



Staff Report

UPDATE ON RESIDENTIAL DESIGN GUIDELINES PROJECT

Honorable Mayor and Council Members:

Summary/Background

One of the Community Development projects on the Council's Priority Calendar is the establishing of Design Guidelines for Residential Dwellings. This was an item strongly encouraged for implementation as part of the October 2005 Permit Efficiency Task Force (PETF) Recommendations. Furthermore, the PETF developed recommendations to improve customer service relating to the planning/building permit processes – these included but were not limited to 1) assembly of application packets, 2) re-establishment of owner builder seminars, and 3) the preparation of user guides, design guidelines, and answers to frequently asked questions, etc. Many of the Task Force's recommendations (items 1 & 2 above) have been implemented and others are in process. The PETF's recommendation with respect to the preparation of design guidelines is as follows:

1.1.1.4 - Design Guidelines with Graphics

“A user's guide for good site planning and architectural design will depict the elements of a well-designed residential project in the City of Belmont. The guide will include detailed suggestions on how to fit with neighborhood character, deal with lots (size, shape, slope, existing natural features), manage public views and privacy issues, understand expectations around building bulk, measure building height, hardscape limits, landscape, use of “pictures of what to-do and not-to-do” format, provide clear criteria for submittals by use of a submittal checklist.”

The City will also be seeking consultant assistance in the preparation of design guidelines for single and multi-family residential properties. However, this is a long term task, as choosing a consultant, conducting public outreach and preparing final draft guidelines could take several months to complete. In the meantime, City staff has prepared an interim draft of residential design guidelines (attached to this memorandum).

Staff created the attached guidelines as an independent handout, covering only the design-related issues. The guidelines are purposefully elementary in their approach, in order to target the homeowner who is often making their first contact with Planning Staff. The interim design

guidelines are intended to assist applicants in preparing plans for Design Review submittal for residential properties. It is also anticipated that the interim design guidelines will be used as a baseline for the consultant whom will prepare the final version of the design guidelines. Separate handouts, graphics and frequently asked questions (FAQs) have also been prepared and combined to accompany the design guidelines, which would answer questions related to the permit process and the physical development of property (i.e., how to measure setbacks, calculate slope, measure height, etc.).

Ultimately, the final Design Guidelines product is expected to serve as a common reference point for property owners, architects/designers, builders, staff, the Commission, and neighbors and other interested citizens. Design Guidelines are also intended to assist the homeowner and designer to craft a project that moves smoothly through the development review process.

This memo serves as a “check-in” on the Residential Design Guidelines project. From the Council’s direction at tonight’s meeting, staff will continue to move forward with the tasks of securing complimentary consultant work efforts, stakeholder input, and preparation of final version guidelines for consideration by the Planning Commission and adoption by the Council.

Discussion

Organization of Residential Design Guidelines

As indicated above, the design guidelines are intended to assist applicants in preparing plans for Design Review submittal. Thus, the guidelines are organized into sections that correspond with the key design-related issues (findings) that the Planning Commission considers when deciding whether to approve a Design Review application: Neighborhood Compatibility, Site Planning, Architectural Characteristics, and Landscaping.

Each section of the design guidelines includes basic definitions, a design principal or goal, and specific guidelines to implement the goal. Graphics are included to help illustrate each guideline, and communicate basic design concepts and elements of good design. Appendices illustrating common home styles, roof styles, dormer styles, and window styles are attached to the guidelines as reference material.

Design Guidelines will also often serve as a “form-based code” that links to (and ultimately clarifies) Zoning Ordinance Definitions and Development Standards/Requirements. The synthesis of words and pictures envisioned in a Design Guidelines document will greatly improve the way staff conveys information to the public, resulting in permit efficiency/streamlining.

Planning Commission Review – December 2007

At their December 4, 2007 meeting, staff requested Planning Commission comments with respect to the content, layout, and format of the interim draft design guidelines. The Commission provided good feedback to staff whether:

- Design principals or guidelines should be added, deleted or modified

- The layout or organization of the document should be modified
- The graphics adequately illustrate each guideline, and communicate the concepts/elements of good design discussed within the document

By and large, the Commission was extremely pleased with the Interim Design Guidelines product at this point. Suggestions, edits, and recommendations were incorporated into the document and subsequently this “Residential Information/Guidelines packet” has been made available to the public – this product has been provided as Attachment A of this memo. It should be noted that Senior Planner, Damon DiDonato has served as the key project manager of the Interim Draft Design Guidelines document to this point, and his work thus far has been exemplary.

General Plan/Vision Statement

The establishment of Residential Design Guidelines furthers the City’s General Plan Goals as follows:

Goal 1015.2

“To preserve and enhance the attractive, family-oriented and tranquil quality of Belmont’s residential neighborhoods”.

Goal 1015.4

“To maintain and enhance the appearance of the City through controlling the location, timing, design and landscaping of new development and encouraging renovation of older areas.”

Fiscal Impact

None at this time.

Public Contact

This matter was placed on the agenda and posted as required by the California Government Code.

Recommendation

There is no specific recommendation associated with this status report/update item. Staff will continue to pursue completion of required tasks for the Residential Design Guidelines Project. Staff recommends that the Council review the issues in this staff report and provide any alternative direction, if necessary.

Alternatives

1. Suspend the Residential Design Guidelines Priority Calendar Project at this time.
2. Refer back to staff for additional information.

Attachments

A. Draft Single-Family Residential Information Packet Including:

- Development Standards
- Frequently Asked Questions
- Interim Draft Residential Design Guidelines

Respectfully submitted,

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City Manager

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City of Belmont

Community Development Department

Single-family Residential Information Packet

Development Standards Frequently Asked Questions & Interim Design Guidelines



*Document under construction
Draft as of December 2007*

Introduction

The City of Belmont is committed to taking a constructive role in assisting home owners that want to improve their property, and continually strives to streamline and simplify the development review process. To that end, the Permit Center was constructed as a “one-stop” location for nearly all City permits, and zoning and building information and application packets were posted on the City’s website. In addition, the City has now created the attached packet of handouts with answers to frequently asked questions, tables and graphics to illustrate development standards, and interim design guidelines.

Purpose of the Packet

This Packet of handouts is not intended to replace the City Zoning Ordinance, but rather explain the concepts therein, and make the rules for the development of residential properties more understandable. This packet includes three handouts:

I. Development Standards

The development standards for residential properties (i.e., setbacks, height, parking standards, etc.), are located across several sections of the Zoning Ordinance. The development standards handout synthesizes the single-family residential development standards into a table and illustrates some of the more difficult standards with graphics.

II. Frequently Asked Questions (FAQs)

Planning staff within the Permit Center routinely provide guidance and answer questions related to the development of residential properties. In many instances the questions are the same. The frequently asked questions (FAQs) handout provides answers to questions about the development of residential property that are most often asked of planning staff.

III. Interim Design Guidelines

The City is in the process of preparing design guidelines. The guidelines will assist applicants in finding design solutions that meet their goals, while at the same time protecting neighborhood character and enhancing the attractiveness of the City. This is a long term task, which will take many months to complete. In the meantime, City staff has created interim design guidelines, to assist applicants in preparing plans for Design Review submittal.

The interim design guidelines are labeled as “under construction”, which means that they will change over time as City Staff finds better ways of articulating desirable design concepts. The guidelines are advisory, not mandatory, but adherence to the basic design concepts found within the guidelines may result in a more expeditious project review.

The interim guidelines are organized into sections that correspond with the key design-related issues (findings) that the Planning Commission considers when deciding whether to approve a Design Review application: Neighborhood Compatibility, Site Planning, Architectural Characteristics, and Landscaping. Each section of the design guidelines includes basic

definitions, a design principal or goal, and specific guidelines to implement the goal. Graphics are included to help illustrate each guideline, and communicate basic design concepts and elements of good design. Appendices illustrating common home styles, roof styles, dormer styles, and window styles are attached to the guidelines as reference material.

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City of Belmont

Community Development Department

Development Standards

for

*Single-family Residential
Properties*



Document under construction
Draft as of December 2007

Single-Family Residential Development Standards¹³

Zone	Lot Area	Width ¹	Frontage ²	FAR ^{3,4}	Gross Floor Area ⁵	Height	Front yard ^{6,7,8,9}	Side yard ^{10,11}	Street Side yard	Rear yard ¹²
R-1E	1 acre	150	30	0.5-0.2	4,500	28	25	15	25	30
R-1H	20,000	100	30	0.5-0.2	4,500	28	25	10%, 6-9	15	30
R-1A	9,600	70	30	0.5-0.2	3,500	28	15	10%, 6-9	15	20
R-1B	6,000	60	30	0.5-0.2	3,500	28	15	10%, 6-9	15	15
R-1C	5,000	50	30	0.5-0.2	3,500	28	15	10%, 6-9	15	15

¹ The area of the lot divided by the maximum lot depth; ² For a depth of 100 feet from the front lot line; ³ A sliding scale dependant upon slope (see attached table); ⁴ Exceptions for additional floor area (see planner for Ord. change to Section) ⁵Maximum possible floor area regardless of FAR allowances; ⁶ Front yard may be changed through setback averaging (see Section 9.7.4); ⁷ Garages require at least an 18-foot setback from the front property line to allow for uncovered parking within the driveway apron; ⁸ The sum of the front yard plus ½ of the right-of-way of the street shall not be less than 40 feet; ⁹ No building on a private road or easement shall be less than 45 feet from the center of private road or easement; ^{10,11} Side setbacks in most districts are based upon a percentage of lot width with a minimum of 6 feet and maximum of 10 feet required; ¹² See Section 9.7 for structures that may encroach into required yards; ¹³ HRO Districts not included in this table- for information on the HRO districts please contact the Permit Center).

Residential Accessory Building Standards:

- Height limit is 15 feet
- Not permitted in front of main building
- Can not cover more than 40% of required yard area, nor be less than 5 feet from the main building on site
- Setbacks for habitable accessory buildings are the same as principal building
- Setbacks for non-habitable accessory buildings are 5 feet in the rear of R1-A, B or C Districts
- Reverse Corner lot street side setback is the same as the principal home on the adjacent lot to the rear; rear setback is 5 feet

Parking Standards:

- Parking upgrade to 2 covered spaces - 20' x 20' interior clear, plus two uncovered spaces 17' width x 18' length in front of the garage (on lot), when any of the following occur: 1) 600 sq. ft. addition; 2) Modifications resulting in 3,000 sq. ft. of gross floor area; 3) increase in bedrooms from 3 or less to 4 or more; or 4) more than 1 bedroom is added (see Section 2.16 for bedroom definition). Note: Garages with 17' x 18' interior clear, constructed prior to 4/05, considered legal non-conforming 2-car garages
- No circular driveway or parking within required front yard permitted.

Driveway access minimum 12 feet in width, maximum 25 feet in width (ZA may approve access easement subject to findings in Section 8.2.3 (c)).

Floor Area Ratio Table

The permitted Floor Area (FA) of buildings shall be determined by multiplying net lot area by the Floor Area Ratio corresponding to the slope of the lot as shown in the following chart:

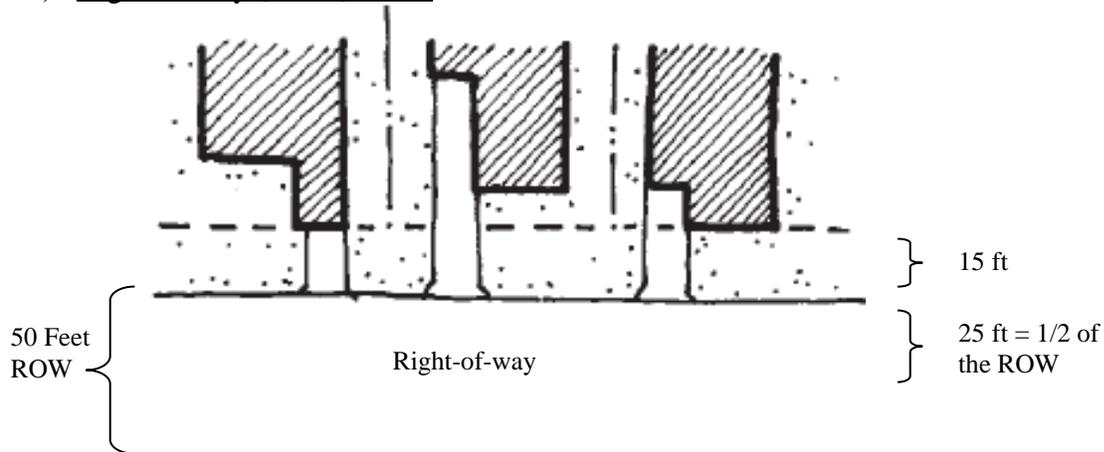
% SLOPE	FAR	% SLOPE	FAR	% SLOPE	FAR
0	0.533	16	0.506	31	0.385
1	0.533	17	0.499	32	0.374
2	0.533	18	0.493	33	0.364
3	0.533	19	0.486	34	0.354
4	0.533	20	0.480	35	0.344
5	0.533	21	0.471	36	0.334
6	0.533	22	0.463	37	0.324
7	0.533	23	0.454	38	0.314
8	0.533	24	0.446	39	0.303
9	0.533	25	0.437	40	0.293
10	0.533	26	0.429	41	0.288
11	0.529	27	0.420	42	0.283
12	0.525	28	0.412	43	0.277
13	0.521	29	0.403	44	0.272
14	0.516	30	0.395	45 & UP	0.267
15	0.512				

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Front Setback

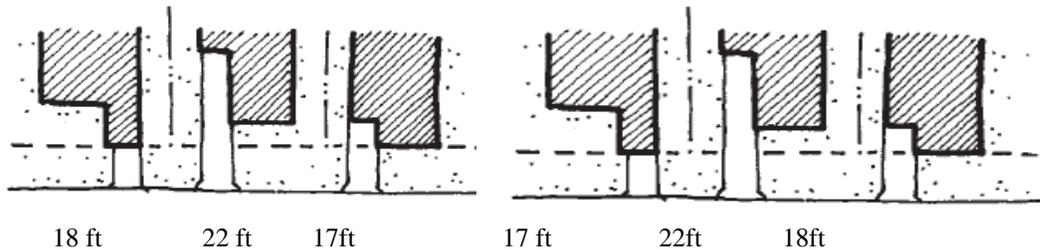
The front setback for residential properties in the R-1A, R1-B, R1-C, R1-E, and R1-H Districts is site/street specific, and calculated as the greater of the following two measures¹:

1) Right-of-way (ROW) width:



The sum of the front yard + $\frac{1}{2}$ of the right-of-way width shall not be less than 40 feet. In this case the minimum front setback would be 15 feet.

