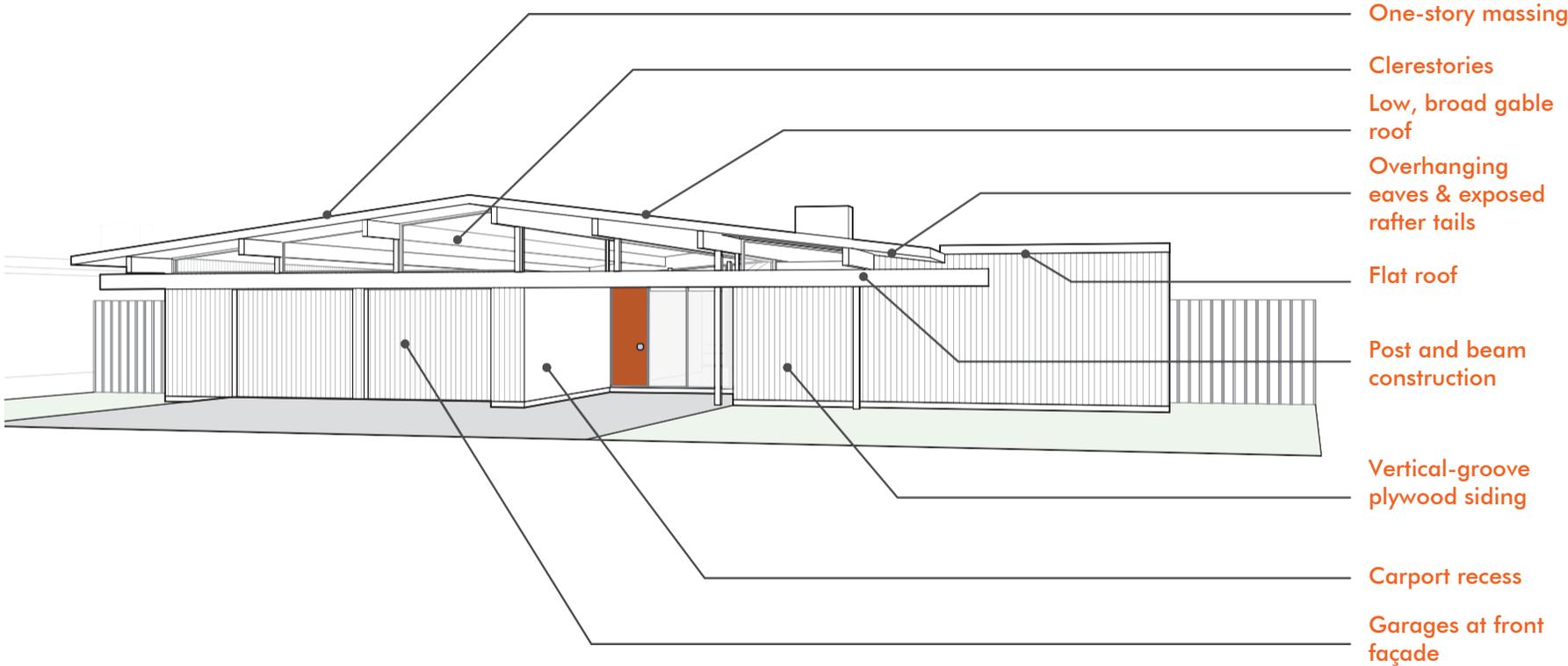
Despite the numerous different models constructed by Eichler in Orange and throughout California, there are several common characteristics found among Eichler homes that uniquely define them. The OEDS distinguished between those that are primary original features and those that are secondary original features.

Primary features are essential physical features, often architectural components, that establish the dominant visual character of the property. Alterations to primary features have the potential to change significantly the building's character, and in turn, the neighborhood's character. These include the one-story massing, roof forms, exterior cladding, placement of the garages and carports, and the location and sizes of openings.

Secondary features are those physical elements original to the Eichler designs and contribute to the character of the buildings, but may be modified without compromising the design integrity of the Eichler house. There is more flexibility for changes to secondary features without substantially compromising the character of the building or neighborhood. These include the front entry door, garage doors, front windows, and fencing and landscaping, among others.

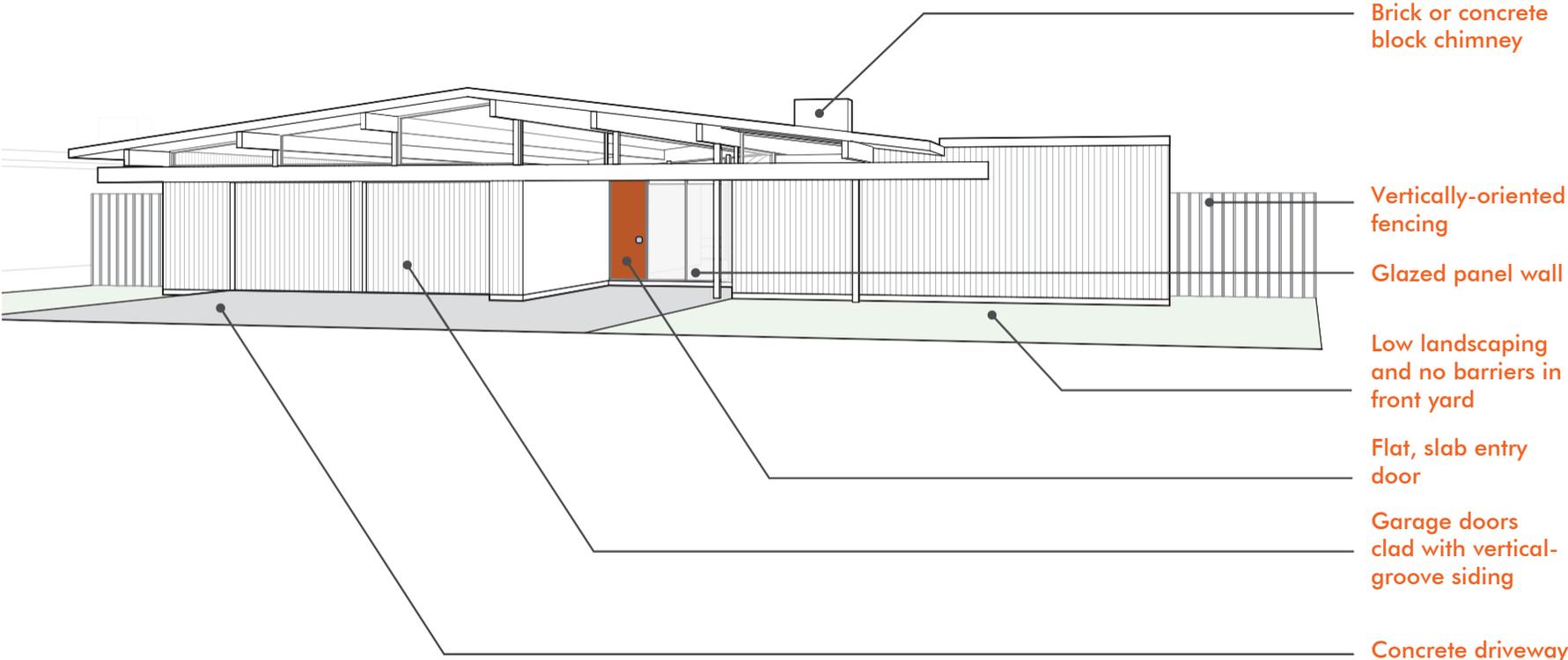
For a property to be a contributor, the primary features that enable a property to convey its historic integrity must be evident. Given the number of models, and the sometime subtle variation among the models, a property must clearly contain enough of those primary characteristics original to the specific model and the features must also retain sufficient integrity.

EXAMPLES OF PRIMARY ORIGINAL FEATURES



Not illustrated:
Solid-to-void ratio
Other roof forms original to specific models

EXAMPLES OF SECONDARY ORIGINAL FEATURES



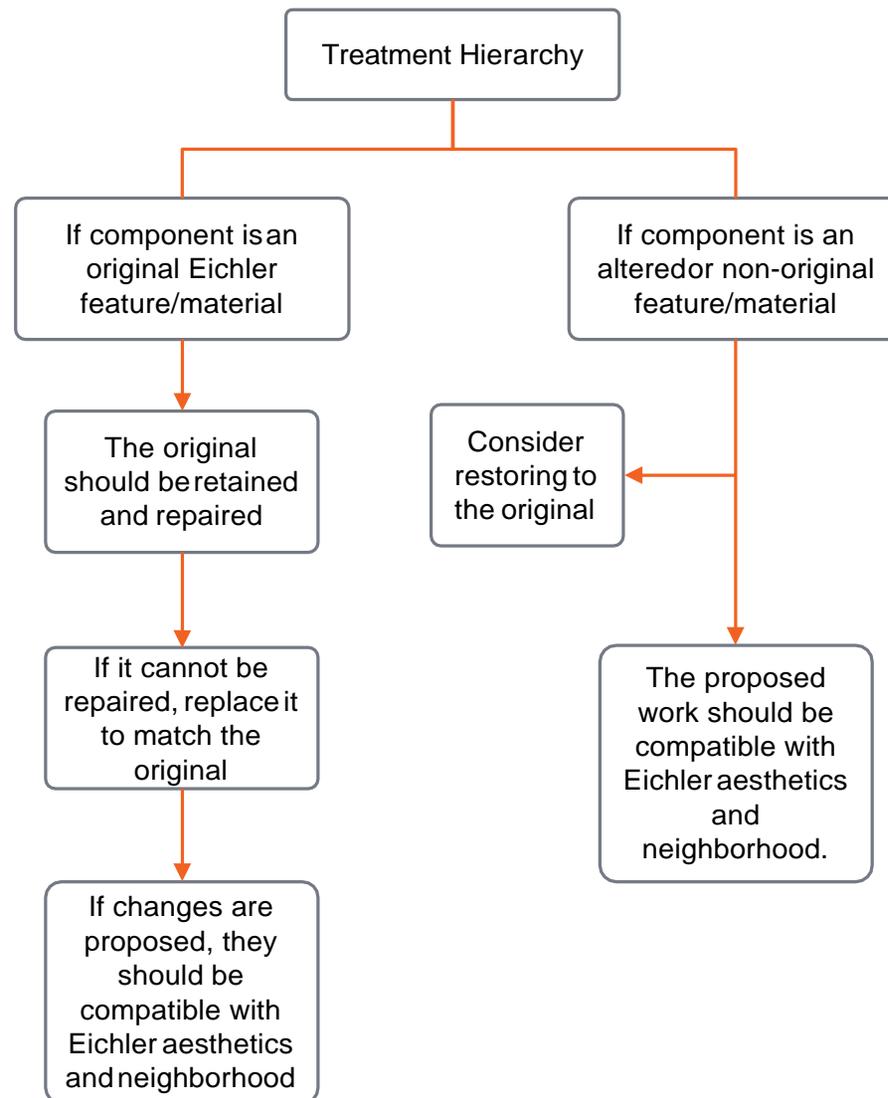
Not illustrated:
Other cladding original to specific models
Other window types

TREATMENT HIERARCHY OF ORIGINAL FEATURE VS. ALTERED FEATURE

Best practices in historic preservation encourage approaching projects with a treatment hierarchy that starts with least invasive interventions and progresses to those that involve the most change. The approach also treats original features (both primary and secondary) differently than altered features. For **original features**, effort should be made to maintain, repair, and restore before replacement is considered. **In-kind replacement** refers to the replacement of an original feature with the same material, design, and scale; for example, an original entry door replaced with a plain wood slab door with no paneling or glazing.

An original feature may have been replaced or altered with a feature that is dissimilar in material, design, and/or scale to the original – these are referred to as **altered features**. Restoring altered features to the original is encouraged, but not required. Compatible replacements—those that share the basic characteristics of the original, including material, proportion, texture, finish, or general aesthetics—are options when replacing an altered feature. As an example, if an original slab entry door has been replaced previously by a paneled door, an owner may wish to replace the door with a wood slab door matching the original (most appropriate), or a contemporary door similar in its design and character and in keeping with the Eichler aesthetics.

For houses with numerous incompatible altered features, the property may be a non-contributor to the historic district (see section above regarding Contributors vs. Non-Contributors). Homeowners may decide to replace altered features with compatible new ones, or restore the home so it has integrity as an Eichler home and may be a contributor. Please contact the Historic Preservation Planner to discuss whether this is an option for your property and the specific work that would be required to change a non-contributor’s status to contributing.



ALTERATIONS AND ADDITIONS

Maintenance includes repair of materials in place to ensure their longest possible lifespan. **Alterations** may include changes to the original material or feature or replacement with in-kind or compatible materials or features. Alterations may also include the introduction of new features or systems to ensure the longevity and relevance of the entire building, such as gutter systems to protect the building from water damage, or new air-conditioning systems to meet contemporary climate control standards.

Additions are those projects which result in an increase of building square footage and/or the alteration of a roof form. Additions may also include added or expanded rooms, or detached accessory structures like garages or Accessory Dwelling Units (ADUs). The OEDS provide guidance for **horizontal additions**, which maintain the single-story form, and are located either to the side or rear of the house. The OEDS include additional limitations of **vertical additions** on existing homes that affect the original roof form, such as tall coverings over atrium openings or second-story additions.

NEW BUILDING (INFILL) CONSTRUCTION

Few opportunities for new single-family residence construction within Orange's Eichler tracts are anticipated, as all existing lots feature an Eichler home. Unforeseen circumstances however, such as fires or natural disasters, could result in the need to replace an existing home and construct a new building within the boundaries of an Eichler historic district.

As historic districts, demolition of any building in the Eichler tracts is subject to the Orange Municipal Code (OMC) and requires Demolition Review. The proposed replacement project must be reviewed and approved prior to issuance of a demolition permit. The demolition of either contributing or non-contributing homes within the Orange Eichler neighborhoods will be subject to the Design Review process. Demolition of contributors will require an associated environmental



Vertical additions (shaded in orange) on one-story Eichler homes change their character.

review document under the California Environmental Quality Act (CEQA). When applicable, the CEQA document and associated project may require review by the Planning Commission or City Council. If you are proposing demolition of a contributing structure, please contact Planning Division staff early in the project planning stage.

DESIGN REVIEW PROCESS FOR ORANGE EICHLER TRACT OVERLAY ZONES

Design review is the approval process that ensures that projects in the historic districts conform with the OEDS. To streamline review of repairs and rehabilitation, the review of many types of projects is delegated to the Planning Division as Minor Design Review (MDR) applications.

Major projects are reviewed by the Design Review Committee. The Design Review Committee (DRC) is a body of five professionals with training, knowledge and experience with architectural and site planning projects. Members are appointed by the City Council and may include landscape architects, architects, urban planners, engineers, and general contractors. At least two of the members must have professional experience with urban planning, architectural history or historic preservation. The DRC may also serve as an advisory body to the Planning Commission or City Council for projects involving substantial new construction.

Certain projects are exempt from the DRC or MDR process for both contributing and non-contributing properties. They include general maintenance and limited repairs, exterior painting on already painted surfaces, interior work that does not affect the visible exterior, rear yard landscaping and hardscape, and plantings in the front and side yards, excluding the removal of mature trees, which may be protected by the City's Tree Preservation Ordinance.

A summary of common projects and their level of review is provided in a table on the following pages. Please contact the Historic Preservation Planner to determine what work may be exempt, qualify as an MDR, or require DRC review.

How to Plan for a Successful Project using the Design Standards

The following steps will help to navigate the process for projects reviewed under the OEDS:

- 1. Become familiar with the OEDS.** Review the OEDS and determine which sections apply to the project. Be sure to address all applicable design standards during project development.
- 2. Review the property's context and building's features.** After reviewing the OEDS, identify the property's original features and how they may be affected by the project. Determine how the project will fit into the neighborhood in which it is located. The project should address the design standards related to both the context and the individual buildings on the property.
- 3. Consult with Planning Division staff.** Consult with staff prior to preparing final drawings or submitting an application. Staff can provide guidance and assist in identifying how your project meets or is in conflict with the OEDS.
- 4. Engage professional design help.** Applicants are encouraged to consult with an architect or specialists with experience in historic preservation and/or Mid-Century Modern architecture. Working with a professional to develop a clear set of project drawings will likely save time and money during the review process. While this is not required, it is strongly encouraged for all projects.
- 5. Prepare and submit a complete application for review.** A DRC/MDR application must be submitted for all projects requiring review. The type of application will depend on the scope of work. The application must provide adequate information to thoroughly understand the proposed project, and typically includes detailed drawings. The drawings should be to scale and clearly depict the proposed scope of work.
- 6. Staff reviews the application.** For a MDR application, staff will review the application when submitted at the Planning Division Counter. If the information provided is complete and the project meets the OEDS, it can generally be approved at the counter. For a DRC application, staff will review the application within 30 days of submittal. Depending on the complexity of the project, staff may request additional information or modifications to the plans. Staff will schedule the project for a DRC meeting and will make a recommendation to the Committee only after staff's comments have been responded to and the application has been deemed complete.
- 7. Attend the scheduled Design Review Committee meeting.** The DRC meets on a regular schedule. More information regarding the DRC meetings and agendas are available on the City website: www.cityoforange.org. Both the applicant and any design professionals who worked on the project should attend the meeting to answer questions and comments from the DRC. Applicants will receive a copy of the meeting agenda and staff report for the project in advance of the meeting.

MINOR DESIGN REVIEW (MDR)

An MDR application is required for minor work on both contributing and non-contributing properties within the historic districts. MDR is a streamlined review process for projects involving repairs or minor alterations that cause no substantial change to the features or materials of the building. Applicants must file an MDR application with the Planning Division. Building permits may be required for MDR projects.

The majority of projects will be MDR and reviewed by the Community Development Director or designee. Depending on the complexity of the changes proposed, staff may refer the project to the DRC for final determination.

Should staff determine that a project does not meet the OEDS, it will not be approved until modified to comply with the Design Standards. Staff's determination may be appealed to the DRC. All appeals shall follow the process described in the OMC.

DESIGN REVIEW COMMITTEE (DRC)

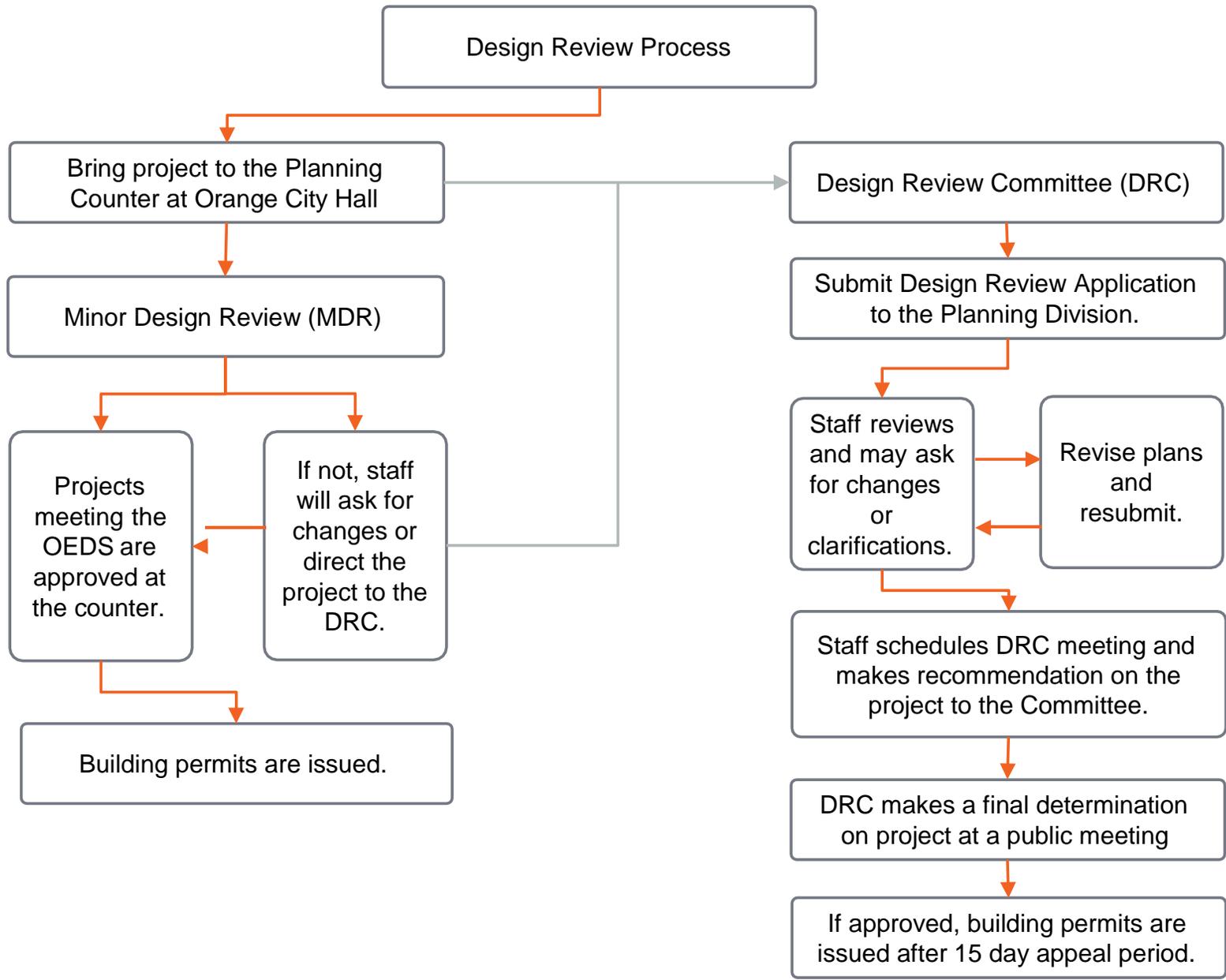
DRC approval is required for major work on both contributing and non-contributing properties within the historic districts. Applicants must file a Design Review application with the Planning Division, following the procedures outlined in the OMC and the Planning Division Land Use Project Application. The DRC will conduct a public meeting and make a determination on the proposed project.

The Committee may approve, approve with conditions, deny or continue a project. A continuation may be granted if the applicant is willing to make modifications to the project as recommended by the DRC. A DRC determination may be appealed to the Planning Commission under the OMC.

Larger or more complex projects may also require review by the Planning Commission and/or City Council, depending on the review process required under the OMC. Because historic resources are granted certain protections by CEQA, projects that have the potential to adversely impact a historic property may also require an associated environmental review process. Consult with City staff on the required approvals.

Any project's visibility from the street is determined by Planning Division staff. Generally, visibility includes all portions of the front and side façades that may be seen from an adjacent street or sidewalk. Areas obscured only by landscaping are considered visible.

Building permits are commonly required for projects requiring DRC review. Building permits are issued by the Building Division only after approval by the DRC.



COMMON PROJECT TYPES AND REQUIRED REVIEW PROCESS

This table summarizes typical projects and their required review process. Depending on the complexity of a project, staff may refer the application to the DRC for final determination. Demolition of a contributor would require review by the Planning Commission or City Council under the OMC.

