



Town of Moraga

Design Guidelines

Adopted by the Moraga Town Council on July 11, 2007
Amended by the Moraga Town Council on January 9, 2008
Amended by the Moraga Town Council on January 27, 2010

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DESIGN PHILOSOPHY

PURPOSE AND ORGANIZATION OF THE DESIGN GUIDELINES

The design philosophy of the Town of Moraga Design Guidelines is drawn directly from the Town of Moraga General Plan Community Design element. General Plan community design policies are indicated below as *GP CD #* and serve as the foundation of the Town of Moraga Design Guidelines. These Guidelines have been developed to further the implementation of Title 8, 13, and 14 of the Moraga Municipal Code. They are used by staff, the Design Review Board, Planning Commission, and Town Council in the evaluation of proposed projects which require a building or grading permit. If followed closely by applicants when developing plans for approval by the Town, the opportunity for review at the staff level is possible (see Procedural Considerations).

The Design Philosophy of the Town of Moraga General Plan calls for the Town to: maintain the Town's semi-rural character; protect ridgelines and hillside areas; complement existing landscaping; enhance the Town's scenic corridors; minimize the impacts of development; thoughtfully design single-family residential neighborhoods; thoughtfully design new multi-family residential developments; and promote commercial centers as community places.

Maintain the Town's semi-rural character (SRC)

- 1.) Protect important elements of the natural setting to maintain the Town's semi-rural character. Give particular attention to viewsheds along the Town's scenic corridors, protecting ridgelines, hillside areas, mature native tree groupings, and other significant natural features. (GP CD1.3) See Guidelines SRC1, SRC5, and RH4.
- 2.) Protect the scenic and environmental qualities of canyon and valley areas to retain the Town's semi-rural character. Preserve both close-up and distant views of the natural hillside landscape from valley areas, and preserve significant linear open spaces in major canyons and grassland valleys with floodplain zones as the visual focus. (GP CD1.4) See Guideline SRC8.

Protect ridgelines and hillside areas (RH)

- 1.) Ridgelines and Hillside Areas. Protect ridgelines from development. In hillside areas, require new developments to conform to the site's natural setting, retaining the character of existing landforms preserving significant native vegetation and with respect to ridgelines, encourage location of building sites so that visual impacts are minimized. When grading land with an average slope 20% or more, require "natural contour" grading to minimize soil displacement and use of retaining walls. Design buildings and other improvements in accordance with the natural setting, maintaining a low profile and providing dense native landscaping to blend hillside structures with the natural setting.(GP CD1.5) See Guideline RH1 through RH10 and ID10.3, ID10.4, ID10.6, ID11.1, ID13.3, SFR2.12, SFR2.13, SFR2.14, SRC7, L1, L2, and L3.

Complement existing landscaping (L)

- 1.) Emphasize and complement existing mature tree groupings by planting additional trees of similar species at Town entries, along major street corridors, in and around commercial centers, in areas of new development, and along drainage ways. (GP CD1.6) See Guidelines SC9, L3.8, and CC1.7e.
- 2.) Encourage the use of native, fire-resistive, and drought-tolerant species. (GP CD1.6) See Guidelines L2.5, L3.16 and SC11 and Appendix B.

Enhance the Town's Scenic Corridors (SC)

- 1.) Improve the visual character along Scenic Corridors with lighting, landscaping, and signage. (GP CD3.2) See Guidelines SC1 and SC10.
- 2.) Use additional street tree planting, berms, fencing and ornamental landscaping to enhance the visual continuity along the Town's Scenic Corridors. (GP CD3.5) See Guidelines SC1.
- 3.) Require appropriate landscaping for both public and private developments located on designated Scenic Corridors, including pedestrian lighting and street trees within existing commercial areas. (GP CD3.5) See Guideline SC7 and CC1.7e.
- 4.) Encourage use of native and drought-tolerant species and, where applicable, preservation of orchard trees. (GP CD3.5) See Guidelines L2.5, L3.16 and SC11.
- 5.) Convert all overhead wiring in scenic corridor areas to underground as soon as possible. (GP CD3.7) See Guideline SC13.

Minimize the impacts of development (ID)

- 1.) Concentrate new development in areas that are least sensitive in terms of environmental and visual resources, including areas of flat or gently sloping topography outside of flood plain or natural drainage areas. (GP CD1.1) See Guidelines ID1 and ID11.1.
- 2.) Retain natural topographic features and scenic qualities through sensitive site planning, architectural design, and landscaping. Design buildings and other improvements to retain a low visual profile and provide dense landscaping to blend structures with the natural setting. (GP CD1.2) See Guidelines ID7, L2, and L3.
- 3.) Whenever and wherever possible, convert overhead utility lines to underground and require underground utilities in areas of new development. (GP CD1.8) See Guidelines SC11 and ID13.8.

Thoughtfully design single-family residential neighborhoods (SFR)

- 1.) Review by staff or Design Review Board to ensure that new residential development in existing neighborhoods reflect the size, scale, height, setbacks, and character of existing development. While new homes, home additions, and remodels should be allowed, they should not create adverse impacts on adjacent properties or detract from overall neighborhood character. All projects should be subject to discretionary review by staff. (GP CD4.3) See Guidelines SFR1.1-1.6 and SFR2.1-2.6.
- 2.) Design new single-family developments to create high quality pedestrian environments with pathways to adjacent neighborhoods and, where feasible, commercial areas. Ensure that the layout of new residential lots respects the site topography and natural features. Where feasible, avoid standard repetitive lot sizes and shapes in hillside areas. (GP CD4.4) See Guidelines SFR1.6.

Thoughtfully design new multi-family residential developments (MFR)

- 1.) Locate new multi-family developments in close proximity to commercial centers, transit stops, and community facilities such as parks and schools, with site design and landscaping to create buffers between adjacent uses while providing connection to pedestrian and bicycle paths. (GP CD5.1) See Guideline MFR1.7.
- 2.) Ensure that new multi-family developments are planned, designed and constructed to enhance the local area, reflecting the scale and quality of their surroundings. Encourage designs that help to break up large building masses, for example by breaking one large building into several smaller buildings; providing variations in rooflines; creating a three-dimensional façade rather than a massive, flat façade; and using landscaping to soften building edges. Architectural styles and materials should reflect the character of existing residential neighborhoods, with landscaping to enhance the natural setting. (GP CD5.2) See Guidelines L3, MFR2.6, and MFR2.7.
- 3.) Require usable private and common open space in all new multi-family residential development. (GP CD5.3) See Guideline MFR1.8.
- 4.) Design new multi-family developments to create high quality pedestrian environments, with connections to the Town's pedestrian path and trail system. (GP CD5.4) See Guideline ID 13.7.

Promote commercial centers as community places (CC)

- 1.) Improve the design quality of the Town's commercial centers, creating an attractive and inviting environment for shopping and socializing and enhancing their function as community focal points. Enhancements might include more landscaping; configuration of parking areas to incorporate more landscaping and create better pedestrian connections and entrances; architectural improvements to create visual focal points; creation of pedestrian walkways, plazas and seating areas; and signage improvements. (GP CD6.1) See Guidelines CC1.6-1.7.

- 2.) Ensure adequate traffic access, circulation and parking in the Town's commercial centers. Reduce potential safety hazards by minimizing the number of driveway openings onto public streets, encouraging side street access to commercial developments, and encouraging connections between developments. (GP CD6.2) See Guideline SRC3.
- 3.) Create a safe, inviting and functional pedestrian environment in commercial areas, with interconnected walkways; pedestrian amenities (e.g., seating, lighting, signage, landscaping); plaza areas; and outdoor café spaces. Where pedestrian paths cross parking areas or vehicle lanes, give clear priority to pedestrians through pavement markings, differentiation in the pavement surface, and signage. (GP CD6.3) See Guideline CC1.7.
- 4.) Consider the use of flexible setbacks (for example, with new buildings at or near the public sidewalk and parking located to the side or rear) to achieve pedestrian-oriented design goals. (GP CD2.3) See Guideline CC2.6.
- 5.) Encourage high quality office development projects in close proximity to the Town's retail centers, with pedestrian connections between them. Encourage office building designs that respect the visual dominance of the landscape, reflect the scale and character of adjacent neighborhoods, and create buffers between residential neighborhoods and arterial roadways. (GP CD6.4) See Guideline CC1.1 and CC1.7.

2 PROCEDURAL CONSIDERATIONS

DESIGN GUIDELINE IMPLEMENTATION

While there is no formula for good design, the Town of Moraga Design Guidelines are indicators of the type of design that the Town is likely to approve. The Town recognizes that each project represents a unique combination of design elements and natural features. Applicants and/or their representatives shall consider the Design Guidelines when developing a project proposal. Compliance with these Guidelines does not, however, guarantee approval. Similarly, needing to request an exception to the Guidelines does not mean that the application will be disapproved. Procedurally, compliance with the Design Guidelines enables a project to be considered at the staff level (Administrative Design Review, or ADR) unless the type or scale of the project requires Design Review Board (DRB) approval, such as applications for development in a scenic corridor¹, hillside² development, new residential construction, and appeals from certain staff decisions. The definitions in Appendix D to the Town of Moraga's General Plan are expressly incorporated herein and shall be used to interpret and implement these Design Guidelines,

Exceptions to the Design Guidelines may be approved by the Design Review Board if the overall finding for design approval can be made. In single-family residential districts the DRB must find that:

- 1.) *The proposed improvements conforms with good design as set forth in the Town of Moraga Design Guidelines, and in general contributes to the character and image of the Town as a place of beauty, spaciousness, balance, taste, fitness, broad vistas, and high quality.*
- 2.) *The proposed improvement will not have a substantial adverse affect on neighboring properties or the community due to poor planning; neglect of proper design standards, or the existence of building and structures unsuitable to and incompatible with the character of the neighborhood.*
- 3.) *The proposed improvement will not lower property values; discourage the maintenance and improvement of surrounding properties; or preclude the most appropriate development of other properties in the vicinity.*
- 4.) *The proposed improvement will not impair the public health, safety, or welfare.*

The finding above that requires the Town to determine that the proposed improvements conform with good design as set forth in the Town of Moraga Design Guidelines means that, generally speaking, the project is in compliance with the Guidelines but exceptions from certain guidelines may be necessary in order to achieve overall acceptable design. This is in recognition of the fact that Design Guidelines can be in competition with one another, as there are often competing design considerations, such as water conservation, fire safety, and stormwater management.

¹ The major scenic corridors designated in the General Plan include: Bollinger Canyon Road, Camino Pablo, Canyon Road, Donald Drive (along the ridgeline of Mulholland Hill), Moraga Road, Moraga Way, Rheem Boulevard, and St. Mary's Road.

² A hillside is defined as any slope greater than 20%.

In approving an application for design review, the DRB may impose conditions of approval. Such conditions would be required in order to mitigate any negative effects that the development may have on the site, the neighborhood, or the community as a whole. Special conditions may also be attached when the DRB is so directed by the Planning Commission (PC) or Town Council (TC), or when the DRB determines that such conditions are needed in order to implement policies adopted by the Commission or Council. Higher standards than the ones contained in these guidelines may be set by the Planning Commission for a particular development project, and such standards would then be implemented by the Design Review Board in place of the comparable guidelines.

DESIGN REVIEW PROCESS

Prior to processing an application for design review, the application must be determined complete by the Town. The Town may, at its discretion, require that a portion of the required submittal be sent to a specialist for review, at the applicant's expense, prior to a determination of completeness.

All applications are subject to the applicable provisions of the Moraga General Plan and Municipal and State Codes, in addition to these Design Guidelines.

There are two levels of design review in Moraga. Additions to existing residences that conform to the Design Guidelines and are not proposed on a hillside or within a scenic corridor are eligible for review at the staff level (Administrative Design Review or ADR) with notice to neighbors but without a public hearing.

Design Review Board or DRB approval is required for all new residences and all additions to existing residences that require an exception to the Design Guidelines or are proposed within a scenic corridor or on a hillside. In addition, the DRB considers certain appeals from staff decisions. Appeals from DRB decisions and certain staff decisions are considered by the Planning Commission (PC). Similarly, the Town Council (TC) considers appeals from PC decisions and applications for grading on pre-development average slopes greater than 25%.

3 MAINTAIN THE TOWN'S SEMI-RURAL CHARACTER (SRC)

APPLICABLE TO ALL TYPES OF DEVELOPMENT

These guidelines are intended to help preserve the semi-rural features that make Moraga unique when considering applications for development. Therefore, ***these guidelines are applicable to all types of development.***

- SRC1 Retain, protect, and utilize existing natural features, such as trees and other vegetation, interesting ground forms, rocks, water, and significant views in the design.
- SRC2 The impact and presence of vehicles resulting from the development should be minimized through proper siting and screening in order to buffer parking areas from locations both interior and exterior to the site.
- SRC3 Circulation systems should avoid conflict between vehicular, bicycle and pedestrian traffic. Emergency and service vehicle access shall be accommodated within the circulation system.
- SRC4 Accessory structures should not encroach upon front yard and exterior side yard setbacks.
- SRC5 Preserve natural site amenities.
- a. Development should be planned in relation to natural features.
 - b. Natural features must be protected both during and after construction of the project.
 - c. Retain trees and other native vegetation, consistent with tree preservation ordinance, to maintain current stability of steep hillsides, retain moisture, prevent erosion, and enhance the natural scenic beauty. Grading under tree drip lines should be avoided to protect the root system during development.
 - d. Treat significant natural features, such as creeks, rock out-croppings, and prominent knolls, as assets.
- SRC7 New trees should be planted to compliment the natural pattern of tree placement and should be selected from one of the palettes in Appendix B.
- SRC8 Mature native tree groupings should be protected.
- SRC9 Improvements should be sited away from creeks to enhance safety and to protect existing drainage patterns, riparian habitat, and wildlife.

4 PROTECT RIDGELINES AND HILLSIDE AREAS (RH)

APPLICABLE TO ALL RIDGELINE AND HILLSIDE CONSTRUCTION

In addition to these Design Guidelines, development along ridgelines and in hillside areas is also regulated by the Moraga Open Space Ordinance and Guidelines (MOSO) and the Town's Hillside Development Permit process.

- RH1 Protect ridgelines from development.
- RH2 New development should be sited in areas that are least sensitive in terms of environmental and visual resources, including areas of flat or gently sloping topography.
- RH3 In hillside and ridgeline areas, building sites should be sited so that visual impacts are minimized.
- RH4 The roofline of all hillside buildings should blend with or follow the ridgeline's natural contour.
- RH5 Hillside buildings and other improvements should have a low visual profile. Dense native landscaping should be provided to blend structures with the natural setting.
- RH6 Hillside grading shall blend with natural slopes and be contoured to achieve a natural appearance. The use of retaining walls and other man-made grading features to mitigate geologic hazards should be avoided.
- RH7 On hillside lots fire safe landscaping should be used. Landscaping should be distributed around structures to provide screening from off-site views. Adequate water supplies and fire-fighting access shall be provided.
- RH8 In hillside areas, solid board privacy fences should only be used when located close to the residence. Site perimeter and other distant fencing should remain visually open (i.e., split rail or deer fencing) in order to minimize the visual "ribbon-like" effect of fencing on the hillsides.
- RH9 Larger lots should be created on steeper slopes. Density should be minimized in areas prone to seismic and other geologic hazards.
- RH10 Preserve both close-up and distant views of the natural hillside and ridgeline landscape as seen from valley areas.
- RH11 All new structures located in hazardous fire areas (such as hillsides) should be constructed with fire resistant exterior materials consistent with applicable building codes and standards.

5 COMPLEMENT EXISTING LANDSCAPING (L)

Moraga values abundant landscaping and high design standards.

L1 FIRE SAFE LANDSCAPING

The Fire District highly recommends the use of fire safe landscaping in residential, commercial, and open space areas that might be threatened by fires, such as sloped lots.

In order to ensure that vegetation does not promote the spread of fire between residences or between open space, development should take into consideration fire safety in the design of landscapes. The Town shall consider the following factors when reviewing development proposals:

- L1.1 On residential lots located adjacent to open space or heavily wooded areas, trees should be planted no closer than 15 feet from the exterior wall of a residence.
- L1.2 Consideration should be given to avoiding flammable trees and shrubs where possible. Selection should be from those listed as fire resistant in Appendix B. Consult the Moraga Fire Protection District for highly flammable plant species to be avoided such as certain pine, juniper, and eucalyptus species.
- L1.3 Landscaping should be properly irrigated to assure that plants retain their fire retardant capability, but shall not be over watered so as to create runoff from the site.
- L1.4 On residential lots located adjacent to open space or heavily wooded areas, landscaped areas should be maintained with a “wet band” (spray irrigation) that is a minimum of 30-100 feet in width, where setbacks allow. For fire safety consideration contact the Fire District for distance guidelines.
- L1.5 The use of shredded bark should be avoided; bark chips are recommended. Suggested minimum depth of chips is 3 inches.
- L1.6 The Town will weigh the merits of water conserving landscapes in conjunction with fire safety and stormwater management.

L2 SINGLE-FAMILY RESIDENTIAL LANDSCAPING AND IRRIGATION

- L2.1 Residential properties should be landscaped and irrigated in accordance with the natural environment.
- L2.2 New irrigation systems shall include automatic rain shut-off controller devices.

- L2.3 Irrigation runoff shall not be discharged into the storm drain system. Therefore, over watering of the landscape shall be avoided. Opportunities shall be provided for biofiltration that routes stormwater through landscaping and then to an appropriate drainage facility.
- L2.4 Drought tolerant plant species are encouraged as they use less water and are often fire safe.
- L2.5 Drought tolerant, fire resistant, native tree and shrub species should be selected from one of the palettes in Appendix B. The Town of Moraga encourages planting of native species over non-native species and encourages applicants to refer to the Native Plant Society website at www.nps.org to check that the plants that you select are not invasive species.

