



DESIGN STANDARDS AND GUIDELINES

Residential Neighborhoods and Streetscapes

CITY OF ROSEVILLE

Approved March 9, 2017





DESIGN STANDARDS AND GUIDELINES

Residential Neighborhoods and Streetscapes

CITY OF ROSEVILLE
Approved March 9, 2017

prepared by:
Environmental Science Associates



in association with:
Roach + Campbell Landscape Architecture
Morton & Pilato, Inc.
Dahlin Group



table of contents



INTRODUCTION	1
1.1 purpose	1
1.2 applicability	4
1.3 use of language and graphics	5
1.4 administration	5



RESIDENTIAL NEIGHBORHOODS	7
2.1 design intent	7
2.2 design guidelines	9
2.2.1 neighborhood access and circulation	9
2.2.2 residential alleys	10
2.2.3 edge treatment parks and open space	12
2.2.4 residential paseos	13
2.2.5 topography and grading	18
2.2.6 green design	18
2.2.7 residential noise mitigation	19
2.3 development standards	20



STREETSCAPES	31
3.1 design intent	31
3.2 design guidelines	31
3.2.1 landscaping	31
3.2.2 landscaped drainage channels	50
3.2.3 gateways and entries	51
3.2.4 intersections and roundabouts	59
3.2.5 walls and fences	63
3.2.6 street lighting	67
3.2.7 street furnishings and amenities	68



TABLES

1-1 design standards and guidelines applicability	4
3-1 campus oaks street tree list	35
3-2 campus oaks recommended plant list	45
3-3 campus oaks recommended edible plant list	49



FIGURES

1-1 HPCO project area and planning sub-areas	2
1-2 campus oaks land use diagram	3
2-1 residential neighborhoods	8
2-2 residential alley utility service locations	10
2-3 paseo CO-63 concept plan	14
2-4 paseo CO-65 concept cross section	15
2-5a paseo CO-4 and CO-22 ownership and maintenance	16
2-5b paseo CO-4 and CO-22 concept plan	17
2-6 conceptual building type A - single-family detached front loaded	21
2-7 conceptual building type B - single-family detached front loaded	22
2-8 conceptual building type C - single-family detached front loaded	23
2-9 conceptual building type D - single-family detached front loaded	24
2-10 conceptual building type E - cluster motor court	25
2-11 conceptual building type F - cluster alley loaded	26
2-12 conceptual building type G - townhome	27
2-13 conceptual building type H - townhome	28
2-14 campus oaks illustrative plan	29
3-1 typical streetscape corridor	38
3-2 blue oaks boulevard	39
3-3 woodcreek oaks boulevard	40
3-4 HP way - central	41
3-5 primary entry gateway - blue oaks boulevard	51
3-6 primary entry gateway - elevation	52
3-7 primary entry gateway - pedestrian entry at HP way	52
3-8 primary entry gateway - pilaster examples	53
3-9 minor project entry - blue oaks boulevard	54
3-10 secondary entry gateway	56
3-11 neighborhood entry	58
3-12 roundabout	60

01

introduction

The Hewlett-Packard|Campus Oaks Master Plan (HPCO Project) establishes direction for the development of a mixed use, infill community on 375.7 acres within the City of Roseville’s North Industrial Planning Area. The HPCO Project Area is organized into two physically and functionally integrated sub-areas: the Hewlett-Packard Campus accommodating existing and planned light industrial and park uses; and Campus Oaks planned for a mix of residential neighborhood, employment center, town center, park, open space and public uses. The HPCO Project is intended to be designed and implemented in a manner that furthers the City’s commitment to the Sacramento Regional Blueprint and other “smart growth” principles.

1.1 Purpose

The Campus Oaks Design Standards and Guidelines provide direction for the planning, design and review of **Residential Neighborhoods and Streetscapes** within the Campus Oaks portion of the HPCO Project area. The intent is to create a clear and common understanding of the planning and design expectations for Campus Oaks, and to contribute towards the creation of a community that is characterized by high quality, diverse, attractive, and functional development that enhances community identity, livability and marketability. The 234.5 acre Campus Oaks area is illustrated on Figure 1-1, with adopted land uses illustrated on Figure 1-2.