2) Setback Average:



The average front setback of above example is 19 feet

A setback average is calculated using the average front setback of all homes on the same side of the block for a maximum distance of 400 feet in each direction; homes with front setbacks that vary more than 10 feet from the average are excluded from the calculation.

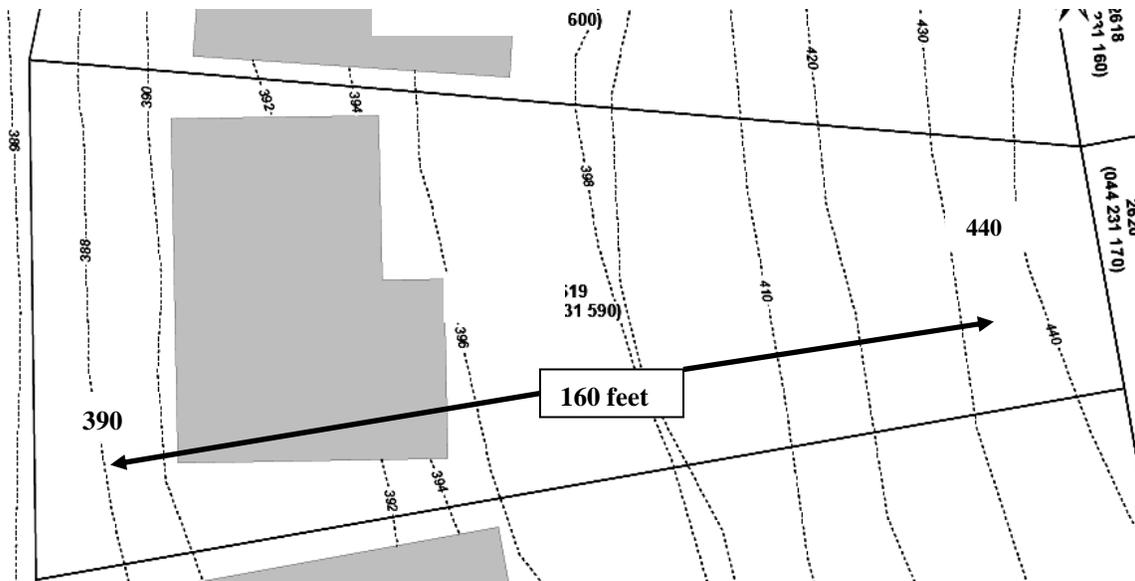
The minimum front setback required through setback averaging is 15 feet and the maximum required is 30 feet.

¹Should neither of the above measures be applicable (i.e., on a block end and/or when the subject block is less than 50% developed, then the front setback is as indicated within the development standards table (Section 4 of the Zoning Ordinance) for the specific zoning district.

Slope for Developed Lots

Developed Lots (Rise/Run)

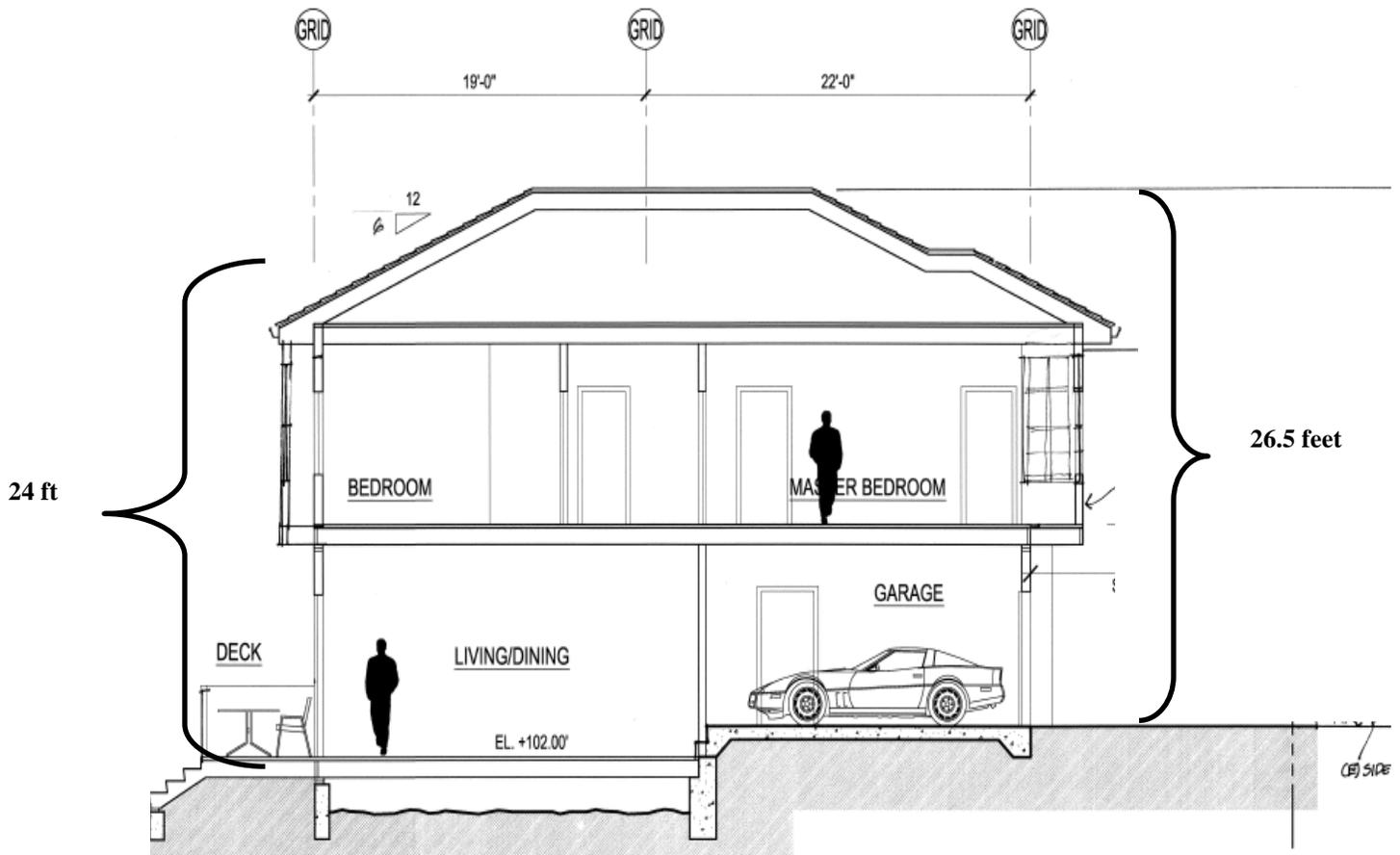
The slope of developed land is the ratio of the vertical change in grade elevation (rise) to the horizontal distance over which that change occurs (run), expressed as a percentage. For the purpose of this calculation, the longest line within the lot boundaries which lies perpendicular to ground contours must be used. In order to calculate the slope, you will need a topographic map of your property.



The slope of developed property above is equal to the change in elevation (rise) divided by the distance that the change occurs (run). In this example, the property slopes upward from a contour line at 390 feet to a contour line at 440 feet (rise of 50 feet), over a distance (run) of 160 feet. Thus, the slope of the property would be 50 feet divided by 160 feet, times 100, which equals 31%.

Measuring Height

Maximum building height is measured as the vertical distance from finished grade at each point around the perimeter of the building to the uppermost portion of the roof. Building height is typically shown for each respective cross-slope section of the building.



The maximum building height in single-family residential zones is 28 feet for principal dwellings and 15 feet for detached accessory units.

City of Belmont

Community Development Department

Frequently Asked Questions

for

*Single-family Residential
Properties*



*Document under construction
Draft as of December 2007*

City of Belmont

Community Development Department
Planning Division

FREQUENTLY ASKED QUESTIONS: RESIDENTIAL

(December 2007)

1) What determines how large my house can be and what it can look like?

Development Criteria and Design Review are both factors that contribute to how large your home can be and what it will ultimately look like.

Development Criteria

The size of your home, including any detached structures, is regulated by floor area ratio, as well as by minimum building setbacks, and maximum building height. Additional parking may also be needed. These requirements (development criteria), when applied to the size, shape and slope of your existing lot, will determine the maximum size and configuration of a home on your property.

Design Review

Design Review by the Planning Commission is required for all new homes, substantial grading, major encroachments into the public right-of-way, and additions to existing homes of 400 sq ft. or greater. Grading is considered substantial when it results in 500 cubic yards or more of cut and fill, 6,000 sq. ft. or more of disturbed area, or removal or endangerment of a protected tree. Factors that the Planning Commission looks at when considering a Design Review application include neighborhood compatibility, architectural design, floor area, building bulk, exterior and roof materials, grading, drainage, landscaping, parking, site layout, and potential view obstructions. Additions that do not trigger Design Review are reviewed by Public Works, Fire, Planning and Building Divisions staff, for consistency with established development criteria, and applicable building codes. The City is in the process of preparing design guidelines for residential development. In the future, all residential development meeting specified thresholds would be reviewed for consistency with these guidelines.

2) How can I obtain the development criteria for my property?

Your development criteria are based upon the Zoning of your property, and are located within the City's Zoning Ordinance. This information can be obtained at the City's Permit Center, or on the City's website at <http://www.belmont.gov>.

You may visit the Permit Center between 2:00 PM and 4:00 PM, weekdays, or call the center at (650) 595-7422, to obtain this information.

3) What is a floor area ratio?

“Floor Area Ratio” (FAR) is the total “gross” floor area of all parts and all levels of all structures of a lot divided by the net lot area.

4) What does “gross” floor area include?

The sum of all finished and un-finished framed-in floor surfaces with an interior vertical height of six and one-half feet or more from floor to ceiling, capable of accommodating living space, measured from the exterior walls plus garages, utility rooms, and enclosed accessory structures. Covered decks, porches, patios, carports, and other covered areas which are not enclosed on all sides are not counted as dwelling floor area. Unfinished floor area existing as of August 23, 2001 can not be made habitable such that the total habitable floor area exceeds the maximum floor area allowed in the zone, unless a Floor Area Exception is approved.

5) How do I find out what size my lot is?

An approximate lot area may be obtained from your official deed for the property or from the San Mateo County Tax Assessor Office in Redwood City. Permit Center staff could also provide you with a plat map from which your lot area can be calculated. A survey is the most accurate method of determining lot area.

6) What is a building setback?

A “building setback” is a line parallel to a property line which limits how close to the edge of the property a structure can be built. All setbacks are measured inward from all property boundaries. Certain building projections, such as porches, eaves, bay windows, and fireplaces, may be allowed to encroach to a certain degree into required setbacks (see the Permit Center staff for a complete list).

7) In order to comply with building setbacks, how do I determine where my property lines are?

A property line is invisible. A street curb or sidewalk edge are usually not the true location of a residential property line. Measuring half the distance of the known right-of-way width of a street from the centerline of that street towards yours house can provide the approximate position of your front property line, provided the street is centered within its right-of-way. A so-called “property line fence” is usually very close to the true location of a side or rear property line. You can call the Public Works Department at (650) 595-7476 to find out the

right-of-way width of your street. However, the best way to accurately determine property lines is to hire a licensed surveyor to locate existing benchmark points and measure the boundaries of your property based upon the legal description contained in the official deed.

8) I live on a corner lot. How do I know which is my front lot line and which is my side lot line?

The front lot line is the boundary line which abuts a public street, the front lot line on a corner lot is the narrowest frontage facing a street, and the longest frontage facing a street is the side, irrespective of the direction in which the dwelling faces. The rear lot line is the lot line or line most nearly parallel to and most remote from the front property line. All other lot lines are side lot lines. An interior lot line is a side line in common with another lot.

9) How do I determine the slope on my lot?

The City uses different slope calculations for developed and undeveloped lots.

Developed Lots (Rise/Run)

The slope of developed land is the ratio of the vertical change in grade elevation to the horizontal distance over which that change occurs (expressed as a percentage). For the purpose of this calculation, the longest line within the lot boundaries which lies perpendicular to ground contours must be used. In order to calculate the slope, you will need a topographic map of your property. Permit Center staff may be able to provide a topographic map of your property, which can be used for rough calculations of your lot's slope. A calculation of slope based upon these maps may be accepted as part of the submittal, at the City staff's discretion. However, because these maps are based upon aerial photographs, the City can not guarantee their accuracy. As such, the City requires that a topographic survey be used for calculations of slope when the proposed project would result in an FAR within 400 sq. ft. of the maximum FAR for the site. Note: on steeper project sites, those with slopes in excess of 18%, it is always advisable to hire a licensed surveyor to calculate slope.

Undeveloped Lots (Average Slope)

The average slope of a vacant lot is calculated by using the following formula:

$$AS = \frac{100 IL}{A}$$

A = Net area of a lot in square feet.

AS = Average percent of slope.

I = Contour interval in feet.

L = Summation of existing contour length in feet.

A topographic survey is required to calculate the average slope of a vacant property. The average slope must be calculated by a surveyor or engineer.

10) I have been told that my project will require Design Review. What does that mean? What do I need to do? How long does it take?

This means that a public hearing will be scheduled for the project, before the Belmont Planning Commission. The Commission will consider the project design, and decide whether the required findings for approval can be made. All neighbors within 300 feet will be notified by mail and may make public comment on the design of the new house or the addition.

In addition to the required plans and application forms, the design review submittal must also include a “neighborhood outreach strategy” for contacting your neighbors and informing them of the project prior to the Planning Commission public hearing. Most projects requiring design review have been approved as originally submitted, with some cases requiring minor modifications. Many times, the project is improved as a result of the Design Review.