Project Type	Contributor	Non-Contributor	Reviewed By
EXTERIOR			
Maintenance with no change to design or materials of building and not including abrasive or destructive cleaning methods	Exempt	Exempt	N/A
Repainting previously painted exterior surfaces	Exempt	Exempt	N/A
Paint on previously unpainted exterior surfaces	MDR	MDR	Staff
Repair or re-roofing with in-kind or compatible materials and no significant aesthetic change	MDR	MDR	Staff
Insulating roof with no significant visible change in appearance	MDR	MDR	Staff
Atrium covers (flush with the roof line)	MDR	MDR	Staff
Exterior cladding – in-kind replacement	MDR	MDR	Staff
Windows/doors – in-kind replacement	MDR	MDR	Staff
Foundation/concrete slab repairs visible from the street	MDR	MDR	Staff
In-kind replacement of an original exterior (primary or secondary) feature	MDR	MDR	Staff
Restoration of missing or altered exterior feature to original	MDR	MDR	Staff
Replacement of missing or altered exterior feature with compatible feature	MDR	MDR	Staff
Replacement of secondary original features (including entry and garage doors) with compatible replacements, even if original is not deteriorated	MDR	MDR	Staff

Project Type	Contributor	Non-Contributor	Reviewed By
EXTERIOR (CONT.)			
Replacement of original primary features with compatible replacements, even if original is not deteriorated	DRC	DRC	DRC
Roof line and form alterations	DRC	DRC	DRC
Atrium covers (above the roof line)	DRC	DRC	DRC
New window or door openings visible to street	DRC	DRC	DRC
Major visible changes that do not follow the OEDS	DRC	DRC	DRC
Complex or cumulative projects that may have the potential to change the character of the house and/or district	DRC	DRC	DRC
Demolition of contributors and non-contributors	DRC	DRC	DRC**
Relocation of contributors and non-contributors	DRC	DRC	DRC
INTERIOR			
Interior alterations, including atrium spaces, with no change to exterior	Exempt	Exempt	N/A
Interior alterations, including atrium spaces, that are visible from the street	MDR	MDR	Staff
YARDS			
Minor front and side yard landscaping/planting (excluding fences, walls, hardscaping and removal of mature trees)*	Exempt	Exempt	N/A
Landscaping, hardscape and uncovered patios in rear yard not visible from the street	Exempt	Exempt	N/A
Substantial front and side yard modifications visible from the street or adjacent properties	MDR	MDR	Staff
Hardscape (addition, expansion, or replacement) within front or side yards when visible from the street	MDR	MDR	Staff
Fences or walls in front or side yards visible from the street	MDR	MDR	Staff
Patio cover in side and rear yards	MDR	MDR	Staff

Project Type	Contributor	Non-Contributor	Reviewed By
MECHANICAL EQUIPMENT			
Mechanical equipment replacement or installation on the exterior	MDR	MDR	Staff
Solar panels	MDR	MDR	Staff
DETACHED ACCESSORY STRUCTURES			
Addition to existing accessory structure (resulting in less than 120 square feet in total size)	MDR	MDR	Staff
Addition to existing accessory structure (resulting in more than 120 square feet in total size)	DRC	DRC	DRC
New construction less than 120 square feet	MDR	MDR	Staff
New construction greater than 120 square feet	DRC	DRC	DRC
Demolition of accessory structures	MDR	MDR	Staff**
Relocation of accessory structures on same lot	MDR	MDR	Staff
ADDITIONS AND NEW CONSTRUCTION			
Horizontal additions	DRC	DRC	DRC
Two-story and other vertical additions	DRC	DRC	DRC
New single-family (infill) construction	DRC	DRC	DRC

* The City's Tree Preservation Ordinance may protect mature and/or historic trees from removal. When considering removal of trees on private property, consult with the Community Services Department regarding a Tree Removal Permit. Information about maintenance and/or removal of street trees should be directed to the Public Works Department.

** Demolition of contributing structures (including accessory structures that may be from the period of significance and considered contributing) may require an associated environmental review document under the California Environmental Quality Act (CEQA). If so, the CEQA document and associated project may require review by the Planning Commission or City Council. If you are proposing demolition of a contributing structure, please contact staff early in the project planning stage.



Chapter 3:
HISTORY AND CHARACTERISTICS
OF ORANGE'S EICHLER TRACTS

CHAPTER 3: History and Characteristics of Orange's Eichler Tracts

A BRIEF HISTORY OF EICHLER HOMES, INC.

The post-World War II period was a time of dramatic transformation in many areas of the United States, and California was no exception.¹ Across the country, speculative housing tracts were planned and built rapidly in suburban areas to accommodate a growing American middle-class consumer. Residential designs constantly adopted newly available materials, consumable goods, and aesthetic trends that promised to transform the lives of Americans for the better—to make living easier but also more fulfilling. California's varied landscape and favorable climate formed an ideal setting for the suburban dreams many Americans harbored as the postwar era progressed.

No American real estate developer may have better embodied the forward-thinking and entrepreneurial spirit of this period than Joseph Eichler. When Eichler began to build houses in the San Francisco Bay area in the late 1940s, he aimed to provide the highest quality of houses and amenities to a professional class who, in large part, had not been able to afford progressive architectural design in the past. Eichler's company, Eichler Homes, Inc. marketed three important concepts—design, affordability, and community—to Californians for two decades.

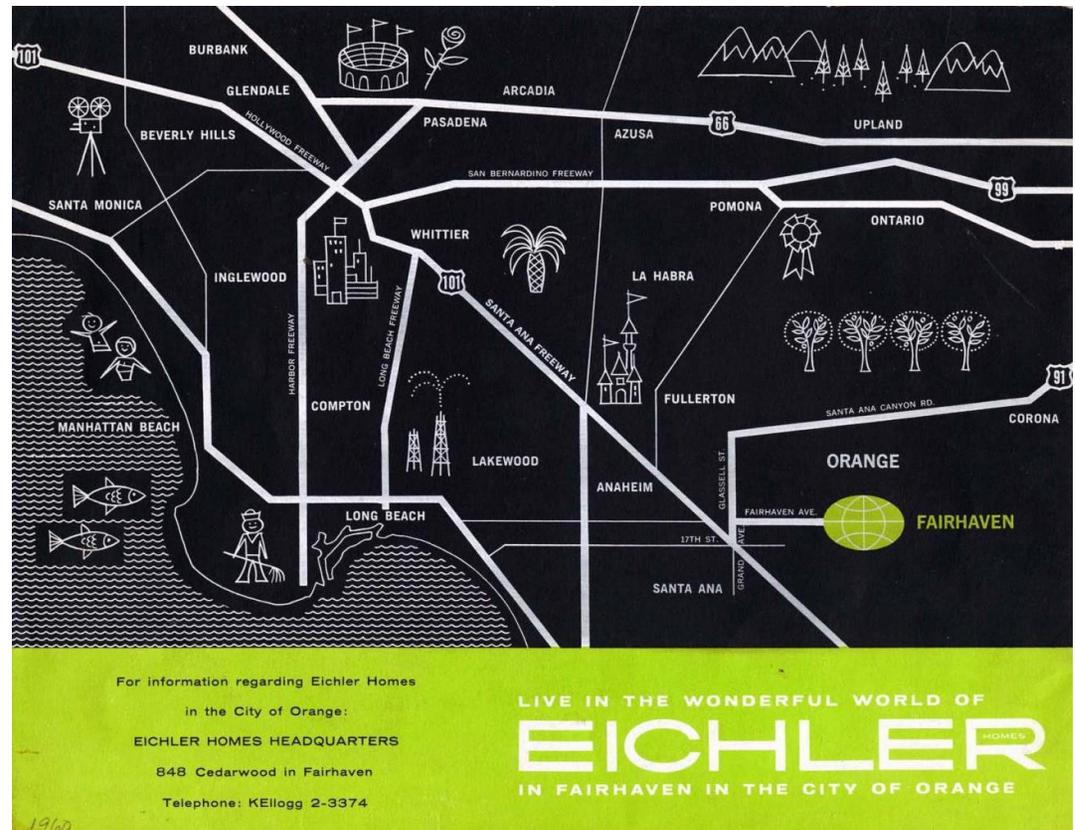


Joseph Eichler. Source: Palo Alto Historical Association.

Prolific throughout California, Eichler constructed over 11,000 homes during his career as a merchant builder.

He chose talented designers, first San Francisco's Anshen & Allen, then Los Angeles-based Jones & Emmons, and finally Claude Oakland & Associates, who shared Eichler's interest in Modern design, which was unconventional for postwar suburban tract housing.

While Eichler was not the only builder who held the principle that well-designed homes should be affordable and would provide many with a high quality of life, he enacted this principle at an impressive scale. Prolific throughout California, Eichler constructed over 11,000 homes during his career as a merchant builder. Of these homes, only a handful of tracts were constructed in Southern California. Approximately 100 homes were built in Thousand Oaks in Ventura County; another 108 were constructed in Balboa Highlands in the City of Los Angeles, Los Angeles County; and 339 homes were built in three tracts in the City of Orange, Orange County. For more on the Eichler architects, please see the Appendix.

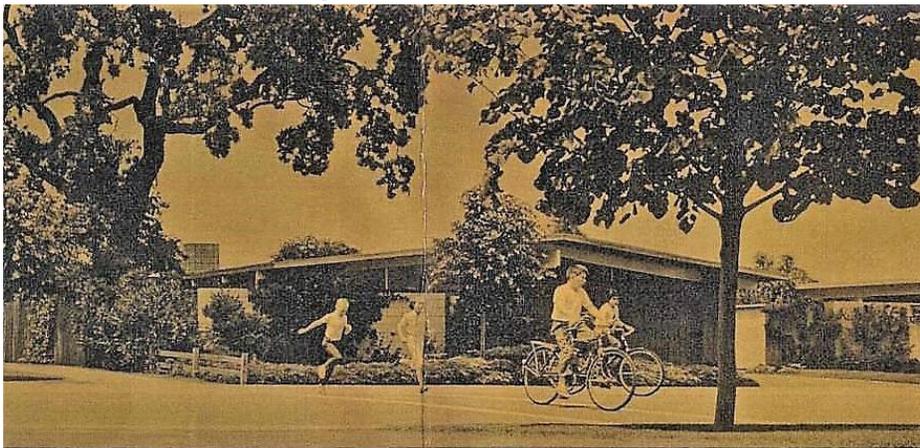


Eichler Homes, Inc. brochure for Fairhaven. Source: Orange Public Library.

FAIRMEADOW (1962)

The second tract developed by Eichler Homes in Orange was the Fairmeadow tract, located in the central area of the city. Completed in 1962, the 34-acre tract features 119 post-and-beam homes designed by Anshen & Allen, Jones & Emmons, and Claude Oakland. The three architecture firms designed five models and three unique one-off designs that contribute to the Eichler neighborhood characteristic of consistency balanced with variation.

Promotional brochure for Fairmeadow in Orange, California, ca. 1962.
Source: Orange Public Library.



EICHLER HOMES IN FAIRMEADOW

Fairmeadow Tract



Maps are available for download at the City's website,
<http://www.cityoforange.org/1790/Eichlers>.

CHARACTERISTICS OF ORANGE'S EICHLER TRACTS

Each of the three Eichler tracts in Orange has qualities that distinguishes it from the others. They share many similarities, however, that make them distinct from other Orange neighborhoods. As historic districts, each tract has a significant concentration of similar buildings that unify the district historically and aesthetically. The distinct character of each tract is derived from the spatial relationships between the houses and their setting that convey a visual sense of the historic environment. This includes the forms of individual houses and elements such as street pattern, lot size, relationship of buildings to the street, and presence of landscape features like trees or fencing.

Like other historic districts, the three Eichler tracts contain contributing elements—those that add to the character of the place. They also contain non-contributing elements, which include houses that have been altered so as to no longer contribute to the district's character, or that were constructed after the tract was developed.

For the most part, the Orange Eichler tracts have high integrity with an impressive majority of contributing houses. Most of the inappropriate alterations found among the non-contributors are reversible, affording opportunities for the properties to be restored and become district contributors.



Individual houses within Orange's Eichler tract contribute to the character of each historic district.



As a collection, the individual houses, streetscape, road patterns, and other factors create a cohesive whole that define the historic districts.

NEIGHBORHOOD CHARACTERISTICS

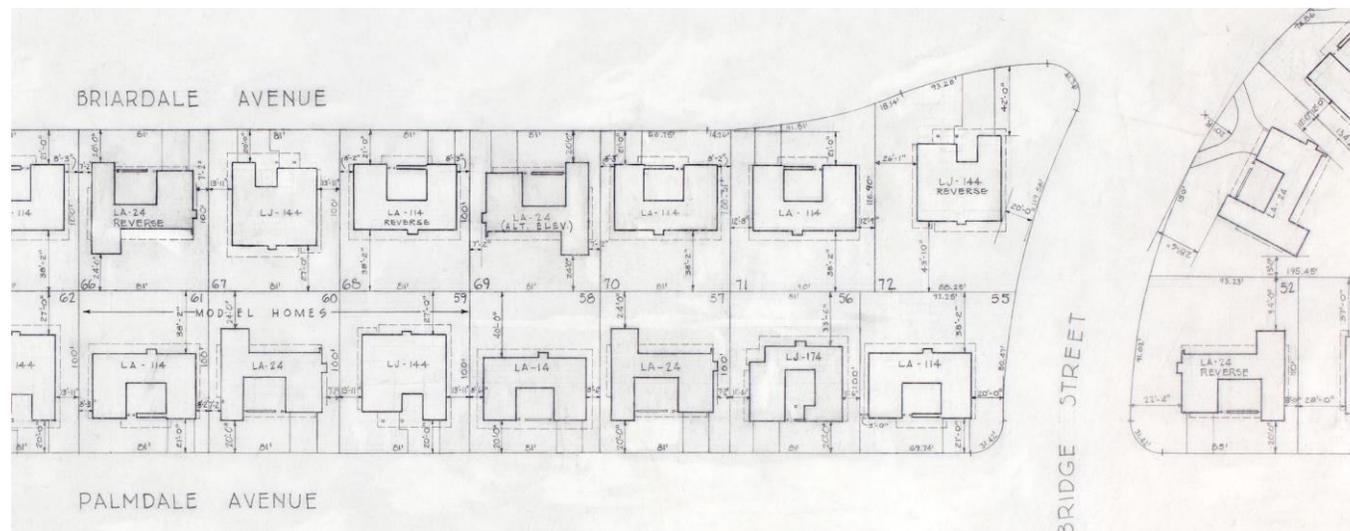
ROAD PATTERNS AND STREETSCAPES

Eichler neighborhoods were developed as cohesive tract developments with distinct road patterns and lot configurations. All three Eichler tracts in Orange feature cul-de-sacs and curved streets combined with straight streets. Fairmeadow features orthogonal streets and rectangular blocks with a curvilinear street and a cul-de-sac at the east. The curvilinear streets of Fairhills and the east side of Fairhaven respond to the overall irregular tract shape.

Streets tend to be broad with concrete sidewalks and driveway curb cuts. A parkway (landscape strip) is located between the street and the sidewalk. Some streets feature a mature tree canopy of regularly-spaced street trees.

LOT CONFIGURATIONS & SETBACKS

Most of the lots are rectilinear with the most typical lot width at 70 to 75 feet. The irregular shape of Fairhills and Fairhaven developments, and the curved corner and cul-de-sac of Fairmeadow, result in lots of varying shapes and dimensions. Corner lots in particular may be wider and lots fronting cul-de-sacs often have larger but irregular shaped lots. Some of the lots on the east side of South Woodland Street in Fairhaven are unusually deep, and were originally proposed as flag lots. Eichler homes are typically placed on their lots with a consistent setback of at least 20 feet from the front property line. Side yard setbacks vary throughout the neighborhood due to the curvilinear streets and irregular lot configurations, but most are at least five feet with many Eichler homes having at least one wider side setback.



Lot configuration in Fairmeadow. Source: Fairmeadow Plot Plan, Oakland & Imada Collection, University of California, Berkeley.

TOPOGRAPHY AND LANDSCAPE FEATURES

The topography of Orange's Eichler neighborhoods is generally flat, though Fairhills is in an area with gentle slopes. The eastern boundary of Fairhaven is marked by an underground pipeline and former railroad right-of-way. In Fairhills, a concrete-lined drainage channel runs behind the lots on the north side of Elsinore Avenue and the south side of Valencia Drive. A similar concrete drainage channel is behind the houses on Glendale Avenue in Fairmeadow and marks the tract's north boundary.

Nearly all houses front on a street.⁷ Many have a front yard that features lawns and low groundcover, shrubs, and one or two specimen trees. Paved driveways lead directly to the garage and/or carport, and walkways, where they exist, lead directly to the front entrance. Originally, each lot had fencing for the side yard that was next to and set back from the front facade to create a clear separation between the public and the private realms.



Front lawns with specimen trees when first planted in Fairhaven. Source: A. Quincy Jones papers, Library Special Collections, Charles E. Young Research Library, UCLA.



Matured trees and varied yard plantings.

BUILDING SCALE, MASSING & RELATIONSHIPS

The Eichler homes in Orange are all originally one story in height and feature horizontal orientation and box-like massing, with clean orthogonal or angular lines. Floor plans are often typically square or U-shaped and organized around a center atrium or front carport/courtyard entry. The houses were also carefully arranged by Joseph Eichler and his architects so they uniquely fit each individual lot and windows do not directly face their neighbors, fostering a sense of privacy within each property. Many models designed by Eichler's architects Anshen & Allen, Jones & Emmons, and Claude Oakland featured a mirrored or reversed floor plan to address privacy issues and add visual variation to the streetscape.

VARIETY OF MODELS

Each of Orange's Eichler neighborhoods has several distinct models, with only one model (the broad gable LJ-144) found in more than one tract. The models can be categorized generally by their dominant roof forms as flat, broad gable, central gable, and others. Broad gable and flat types are the most common and account for about 75% of the homes total. Central gable types are about 20% and the remainder are other roof forms such as shed roofs (in Fairhaven only) or full-width gable with no flat roof sections (in Fairmeadow only).

From the front façades, the models can seem very similar within each category, especially among the broad gable types. The parking configuration – whether a carport and a single garage, or two side-by-side garages – is one way to distinguish them, as is additional cladding material, like concrete block, and types of front windows, if any. Design details like trellises, cantilever cross beams, and recessed entries also help to visually distinguish the models.

Mix of low, horizontal models create a unified, but varied streetscape. Source: A. Quincy Jones papers, Library Special Collections, Charles E. Young Research Library, UCLA.



OTHER DISTINCT FEATURES OF EICHLER HOUSES

The unique features that characterize Eichler houses are discussed in more detail with each design standard in Chapter 4: Original Eichler Features. Below are other features common to Eichler houses.

CONSTRUCTION TECHNIQUE

One of the most characteristic aspects of Eichler homes is their post and beam construction method, built on a concrete slab foundation. "Post and beam" is a type of timber construction in which vertical posts and horizontal beams create a framework that carries the roof load and affords greater flexibility for expansive glazing. The post and beam construction method can often be identified by the exposed beam ends under roofs of Eichler homes.

Eichler's architects recommended this approach because of three primary benefits: houses could be built quickly one after the other, it offered a great deal of flexibility for the interior arrangement of spaces, and it allowed for large, uninterrupted expanses of glazing on the rear façades. At the Orange Eichler homes, the posts and beams are spaced six to seven feet apart and carry a roof decking made of tongue and groove redwood that is exposed as the interior ceiling.



Post and beam construction visible at interior of Eichler houses. Source: Al Waldis, A. Quincy Jones papers, Library Special Collections, Charles E. Young Research Library, UCLA.

ATRIUM

Almost all models in the Orange Eichler tracts feature an atrium. The glass-enclosed atrium, open to the sky and with planting beds, was an integral part of Eichler's California Mid-Century Modern design that placed an emphasis on indoor-outdoor living while offering both transparency and privacy. The atrium is generally part of the entry sequence, located near the central front area of the home. The entry door often leads into the atrium, from which a bedroom, office, or the multi-purpose or living room could be accessed from one of the sliding glass doors on the three other sides of the atrium. Solid walls within the atrium also had vertical-groove plywood cladding.



Eichler atrium by Jones & Emmons in Conejo Valley. Source: © J. Paul Getty Trust. Getty Research Institute, Los Angeles (2004.R.10).



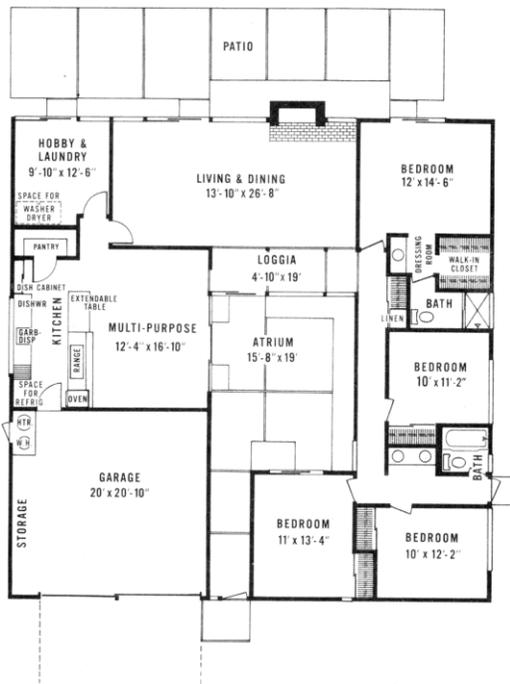
Atrium. Source: Orange Public Library.



Atrium is behind the glass-panel wall.

INTERIOR PLANS & FEATURES

Eichler homes were unusual at the time of their construction for their use of open floor plans with a living/dining room and a kitchen/multi-purpose room. Communal living spaces often connect directly to the rear yard. The homes typically feature four bedrooms. Radiant heating is embedded in the concrete slab flooring of most homes; some in Fairmeadow originally had underslab ductwork for cooling. Interior walls often feature mahogany paneling, though the vertical-groove plywood was also common as a way to extend the exterior into the interior.



Open floor plan. Source: Plan OC-574, Oakland & Imada Collection, University of California, Berkeley.



Mahogany paneling and connection to rear yard. Source: Orange Public Library.

Endnotes:

¹ Unless otherwise noted, this chapter has been adapted from Paul Adamson and Marty Arbunich, *Eichler: Modernism Rebuilds the American Dream* (Salt Lake City: Gibbs Smith Publisher, 2002).

² This section, unless otherwise noted, is based on the National Register of Historic Places Registration draft nomination forms for the Fairhaven, Fairmeadow and Fairhills historic districts prepared by JANUS | Robert Imboden, June 2018.

³ Claude Oakland worked at Anshen & Allen starting in 1950 and oversaw many of the firm's designs for Eichler Homes, Inc. during the next ten years. Based on the architectural drawings in his archives at the College of Environmental Design, UC Berkeley, he also worked on or was architect of record for some of the designs attributed to Jones & Emmons.