The Campus Oaks Design Standards and Guidelines supplement the City’s Zoning Ordinance and Community Design Guidelines. The provisions of the Zoning Ordinance and Community Design Guidelines provide primary direction, with these Design Guidelines defining additional provisions

tailored to Campus Oaks. The City’s North Industrial Design Guidelines (NIDG) previously covered the Campus Oaks area. Given that the NIDG do not contemplate the mixed use development pattern established by Campus Oaks, they are not applicable.

The Campus Oaks Design Standards and Guidelines are structured to inspire creativity and flexibility. It is recognized that there are a wide range of solutions that can be applied to satisfy planning and design goals and intent. Innovation is encouraged to accommodate the mix of uses planned for Campus Oaks; account for site specific conditions; respond to changing market opportunities and consumer preferences; and establish and sustain a vibrant and livable community.



Figure 1-1: HPCO Project Area and Planning Sub-Areas

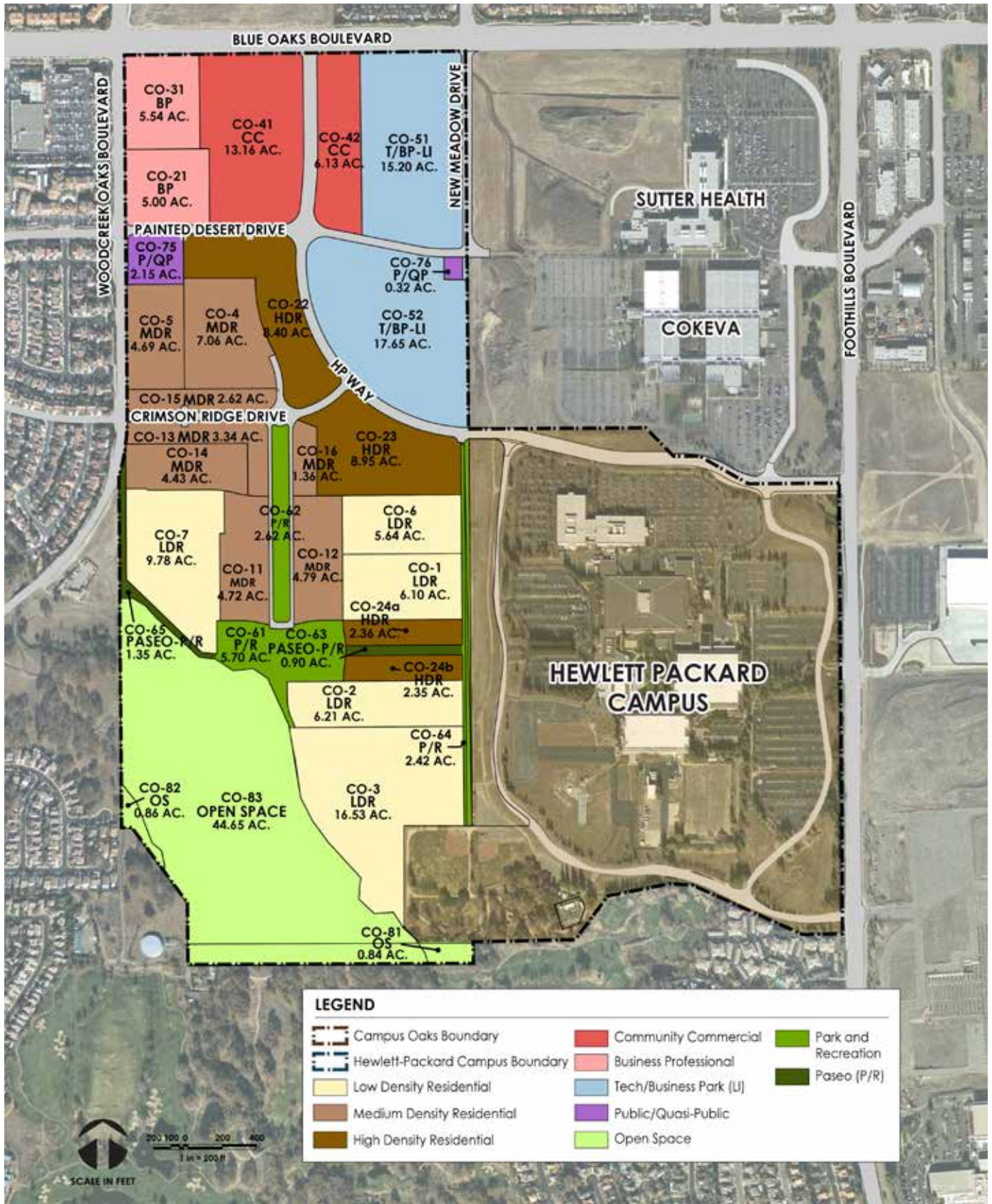


Figure 1-2: Campus Oaks Land Use Diagram

1.2 Applicability

The City's Zoning Ordinance, Community Design Guidelines, HPCO Master Plan, and the Campus Oaks Design Guidelines apply to all projects and improvements within Campus Oaks subject to discretionary approval by the City of Roseville. Table 1-1 summarizes the applicability of the documents.



Table 1-1: Design Standards and Guidelines Applicability

Land Use Designation	Zoning District	Permitted Uses	Development Standards	Design Guidelines
Employment and Commercial Uses				
T/BP/LI Tech/ Business Park	MP/SA – Industrial/ Business Park/Special Area Overlay	Section 5.2 of the HPCO Master Plan	Zoning Ordinance	Community Design Guidelines and Campus Oaks Design Standards and Guidelines (Streetscapes)
BP Business Professional	BP – Business Professional	Zoning Ordinance	Zoning Ordinance	Community Design Guidelines and Campus Oaks Design Standards and Guidelines (Streetscapes)
CC Community Commercial	CC – Community Commercial	Zoning Ordinance	Zoning Ordinance	Community Design Guidelines and Campus Oaks Design Standards and Guidelines (Streetscapes)
Residential Uses				
LDR Low Density Residential	R1/DS – Single Family Residential/Development Standard Overlay; and RS/DS – Small Lot Residential/ Development Standard Overlay	Zoning Ordinance	Zoning Ordinance and Campus Oaks Design Standards and Guidelines (Residential Neighborhoods)	Community Design Guidelines and Campus Oaks Design Standards and Guidelines (Residential Neighborhoods and Streetscapes)