L3 MULTI-FAMILY AND COMMERCIAL LANDSCAPING AND IRRIGATION

- L3.1 Landscaped areas should be planned as integral parts of the project and not simply as leftover green spaces to be planted on the site.
- L3.2 Areas not covered by buildings or structures enclosed for storage or used for paved walks, alleys, or drives should be completely landscaped and irrigated.
- L3.3 Parking lots should be landscaped through the use of concave islands and medians swales designed to accommodate trees, shrubs, and ground cover while providing drainage and biofiltration of concentrated stormwater. Fast growing deciduous or evergreen trees should be planted at a ratio of one tree for every 4-6 parking spaces, to create maximum summer shade.
- L3.4 Landscaping should permit adequate sight distance for motorists and pedestrians entering and exiting the site and shall not interfere with parking lot and circulation effectiveness.
- L3.5 Landscaping should be developed to relieve solid, unbroken elevations and soften continuous wall expanses as well as complement a building or building cluster.
- L3.6 Significant landscaping should be provided around the perimeter of the site.
- L3.7 Dense landscaping should be incorporated into any project to screen unattractive views and features such as storage areas, trash enclosures, parking lots, public utilities, and other elements that detract from the appearance of the surrounding area.
- L3.8 Tree and shrub planting may be grouped together in order to create stronger accent points or a sense of place.
- L3.9 Initial landscaping should be of a size and quality that a mature appearance will be attained within three years of planting. At least 25% of the proposed trees on the site are to be a minimum of 24" box size and the remaining trees a minimum of 15-gallon size.

- L3.10 Lawn areas should be limited to 25% of the total landscaped areas and must be a drought tolerant fescue variety, with exceptions for schools, parks and public recreational areas. Percentage may be increased for biofiltration.
- L3.11 Significant trees existing on the property should be protected retained and integrated with the design where appropriate.
- L3.12 Deciduous trees along southern building exposures, coniferous and broadleaf evergreen trees along East and West building exposures and evergreens along the North exposures are recommended to conserve energy usage within structures.
- L3.13 All plant materials (including street trees and planting within the public right-of-way) should be watered with an automatic irrigation system. Provision shall be made for watering planting boxes and individual planters raised from the ground.
- L3.14 Water-conserving system design and materials and drip irrigation should be used wherever appropriate.
- L3.15 New irrigation systems shall include automatic rain shut-off controller devices.
- L3.16 Plants from the palettes in Appendix B should be selected. The Town of Moraga encourages planting of native species over non-native species and encourages applicants to refer to the Native Plant Society website at www.nps.org to check that the plants that you select are not invasive species.

6 ENHANCE TOWN'S SCENIC CORRIDORS (SC)

APPLICABLE TO ALL SCENIC CORRIDOR DEVELOPMENT

The major scenic corridors designated in the General Plan include: Bollinger Canyon Road, Camino Pablo, Canyon Road, Donald Drive (along the ridgeline of Mulholland Hill), Moraga Road, Moraga Way, Rheem Boulevard, and St. Mary's Road. The purpose of these guidelines is to provide further criteria for development that is visible from a major scenic corridor.

- SC1 Medians in scenic corridors should be planted and landscaped except where drivable medians are necessary. See Appendix B for recommended plants and Appendix C for conceptual examples for aesthetic enhancement.
- SC2 Wide and curved trails should be used along scenic corridors instead of sidewalks wherever possible. Both trails and sidewalks should be separated from roadways with plantings. See Appendix C.
- SC3 A greenbelt should be established between the scenic corridor major road and a parking area or building that is located adjacent to the road. The greenbelt must be landscaped and appear to be natural (i.e. a high percentage of the ground area could be a mounded redwood bark or stone covered area as long as plants provide a reasonable amount of massing to create a screening effect). All landscaped areas shall be appropriately irrigated to maintain healthy plants while preventing runoff from over watering.
- SC4 Trees should be planted on medians and along scenic corridors except where traffic views are blocked. Where tree planting next to scenic corridors is otherwise not possible, planters for trees should be located in street parking zones. See Appendixes B and C. Native grass areas are acceptable along the scenic corridor where formal landscaping is inappropriate.
- SC5 The greenbelt separating a single-family residence from a scenic corridor roadway should have a minimum depth of 20 feet. This depth can be lessened if mitigated by shrubbery, trees and/or other acceptable elements or landscaping.
- SC6 Landscaped mounds or berms are encouraged between the scenic corridor roadway and large parking areas and may be steeper than 3:1 if appropriately landscaped and irrigated.
- SC7 Commercial shopping centers shall have a twelve-foot or greater depth of greenbelt between the road and parking area or building, exclusive of the public sidewalk.
- SC8 Greenbelts should have a balance of high and low plants to give a natural look to the landscaped area. At no time will a landscaped area (other than grass) exceed 50 lineal feet along the scenic corridor road without a change in massing, character, and color.

- SC9 Religious or educational institutions, apartment complexes, professional buildings, commercial buildings, and residences along scenic corridors should have a minimum 15-foot greenbelt depth to the property line at adjacent streets (exclusive of sidewalk) with moderate landscaping.
- SC10 A property owner may be required to upgrade existing conditions when major work is accomplished on a parcel that is within 500 feet of the center line of a major scenic corridor.
- SC11 In order to enhance the landscaping along designated scenic corridors, new development within 500 feet of these corridors should include trees and shrubs from one of the palettes in Appendix B. The Town of Moraga encourages planting of native species over non-native species and encourages applicants to refer to the Native Plant Society website at www.nps.org to check that the plants that you select are not invasive species.
- SC12 Roadside landscaping should be selected from one of the palettes in Appendix B and only lightly trimmed except where street signs and other directional signs are blocked from view.
- SC13 Existing overhead lines on both private and public property along scenic corridors should be converted to underground when substantial redevelopment is proposed.
- SC14 Signage, bus shelters, monuments and other site elements should be of semi-rural character and be rustic looking, preferably stone. See Appendix C.
- SC15 Storm water runoff swales should be used along roadsides and medians of scenic corridors instead of curbing to slow storm water runoff and enhance the semi-rural look. See Appendix C.
- SC16 Design shall be consistent with the Moraga Municipal Code Section 8.132.
- SC17 Viewsheds, including but not limited to close up and distant views, ridgelines, hillsides and mature native tree groupings should be protected along the Town's scenic corridors to retain the Town's semi-rural character.

7 MINIMIZE THE IMPACTS OF DEVELOPMENTS (ID)

To the extent possible, development should be concentrated in areas that are least sensitive in terms of environmental and visual resources, including: a) areas of flat or gently sloping topography outside of flood plain or natural drainage areas; b) the Moraga Center and Rheem park area; c) Infill parcels in areas of existing developments.

ID1-7 APPLICABLE TO ALL DEVELOPMENT

- ID1 Downhill or uphill portions of any project shall provide landscaped treatment to address potential erosion, to be in harmony with adjacent developments, and to provide a complimenting view from distant horizons. Dense native landscaping should be used to blend hillside structures with the natural setting.
- ID2 Roofing materials shall be benign and non-corrosive, such as slate, steel, stone, terra cotta tiles, fiberglass composition shingles, etc. Copper materials shall not be used for any component of the roofing system (roofing material, gutters, downspouts, splash pads, screens, etc.). Solar systems on roofs are encouraged and not subject to Design Review.
- ID3 Wind barriers, shade, sound absorption, dust abatement, glare reduction, and proper drainage should be provided on site.
- ID4 Buildings should be placed on the site so as to permit passive solar design, ample room for usable yard areas, adequate landscaping, and proper drainage between and around buildings.
- ID5 Geologic hazards shall be addressed:
- a. Construction should not take place in geologic hazard areas identified as landslides, springs, or earthquake fault zones.
 - b. Risk of off-site geologic property damage should be minimized by locating development away from areas which are vulnerable to slope failure.
 - c. Professional evaluation of soil conditions and potential geologic hazards should be completed for all new homes.
- ID6 The level of lighting should not exceed the needs for security and safety or detract from the aesthetics of the development.
- a. Outdoor lighting should be related to the design of the structure.
 - b. Outdoor light fixtures should be designed and mounted so that the source of light has minimal impact off site.
 - c. Outdoor lighting should be directed inward toward the property and may require additional screening to avoid spillage onto adjacent residential properties.

ID7 Design shall be consistent with the Moraga Municipal Code section 13.04.090.

ID8 SWIMMING POOLS

ID8.1 The draining of all swimming pools shall be directed to the sanitary sewer system whenever feasible and be conducted in compliance with the permitting and standards established by Central Contra Costa Sanitary District. Overflow drains from swimming pools shall be directed to a landscape area or manufactured treatment system prior to connecting to the storm drain system. Best Management Practices (BMPs) shall be used to manage overflows.

ID8.2 Design shall be consistent with the Moraga Municipal Code section 13.04.060d.

ID9 PAVING

ID9.1 Impervious surfaces shall be minimized through site design and building methods. Directly connected impervious surfaces shall be minimized to avoid excessive concentrated stormwater runoff. Any runoff from impervious surfaces shall be directed to pervious areas or landscaped depressions.

ID9.2 Impervious paving may be reduced by using permeable materials for pedestrian walkways, parking facilities, and areas with light traffic. Examples include:

- a. Unit pavers-on-sand: turf block, brick, natural stone, or concrete unit pavers
- b. Poured pervious surfaces: pervious concrete or pervious asphalt
- c. Granular materials: crushed shells, gravel, aggregate base, cobbles, or wood mulch

ID10 GRADING

ID10.1 Grading for any purpose may be permitted only in accordance with an approved development plan that is found to be geologically safe and aesthetically pleasing.

ID10.2 Where the pre-development slope is less than 20% a grading permit may be required. See the Moraga Municipal Code 14.08.010 for details.

ID10.3 When the pre-development slope is greater than or equal to 20%, development shall be avoided, but may be permitted if supported by site-specific analysis. When grading land with a slope of 20% or more, soil displacement and retaining wall use shall be minimized by using contour grading techniques. In MOSO areas, development shall be prohibited on slopes with an average gradient of 20% or greater. Design shall be consistent with Moraga Municipal Code Title 14.

- ID10.4 Land with a pre-development average slope of 25% or greater within the development area shall not be graded except as authorized by the Town Council and only where it can be shown that a minimum amount of grading is proposed in the spirit of, and not incompatible with, the intention and purpose of the Moraga General Plan. No new residential structures may be placed on after-graded average slopes of 25% or steeper within the development area except that this provision shall not apply to new residential structures on existing lots that were either legally created after March 1, 1951 or specifically approved by the Town Council after April 15, 2002.
- ID10.5 Cut slopes should be placed behind buildings or other structures where they will be screened.
- ID10.6 Preserve the natural topography of the land, especially at the horizon:
- Round off graded slopes, in a manner that conforms to the natural contours of the land and to the surrounding terrain. Sharp angles produced by earth moving, specifically at the top and toe of graded slopes shall be avoided.
 - Slopes shall be contour graded to achieve a natural appearance.
 - Slopes shall be blended with the contours of contiguous properties and create a smooth transition.
 - Grading shall minimize scars due to cuts, fills, and drainage benches on natural slopes.

Neither cuts nor fills shall result in slopes steeper than 3:1 (horizontal to vertical), except where natural slopes are steeper. Where steeper slopes are unavoidable, special mitigation measures shall be incorporated into the design construction and maintenance of the slopes.

ID11 RETAINING WALLS

- ID11.1 Retaining walls (excluding foundation retaining walls) and other man-made grading features may only be used to mitigate geologic hazards when:
- a. required to decrease the possibility of personal injury or property damage
 - b. designed to blend with the natural terrain and avoid an artificial or structural appearance
 - c. appropriately screened by landscaping
 - d. designed to avoid creating a tunnel effect along roadways and to ensure unrestricted views for vehicular and pedestrian safety
 - e. designed to ensure minimal public and/or private maintenance costs

- ID11.2 Exterior retaining walls shall be limited to five feet in height, unless it is visible from off site, in which case it shall be no higher than three feet. The total height of a retaining wall and fencing on top of the wall shall not exceed eight feet without Design Review Board approval. A guardrail or handrail (provided a solid fence does not support it) may be located on top of the retaining wall.
- ID11.3 A retaining wall exceeding 3 feet requires professional engineering, a building permit, and may require a grading permit. Design Review Board approval is required if the retaining wall is visible from off-site.
- ID11.4 The horizontal depth of the terraces between stacked retaining walls should be a minimum of twice the height of the larger adjacent wall.
- ID11.5 Retaining walls should be built a minimum of three feet from a property line.

ID12 STORMWATER GUIDELINES

- ID12.1 All residential buildings, in aggregate, may cover no more than 33% of the lot area. Exceptions may be considered for cluster and multi-family residential projects. For project designs that cluster the new structures on only a small portion of a large site, the percentage may be calculated using the entire site, rather than the lot size.
- ID12.2 Regulations set forth by the San Francisco Bay Regional Water Quality Control Board (RWQCB)³ shall apply to all new or redeveloped residential and commercial projects:
- a. If the project creates or replaces more than 10,000 square feet of impervious surface;
 - b. Relative to the 10,000 square foot threshold, if 50% or more of the existing impervious surface is replaced then 100% of the site must comply with Provision C.3 of the Town's Stormwater Permit; or
 - c. Relative to the 10,000 square foot threshold, if less than 50% of the existing impervious surface is replaced, then Provision C.3 of the Town's Stormwater Permit only applies to said portion.

Exemptions include: Single-family homes that are not part of a larger development and routine maintenance work such as replacement or resurfacing of roofs and pavements. All new projects must retain pre-project hydrology. All applicable developments must comply with Provision C.3 of the Town's Stormwater Permit. These requirements are separate from—and in addition to—any requirements for erosion and sediment control and for pollution prevention measures during construction (see also the Moraga Municipal Code section 13.04 and Town Council Resolution 9-96).

³ Please see the RWQCB Order No. 99-058 and Order No. R2-2003-0022.

- ID12.3 For developments whose site constraints prohibit the use of landscape infiltration, manufactured treatment systems can be inserted into the conventional storm drain system. A detailed Operation and Maintenance Plan must be submitted with the design application (see www.cccleanwater.org/construction for the *C.3 Stormwater Guidebook*). Options include:
- a. Catch basin or inlet inserts
 - b. Separators (oil-grit or oil-water)
 - c. Media filters (sand, gravel, peat, compost, activated carbon, fabric, or resin)
 - d. Various filtration treatment devices
- ID12.4 Drainage should follow natural flow patterns and, where appropriate, plans should develop wide area flow patterns, rather than concentrating flow at one point.
- ID12.5 In new development only BMP-treated stormwater shall be discharged into the Town's storm drain system.
- ID12.6 A sufficient number of drains should be provided for retaining wall backdrains and in the crawl space under the foundation to provide an outlet for water that may accumulate behind retaining walls and beneath the house and to drain any areas that may be divided by internal grade beams. Such drainage facilities shall be directed to a landscape area or manufactured treatment system prior to connecting to the storm drain system. Design shall be consistent with the Moraga Municipal Code section 13.04.060d.

ID13 NEW DEVELOPMENTS AND SUBDIVISIONS

- ID13.1 Subdivision layout should retain natural topographic features and maintain the Town's semi-rural character.
- ID13.2 The color schemes of homes on adjacent lots within 200 feet of one another should be compatible with and not duplicate one another.
- ID13.3 New road construction should adapt to topography and natural features.
- ID13.4 The impact of increased impervious surface of new roads should be mitigated by paving only the minimum width (20 feet), as required by the local Fire Department for roads that will not accommodate on-street parking. For streets with parking available on both sides the width shall be 36 feet.
- ID13.5 Stormwater should be treated before it enters the storm drain system.
- ID13.6 When appropriate, shared driveways should be used for neighboring clusters of houses and pervious parking areas shall be used.

- ID13.7 Sidewalks, crosswalks, and landscaped multi-use trails shall be incorporated into new developments to encourage alternatives to automobile use. Connections shall be made to adjacent neighborhoods and, where feasible, commercial areas.
- ID13.8 Utility lines for new subdivisions shall be installed underground to maintain natural vistas.
- ID13.9 Whenever possible, roads and driveways should be constructed parallel to existing topographic contours, and, if necessary, split in order to reduce the area of cut on hillsides or to preserve trees or other significant features.
- ID13.10 Street lighting in hillside and ridgeline areas should be unobtrusive and designed to reflect the natural surroundings.
- ID13.11 Hillside lots should be larger than lots on naturally level terrain.
- ID13.12 The same or similar elevations should not be placed within 300 feet of each other along the street without altering the direction of the roof.
- ID13.13 Residences in new subdivisions should meet Build It Green or equivalent requirements for new residences. The Build it Green requirements are attached herein as Appendix A

8 THOUGHTFULLY DESIGN SINGLE-FAMILY RESIDENTIAL NEIGHBORHOODS (SFR)

Residential development shall preserve the Town's existing scale, character, and quality, and provide an inviting pedestrian environment that promotes walking and biking between neighborhoods.

SFR1 SINGLE-FAMILY RESIDENTIAL SITE PLANNING

The following guidelines pertain to all single-family residential projects (new homes or additions):

- SFR1.1 Not more than two (2) two-story units should be placed side-by-side unless topographic and/or architectural considerations justify exceptions or unless the two-story portion of the house is not visible from off site. (Architectural considerations may include partial second stories and setback of second stories.)
- SFR1.2 Front setbacks should be varied, with no more than two adjacent units having the same setback. Setback variation shall be a minimum of three feet.
- SFR1.3 Accessory structures should complement the main structure unless the accessory structure cannot be seen from neighboring properties. Landscaping may be required to screen the accessory structures from view from off site.
- SFR1.4 On padded lots total building heights greater than 28 feet for two-story homes and 19 feet for single-story homes shall require special siting or design treatment to mitigate height.
- SFR1.5 The architectural design motif should continue on all sides of a building. This motif should be compatible with but distinct from adjacent homes.
- SFR1.6 Development of residential lots should take advantage of natural features and unique topography of the site through split level pads or natural contour grading.
- SFR1.7 Pervious surfacing is encouraged for all driveways. Driveways longer than 50' or wider than 16' should be constructed of pervious materials. See Guideline ID9.2. Multiple-car garages are encouraged to use flared driveways to minimize impervious surface coverage.
- SFR1.8 Where topography allows, driveways should slope toward a depressed lawn or other vegetated landscape feature to allow for biofiltration.
- SFR1.9 Circular or hammerhead driveways may be considered for homes that front on busy streets.

- SFR1.10 On padded lots there should be a minimum of 10' near level clearance area from any top or toe of a slope to any structure for access.¹ On padded lots there should be a minimum of 6' near level clearance area on any 3 sides of any building or structure.
- SFR1.11 There should be a near level area of at least 25' x 40', other than the front yard, for usable yard area.
- SFR1.12 On non-padded lots the house shall be designed to reflect the natural contours of the site, keeping grading to a minimum.
- SFR1.13 On padded lots walkways should be set back a minimum of one foot from the top of slope.