The Planning Commission meets twice a month, on the first and third Tuesdays, at 7:00 PM in the City Council Chambers at City Hall. The meeting on a project usually occurs about a two or three months after the date that a complete project application is submitted. Especially complicated or controversial projects may take somewhat longer.

For further information, please contact the Permit Center at (650) 595-7416.

11) What happens after the Planning Commission approves my project?

If the approval is a on a matter for which the Planning Commission is authorized to take the final action, you will receive a letter for your signature indicating you accept all the conditions of project approval. You are then authorized to apply for a Building Permit.

12) How do I appeal a decision I don't agree with?

All final actions of the Planning Commission may be appealed to the City Council and must be submitted in writing to the City Clerk within 10 calendar days. All actions of the City Council are final, but you may have other options available to you through the court system.

13) Can the City recommend a good architect for my project?

The City does not endorse the services of any particular person or firm, but strongly recommends that you hire a California licensed architect for any building design project, especially one that requires Planning Commission approval.

14) What is a Floor Area Exception?

A Floor Area Exception is a deviation from the Zoning Ordinance regulation for maximum floor area. The purpose of a Floor Area Exceptions is to prevent or lessen inconsistencies in floor area ratio standards among neighboring properties. Floor Area Exceptions are reviewed on a case-by case basis and are not approved unless all of the required findings can be made. Floor Area Exceptions are reviewed and approved by either the Community Development Director or the Planning Commission, depending on the size and scope of the project.

15) What is a Variance? Can I apply for one?

A “Variance” is a deviation from a Zoning Ordinance development standard such as minimum setbacks or maximum height. City Planning Commission approval is required for all Variances. Approval requires the existence of a hardship based upon a unique physical characteristic of the site which prevents full compliance. The hardship cannot be economic or self-imposed, and the amount of deviation allowed will be what is warranted by the hardship. A Variance cannot be obtained to allow a land use not already allowed within a particular zoning district. Certain legal findings, as required under state law, are needed to for approval of a Variance.

16) How high of a fence or retaining wall can I have?

Fences, walls or lattice-work screens having a height of not more than six feet above any portion of the adjoining ground level are permitted in all residential districts. However, fences, walls lattice-work screens or any hedges in any front setback area and within 40 feet of a street intersection are not permitted to exceed three and one-half feet in height.

17) I live in a Planned Development (PD) District. What does this mean? What do I need to do construct an addition on my home within this district?

A Planned Development District is a zoning district assigned to a particular project application and so it is site-specific. It includes a Conceptual Development Plan (i.e., permitted land uses, locations of buildings, and roads, etc.), and a Detailed Development Plan (building elevations, setbacks, lot coverage, off-street parking, FAR, etc). Additions to homes within a PD District require an amendment to the DDP. This amendment is accomplished through the submittal of Conditional Use Permit (CUP) application. Conditional Use Permit applications for modifications to a DDP are reviewed and approved by either the

Community Development Director or the Planning Commission, depending on the size and scope of the project. Please contact the Permit Center for more information and specific submittal requirements.

18) What are the parking standards in a single family residential area? How many spaces do I need to provide? Do they need to be a certain size or in a certain location?

All new homes require a two-car garage with a minimum interior clearance of 20' x 20', plus two uncovered spaces within the driveway apron with a minimum width of seventeen (17) feet and a minimum length of eighteen (18) feet. The uncovered spaces need to be on the same property as the home (not within the public right-of-way), which requires a minimum 18-foot front setback to the front wall of the garage for driveways that run perpendicular to the street. In addition to the above standards the following should be noted:

- The minimum driveway width is twelve (12) feet.
- All parking areas including the garage need to be located on the same site as home
- No additional parking (beyond what is required), or paving for parking is permitted outside of driveway.
- No Circular driveways are permitted
- No parking (outside of driveway) between the front of the home and the front property line is permitted.

19) I would like to build an addition on my home. Do I need to upgrade my parking to current standards?

The requirements for parking upgrades depend upon a number of factors. The current standards require a two-car garage with a minimum interior clearance of 20' x 20'. However, for homes constructed prior to April 2005, a garage with of a minimum interior clearance of 17' x 18' is considered conforming. Parking upgrades are required when any of the following is proposed:

- An addition of 600 gross sq. ft. or more
- A floor area modification to a home of a 3,000 sq ft, or larger
- A floor area modification that results in a home becoming 3,000 sq. ft., or larger
- A floor area modification to a home that has four or more bedrooms
- A floor area modification that results in an increase in the number of bedrooms from three or fewer to four or more
- The addition of two or more bedrooms to a home, regardless of whether any existing bedrooms are being eliminated

It should be noted that the City's definition of a bedroom is quite broad, so as to include rooms of a home that might easily be converted to a bedroom. The current definition is as follows:

BEDROOM –

“Any room at least seventy square feet or more in area in a residential structure which is not a kitchen, dining room, living room, or bathroom. Within such residential structure, any second living room or dining room, or any den, study, or other similar room which is capable of being used for sleeping quarters that contains a closet, or to which a closet could be added, shall also be considered a bedroom.”

- 20) I have trees on my property that I would like to cut down. Do I need some type of permit? Under what circumstance may I remove trees? What if I need to cut them down to add on to my home?**

The Belmont Tree Ordinance requires a permit to remove or excessively prune protected trees. Excessive pruning means removal of more than one-third (1/3) of the crown or foliage of the tree or more than one-third (1/3) of the root system. Protected trees include oaks, bays, buckeyes, Monterey cypress, redwoods, giant sequoia, and madrones with at least one trunk of ten inches or greater (DBH, or diameter at breast height), a stand of any type trees, regardless of size, that are dependent on one another for survival, and other species of trees with a trunk of eighteen inches DBH (Eucalyptus Globulus, Acacia, and Monterey Pine excepted).

The Department of Parks and Recreation's Tree Board reviews tree removal applications when a tree is proposed for removal because it is creating an imminent danger to persons and/or real/personal property, or when tree removal is not associated with any planning permit entitlements. The Planning Commission reviews tree removal applications when reviewing applications for other development entitlements (i.e., Design Reviews, Variances, etc). The Board and Commission consider a number of factors, including the condition of the tree, safety hazards posed, interference with utility services, topography, number of trees that can be adequately supported on the site, and the necessity to remove or prune the tree to allow reasonable development of the property.

- 21) What is considered a detached accessory building? Can I build a detached accessory building on my property? Where can it be located? How large can it be? How tall can it be?**

Buildings which are subordinate to, and the use of which is incidental to that of the main building or use on the same lot, are considered accessory buildings. Detached accessory buildings, including garages, carports, garden structures,

greenhouses, storage buildings, etc., are permitted in all single-family residential districts, subject to the following provisions:

- There is a single-family dwelling on site.
- The accessory structure is not in front of the principal dwelling on site.
- The accessory structure is no more than fifteen (15) feet in height.
- There is a minimum of five (5) feet between the accessory structure and the main unit on site.
- The additional floor area of the accessory structure does not exceed the total floor area permitted for the site (when all structures are considered).
- Non-habitable accessory structures, (i.e., garages and sheds with no heat or bathing facilities) occupy no more than 40 percent required yard areas, and are no less than five feet from the rear lot line.
- Habitable accessory structures, including second dwelling units, conform to the required setbacks of the principal building on site (information on second units can be found in the next question below).

22) What is considered a second unit? Can I have a second unit on my property? What are the standards for second units? What is the process for approval?

A secondary dwelling unit is a separate dwelling unit which provides complete, independent living facilities for one or more persons, located on a lot containing a single-family dwelling as the principal building. It includes permanent provisions for living, sleeping, cooking, eating, and sanitation.

Second units are permitted within all single family residential zones and within multi-family residential zones, subject to the following provisions:

- The minimum lot size is 5,000 square feet.
- There is a single-family dwelling on site.
- The total gross floor area allowed for the site is not exceeded (including all structures)
- The second unit conforms to all of the development standards of its district (i.e., height, setbacks, etc., for a habitable unit).
- The second unit includes a minimum of 275 square feet.
- Parking for the site includes a two-car garage plus two uncovered parking spaces.
- The second unit is no more than 30% of the floor area of the principal dwelling, or 1,200 square feet, whichever is less.
- The second unit includes no more than two bedrooms.
- At least one of the units is owner occupied.
- The second unit is not contained in a vehicle or trailer, with or without wheels.
- The second unit does not require a second curb cut for parking.

- If the second unit is detached it is no greater than fifteen feet in height, and uses materials and architectural treatments that are similar to the principal unit on site.

The process for the approval of a second unit varies depending on the size of the property, the size and location of the second unit, the location of the exterior access to the unit, and whether other entitlements (i.e., Variance or Design Review) are requested. Please contact the Permit Center for details.

23) How is building height measured?

Maximum building height is measured as the vertical distance from finished grade at each point around the perimeter of the building to the uppermost portion of the roof. Building height is typically shown for each respective cross-slope section of the building.



CITY OF BELMONT

RESIDENTIAL DESIGN GUIDELINES

(Draft Interim Document)

I. INTRODUCTION

The Design Review Process is intended to preserve the natural beauty of Belmont and ensure that structures enhance their sites and are harmonious with the surrounding area. To that end, the City of Belmont is in the process of preparing Residential Design Guidelines for all new residential structures, and additions of 400 sq. ft. or more. In the interim, the City has prepared draft guidelines that include basic design concepts and elements of good design required for all projects. These draft guidelines are not intended to replace the services of a trained design professional. The City strongly encourages applicants to obtain the services of a design professional for all new or extensively renovated projects. Licensed architects are required for new construction projects on slopes in excess of 18%.

I.

II. SUMMARY OF GUIDELINES

The draft design guidelines are intended to assist applicants in preparing plans for Design Review submittal. The following sections of the guidelines correspond with the key design issues that the Planning Commission considers when reviewing a Design Review application:

Neighborhood Compatibility

- Design for consistency with neighborhood character
- Minimize disruptions to public views
- Retain the profile of prominent ridgelines

Site Planning

- Minimize building bulk, grading, impervious surfaces and tree removal

Architectural Characteristics

- Provide an attractive exterior building design
- Integrate accessory and support features into the project design

Landscaping

- Enhance the overall landscaping on the project site and within the neighborhood
- Use native plants appropriate to the site's environmental setting
- Preserve existing trees to the maximum extent feasible
- Replace trees in sufficient quantity or mitigate for their removal

Neighborhood Compatibility

One of the first steps in designing a new home, or an addition to an existing home is to understand the neighborhood in which the home is located. The following definitions are important in this regard:

Neighborhood Limits

A neighborhood can generally be defined as a block or area where a group of homes can be seen together. However, the following three factors further influence where a neighborhood begins and ends:

- 1) Land use – or a change from one land use to another (i.e., from residential to commercial or mixed use).
- 2) Buildings – similar architectural style, date of construction, size, orientation, setbacks, exterior material, and number of stories.
- 3) Natural and manmade features – hills, open spaces, streams, groves of trees, parks, major cross streets and highways, changes in road alignment or road characteristics, etc.

Neighborhood Context

A neighborhood generally has two components: (1) the immediate context, or how a house relates to adjacent houses and natural features, and (2) the neighborhood context, or how a house relates to the visual character and scale of other houses and natural features in the vicinity.

Neighborhood Character

Neighborhood character is the combination of qualities or features within a neighborhood that distinguishes it from another neighborhood. The architectural elements of a house such as its shape, the arrangement of its doors and windows, its roof style, and its architectural style all contribute to the appearance of the house, which in turn contributes to the collective appearance or character of the neighborhood. Some of the most common architectural elements that contribute to the character of an individual house and the collective character of the neighborhood are as follows:

- How houses are sited on their lots (setbacks)
- How houses blend with surrounding scenic and natural environments
- Architectural style, including how house styles compare, contrast or complement each other
- Scale, or the appearance or proportion of a house relative to others, including the number of stories, and the arrangement/placement/massing of major building forms
- Parking and garage patterns
- Location of entries
- Roof forms
- Exterior materials and colors
- Window type and placement
- Landscaping

Design for Consistency with Neighborhood Character

Buildings should be designed to complement the existing streetscape, whether it presents a singularly, strong, visual character or a mixed, eclectic, visual character.

Guideline #1:

Design buildings to help define, unify and contribute to the existing neighborhood by:

- 1) Maintaining consistency with floor-to-floor heights, size and location of windows, roof forms, entry features, and scale of porches, cornices and bay windows**
- 2) Utilizing the best features of surrounding buildings harmoniously**
- 3) Making the building proportionate to adjacent structures**

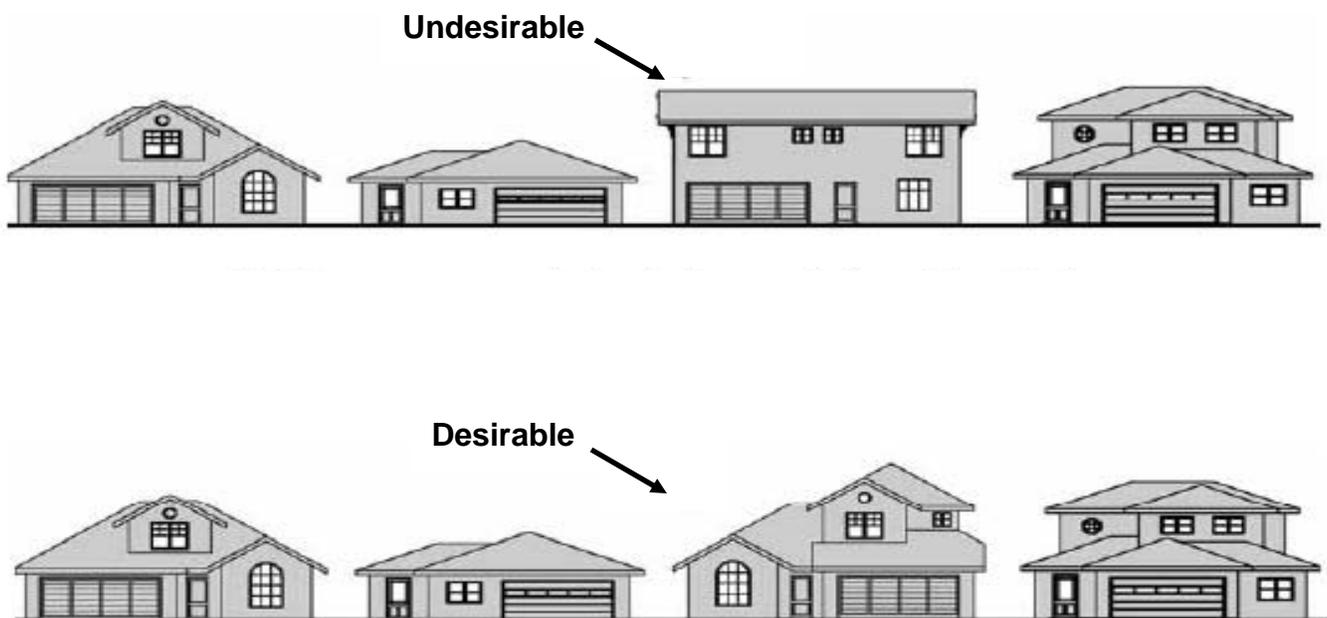


Figure 1: The original design of the home is undesirable because it has a relatively flat façade and little articulation, making it too bulky and inconsistent with surrounding homes. The revised design of the home becomes more compatible with its neighbors by incorporating design features (roof and building forms and window treatments) from the surrounding homes and including upper story setbacks. Note how the majority of the bulk of the home is shifted to the right, away from the single story structure.