MDR Medium Density Residential	RS/DS – Small Lot Residential/ Development Standard Overlay	Zoning Ordinance	Zoning Ordinance and Campus Oaks Design Standards and Guidelines (Residential Neighborhoods)	Community Design Guidelines and Campus Oaks Design Standards and Guidelines (Residential Neighborhoods and Streetscapes)
HDR High Density Residential	R3/DS – Attached Housing/ Development Standard Overlay	Zoning Ordinance	Zoning Ordinance and Campus Oaks Design Standards and Guidelines (Residential Neighborhoods)	Community Design Guidelines and Campus Oaks Design Standards and Guidelines (Residential Neighborhoods and Streetscapes)
Park, Open Space and Public Uses				
P/R Parks and Recreation	PR – Parks and Recreation	Zoning Ordinance	Zoning Ordinance	Per City Approved Plans in compliance with the HPCO Master Plan and Campus Oaks Design Standards and Guidelines (Residential Neighborhoods and Streetscapes Streetscapes)
OS Open Space	OS – Open Space	Zoning Ordinance	Zoning Ordinance	Per City Approved Plans in compliance with the HPCO Master Plan and Campus Oaks Design Standards and Guidelines (Streetscapes)
P/QP Public	P/QP – Public/Quasi-Public	Zoning Ordinance	Zoning Ordinance	Per City Approved Plans in compliance with the HPCO Master Plan and Campus Oaks Design Standards and Guidelines (Streetscapes)

In addition, other applicable City regulations, policies and documents shall be referenced in the design of projects within Campus Oaks. Where the provisions of the Campus Oaks Design Standards and Guidelines conflict with other City plans or requirements, the provisions of the Standards and Guidelines shall prevail. Where the Standards and Guidelines are silent, the applicable provisions of the other City plans or requirements shall be applicable.



1.3 Use of Language and Graphics

In applying the Design Standards and Guidelines, those provisions or portions thereof that indicate “shall” are mandatory; those that indicate “should” and “encouraged” are highly recommended and discretionary; and those that indicate “may” are advisory. Unless otherwise noted, photographs, sketches and graphic representations are incorporated for conceptual purposes only and are intended to communicate the spirit of the accompanying provisions.