SFR2 SINGLE-FAMILY RESIDENTIAL BUILDING DESIGN

- SFR2.1 A harmonious relationship with the surrounding neighborhood should be created through the use of compatible design schemes and scale. See Appendix D for the single family residential floor area ratio (FAR) guidelines.
- SFR2.2 The color schemes of homes on adjacent lots should be compatible and not duplicate one another.
- SFR2.3 Exterior building design on all elevations should be coordinated with regard to color, texture, materials, finishes and architectural form and detailing to achieve design harmony and continuity.
- SFR2.4 The number of different materials on the exterior face of the building should be limited. Generally, a variety of masonry materials should be avoided. All chimneys on the same home should be similar in architectural style and materials.
- SFR2.5 Roof shape, color, and texture should harmonize with the color and architectural treatment of exterior walls.
- SFR2.6 The side yard setback shall be no less than the minimum permitted by the Zoning Ordinance and shall be increased by one additional foot for each foot of end wall height greater than 20 feet. End wall height is the maximum vertical height from finished grade to outer roof surface at the side yard. Chimneys, dormers, and other architectural elements are excepted from this limitation. The skirt wall is counted as part of the height measurement.

In any individual case, the Planning Commission or the Design Review Board may require a larger side yard, provided they can make appropriate findings relating to the following types of conditions:

- a. Major ridgeline (as defined by the General Plan);

¹ Clearance is measured from the exterior of the structure or any protruding portion (i.e., chimney, bay window, etc.) to the nearest point on the property line or change in slope, whichever is closer.

- b. Scenic corridor;
- c. General Plan land use or zoning designation;
- d. Proposed use of structure, in relation to surrounding uses;
- e. Visibility of structure(s) from off site, due to placement (or absence) of permanent screening;
- f. Elevation of the lot, compared with the elevation(s) of abutting street(s) and/or other properties;
- g. In fill lot or a lot adjacent to an established subdivision;
- h. Slope or grade of lot, in relation to abutting streets.

SFR2.7 Although the maximum height for any structure is set by the Zoning Ordinance at thirty-five feet, a lower height may be required, based on the special circumstances of an individual lot.

SFR2.8 Conscious efforts should be made to recognize building security as a design element in new construction.

SFR2.9 Any blank wall that is without windows and is more than 15 feet long or 180 square feet in area, whichever is less, should have special design treatment.

SFR2.10 The overall height of the deck skirt¹ should not exceed six feet, except for cantilevered decks from the second story. The maximum height for exposed posts supporting a ground level deck should be four feet where visible from off site.

SFR2.11 The following requirements specifically address skirt height treatment, when any portion of the skirt is visible off-site:

- a. Skirt heights of four feet or less need no special treatments;
- b. Skirt heights between four and six feet shall receive special treatment, such as water table trim, other patterns or different surface treatment which could include other building materials, all consistent with the overall architectural concept;
- c. The visible portion of a concrete footing or grade beam shall not exceed twelve inches above the lowest adjacent ground surface;
- d. No skirt height that is greater than six feet shall be visible off-site.

SFR2.12 Decks that require special consideration due to the topography and hillside design of the home, which includes decks from the first and second floor of the residences. Such decks should comply with the following standards:

- a. Decks that exceed 6 feet in height shall be substantially screened by landscaping. The Design Review Board may require the property owner to enter into a landscape installation and maintenance agreement with the Town.

¹ "Skirt height" is defined as the distance between the finished floor and the ground.

- b. Landscaping shall mitigate the visual impact of a deck as viewed from adjacent neighbors.
- c. Support posts should be setback from the face of the deck to minimize the height of posts and provide visual relief.
- d. Diagonal or cross bracing of support posts shall not be permitted.
- e. Decks shall be consistent with the scale and design of the home.

SFR2.13 The design of the mailbox should complement the style and materials of the principal building on the site.

SFR2.14 Roof leader drains shall be routed through a biofilter, sand filter, or plant box.

9 THOUGHTFULLY DESIGN MULTI-FAMILY RESIDENTIAL DEVELOPMENTS (MFR)

Multi-family developments should be centrally located, well designed, and appropriate to Moraga's semi-rural character.

MFR1 MULTI-FAMILY RESIDENTIAL SITE PLANNING

- MFR1.1 A harmonious design relationship should be achieved between existing and proposed adjoining developments by avoiding both excessive variety and monotonous repetition.
- MFR1.2 Storage yards, parking areas, service areas, and other ground-level paved areas should be screened from off-site views by perimeter and tree canopy planting.
- MFR1.3 Permanent trash enclosures should be located and designed to be in architectural harmony with the principal structures on the site. Exterior trash and storage areas, service yards, loading docks, and ramps should be screened from the view of all nearby streets and adjacent structures. Infiltration shall be avoided for all outdoor work or storage areas, such as loading docks, fueling areas, car or equipment washes, and garbage receptacles. All runoff from these areas shall be concentrated and routed to the sanitary sewer. Outdoor work areas shall have a perimeter berm to prevent stormwater inflows. Outdoor garbage receptacles (trash cans and dumpsters) shall be housed under a roof or other covered structure.
- MFR1.4 Air conditioning units and associated electrical and plumbing service connections should be screened by parapets, walls, fences, or other approved screening.
- MFR1.5 Utility transformers that are outside the public right-of-way should be placed underground and adequate access should be provided for proper maintenance. Any exception, proposing an above ground installation, must include adequate screening so as not to be viewable from the scenic corridor or other prominent public view and must be approved by the Planning Commission.
- MFR1.6 Multi-family housing developments shall provide adequate parking for residents and visitors. Parking lots shall be designed to make efficient use of space. Parking lot locations at the side or rear are encouraged.
- MFR1.7 New multi-family developments shall be situated near commercial centers, transit stops, parks, and schools. Public entry points shall be located close to the sidewalk to create a more pedestrian-oriented development.
- MFR1.8 Private and shared outdoor open space shall be provided for residents in new multi-family residential developments. This outdoor space should accommodate play areas for children and pets, picnic and barbeque facilities, and a visually appealing environment.

MFR2 MULTI-FAMILY RESIDENTIAL BUILDING DESIGN

- MFR2.1 Mechanical and electrical equipment, including rooftop units, should be designed as an integral part of the building or site design and be properly screened.
- MFR2.2 Exterior wall venting should complement the building design.
- MFR2.3 Roof penetrations should be visually minimized.
- MFR2.4 Roof leader drains shall be routed through a biofilter, sand filter, or plant box.
- MFR2.5 Accessory equipment capable of generating noise and vibrations should be properly insulated and the noise and vibrations should not be apparent from adjacent properties or the public right of way.
- MFR2.6 Large building masses should be avoided.
- MFR2.7 Architectural style should reflect and enhance the character of surrounding neighborhoods.

10 PROMOTE COMMERCIAL CENTERS AS COMMUNITY PLACES (CC)

High quality commercial districts should serve as important community focal points, gathering places, and activity centers.

CC1 COMMERCIAL SITE PLANNING

- CC1.1 A harmonious design relationship should be achieved between existing and proposed adjoining developments by avoiding both excessive variety and monotonous repetition.
- CC1.2 Storage yards, parking areas, service areas, and other ground-level paved areas should be screened from off-site views by perimeter and tree canopy planting.
- CC1.3 Permanent trash enclosures should be located and designed to be in architectural harmony with the principal structures on the site. Exterior trash and storage areas, service yards, loading docks, and ramps should be screened from the view of all nearby streets and adjacent structures. Infiltration shall be avoided for all outdoor work or storage areas, such as loading docks, fueling areas, and garbage receptacles. All runoff from these areas shall be directed to the storm drain system and the operations from these areas shall be conducted to prevent stormwater from becoming contaminated. If stormwater contamination cannot be prevented from the operations in these areas, they shall be connected to the sanitary sewer and effective engineering controls shall be used to ensure that no stormwater is discharged to the sanitary sewer system (e.g. roof over the process area, engineered diversion valve between the sanitary sewer system and storm drain system). The connection to the sanitary sewer system from these areas shall have the necessary pretreatment equipment to meet Central Contra Costa Sanitary District's standards (e.g. grease or oil/sand interceptor). Outdoor work areas shall have a perimeter berm to prevent stormwater inflows. Outdoor garbage receptacles (trash cans and dumpsters) shall be housed under a roof or other covered structure.
- CC1.4 Air conditioning units and associated electrical and plumbing service connections should be screened by parapets, walls, fences, or other approved screening.
- CC1.5 Utility transformers that are outside the public right-of-way shall be placed underground and adequate access shall be provided for proper maintenance. Any exception, proposing an above ground installation, must include adequate screening so as not to be viewable from the scenic corridor or other prominent public view and must be approved by the Planning Commission.
- CC1.6 Benches and other seating should be provided for the public at commercial centers. Attractive landscaping should be maintained around these seating areas to create an inviting social environment within the shopping district.

- CC1.7 Commercial centers should maintain a high level of pedestrian-oriented amenities, including:
- a. Sidewalks along storefronts and around the perimeter of the commercial center and between retail and office uses, ensuring a safe path for pedestrians around the center and to/from transit stops;
 - b. Safe walkways through parking lots that use different paving materials to differentiate between parking and pedestrian areas;
 - c. Clearly-marked crosswalks at appropriate locations in parking lots to allow pedestrian traffic to safely move through vehicle paths;
 - d. Permanent bicycle racks, benches, recycling and trash receptacles; and
 - e. Landscaping with flowering species and shade trees for summer months.

CC2 COMMERCIAL BUILDING DESIGN

- CC2.1 Mechanical and electrical equipment, including rooftop units, should be designed as an integral part of the building or site design and be properly screened.
- CC2.2 Exterior wall venting should be avoided.
- CC2.3 Roof penetrations should be minimized by grouping plumbing vents and ducts together and providing adequate screening from off site.
- CC2.4 Roof leader drains shall be routed through a biofilter, sand filter, or plant box.
- CC2.5 Accessory equipment capable of generating noise and vibrations should be properly insulated and the noise and vibrations shall not be apparent from adjacent properties or the public right of way.
- CC2.6 Large building masses should be avoided. Building setbacks may be varied to accommodate pedestrian-oriented facilities such as benches, café tables, and bike racks. Parking lot locations at the side or rear are encouraged. Entrances should be located close to the sidewalk to create a more pedestrian-oriented development.
- CC2.7 Architectural style should reflect and enhance the character of surrounding neighborhoods.

CC3 SIGNS

- CC3.1 All signs should be related to their surroundings in terms of size, shape, color, texture, and lighting so that they are complimentary to the overall design and not in competition with other signs in the area.
- CC3.2 Signs should be subtle and unobtrusive, conveying their message in a clear and legible fashion, and should be vandal- and weather-resistant.
- CC3.3 External spot or flood sign lighting shall be arranged so that the light source is screened from view, and so that the light is directed against the sign and does not shine onto adjacent property nor into the eyes of motorists or pedestrians.
- CC3.4 Lighted signs, whether internally or externally illuminated, should be avoided, except where found to be necessary for location or identification, or as otherwise deemed appropriate by these guidelines.
- CC3.5 Decorative product type signs, such as beer signs and informative type signs used for purposes of interior design only, are termed non-accessory signs. Such signs shall be erected only within the business establishment and shall be located no closer to an exterior window or open doorway than 6 feet.
- CC3.6 All lighted accessory signs (primarily business identification signs) whether or not neon, shall be submitted to the Design Review Board for approval and shall be in conformity with any approved sign and design policy for the center, building complex or area.
- CC3.7 Exposed neon tubing, whether for signing or decoration, is not normally considered in good taste for exterior display and is discouraged.
- CC3.8 Freestanding signs shall be integrated with the site plan and low level floodlights shall be screened.
- CC3.9 Struts, braces, kickbacks or guy wires to support signing should be avoided unless they are a feature of the design.
- CC3.10 Whenever site and visibility conditions allow, freestanding signs should be of a low profile.
- CC3.11 Tenant signs within the Rheem Shopping Center shall follow a uniform signing program, in accordance with these standards:
- a. A "major tenant" is defined as an occupant of 10,000 square feet or more. All "major tenant" signs shall be approved by the Design Review Board and shall have the following characteristics:
 - i. The sign shall be constructed with a redwood frame (trim) and with redwood faces front and back. It may be internally illuminated using the tenant's standard corporate/company logo. The wood trim and rear face

shall be stained to match the standard shopping center stain (Olympic stain no. 913). The redwood face containing the sign copy shall be stained to match Olympic stain no. 707.

- ii. No sign shall exceed two hundred square feet in total area.
 - iii. Signs shall normally be affixed below the roof ridgeline and may be attached to the fascia of the building. Specific details of attachment shall be as approved by the Design Review Board.
 - iv. No sign face shall exceed 4 feet, 6 inches in height.
 - v. Signs shall not be illuminated when the tenants are not open for business.
- b. Signing for other than major tenants:
- i. Basic criteria: The tenant identification on the sign board provided below the leading edge of the canopy and visible to the front of the building will utilize individual, raised, non-illuminated gold-leafed letters (8", Century Schoolbook, medium type) on the first line of copy and white letters (4" Helvetica type) on the second copy, if any.
 - ii. Basic size: Thickness----4 inches; Height----14 inches; Width----36 inches. Although other shapes may differ from basic dimensions, total area may not exceed five square feet per side.
 - iii. Construction standards:
 - 1) Constructed of laminated, vertical, 2"x4" clear, kiln-dried redwood
 - 2) Reinforced with two 3/8" threaded steel rods
 - 3) 3" outside borders sandblasted
 - 4) Copy, border bank, logo art, etc. raised with background hand carved out one full inch
 - 5) Sandblasted borders sealed with clear sealer
 - 6) Background area sealed with two coats of semi-gloss Varathane
 - 7) Border band flat white
 - iv. "Halo-type" lighted gold-leaf signs may be "back-lighted" in accordance with official exhibit approved by the Planning Commission on 4/19/82 and attached to Resolution 49-81. All halo-type signs shall have a front setback of not less than 50 feet and shall be subject to design review by the Design Review Board to assure design compatibility with the use that the sign is identifying as well as neighboring uses.
- c. Accessory and other miscellaneous signs required shall be approved by the Board, consistent with the overall general sign design theme for the center.
- d. Non-conforming signs shall be changed so as to conform as new leases are negotiated and/or tenants replaced.

APPENDIX A

Moraga Design Guidelines

Build It Green Single-Family GreenPoint Checklist

The GreenPoint Checklist offers builders, homeowners and municipalities a tool to assess how environmentally friendly or green a home is. This checklist is also the basis for Build It Green's third-party verification program – GreenPoint Rated. GreenPoint Rated was developed with the cooperation of local builders, city planners and building officials. Each green measure has been assigned a point value based on its benefits to the homeowners and the environment, as well as its ease of implementation.

A home can be considered green if it fulfills the prerequisites, earns at least 50 points and meets the minimum points per category: Energy (30), Indoor Air Quality/Health (5), Resources (6), and Water (9). You can obtain additional information on the Green Building Guidelines, GreenPoint Rated Manuals and most recent versions of the GreenPoint Checklists at GreenPointRated@BuilditGreen.org or call (510) 845-0472, ext. 604. The GreenPoint Rated program is updated every three years to coincide with changes to the California Building Energy Efficiency Standards. Currently, there are checklists for existing and new single family homes and for multifamily structures. The most current checklist for new single family homes (SF Data Collection Form v3.7) is printed on the following pages. Please contact Build It Green for a list of certified GreenPoint Raters if you are interested in obtaining a green home rating.

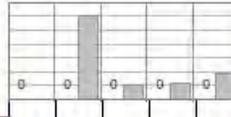
GreenPoint Rated Checklist: Single Family

The GreenPoint Rated checklist tracks green features incorporated into the home. A home is only GreenPoint Rated if all features are verified by a Certified GreenPoint Rater through Build It Green. GreenPoint Rated is provided as a public service by Build It Green, a professional non-profit whose mission is to promote healthy, energy and resource efficient buildings in California.

The minimum requirements of GreenPoint Rated are as follows: verification of 50 or more points; Earn the following minimum points per category: Energy (30), Indoor Air Quality/Health (5), Resources (6), and Water (9); and meet the prerequisites A.3.a (50% construction waste diversion), J.1 (Exceed Title 24 by 15%), and N.1 (Incorporate Green Point Rated checklist in blueprints).