Design for Consistency with Neighborhood Character

Guideline #2:

Design buildings to be compatible with the scale, patterns and architectural treatments of surrounding buildings by incorporating the successful elements of their design. Ensure that the type, finish and quality of exterior materials to be used complement those of the surrounding buildings.

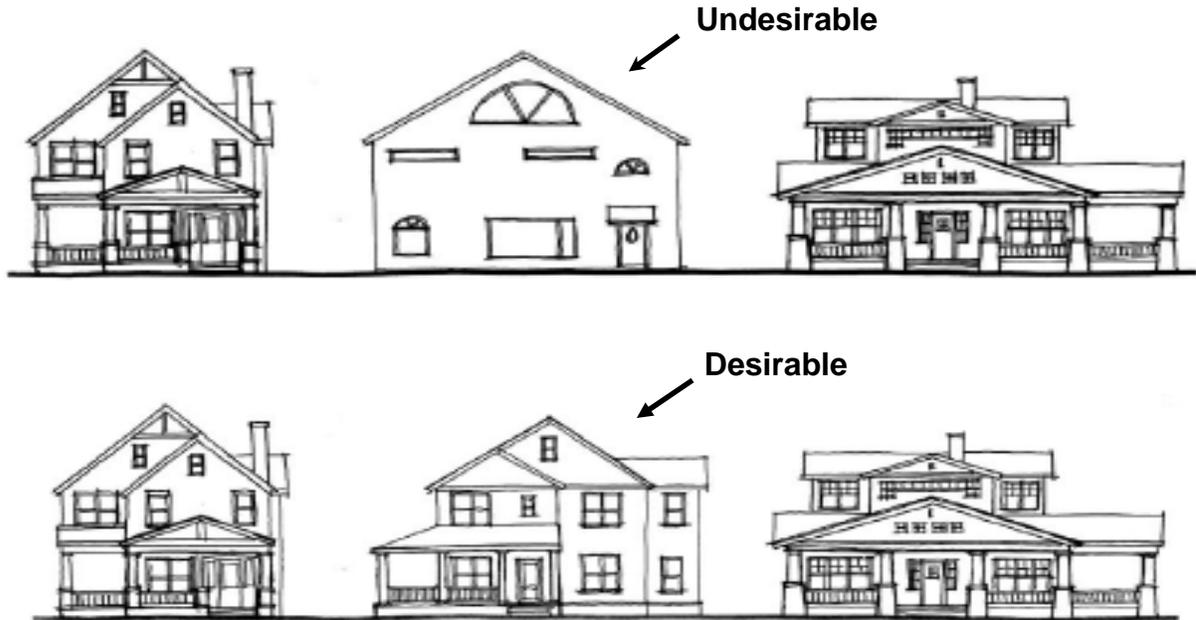


Figure 2: The revised design becomes more compatible with its neighbors by using similar architectural treatments: divided light and double hung windows, smaller gable roof design, and a covered front porch

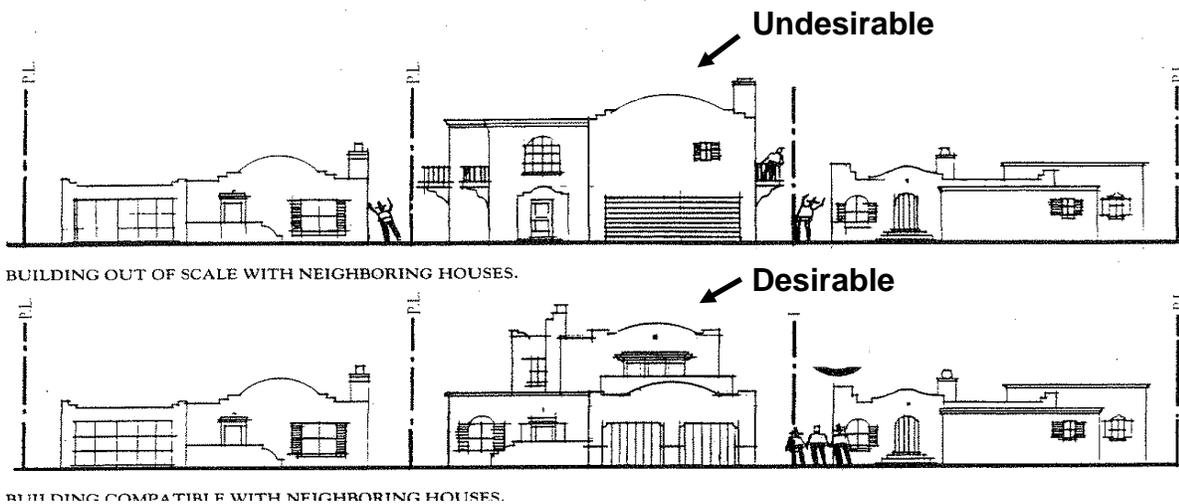


Figure 3: The revised design still includes the Spanish style design and exterior materials, but incorporates upper story setbacks (sides and front) to bring it into scale with the surrounding homes.

Minimize Disruptions to Public Views – Protect the Profile of Prominent Ridgelines

Buildings should be located and designed so as to minimize the impacts on public views (i.e., views from public areas such as streets, parks and open spaces) to the surrounding wooded hillsides, ridge lines, and/or the San Francisco Bay.

Guideline #3

Minimize the disruption of public views by:

- 1) Locating new buildings outside of the public view-shed, when feasible**
- 2) Increasing the front yard area on downward sloping lots**
- 3) Increasing setbacks of upper-story additions,**
- 4) Lowering roof plate heights**
- 5) Using roof forms that minimize building height and mass.**

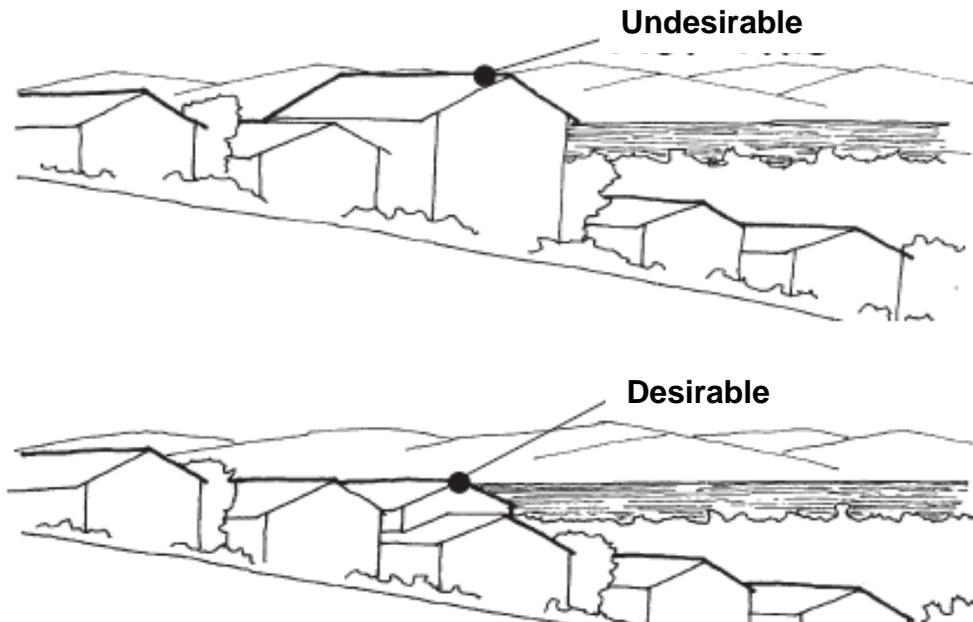


Figure 4: The revised design minimizes the view impact as seen from the road by reducing roof plate height and pitch, reducing overall roof height, and stepping back the upper story addition from the front of the home.

Site Planning

Site planning can generally be defined as the art of arranging structures on land and shaping the spaces in between and around structures. The identification of a goal or a desired outcome (i.e., a master bedroom addition), the evaluation of site's environmental constraints (i.e., seismic hazards and flooding potential), and an analysis of the factors of development, (i.e., building bulk, grading, hardscape, and tree removal) are inherent to the site planning process.

Balancing the Factors of Development

Some degree of site disturbance is expected for any new development. However, this disturbance should be minimized, and it should be balanced. Specifically, the factors of development including building bulk, grading, hardscape and tree removal should be balanced such that the desired outcome of the project is achieved while overall site disturbance is minimized.

Guideline #4:

Reduce bulk by avoiding two-story building walls. Instead, lower eave lines and incorporate portions of upper stories into the attic space and roof structure of the home.

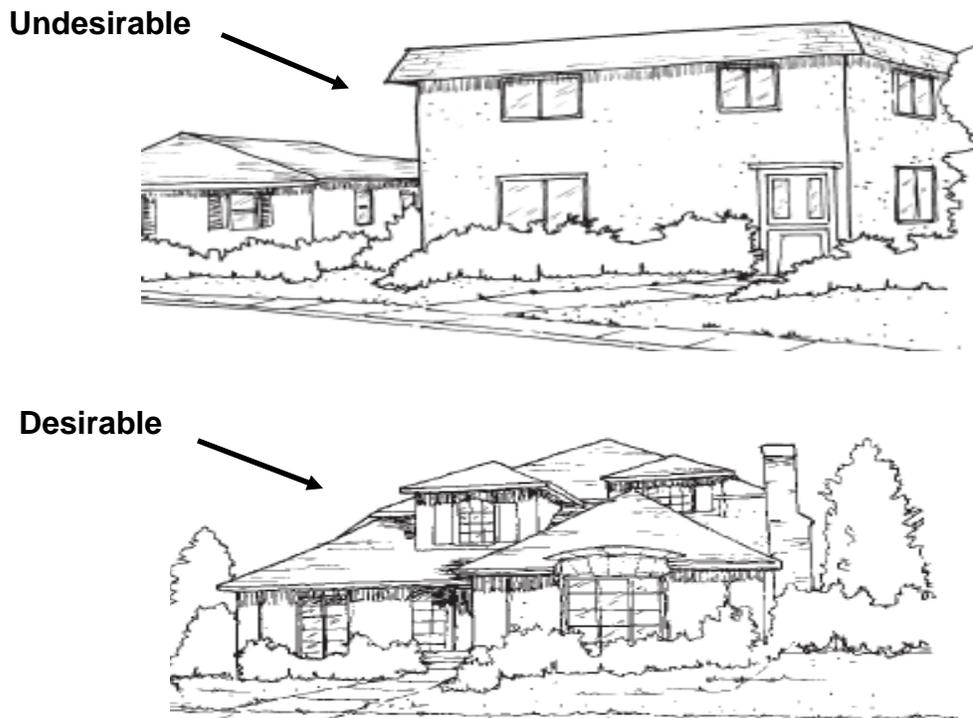


Figure 5: The original design with two-story building walls appears too massive, and is far too plain and rectangular. The hipped dormers and projecting room elements assist in reducing the bulk of the revised design.

Balancing the Factors of Development

Guideline #5:

Vary setbacks and materials, and add ornamentation to reduce the perceived bulk of homes.



Figure 6: Varied upper story setbacks, a prominent front porch and decorative window framing assist in reducing the bulk of this home.



Figure 7: Cross-gable roofs, varied wall setbacks, a wrap around porch, material variation, and ornamentation are used to reduce the bulk of this building.