1.4 Administration

To remain relevant and effective, the Design Standards and Guidelines must maintain flexibility to react quickly to changing conditions, markets and opportunities. Section 6.3 of the HPCO Master Plan incorporates a graduated consistency and amendment process which allows the Development Services Director to interpret Master Plan consistency and the type of Plan amendment, if any, that may be required by a proposed change. Included are determinations of Substantial Conformity, Minor Modifications and Major Modifications. Changes to the Design Standards and Guidelines shall be considered and processed in the same manner specified in Section 6.3 of the Master Plan.

Substantial Conformity. The proposed change is consistent with the intent and basic provisions of the Design Standards and Guidelines. No permit or amendment is required.

Minor Modification. The proposed change would result in a minor deviation to the Design Standards and Guidelines. Such modification may be approved through an Administrative Permit.

Major Modification/Amendment. The proposed change is inconsistent with the Design Standards and Guidelines. Such modification requires an Amendment.



02

residential neighborhoods

The Campus Oaks residential neighborhoods (see Figure 2-1) are intended to provide for comfortable, well connected and walkable living environments attractive to residents and accommodating the nearby workforce. Included are lower density, medium density and higher density attached and detached housing types that support a variety of living options and lifestyles. The form and diversity of the neighborhoods furthers the direction of the City's General Plan and Blueprint Implementation Strategies to deliver a variety of housing choices in proximity to jobs and services.

2.1 Design Intent

In addition to the Multifamily and Compact Residential Design Goals identified in the City's Community Design Guidelines, residential development in Campus Oaks shall place particular emphasis on the following supplemental design intent:

- Integrate a wide range of housing densities, lot sizes, product types, building forms and architectural styles.
- Establish innovative and creative residential building, site and landscape designs that are attractive, create visual interest and variety, and take advantage of the natural rolling terrain.
- Orient residences towards adjacent collector and local roadways to support an active, front-forward, pedestrian friendly street presence.
- Include convenient pedestrian, bicycle and vehicle linkages between adjacent neighborhoods, jobs and other uses, minimizing the presence of barriers.

- Design residences to be energy and water efficient, and to take maximum advantage of renewable energy opportunities.

Designs are encouraged which balance aesthetic and functional sensitivities and result in the conservation and efficient use of natural resources.

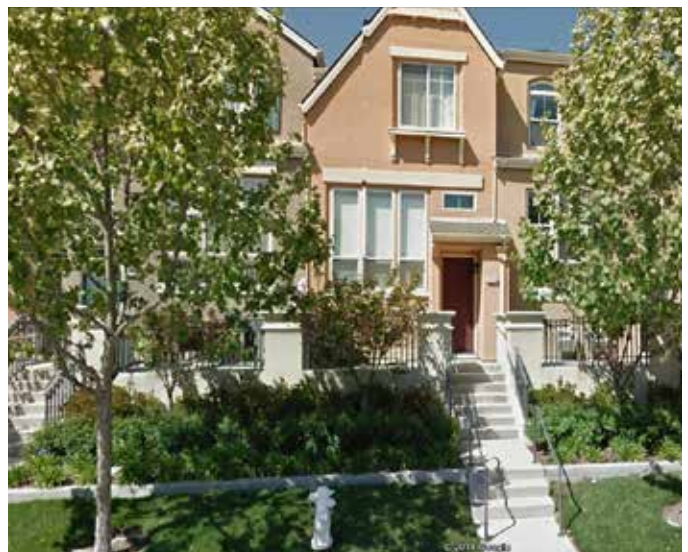




Figure 2-1: Residential Neighborhoods



2.2 Design Guidelines

Residential development in Campus Oaks shall comply with the Multifamily and Compact Residential Design Guidelines identified in the City's Community Design Guidelines. In addition, the following supplemental design guidelines shall apply:

2.2.1 NEIGHBORHOOD ACCESS AND CIRCULATION

- 2-1. The local street, sidewalk, paseo and pathway networks shall provide multiple points of connection between individual parcels and projects.
- 2-2. Local streets shall incorporate separated sidewalks with planter strips and should be designed in a grid or modified grid pattern to provide alternative routes with multi-directional connectivity and walkable block lengths.