The criteria for the green building practices listed below are described in the GreenPoint Rated Single Family Rating Manual. For more information please visit www.builditgreen.org/greenpointrated Single Family New Home 3.7

Total Points Achieved: 0



| Enter Project Name | | Points Achieved | Community | Energy | IAQ/Health | Resources | Water | Blueprint Page No. | Notes | |
|--|--|-------------------------------------|-----------|--------|------------|-----------|-------|--------------------|-------|--|
| A. SITE | | Possible Points | | | | | | | | |
| <input type="checkbox"/> No | 1. Protect Topsoil and Minimize Disruption of Existing Plants & Trees | 0 | 1 | | | | 1 | | | |
| <input type="checkbox"/> No | a. Protect Topsoil from Erosion and Reuse after Construction | 0 | 1 | | | | 1 | | | |
| <input type="checkbox"/> No | b. Limit and Delineate Construction Footprint for Maximum Protection | 0 | | | | | 1 | | | |
| <input type="checkbox"/> No | 2. Deconstruct Instead of Demolishing Existing Buildings On Site | 0 | | | 3 | | | | | |
| <input type="checkbox"/> No | 3. Recycle Job Site Construction Waste (Including Green Waste) | 0 | | | | R | | | | |
| <input type="checkbox"/> No | a. Minimum 50% Waste Diversion by Weight (Recycling or Reuse) - Required | 0 | | | | R | | | | |
| <input type="checkbox"/> No | b. Minimum 65% Diversion by Weight (Recycling or Reuse) | 0 | | | | 2 | | | | |
| <input type="checkbox"/> No | c. Minimum 80% Diversion by Weight (Recycling or Reuse) | 0 | | | | 2 | | | | |
| <input type="checkbox"/> No | 4. Use Recycled Content Aggregate (Minimum 25%) | 0 | | | | | | | | |
| <input type="checkbox"/> No | a. Walkway and Driveway Base | 0 | | | | 1 | | | | |
| <input type="checkbox"/> No | b. Roadway Base | 0 | | | | 1 | | | | |
| Total Points Available in Site = 12 | | 0 | | | | | | | | |
| B. FOUNDATION | | Points Available Per Measure | | | | | | | | |
| <input type="checkbox"/> No | 1. Replace Portland Cement in Concrete with Recycled Flyash or Slag | 0 | | | | 1 | | | | |
| <input type="checkbox"/> No | a. Minimum 20% Flyash or Slag | 0 | | | | 1 | | | | |
| <input type="checkbox"/> No | b. Minimum 25% Flyash or Slag | 0 | | | | 1 | | | | |
| <input type="checkbox"/> No | 2. Use Frost-Protected Shallow Foundation in Cold Areas (C.E.C. Climate Zone 16) | 0 | | | | 3 | | | | |
| <input type="checkbox"/> No | 3. Use Radon Resistant Construction [*Points automatically granted when project qualifies for measure J3: ES with IAQ] | 0 | | 1 | | | | | | |
| <input type="checkbox"/> No | 4. Design and Build Structural Pest Controls | 0 | | | | | | | | |
| <input type="checkbox"/> No | a. Install Termite Shields & Separate All Exterior Wood-to-Concrete Connections by Metal or Plastic Fasteners/Dividers [*Points automatically granted when project qualifies for measure J3: ES with IAQ] | 0 | | | | 1 | | | | |
| <input type="checkbox"/> No | b. All New Plants Have Trunk, Base, or Stem Located At Least 36 Inches from Foundation | 0 | | | | 1 | | | | |
| Total Points Available in Foundation = 8 | | 0 | | | | | | | | |
| C. LANDSCAPING | | Points Available Per Measure | | | | | | | | |
| <input type="checkbox"/> No | 1. Construct Resource-Efficient Landscapes | 0 | | | | | 1 | | | |
| <input type="checkbox"/> No | a. No Invasive Species Listed by Cal-IPC Are Planted | 0 | | | | | 1 | | | |
| <input type="checkbox"/> No | b. No Plant Species Will Require Hedging | 0 | | | | 1 | | | | |
| <input type="checkbox"/> No | c. 75% of Plants Are California Natives or Mediterranean Species or Other Appropriate Species | 0 | | | | | 3 | | | |
| <input type="checkbox"/> No | 2. Use Fire-Safe Landscaping Techniques | 0 | 1 | | | | | | | |
| <input type="checkbox"/> No | 3. Minimize Turf Areas in Landscape Installed by Builder | 0 | | | | | | | | |
| <input type="checkbox"/> No | a. All Turf Will Have a Water Requirement Less than or Equal to Tall Fescue (<= 0.8 plant factor) | 0 | | | | | 2 | | | |
| <input type="checkbox"/> No | b. Turf Shall Not Be Installed on Slopes Exceeding 10% or in Areas Less than 8 Feet Wide | 0 | | | | | 2 | | | |
| <input type="checkbox"/> No | c. Turf is <=33% of Landscaped Area (total 2 points) | 0 | | | | | 2 | | | |
| <input type="checkbox"/> No | d. Turf is <=10% of Landscaped Area (total 4 points) | 0 | | | | | 2 | | | |
| <input type="checkbox"/> No | 4. Plant Shade Trees | 0 | | | | | 3 | | | |
| <input type="checkbox"/> No | 5. Group Plants by Water Needs (Hydrozoning) | 0 | | | | | 2 | | | |
| <input type="checkbox"/> No | 6. Install High-Efficiency Irrigation Systems | 0 | | | | | | | | |
| <input type="checkbox"/> No | a. System Uses Only Low-Flow Drip, Bubblers, or Low-flow Sprinklers | 0 | | | | | 2 | | | |
| <input type="checkbox"/> No | b. System Has Smart (Weather-Based) Controllers | 0 | | | | | 3 | | | |
| <input type="checkbox"/> No | 7. Incorporate Two Inches of Compost in the Top 6 to 12 Inches of Soil | 0 | | | | | 3 | | | |
| <input type="checkbox"/> No | 8. Mulch All Planting Beds to the Greater of 2 Inches or Local Water Ordinance Requirement | 0 | | | | | 2 | | | |
| <input type="checkbox"/> No | 9. Use 50% Salvaged or Recycled-Content Materials for 50% of Non-Plant Landscape Elements | 0 | | | | 1 | | | | |
| <input type="checkbox"/> No | 10. Reduce Light Pollution by Shielding Fixtures and Directing Light Downward | 0 | 1 | | | | | | | |
| Total Points Available in Landscaping = 31 | | 0 | | | | | | | | |
| D. STRUCTURAL FRAME & BUILDING ENVELOPE | | Points Available Per Measure | | | | | | | | |
| <input type="checkbox"/> No | 1. Apply Optimal Value Engineering | 0 | | | | | | | | |
| <input type="checkbox"/> No | a. Place Rafters and Studs at 24-Inch On Center Framing | 0 | | | | | 1 | | | |
| <input type="checkbox"/> No | b. Size Door and Window Headers for Load | 0 | | | | | 1 | | | |
| <input type="checkbox"/> No | c. Use Only Jack and Cripple Studs Required for Load | 0 | | | | | 1 | | | |
| <input type="checkbox"/> No | 2. Use Engineered Lumber: | 0 | | | | | | | | |
| <input type="checkbox"/> No | a. Beams and Headers | 0 | | | | | 1 | | | |
| <input type="checkbox"/> No | b. Insulated Engineered Headers | 0 | | 1 | | | | | | |
| <input type="checkbox"/> No | c. Wood I-Joists or Web Trusses for Floors | 0 | | | | | 1 | | | |
| <input type="checkbox"/> No | d. Wood I-Joists for Roof Rafters | 0 | | | | | 1 | | | |
| <input type="checkbox"/> No | e. Engineered or Finger-Jointed Studs for Vertical Applications | 0 | | | | | 1 | | | |
| <input type="checkbox"/> No | f. Oriented Strand Board for Subfloor | 0 | | | | | 1 | | | |
| <input type="checkbox"/> No | g. Oriented Strand Board for Wall and Roof Sheathing | 0 | | | | | 1 | | | |
| <input type="checkbox"/> No | 3. Use FSC-Certified Wood | 0 | | | | | | | | |
| <input type="checkbox"/> No | a. Dimensional Lumber, Studs and Timber: Minimum 40% | 0 | | | | | 2 | | | |
| <input type="checkbox"/> No | b. Dimensional Lumber, Studs and Timber: Minimum 70% | 0 | | | | | 2 | | | |
| <input type="checkbox"/> No | c. Panel Products: Minimum 40% | 0 | | | | | 1 | | | |
| <input type="checkbox"/> No | d. Panel Products: Minimum 70% | 0 | | | | | 1 | | | |

| Enter Project Name | | Points Achieved | Community | Energy | IAQ/Health | Resources | Water | Disruptive Pgm. Inv. | Notes |
|---|---|-----------------|------------------------------|--------|------------|-----------|-------|----------------------|-------|
| 4. Use Solid Wall Systems (Includes SIPs, ICFs, & Any Non-Stick Frame Assembly) | | | | | | | | | |
| No | a. Floors | 0 | | 2 | | 2 | | | |
| No | b. Walls | 0 | | 2 | | 2 | | | |
| No | c. Roofs | 0 | | 2 | | 2 | | | |
| 5. Reduce Pollution Entering the Home from the Garage [*Points automatically granted when project qualifies for measure J3: ES with IAQ] | | | | | | | | | |
| No | a. Tightly Seal the Air Barrier between Garage and Living Area | 0 | | | 1 | | | | |
| No | b. Install Garage Exhaust Fan OR Build a Detached Garage | 0 | | | 1 | | | | |
| No | 6. Design Energy Heels on Trusses (75% of Attic Insulation Height at Outside Edge of Exterior Wall) | 0 | | 1 | | | | | |
| No | 7. Design Roof Trusses to Accommodate Ductwork | 0 | | 1 | | | | | |
| No | 8. Use Recycled-Content Steel Studs for 90% of Interior Wall Framing | 0 | | | | 1 | | | |
| No | 9. Thermal Mass Walls: 5/8-inch Drywall on All Interior Walls or Walls Weighing more than 40 lbs/sq. ft. | 0 | | 1 | | | | | |
| 10. Install Overhangs and Gutters | | | | | | | | | |
| No | a. Minimum 16-inch Overhangs and Gutters [*Points automatically granted when project qualifies for measure J3: ES with IAQ] | 0 | | | | 1 | | | |
| No | b. Minimum 24-inch Overhangs and Gutters | 0 | | 1 | | | | | |
| Total Points Available in Structural Building Frame and Envelope = 36 | | 0 | | | | | | | |
| E. EXTERIOR FINISH | | | Points Available Per Measure | | | | | | |
| No | 1. Use Recycled-Content (No Virgin Plastic) or FSC-Certified Wood Decking | 0 | | | | 2 | | | |
| No | 2. Install a Rain Screen Wall System | 0 | | | | 2 | | | |
| No | 3. Use Durable and Non-Combustible Siding Materials | 0 | | | | 1 | | | |
| No | 4. Use Durable and Non-Combustible Roofing Materials | 0 | | | | 2 | | | |
| Total Points Available in Exterior Finish = 7 | | 0 | | | | | | | |
| F. INSULATION | | | Points Available Per Measure | | | | | | |
| 1. Install Insulation with 75% Recycled Content | | | | | | | | | |
| No | a. Walls and Floors | 0 | | | | 1 | | | |
| No | b. Ceilings | 0 | | | | 1 | | | |
| 2. Install Insulation that is Low-Emitting (Certified Section 01350) | | | | | | | | | |
| No | a. Walls and Floors | 0 | | | 1 | | | | |
| No | b. Ceilings | 0 | | | 1 | | | | |
| No | 3. Inspect Quality of Insulation Installation Before Applying Drywall [*Points automatically granted when project qualifies for measure J3: ES with IAQ] | 0 | | 1 | | | | | |
| Total Points Available in Insulation = 5 | | 0 | | | | | | | |
| G. PLUMBING | | | Points Available Per Measure | | | | | | |
| 1. Distribute Domestic Hot Water Efficiently (Additive, Maximum 7 Points) | | | | | | | | | |
| No | a. Insulate Hot Water Pipes from Water Heater to Kitchen | 0 | | 1 | | | 1 | | |
| No | b. Insulate All Hot Water Pipes | 0 | | 1 | | | 1 | | |
| No | c. Use Engineered Parallel Piping | 0 | | | | | 1 | | |
| No | d. Use Engineered Parallel Piping with Demand Controlled Circulation Loop | 0 | | | | | 1 | | |
| No | e. Use Structured Plumbing with Demand Controlled Circulation Loop | 0 | | 1 | | | 2 | | |
| No | f. Use Central Core Plumbing | 0 | | 1 | | | 1 | | |
| No | 2. Install Only High Efficiency Toilets (Dual-Flush or 1.28 gpf) | 0 | | | | | 4 | | |
| Total Points Available in Plumbing = Total 11 | | 0 | | | | | | | |
| H. HEATING, VENTILATION & AIR CONDITIONING | | | Points Available Per Measure | | | | | | |
| 1. Design and Install HVAC System to ACCA Manual J, D, and S Recommendations [*Points automatically granted when project qualifies for measure J3: ES with IAQ] | | 0 | | 4 | | | | | |
| 2. Install Sealed Combustion Units [*Points automatically granted when project qualifies for measure J3: ES with IAQ] | | | | | | | | | |
| No | a. Furnaces | 0 | | | | 2 | | | |
| No | b. Water Heaters | 0 | | | | 2 | | | |
| No | 3. Install Zoned, Hydronic Radiant Heating | 0 | | 1 | 1 | | | | |
| No | 4. Install High Efficiency Air Conditioning with Environmentally Responsible Refrigerants | 0 | 1 | | | | | | |
| 5. Design and Install Effective Ductwork [*Sb, d, & e are automatically granted when project qualifies for measure J3: ES with IAQ] | | | | | | | | | |
| No | a. Install HVAC Unit and Ductwork within Conditioned Space | 0 | | 3 | | | | | |
| No | b. Use Duct Mastic on All Duct Joints and Seams | 0 | | 1 | | | | | |
| No | c. Install Ductwork under Attic Insulation (Buried Ducts) | 0 | | 1 | | | | | |
| No | d. Pressure Relieve the Ductwork System | 0 | | 1 | | | | | |
| No | e. Protect Ducts during Construction and Clean All Ducts before Occupancy | 0 | | 1 | | | | | |
| No | 6. Install High Efficiency HVAC Filter (MERV 6+) [*Points automatically granted when project qualifies for measure J3: ES with IAQ] | 0 | | | 1 | | | | |
| No | 7. Don't Install Fireplaces or Install Sealed Gas Fireplaces with Efficiency Rating NOT Less Than 60% using CSA Standards | 0 | | | 1 | | | | |
| 8. Install Effective Exhaust Systems in Bathrooms and Kitchens [*Sb,c are automatically granted when project qualifies for measure J3: ES with IAQ] | | | | | | | | | |
| No | a. Install ENERGY STAR Bathroom Fans Vented to the Outside | 0 | | | 1 | | | | |
| No | b. All Bathroom Fans Are on Timer or Humidistat | 0 | | | 1 | | | | |
| No | c. Install Kitchen Range Hood Vented to the Outside | 0 | | | 1 | | | | |
| 9. Install Mechanical Ventilation System for Cooling (Max. 4 Points) | | | | | | | | | |
| No | a. Install ENERGY STAR Ceiling Fans & Light Kits in Living Areas & Bedrooms | 0 | | 1 | | | | | |
| No | b. Install Whole House Fan with Variable Speeds | 0 | | 1 | | | | | |
| No | c. Automatically Controlled Integrated System | 0 | | 2 | | | | | |
| No | d. Automatically Controlled Integrated System with Variable Speed Control | 0 | | 3 | | | | | |
| 10. Install Mechanical Fresh Air Ventilation System (Maximum 3 Points) | | | | | | | | | |
| No | a. Any Whole House Ventilation System That Meets ASHRAE 62.2 | 0 | | | 2 | | | | |
| No | b. Install Air-to-Air Heat Exchanger that meets ASHRAE 62.2 [*Points automatically granted when project qualifies for measure J3: ES with IAQ] | 0 | | 1 | 2 | | | | |
| No | 11. Install Carbon Monoxide Alarm(s) [*Points automatically granted when project qualifies for measure J3: ES with IAQ] | 0 | | | 1 | | | | |
| Total Points Available in Heating, Ventilation and Air Conditioning = 30 | | 0 | | | | | | | |