Balancing the

Guideline #6:

On steep lots reduce bulk by stepping homes down the slope and by breaking large roofs and building wall lines into smaller elements

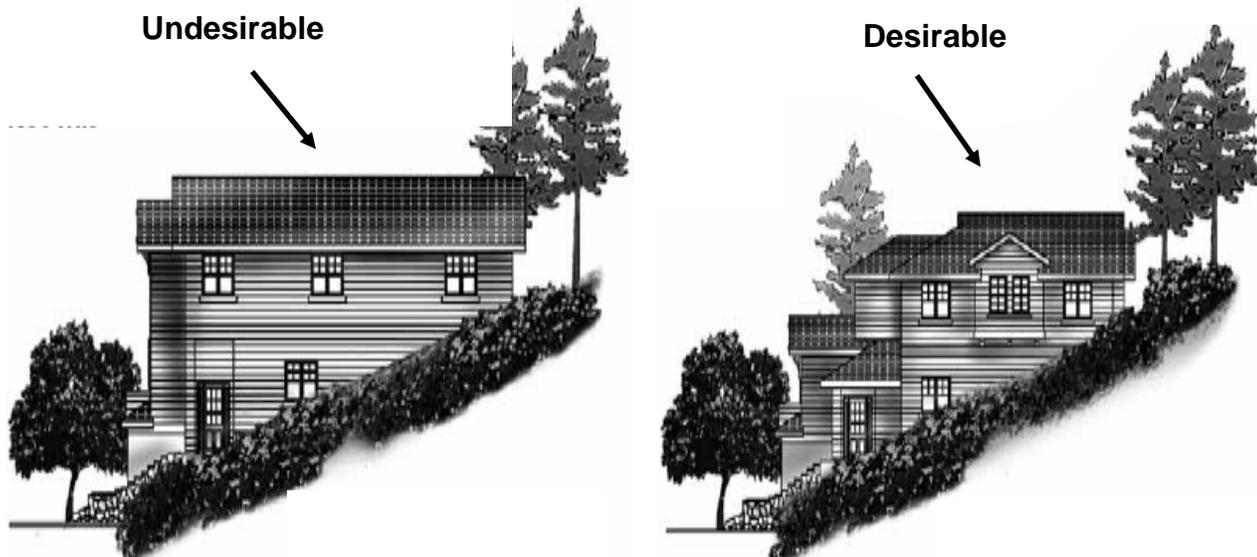
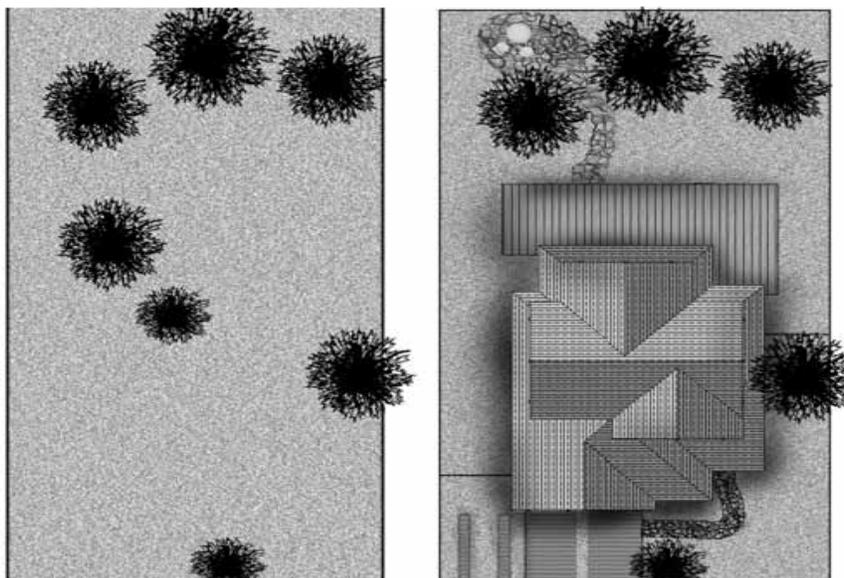


Figure 8: The revised design mitigates bulk by stepping down with the slope and breaking long continuous roof and building walls into smaller elements.

Guideline #7:

Locate homes to minimize the removal of mature trees, as shown in Figure 9, below



Balancing the Fac **Figure 9:** Home sited to avoid trees

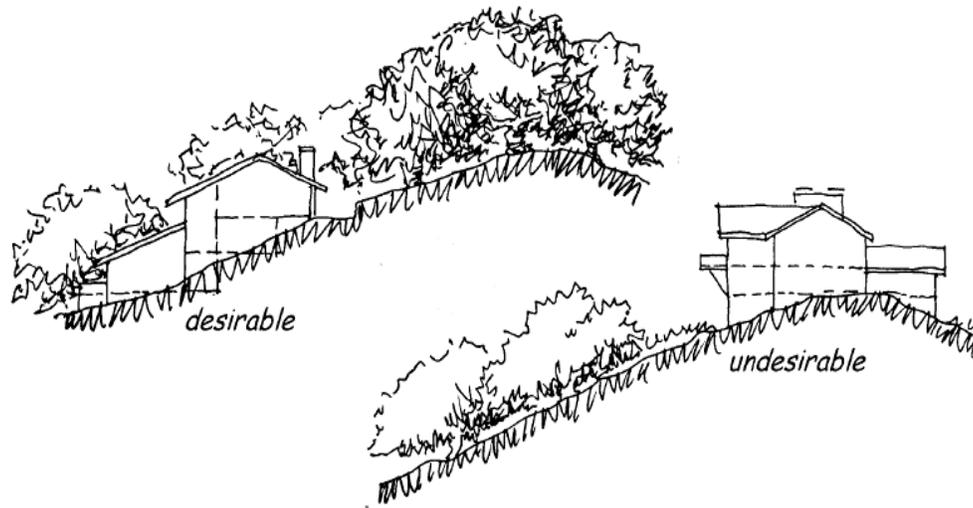


Figure 10: Home located to minimize the removal of mature trees, reduce bulk (steps into the hill), and to preserve the view of the ridgeline.

Guideline #8:

Minimize driveways and curb-cut widths (within Zoning Code requirements), and consider using pavers in order to limit hardscape; when creating additional pathways and patio areas use stepping stones and pavers over a pervious base to minimize site runoff.

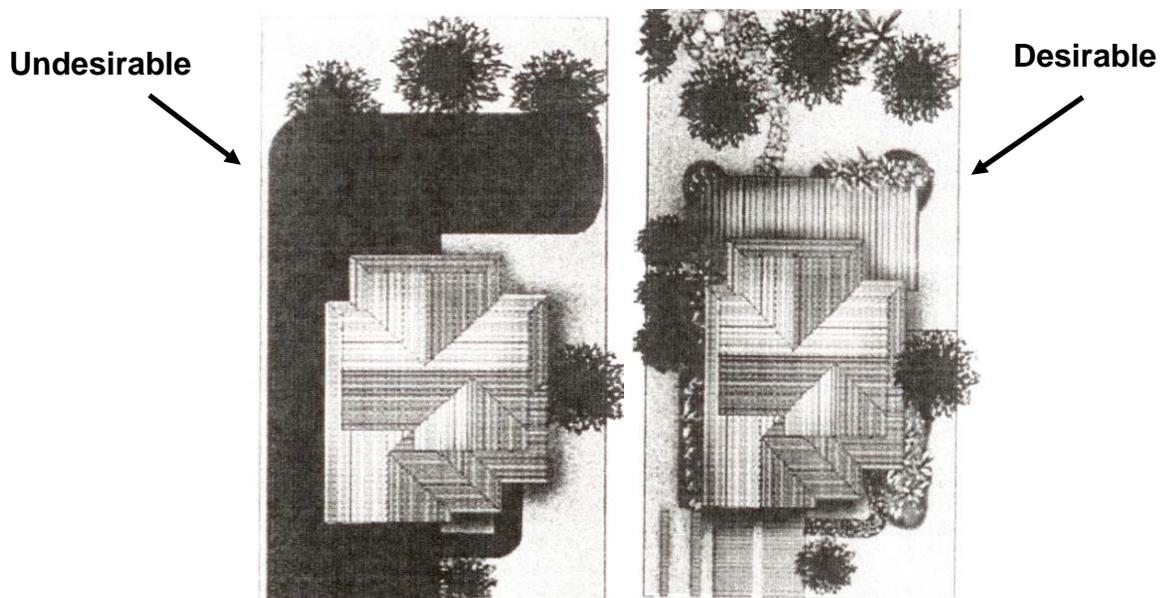


Figure 11: The site on the left includes more hardscape than is necessary for parking and results in additional tree removal.

Balancing the Factors of Development

Guideline #9:

Grading should be minimized and balanced on site when possible. Avoid creating large flat building pads and yard areas on sloped properties, by stepping homes with the slope of the existing terrain, and keeping yard areas with their existing slopes.

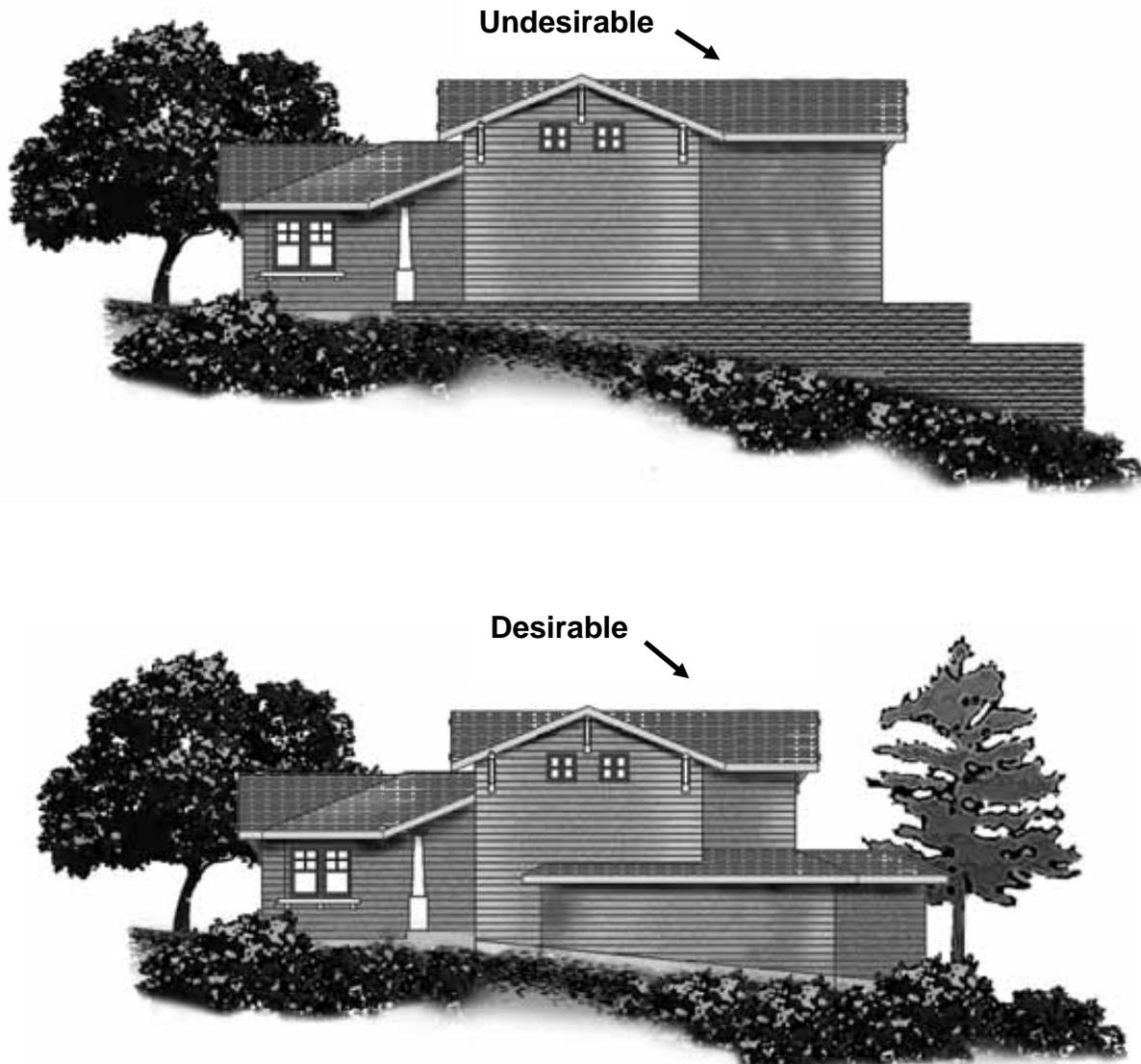


Figure 12: The original design creates a level building pad and yard area on a sloped lot, which results in excess grading (fill), additional tree removal and a bulkier home. The revised home steps down with the slope of the lot, which minimizes grading, tree removal, and bulk.

Architectural Characteristics

A building's architectural characteristics include its basic style, its form, its placement on the site, and its defining features (i.e., type of roof, exterior materials, windows, porch, etc.).

Provide an Attractive Exterior Building Design

Buildings should be designed with a consistent style, and should include features to enhance the visual and architectural character of the neighborhood.

Guideline #10:

Design buildings with a consistent overall style; while some variation is acceptable, the mixing of architectural forms and details from one style to another should be avoided (illustrations and a description of some of the more commonly used building styles, roof forms, dormer types, and window types are included in an appendix to these guidelines).

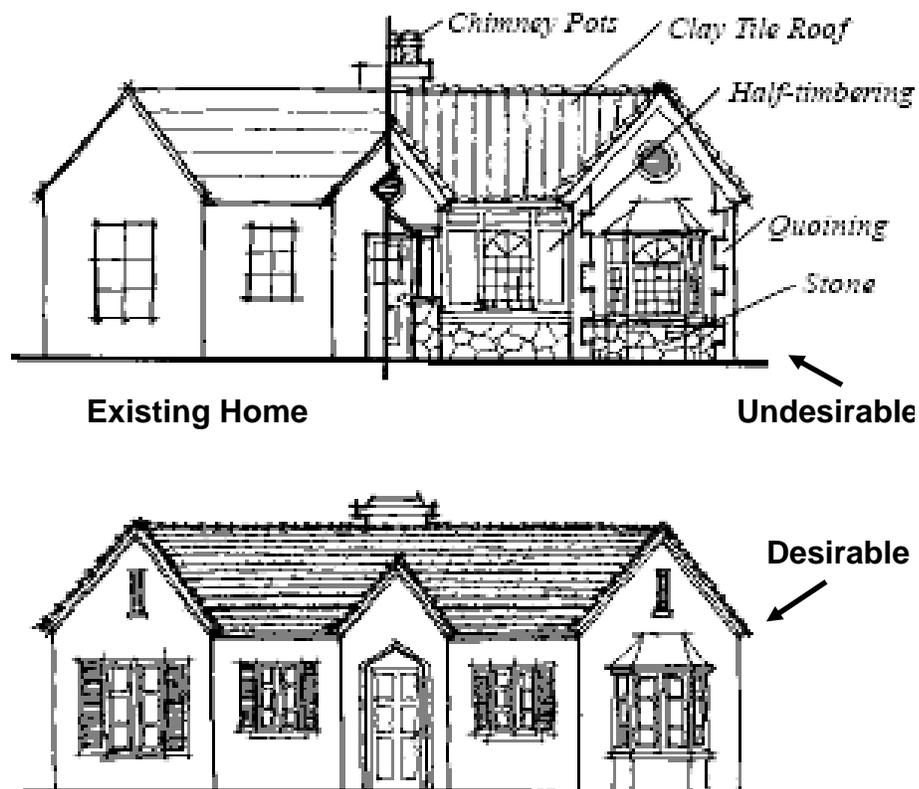


Figure 13: The existing home lacks architectural detail. The original redesign includes a confusing mixture of architectural styles and details, creating a chaotic presentation. The revised design, above, becomes more pleasing by including architectural features consistent with the French style of the home: bay window, shutters, and high-pitched front facing gable roofs.