⁴ Only one model (two homes) does not include an atrium in the Fairhaven tract.

⁵ Don MacMasters, "First Tract with an Atrium," *Los Angeles Times*, April 3, 1960; "Tract Project by Anshen and Allen, architects," *Arts & Architecture* (April 1960), 30-31.

⁶ Barbara Lenox, "A House with a Built-In View," *Los Angeles Times*, January 5, 1964.

⁷ One property in Fairhaven has its front door at a side façade not facing the street.



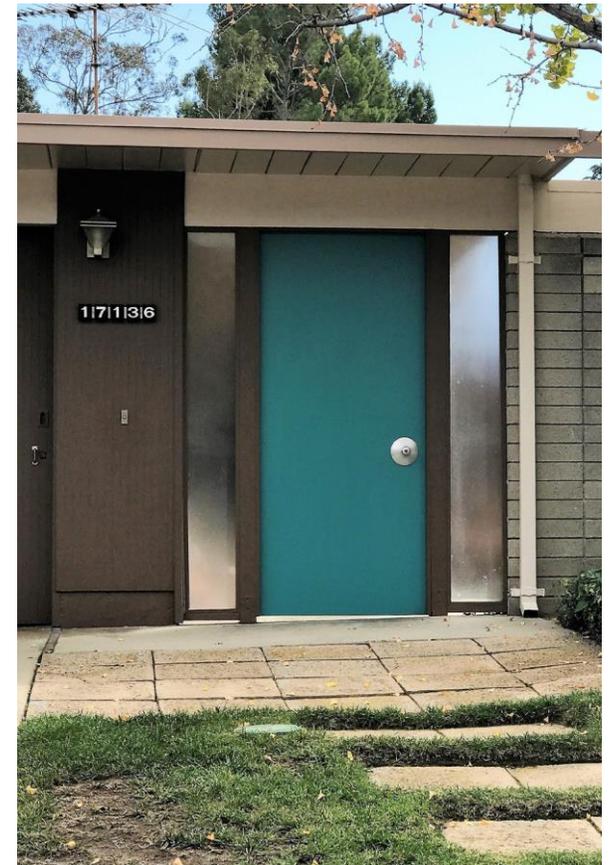
Chapter 4:

STANDARDS FOR ORIGINAL
EICHLER FEATURES

CHAPTER 4: Standards for Original Eichler Features

This chapter addresses the features common to Orange's Eichler homes. The construction techniques, design elements, and materials originally used were considered forward looking, yet affordable to keep the construction and purchase cost low in order to attract middle-class homebuyers. The characteristic features of Eichler homes are simple and not elaborate, and even minor changes have the potential to alter the character of the houses and the neighborhoods. At the same time, the buildings are at the age where they require maintenance and repair; in some cases, elements have reached the end of their natural life cycles.

The goal is to assist owners, City staff, and the Design Review Committee in understanding where changes can or should occur, where they should not, and how, while maintaining the essential feeling and character of the Eichler neighborhoods. Changes to primary original features have the potential for greater impact to the historic district than secondary original features, and may be reviewed with different standards.



A brightly painted front door is an original characteristic of an Eichler home.

4.1 ROOFS

The simple roof form is a primary feature for both an individual Eichler home and neighborhood cohesion. The different forms offer a degree of visual variety that nonetheless creates a recognizable pattern that ties an Eichler neighborhood together.

The roof and its components, such as the slope, fascia, and beam ends, reinforce the architectural style of the residence, while the unassuming roofing materials (often, tar and gravel) support the modest appearance of the home.

CONSIDERATIONS FOR ROOFS

The roof on an Eichler home is an important feature, but it is also a place where improvements and changes can and should occur when the roofing has reached the end of its service life, which typically is every 20-30 years. The important features of the roof to retain includes its shape, structure, and its lightweight, planar form.

When replacing roofing, consider incorporating other improvements, such as:

- Insulating the roof as the preferred way to improve the house's energy efficiency and comfort, well before replacing original windows with double-pane glass or improving the wall insulation.
- Addressing leaks or ponding with subtle drainage or design changes that do not affect the overall appearance of the roof.
- Updating or installing additional electrical conduits, especially for equipment like ductless HVAC systems and ceiling lights.
- Installing or replacing outdated or inefficient HVAC systems or solar panels with up-to-date options that do not require ductwork or are less visually intrusive. Often, old equipment from 20 or 30 years ago is significantly less energy-efficient than current models.

Original Roof Features

Roofs of Eichler homes are instantly identifiable. The Orange Eichler neighborhoods include a variety of roof forms generally grouped into a few dominant categories:

- Flat roof
- Low, broad gable roof with a flat-roof wing
- Prominent central able with flat-roof wings, and
- Others, such as full-width gable and shed roof with flat-roof wings

Common characteristics include:

- Low-pitched roofs, typically ranging from 1:12 to 3:12; one model in Fairhills has a steeply pitched central gable roof
- Composition roofing
- Gravel-covered asphalt on flat and low-slope roofs
- Composite shingles on more steeply-pitched roofs

THE FOUR TYPES OF ROOFS



Flat roof



Broad gable roof



Central gable roof



Shed roof

DESIGN STANDARDS FOR ROOFS

4.1.1 Original roof lines and forms shall be preserved.

- a. Altering the shape of the original roof so it visibly deviates from the original form is not appropriate (i.e. modifying a flat roof to sloped roof, low pitch to a high pitch, etc.).
- b. Significantly raising a roof above its original height or adding a new roof form that substantially alters the look of a home is not appropriate.
- c. The narrow profile of the roof edge, which reflects the building's light-weight construction, should be retained.

4.1.2 The distinct features at the roof line shall be retained.

- a. Overhanging eaves, exposed beam ends, exposed tongue-and-groove roof decking, wood fascia boards, and original trellis elements are visual hallmarks of Eichlers that shall be retained and repaired.
 - i. If deteriorated and replacement is required, replacement should be in-kind—matching the original feature.
 - ii. Minor alterations may be allowed if they do not significantly change the building's appearance.
- b. Exposed beam ends should be maintained to prevent deterioration. Apply wood preservative to these vulnerable elements to preserve them.
- c. Boxing in the exposed beam ends or applying aluminum or vinyl fascia that cover the original wood fascia is not appropriate.
- d. Thin metal caps meant to protect the top of exposed beams are appropriate if they are tight to and painted the same color as the beam to reduce visibility.



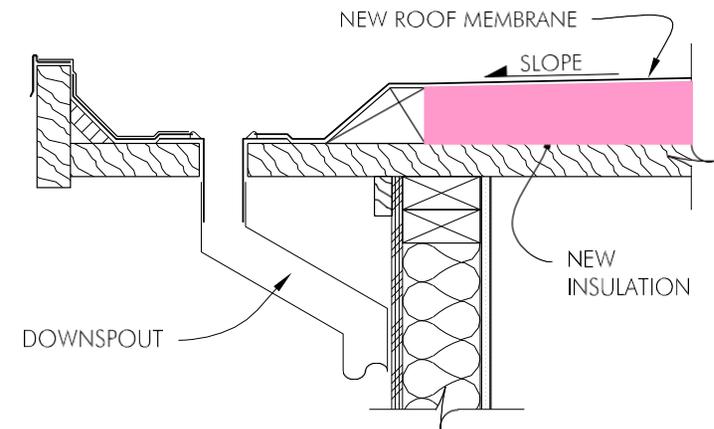
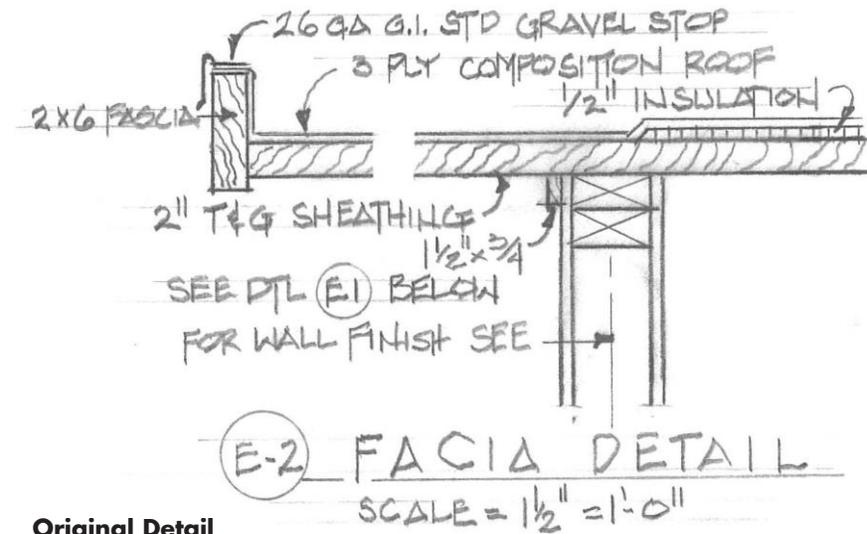
Roofs can be insulated from above without significantly changing the appearance of the house.

Insulating Roofs

Insulating the roof can help reduce energy use and supplement the existing insulation in the exterior walls.

- Insulating from above allows the characteristic tongue-and-groove wood ceiling to remain exposed.
- Avoid highly visible installations.
- Insulation is only needed over enclosed living spaces; overhanging eaves, atriums, and carports do not need to be insulated.
- Retain a clean roof edge and the low profile of the roof by tapering the insulation to an end at the overhanging eaves, or conceal the edge behind the fascia board.
- At steeply-pitched roofs, installing rigid insulation below composite shingle roofing material would not significantly alter the appearance of the roof

Compared to the original detail (top right), insulation can be installed on flat roofs to be minimally visible by only insulating above living spaces, tapering toward the edge, and keeping the insulation below the top of the fascia board (bottom right). Tapering the insulation can improve drainage on flat roofs.



Example

4.1.3 Replacement roofing materials shall be consistent with the appearance of the original and not distract from the design of the residence.

- a. For flat roofs and low-pitch roofs, built-up roof finished with gravel (original), mineral surfaced cap sheets, single-ply membranes, and foam are appropriate roofing materials.
- b. On steeply-pitched roofs that are more visible, composite shingles are appropriate.
 - i. Foam insulation with its typically white color, is not appropriate on steeply-pitched roofs.
- c. Clay tile, concrete tile, slate, and standing-seam metal roofing are not appropriate.



Composite shingles are appropriate on the steeply-pitched central gable roofs.

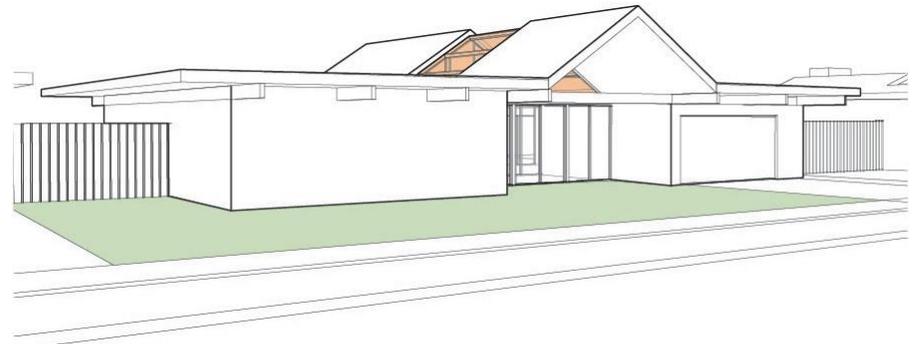
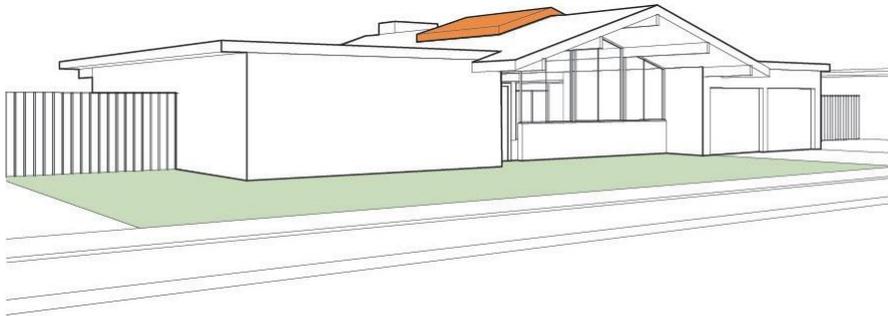
Common Roof Issues

- **Ponding and leaking may be common on flat roofs.**
 - If installing insulation, consider foam insulation that can have a built-in slope tapering toward the overhanging eave.
- **Beams may experience cracking or rotting as they age. In these instances, investigate the severity of damage, and attempt to repair the beam whenever possible using appropriate methods such as epoxy injection or Dutchman patches.**
- **If required, replace portions of the beam with the help of professionals in order to match the dimensions and performance of the original beams.**

4.1.4 Atrium and roof openings shall be preserved in place.

- a. Original roof openings in overhangs and carports shall not be enclosed.
- b. Enclosure of the atrium roof opening is discouraged.
- c. If an atrium roof enclosure is proposed, it should be parallel with and tight to the roof line.
 - i. Atrium covers flush with or in the same plane as the roof may be appropriate.

- ii. Atrium covers that rise slightly above the original roof level may be appropriate, as long as they do not substantially alter the roof form and are not highly visible from street views.
- iii. For steeply-pitched roofs where atrium covers in the same plane as the roof would be highly visible, the covers should continue to give the impression of an atrium opening and should not have the same roofing material as the surrounding roof.



Enclosure of the atrium roof is discouraged, but if covering the atrium, atrium covers should be flush with or rise minimally above the roof line. Atrium covers that are flush and transparent help to preserve the open character of the atrium.

4.2 EXTERIOR CLADDING MATERIALS

The Eichler homes in Orange were originally clad with a vertical-groove plywood siding, finished with an opaque stain. Select models included a feature wall at the front façade with either cedar shingles or concrete block; others included a concrete block planter integrated with a glass-panel wall. As a primary original feature, the distinctive vertical-groove cladding contributes significantly to the appearance of both the home and the neighborhood. The secondary cladding materials offer occasional variety and help to distinguish between models. Together, the consistency of the siding, along with the limited palette of exterior materials, are major hallmarks of the Orange Eichler tracts that are important to maintain.

CONSIDERATIONS FOR EXTERIOR CLADDING

Most of the Orange Eichler homes retain their original vertical-groove siding. The siding was originally stained, though most have since been painted. Maintaining stained finishes where they still exist is encouraged. For those where painting has occurred, new paint should be applied sparingly, as excessive paint coatings diminish the character of the vertical grooves and the original texture.

Deterioration of the siding, such as splintering or delamination, is often due to water infiltration or sun damage, particularly at west- and south-facing façades. Spot repairs may be possible, and should be tried first. Replacing sections with matching plywood (same groove pattern and dimensions) is also possible if the damage is beyond repair or repairs are extensive. Local specialty lumber yards are useful for matching plywood; note, the dimensions and texture of contemporary plywood panels may differ from the originals. Find logical places and breaks to replace sections, and limit how much original, non-damaged material is removed. In some cases, the removal of full-height sections may be required to avoid a visible horizontal seam, but the replaced section may be only a few grooves wide. Small sections located close

Original Cladding Features

The original cladding is a limited palette of materials:

Primary cladding was stained vertical-groove plywood finished at corners with a corner trim piece; also matching on garage doors. Grooves are cut into the plywood.

Rectangular and square concrete block are on some models. Concrete blocks are in stacked bond with aligned vertical joints. Joints are 1/4" wide, flat, and slightly recessed (known as raked joints).

- Square concrete blocks are seen on model LA-114 in Fairmeadow in the front integrated planter.

One model in Fairhaven had a feature wall of wood shingle.

A few limited models may have had a smooth Masonite board located between windows.

A clay brick or concrete block chimney at the rear or side is typical

THE FOUR TYPES OF CLADDING



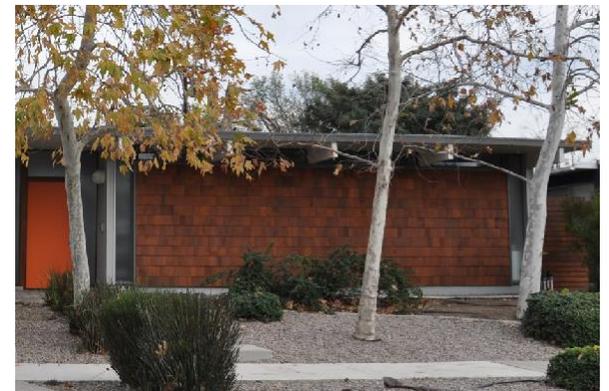
Vertical-groove plywood



Square concrete block



Rectangular concrete block

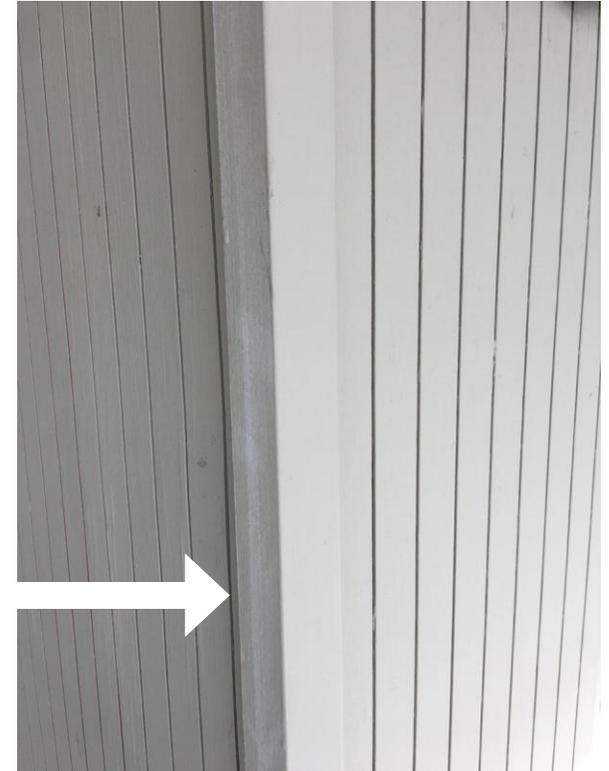


Wood shingle

to the ground may be replaced without the horizontal seam becoming highly visible. The replaced sections should be finished to best match the adjacent siding, as excessive and dissimilar patching will ultimately diminish the consistency and simplicity of the original appearance.

Other considerations for exterior cladding:

- The small, wooden corner trim piece was not intended to stand out or be an architectural accent, so it should blend with the surrounding siding.
- Limit new penetrations and openings into the siding, since any patching will be visible. This includes everything from enlarging or creating new window openings to small holes for a mini-split system's water piping.
- The exterior walls originally contained fiberglass insulation. Adding insulation at the roof (see Section 4.1 Roof in this chapter) is often easier than opening walls to replace or add wall insulation.
- Although compatible alternative exterior cladding may be considered for additions not visible from the street, use of the vertical-groove plywood is recommended in order to maintain the consistency of the original design.
- For those models with secondary cladding materials as an accent feature, alternate cladding may be considered, though retaining the original materials is encouraged.



The corner trim piece is intended to blend with the vertical-groove plywood.

DESIGN STANDARDS FOR EXTERIOR CLADDING.

4.2.1 The original exterior cladding palette shall be preserved.

- a. Vertical-groove plywood siding shall be the primary exterior cladding material.
- b. Models originally with secondary exterior materials should maintain the mix of materials.
- c. To avoid a false sense of history, materials unique to other Eichler models should not be added to a model that did not originally utilize them.

4.2.2 Original exterior cladding materials should be maintained and repaired.

- a. Original siding should be patched and repaired. The repairs should be blended with the surrounding siding so they are not highly visible.
- b. Concrete block exterior walls should be repaired using new blocks with matching dimensions, surface texture, and mortar pattern (joint width and depth).
- c. Materials not originally finished (i.e. concrete block and brick) should not be painted or stained. Similarly, elements that were originally painted or stained should not be stripped of those finishes, so as to protect those materials from deterioration.
- d. When cleaning or repairing historic materials, the gentlest means possible should be used to avoid damaging or altering the texture or finish.

Cleaning Historic Materials

- Do not use harmful treatments, such as sandblasting or harsh chemicals, when cleaning the exterior of a home, since these treatments can have severe impacts on historic fabric.
- Use the gentlest means possible of removing dirt, stains, or paint from building surfaces.
- Low-pressure water and natural bristle brushes (rather than metal) are recommended.
- Chemical cleaning agents should be tested on a small representative test area of the building in an inconspicuous location prior to extensive use.
- Tightly cover all openings and seal masonry cracks or joints when cleaning to avoid moisture penetrating the building's surface, which can lead to long-term deterioration.
- Additional information can be found in National Park Service Preservation Brief 6: Dangers of Abrasive Cleaning to Historic Buildings at <https://www.nps.gov/tps/how-to-preserve/briefs/6-dangers-abrasive-cleaning.htm>.

4.2.3 Original cladding and building materials that are too deteriorated to be repaired or repairs are too extensive should be replaced with materials that match the original materials as closely as possible.

- a. The vertical-groove siding shall be replaced in-kind on the façades visible from the street.
 - i. Homeowners are encouraged to seek local fabricators that can reproduce the vertical-groove siding.
- b. Replacement of secondary cladding with in-kind materials is appropriate.
- c. In-kind materials shall match the historic design, material, scale, size, proportion, finish, texture, detail, profile, reflectivity, and durability of the original material as appropriate.
- d. If replacing deteriorated materials, removing more than is necessary is discouraged.

4.2.4 If an alternate material is considered to replace deteriorated or non-original cladding, it should be compatible with the Eichler aesthetic.

- a. Re-cladding with material matching the original is highly encouraged, especially at the façades visible from the street.
- b. Compatible cladding materials are simple, with a smooth profile, and without a busy appearance. Vertical orientation, whether in the components or visual pattern, such as the straight mortar joints of stacked concrete block walls, is also important.
- c. Stucco, stone, brick, shingles (unless used historically), synthetic, and other materials are not appropriate.
- d. Wood clapboard siding, with a sawtooth horizontal profile, is not an appropriate cladding material.

- e. Wood cladding that differs from the original in finish, proportion, orientation, or wood species/type may be appropriate if it has a generally flat and smooth profile.
- f. Vertical wood board, which is found at Eichler neighborhoods outside of Orange, and fiber cement or composite board may be appropriate if are generally flat and smooth. Overlapping boards and board and batten are not appropriate.

4.2.5 If an alternate material is proposed to replace secondary cladding material that is not deteriorated, it should be compatible, limited, and not damage the original materials.

- a. The considerations for compatible cladding described in 4.2.4 shall apply.

4.2.6 Removal of non-historic materials is encouraged.

- a. Where non-original materials are removed, restoration to the original material is encouraged to improve the property's historic integrity.



Materials such as stucco and brick are not compatible cladding materials. Removal of non-historic materials is encouraged.

Exterior Paint

Exterior paint schemes also contribute to the appearance of houses as seen from the public right of way and should be chosen with consideration of the neighborhood's overall aesthetic character. The Eichler homes in Orange were originally finished with earth-tone, opaque stains in order to emphasize the texture of the materials used. Entry doors were typically painted a bright accent color, as were some roof fascia.