| Enter Project Name | | Points Achieved | Community | Energy | IAQ/Health | Resources | Water | Blueprint Page No. | Notes |
|---|---|-----------------|------------------------------|--------|------------|-----------|-------|--------------------|-------|
| I. RENEWABLE ENERGY | | | | | | | | | |
| | | | Points Available Per Measure | | | | | | |
| NO | 1. Pre-Plumb for Solar Hot Water Heating | 0 | | 4 | | | | | |
| NO | 2. Install Solar Water Heating System | 0 | | 10 | | | | | |
| NO | 3. Install Wiring Conduit for Future Photovoltaic Installation & Provide 200 ft of South-Facing Roof | 0 | | 2 | | | | | |
| 4. Install Photovoltaic (PV) Panels | | | | | | | | | |
| NO | a. 30% of electric needs OR 1.2 kW (total 6 points) | 0 | | 6 | | | | | |
| NO | b. 60% of electric needs OR 2.4kW (total 12 points) | 0 | | 6 | | | | | |
| NO | c. 90% of electric need OR 3.6 kW (total 18 points) | 0 | | 6 | | | | | |
| Total Available Points in Renewable Energy = 28 | | 0 | | | | | | | |
| J. BUILDING PERFORMANCE | | | | | | | | | |
| | | | Points Available Per Measure | | | | | | |
| 1. Diagnostic Evaluations | | | | | | | | | |
| NO | a. House Passes Blower Door Test | 0 | | 1 | | | | | |
| [*Points automatically granted when project qualifies for measure J3: ES with IAQ] | | | | | | | | | |
| NO | b. House Passes Combustion Safety Backdraft Test | 0 | | 1 | | | | | |
| 2. Design and Build High Performance Homes - 15% above 2005 Title 24 - <i>Required</i> | | 0 | | ≥30 | | | | | |
| NO | 3. House Obtains ENERGY STAR with Indoor Air Package Certification - <i>Pilot Measure</i> (Total 45 points; read comment) | 0 | | 5 | 2 | | | | |
| Total Available Points in Building Performance = 39 | | 0 | | | | | | | |
| K. FINISHES | | | | | | | | | |
| | | | Points Available Per Measure | | | | | | |
| NO | 1. Design Entryways to Reduce Tracked in Contaminants | 0 | | 1 | | | | | |
| 2. Use Low-VOC or Zero-VOC Paint (Maximum 3 Points) | | | | | | | | | |
| NO | a. Low-VOC Interior Wall/Ceiling Points (<50gpl VOCs (Flat) & <150gpl VOCs (Non-Flat)) | 0 | | 1 | | | | | |
| NO | b. Zero-VOC: Interior Wall/Ceiling Points (<5 gpl VOCs (Flat)) | 0 | | 3 | | | | | |
| NO | 3. Use Low VOC, Water-Based Wood Finishes (<250 gpl VOCs) | 0 | | 2 | | | | | |
| NO | 4. Use Low-VOC Caulk and Construction Adhesives (<70 gpl VOCs) for All Adhesives | 0 | | 2 | | | | | |
| NO | 5. Use Recycled-Content Paint | 0 | | | | 1 | | | |
| 6. Use Environmentally Preferable Materials for Interior Finish: A) FSC-Certified Wood, B) Reclaimed, C) Rapidly Renewable, D) Recycled-Content or E) Finger-Jointed | | | | | | | | | |
| NO | a. Cabinets (50% Minimum) | 0 | | | | 1 | | | |
| NO | b. Interior Trim (50% Minimum) | 0 | | | | 1 | | | |
| NO | c. Shelving (50% Minimum) | 0 | | | | 1 | | | |
| NO | d. Doors (50% Minimum) | 0 | | | | 1 | | | |
| NO | e. Countertops (50% Minimum) | 0 | | | | 1 | | | |
| 7. Reduce Formaldehyde in Interior Finish (CA Section 01350) | | | | | | | | | |
| NO | a. Subfloor & Stair Treads (90% Minimum) | 0 | | 1 | | | | | |
| NO | b. Cabinets & Countertops (90% Minimum) | 0 | | 1 | | | | | |
| NO | c. Interior Trim (90% Minimum) | 0 | | 1 | | | | | |
| NO | d. Shelving (90% Minimum) | 0 | | 1 | | | | | |
| NO | 8. After Installation of Finishes, Test of Indoor Air Shows Formaldehyde Level <27ppb | 0 | | 3 | | | | | |
| Total Available Points in Finishes = 21 | | 0 | | | | | | | |
| L. FLOORING | | | | | | | | | |
| | | | Points Available Per Measure | | | | | | |
| 1. Use Environmentally Preferable Flooring: A) FSC-Certified Wood, B) Reclaimed or Refinished, C) Rapidly Renewable, D) Recycled-Content, E) Exposed Concrete. <i>Flooring Adhesives Must Have <70 gpl VOCs.</i> | | | | | | | | | |
| NO | a. Minimum 15% of Floor Area | 0 | | | | 1 | | | |
| NO | b. Minimum 30% of Floor Area | 0 | | | | 1 | | | |
| NO | c. Minimum 50% of Floor Area | 0 | | | | 1 | | | |
| NO | d. Minimum 75% of Floor Area | 0 | | | | 1 | | | |
| NO | 2. Thermal Mass Floors: Floor Covering Other than Carpet on 50% or More of Concrete Floors | 0 | | 1 | | | | | |
| NO | 3. Flooring Meets Section 01350 or CRI Green Label Plus Requirements (50% Minimum) [*Points automatically granted when project qualifies for measure J3: ES with IAQ] | 0 | | 2 | | | | | |
| Total Available Points in Flooring = 7 | | 0 | | | | | | | |
| M. APPLIANCES AND LIGHTING | | | | | | | | | |
| | | | Points Available Per Measure | | | | | | |
| 1. Install Water and Energy Efficient Dishwasher | | | | | | | | | |
| NO | a. ENERGY STAR (total 1 point) | 0 | | 1 | | | | | |
| NO | b. Dishwasher Uses No More than 6.5 Gallons/Cycle (total 1 points) | 0 | | | | | 1 | | |
| 2. Install ENERGY STAR Clothes Washing Machine with Water Factor of 6 or Less | | | | | | | | | |
| NO | a. Meets Energy Star and CEE Tier 2 requirements (modified energy factor 2.0, Water Factor 6.0 or less) (total 3 points) | 0 | | 1 | | | 2 | | |
| NO | b. Meets Energy Star and CEE Tier 3 requirements (modified energy factor 2.2, Water Factor 4.5 or less) (total 5 points) | 0 | | | | | 2 | | |
| 3. Install ENERGY STAR Refrigerator | | | | | | | | | |
| NO | a. ENERGY STAR Qualified & < 25 Cubic Feet Capacity | 0 | | 1 | | | | | |
| NO | b. ENERGY STAR Qualified & < 20 Cubic Feet Capacity | 0 | | 1 | | | | | |
| 4. Install Built-In Recycling Center and Composting Center | | | | | | | | | |
| NO | a. Built-In Recycling Center | 0 | | | | 2 | | | |
| NO | b. Built-In Composting Center | 0 | | | | 1 | | | |
| Total Available Points in Appliances and Lighting = 12 | | 0 | | | | | | | |
| N. OTHER | | | | | | | | | |
| | | | Points Available Per Measure | | | | | | |
| NO | 1. Incorporate GreenPoint Rated Checklist in Blueprints - <i>Required</i> | 0 | | | | R | | | |
| NO | 2. Develop Homeowner Manual of Green Features/Benefits [*Points automatically granted when project qualifies for measure J3: ES with IAQ] | 0 | | 1 | 1 | | 1 | | |
| Total Available Points in Other = 3 | | 0 | | | | | | | |
| O. COMMUNITY DESIGN & PLANNING (maximum 20 points in this section) | | | | | | | | | |
| | | | Points Available Per Measure | | | | | | |
| 1. Develop Infill Sites | | | | | | | | | |
| NO | a. Project is Located in a Built Urban Setting with Utilities in Place for Fifteen Years | 0 | 1 | | | 1 | | | |
| NO | b. Development is Located within 1/2 Mile of a Major Transit Stop | 0 | 2 | | | | | | |

| Enter Project Name | | Points Achieved | Community | Energy | MQ/Health | Resources | Water | Blueprint Page No. | Notes |
|--|--|-----------------|------------------------|--------|-----------|-----------|-------|--------------------|-------|
| 2. Cluster Homes & Keep Size in Check | | | | | | | | | |
| No | a. Cluster Homes for Land Preservation | 0 | 1 | | | 1 | | | |
| | b. Conserve Resources by Increasing Density (1 pt for every 5 u/s greater than 10 u/s) <i>Enter Project Density (in Units Per Acre)</i> | 0 | 10 | | | 2 | | | |
| No | c. Home Size Efficiency | 0 | | | | 9 | | | |
| | 3. Subdivision Layout & Orientation to Improve Natural Cooling and Passive Solar Attributes | 0 | 3 | 7 | | | | | |
| 4. Design for Walking & Bicycling | | | | | | | | | |
| | a. Pedestrian Access to Neighborhood Services within 1/4 Mile: 1) Community Center/Library; 2) Grocery Store; 3) School; 4) Day Care; 5) Laundry; 6) Medical; 7) Entertainment/Restaurants; 8) Post Office; 9) Place of Worship; 10) Bank. <i>Enter number of services</i> | 0 | 2 | | | | | | |
| No | b. Development is Connected with A Dedicated Pedestrian Pathway to Places of Recreational Interest within 1/2 mile | 0 | 1 | | | | | | |
| No | c. At Least Two of the Following Traffic-Calming Strategies: - Designated Bicycle Lanes are Present on Roadways; - Ten-Foot Vehicle Travel Lanes; - Street Crossings Closest to Site are Located Less Than 300 Feet Apart; - Streets Have Rumble Strips, Bulbouts, Raised Crosswalks or Refuge Islands | 0 | 2 | | | | | | |
| 5. Design for Safety & Social Gathering | | | | | | | | | |
| No | a. All Home Front Entrances Have Views from the Inside to Outside Callers | 0 | 1 | | | | | | |
| No | b. All Home Front Entrances Can be Seen from the Street and/or from Other Front Doors | 0 | 1 | | | | | | |
| No | c. Orient Porches (min. 100sf) to Streets and Public Spaces | 0 | 1 | | | | | | |
| 6. Design for Diverse Households | | | | | | | | | |
| No | a. All Homes Have at Least One Zero-Step Entrance | 0 | 1 | | | | | | |
| No | b. All Main Floor Interior Doors & Passageways Have a Minimum 32-Inch Clear Passage Space | 0 | 1 | | | | | | |
| No | c. Locate at Least a Half-Bath on the Ground Floor with Blocking in Walls for Grab Bars | 0 | 1 | | | | | | |
| No | d. Provide Full-Function Independent Rental Unit | 0 | 1 | | | | | | |
| | Total Achievable Points in Community Design & Planning = 20 | 0 | | | | | | | |
| P. INNOVATION (maximum 20 points in this section) | | | Possible Points | | | | | | |
| A. Site | | | | | | | | | |
| No | 1. Reduce Heat-Island Effect - Install light-colored, high albedo materials (solar reflectance index >= 0.3) for at least 50% of site's non-roof impervious surfaces | 0 | 1 | | | | | | |
| No | 2. Build on Designated brownfield site | 0 | 3 | | | | | | |
| B. Foundation [*Points automatically granted when project qualifies for measure J3: ES with IAQ] | | | | | | | | | |
| No | 1. Install a Foundation Drainage System | 0 | | | | 2 | | | |
| No | 2. Sealed and Moisture Controlled Crawlspace | 0 | | | 2 | | | | |
| C. Landscaping | | | | | | | | | |
| No | 1. Meets Bay-Friendly Landscape Program Requirement (mutually exclusive with P.C.2) | 0 | | | | 4 | | | |
| No | 2. Meets California-Friendly Landscape Program Requirement | 0 | | | | 4 | | | |
| | 3. Rain Water Harvesting System (1 point for <350 gallons, 2 points for > 350 gallons) | | | | | 2 | | | |
| No | a. Less than 350 gallon capacity | 0 | | | | 1 | | | |
| No | b. Greater than 350 gallon capacity | 0 | | | | 2 | | | |
| No | 4. Assess Site Climate, Exposure, Topography, and Drainage | 0 | | | | 1 | | | |
| No | 5. Perform a Soil Analysis | 0 | | | | 1 | | | |
| No | 6. Irrigation System Uses Recycled Wastewater | 0 | | | | 1 | | | |
| No | 7. FSC Certified, Recycled Plastic or Composite Lumber - Fencing: 70% | 0 | | | 1 | | | | |
| D. Structural Frame and Building Envelope | | | | | | | | | |
| | 1. Design, Build and Maintain Structural Pest and Rot Controls | | | | | | | | |
| No | a. Locate All Wood (Siding, Trim, Structure) At Least 12" Above Soil | 0 | | | | 1 | | | |
| No | b. All Wood Framing 3 Feet from the Foundation is Treated with Borates (or Use Factory-Impregnated Materials) OR Walls are Not Made of Wood | 0 | | | 1 | | | | |
| No | 2. Use Moisture Resistant Materials in Wet areas of Kitchen, Bathrooms, Utility Rooms, and Basements [*Points automatically granted when project qualifies for measure J3: ES with IAQ] | 0 | | | 1 | | | | |
| | 3. Use FSC Certified Engineered Lumber (3 points maximum) | | | | | | | | |
| No | a. Beams and Headers | 0 | | | | 1 | | | |
| No | b. Insulated Engineered Headers | 0 | | | | 1 | | | |
| No | c. Wood I-Joists or Web Trusses for Floors | 0 | | | | 1 | | | |
| No | d. Wood I-Joists for Roof Rafter | 0 | | | | 1 | | | |
| No | e. Engineered or Finger-Jointed Studs for Vertical Applications | 0 | | | | 1 | | | |
| No | f. Roof Trusses: 100% | 0 | | | | 1 | | | |
| | 4. FSC Certified Wood | | | | | | | | |
| No | a. Dimensional Lumber, Studs and Timber: 100% | 0 | | | | 2 | | | |
| No | b. Panel Products: 100% | 0 | | | | 2 | | | |
| E. Exterior Finish | | | | | | | | | |
| No | 1. Green Roofs (25% of roof area minimum) | 0 | 1 | 1 | | | | | |
| No | 2. Flashing Installation Techniques Specified [*Points automatically granted when project qualifies for measure J3: ES with IAQ] | 0 | | | | 1 | | | |
| F. Insulation | | | | | | | | | |
| G. Plumbing | | | | | | | | | |
| No | 1. Greywater Pre-plumbing (includes washing machine at minimum) | 0 | | | | 1 | | | |
| No | 2. Greywater System Operational (includes washing machine at minimum) | 0 | | | | 2 | | | |
| No | 3. Innovative Wastewater Technology (Constructed Wetland, Sand Filter, Aerobic System) | 0 | | | | 1 | | | |
| No | 4. Composting or Waterless Toilet | 0 | | | | 2 | | | |
| No | 5. Install Drain Water Heat-recovery System | 0 | | 1 | | | | | |
| | 6. Install Water Efficient Fixtures | | | | | | | | |
| No | a. Showerheads or Shower Towers Use <2.0 Gallons Per Minute (GPM) Total | 0 | | | | 1 | | | |
| No | b. Faucets - bathrooms <1.5 gpm | 0 | | | | 1 | | | |
| No | c. Faucets - Kitchen & Utility <2.0 gpm | 0 | | | | 1 | | | |
| H. Heating, Ventilation, and Air Conditioning | | | | | | | | | |
| No | 1. Humidity Control Systems (only in California humid/marine climate zones 1,3,5,6,7) | 0 | | | 1 | | | | |

| Enter Project Name | | Points Achieved | Community | Energy | IAQ/Health | Resources | Water | Blueprint Page No. | Notes |
|---|--|-----------------|-----------|----------|------------|-----------|----------|--------------------|-------|
| I. Renewable Energy | | | | | | | | | |
| No | 1. Extraordinary Passive Solar Design (> 50% of load) That is Not Already Reflected in T-24 Modeling | 0 | | 5 | | | | | |
| J. Building Performance | | | | | | | | | |
| No | 1. Test Total Supply Air Flow Rates | 0 | | 1 | | | | | |
| 2. Energy Analysis Design Review | | | | | | | | | |
| No | a. Title-24 prepared and signed by CABEC Certified Energy Analyst | 0 | | 1 | | | | | |
| No | b. Participation in utility incentive program | 0 | | 1 | | | | | |
| K. Finishes | | | | | | | | | |
| 1. Use Environmentally Preferable Materials for Interior Finishes | | | | | | | | | |
| No | a. Cabinets (80% minimum) | 0 | | | | 1 | | | |
| No | b. Interior Trim (80% minimum) | 0 | | | | 1 | | | |
| No | c. Shelving (80% minimum) | 0 | | | | 1 | | | |
| No | d. Doors (80% minimum) | 0 | | | | 1 | | | |
| No | e. Countertops (80% minimum) | 0 | | | | 1 | | | |
| L. Flooring | | | | | | | | | |
| No | 1. Flooring Meets Section 01350 or CRI Green Label Plus Requirements (80% Minimum) [*Points automatically granted when project qualifies for measure J3: ES with IAQ] | 0 | | | 1 | | | | |
| M. Appliances | | | | | | | | | |
| N. Other | | | | | | | | | |
| No | 1. Homebuilder's Management Staff are Certified Green Building Professionals | 0 | 1 | | | | | | |
| No | 2. Detailed Durability Plan [*Points automatically granted when project qualifies for measure J3: ES with IAQ] | 0 | | | | 2 | | | |
| No | 3. Third-Party Verification of Implementation of Durability Plan | 0 | | | | 2 | | | |
| I | 4. Materials Sourced, Processed and Manufactured Within a 500 Mile Radius of the Home | 0 | 1+ | | | | | | |
| No | 5. Comprehensive Owner's Manual and Homeowner Educational Walkthroughs | 0 | | 1 | | | | | |
| 6. Additional Innovations: Points to be assessed by Build It Green and GreenPoint Rated. | | | | | | | | | |
| No | a. Describe Innovation Here, and Enter Possible Points in Columns L-P | 0 | | | | | | | |
| No | b. Describe Innovation Here, and Enter Possible Points in Columns L-P | 0 | | | | | | | |
| No | c. Describe Innovation Here, and Enter Possible Points in Columns L-P | 0 | | | | | | | |
| No | d. Describe Innovation Here, and Enter Possible Points in Columns L-P | 0 | | | | | | | |
| No | e. Describe Innovation Here, and Enter Possible Points in Columns L-P | 0 | | | | | | | |
| No | f. Describe Innovation Here, and Enter Possible Points in Columns L-P | 0 | | | | | | | |
| No | g. Describe Innovation Here, and Enter Possible Points in Columns L-P | 0 | | | | | | | |
| No | h. Describe Innovation Here, and Enter Possible Points in Columns L-P | 0 | | | | | | | |
| Total Achievable Points in Innovation = 20 | | 0 | | | | | | | |
| Summary | | | | | | | | | |
| Total Available Points in Specific Categories | | | 32+ | 125+ | 51+ | 103+ | 71+ | | |
| Minimum Points Required in Specific Categories | | | 0 | 30 | 5 | 6 | 9 | | |
| Total Points Achieved | | | 0 | 0 | 0 | 0 | 0 | | |

Project has not yet met the following recommended minimum requirements:

- Total Project Score of At Least 50 Points
- Required measures:
 - A3a: 50% waste diversion by weight
 - J2: 15% above Title 24
 - N1: Incorporate GreenPoint Rated Checklist into blueprints
- Minimum points in specific categories:
 - Energy (30 points)
 - IAQ/Health (5 points)
 - Resources (6 points)
 - Water (9 points)

APPENDIX B

Moraga Design Guidelines

**Planting Palettes from the Moraga Transportation
Corridor Streetscape Plan and
Drought Tolerant, Fire Resistant Native Trees and Shrubs**

Planting and Character

Moraga Character

The Town of Moraga is nestled in rolling California hills. It has a distinct sense of place, connected to its natural setting. It has a semi-rural feel, and is characterized by the use of natural materials, such as stone and wood, and by the predominance native plants. Beautification projects should build on these aspects of Moraga’s identity. The images on this page show examples of existing elements in the Town.



Plant palettes

The Town of Moraga is characterized by predominantly native plantings. The use of natives has numerous advantages and benefits, including:

- Integrating the community into the natural surroundings
- Suitability to the local climate and soil conditions
- Lower water and maintenance requirements
- Habitat value
- Emphasizing and highlighting Moraga’s “sense of place”



The Town of Moraga encourages planting of native species over non-native species and encourages applicants to refer to the Native Plant Society website at www.nps.org to check that the plants that you select are not invasive species.



Plantings for the Moraga area fall within several general groupings or “palettes,” which may be appropriate in different contexts. In some circumstances, it may be appropriate to use non-native plants that are horticulturally compatible with Moraga’s climate and soils. For example, non-natives may be more suitable as street trees planted in sidewalk cutouts, or as accent planting at commercial areas.



The following pages give examples of plant palettes appropriate for use along Moraga’s scenic corridors.

Oak Palette

The oak palette is the predominant plant grouping which occurs naturally in the Moraga area. Plants from this group are appropriate on hillside locations, sunny open areas, and along the tops of stream banks. Excessive water during the normally dry summer periods may cause root fungus in oaks, so they should not be planted adjacent to lawns or other areas that will be watered regularly during summer months.