Provide an Attractive Exterior Building Design

Guideline #11:

Design the front façade to create visual interest and to direct the eye to the building entry by:

- 1) Adding architectural features, consistent with the architectural style, like bay windows, porches, garage structures and different roof forms, varying material and emphasizing the building entrance.



Figure 14: The entry feature on this building is clearly defined and consistent with the craftsman style of the home. The varied setbacks, window design and material variation assist in making this home visually interesting.

- 2) *Ensuring that entry features are proportionate to the building height, and have a pedestrian scale so that they are welcoming, not overpowering*

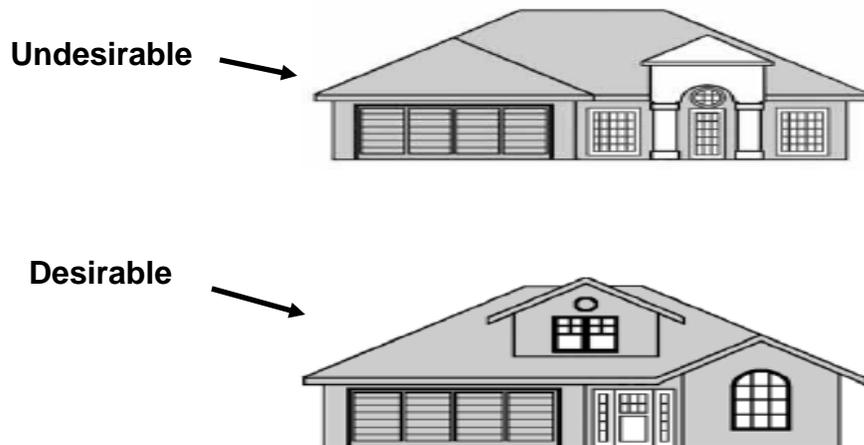


Figure 15: The entry feature of the original design is too large for the home. The scale of the entry of the revised design is compatible with the other features of the home.

Provide an Attractive Exterior Building Design

Guideline #12:

Design to create visual interest and reduce bulk by articulating (projecting and recessing) facade features, including building walls, roof forms, and windows and doors.

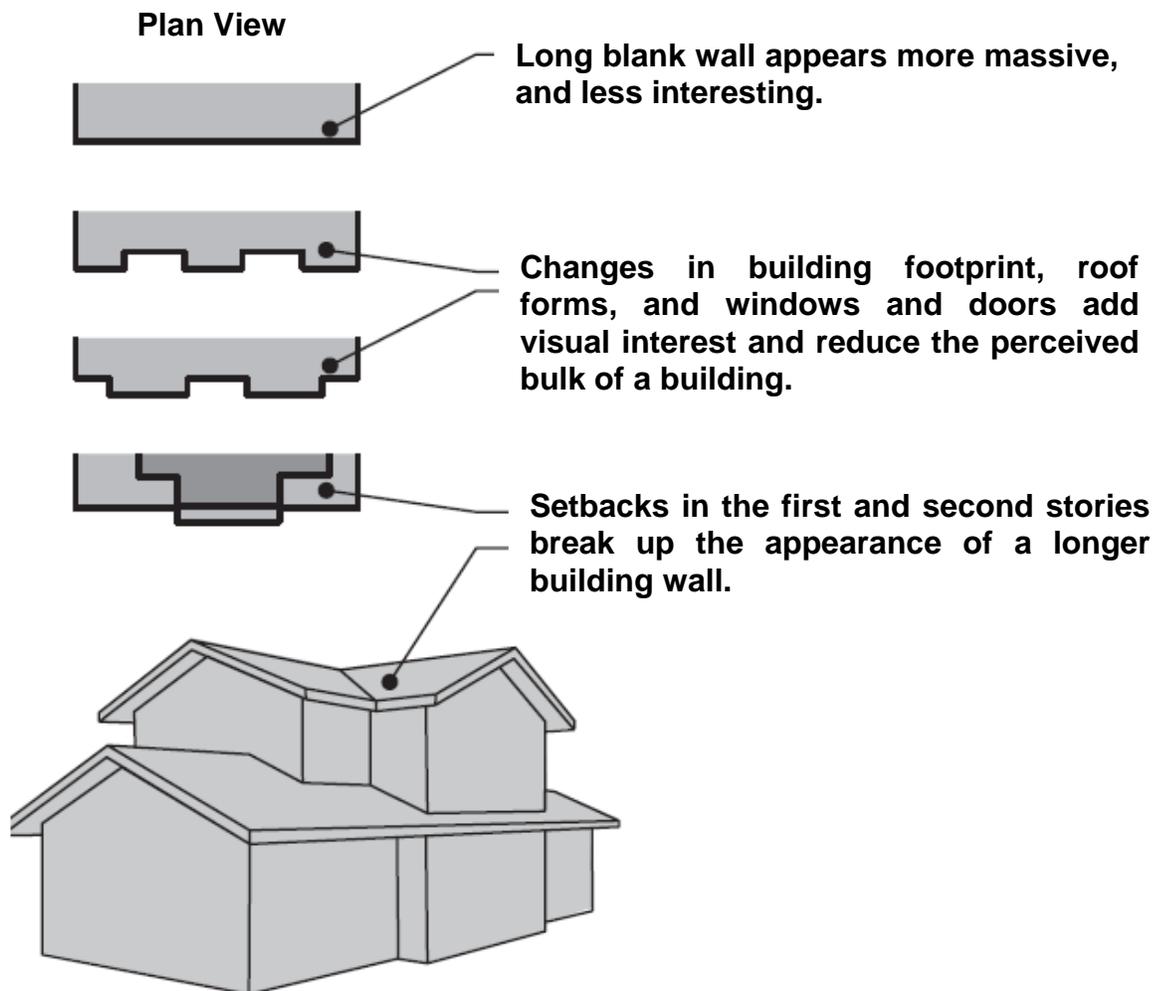


Figure 16: The appearance of the home shown above is visually interesting due to its articulated building walls and roof forms. Substantial window framing, textured exterior walls, divided light windows, and material variation (i.e., a stone base with horizontal siding) could be used to further complement the design of this home.

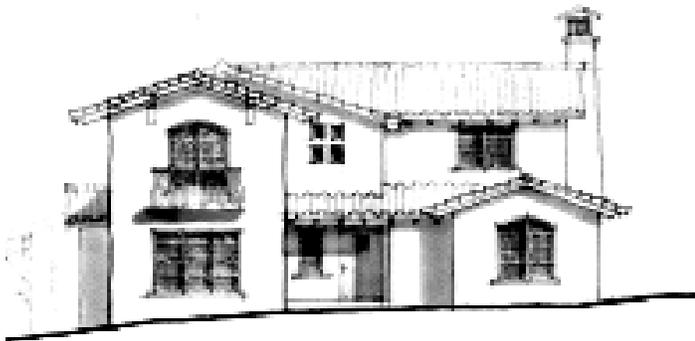
Provide an Attractive Exterior Building Design

Guideline #13:

Provide greater visual emphasis in corner buildings by:

- 1) Designing both street facades to be fenestrated, articulated and finished as “front” facades.
- 2) Designing with more complex building features including projecting façade elements and special building enhancements such as towers, cupolas, wrap-around bay windows, balconies, or other architectural embellishments.

Front Elevation



Street Side Elevation



Figure 17: Both the front and the street-side elevations of this Spanish-style home are well-articulated with upper story setbacks, projecting room elements, balconies, bay windows, and substantial window framing.

Guideline #14:

Design second-story additions to be combatable with the original design concept of the home, by:

- 1) Incorporating the same building style, and using the same window treatments and exterior materials.
- 2) Using a compatible roof style and pitch.
- 3) Locating most of the mass of the second story addition over the living quarters of the home, not the garage.

Provide an Attractive Exterior Building Design

Window design is the same as the first story



Figure 18: This second story addition becomes compatible with the existing home by incorporating the same building style, roof pitch, exterior materials and window treatments.



Figure 19: The original design is unbalanced and appears bulky. The revised design appears more balanced and compatible with the existing home.

Integrate Accessory and Support Features into the Project Design

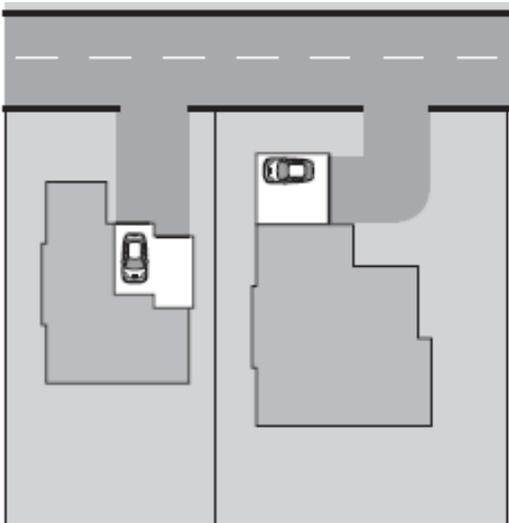
Accessory features like garages, driveways, walls, and fences, should be designed so that they complement the existing architectural theme, maintain consistency with the visual character of the neighborhood, and improve the overall streetscape.

Guideline #15:

Design garage structures to create visually interesting street frontages by:

- 1) Turning the garage access away from the street frontage, when feasible**
- 2) Recessing garage doors from the front façade**
- 3) Choosing garage doors that are consistent with the style, trim, and detailing of the home**
- 4) Using opaque glazing in garage doors to avoid the view of parked vehicles from the street**
- 5) Minimizing the width of double garage doors, or using two smaller garage doors instead**

Desirable



Desirable



Figure 20: Garages appear less prominent when facing away from or setback from the street.

Figure 21: When a prominent garage is unavoidable, choose decorative doors that are consistent with the home's architecture.

Integrate Accessory and Support Features into the Project Design

Guideline #16:

Integrate walls and fences with structures and settings by:

- 1) Incorporating similar colors/materials for the wall or fence that were used for the home
- 2) Minimizing fence and wall heights and breaking retaining walls into a few low (3 feet from grade) segments.
- 3) Integrating vegetation and landscaping with fence and wall design (in front and/or on top).
- 4) Using medium to dark earth tone colors and native-natural materials with a rough texture (i.e., natural stone, brick veneer, fluted or split face stone, crib block, wood, etc) for consistency with surroundings.
- 5) Breaking long continuous walls by changes in heights, setbacks and vegetation.
- 6) Setting walls back from the property line to allow space for landscaping to enhance the pedestrian experience.

Desirable



Desirable



Figure 22: These fence designs are consistent with each of the homes' architectural styles: the fence on the left is made of wood and uses decorative post caps and a trellis that is similar to the architectural detailing and fenestration of the home; the fence on the right uses the same wide wood boards that are used on the outside of the home.

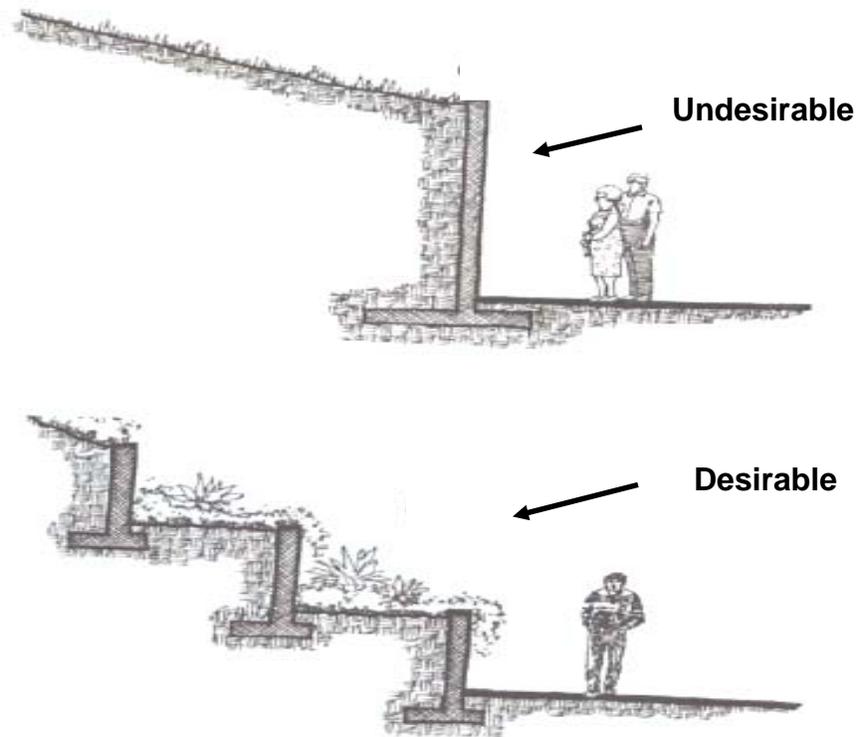
Integrate Accessory and Support Features into the Project Design

Figure 23: Breaking retaining walls up into low segments brings them into human scale, and provides an opportunity to add plantings

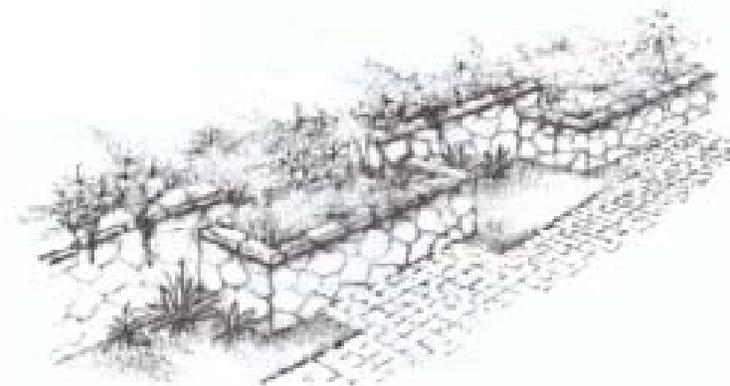


Figure 24: Undulated retaining walls provide an opportunity to add plantings, both in front of the wall and within planters

Landscaping

Landscaping could be defined as any activity that modifies the visible features of an area of land, including the growing of plants, the shaping of terrain, and the construction of small structures such as decks, patios, arbors, fountains, retaining walls and fences. Residential landscaping should be used to blend the built and natural environments, compliment the architecture of buildings, mitigate for building bulk, and enhance the neighborhood.