When repainting, consider researching the homes original color scheme, or referencing Eichler's archival color palettes.

The majority of homes have since been painted, resulting in some loss of the original definition in materials. Original surfaces that have not been painted are encouraged to remain stained.

Eichler Homes, Inc. used Cabot Stains' Ranch House Hues and accent colors by Dunn-Edwards. The Eichler Network published a partial list of exterior and body accent colors that closely match original colors, as seen here. These colors are provided for historical reference and inspiration purposes, and are not required by the City of Orange.

Original Eichler Exterior Body Colors (Partial List)



Note: Colors may be distorted due to the variety of printer and computer monitor settings. Please refer to the indicated numbers and manufacturers' in-store printed catalogs for accurate paint chips. For more information on the availability of paint colors, please check the City's website or resources such as the Eichler Network website.

Original Eichler Exterior Accent Colors (Partial List)



4.3 CARPORTS

Carports are featured on many models of the Eichler homes providing covered parking in addition to the enclosed garage. A primary feature, the carports create a void that distinguishes those models, providing relief and variation on the building front. They also continue the connection to the outdoors, as often the atrium is located behind a glass-panel wall at the back of the carport. The carport affords an enhanced sense of lightness and openness at the front of the home while still providing privacy.

CONSIDERATIONS FOR CARPORTS

Some carports have been enclosed to gain more space, either as a garage or living space. Enclosure of the carport area typically creates a false sense of an Eichler model that never existed. It can also trigger other code requirements under the OMC. If additional space is needed, rear or side additions that are minimally visible from the street are preferred over enclosure of the carport.

Concerns over security have resulted in the installation of security bars or other barriers within the openings above the glass-panel wall. Most examples are highly visible and not compatible with Eichler aesthetics. New and affordable technology, including motion sensors, cameras, and other devices, can provide an increased level of security without affecting the Eichler design.

Original Carports

The carport is a recessed area toward the center of the building that has a deeply recessed rear wall and side walls of vertical-groove siding. Select models feature an operable window at the side walls. The back wall is generally composed of glass panels set within wood posts (three to five glass panels). The glass wall is typically held above the ground plane, and is also open above to the underside of the roof.

The carport paving was poured concrete as a continuation of the driveway. The ceiling is the exposed tongue-and-groove roof decking. Some models feature an opening in the roof at the carport area. The space between the underside of the roof and the beams was generally left open with no clerestory glass.

DESIGN STANDARDS FOR CARPORTS

4.3.1 Carports shall be retained in place.

- a. Enclosing the carport in full or in part with solid surfaces is inappropriate.
- b. The sense of a void should be preserved with the carport, if enclosure is considered.
 - i. Light-weight or glass enclosures may be appropriate.
 - ii. Enclosures that mimic features or conditions on other models, such as side-by-side garages on a model without them originally, are generally not appropriate.
- c. Converting carports into a garage or livable space may require other modifications, such as an additional covered parking space or infilling an original roof opening, that may not be suitable for all sites and models.

4.3.2 The openings above glass-panel walls in the carport should remain open.

- a. Enclosing the originally open areas above the glass-panel walls at the back of carports with metal bars, grates, or other materials that cause a highly visible change is not appropriate.
- b. Mesh or other lightweight materials that maintain the sense of openness may be appropriate, but should be carefully considered.
- c. Glass enclosures are discouraged, as glazing was not originally installed in those areas.



Original carport with atrium enclosed by glass panels at the back.



The former carport of this home has been converted to an enclosed garage with the recessed entry to the right. Enclosure of carports is generally not appropriate.

4.4 GARAGE DOORS

Garages of the Orange Eichler homes were positioned at the front façade facing the street. All models had at least two parking spots, either a single garage next to a carport, or a two-car garage with side-by-side garage doors; at least one model had a two-car garage and a carport. The placement and number of garage doors are important primary features that help to distinguish different models in the Orange tracts. The garage doors were clad with vertical-groove plywood to match and blend in with the rest of the house. Though the doors are a secondary feature, they are highly visible at the front of the houses. Inappropriate replacements can negatively impact both the appearance and integrity of a residence and the neighborhood.

CONSIDERATIONS FOR GARAGE DOORS

The original garage doors were finished with vertical-groove plywood to maintain a continuous appearance with the house. Owner preferences regarding door function, as well as difficulty in obtaining suitable replacement materials in the past have led to the installation of commercially produced doors. Some side-by-side doors have been replaced with a single, double-wide door. Removal of the center support post could present structural implications if the beam was not reinforced.

Today, options exist that allow both the tilt-up and sliding style doors to be fitted with automatic openers while maintaining their appearance. Matching vertical-groove plywood siding is more readily available as well, making repairs and appropriate replacements easier. Some owners have found that the original tilt-up doors may not provide adequate clearance for taller vehicles. The sliding doors may also be inconvenient, in that only one side can be open at a time. However, many commercially produced doors can be clad with vertical-groove plywood to maintain the original Eichler aesthetic.

Original Garage Doors

The garages in the Orange Eichler neighborhoods are always placed on the front facade but carefully incorporated into the roof form. The composition may be a one-door garage paired with a carport, or two side-by-side garages. One model in Fairhills has side-by-side garages and a carport.

- The original garage doors are single panels clad with vertical-groove plywood siding matching the house's exterior cladding to create a continuous surface.
- Single-car garages had manual tilt-up doors
- Side-by-side, two-car garages had sliding doors with a wood post between the doors that provided some structural support. The sliding doors were manually operated.

DESIGN STANDARDS FOR GARAGE DOORS

4.4.1 The original placement of garages at the front façade shall be preserved.

- a. Locations, sizes, patterns, proportions, and detailing of original garage openings shall not be altered.
- b. Infilling garages with habitable space is not appropriate.
- c. For side-by-side garage doors, the center wood post should be retained, or reinstalled if its removal caused structural issues.

4.4.2 Original garage doors should be maintained and repaired or retrofitted as needed.

- a. If original garage doors are present, repair or retrofit the feature rather than replace it.
 - i. The installation of automatic door openers is appropriate.
 - ii. Retrofitting sliding doors to tilt-up doors is inappropriate, if it does not significantly change the doors' visual appearance.
- b. If original doors are too deteriorated to repair, or if they have been replaced in the past, replacing in-kind to match the original is encouraged.



Original sliding side-by-side garage doors.



On this house, a set of side-by-side garage doors has been converted to a single double-wide garage door with compatible vertical-groove wood siding.

4.4.3 If a new garage door is considered, it shall be compatible with the Eichler aesthetic.

- a. A new garage door clad to match the house's siding is encouraged.
- b. Compatible garage doors may include:
 - Flat planar surfaces with no raised panels
 - Clean and simple design
 - Minimal glazing, especially in models that have clerestories in garages
 - Blends with house, both in color and texture
- c. Replacing side-by-side garage doors with a single, double-wide door is inappropriate.
- d. Where a double-wide door has already been installed, replacing it with a new, compatible double-wide garage door may be appropriate, so long as the header is reinforced to avoid structural problems.



Roll up door with vertical-groove siding pattern is appropriate.



Compatible replacements should be clean and simple.



Doors with raised panels and glazing are generally not appropriate.

4.3 EXTERIOR DOORS

Exterior doors of the Orange Eichler homes are secondary original features and are limited to three types: solid slab-type doors at the front entry, stained wood veneered hollow core doors at other entrances, and aluminum-framed, sliding glass doors.

CONSIDERATIONS FOR FRONT ENTRY DOOR

Most homes originally featured a slab-type entry door with distinctive handsets and escutcheon plate. The door was most often painted in a bold, contrasting color creating a distinguishing hallmark for the Eichler façade. Due to the consistency and prominence of the Eichler entry doors, inappropriate replacements can have a significant impact on the overall appearance and design of a residence and the neighborhood. As distinctive features of the Eichler home, original doors and hardware are encouraged to be protected and maintained when possible.

The simplicity of the original slab-type door can easily be replicated and is widely commercially available. Similar replacement hardware can still be obtained through the original manufacturer. Reproduction escutcheon plate replacements that closely replicate the originals are also available.

While many original front entry doors remain, some have been replaced. Replacements that reflect both the individuality of the homeowner's preferences, yet maintain the simple, clean character of the Eichler home entry door may also be acceptable. Where an original door is replaced, owners are encouraged to salvage and store the door (and/or its hardware) to allow for future restoration of the feature.

Original Front Entry Door

- A single, solid-core, wood slab door with no glazing.
- The hardware as a distinctive spherical knob with a large, aluminum escutcheon plate (Sargent Manufacturing brand handset).
- Doors were typically painted a bold color, such as turquoise, orange or yellow as an accent to be clearly visible in contrast to the predominantly earth-toned colors of the house.
- Most models originally had a glass transom window or opening (without glass) above the door.
- Many models had glass side lights (obscure glazing) on one or both sides of the door.

DESIGN STANDARDS FOR ENTRY DOORS

4.5.1 The original entry door location shall be retained.

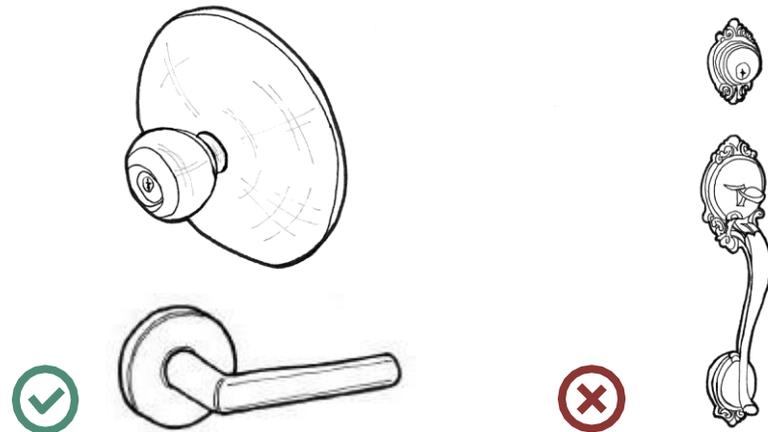
- a. The location, number, size, and proportion of the original entry door should not be changed, especially on the façades most visible from the street.
- b. Glazed sidelights and transoms should be retained where they exist adjacent to doors.
 - i. Solid infill of sidelights and transoms is inappropriate.
 - ii. Replacement of original sidelights with double or wider doors is inappropriate.
 - iii. Transoms should remain as clear glazing while obscured glazing at the sidelights is appropriate.
 - iv. Use of glass blocks and other divided glazing at sidelights is discouraged.
- c. Adding, moving, or infilling door openings at the front façade is not appropriate.

4.5.2 Original front entry doors should be maintained and repaired as needed.

- a. If a front entry door is original to a residence, repair of the feature is encouraged over replacement.
- b. If a door is deteriorated beyond repair, or if it has been replaced, replacing it with one to match the original is encouraged.
- c. Retaining original door hardware (knob and escutcheon plate) where remaining, and repairing when necessary, is encouraged.
 - i. If hardware is missing, investigate replicating the feature or utilizing new products that closely approximate the appearance of the original.



Original slab door with bright accent color and sidelights. These original features should be preserved.



It is recommended to retain original hardware when possible, or replace with a simple, unornamented handle.

- ii. If accessibility is a concern, consider a lever handle with a simple, unornamented look.
- iii. If original door hardware must be replaced, consider salvaging and storing the original hardware to allow for future restoration of the feature.
- d. Security screen doors added to the front exterior are strongly discouraged. Consider other security features that are less visually intrusive, such as hardware, lighting, cameras, etc.

4.5.3 If a new entry door is considered, the replacement shall be compatible with the Eichler aesthetic.

- a. Replacement of a non-original door with one that matches the original entry door is encouraged to retain or improve the integrity of the house.
- b. Compatible new front entry doors may include:
 - Flat plane with few (or no) flat panels
 - Clean and simple design, including hardware
 - Bright color
 - Rectilinear glazing
- c. Inappropriate doors include those with raised panels, fan lights, beveled or art glass, rustic-style, traditional-style, all metallic, and other features not in keeping with the Eichler aesthetic.
- d. If a new door is proposed to replace an original entry door, salvage and storage of the original door and/or hardware is strongly encouraged for future re-use.



Use simple, clean design for compatible replacement doors.



Maintain the original configuration with sidelight as part of compatible replacement.

CONSIDERATIONS FOR SLIDING GLASS DOORS

The Orange Eichler homes typically featured a large number of sliding glass doors to enhance the indoor/outdoor experience. Doors were frequently incorporated into extensively glazed walls, both in the atrium and at the rear of the house. The thin profiles and aluminum finish of the original doors reflect both the technology and design intent prevalent at the mid-century. Although sliding glass doors at the rear are usually not part of the public realm, they are one of the most important features that distinguishes Eichlers homes.

The repair and maintenance of the original sliding glass doors is essential, as replacement doors that authentically replicate the originals are not commercially available. Contemporary manufacturing techniques, coupled with the common use of dual-pane glazing, result in doors frames with much broader profiles. Aluminum frames are susceptible to corrosion, particularly at the exterior, which appear as pitting or white spots; cleaning with the gentlest means possible and clear coating may improve the overall appearance. Proper maintenance of the doors' glide wheels and locking mechanisms is also important, as replacement parts are often difficult to obtain.

Individual replacement of a single door can be problematic, when multiple doors are often visible within the open floor plan of the home. Some homeowners are also displeased with the original design that placed the screen on the interior side of the door.

Original Sliding Glass Doors

The Eichler houses included fully glazed aluminum sliding doors, either set within full-height glazed walls in the atrium, at the rear façade with a transom, or at the side yards where the height extended to the overhead roof beam.

- Originally manufactured by Arcadia Inc.
- Door assemblies were primarily composed of thin profile extruded aluminum
- Glazing was originally clear and single pane
- Sliding aluminum screens were positioned on the interior of the door.

DESIGN STANDARDS FOR SLIDING DOORS

4.5.4 The original appearance of aluminum sliding doors at the exterior (excluding inside of atrium) should be preserved.

- a. Consider adding high-quality films on the existing glazing to improve safety and to reduce thermal heat gain.
- b. Repair locking mechanism when possible, or use alternative means to secure the door before replacing.
- c. Clean existing tracks and maintain or replace damaged glide wheels as needed.
- d. Consider having damaged or deteriorated components custom made or replicated, which are becoming increasingly accessible and affordable through new technologies and means of connecting with fabricators.
- e. Consult with professional metal restorers to address corrosion issues.

4.5.5 If replacing original or altered sliding doors, the replacement should be compatible with the original Eichler design.

- a. Obtain replacements with only slight variations in frame thickness from the originals, to avoid replacement of all sliding doors to match.
- b. The original door opening size and proportions should be retained.



Exterior glazed walls and sliding glass doors at the rear are important features that create a strong indoor-outdoor connection. Source: Orange Public Library.

Original Windows

The Orange Eichlers originally had limited types of windows:

- Fixed, single panes of glass held in place with simple wooden stops. These include clerestories, transoms (above doors), glazed panel walls at the fronts of some atriums, vertical slot style windows at the front façades, and floor-to-ceiling windows at the rear and atrium of the house.
- Operable steel windows (both double-hung or sliders) at the sides, and occasionally along the front façades. An Eichler Homes, Inc. brochure touted their Rusco windows as “‘bonderized’ steel that never needs painting.” Bonderizing is a finish for galvanized steel that left the windows unpainted with a natural gray-color finish.
- Exposed beams are commonly featured above the windows (and doors) placed along the sides of the house.

4.6 WINDOWS

Most Eichler models in Orange include minimal openings at the front façade, with expansive glazed panels at the atrium and rear of the house. This distinctive design approach afforded the Eichler homes with maximum transparency, while maintaining a high level of privacy. As such, the original overall fenestration pattern, especially at the front façade, is a primary feature, though the windows and glazing materials are secondary.

The front façade typically features fixed clerestory windows below the eaves. Some models also have narrow, vertical windows with fixed glass, and a few feature one or two punched rectangular window openings with operable steel sashes at the building front.

Other models feature a glazed panel wall with obscured glass indicating the atrium behind. The glass-panel wall can be found at the back of the carport or in line with the front façade in some models.

The majority of the home’s glazing consists of fixed glass panels spanning between structural elements. Full-height glazing extending to the bottom of the roof is found at the rear and within the atrium. The sides of the houses typically have smaller, commercially produced windows, which provide ventilation for the bedrooms.

CONSIDERATIONS FOR WINDOWS

The glazed panels in the Eichler homes were originally fitted with non-tempered, single pane glass. This may pose both a safety and security consideration for some owners. The large expanses of single-pane glass also lack the insulative values found in today's dual-pane glazing. As a result, the heat transmission both in summer and winter can impact the interior comfort of the home. The high levels of direct sun exposure can also cause significant fading of interior finishes.

Clear films are cost effective ways to address many issues without changing the appearance of the building. The California Historic Building Code does not require qualified historic buildings to meet energy requirements except for new equipment and lighting and has provisions to allow for retaining original features and fabric that may not meet current codes. However, as today's building code prohibits the use of non-tempered glazing for this type of installation, most glazers will only replace damaged or removed panels with new tempered glass. Because of the simplicity of the original detailing, fixed glazed panels can often be replaced with dual glazed systems set into similar wood stops, without significantly altering the home's appearance.

For the metal sash windows, lack of routine maintenance and aging can also affect the appearance of the steel and aluminum frames. While rust is typically not a problem, oxidation can create pitting and an overall uneven appearance in their finishes. The "bonderized" steel is likely weathering and may be losing its protective coating. Commercially produced replacements for operable windows are widely available, but maintaining the thin profiles of the original frames can prove difficult. The original proportions between the glazing and the thickness of its frame greatly contributes to the clean-line character of the house.



The front façade of most Eichler homes feature minimal glazing. The top model only has clerestory windows and narrow windows flanking the concrete block wall. The bottom model has clerestory windows, a single operable window and a glass-panel wall in the carport. These relationships should be retained.

DESIGN STANDARDS FOR WINDOWS

4.6.1 The original window pattern and openings on façades visible from the street shall be retained.

- a. The location, number, size, pattern, or proportion of original windows, especially on the façades visible from the street, shall not be altered.
- b. A home's original solid-to-void ratio at the primary façade should be retained.
- c. Original window openings shall not be infilled; areas that are glazed should remain glazed.
- d. Windows should not be divided into smaller panes, especially at the clerestories and glazed panel walls.

4.6.2 The original appearance of windows shall be preserved.

- a. Glazed walls along the front of an atrium shall be retained. Section 4.5 Carports in this chapter related to glass-panel walls and security also apply.
- b. To improve safety and energy efficiency, consider applying high-quality clear films on the original single-pane glass. Films that significantly affect the appearance of the glazing are inappropriate.
 - i. Replacing existing clear glass with non-clear or reflective glass is generally discouraged.
 - ii. If a specialty glass type was used originally (such as textured obscure glass) and requires replacement, investigate a replacement that matches the original in texture and appearance.
- c. It may be appropriate to replace fixed, single-pane plate glass with dual-pane where it can be accomplished without significantly changing the appearance of the building.



“Bonderized” steel operable windows may be weathering and look worn, but are not yet failing. Clean and clear coat to improve appearance and longevity.

- i. Acceptable replacement glazing includes tempered, laminated, double pane, and others.
- ii. Replacements should not have visible sashes/frames and should be held in place by simple wood stops.
- d. Retaining and repairing operable steel windows is encouraged, as matching the frame material, thickness, and profile may be difficult.
 - i. Minor blemishes to the appearance can be made less apparent through cleaning and clear coating. Consult with a professional metal finish restorer for more guidance.
 - ii. Painting the steel windows in a matching color is appropriate to prevent deterioration and replacement.
- e. Changing a fixed window to operable window is discouraged on the façades visible from the street.
 - i. If additional natural ventilation is required, consider casement or pivoting windows that retain the single, undivided pane with minimal frames/sashes, etc.

4.6.3 If a new window is considered to replace a deteriorated or non-original window, it should match the original in its dimensions, pattern, proportion, frame thickness/profile, and operability.

- a. Aluminum replacement windows for original steel windows are appropriate, if the frames and profiles closely match and do not create a significant change to the exterior.
- b. Vinyl windows are not appropriate if their frame width, profiles, color, and sheen are significantly different and visible.
- c. Projecting bay windows, garden windows, and glass blocks are not appropriate.



New openings with vinyl windows are not appropriate on Eichler homes.

4.7 MECHANICAL SYSTEMS

Modifications for heating, cooling, and other systems in Eichler homes often present significant challenges. The original construction of the buildings—including the lack of attic spaces, single-pane windows, and large expanses of glass—can create interior climates that are not always comfortable. The radiant heating system originally placed within a home’s concrete slab and plumbing pipes under the slab can be difficult to repair without causing a highly invasive intervention. Modifications and improvements of the original systems of an Eichler residence can cause significant visible impacts to the exterior.

CONSIDERATIONS FOR MECHANICAL SYSTEMS

Before adding new systems, explore options that reduce the need for air conditioning, such as window coverings, plantings that provide shade, and clear window films that reduce heat transmission. Exterior or interior roller shades may also may be considered.

HEATING: The original radiant heating systems within the concrete slabs are nearing or have surpassed their service life. The pipes occasionally leak, and the controls are now outdated. While repairing or retrofitting the radiant heating system is sometimes possible, it is often impractical. Often, the installation of new forced air heating and cooling systems has required unsightly ductwork and/or equipment on the roof.

If existing radiant floor heating has failed, investigate whether the system can be repaired in place. If a new heating system is required, install systems that are minimally visible from the exterior.

Original Mechanical Systems

- Heating and Cooling: Original heating was typically through a radiant heating system fed by pipes embedded into the concrete slab. Hot water was supplied by a water heater located in an exterior closet. Only a few houses in the Fairhaven tract originally had a forced-air system (air conditioning) with underslab ductwork; most houses originally did not have mechanical cooling.
- Plumbing: Original pipes were installed under the concrete slab.
- Electrical: Wiring was sometimes placed within the concrete slab or within the insulation above the roof decking.

COOLING: New heating and cooling systems, such as ductless systems, no longer require installation of large ductwork. The systems are more energy efficient than older central air systems, and typically result in less impact to the home's appearance. As systems installed 10, 20, or 30 years ago become outdated, there is the opportunity to replace them with more efficient equipment and remove much of the ducting.

PLUMBING: New techniques for repair of pipes utilized in Eichlers may be possible without the invasive removal of concrete. If considering new plumbing over the roof of a home, residents are encouraged to place the new plumbing where it will not be highly visible from the street, such as embedded into the rigid roof insulation when installing a new roof.

SOLAR PANELS: Solar panels are increasingly popular and affordable, and many in Orange have expressed interest in adding them to houses. Placement of solar panels on roofs will vary depending on the house's sun orientation and shade or shadows from trees or other buildings. For the most part, solar panels do not detract from the character of the neighborhoods so long as they are not highly visible.