OAK PALETTE

| Scientific Name | Common Name | Deer Resistant | Native Plant | Low Water | Maintenance |
|---------------------------------------|-------------------------|----------------|--------------|-----------|-------------|
| Tree | | | | | |
| <i>Aesculus californica</i> | California Buckeye | * | * | * | L* |
| <i>Cercis occidentalis</i> | Western redbud | * | * | * | L* |
| <i>Quercus agrifolia</i> | Coast Live Oak | * | * | * | L* |
| <i>Quercus illex</i> | Holly Oak | * | * | * | L* |
| <i>Quercus suber</i> | Cork Oak | * | * | * | L* |
| Shrubs | | | | | |
| <i>Arbutus unedo</i> 'Compacta' | Strawberry Tree | * | * | * | L |
| <i>Arctostaphylos</i> spp. | Manzanita | * | * | * | L |
| <i>Arctostaphylos</i> | Vine Hill Manzanita | * | * | * | L |
| <i>Berberis</i> spp. | | * | * | * | L |
| <i>Carpenteria californica</i> | Bush Anemone | * | * | * | L |
| <i>Ceanothus</i> spp. | Wild Lilac | * | * | * | L |
| <i>Cistus</i> sp. | Rockrose | * | * | * | L |
| <i>Correa</i> sp. | Australian Fuchsia | * | * | * | L |
| <i>Cotoneaster</i> 'Low Fast' | Bearberry Cotoneaster | * | * | * | L |
| <i>Dendromecon harfordii</i> | Island Bush Poppy | * | * | * | L |
| <i>Eriogonum</i> species | Wild Buckwheat | * | * | * | L |
| <i>Fragaria</i> spp. | Ornamental Strawberry | * | * | * | L |
| <i>Fremontodendron</i> cvs | Flannel Bush | * | * | * | L |
| <i>Garrya elliptica</i> | Coast Silktassel | * | * | * | L |
| <i>Heteromeles arbutifolia</i> | California Holly | * | * | * | L |
| <i>Myrica californica</i> 'Compacta' | Pacific Wax Myrtle | * | * | * | L |
| <i>Prunus ilicifolia</i> | Hollyleaf Cherry | * | * | * | L |
| <i>Prunus lyonii</i> | Catalina Cherry | * | * | * | L |
| <i>Rhamnus californica</i> 'Eve Care' | Coffeeberry | * | * | * | L |
| <i>Rhamnus crocea</i> | Redberry | * | * | * | L |
| <i>Rhus integrifolia</i> | Lemonade Berry | * | * | * | L |
| <i>Rhus ovata</i> | Sugar Bush | * | * | * | L |
| <i>Ribes indecorum</i> | White Flowering Currant | * | * | * | L |
| <i>Ribes malvaceum</i> | Chaparral Currant | * | * | * | L |
| <i>Ribes</i> spp. | Currant, Gooseberry | * | * | * | L |
| <i>Sarcococca ruscifolia</i> | | * | * | * | L |
| <i>Salvia clevelandii</i> | California Blue Sage | * | * | * | L |
| Low Shrubs | | | | | |
| <i>Arctostaphylos edmundsii</i> & cvs | Little Sur Manzanita | * | * | * | L |
| <i>Arctostaphylos hookeri</i> & cvs | Monterey Manzanita | * | * | * | L |
| <i>Baccharis pilularis</i> cvs | Dwarf Coyote Brush | * | * | * | L |
| <i>Ceanothus griseus horizontalis</i> | Carmel Creeper | * | * | * | L |
| <i>Ceanothus</i> | | * | * | * | L |

L: Low maintenance - annual cleanup

L*: Annual pruning first two years to establish proper branching habit

AM: Annual mowing or cutback

AP: Annual pruning

HP: Multiple prunings per year

| | | | | | |
|-----------------------------------|-------------------------------------|---|---|---|----|
| Correa pulchella | | • | • | | L |
| Cotoneaster dammeri 'Lowfast' | Bearberry Cotoneaster | • | | • | L |
| Cotoneaster salicifolius 'Repens' | Willowleaf Cotoneaster | • | | • | L |
| Cotoneaster spp. | Cotoneaster | • | | • | L |
| Galvezia speciosa | Island Bush Snapdragon | | • | • | L |
| Keckiella cordifolia | | | • | • | L |
| Mahonia aquifolium 'Compacta' | Oregon Grape | • | • | | L |
| Myrtus communis | Myrtle | • | | • | L |
| Ribes speciosum | Fuchsia-Flowering Gooseberry | • | • | • | L |
| Ribes viburnifolium | Catalina Perfume, Everbreen Currant | • | • | • | L |
| Santolina | | • | | | L |
| Sollya heterophylla | Australlian Bluebell Creeper | • | | • | L |
| Symphorocarpus spp. | Snowberry, Coralberry | • | • | • | L |
| | | | | | |
| Perennials | | | | | |
| Mimulus spp. | Sticky Monkey Flower | • | • | • | L |
| Heuchera maxima & hybrids | Island Alum Root | • | • | | L |
| Iris douglasiana | | • | • | | L |
| Penstemon heterophylla | | • | • | | L |
| Penstemon species | Beard Tongue | • | • | | L |
| Romneya coulteri & cultivars | Matilija Poppy | • | • | • | L |
| Salvia spp. | Sage | • | | • | L |
| | | | | | |
| Grass | | | | | |
| Muhlenbergia rigens | Deer Grass | • | • | • | AM |
| | | | | | |
| Ground Cover | | | | | |
| Erigeron Karvinskianus | Santa Barbara Daisy | | | • | AM |
| Fragaria spp. | | | • | • | L |
| Geranium spp. | | • | | • | L |
| Rubus pentalobus | Bramble | | | | L |



Redwood Palette

The redwood palette is appropriate in canyon and valley settings. Redwoods need summer irrigation at least for the first 5 years, and hot dry locations inhibit their growth.

REDWOOD PALETTE

| Scientific Name | Common Name | Deer Resistant | Native Plant | Low Water | Maintenance |
|---|-------------------------------|----------------|--------------|-----------|-------------|
| Tree | | | | | |
| <i>Acer circinatum</i> | Vine Maple | • | • | | L* |
| <i>Acer macrophyllum</i> | Big Leaf Maple | | • | | L* |
| <i>Arbutus menziesii</i> | Madrone, Madrona | • | • | • | L* |
| <i>Cercis occidentalis</i> | Western Redbud | • | • | • | L* |
| <i>Cornus canadensis</i> | Dogwood | | | • | L* |
| Large Shrub | | | | | |
| <i>Calycanthus occidentalis</i> | Spice Bush | • | • | • | L |
| <i>Philadelphus lewisii</i> | Wild Mock Orange | | • | • | L |
| <i>Rhododendron</i> spp. | | • | • | | AP |
| <i>Ribes sanguineum</i> | | • | • | | L |
| <i>Ribes</i> spp. (<i>aureum</i> , <i>viburnifolium</i> , <i>speciosum</i>) | Currant, Gooseberry | • | • | • | L |
| <i>Woodwardia fimbriata</i> | Giant Chain Fern | • | • | | L |
| Small Shrub | | | | | |
| <i>Anemone hybrida</i> | Japanese Anemone | • | | | L |
| <i>Carpenteria californica</i> | Bush Anemone | • | • | • | L |
| <i>Gaultheria shallon</i> | Salal | • | • | • | L |
| Perennials | | | | | |
| <i>Brunnera macrophylla</i> | Brunnera | | | | L |
| <i>Dicentra formosa</i> | Western Bleeding Heart | • | • | | L |
| <i>Helleborus</i> spp. | | • | | | L |
| <i>Heuchera</i> spp. | Coral Bells, Alum Root | • | • | • | L |
| <i>Helichrysum petiolare</i> | Licorice Plant | • | | | L |
| Ground Cover | | | | | |
| <i>Asarum caudatum</i> | Wild Ginger | | • | | L |
| <i>Bergenia</i> spp. | | • | | | L |
| <i>Fragaria</i> spp. | Ornamental Strawberry | • | • | | L |
| <i>Iris douglasiana</i> | | • | • | • | L |
| <i>Lamium maculatum</i> | Spotted Nettle | | | | L |
| <i>Oxalis oregana</i> | Redwood Sorrel, Oregon Oxalis | | • | | L |
| <i>Polystichum munitum</i> | Sword Fern | • | • | | L |
| <i>Symphoricarpos</i> spp. | Snowberry, Coralberry | • | • | • | L |
| Grass | | | | | |
| <i>Carex</i> spp. | Sedge | • | • | | AM |
| <i>Juncus</i> spp. | Rush | • | • | | AM |

L: Low maintenance - annual cleanup

L*: Annual pruning first two years to establish proper branching habit

AM: Annual mowing or cutback

AP: Annual pruning

HP: Multiple prunings per year

REDWOOD PALETTE



Traditional Palette

Many non-native plants commonly used in landscape applications are well suited for Moraga's climate, and may be appropriate where particular shapes, forms, or colors are desired. This traditional palette may be appropriate in commercial areas, or along streetscapes with a more suburban feel. They often add color and interest and may be used for emphasizing focal areas.

TRADITIONAL PALETTE

| Scientific Name | Common Name | Deer Resistant | Native Plant | Low Water | Maintenance |
|---|-------------------------|----------------|--------------|-----------|-------------|
| Tree | | | | | |
| <i>Fraxinus oxycarpa</i> 'Raywood' | Raywood Ash | | | | L* |
| <i>Magnolia grandiflora</i> | Southern Magnolia | * | | | L* |
| <i>Pistachia chinensis</i> | Chinese Pistache | * | | | L* |
| <i>Prunus</i> 'Krauter Vesuvius' | Flowering Plum | | | | L* |
| <i>Pyrus calleryana</i> 'Bradford' | Bradford Pear | | | | L* |
| <i>Robinia ambigua</i> 'Idahoensis' | Idaho Locust | | | | L* |
| <i>Ulmus parvifolia</i> | Chinese Elm | | | | L* |
| Medium Shrubs | | | | | |
| <i>Arbutus unedo</i> 'Compacta' | Compact Strawberry Bush | * | | * | AP |
| <i>Callistemon</i> 'Little John' | Dwarf Bottlebrush | * | | * | L |
| <i>Cistus</i> sp. | White Rock Rose | * | | * | L |
| <i>Coleonema</i> spp. | Breath of Heaven | | | * | L |
| <i>Daphne odora</i> | Winter Daphne | * | | * | L |
| <i>Dietes vegeta</i> | African Iris | * | | | L |
| <i>Escallonia</i> sp. | Escallonia | | | * | L |
| <i>Euryops pectinatus</i> | | * | | * | L |
| <i>Gaura lindheimerii</i> | Gaura | | | | L |
| <i>Grevillea</i> 'Noelii' | | * | | * | L |
| <i>Lavandula</i> sp. | Lavender | * | | * | L |
| <i>Myrtus communis</i> | Myrtle | * | | * | AP |
| <i>Nandina domestica</i> | Heavenly Bamboo | | | * | L |
| <i>Perovskia atriplicifolia</i> | Russian Sage | * | | * | L |
| <i>Phormium tenax</i> sp. | New Zealand Flax | * | | * | L |
| <i>Pittosporum tobira</i> 'Wheeler's Dwarf' | Dwarf Mock Orange | | | * | L |
| <i>Teucrium fruticans</i> | Bush Germander | * | | * | L |
| <i>Viburnum tinus</i> | Laurustinus | | | | AP |

| | | | | | |
|---|-----------------------------|---|---|---|----|
| Low Shrubs | | | | | |
| <i>Agapanthus</i> sp. | Lily of the Nile | * | | | L |
| <i>Buxus microphylla</i> var. <i>japonica</i> | Japanese Boxwood | | | | HP |
| <i>Carex</i> sp. | Sedge | | * | | L |
| <i>Coreopsis</i> spp. | Coreopsis | | | | L |
| <i>Correa</i> sp. | Australian Fuchsia | | | * | L |
| <i>Geranium</i> spp. | Hardy Scented Geranium | | | | L |
| <i>Hemerocallis</i> evergreen | Day Lily | * | | | L |
| <i>Heuchera sanguinea</i> | Coral Bells | | * | * | L |
| <i>Iris douglasiana</i> | Pacific Coast Iris | * | * | | L |
| <i>Kniphofia uvaria</i> | Devil's Poker/Red Hot Poker | | | * | L |
| <i>Lantana</i> sp. | Lantana | | | * | L |
| <i>Limonium perezii</i> | Statice | | | * | L |
| <i>Liriope muscari</i> | Lily Turf | * | | * | L |
| <i>Muhlenbergia rigens</i> | Deer Grass | * | * | | L |
| <i>Myrtus communis</i> 'Compacta' | Dwarf Myrtle | * | | * | AP |
| <i>Nepeta</i> sp. | Catnip | * | | * | L |
| <i>Penstemon</i> sp. | Penstemon | * | * | | L |
| <i>Santolina</i> sp. | Lavender Cotton | * | | * | L |
| <i>Scaevola</i> 'Mauve Clusters' | Fan Flower | | | * | L |
| <i>Stipa</i> sp. | Needle Grass | * | | * | L |
| <i>Teucrium chamaedrys</i> | Germander | * | | * | L |
| <i>Tulbaghia violacea</i> 'Silver Lace' | Society Garlic | * | | | L |
| <i>Viburnum tinus compacta</i> | Viburnum | | | | AP |

| | | | | | |
|---------------------------------|--------------------------|---|---|---|----|
| Groundcovers | | | | | |
| Acacia redolens | | • | | • | L |
| Ajuga reptans | Carpet Bugle | • | | | L |
| Carpobrotus | Sea Fig | • | | • | L |
| Ceanothus sp. | California Lilac | • | • | • | L |
| Ceratostigma plumbaginoides | Dwarf Plumbago | • | | • | L |
| Coprosoma kirkii 'Verde Vista' | Prostrate Mirror Plant | • | | • | L |
| Cotoneaster 'Low Fast' | Cotoneaster | • | | • | L |
| Delosperma alba | White Trailing Ice Plant | • | | • | L |
| Drosanthernum floribundum rosea | Ice Plant | • | | • | L |
| Erigeron karvinskianus | Santa Barbara Daisy | • | • | • | AM |
| Festuca glauca | California Fescue | • | • | • | AM |
| Gazania | Orange Gazania | | | | L |
| Myoporum parvifolium prostrate | Myoporum | | | • | L |
| Oenothera speciosa childsii | Mexican Evening Primrose | | | • | L |
| Osteospermum fruticosum | African Daisy | • | | • | AM |
| Rosa 'Carpet Rose' | Carpet Rose | | | | L |
| Rosmarinus officinalis | Rosemary | • | | • | L |
| Trachelospermum asiaticum | Asiatic Jasmine | | | | L |
| Trachelospermum jaminoides | Star Jasmine | • | | | AM |
| Vinca minor | Dwarf Periwinkle | | | | L |
| Viola labradorica | | | • | | L |

TRADITIONAL PALETTE



Grasses and Bioswale

Bioswale planting must be adaptable to high moisture during winter months as well as dry summer conditions. The bioswale and grass palette includes plants that help filter stormwater runoff. Many are seasonal grasses that will turn dry in summer months without supplemental irrigation, as do Moraga’s grassy hillsides.

BIOSWALES

| Scientific Name | Common Name | Deer Resistant | Native Plant | Low Water | Maintenance |
|--|---------------------|----------------|--------------|-----------|-------------|
| <i>Acorus gramineus</i> | Japanese Sweet Flag | • | | | L |
| <i>Carex</i> spp. | Sedge | • | • | • | L |
| <i>Hemerocallis</i> spp. | Daylily | • | | • | L |
| <i>Juncus</i> spp. | Rush | | • | | L |
| <i>Molinia caerulea</i> 'Moor Flamme', 'Variegata' | Moor Grass | • | | | L |
| <i>Panicum virgatum</i> | Switch Grass | • | | | L |

SWALES & GRASSES



Drought Tolerant, Fire Resistant, Native Tree and Shrub Species

| Native Trees | |
|---|---|
| California Buckeye (<i>Aesculus californica</i>) | California Sycamore (<i>Platanus racemosa</i>) |
| Incense-cedar (<i>Calocedrus decurrens</i>) | Hollyleaf Cherry (<i>Prunus ilicifolia</i>) |
| Western Redbud (<i>Cercis occidentalis</i>) | Blue Oak (<i>Quercus douglasii</i>) |
| Mountain Mahogany (<i>Cercocarpus</i>) | California Black Oak (<i>Quercus kelloggii</i>) |
| Desert Willow (<i>Chilopsis linearis</i>) | Valley Oak (<i>Quercus lobata</i>) |
| Ash (<i>Fraxinus</i>) | Sumac (<i>Rhus parvifolia</i>) |
| Toyon (<i>Heteromeles arbutifolia</i>) | Elderberry (<i>Sambucus mexicana</i>) |
| Catalina Ironwood (<i>Lyonothamnus floribundus</i>) | California Redwood (<i>Sequoia semperviens</i>) |
| Pacific Wax Myrtle (<i>Myrica californica</i>) | |

| Native Shrubs | |
|--|--|
| California Buckeye (<i>Aesculus californica</i>) | Mahonia (<i>Mahonia repens</i>) |
| Manzanita (<i>Arctostaphylos</i>) | Bush Mallow (<i>Malacothamnus</i>) |
| Artemesia (<i>Artemesia</i>) | Wax Myrtle (<i>Myrica</i>) |
| Saltbrush (<i>Atriplex</i>) | Wild Mock Orange (<i>Philadelphus lewisii</i>) |
| Bush Anemone (<i>Carpenteria</i>) | Hollyleaf Cherry (<i>Prunus ilicifolia</i>) |
| California Lilacs (<i>Ceanothus</i>) | Oak (<i>Quercus</i>) |
| Western Redbud (<i>Cercis occidentalis</i>) | Rhamnus (<i>Rhamnus</i>) |
| Mountain Mahogany (<i>Cercocarpus</i>) | Sumac (<i>Rhus parvifolia</i>) |
| Desert Willow (<i>Chilopsis linearis</i>) | Currant (<i>Ribes</i>) |
| Bush Poppy (<i>Dendromecon rigida</i>) | Rose (<i>Rosa</i>) |
| Encelia (<i>Encelia</i>) | Bramble (<i>Rubus</i>) |
| Flannel Bush (<i>Fremontodendron</i>) | Sage (<i>Salvia</i>) |
| Silktassel (<i>Garrya</i>) | Elderberry (<i>Sambucus</i>) |
| Toyon (<i>Heteromeles arbutifolia</i>) | Solanum (<i>Solanum</i>) |
| Cream Bush (<i>Holodiscus</i>) | Snowdrop Bush (<i>Styrax</i>) |
| Tree Mallow (<i>Lavatera assurgentifolia</i>) | Snowberry (<i>Symphoricarpos</i>) |
| Pitcher Sage (<i>Lepechinia</i>) | Woolly Blue Curls (<i>Trichostema</i>) |
| Lupine (<i>Lupinus</i>) | |