Enhance the Overall Landscaping within the Neighborhood and Incorporate Native Plants Appropriate to the Environmental Setting of the Site.

Guideline #17:

Enhance the overall landscaping of the site and surrounding neighborhood by:

- 1) **Using native plants that are acclimated to the local area, and the project site's microclimate (i.e., plants that are deer-resistant and correct to the site's soil type, moisture, and wind and sun exposure).**
- 2) **Arranging plantings so they have a natural appearance and a clear relationship to the buildings on site.**
- 3) **Using plants that complement the architecture of the buildings on site, soften and screen building corners and accessory structures, and break up building bulk (i.e., use larger plantings and/or trees to break up the appearance of large/tall building walls).**

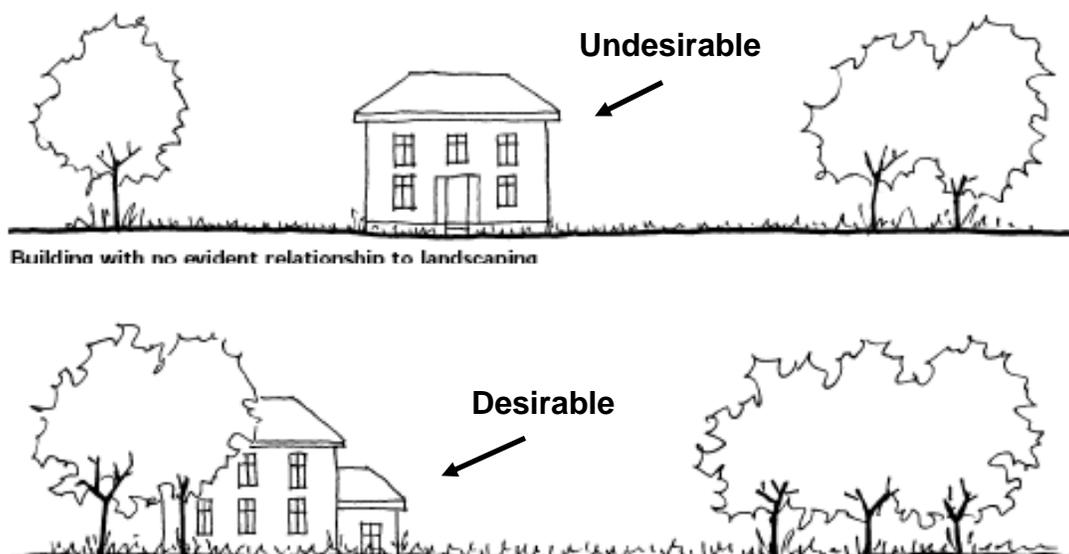


Figure 25: The landscaping at the top is sited in conjunction with the building, which gives a more natural appearance, mitigates for second story bulk, and provides shade for the home. The landscaping at the bottom has no evident relationship to home on site.

Enhance the Overall Landscaping within the Neighborhood and Incorporate Native Plants Appropriate to the Environmental Setting of the Site.

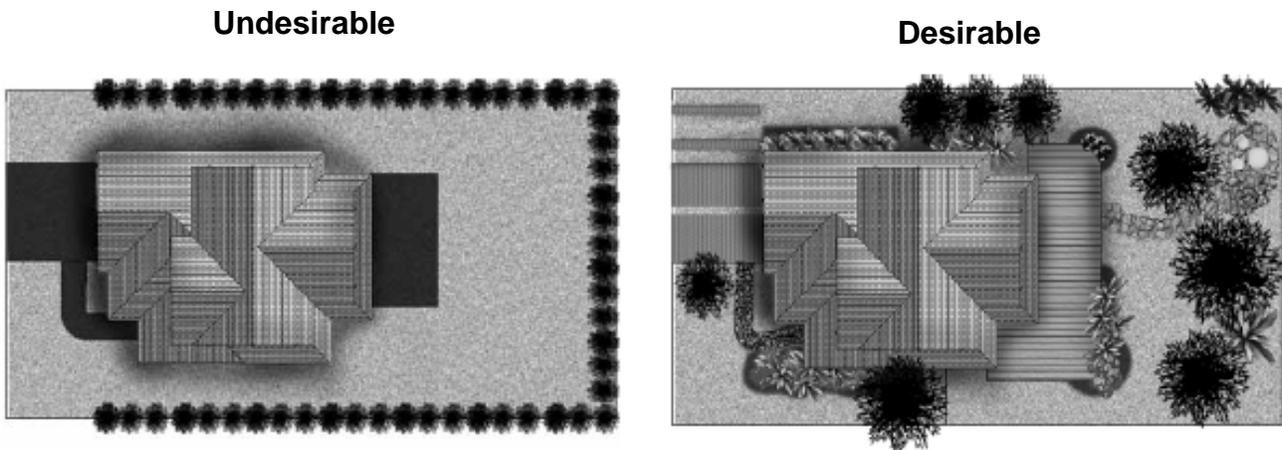


Figure 26: The landscaping on the left has a natural appearance, and includes foundation shrubs to assist in softening building edges, and trees to break up the bulk of the second story. The perimeter landscaping on the right appears unnatural, and would do little to soften the structure or break up its perceived bulk.

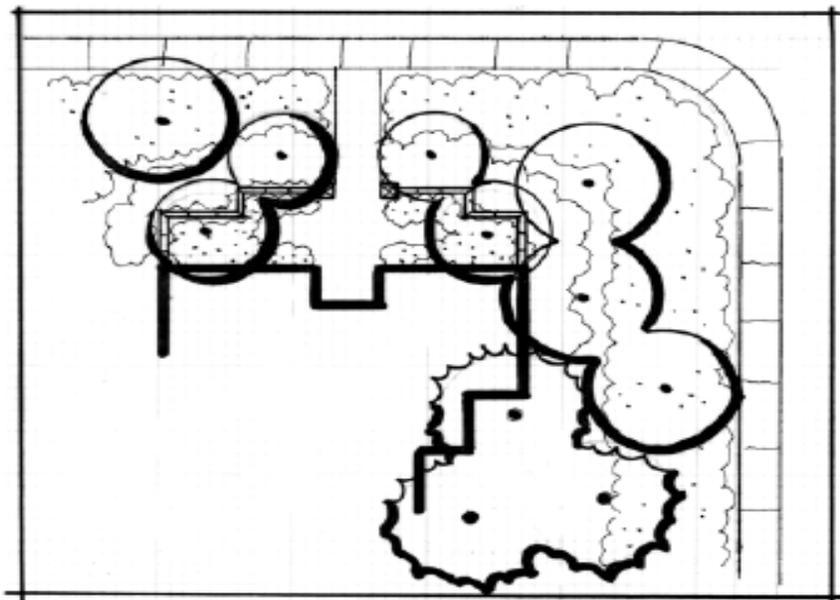


Figure 27: Include landscaping on both the front and side of corner lots in order to soften the look of building corners and screen building bulk.

Enhance the Overall Landscaping within the Neighborhood and Incorporate Native Plants Appropriate to the Environmental Setting of the Site.

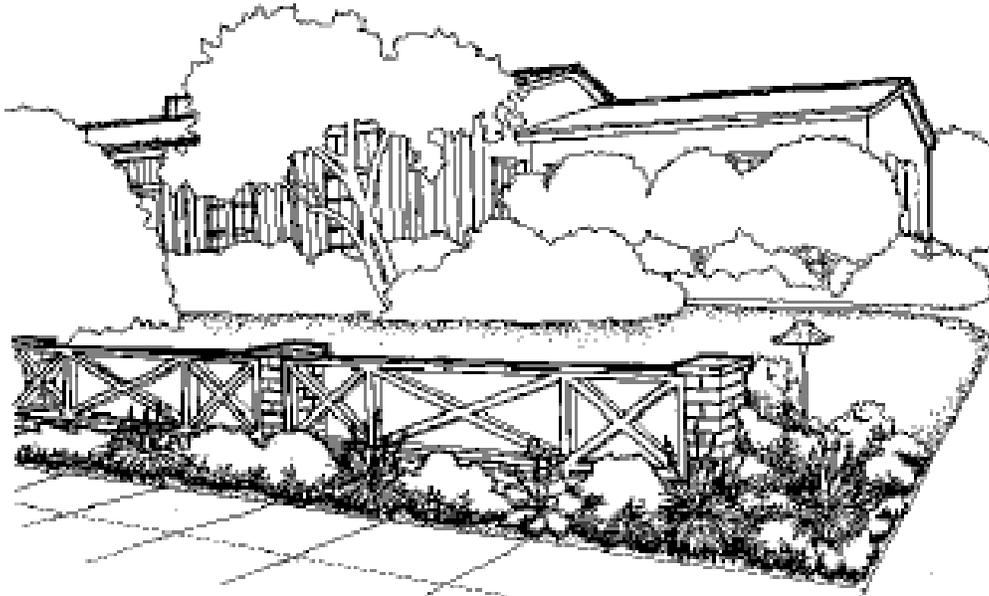


Figure 28: Ground cover and small shrubs are used to decorate the small fence on this property, and larger shrubs and trees are used to soften the edges and break up the bulk of the larger portion of this home.

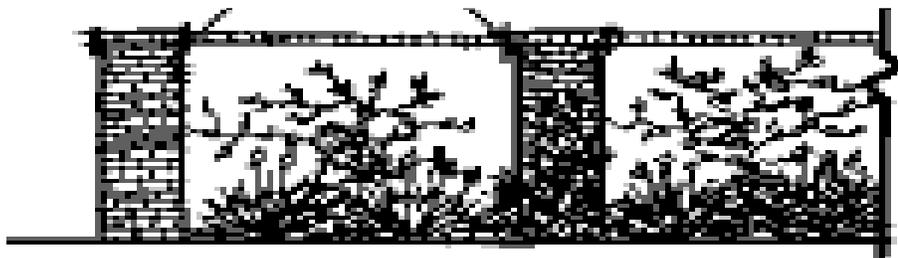


Figure 29: The small shrubs at the base of this wall reduce its perceived height, and the vines break up the blank portions of the wall and soften its appearance.

Preserve Existing Trees to the Maximum Extent Feasible and Replace Trees in Sufficient Quantity or Mitigate for their Removal

The Belmont Tree Ordinance requires a permit to remove or excessively prune protected trees. Excessive pruning means removal of more than one-third (1/3) of the crown or foliage of the tree or more than one-third (1/3) of the root system. A complete list of Protected trees are listed in the Ordinance and generally include oaks, bays, buckeyes, Monterey cypress, redwoods, giant sequoia, and madrones with at least one trunk of ten inches or greater (DBH, or diameter at breast height), and other species of trees with a trunk of eighteen inches DBH (Eucalyptus Globulus, Acacia, and Monterey Pine excepted).

The Planning Commission considers tree removal permits when reviewing applications for other development entitlements (i.e., Design Reviews, Variances, etc). The Commission considers a number of factors, including the condition of the tree, safety hazards posed, interference with utility services, topography, number of trees that can be adequately supported on the site, and the necessity to remove or prune the tree to allow reasonable development of the property.

Guideline #18:

Preserve existing trees to the maximum extent feasible by:

- 1) Locating new homes and planning additions, grading and trenching so that they avoid significant trees and their root systems.**
- 2) Designing new homes and additions with bridge foundations where feasible to avoid tree root systems.**
- 3) Incorporating existing trees into the landscape plan for the project site.**
- 4) Establishing tree protection zones (TPZs) around trees to avoid construction related impacts.**

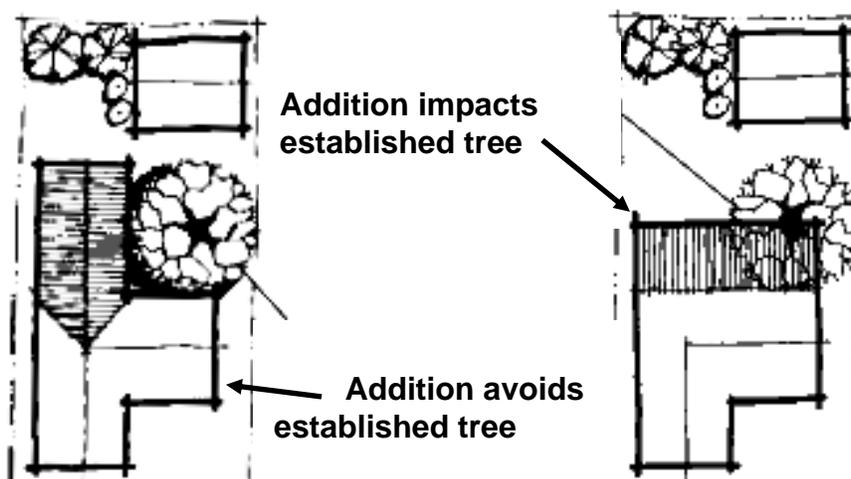


Figure 30: Addition located to avoid significant tree

Appendices

Appendix One – Common Home Styles

Appendix Two – Roof Styles

Appendix Three- Dormer Styles

Appendix Four – Window Styles

Appendix One – Common Home Styles



Bungalow

These narrow, rectangular one and one-half story houses originated in California during the 1880s. Bungalows have low-pitched gabled or hipped roofs and small covered porches at the entry.