Solar panels should be placed in the least conspicuous place possible, set back from the front of the roof, and parallel with the slope of the roof.

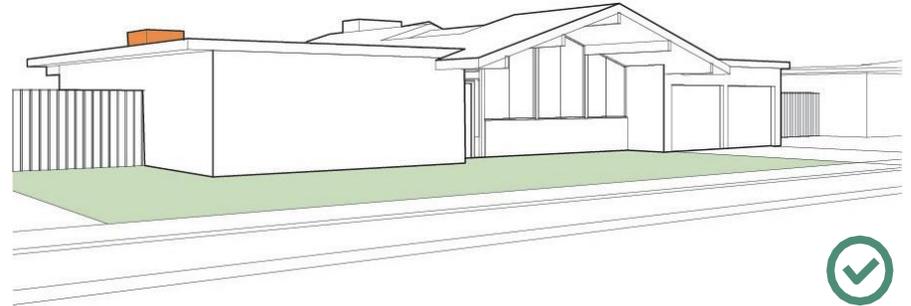
DESIGN STANDARDS FOR VISIBLE MECHANICAL SYSTEMS

4.7.1 Mechanical equipment shall be located in areas minimally visible from the street and neighboring properties

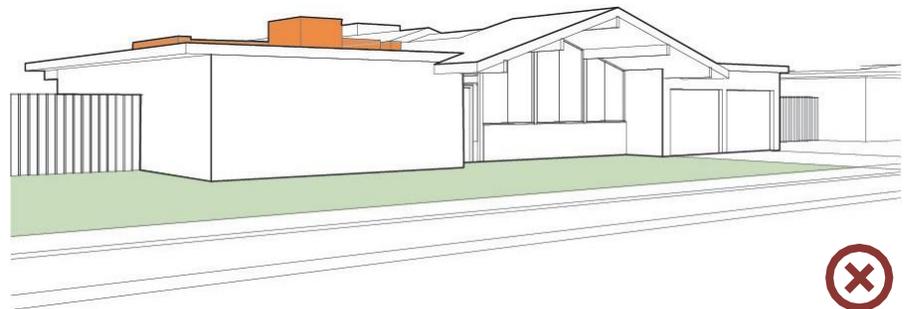
- a. Highly visible rooftop equipment (satellite dishes, antenna, chillers, ductwork, conduit, piping, etc.) is not appropriate.
- b. When possible, equipment should be placed at ground level, or to the rear or side of the residence, and include appropriate screening from the street and neighbors.
- c. Equipment mounted directly on a residence shall be attached using the least invasive method and without damaging primary original features.
- d. Window-mounted air-conditioning units are not appropriate at front façades.

4.7.2 Choosing systems that do not require visible, exterior equipment is encouraged.

- a. Consider systems that do not require rooftop equipment.
 - i. Ductless systems for HVAC allow room-by-room control and greater efficiency with little or no ductwork.
- b. Removing visible ducting and other equipment from rooftops is encouraged.
- c. If mechanical equipment must be placed on the roof, the systems should have low profiles, be tight to the roof, and be minimally visible from the street and adjacent neighbors.
 - i. Consider rectangular duct systems with a lesser visual impact from the street. Spray-on insulation can be used with low profile ducts.
 - ii. Consider using two units, one on each side of the house with no ducting extending over the pitched roof, to reduce the visual impact while allowing for zoned controls.



Any mechanical equipment that must be installed on the roof should be installed at the rear of the roof and with the lowest profile possible.



Mechanical equipment that rises substantially above the roof line and/or close to the front of the house is not appropriate.

- iii. Consider using landscape screening or painting to match the roof and surrounding environment to reduce visibility.
- d. Be considerate of sight and sound impacts on neighboring properties, especially those from adjacent rear properties with large expanses of windows.

4.7.3 Solar panels shall be installed where they are minimally visible from the street and neighboring properties.

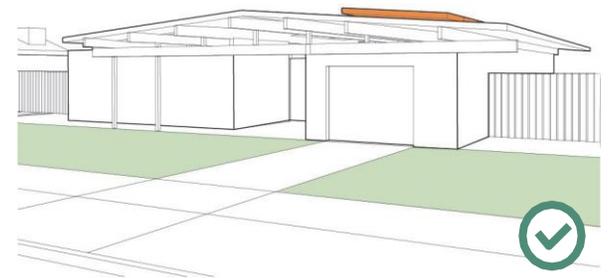
- a. Place solar panels toward the least visible portions of the building, away from the street and neighbor’s views.
- b. Consider placing solar panels on non-historic elements, such as detached accessory structures or patio covers that are not highly visible.
- c. Solar panels should not rise substantially higher than the existing roof to minimize their visual impact.
- d. Modifications to the proposed installation may be required to reduce visibility from the street, so long as the changes do not significantly increase the cost of the system or significantly decrease its efficiency, as defined by state law.
- e. Be considerate of sight impacts on neighboring properties, especially those from adjacent rear properties with large expanses of windows.

4.7.4 Solar panels shall be parallel to the roof plane, have low profiles, and not overhang or alter existing roof lines.

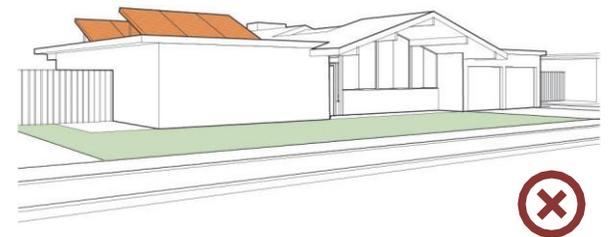
- a. On sloped roofs, solar panels should not extend over 10 inches above the roof surface.
- b. For models with steeply pitched roofs, solar panels are encouraged to be placed on flat roofs as much as possible. Some may be placed on the pitched roof if they are away from the street-front side.
- c. On a flat roof, consider installing panels flat or with a low slope, and at the least visible portion of the roof.
- d. Solar panels should be arranged neatly in a rectangular format.



Solar panels should be set back from the front.



Solar panels should be low and tight to the roof.



Solar panels should not be highly visible from the public right of way or adjacent properties.

Temperature Comfort and Eichler Homes

Home temperature comfort levels have changed dramatically since the mid-20th century. Where Southern California was once considered a place where artificial heating and cooling were not needed, now many cannot imagine living without heat or air conditioning. Yet, increased awareness of energy efficiency and conserving resources have us once again re-considering how we live comfortably and responsibly.

When the Eichler homes were built, air conditioning was not yet a standard feature for most homes in Orange County. Although a few homes in Fairhaven originally had air conditioning, most of the houses were designed with passive cooling in mind. Overhanging eaves offered sun shading while sliding glass doors of the backyard and atrium allowed for cross ventilation. Heating was also minimal, with radiant floors from looped water pipes embedded in the concrete slab the only heating in the living spaces.

Many of these systems are in vogue again as environmentally sensitive, though they likely need some assistance to be more efficient and functional 50 years later. Before installing a new, conventional forced-air heating, ventilation, and air conditioning (HVAC) system, consider these steps that can make best use of the Eichler designs and reduce the amount of new equipment needed.

- **Repair radiant floor heating embedded in the concrete slab foundation where feasible.**
 - If the performance of existing radiant floor heating fails, investigate whether it can be repaired in place. Determine if the issue is with leaking pipes, outdated controls, old water heaters, or other reasons.

- Orange's Eichler homes appear to have used copper pipes for radiant floor heating. It may be possible to locate and repair leaks without wholesale removal of concrete.
- **Consider adding insulation before replacement of windows and glazing, especially if re-roofing. See section 4.1 Roofs in the Standards for Original Eichler Features for more information.**
- **Explore options to reduce the need for air conditioning, especially for homes that have extensive glazing facing south or west. Options may include window coverings like roller shades, plantings that provide shade, and window films that lower heat radiation.**
 - High quality clear films are available; study product literature and samples to understand if they will cause a reflective effect, which is discouraged.
 - Awnings or patio covers at the rear may be appropriate if they are not obtrusive or highly visible, and are in keeping with the Eichler designs.
- **Consider systems other than conventional forced-air HVAC systems, such as:**
 - Mini-split systems
 - Small duct central heating systems
 - Baseboard heaters
 - Contemporary radiant heating
- **Upgrading windows may be considered, though that tends to be more costly and have the potential for great effect on the building's character. See section 4.6 Windows in the Standards for Original Eichler Features for more discussions.**



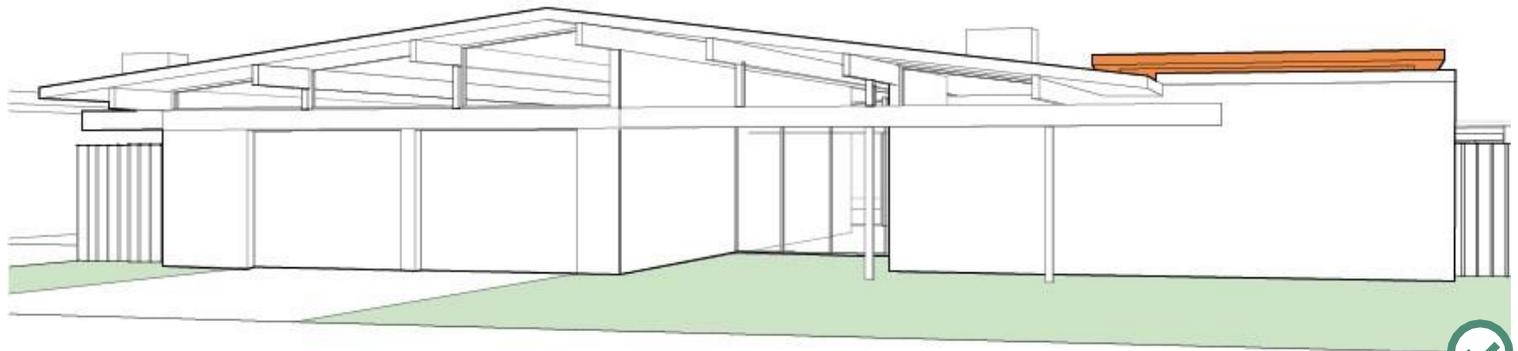
Chapter 5:

STANDARDS FOR ADDITIONS
AND ACCESSORY STRUCTURES

CHAPTER 5: Standards for Additions and Accessory Structures

The Eichler residences in Orange were originally constructed as one-story buildings with a strong horizontal emphasis. The repeated pattern of one-story homes with generally consistent side and front setbacks throughout the Eichler tracts is one of their distinctive characteristics. Additions, particularly vertical additions, can dramatically alter the appearance of a building from the street while additions and detached accessory structures can disrupt the pattern of the streetscape. Additions can also result in the loss of historic materials and features in the original building, so they must be carefully designed to respect the original building and the neighbors.

Additions should not change the building or neighborhood's character.



5.1 ADDITIONS AND ACCESSORY STRUCTURES

Additions to houses may extend horizontally or vertically (typically two stories), or be detached as accessory structures; accessory dwelling units can be attached or detached. The development standards for single family residential zones in the Orange Municipal Code Chapter 17 govern where additions and accessory structures can be constructed within the front, side, and rear yards, and minimum required setbacks and maximum allowable floor area ratios. Depending upon the size, configuration, and existing build-out of any property, larger additions may be possible where allowed under the development standards and the OEDS.

CONSIDERATIONS FOR ADDITIONS AND ACCESSORY STRUCTURES

New additions to Eichler homes and detached accessory structures can be appropriate when they are carefully planned. Those that are highly visible from the street, not compatible with the surrounding scale, mass, and style of the neighborhood, and cause extensive removal of historic materials or features are generally inappropriate as they can negatively affect the existing character of the community. Modest, single-story additions and accessory structures, which are located to the sides or rear of existing buildings, are generally more appropriate, as they maintain and reinforce the original aesthetics of the neighborhood.

PRIVACY: The Eichler homes were originally designed to provide maximum transparency to the outdoors, while also affording a high level of privacy to the occupants. This was achieved through limited windows at the front/street façade, with floor-to-ceiling walls of glass opening onto the atrium and backyard. Whether one or two stories in height, tall additions at the rear of Eichler homes can significantly impact the privacy to both the interior and exterior of adjacent properties.

SECOND-STORY ADDITIONS: A vertical addition on an Eichler home has the potential to negatively impact the simple roof forms and low-scale, horizontal massing. Adding a second story on top of the existing house and other alterations that extend significantly above the original roof line are not appropriate.

There are a small number of properties within the Eichler tracts where a new two-story addition at the back of the house or accessory structure in the rear yard could be constructed within the required setbacks for the single-family residential zone. In these cases, a well-placed and thoughtful design may be possible that does not impact the character of the house or neighborhood and does not affect the privacy of adjacent neighbors. Any new two-story construction shall not affect the roof line of the original house and should be carefully placed on the property to protect views from the street and neighbors' houses and yards.

As with all two-story buildings in Orange's single-family neighborhoods, both second-story additions on top of existing Eichler houses and new two-story additions and accessory structures are subject to Design Review.

Design Concepts to Consider for Additions

When planning an addition to an Eichler house, keep these concepts in mind:

Location

- **Place addition in the rear yard or side yard.**
 - Additions should be placed behind fencing and minimally visible from the street.
 - Maintain the rhythm of side yards and open spaces between houses.
- **Physically and visually separate and distinguish the addition from the original building.**
- **Set the addition back from the existing wall plane.**
 - Use a simple, recessed hyphen or connector to provide separation between the historic home and the addition.
 - Incorporate other visual or physical breaks for certain features, such as siding and fascia boards.

Scale and massing

- The addition should be subordinate and secondary to the original house (in both plan and in height).
- The predominantly horizontal character of buildings in the Eichler neighborhoods should be preserved.

Visibility and Privacy

- Visibility of additions from the public right of way – the less visible the better.
- Maintain privacy and sensitivity toward neighbors.

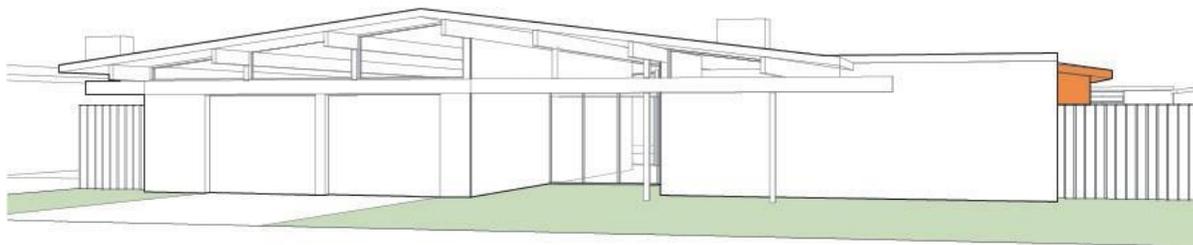
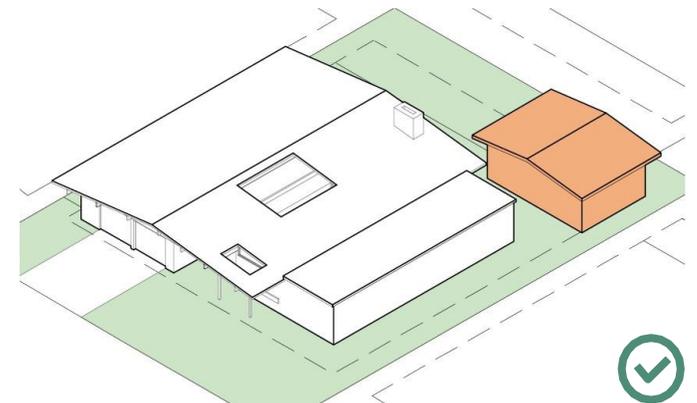
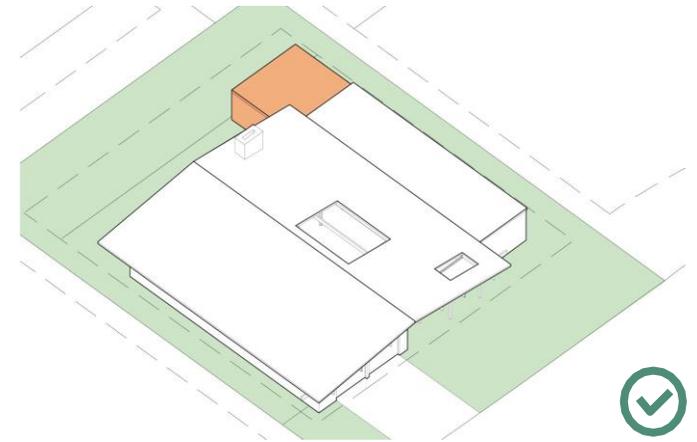
Design and Materials

- Avoid removing original materials and features, such as exterior cladding, the rear glass wall, or chimneys.
- Additions should be visually compatible and differentiated from the main residence.
- Additions should be designed utilizing materials and colors compatible with the surroundings.

DESIGN STANDARDS FOR ADDITIONS

5.1.1 The prominence and consistency of one-story forms in the Eichler tracts shall be preserved.

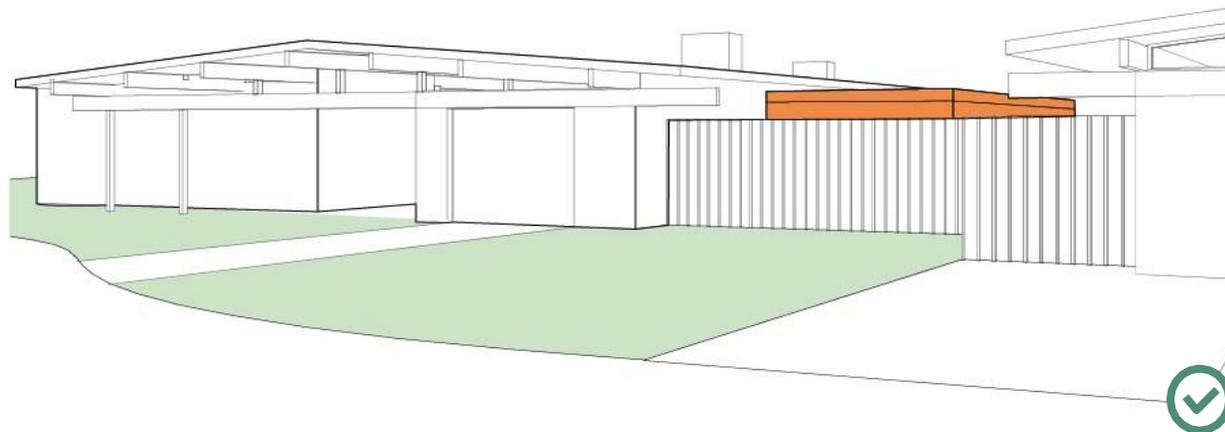
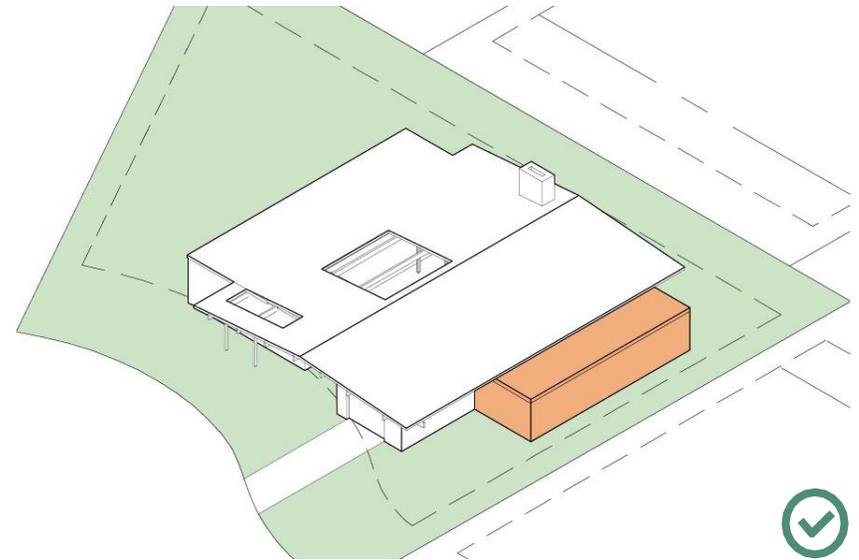
- a. One-story rear additions and accessory structures are generally appropriate.
- b. Vertical additions, such as pop-ups and second-story additions, on the roof of the original building are prohibited.
- c. Two-story additions and accessory structures are inappropriate, except where they are not highly visible from the street and do not impact on the privacy of adjacent properties. There are limited properties in the Eichler tracts where a two-story addition or accessory structure will be feasible.



One-story rear additions (top) and accessory structures (bottom) are appropriate as they are not highly visible from the street (left)

5.1.2 Additions and accessory structures should be placed on their lots in a way that conforms to the overall pattern of the neighborhood.

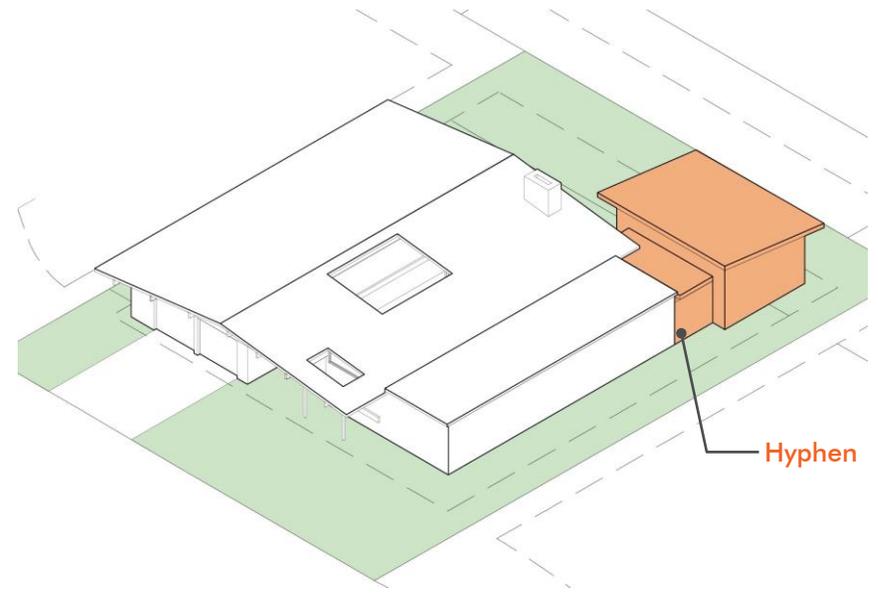
- a. Additions and accessory structures should respect the established pattern of the existing streetscape and front yard setbacks.
 - i. Additions to the front of the house are inappropriate.
 - ii. Side additions and accessory structures should be set back from the front façade of the house, preferably behind fencing to minimize visibility from the street.
 - iii. Additions and accessory structures that are highly visible from the street or adjacent properties are discouraged.
- b. Privacy with neighboring properties should be preserved when planning additions.
 - i. Consider the sizes, alignment, and transparency of glass to afford maximum privacy to neighboring properties.
 - ii. Consider sound transmission and impacts from interior and exterior lighting.