- 2-3. Gated neighborhoods and projects are discouraged. Residential projects may only be gated if they are not adjacent to a public park, paseo or open space area, and it is demonstrated to the satisfaction of the City that the gates will not limit through-access for pedestrians and cyclists.
- 2-4. Building surfaces and materials, orientations and landscaping shall be designed to ensure that roadways and walkways are not subjected to disrupted glare (see 1995 Mitigation Measure 4.7-3).

2.2.2 RESIDENTIAL ALLEYS

2-5. Alleys for units with separate ownership shall be designed in accordance with Figure 2-2 to allow for adequate access, provide required separation between utilities, ensure areas for landscaping, and incorporate space for individual trash receptacles.

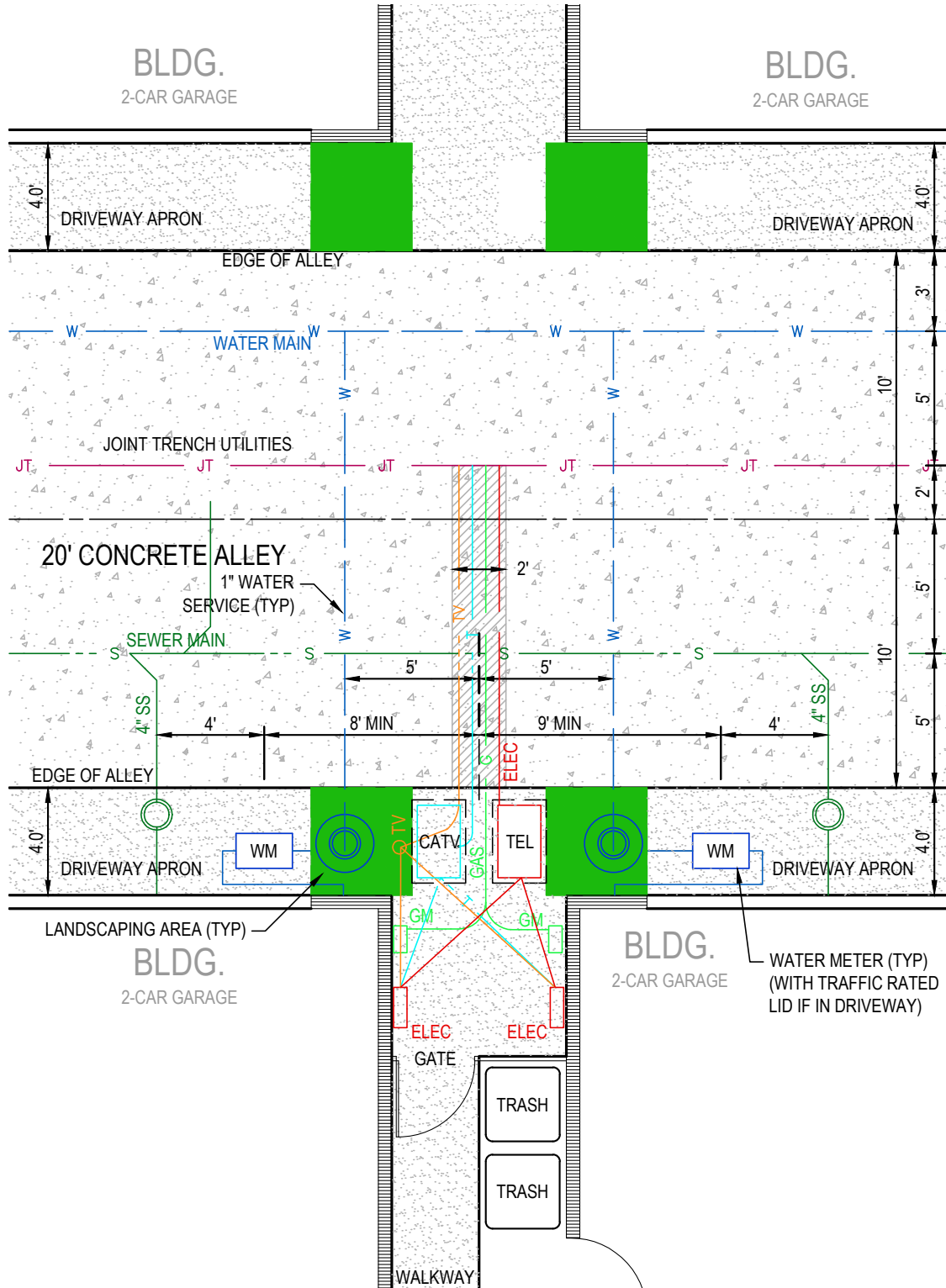


Figure 2-2: Residential Alley Utility Service Locations



Concrete Score Lines

2-6. Alleys, drives and courts in MOR and HDR projects shall be constructed of colored concrete, incorporate strategically placed score lines to break-up the surface and enhance design, and provide for sheet flow of drainage (no “v” gutters).