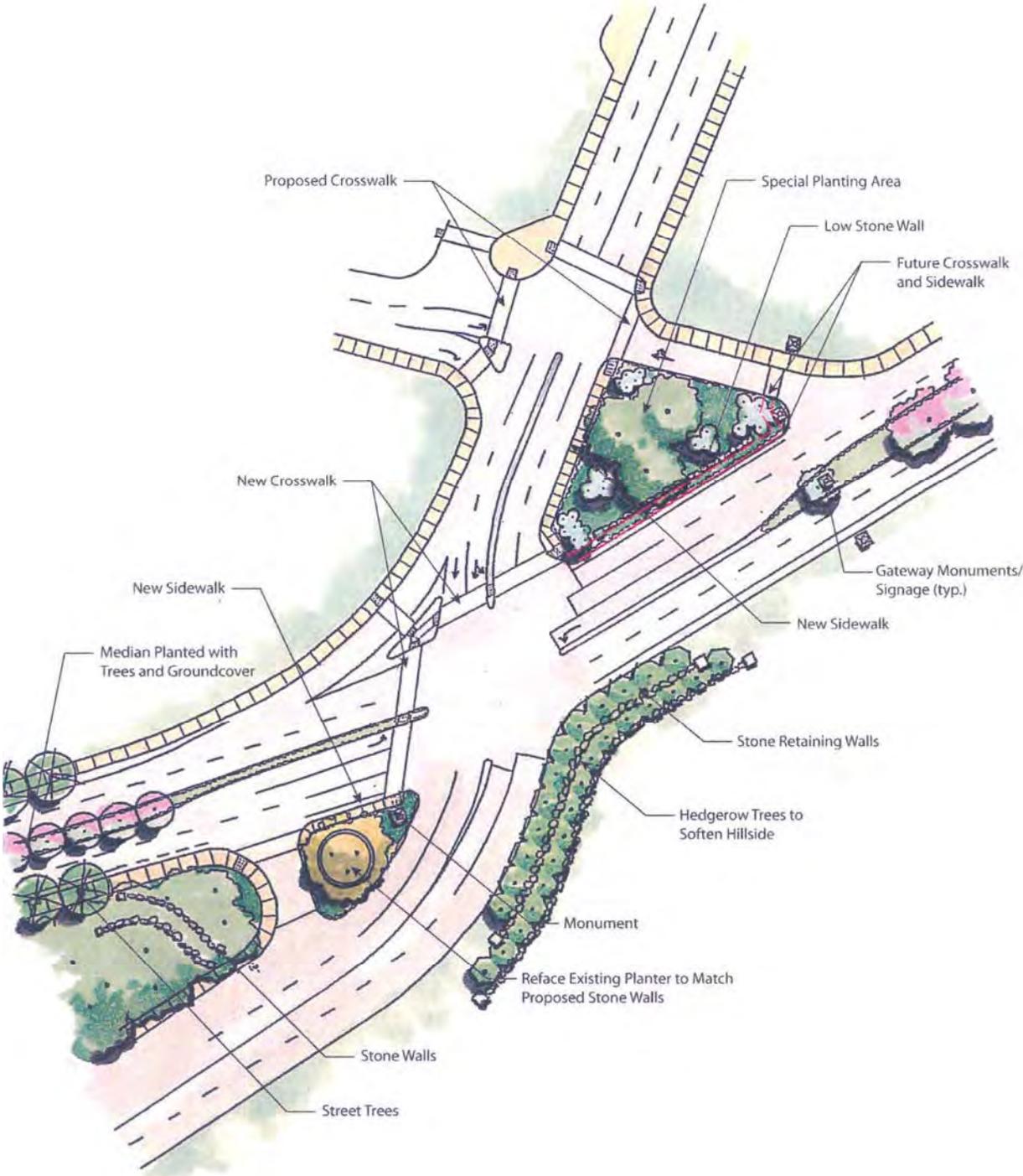
APPENDIX C

Moraga Design Guidelines

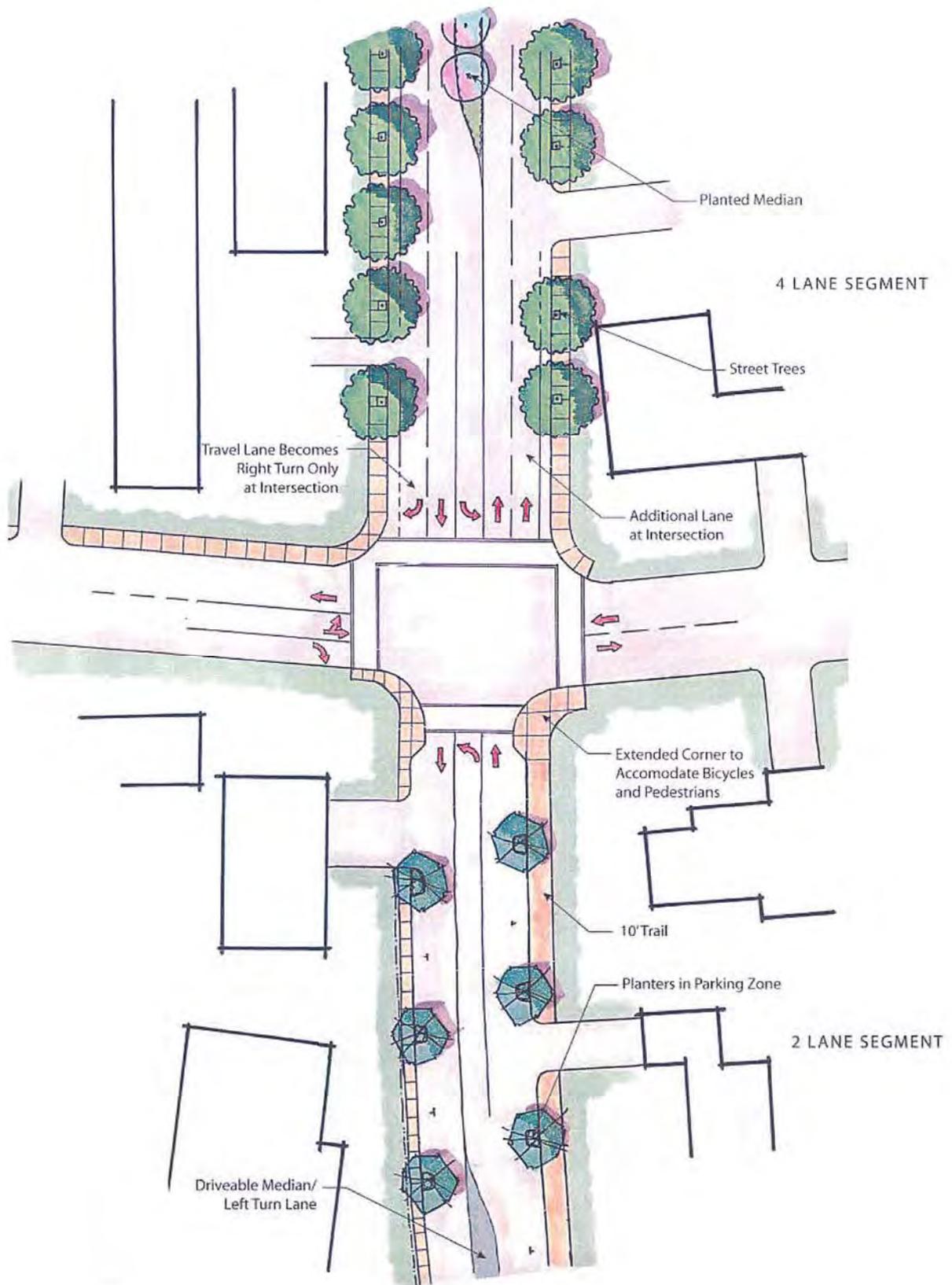
Street and Roadway Enhancement From the Moraga Transportation Corridor Streetscape Plan

This appendix addresses desired types of improvements to Moraga’s street and roadway corridors in the context of Moraga’s semi-rural character. Using Moraga Road as a template, this appendix offers measures to add aesthetic enhancements, increase planting, provide biological storm water treatment where feasible, and enhance pedestrian and bicycle connections and safety. These should be applied along the scenic corridors, as well as at other locations throughout Moraga.

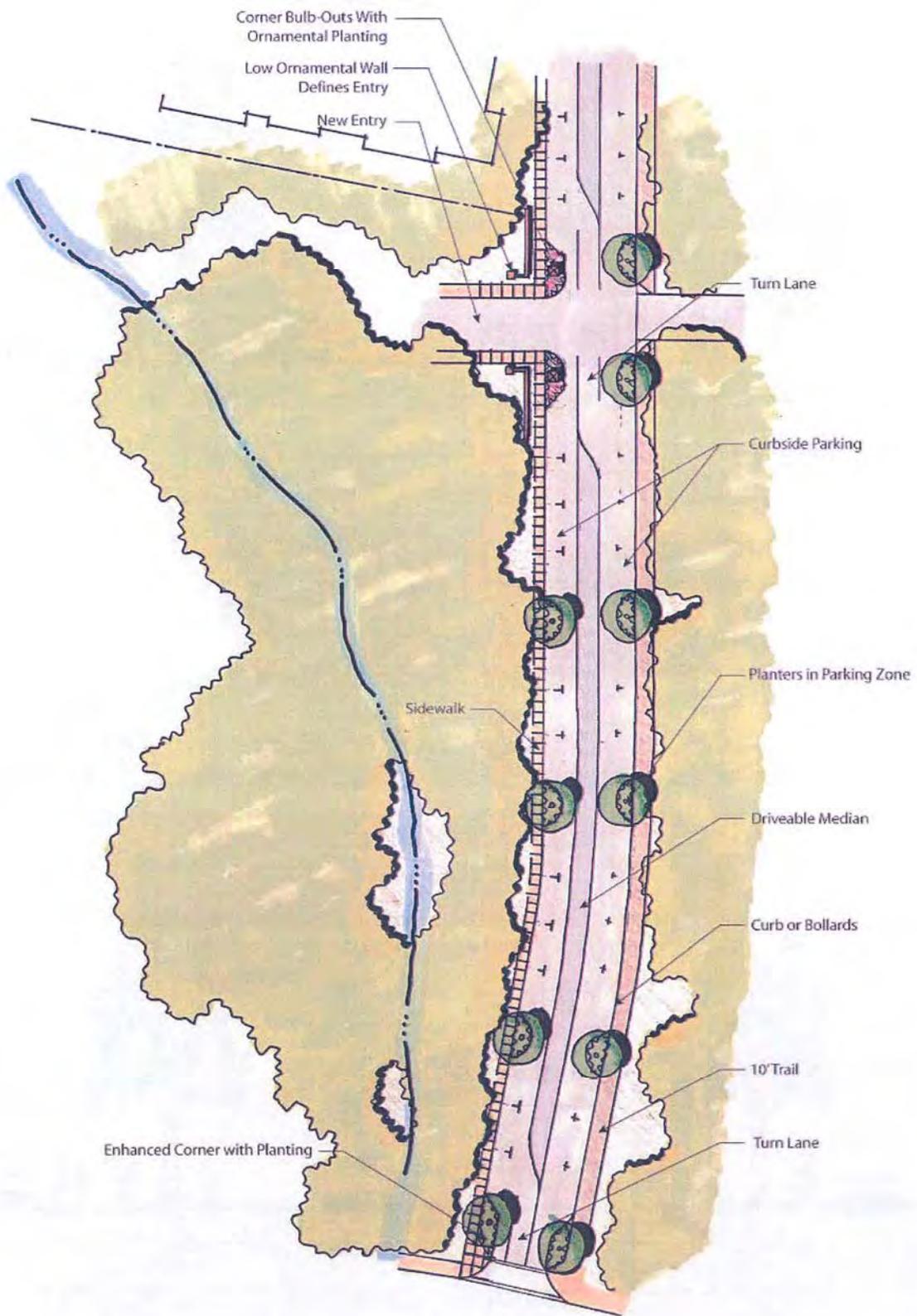
Example of an Intersection of Two Four Lane Roads



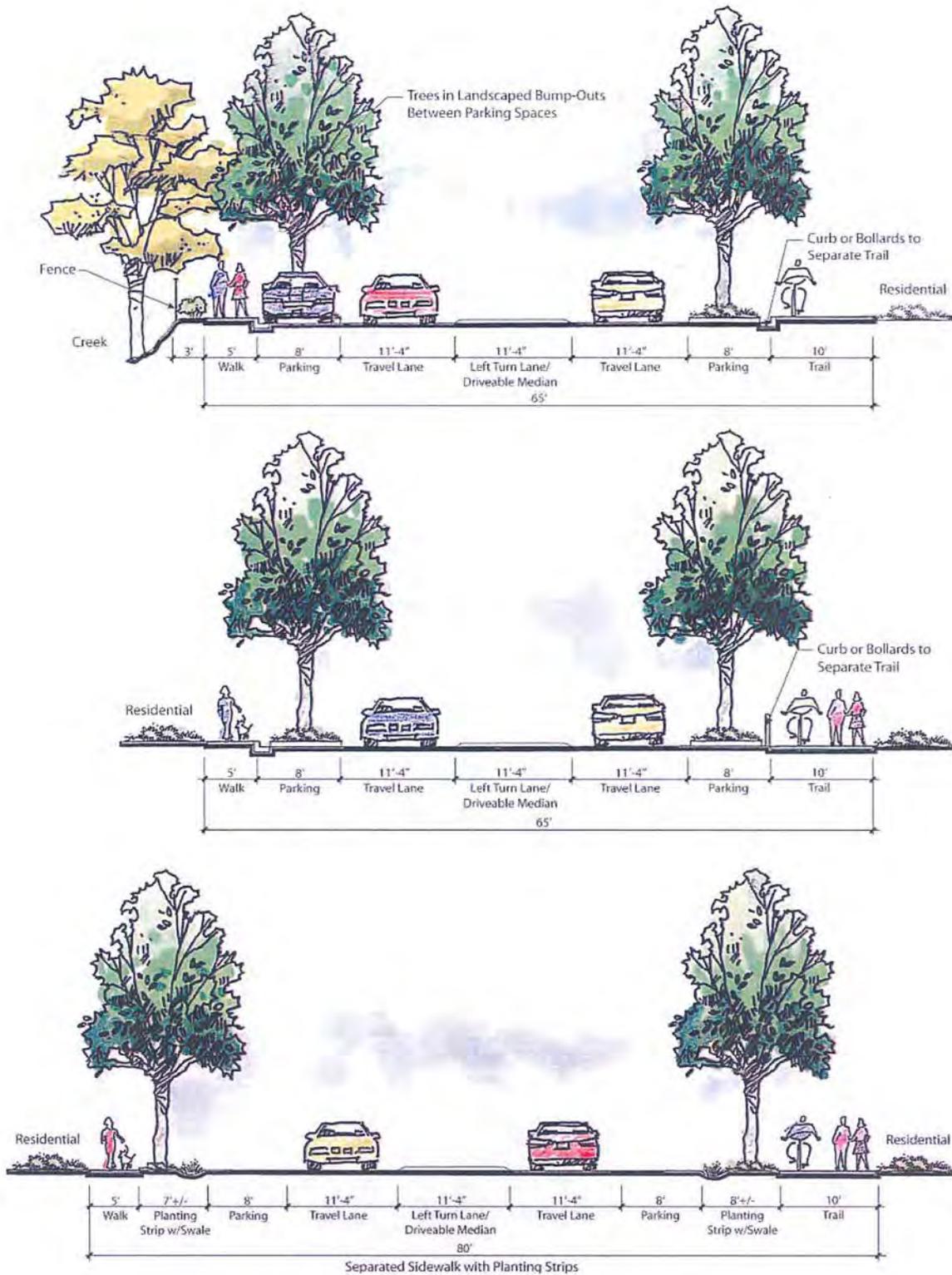
Example of an Intersection with a Four to Two Lane Transition



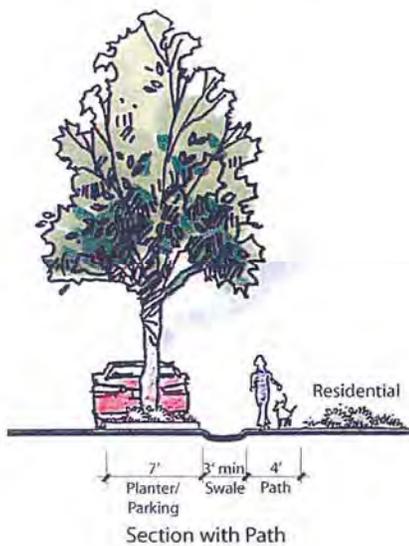
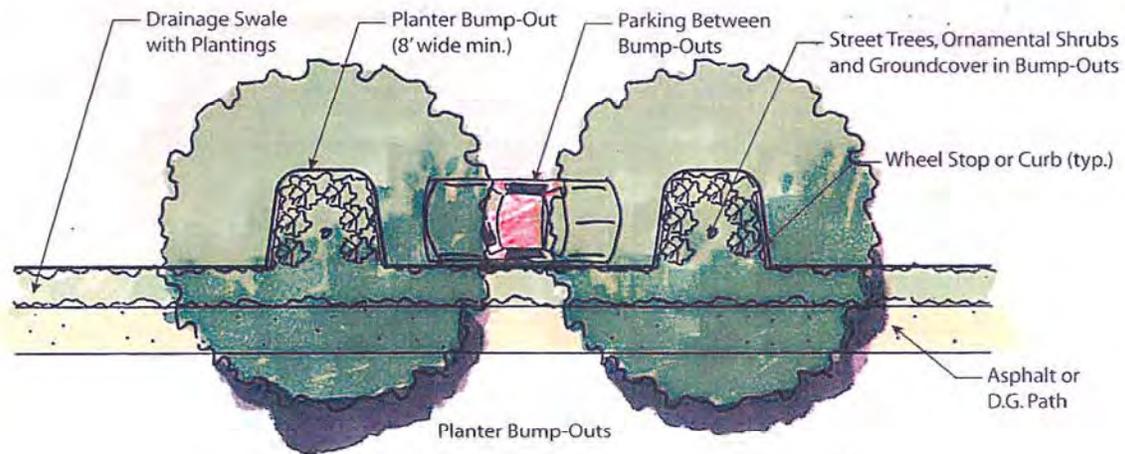
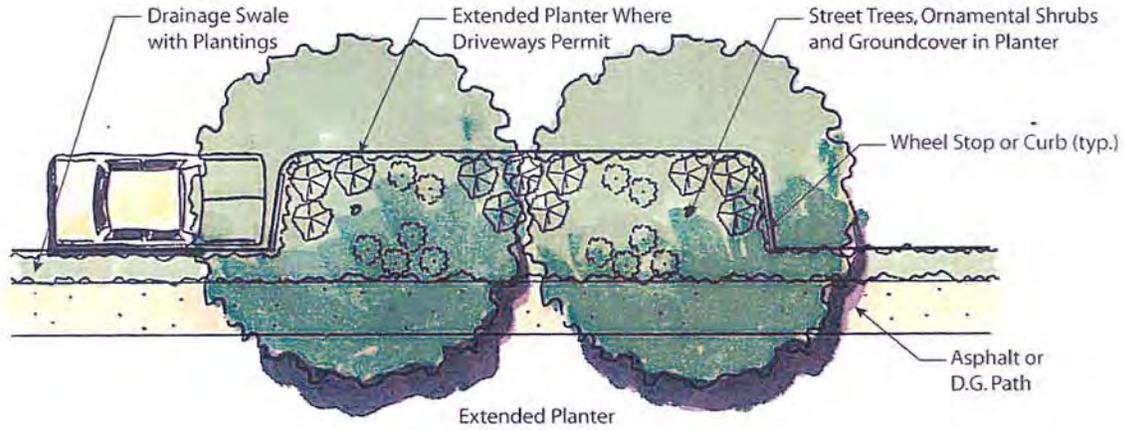
Example of a Two Lane Road with Drivable Turn Lane/Median and Adjacent Trail