Craftsman

Popularized at the turn of the 20th century. The Craftsman has low, broad proportions and absolute lack of ornamentation. It features overhanging eaves, a low-slung gabled roof, and wide front porches framed by pedestal-like tapered columns. Material often included stone, rough-hewn wood, and stucco. Many homes have wide front porches across part of the front, supported by columns.



Contemporary

Contemporary homes are known for their odd-sized and often tall windows, their lack of ornamentation, and their unusual mixtures of wall materials--stone, brick, and wood, for instance. Architects designed Contemporary-style homes (in the Modern family) between 1950 and 1970, and created two versions: the flat-roof and gabled types. The latter is often characterized by exposed beams. Both breeds were designed to incorporate the surrounding landscape into their overall look.



Monterey

This style emerged in 1853 in Monterey, California. The design typically includes a second-floor with a balcony. Monterey's, balcony railings are typically styled in iron or wood; roofs are low pitched or gabled and covered with shingles or tiles, and exterior walls are constructed in stucco, brick, or wood.



California Ranch

The California ranch style takes its cues from Spanish Colonial and Craftsman homes, and is characterized by its one-story, pitched-roof construction, built-in garage, wood, stucco, or brick exterior walls, sliding and picture windows, and sliding doors leading to patios.



Shingle

This style originated in the late 19th century. Shingle homes often have wide porches, shingles, and asymmetrical forms. They're also characterized by unadorned doors, windows, porches, and cornices; continuous wood shingles; a steeply pitched roof line; and large porches. The style hints at towers, but they're usually just extensions of the roof line.



Spanish Eclectic

The Spanish-style architecture includes details from the Mediterranean, and Renaissance architectural styles. The houses usually have low-pitched tiled roofs, stucco walls, and arched windows and doors. Other elements may include scalloped windows and balconies with elaborate grillwork, decorative tiles around doorways and windows, and heavily hewn window sills.



Split Level

A split level is really a building formation, as any building style could be constructed as a split level. However, split levels are typically a modern style that architects created to sequester certain living activities. The nether parts of a typical design were devoted to a garage and TV room; the midlevel, which usually jutted out from the two-story section, offered "quieter" quarters, such as the living and dining rooms; and the area above the garage was designed for bedrooms. Split-levels, like their Ranch counterparts, were constructed with various building materials.



Stick

A member of the Victorian family, the Stick house boasts a lot of detailing. Typical characteristics include gabled, steeply pitched roofs with overhangs; wooden shingles covering the exterior walls and roof; horizontal, vertical, or diagonal boards--the "sticks" from which it takes its name--that decorate the cladding; and porches. The Western Stick found in California is rectangular with sliding glass doors, a small chimney, and large panes of glass.



Tudor

This architecture style was popular in the 1920s and 1930s and continues to be a mainstay in suburbs across the United States. The defining characteristics are half-timbering on bay windows and upper floors, and facades that are dominated by one or more steeply pitched cross gables. Patterned brick or stone walls are common, as are rounded doorways, multi-paned casement windows, and large stone chimneys. A subtype of the Tudor Revival style is the Cotswold Cottage. With a sloping roof and a massive chimney at the front, a Cotswold Cottage is reminiscent of a picturesque storybook home.



Victorian

Victorian architecture dates from the second half of the 19th century. Victorians typically include ornamentation such as brackets, spindles, and patterned shingles. Contemporary builders often borrow Victorian ideas, designing eclectic "neo-Victorians." These homes include modern materials with 19th century details such as curved towers and spindled porches.

Appendix Two – Roof Styles

A roof is one of the defining elements of any home. Roof style determines a home's type or family, distinguishing it as classic, modern, neo, American, Victorian, Gothic, etc. A roof's lines can tell you about interior spaces and dictate the best way to frame an addition, place a chimney, or add a room. Roof shapes determine how well the structure can withstand certain elements, while the slope of the roof and its overhang system are often dictated by the climate and dominant style of the region. Understanding roof details and how they come together in a unified whole can help designers create buildings that make sense visually, and help house lovers identify the styles that speak to them personally.

Below is a glossary of roof terms and illustrations:

Roof Shapes

Roofs are broken into two basic shape families: gabled and hipped.

Gabled

Gabled refers to the family of houses classified by the straight slope falling from ridge to eave, creating a peak or triangle on the side or front facade. Gabled houses have rakes on the gable facades and eaves on the non-gabled facades.



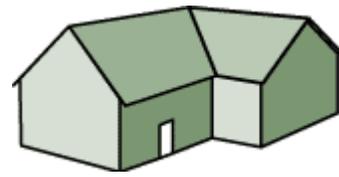
Side-gabled

This style of home locates the front door on the non-gabled façade.



Front-gabled

Houses have the peak or gable facing the front.



Cross-gabled

Houses have additional sections or wings crossing perpendicular to the main section, meeting in a valley, each with its own peaked or gabled façade.

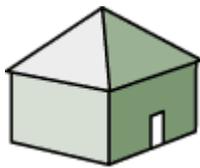
Hipped

This family of houses avoids having a peak or triangle at the roof junction by breaking the roof plane along the slope line, allowing the roof to bend or wrap around the house. Hipped houses have an even roof to wall junction all the way around the house and eaves on all sides.



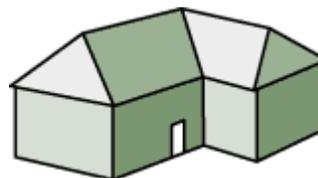
Simple

A hipped roof where all four roof faces rise to a ridge across the top, often with broader faces across the front slope and narrower side sections.



Pyramidal

A hipped roof where all four sides come to a point at the roof peak.



Cross-hipped

A roof with multiple sections or wings that cross the main section, meeting in a valley, each with its own hipped profile.

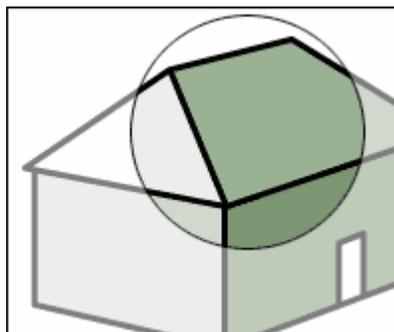
Additional Roof Shapes

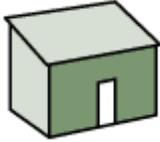


Gambrel

A gabled roof that peaks at the ridgeline then falls away in a broad, low slope, breaks horizontally and changes to a steeper pitch. A gambrel roof has a broad upper story and side façade, and is often associated with barns.

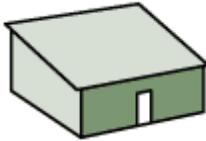
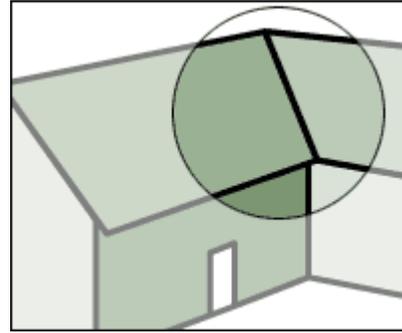
Roof Details





Shed

A gabled roof with a single roof face falling away from the main building. Shed roofs are often used for porches, additions, and raised-roof sections.



Flat

Actually its own roof type, flat roofs have no slope and may terminate with or without eaves.

Valley

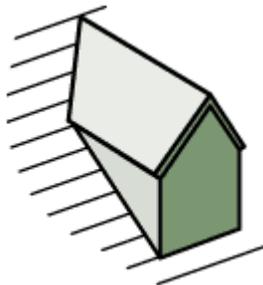
A change in roof direction, where two planes meet at the bottom of their pitch to make a valley with two steep slopes running up and away from it (the opposite of a hip).

Dormers and Gables

Gables are actually roof sections that face in a different direction from the main roof (i.e. cross gables). They are built as part of the roof, rise up from the roof-to-wall junction, and have no walls. This type of construction may be used to create a new roof section or wing, or simply to open the roofline for a window.

Dormers

Rise up out of the roof and are often separate from the roof-to-wall junction. Like houses, dormers are classified by their roof shape (shed, hipped, gabled, flat, etc).



main roofline, like a dormer, have their own walls, roof, and roofline. Dormers provide light and ventilation to the house.



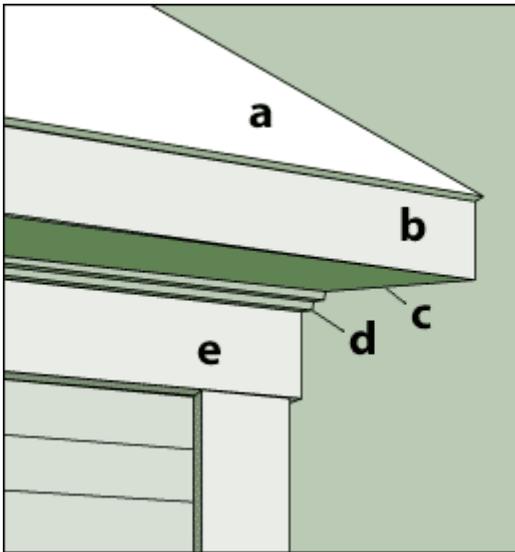
line at the roof-to-wall junction. Gables, like dormers, have their own walls, roof, and roofline.

Eave Details

The edge of the roof that runs horizontally across the façade, comprised of the rafter ends used to construct the roof. Eaves may be open or enclosed, with lots of, little, or no overhang.

a. Roof

The upper exterior surface of the home.



b. Fascia

A flat horizontal band around a roof's perimeter.

c. Boxed eave

An overhang enclosed with a soffit that runs horizontally from the eave edge to the side of the building.

d. Cornice

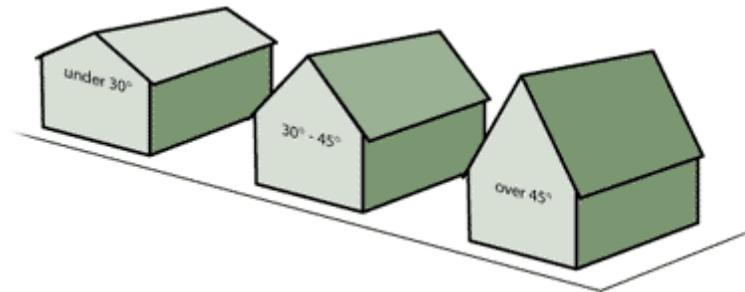
The decorative section just below the roofline. The cornice may be simple or ornate depending on building style.

e. Rake

the pitched edge of a gable roof. Rakes may be close, or extend from the building to allow for an overhang.

Pitch

The degree of slope, steepness, of the roof from ridge to eave or valley.



Low slope

A roof angle or pitch that is less than 30 degrees.

Normal slope

A roof whose angle or pitch is from 30 to 45 degrees.

Steep slope

A roof whose angle is more than 45 degrees.

Appendix Three – Dormer Styles

Dormers are windows that jut out from the roof of a home, and have a roof of their own. The word comes from the Latin dormitorium meaning "sleeping room," because dormers often bring space and light to bedrooms. For decorating purposes, a dormer creates a cozy spot for a reading chair or a desk.



Eyebrow

Eyebrow dormers have a low upward curve, with no distinct vertical sides, allowing for a curved window that looks much like an eye behind sleepy eyelids. Eyebrow dormers are often seen in shingled roofs particularly in the Shingle style of architecture popular in the late 19th century.



Gable

Gable dormers have a gabled roof, with two sloping planes that meet at a central ridge. During the English Tudor period in the 16th century, dormers with gable roofs were typical.



Hipped

Hipped dormers have a hipped roof with three sloping planes that meet at the top. Prairie Style and Craftsman houses will sometimes have hipped dormers, as will most homes with a hipped roof.



Inset

Inset dormers are also called recessed dormers. Unlike most other dormers, which extend out from a roof, this style is set back into the roof, creating a much different look.



Shed

Shed dormers have a roof with a single sloping plane that extends over the window. This style of dormer is seen in a wide variety of architectural styles including Arts & Crafts and Colonial Revival.

Appendix Four – Window Styles

Windows bring light and air to an interior space and provide a view of the outdoor scenery. In older houses, windows may have just one layer of glass per pane, which is called single glazing. More contemporary and energy efficient windows have two layers of glass per pane, or double glazing.



Bay

Bay windows project from the side of a house, adding light and extra square footage to a room. The area inside a bay window creates a cozy nook well-suited for a window seat or a dining area.



Bow

Bow windows project from the side of a building like bay windows, only with a curved shape. It's typically more expensive to build a bow window than a bay window.



Box Bay

Box bay windows project from the side of a house. They have a square shape with 90-degree angles at the corners. The shape of the window creates a shelf that's ideal for added space in front of a kitchen sink or a desk.



Casement

Casement windows hinge on one side of the window frame so they open like a door. These are widely used in both traditional and contemporary design. Casement windows are typical of the Tudor style of architecture and are particularly convenient over a kitchen sink where it's easier to open a window with a hand crank than to lean over a countertop and push up.



Double-hung

Double-hung windows have two sashes that slide up and down vertically. Early double hung windows had many panes of glass per sash and were called "12 over 12," meaning 12 panes per sash. This is a common type of window that is quite versatile, as you can open it a little or a lot from either the top or the bottom.



Oriel

Oriel windows project from the side of a building, like a bay window, but are located on the second floor or higher and supported by brackets or columns. Oriel windows bring added light and space into a room and have been used in many styles of architecture.



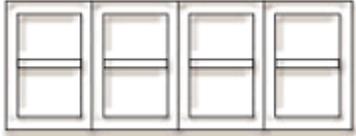
Paired

Paired windows are two windows next to each other often times under an arch. The support between the windows is called a mullion.



Palladian

Palladian windows are named after the 16th century Italian architect Andrea Palladio, who used this window design in developing what is known as the Palladian style of architecture. This window will be a focal point in a room and has been widely used in a variety of traditional architectural styles.



Ribbon

Ribbon windows are a row of windows separated by vertical posts, called mullions. Ribbon windows can be used up high on a wall to bring added light to a room. Windows installed near the ceiling like this are called clerestory windows.