2-7. Landscape plans shall be coordinated with utility plans to ensure adequate landscaping, including trees, can be provided within the available space. Meter boxes (traffic rated) shall be located within driveway aprons to maximize the area available for landscaping.



Alley Landscaping



- 2-8. Fencing in alleys, where used, should be located to allow adequate space for landscaping between the fence and alley surface.
- 2-9. Tree and shrub species shall be of an appropriate scale for the available planting space.
- 2-10. Narrow and high branching trees should be used wherever space allows and where they do not conflict with trash pick-up and other utility, service or public safety needs.
- 2-11. Areas to accommodate individual trash receptacles shall be provided. Such areas should be recessed from the primary alley building frontage and shall be placed behind a fence/gate or otherwise screened from public view.

2.2.3 EDGE TREATMENT PARKS AND OPEN SPACE

- 2-12. The edge treatment between residential uses and **parks** shall reflect the following:
 - Single-loaded streets shall typically be provided between residential uses and parks. The design of the residential units should be oriented towards the parks.
 - In those limited instances where residential units may be approved to back-up or side onto a park, capped wood fencing should be used (See Guidelines 3-55 through 3-58).



Single Loaded Street



Open Cul-de-sac Head

2-13. The edge treatment between residential uses and **open space** shall reflect the following:

- Single-loaded streets shall typically be provided between residential uses and open space. The design of the residential units should be oriented towards the open space.
- A minimum of 50 percent of the edge between residential uses and open space shall be open via single-loaded streets, open cul-de-sac heads, street terminations, internal open space areas, or other features
- Post-and-cable or concrete rail fencing shall be used adjacent to open space along the edge of streetscapes (see Guideline 3-64).
- Along open space parcels, frontage landscaping shall consist of non-invasive native plants.
- In those limited instances where residential units may be approved to back onto open space, open fencing shall be used (see Guidelines 3-60 through 3-63).

2-14. Multiple pedestrian/bicycle connection points shall be provided from residential uses to public parks and trails within open space areas. Connection points should be included on an average of every 600 linear feet of frontage. Locked gates are not permitted where they would preclude public access. Additional access may also be required for services and fire protection.

2-15. Internal residential roadway, walkway and open space systems shall be designed to allow residents to easily walk and bike to adjacent parks and open space areas.

2.2.4 RESIDENTIAL PASEOS

2-16. The edge treatment between residential uses and **paseos** shall reflect the following:

- Residential units shall typically front or side immediately upon paseos with direct connections to internal residential open space areas, corridors and walkways.
- Where streets may be approved between residential units and a paseo, such streets shall be single-loaded with the paseo side open.
- Fencing between residential uses and paseos should be minimized. In those limited instances where fencing may be approved, open fencing should be used. (See Guidelines 3-60 through 3-63).

2-17. In accordance with the HPCO Master Plan, all paseos shall incorporate landscaping, Class I multi-use paths, and passive recreational elements providing physical and visual linkages between uses.

2-18. The Paseo (Parcel CO-63) linking Campus Oaks Park and the Hewlett-Packard Greenway shall incorporate formal landscaping with elements such as arbors and seating areas. Tree alleys will be used to enhance visual linkages between the parks, as well as to frame the physical and visual connection between Hewlett-Packard and Campus Oaks (See Figure 2-3).