(Above and left) Side additions behind the side yard fence are less visible.

5.1.3 Additions and accessory structures shall be subordinate to, compatible with, and differentiated from the original house.

- a. Additions and accessory structures should be smaller in mass, scale, and volume than the historic house.
 - i. The original house's roof line, overhang, and post-and-beam construction should not be significantly altered.
 - ii. The overall form of the addition and accessory structure should be simple—orthogonal or geometric—in shape.
- b. The roof of the addition and accessory structure should not rise above the highest part of the original house.
 - i. Roofs should not be significantly higher than that of the historic house.
 - ii. In the rare instances of a two-story addition or accessory structure, the roof may be higher than the original residence, though the floor heights should be similar to the original house. See section 5.1.6 in this chapter for more information.



(Above) Recessed hyphen helps to differentiate new from original. (Left) The addition's roof is not significantly higher than the original house.

- c. Additions and accessory structures should be visually and physically distinct from the main house.
 - i. Additions and accessory structures should be subtly, recognizably new, but not visually compete with the main residence.
 - ii. Setting the addition back from the wall plane of the main residence is encouraged.
 - iii. A simple, recessed hyphen or connector is encouraged between the addition and the historic house.
 - iv. Avoid continuing the fascia board without a clear, visible break between the main residence and the addition.
- d. Consider using post-and-beam construction or the same modular dimensions of the main house, with subtle or simplified variations in material, finish, proportion, and/or pattern.

5.1.4 The design of additions and accessory structures should reference, but not copy, the original building.

- a. Roof forms should reference original roof shapes and slopes found on the main residence.
 - i. Steeply-pitched roofs on the addition are discouraged, even when found on the original house.
 - ii. Using roof forms not commonly found on Eichler Homes (i.e. arched, hipped, or mansard roof forms) is not appropriate.
 - iii. The roofing material should be compatible with that of the original home. Clay tile, concrete tile, slate, and standing-seam metal roofing, among others, are not appropriate for Eichlers.
- b. Materials on the addition should be similar, but not mimic, the main building so as to avoid giving a false sense that the addition is original to the house.

Side addition using the same roof form and slope as the original building. Setting this addition back from the main house's front wall would further increase its compatibility.



- i. Using cladding that matches the main house is appropriate, if a visual and/or physical break is incorporated
 - ii. Cladding similar to the main house, but simpler or slightly different in profile, dimension, pattern, or material may be appropriate.
 - iii. The number of materials utilized in the addition should be limited.
 - iv. Overly decorative materials are not appropriate with the simple and limited material palette of Eichler houses.
 - v. Traditional materials and architectural details like stone, stucco, or horizontal siding are generally not appropriate.
 - vi. Consider the cladding materials outlined in the Standards for New (Infill) Construction in Chapter 8.
 - vii. See relevant section of the Standards for Original Eichler Features in Chapter 4 for additional guidance on compatibility with the Eichler aesthetic.
- c. The solid-to-void ratio, window and door patterns, and sill/header heights should be considered in relation to that of the main residence.
- i. Openings on the new addition should follow a clear and logical organizational pattern, relevant to the historic home.
 - ii. Divided-light windows with small divisions are generally not appropriate.
 - iii. Vinyl windows and/or doors on additions are not appropriate.

5.1.5 Additions should limit the loss of original features and materials.

- a. Original chimneys and rear glass walls should be retained.
- b. If the addition was removed in the future, the essential form and integrity of the Eichler house should remain unchanged.

5.1.6 Two-story additions and accessory structures may be considered only in limited conditions where they do not impact the character of the house or neighborhood, nor the privacy of adjacent properties.

- a. Two-story additions and accessory structures shall be placed away from the street and from façades that are nearest to neighboring properties. They should not overwhelm or visually compete with the historic house.
- b. The floor-to-ceiling heights should be similar and compatible with those of the historic house.
- c. Windows or balconies shall not be placed to allow views into or impact the privacy of neighboring homes and/or exterior spaces such as rear yards and atriums.
- d. Clerestory windows and skylights may provide natural light and transparency while maintaining privacy.
- e. Consider split-level additions that are partially below grade to reduce the height of additions.



Chapter 6:
STANDARDS FOR SETTING
AND COMMON LANDSCAPE

CHAPTER 6: Standards for Setting and Common Landscape

The setting of a neighborhood is a critical component in forming the character of a historic district. Everything from the overall streetscape, street pattern, and relationships between the buildings and open spaces, and the front yards to the public sphere of streets, sidewalks, and parkways, contribute to the neighborhood character and sense of place.

Much of the public realm—the street patterns, streets, sidewalks, and street trees—are overseen by the City of Orange Public Works Department and are not addressed by the OEDS. However, property owners can have a large impact on the character of the neighborhood through landscaping, fences and walls, and driveways and walkways in the front yard.



Typical streetscape in Fairhaven.

CONSIDERATIONS FOR SETTING AND FRONT YARDS

The front yards are an important component in defining the community's character. They frame the residence within its lot, with the flat grade stretching across lots accentuating the horizontal orientation of an Eichler home. The progression from the public street to private interior spaces starts at the front yard, and as the "public" face of the lots, what happens there affects the neighborhood much more than what happens at the rest of the lot.

Most residents have kept the original open character and common landscape by not installing fences, hedges, or other tall barriers at the sidewalks. Walls and fences are uncommon between lots at the front yard, so the feeling of openness remains. The pattern of double-wide driveways between continuous open spaces that stretches between lots is a secondary feature to maintain.

Close to the house, screen walls and low planters complement the fronts of the houses and can define small patio areas. Mostly, the front of the houses has not been obscured. At the city right-of-way parkways, property owners are responsible for upkeep and watering, though the Public Works Department trims street trees.



Few barriers are at the sidewalks or between lots at the front yards.



Screen walls and low planters can complement the house without hiding the front from view.

Unlike some other Eichler Homes, Inc. developments, no original community landscape design has been found for the Orange Eichler tracts, nor any landscape architect associated with these neighborhoods. Lacking a defining landscape or planting template, the “style” of landscaping at individual houses can be more flexible.

Most approaches, from the simple lawn and tree, to tropical plantings also common from the midcentury period, to Asian-influenced accents, are appropriate, so long as the yards are well maintained and the house remains visible. Use of California native, drought-tolerant, or low-water plantings, swales, and other water conservation measures is also usually appropriate and encouraged. Regardless of “style,” landscaping that covers the majority of the front yard is encouraged.

Lawns and plantings may require regular watering, but they also hold water and keep the ground cooler. Unplanted surfaces reflect more heat and can cause greater demand for energy use to cool the house, known as the heat-island effect; they can also cause water run-off instead of retaining rainwater on the site. Mature trees offer natural shading especially for southern and western sun exposures.

For more guidance on compatible landscapes, please see the Additional Resources and Works Cited in the Appendix.



Simple lawn and tree are typical front yard landscaping.



Tropical landscaping is also common in Orange’s Eichler tracts.

Original Setting

Street patterns

- Wide, straight and curved roads; cul-de-sacs are common.
- Parkways (landscape strip) between street and sidewalks typical, with grass or gravel/rocks.
- Street trees planted with regular spacing on certain streets.

Lot patterns

- Both rectangular and irregular lot shapes, ranging in size from 7,800-15,000 square feet.
- Predominantly flat or gently sloping lots.
- Consistent 20-foot front yard setbacks, some slightly more.
- Varying side yard setbacks—minimum 5 feet, though typically larger in Fairmeadow and Fairhills—create a regular visual pattern of buildings and open space.
- Corner lots have one front side and a tall, vertical wood fence at side street.
- Retaining walls made of square concrete blocks seen in Fairhills.
- Overhead utilities typically located at the rear of the lots in Fairhaven and Fairmeadow. Utilities are underground at Fairhills.

Front yards

- Open, flat front yards with landscaping that extends between lots with minimal barriers.
- Pattern of double-wide concrete driveways and planted front yards. At models with a carport, the driveway paving extends into the carport recess.
- No consistent pattern of pedestrian paths from side walk to front door. Where they existed, the walkways were simple, poured concrete.
- No fencing at the side walk in front of the house.
- Taller (6-foot) vertical wood board fencing screening side yards.
 - Side yard fencing is typically set back from the front building wall; it does not extend forward of the building.
 - Three types of fencing were original: overlapping board on board, board with a rotated batten, and alternating panel.
- Front yard planting was typically turf lawn with a tree and edge plantings, though lush, tropical plantings was also seen.

6.1 FRONT YARDS

Landscaping, including the use of trees, shrubbery, and lawn or other ground cover, enhances Eichler properties when it follows the principles of Modern landscape design. Exterior space is defined by changes in the ground plane – paving to planting bed, lawn to patio, atrium paving to doorway – leading from the public sidewalk to increasingly private spaces. Transitions such as these are subtle but tangible moments of moving through space. Landscape tenets for Eichler properties reinforce the clean orthogonal and angular lines of the houses themselves, as well as a sweeping ground plane, including a flat grade with expansive low ground cover, possibly punctuated by a distinctive specimen tree or two.

DESIGN STANDARDS FOR FRONT YARDS

6.1.1 The prevailing pattern of open space in the front and side yards of Eichler neighborhoods shall be retained.

- a. The front yard pattern of landscape area and double-wide driveway shall be preserved.
- b. The original grade of a property's front yard should be retained. The creation of significant berms and artificial topography is generally not appropriate.
- c. Fences, screens, walls, and fence-like plantings between lots at the front yard are inappropriate.
 - i. Low barriers under one foot tall between lots may be appropriate.
- d. Adding freestanding structures, such as gazebos, is discouraged.



Prevailing pattern of front yard landscape areas and double-wide driveways.

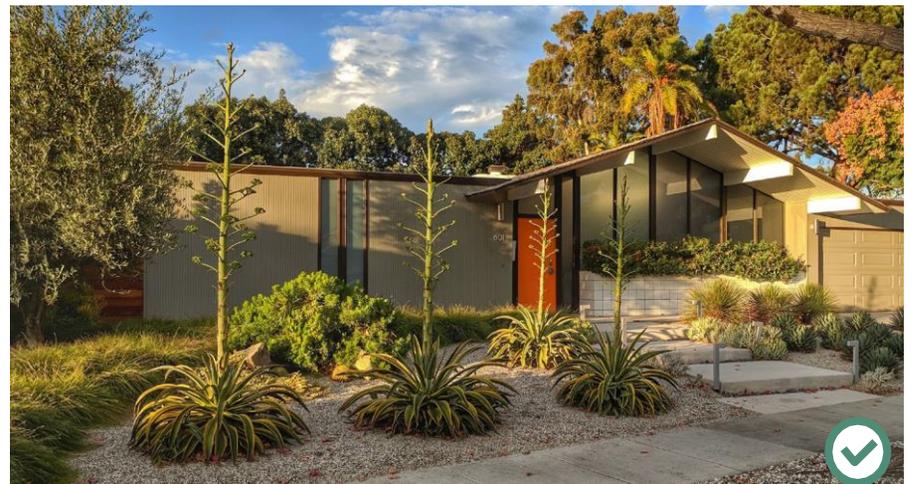
6.1.2 Original planters and retaining walls should be retained and repaired. New planters and retaining walls should be constructed with compatible materials and be small in scale.

- a. Original concrete planters and square concrete block retaining walls should be retained or replaced in kind if they must be replaced.
 - i. Painting previously unpainted masonry walls or planters is not appropriate.
 - ii. Covering an original planter or wall in a new material is not appropriate.
- b. New planters may be appropriate if they are low and are scaled to the overall composition of the yard.
- c. Poured concrete and concrete block (square or rectangular in a stacked bond matching the original) are appropriate materials for new planters and walls.
- d. Brick, stone, and other overly decorative materials are not appropriate materials for planters.



6.1.3 Plantings covering the majority of front yard landscaping areas are encouraged.

- a. Because plants help to reduce the heat-island effect, yards that are primarily gravel, rock, or unplanted soil are generally not appropriate.
- b. Landscaping with California native, drought-tolerant, and/or low water plantings is encouraged.
- c. Layering of plantings, with ground cover and low to medium height shrubs, is encouraged.
- d. Turf lawns and less water-intensive low ground cover are appropriate, especially near the street.
- e. Artificial turf is not appropriate where visible from the street.



Using less water-intensive plantings to cover the front yard is encouraged, as is layering plantings of different heights for variety.

- f. Removal of mature trees requires a tree removal permit under the City’s Tree Preservation Ordinance. Planting new trees to provide shade in locations that avoid root and branch conflicts with the house is encouraged, especially at south and west facing façades.
- g. Landscaping should not be so lush or massive that the house is obscured from the street and sidewalk. Solid hedges in the front yard are also subject to the fencing height limitations in the OMC.
- h. When selecting landscaping, consider not only water use, but other conservation measures such as retaining water on site and reducing energy use by avoiding the heat-island effect.

6.1.4 Parkway should be neat and well maintained.

- a. Low ground cover is appropriate in parkways. Gravel, rock, or decomposed granite may also be appropriate, so long as street trees continue to be watered and maintained.
- b. Bare earth and artificial turf are not appropriate for the parkways.
- c. Replacement and planting of street trees is the responsibility of the Public Works Department.
 - i. Property owners are encouraged to request new street trees from the Public Works Department to match existing street trees’ characteristics, such as canopy cover and spread, leaf structure, and overall height.



Examples of appropriate ground cover at parkways. Courtesy of Annabelle Baldasari.

6.2 DRIVEWAYS, WALKWAYS & PAVED SURFACES

Eichler designs embody the practical mobility and sense of freedom cars provided in the mid-20th century by prominently incorporating garages and carports. Given that Eichler homes were designed with attached garages and/or carports facing the street, the driveways establish a recognizable pattern in the neighborhoods. Paving at the front of a residence is therefore a characteristic feature of Eichler properties, but paved surfaces should be sized and placed appropriately so they do not overwhelm the appearance of a lot as viewed from the street. Original driveways were poured-in-place concrete with redwood spacers.

DESIGN STANDARDS FOR DRIVEWAYS AND WALKWAYS

6.2.1 The location and size of original driveways and walkways in the front yard shall be preserved.

- a. Expanding driveways beyond their original size is generally not appropriate.
- b. The most appropriate driveway materials will be solid and have a flat and even surface. Interlocking pavers (brick, stone, concrete), exposed aggregate, decomposed granite, highly textured or patterned materials, and asphalt are not appropriate for the main driveway.

6.2.2 New walkways at the front of a property should have a minimal appearance.

- a. If a new walkway is required, the walkway should introduce a minimal amount of paving.
- b. Poured concrete with simple scoring is the most appropriate material for walkways.
- c. Simple concrete floating pavers are also appropriate.
- d. Asphalt, brick, or other decorative materials are not appropriate.

6.2.3 Additional paved surfaces should be limited in areas of a property that can be seen from the street.

- a. Residents are encouraged to keep outdoor patio spaces to the rear or enclosed side yard, and/or to interior atrium designed for this purpose.
- b. Large patios or concrete pads within front yards are inappropriate.
- c. Where additional paving may be desired, consider ribbon paving or turf-block pavers to distinguish new paved areas from the original driveways and to limit hard surfaces in the front yard area.



Simple concrete pavers are appropriate for new walkways.

6.3 FENCES, WALLS & PERIMETER BOUNDARY FEATURES

The horizontal orientation of the Eichler houses are contrasted, and enhanced, by the vertical elements found with the groove siding, narrow slot windows, and the original wood board fences that line the side and back yards. Seen next to the front of the houses to screen the side yards, the simple, vertical wood board fences were originally set back from the front wall. Note, perimeter wall height and location for corner lots must also comply with OMC requirements.

DESIGN STANDARDS FOR FENCES AND WALLS

6.3.1 Fences, walls, and other boundary features should be located where they will not obstruct views of the front of an Eichler residence from the street.

- a. No fences or walls should be at the edge of the sidewalk.
 - i. If considering front yard fencing, walls, or raised planters, they should be set back from the sidewalk to maintain a planting strip of at least 18 to 20 inches.
- b. Screen walls, hedges, tall plantings, and other boundary features placed in the front yard between an Eichler home and the street are discouraged, as these did not exist originally and disrupt the character of the neighborhood streetscape.
- c. If fences, screen walls, raised planters, or other barriers are constructed in the front yard, they should be no more than 30 inches high in the first 20 feet of the front yard.
 - i. These features are encouraged to be even lower in height toward the street.
- d. Fences at side yards should be positioned to ensure the visibility of the house's front façade is retained.



Examples of low planters and fencing that do not obstruct view of the front façade.



Examples of fencing that is compatible with the Eichler neighborhood.

6.3.2 The design and scale of fences and walls should be compatible with the Eichler aesthetic and neighborhood character.

- a. Fence and wall designs should be simple in appearance to reflect the minimalist character of the houses themselves.
 - i. Fencing with vertical wood boards or concrete blocks (with the same proportions original to Eichler tracts in stacked bond) are encouraged.
 - ii. Wrought iron, picket, chain-link, brick or stone veneer, and plastic/vinyl fences are not appropriate.
 - iii. Consider limiting the number of different materials used in fencing.
- b. Fences screening side yards are encouraged to be vertically oriented, solid with little to no voids, and have a rhythm and modularity in keeping with the original fencing.
 - i. Rectilinear forms are most appropriate for fencing.

6.3.3 Fencing and walls at corner lots should avoid expanses of continuous, flat planes right at the sidewalk.

- a. Using a different material at the base is encouraged, especially if it is acting as a retaining wall.
- b. Articulation or variation in plane, such as alternating panels, is encouraged.
- c. Consider setting back the fencing or wall from the sidewalk to leave a narrow planting strip.

Site & Landscape Lighting

Lighting is essential for public safety and for the security of properties in Eichler neighborhoods. Exterior lighting can also accentuate landscape design and the overall setting. The light level at the property line is a key design consideration.

- Consider the number of fixtures, their mounting height, where they are directed, the lumens emitted, and the color temperature.
- Scale walkway and landscape lighting for pedestrians
- Minimize light spill onto adjacent properties and into the night sky by using focused light fixtures or cut-off shields.
- Specialized lighting in keeping with the Eichler aesthetics may be installed in the landscape to highlight entries, trees, building features, and other architectural and landscape elements on the site.



Chapter 7:

STANDARDS FOR NON-
CONTRIBUTING BUILDINGS

CHAPTER 7: Standards for Non-Contributing Buildings



To ensure that changes are not out of character with the neighborhoods, non-contributors are subject to the same review as contributors.

Brick cladding changed the character of the building enough that it is a non-contributor.

The non-contributing properties in Orange's Eichler tracts are typically houses built originally by Eichler Homes, Inc. but their features have been altered to the point that they no longer retain integrity as Eichler designs. The design standards in previous sections apply to non-contributors, particularly those related to altered features and compatible replacements.

Property owners are encouraged, but not required, to restore altered features on non-contributors to improve their integrity. If owners are interested in restoring non-contributors to the point where they may be considered a contributor, please contact the Planning Division staff for more information.

DESIGN STANDARDS FOR NON-CONTRIBUTORS

7.1 SETTING, LOCATION & SITE DESIGN

- 7.1.1 Non-contributing properties shall comply with the Standards for Setting & Common Landscape in Chapter 6.
- 7.1.2 Non-contributing properties shall comply with section 4.7 Mechanical Systems in the Standards for Original Eichler Features.

7.2 ROOF FORMS

- 7.2.1 Non-contributing properties shall comply with section 8.4 Roof Forms in the Standards for New (Infill) Construction.
- 7.2.2. If remodeling or adding to a non-contributing building, consider retaining or reinstating the original roof form of the building to match the surrounding Eichler neighborhood. See section 4.1 Roofs in the Standards for Original Eichler Features for more information.

7.3 CLADDING MATERIALS

- 7.3.1 Non-contributing properties shall comply with section 8.5 Cladding Materials in the Standards for New (Infill) Construction.
- 7.3.2 If remodeling a non-contributing building, consider retaining the original cladding material, or removing non-historic materials and reinstating the original materials and features, as elaborated in section 4.2 Exterior Cladding Materials in the Standards for Original Eichler Feature.

7.4 GARAGE, ENTRY & WINDOW PLACEMENT

- 7.4.1 Non-contributing properties shall comply with section 8.6 Garage Placement & Design and section 8.7 Entry & Window Placement in the Standards for New (Infill) Construction.
- 7.4.2 If remodeling a non-contributing building, consider retaining or reinstating the original garage, carport, front entry, and window placements, design, and/or appearance. See the relevant sections in the Standards for Original Eichler Feature in Chapter 4 for more information.

7.5 ADDITIONS

- 7.5.1 Non-contributing properties shall comply with the Standards for Additions and Accessory Structures in Chapter 5.



Chapter 8:

STANDARDS FOR NEW
(INFILL) CONSTRUCTION

CHAPTER 8: Standards For New (Infill) Construction

Although infrequent, opportunities to construct new homes within Eichler neighborhoods may exist when a parcel becomes vacant. In these instances, special attention should be paid to developing a new house design that is compatible with the architectural character of the surrounding neighborhood, since incompatible infill construction can easily disrupt the cohesive character of Eichler neighborhoods. A new house design should incorporate carefully selected materials with a compatible architectural style and building form. While the identical replication of original Eichler designs is not necessary to achieve compatibility or even appropriate, those interested in building a home should look to original Eichlers for inspiration and design guidance.

Out-of-scale new construction in Eichler tracts can change the cohesive character of the neighborhood.



DESIGN STANDARDS FOR NEW CONSTRUCTION

8.1 SETTING, LOCATION & SITE DESIGN

8.1.1 A new house shall be placed within its lot so that it conforms to the streetscape pattern of the surrounding neighborhood.

- a. The location of new residences on a lot shall follow the historic pattern of front and side yard setbacks.
- b. A new residence in an Eichler neighborhood should have its front façade oriented toward the street in keeping with the original tract layout, to reinforce the pattern of residential façades.
- c. The progression of the public to private spaces from the street should be preserved.
- d. Raised porches at the front of residences are not appropriate in Eichler neighborhoods.
- e. Fences or large landscape barriers that block the views of the front yard are inappropriate.

8.1.2 New houses shall comply with the Standards for Setting & Common Landscape in Chapter 6.

8.1.3 New houses shall comply with section 4.7 Mechanical Systems in the Standards for Original Eichler Features.

8.2 MASSING & ORIENTATION

8.2.1 A new house shall have an appropriate, comparable massing, scale, and height with the surrounding neighborhood.

- a. One-story residences are appropriate for an Eichler neighborhood.

- b. Two-story residences are not appropriate.
- c. If building a new house that is larger than its neighbors, it should be modulated so the appearance of the mass is located back from the street and adjacent neighbors.
- d. Simple massing techniques made up of a relatively few rectangular and box-like forms with one or two roof forms are appropriate. The overall house mass should appear as a unified form, rather than diverse attached components.
- e. An even façade plane at the front façade, possibly with a recess at the front entry, is encouraged rather than incorporating projections towards the street that complicate the massing and roof form.