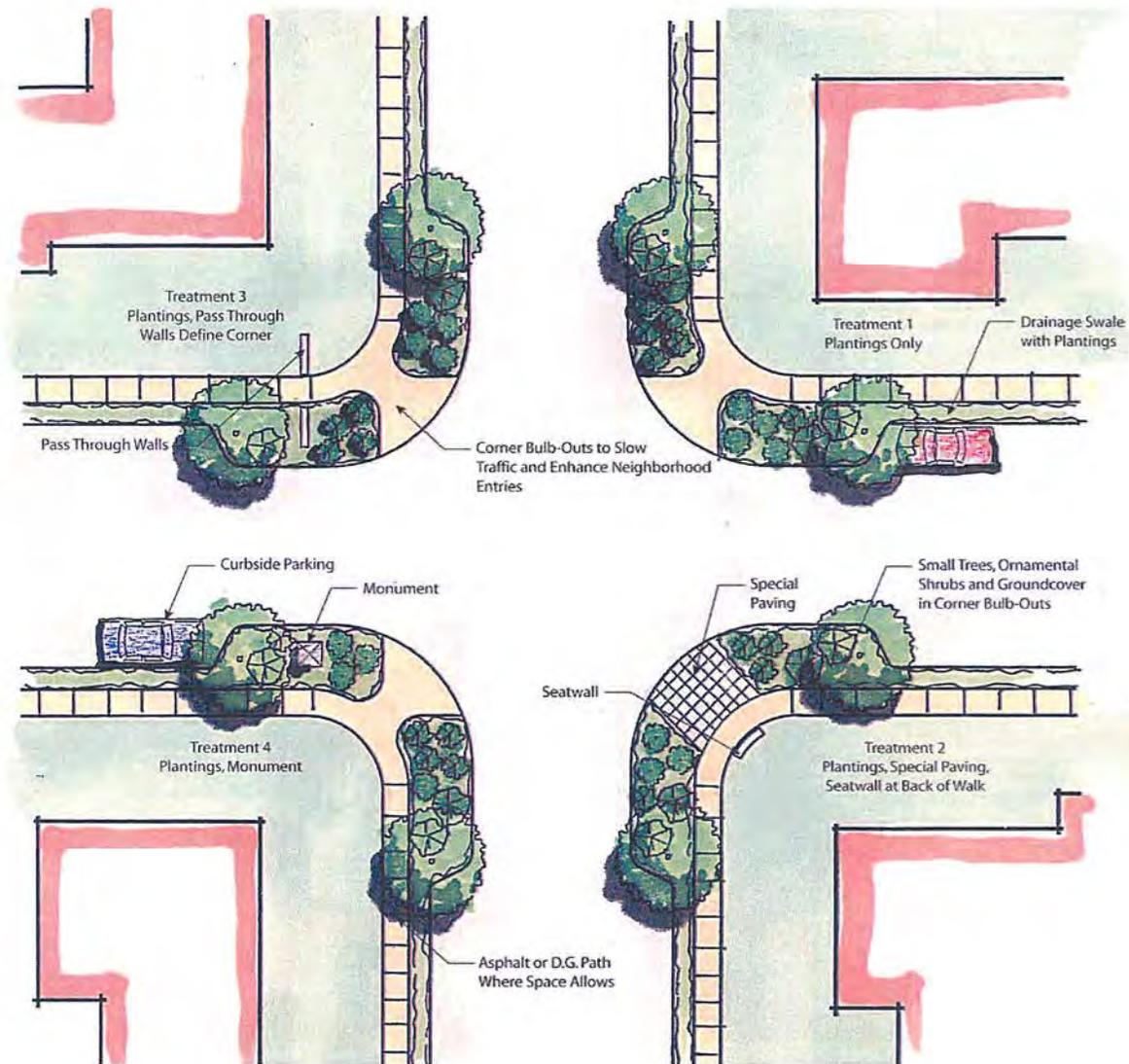
Examples of a Two Lane Road with Drivable Turn Lane/Median and Adjacent Trail



Example of Planters in the Parking Zone

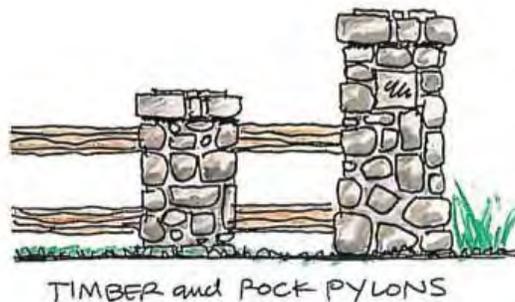
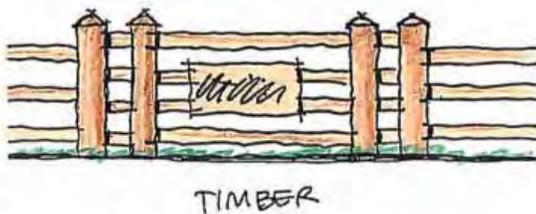
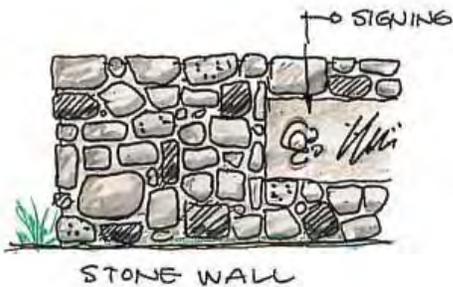


Example of Residential Corner Options



Example Site Elements

Hardscape elements and site furnishings should reflect Moraga's semi-rural character. Use of natural material, particularly stone, is appropriate. The following pages show examples of site elements and furnishings that may be compatible with Moraga's sense of place.



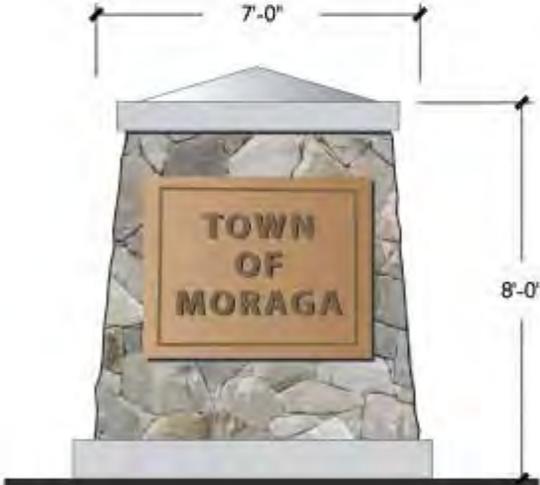
SIGNAGE AND MONUMENTS



Existing Signage



Option 2



Column Option 1

Column

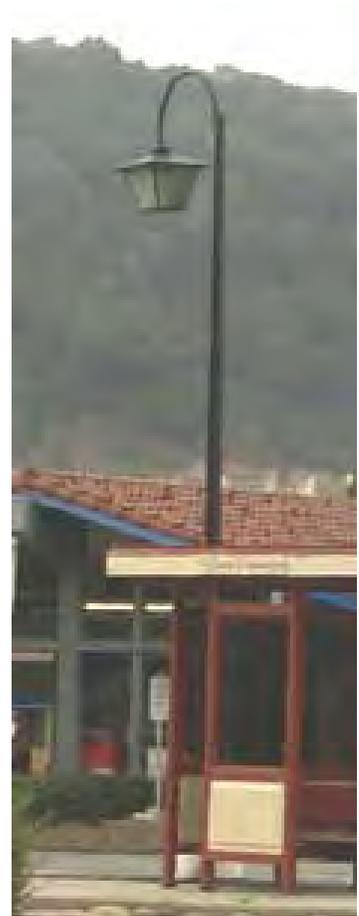
SIGNAGE



SITE FURNISHINGS



LIGHTING



APPENDIX D
Moraga Design Guidelines

**Single Family Residential
Floor Area Ratio (FAR) Guidelines**

**Adopted by the Planning Commission on
April 15, 2002**

SINGLE FAMILY RESIDENTIAL FLOOR AREA RATIO (FAR) GUIDELINES

I. Purpose.

The purpose of these guidelines is to set forth standards that will help prevent new single family residential homes and additions to existing homes where the size and scale of the proposed home would be out of character with an existing neighborhood or surrounding homes; and to maintain the semi-rural character of the Town, while still providing a variety of house sizes. The guidelines are intended to establish the maximum size of a home based on the size of the property, in order to achieve the following goals:

- a. Maintain the existing character of established residential neighborhoods;
- b. Minimize the out-of-scale appearance of large homes relative to their lot size and to other homes in a neighborhood;
- c. Minimize loss of light and privacy to neighbors caused by the construction of large homes;
- d. Minimize the dominance of structures on sloping hillside properties;
- e. Minimize the environmental damage of tree removal and grading or destruction of natural features which may result from overbuilding;
- f. Permit reasonable expansion of existing dwellings.

II. Applicability.

The standards in the guidelines apply to parcels located in each single-family residential district, and are to apply to new single family residences, additions and remodels to existing residences, and infill development involving new single family residences that are not processed as part of a Planned Development or Major Subdivision where the size of the homes was approved by the Planning Commission and/or Town Council.

The reviewing body has the authority to permit a floor area greater or less than the maximum allowed provided that appropriate findings are made. If the findings are geotechnically related, they should be supported by a site specific geotechnical analysis consistent with the Town's General Plan.

III. Definitions used in these guidelines.

- a. ATTIC means that space of the building above a story and which is not habitable and may be utilized for storage. The space must be unconditioned.
- b. BASEMENT means that portion of a building, which is either partly above finished ground surface or all below finished ground surface found between the floor and ceiling or finished floor level directly above. If the height between the ceiling and the finished ground surface adjoining the exterior walls exceeds six feet at any point or if it is utilized as a habitable space/room, the space will be considered a story.

- c. FLOOR AREA RATIO means the ratio of the buildings gross floor area divided by the net lot area.
- d. GROSS FLOOR AREA means the sum of:
 - (1) The area measured on outside walls of the first story of the dwelling;
 - (2) Garage area measures on outside walls;
 - (3) That portion of any first story room with a ceiling height of 15 feet or more and not a part of a second story;
 - (4) Area of the second story measured on outside walls;
 - (5) The area of that portion of any attic space that has a clear height of 7 feet above the floor;
 - (6) The area of accessory structures greater than 400 square feet in area with permanent foundations, measured on outside walls.
- e. INFILL DEVELOPMENT means the development of a lot(s) within an existing subdivision.
- f. LOT AREA means the area of a lot in square feet, excluding access easements.
- g. MAXIMUM ALLOWABLE FLOOR AREA means the maximum floor area that may be developed on a lot, based on the lot size.

IV. Exemptions.

Each of the following structures is excluded from the calculation to determine the maximum allowable floor area.

- a. A one time only building addition of 200 square feet or less in area to an existing residence, if no other additions have been previously approved;
- b. A basement or attic, as defined by these guidelines;
- c. An accessory building(s) with a total area of less than 400 square feet, other than a garage or carport; and
- d. A covered or uncovered balcony, porch, and deck.
- e. A legally constructed building which exceeds the maximum floor area permitted by the guidelines and which is destroyed by fire, flood, landslide or other act of nature. Such a building may be rebuilt with up to the same amount of floor area, subject to approval in accord with Section 8-1704 of the Town's Municipal Code.
- f. A new residence in a Planned Development or Major Subdivision, where the maximum floor area of the new homes was approved by the Planning Commission and/or the Town Council.

V. Maximum Floor Area.

On a parcel of 20,000 square feet or less, the maximum floor area is limited in size to the following table:

MAXIMUM FLOOR AREA TABLE

| NET PARCEL AREA (square feet) | FLOOR AREA RATIO (FAR) | MAXIMUM FLOOR AREA (square feet) |
|--|-----------------------------------|---|
| 4,999 and less | | 1,900 |
| 5,000 | 0.380 | 1,900 |
| 5,200 | 0.378 | 1,965 |
| 5,400 | 0.376 | 2,030 |
| 5,600 | 0.374 | 2,094 |
| 5,800 | 0.372 | 2,157 |
| 6,000 | 0.370 | 2,220 |
| 6,200 | 0.368 | 2,281 |
| 6,400 | 0.366 | 2,342 |
| 6,600 | 0.364 | 2,402 |
| 6,800 | 0.362 | 2,461 |
| 7,000 | 0.360 | 2,520 |
| 7,200 | 0.358 | 2,577 |
| 7,400 | 0.356 | 2,634 |
| 7,600 | 0.354 | 2,690 |
| 7,800 | 0.352 | 2,745 |
| 8,000 | 0.350 | 2,800 |
| 8,200 | 0.348 | 2,853 |
| 8,400 | 0.346 | 2,906 |
| 8,600 | 0.344 | 2,958 |
| 8,800 | 0.342 | 3,009 |
| 9,000 | 0.340 | 3,060 |
| 9,200 | 0.338 | 3,109 |
| 9,400 | 0.336 | 3,158 |
| 9,600 | 0.334 | 3,206 |
| 9,800 | 0.332 | 3,253 |
| 10,000 | 0.330 | 3,300 |
| 10,200 | 0.328 | 3,345 |
| 10,400 | 0.326 | 3,390 |
| 10,600 | 0.324 | 3,434 |
| 10,800 | 0.322 | 3,477 |
| 11,000 | 0.320 | 3,520 |
| 11,200 | 0.318 | 3,561 |
| 11,400 | 0.316 | 3,602 |
| 11,600 | 0.314 | 3,642 |
| 11,800 | 0.312 | 3,681 |
| 12,000 | 0.310 | 3,720 |
| 12,200 | 0.308 | 3,757 |
| 12,400 | 0.306 | 3,794 |
| 12,600 | 0.304 | 3,830 |
| 12,800 | 0.302 | 3,865 |
| 13,000 | 0.300 | 3,900 |
| 13,200 | 0.298 | 3,933 |

| NET PARCEL AREA (square feet) | FLOOR AREA RATIO (FAR) | MAXIMUM FLOOR AREA (square feet) |
|--|-----------------------------------|---|
| 13,400 | 0.296 | 3,966 |
| 13,600 | 0.294 | 3,998 |
| 13,800 | 0.292 | 4,029 |
| 14,000 | 0.290 | 4,060 |
| 14,200 | 0.288 | 4,089 |
| 14,400 | 0.286 | 4,118 |
| 14,600 | 0.284 | 4,146 |
| 14,800 | 0.282 | 4,173 |
| 15,000 | 0.280 | 4,200 |
| 15,200 | 0.278 | 4,225 |
| 15,400 | 0.276 | 4,250 |
| 15,600 | 0.274 | 4,274 |
| 15,800 | 0.272 | 4,297 |
| 16,000 | 0.270 | 4,320 |
| 16,200 | 0.268 | 4,341 |
| 16,400 | 0.266 | 4,362 |
| 16,600 | 0.264 | 4,382 |
| 16,800 | 0.262 | 4,401 |
| 17,000 | 0.260 | 4,420 |
| 17,200 | 0.258 | 4,437 |
| 17,400 | 0.256 | 4,454 |
| 17,600 | 0.254 | 4,470 |
| 17,800 | 0.252 | 4,485 |
| 18,000 | 0.250 | 4,500 |
| 18,200 | 0.248 | 4,513 |
| 18,400 | 0.246 | 4,526 |
| 18,600 | 0.244 | 4,538 |
| 18,800 | 0.242 | 4,549 |
| 19,000 | 0.240 | 4,560 |
| 19,200 | 0.238 | 4,569 |
| 19,400 | 0.236 | 4,578 |
| 19,600 | 0.234 | 4,586 |
| 19,800 | 0.232 | 4,593 |
| 20,000 | 0.230 | 4,600 |

The maximum gross floor area is determined by multiplying the net square footage of the parcel by the floor area ratio. The maximum floor area shall be adjusted downward in increments of two-tenths of one percent (.002) based upon each additional 200 square feet of net parcel area. For example, a lot with a net parcel size of *10,350 square feet will have a maximum floor area ratio of .328 and a maximum permitted house size of 3,394 square feet.*

It is the responsibility of the property owner to provide accurate site and building area data to the Town. The Town, at its sole discretion, may require that the data be prepared at owner's expense by a licensed surveyor or civil engineer.

VI. Modifications.

The reviewing body may grant a modification to the FAR standards with appropriate findings relating to the goals identified under Section I (Purpose). The reviewing body should not grant a modification to the FAR standard for projects with one or more of the following adverse design characteristics:

1. Any building addition that requires a variance to a front, side or rear yard property line setback.
2. The use of multiple or stacked retaining walls or retaining walls higher than three (3) feet to create level yard areas on hillside lots.
3. The lack of sufficient driveway maneuvering space or very tight turning radius for access in and out of garages or insufficient guest parking on lots with less than 45-feet of frontage to a public street.
4. Angled exterior wall solely for the purpose of making the house plan conform to the minimum building setback from a property line that is not parallel with the existing building.