8.3 ARCHITECTURAL STYLE

8.3.1 An architectural style and appropriate construction techniques that relate to original Eichler residences should be employed.

- a. Eichler neighborhoods are defined by a Mid-Century Modern aesthetic. Contemporary designs that incorporate simple massing and roof forms, a restrained level of detail, and straight rather than curved lines are appropriate.
- b. Historicist architectural styles (such as Mediterranean Revival, Colonial Revival, and Neo-eclectic) are not appropriate in Eichler neighborhoods.
- c. Creating visual interest through high-quality materials and the balanced placement of windows and doors is encouraged. Complex detailing is discouraged.
- d. Consider employing post and beam construction, as this construction technique characterizes original Eichler homes and will assist with compatibility.

8.4 ROOF FORMS

8.4.1 Roof forms and materials for new homes should be based on precedents found on surrounding Eichler homes.

- a. Generally, low-slope gabled roofs, flat roofs, and shed roofs are the most appropriate roof forms for new homes.
- b. Consider using a maximum roof slope of 3:12, a form found on many Eichler homes.
- c. A complicated arrangement of intersecting roof forms and planes is discouraged.
- d. Consider designing a roof line that is a prominent feature when seen from the street.
- e. Broad roof overhangs are encouraged for new homes.
- f. Consider incorporating exposed beam ends underneath the eaves.
- g. Roofing materials with a flat, visually unobtrusive appearance are appropriate. Materials typically used on revival architectural styles, such as clay tiles, are not appropriate.

8.5 CLADDING MATERIALS

8.5.1 Cladding materials for new residences should have uncomplicated visual and textural qualities, in order to relate to the architectural character of the surrounding neighborhood.

- a. Using vertical-groove wood siding is encouraged at the exterior of a residence, as this cladding is characteristic of original Eichler homes in Orange. However, its use is not required.

- b. Cladding materials that promote a clean and even appearance are appropriate. Possible options include vertical boards or siding, flush or channel wood siding, smooth stucco, fiber cement panels, or flat metal panels. Concrete block related to those originally found in Orange's Eichler Tract as accent materials is also appropriate, if desired.
- c. Cladding with a significant texture and an uneven surface, such as horizontal wood clapboard, board and batten siding, textured stucco, corrugated metal, stone, brick, and vinyl, is not appropriate.
- d. The number of cladding material types used at the exterior of a home should be limited to maintain a simple and refined appearance.

8.6 GARAGE PLACEMENT & DESIGN

8.6.1 Garages should be integrated into a new home design in a manner that is compatible with original Eichler homes.

- a. Attached garages are appropriate for new homes in Eichler neighborhoods.
- b. If attached, the garage should be contained within the primary roof form of the residence, and designed so it does not overwhelm the home's appearance when viewed from the street.
- c. Because attached, street-facing garages will be visible features of the home, the garage doors used should be carefully selected. A material that relates well to the main house, with a similar clean appearance and texture, is encouraged.
- d. Paneled garage doors are discouraged.
- e. Driveways leading to garages should generally follow the pattern seen on surrounding homes. Simple, concrete driveways are encouraged.

8.7 ENTRY & WINDOW PLACEMENT

8.7.1 Doors and entries should relate to neighborhood patterns.

- a. The entry doors should be on the front façade, facing the street, as this location and orientation preserves the pattern of the Eichler streetscape and transition from public to private space.
- b. Main entries generally should not have a separate roof from the main residence. Consider recessing the entry rather than using a roof form that projects forward from the house or rises above its roof.
- c. Exterior doors that are simple in design, without using extensive glazing, are encouraged. Basic rectangular windows placed in the door are appropriate to Eichler neighborhoods; arched and/or divided-light windows are not appropriate. Vertical sidelights placed next to a door are encouraged, as an alternative to using a glazed door.
- d. Windows and doors should be carefully placed to avoid impacting the privacy of a neighbor's interior and exterior spaces.

8.7.2 Exterior windows on a new home should be designed and arranged to reinforce the Mid-Century Modern aesthetic of Eichler neighborhoods.

- a. New houses are encouraged to have fewer windows at the front façade and more or expansive glazing at the rear façade.
- b. Employing a similar solid-to-void ratio at the front façade as seen on original Eichler homes is encouraged.
- c. Windows should be arranged according to a clear organizational scheme and not in a random pattern.
- d. Casement, awning, sliding, and fixed windows are most appropriate for Eichler neighborhoods. Avoid using windows with small divided lights.
- e. Windows manufactured with high quality materials is encouraged. Vinyl windows are not appropriate.



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Appendix

Appendix A - Models by Neighborhoods

Fairhaven (1960) — 140 homes

Model	Primary Roof Form	Number in Neighborhood
1454 (R)	Flat Roof	2/140
LA-4B	Flat Roof	13/140
LA-4E (R)	Shed Roof	8/140
LA-81 (R)	Flat Roof	8/140
LA-91 (R)	Flat Roof	46 /140
LJ-115 (R)	Central Gable	13/140
LJ-124 (R)	Broad Gable	29/140
LJ-144 (R)	Broad Gable	21/140

Notes

(R) denotes a mirrored or reversed plan.

Model numbers and quantities are based on data provided by the City of Orange.

Floor plans are from Eichler Homes, Inc. brochures available at the Orange Public Library.

The data provided is based on best available information and minor variations to the models features may exist.

1454 (R)



Tract:
Fairhaven

Quantity:
2

Architect:
Not identified

Roof Forms:
Flat
Rear low-pitch

Additional Cladding:
None

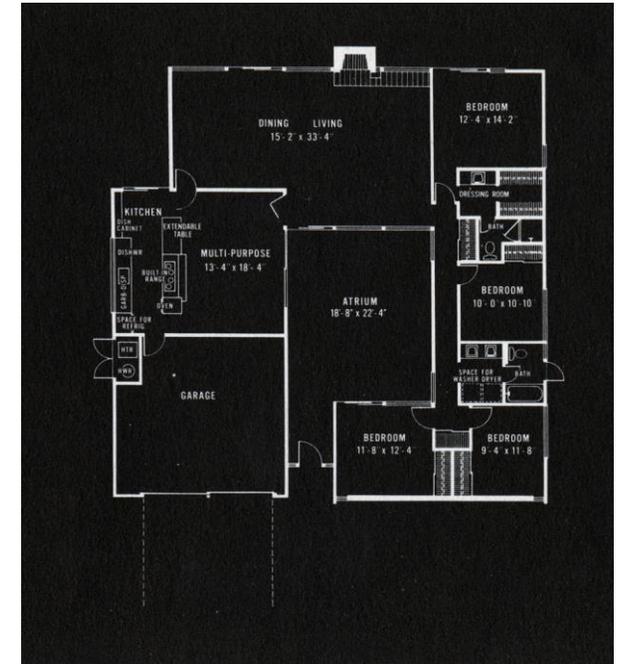
Parking:
Two garages

Front Entry:
Wide obscure glass sidelight

Front Windows:
None

Other:
No atrium

LA-4B (R)



Tract:
Fairhaven

Quantity:
13

Architect:
Anshen & Allen

Roof Forms:
Flat

Additional Cladding:
Wood Shingle

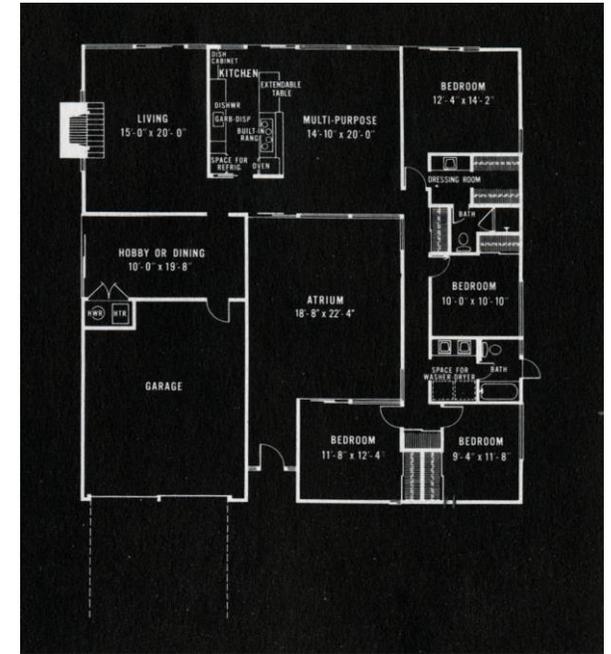
Parking:
Two garages

Front Entry:
Recessed
Narrow, obscure glass sidelights

Front Windows:
Rectangular clerestory
Vertical fixed slot

Other:
None

LA-81 (R)



Tract:
Fairhaven

Quantity:
8

Architect:
Anshen & Allen

Roof Forms:
Flat

Additional Cladding:
None

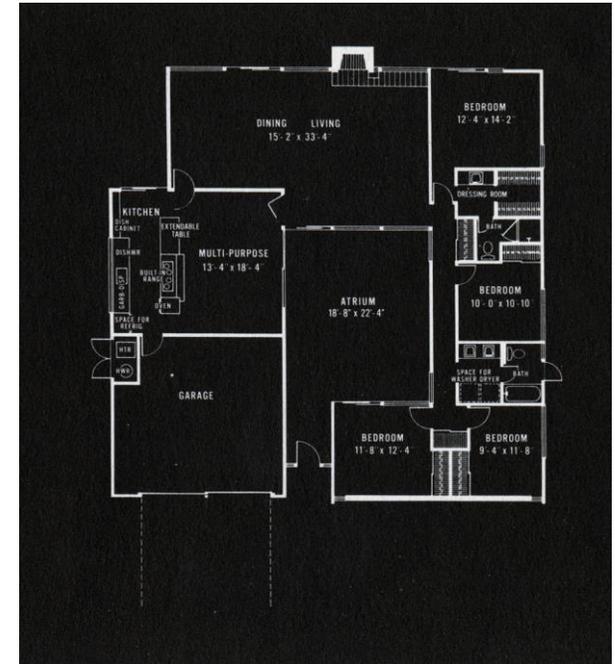
Parking:
Two garages

Front Entry:
Recessed
Narrow, obscure glass sidelights

Front Windows:
Rectangular clerestory
Vertical fixed slot

Other:
Wood trellis
No overhanging eave at front

LA-91 (R)



Tract:
Fairhaven

Quantity:
46

Architect:
Anshen & Allen

Roof Forms:
Flat

Additional Cladding:
Rectangular concrete block

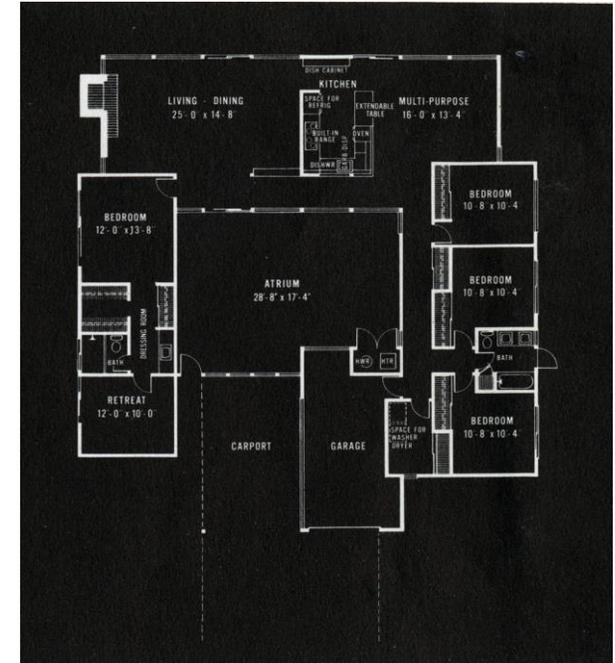
Parking:
Two garages

Front Entry:
Recessed
Narrow, obscure glass sidelights

Front Windows:
Rectangular clerestory
Vertical fixed slot

Other:
None

LJ-115 (R)



Tract:
Fairhaven

Quantity:
13

Architect:
Jones & Emmons

Roof Forms:
Broad gable
Flat

Additional Cladding:
None

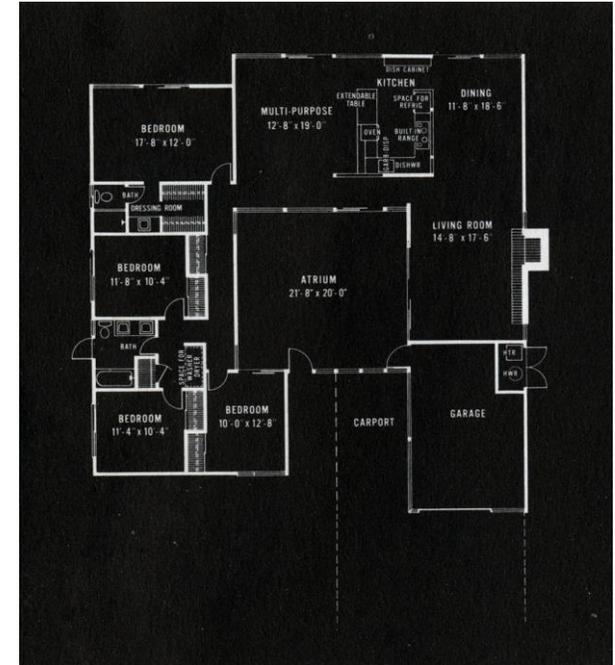
Parking:
One garage
One carport

Front Entry:
Recessed in carport
Adjacent glass panels

Front Windows:
Trapezoidal clerestory

Other:
None

LJ-124 (R)



Tract:
Fairhaven

Quantity:
29

Architect:
Jones & Emmons

Roof Forms:
Broad gable
Flat

Additional Cladding:
None

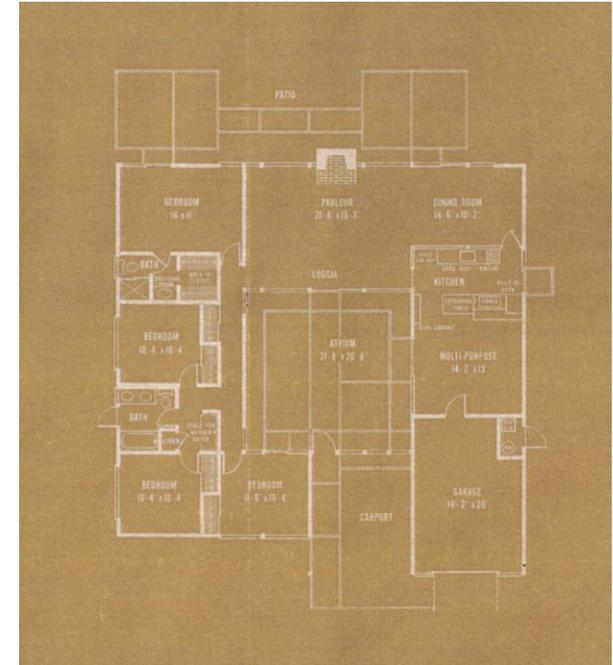
Parking:
One garage
One carport

Front Entry:
Recessed in carport
Adjacent glass panels

Front Windows:
Trapezoidal clerestory
Double-hung operable

Other:
None

LJ-144 (R)



Tract:
Fairhaven

Quantity:
62 total
Fairhaven - 21
Fairmeadow - 41

Architect:
Jones & Emmons

Roof Forms:
Broad gable
Flat

Additional Cladding:
None

Parking:
One garage
One carport

Front Entry:
Recessed in carport
Adjacent glass panels

Front Windows:
Trapezoidal clerestory

Other:
None

Models by Neighborhoods

Fairmeadow
(1962) — 119 homes

Model	Primary Roof Form	Number in Neighborhood
LA-3R	Central Gable	1/119
LA-14	Full Gable	1/119
LA-24 (R)	Flat Roof	18/119
LA-24AE (R)	Flat Roof	12/119
LA-114 (R)	Central Gable	29/119
LJ-144 (R)	Broad Gable	41/119
LJ-174	Full Gable	1/119
LJ-274 (R)	Broad Gable	11/119
LJ-374 (R)	Full Gable	5/119

Notes

(R) denotes a mirrored or reversed plan.

Model numbers and quantities are based on data provided by the City of Orange.

Floor plans are from Eichler Homes, Inc. brochures available at the Orange Public Library.

The data provided is based on best available information and minor variations to the models features may exist.

LA-3R



Tract:
Fairmeadow

Quantity:
1

Architect:
Claude Oakland

Roof Forms:
Central gable
Flat

Additional Cladding:
None

Parking:
Two garages

Front Entry:
Wide obscure glass sidelight

Front Windows:
Trapezoidal clerestory
Horizontal sliders

Other:
Concrete block planter

LA-14



Tract:
Fairmeadow

Quantity:
1

Architect:
Claude Oakland

Roof Forms:
Full-width broad gable

Additional Cladding:
None

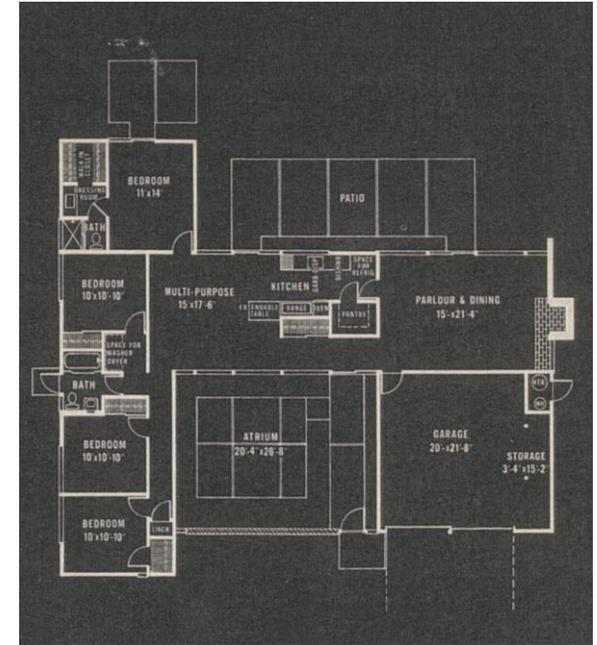
Parking:
Two garages

Front Entry:
Narrow obscure glass sidelights

Front Windows:
Trapezoidal clerestory
Obscure fixed glazed bay

Other:
Square concrete block fins dividing glazed bays

LA-24 (R)



Tract:
Fairmeadow

Quantity:
18

Architect:
Claude Oakland

Roof Forms:
Flat
Rear low-pitch (not visible from street)

Additional Cladding:
Rectangular concrete block

Parking:
Two garages

Front Entry:
Wide obscure glass sidelight

Front Windows:
Vertical fixed slot

Other:
Wood trellis

LA-24AE (R)



Tract:
Fairmeadow

Quantity:
12

Architect:
Claude Oakland

Roof Forms:
Flat
Rear low-pitch (visible from street)

Additional Cladding:
Rectangular concrete block

Parking:
Two garages

Front Entry:
Wide obscure glass sidelight

Front Windows:
Vertical fixed slot

Other:
Wood trellis

LA-114 (R)



Tract:
Fairmeadow

Quantity:
29

Architect:
Claude Oakland

Roof Forms:
Central gable
Flat

Additional Cladding:
None

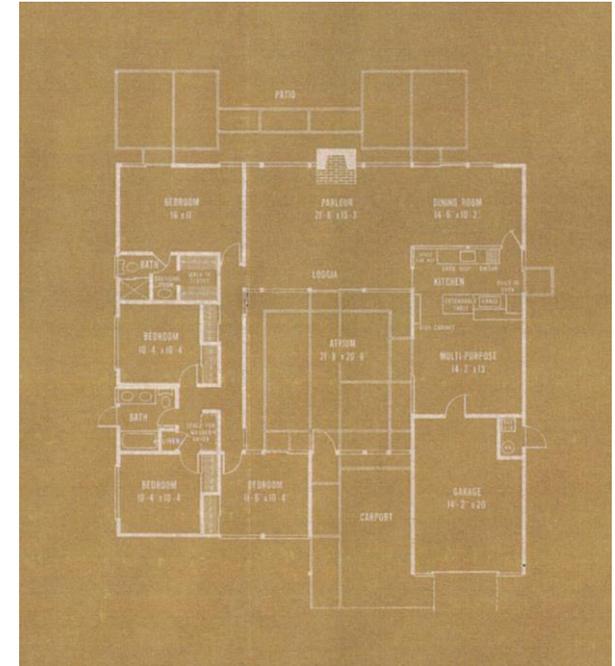
Parking:
Two garages

Front Entry:
Narrow glass sidelights

Front Windows:
Obscure glass panels at central gable
Vertical fixed slot

Other:
Square concrete block planter

LJ-144 (R)



Tract:
Fairmeadow

Quantity:
62 total
Fairhaven - 21
Fairmeadow - 41

Architect:
Jones & Emmons

Roof Forms:
Broad gable
Flat

Additional Cladding:
None

Parking:
One garage
One carport

Front Entry:
Recessed in carport
Adjacent glass panels

Front Windows:
Trapezoidal clerestory

Other:
None

LJ-174



Tract:
Fairmeadow

Quantity:
1

Architect:
Jones & Emmons

Roof Forms:
Full-width broad gable

Additional Cladding:
Square concrete block

Parking:
Two garages

Front Entry:
Narrow obscure glass sidelight

Front Windows:
Trapezoidal clerestory

Other:
None

LJ-274 (R)



Tract:
Fairmeadow

Quantity:
11

Architect:
Jones & Emmons

Roof Forms:
Broad gable
Flat

Additional Cladding:
None

Parking:
Two garages

Front Entry:
Wide obscure glass sidelight

Front Windows:
Trapezoidal clerestory
Vertical fixed slot

Other:
None

LJ-374 (R)



Tract:
Fairmeadow

Quantity:
5

Architect:
Jones & Emmons

Roof Forms:
Full-width broad gable

Additional Cladding:
Square concrete block

Parking:
Two garages

Front Entry:
Wide obscure glass sidelight

Front Windows:
Trapezoidal clerestory

Other:
None

Models by Neighborhoods



Model	Primary Roof Form	Number in Neighborhood
OC-274 (R)	Flat Roof	4/80
OC-574 (R)	Broad Gable	15/80
OC-584 (R)	Flat Roof	10/80
OJ-04 (R)	Central Gable	2/80
OJ-1184 (R)	Broad Gable	13/80
OJ-1605 (R)	Central Gable	25/80
OJ-1605 Special- (R)	Flat Roof	2/80
OJ-1744 (R)	Broad Gable	9/80

Notes

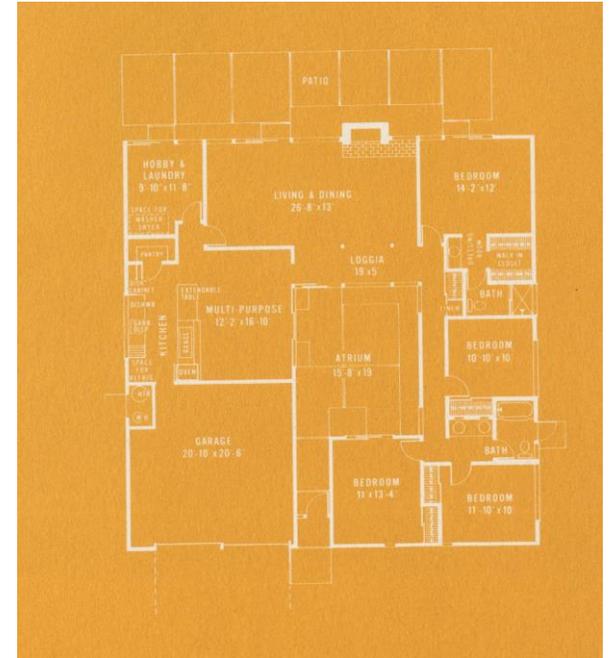
(R) denotes a mirrored or reversed plan.

Models numbers and quantities are based on data provided by the City of Orange.

Floor plans are from Eichler Homes, Inc. brochures available at the Orange Public Library.

The data provided is based on best available information and minor variations to the models features may exist.

OC-274 (R)



Tract:
Fairhills

Quantity:
4

Architect:
Claude Oakland

Roof Forms:
Flat

Additional Cladding:
None

Parking:
Two garages

Front Entry:
Narrow obscure glass sidelight

Front Windows:
Rectangular clerestory
Vertical fixed slot

Other:
None

OC-574 (R)



Tract:
Fairhills

Quantity:
15

Architect:
Claude Oakland

Roof Forms:
Broad gable
Flat

Additional Cladding:
None

Parking:
Two garages

Front Entry:
Narrow obscure glass sidelight

Front Windows:
Vertical fixed slot

Other:
None

Notes

OC-574 floor plan is from Oakland & Imada Collection, University of California, Berkeley.

OC-584 (R)



Tract:
Fairhills

Quantity:
10

Architect:
Claude Oakland

Roof Forms:
Flat

Additional Cladding:
None

Parking:
One garage
One carport

Front Entry:
Recessed in carport
Obscure glass sidelight

Front Windows:
Rectangular clerestory
Vertical fixed slot

Other:
None

OJ-04 (R)



Tract:
Fairhills

Quantity:
2

Architect:
Jones & Emmons

Roof Forms:
Central gable
Flat

Additional Cladding:
Masonite

Parking:
Two garages

Front Entry:
Wide obscure glass sidelight

Front Windows:
Trapezoidal transom
Horizontal sliders
Vertical fixed slot

Other:
No atrium

OJ-1184 (R)



Tract:
Fairhills

Quantity:
13

Architect:
Jones & Emmons

Roof Forms:
Broad gable
Flat

Additional Cladding:
None

Parking:
One garage
One carport

Front Entry:
Recessed in carport
Adjacent glass panels

Front Windows:
Trapezoidal clerestory

Other:
None

OJ-1605 Special (R)



Tract:
Fairhills

Quantity:
2

Architect:
Jones & Emmons

Roof Forms:
Flat - tiered

Additional Cladding:
None

Parking:
One garage
One carport

Front Entry:
Recessed in carport
Adjacent glass panels

Front Windows:
Horizontal slider in recessed carport
Rectangular transom

Other:
Flat roof version of OJ-1605

OJ-1744 (R)



Tract:
Fairhills

Quantity:
9

Architect:
Jones & Emmons

Roof Forms:
Broad gable
Flat

Additional Cladding:
None

Parking:
2 garages
1 carport

Front Entry:
Recessed in carport
Adjacent glass panels

Front Windows:
Trapezoidal clerestory

Other:
None

Models by Roof Forms

Broad Gable (139 homes)

Model	Tract	Number in Neighborhood	Parking	Additional Cladding
LJ-124 (R)	Fairhaven	29	1 carport / 1 garage	None
LJ-144 (R)	Fairhaven (21) Fairmeadow (41)	62	1 carport / 1 garage	None
LJ-274 (R)	Fairmeadow	11	2 garages	None
OC-574 (R)	Fairhills	15	2 garages	None
OJ-1184 (R)	Fairhills	13	1 carport / 1 garage	None
OJ-1744 (R)	Fairhills	9	1 carport / 2 garage	None

Central Gable (70 homes)

Model	Tract	Number in Neighborhood	Parking	Additional Cladding
OC-1605 (R)	Fairhills	25	1 carport / 1 garage	None
OJ-04 (R)	Fairhills	2	2 garages	Masonite
LA-3R	Fairmeadow	1	2 garages	None
LA-114 (R)	Fairmeadow	29	2 garages	Square concrete block
LA-115 (R)	Fairhaven	13	1 carport / 1 garage	None

Notes

(R) denotes a mirrored or reversed plan.

Number of models are based on data provided by the City of Orange.

Flat Roof (115 homes)

Model	Tract	Number in Neighborhood	Parking	Additional Cladding
1454 (R)	Fairhaven	2	2 garages	None
LA-4B (R)	Fairhaven	13	2 garages	Wood shingle
LA-24 (R)	Fairmeadow	18	2 garages	Rectangular concrete block
LA-24 Alternative Elevation (R)	Fairmeadow	12	2 garages	Rectangular concrete block
LA-81 (R)	Fairhaven	8	2 garages	None
LA-91 (R)	Fairhaven	46	2 garages	Rectangular concrete block
OC-274 (R)	Fairhills	4	2 garages	None
OC-584 (R)	Fairhills	10	1 carport / 1 garage	None
OC-1605 Special (R)	Fairhills	2	1 carport / 1 garage	None

Other Roofs (15 homes)

Model	Tract	Number in Neighborhood	Parking	Additional Cladding
LJ-374 (R) – full gable	Fairmeadow	5	2 garages	Square concrete block
LJ-174 – full gable	Fairmeadow	1	2 garages	Square concrete block
LA-14 – full gable	Fairmeadow	1	2 garages	None
LA-4E (R) – shed roof	Fairhaven	8	2 garages	None

Appendix B - Glossary of Terms and Abbreviations

Bay window: The common term for a minor projection containing a window that extends beyond the surrounding façade plane.

Clapboard siding: A siding material consisting of narrow wood boards applied horizontally, with the lower edge overlapping the board below.

Clerestory window: A high section of a wall that contains windows above eye level; the purpose is to admit light, fresh air, or both.

Concrete block: A standard size block made of concrete that is hollow or solid. Also known as a concrete masonry unit.

Eave: The lower edge of a roof slope that intersects with the exterior wall.

Escutcheon: The protective or ornamental plate around a keyhole, door handle, or light switch.

Façade: An exterior building face.

Façade plane: The predominant plane at which the physical features of a façade are arranged.

Fenestration: The physical arrangement of windows on a building's exterior walls.

Fixed window: A window sash that does not move or open.

Gable roof: A roof form with two sloping sides and a vertical triangular portion at one or both ends.

Glazing: Glass in an opening.

Hipped roof: A roof form where all sides slope between the roof ridge and eaves.

Hyphen: A minor volume that connects two larger volumes.

Infill: New construction located within an existing, historic setting.

Landscape: The physical and aesthetic setting of a place, typically defined by natural features but also incorporating spatial relationships, views, furnishings, and circulation routes.

Light or lite: A pane of glass located within a window.

Massing: The distribution of a building's volume through space.

Masonry: Construction comprised of individual units bound together by mortar, such as brick, stone, concrete block, and others.

Overlay zone: A set of zoning requirements that is imposed in addition to the requirements of the underlying district.

Parkway: The narrow area containing plantings or gravel that is located between the roadway and its parallel sidewalk.

Post and beam: A type of timber construction in which vertical posts and horizontal beams create a framework that carries both the floor and roof loads.

Public right of way: Street and sidewalk that are public spaces.

Setback: The distance between a property line and a building, especially at the front of a lot.

Shed roof: A roof form characterized by a single slope.

Sidelight: Any window that flanks a door; typically a tall narrow window that spans the full or partial height of the door.

Streetscape: The visual character of a roadway's setting, including paving, plant life, and adjacent buildings and structures.

Stucco: An exterior finish composed of some combination of portland cement, lime and sand, which are mixed with water and applied to a wall in a wet coating and allowed to dry.

Solid-to-void ratio: The proportional relationship between solid wall areas and window, door, and other openings.

Tongue and groove: A type of wood siding in which each board has a thin ridge along one edge (the "tongue") and a slot (the "groove") on the other; the boards fit close together, nearly flush.

Transom: Window above a door, typically fixed.

Window frame: The overall framework that surrounds and supports the entire window (including the window sash) - comprised of the head (top), jambs (sides), and sill (bottom).

Window sash: The frame that contains the glazing (glass panes); the window sash may be operable (movable).

Terminology

Terms used in the OEDS typically mean:

- **Shall** = required (standard)
- **Should** = recommended (guideline)
- **Appropriate** = acceptable, likely approved
- **Not appropriate** = not acceptable, likely not approved
- **Encourage** = usually preferred, but not required or recommended
- **Discourage** = usually not preferred, but not prohibited
- **Consider** = suggested

List of Acronyms and Abbreviations

ADU: Accessory Dwelling Unit

CEQA: California Environmental Quality Act

DRC: Design Review Committee

MDR: Minor Design Review

OEDS: Orange Eichler Design Standards

OMC: Orange Municipal Code

NPS: National Park Service

OHP: Office of Historic Preservation

Secretary's Guidelines: Secretary of the Interior's Guidelines for Preserving, Rehabilitation, Restoring and Reconstructing Historic Buildings

Secretary's Standards: Secretary of the Interior's Standards for the Treatment of Historic Properties

Appendix C - Additional Resources and Works Cited

THE SECRETARY OF THE INTERIOR'S STANDARDS FOR THE TREATMENT OF HISTORIC PROPERTIES

The National Park Service has developed historic preservation standards, called the Secretary of the Interior's Standards for the Treatment of Historic Properties (Secretary's Standards) that apply to a wide variety of historic properties across the country. The Secretary's Standards are a series of concepts about maintaining, repairing, and replacing historic materials, as well as designing new additions or making alterations. The Secretary's Standards address four treatments for historic properties: preservation, rehabilitation, restoration, and reconstruction.

Preservation is the act or process of applying measures necessary to sustain the existing form, integrity, and materials of a historic property. Work generally focuses on ongoing maintenance and repairs of historic materials and features rather than extensive replacement or new construction.

Rehabilitation is the act or process of making possible a compatible use for a property through repair, alterations, and additions while preserving those portions or features which convey its historical, cultural, or architectural values.

Restoration is the act or process of accurately depicting the form, features, and character of a property as it appeared at particular period of time by means of the removal of features from other periods in its history and reconstruction of missing features from the restoration period.

Reconstruction is the act or process of depicting, by means of new construction, the form, features, and detailing of a non-surviving site, landscape, building, structure, or object for the purpose of replicating its appearance at a specific period of time and in its historic location.

Most projects will apply the Rehabilitation Standards, which acknowledge the need to alter or add to a historic building to meet either continuing or new uses while retaining the building's historic character. The Rehabilitation Standards consist of ten principles:

Standards for Rehabilitation

1. A property will be used as it was historically or be given a new use that requires minimal change to its distinctive materials, features, spaces, and spatial relationships.
2. The historic character of a property will be retained and preserved. The removal of distinctive materials or alteration of features, spaces, and spatial relationships that characterize a property will be avoided.
3. Each property will 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 elements from other historic properties, will not be undertaken.
4. Changes to a property that have acquired historic significance in their own right will be retained and preserved.
5. Distinctive materials, features, finishes, and construction techniques or examples of craftsmanship that characterize a property will be preserved.
6. Deteriorated historic features will be repaired rather than replaced. Where the severity of deterioration requires replacement of a distinctive feature, the new feature will match the old in design, color, texture, and, where possible, materials. Replacement of missing features will be substantiated by documentary and physical evidence.
7. Chemical or physical treatments, if appropriate, will be undertaken using the gentlest means possible. Treatments that cause damage to historic materials will not be used.

8. Archaeological resources will be protected and preserved in place. If such resources must be disturbed, mitigation measures will be undertaken.
9. New additions, exterior alterations, or related new construction will not destroy historic materials, features, and spatial relationships that characterize the property. The new work will be differentiated from the old and will be compatible with the historic materials, features, size, scale and proportion, and massing to protect the integrity of the property and its environment.
10. New additions and adjacent or related new construction will 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.

SECRETARY OF THE INTERIOR'S GUIDELINES FOR PRESERVING, REHABILITATING, RESTORING AND RECONSTRUCTION HISTORIC BUILDINGS

The Secretary of the Interior's Guidelines for Preserving, Rehabilitating, Restoring and Reconstructing Historic Buildings (Secretary's Guidelines) offer general design and technical recommendations to assist in applying the Secretary's Standards to a specific property.

Together with the Secretary's Standards, they provide a framework and guidance for decision-making about changes to a historic property. Again, the Rehabilitation Guidelines are the ones most often used, but principles from each can guide specific aspects of project. For example, if the project is reconstructing an original element that has been lost, the Reconstruction Guidelines would be most relevant.

For more information, please see:

- Secretary's Standards: <https://www.nps.gov/tps/standards.htm>
- Standards for Rehabilitation, <https://www.nps.gov/tps/standards/four-treatments/treatment-rehabilitation.htm>
- Secretary's Guidelines, <https://www.nps.gov/tps/standards/treatment-guidelines-2017.pdf>
- Guidelines on Sustainability, <https://www.nps.gov/tps/standards/rehabilitation/guidelines/index.htm>

NATIONAL PARK SERVICE TECHNICAL GUIDANCE DOCUMENTS

The National Park Service (NPS) prepared guidance on how to interpret and apply the Secretary's Standards and Guidelines. These publications include Preservation Briefs, Preservation Tech Notes, and Interpreting the Standards (ITS) Bulletins available on the NPS website: <https://www.nps.gov/tps/standards.htm>. They provide valuable guidance to supplement the Orange Eichler Design Standards, and the public is encouraged to consult them while planning projects for your Eichler home.

The following are selected NPS publications. While some of these resources may use traditional buildings as examples, many of the concepts and approaches are sound for Mid-Century Modern buildings like Eichler homes.

Energy Efficiency:

- Weatherization and Improving Energy Efficiency of Historic Buildings, <https://www.nps.gov/tps/sustainability/energy-efficiency/weatherization.htm>
- Exterior Woodwork:
- Tech Note: Paint Removal from Wood Siding. Alan O'Bright. 1986, <https://www.nps.gov/tps/how-to-preserve/tech-notes/Tech-Notes-Exterior02.pdf>

Historic Districts:

- Working on the Past in Local Historic Districts, <https://www.nps.gov/tps/education/workingonthepast/index.htm>

Maintenance:

- Preservation Brief 47: Maintaining the Exterior of Small and Medium Size Historic Buildings, <https://www.nps.gov/tps/how-to-preserve/briefs/47-maintaining-exteriors.htm>

Masonry (brick, stone, concrete, etc.)

- A Glossary of Historic Masonry Deterioration Problems and Preservation Treatments, <https://www.nps.gov/tps/how-to-preserve/preservedocs/Historic-Masonry-Deterioration.pdf>
- Keep It Clean: Removing Exterior Dirt, Paint, Stains, and Graffiti from Historic Masonry Buildings, <https://www.nps.gov/tps/how-to-preserve/preservedocs/Keeping-It-Clean.pdf>

Mechanical Systems:

- ITS 51: Installing New Systems in Historic Buildings, <https://www.nps.gov/tps/standards/applying-rehabilitation/its-bulletins/ITS51-HistoricBuilding-NewSystems.pdf>

Rear Additions:

- ITS 37: Rear Additions to Historic Houses, <https://www.nps.gov/tps/standards/applying-rehabilitation/its-bulletins/ITS37-Houses-RearAdditions.pdf>

Solar Panels:

- Solar Panels on Historic Properties, <https://www.nps.gov/tps/sustainability/new-technology/solar-on-historic.htm>
- ITS 52: Incorporating Solar Panels in a Rehabilitation Project, <https://www.nps.gov/tps/standards/applying-rehabilitation/its-bulletins/ITS52-SolarPanels.pdf>

Windows:

- Tech Note: Maintenance and Repair of Historic Aluminum Windows. Kaaren R. Staveteig. 2008, <https://www.nps.gov/tps/how-to-preserve/tech-notes/Tech-Notes-Windows22.pdf>
- "Saving Windows, Saving Money." Preservation Green Lab of the National Trust for Historic Preservation. <http://forum.savingplaces.org/HigherLogic/System/DownloadDocumentFile.ashx?DocumentFileKey=bf32a244-b322-3e11-a93c-2d3a1d-4ed243&forceDialog=0>
- "Repair and Upgrade Windows and Doors." National Park Service. <https://www.nps.gov/tps/sustainability/energy-efficiency/weatherization/windows-doors.htm>
- "Replacement Windows that Meet the Standards." National Park Service. <https://www.nps.gov/tps/standards/applying-rehabilitation/successful-rehab/windows-replacement.htm>

WEBSITES & VIDEOS

- City of Orange. "Mills Act Program." Accessed July 11, 2018. <https://www.cityoforange.org/267/Mills-Act-Program>.
- City of Orange. "Historic Preservation." Accessed July 11, 2018. <https://www.cityoforange.org/261/Historic-Preservation>.
- Eichler Network - www.eichlernetwork.com
- Lombardelli, Monique. *People in Glass Houses: The Legacy of Joseph Eichler*. Directed by Kyle Chesser. 2013; San Joes, CA: Hands On Studio. DVD.

MODERN LANDSCAPE RESOURCES

- Church, Thomas. *Gardens are for People*. San Francisco: McGraw-Hill Book Co., 1955, reissued 1983.
- Eckbo, Garrett. *Landscape for Living*. Amherst: University of Massachusetts Press, 1950, reissued 2009.
- Eckbo, Garrett. *Art of Home Landscaping*. San Francisco: McGraw-Hill Inc., 1956, revised 1978.

ADDITIONAL LANDSCAPE RESOURCES

- Orange County Coastkeeper, demonstration garden and workshops, <https://www.coastkeeper.org/the-garden/>.
- University of California Cooperative Extension, Orange County Programs, <http://ceorange.ucanr.edu/>.

BOOKS, JOURNALS & NEWSPAPERS

- Adamson, Paul and Marty Arbunich. *Eichler: Modernism Rebuilds the American Dream*. Salt Lake City: Gibbs Smith Publisher, 2002.
- Ditto, Jerry. *Eichler Homes: Design for Living*. San Francisco: Chronicle Books, 1995.
- Lenox, Barbara. "A House with a Built-In View." *Los Angeles Times*. January 5, 1964.
- MacMasters, Don. "First Tract with an Atrium." *Los Angeles Times*. April 3, 1960.
- "Tract Project by Anshen and Allen, Architects." *Arts & Architecture* (April 1960): 30-31.

REPOSITORIES

- University of California, Berkeley, College of Environmental Design Archives – Oakland & Imada Collection
- University of California, Los Angeles, Library Special Collections, Charles E. Young Research Library – A. Quincy Jones Papers
- Orange Public Library, Local History Collection

CODES

- California Historic Building Code. California Code of Regulations, Title 24, Part 8.
- California Solar Rights Act. California Civil Code. Section 714 and 714.1.
- California Public Resource Code, Division 15, Chapter 12 – Solar Shade Control, 25980-25986.
- Orange Municipal Code. Chapter 17.17 – Historic Districts.

UNPUBLISHED DOCUMENTS

- National Register of Historic Places Registration Form. Fairhaven Historic District. Prepared by JANUS | Robert Imboden, June 2018 (Draft).
- National Register of Historic Places Registration Form. Fairhills Historic District. Prepared by JANUS | Robert Imboden, June 2018 (Draft).
- National Register of Historic Places Registration Form. Fairmeadow Historic District. Prepared by JANUS | Robert Imboden, June 2018 (Draft).

Appendix D Eichler's Architects

Anshen & Allen

Although S. Robert Anshen and William Stephen Allen received their training in Philadelphia, the two architects made names for themselves in California and are closely associated with Mid-Century Modern architecture on the West Coast. Drawn to California's more relaxed and experimental design culture, Anshen and Allen established their own firm in the Bay Area in 1940. During the following decade, Anshen and his wife Eleanor produced papers arguing that Modern, mass-constructed home designs should incorporate the most recent technological innovations available and to integrate numerous building systems. Once hired by Eichler Homes, Anshen and Allen were able to realize these ideas, which were represented in their AA-1 prototype design.

The firm made a lasting imprint on California's suburban landscape through their work for Joseph Eichler. Anshen and Allen completed many residential commissions but the firm is recognized for designing significant high-rise office tower design in urban settings. Two such towers in San Francisco include the International Building (601 California Street, 1956) and the Bank of California Tower (400 California Street, 1967). Their output also includes the iconic Chapel of the Holy Cross in Sedona, Arizona (1946). Anshen and Allen was acquired by Stantec in 2010.

Jones & Emmons

Founded in 1950 and based in Los Angeles, the innovative partnership of A. Quincy Jones and Frederick Emmons explored new uses of materials and interior layout in the postwar period. Jones, who gained experience in several architectural offices before joining Emmons, is recognized as the primary driver of the firm's innovative design work. One of Jones's major accomplishments prior to forming his firm with Emmons was his design role in the Mutual Housing Association development in Brentwood, which consisted of 160 Mid-Century Modern homes constructed of concrete block and wood, with expansive walls of glass.

Soon after its founding, the partnership of Jones and Emmons was hired by Joseph Eichler to develop new house designs to supplement the work of Anshen and Allen. From that point until 1960, when Anshen and Allen moved on to larger scale civic and commercial work, the work of both firms was central to new Eichler subdivisions in Palo Alto and throughout California. While Eichler homes were characterized by wood post-and-beam construction, Jones and Emmons also gained attention for their use of steel frames and they developed a steel-frame model home—known as the X-100—for Eichler Homes that was constructed in San Mateo. Their work also included the Laguna Eichler Apartments, constructed in the mid-1960s as a redevelopment project in San Francisco's Western Addition. Jones and Emmons's careers, however, remain defined by thousands of suburban residences that were built by Eichler Homes according to their designs. The partnership ended in 1969 when Emmons retired.

Claude Oakland

Even though his was the third design firm hired by Joseph Eichler, Claude Oakland was involved in the real estate company's development projects nearly from the start. After graduating from Tulane University and training with architect Bruce Goff, Oakland joined Anshen and Allen in 1950 and oversaw many of the firm's designs for Eichler Homes during the next ten years. He played a critical role in simplifying the firm's residential designs in order to make them affordable for Joseph Eichler's intended middle class market. When Oakland formed his own firm, Claude Oakland & Associates, in 1960, he was immediately brought aboard Eichler's design team.

Oakland helped to expand the design vocabulary of the company's homes beyond the relatively simple roof forms that had defined Eichler tracts in the 1950s. Oakland introduced hipped roofs, gabled roofs with flat peaks, and gables positioned parallel to the street. Oakland relied on his relationship with Eichler Homes for work until Joseph Eichler's death in 1974. He subsequently formed a partnership with his associate Kinji Imada in 1977 and continued to work until his death in 1989.