Arbor

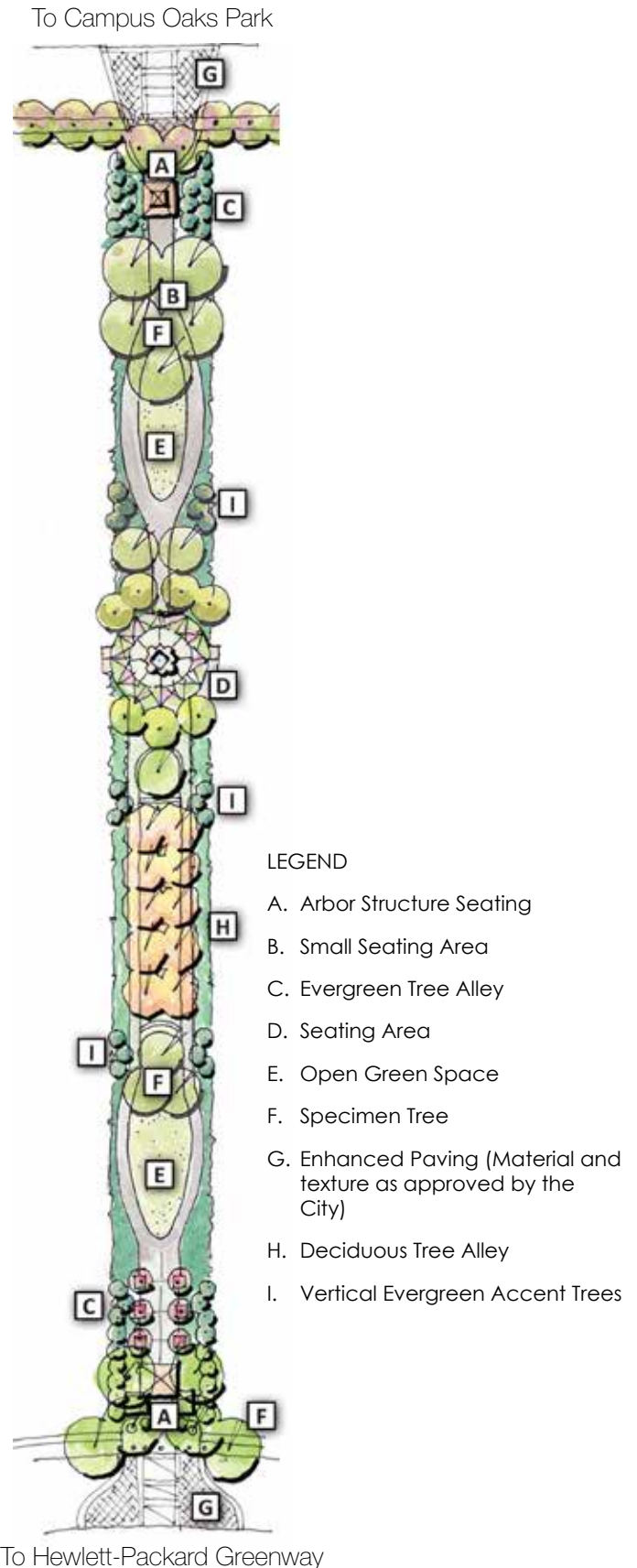


Figure 2-3: Paseo CO-63 Concept Plan

2-19. The Paseo (Parcel CO-65) providing a connection adjacent to the Open Space Preserve and up to Crimson Ridge Drive will have an informal character, integrating natural grades and incorporating native plant materials transitioning to the open space. The western edge of this paseo is adjacent to land designated for commercial use which may ultimately incorporate a masonry wall. Where this paseo is adjacent to a masonry wall, the opposite side shall remain open via internal open space areas, single-loaded streets, open cul-de-sac heads, street terminations, or other features to prevent a tunnel effect and enhance visibility (See Figure 2-4).

2-20. The Paseo within Parcels CO-4 and CO-22 differs from other paseos in Campus Oaks in that some sections of the paseo will be publically owned and maintained, and others will be privately owned and maintained (see Figure 2-5a). This paseo will provide a direct connection between the residential neighborhoods and Town Center. The paseo will have a minimum width of 30 feet, and will incorporate formal landscaping, a path (modified class I), seating areas, wayfinding signage, and pedestrian scale lighting. Multiple path connections will be provided from the adjacent residential development. A raised mid-block crossing (speed table) will be provided at the northern edge of this paseo across Painted Desert Drive to enhance direct pedestrian and bicycle access to the Town Center (see Figure 2-5b).

2-21. Internal residential roadway, walkway and open space systems shall be designed to allow residents to easily walk and bike to adjacent paseos.

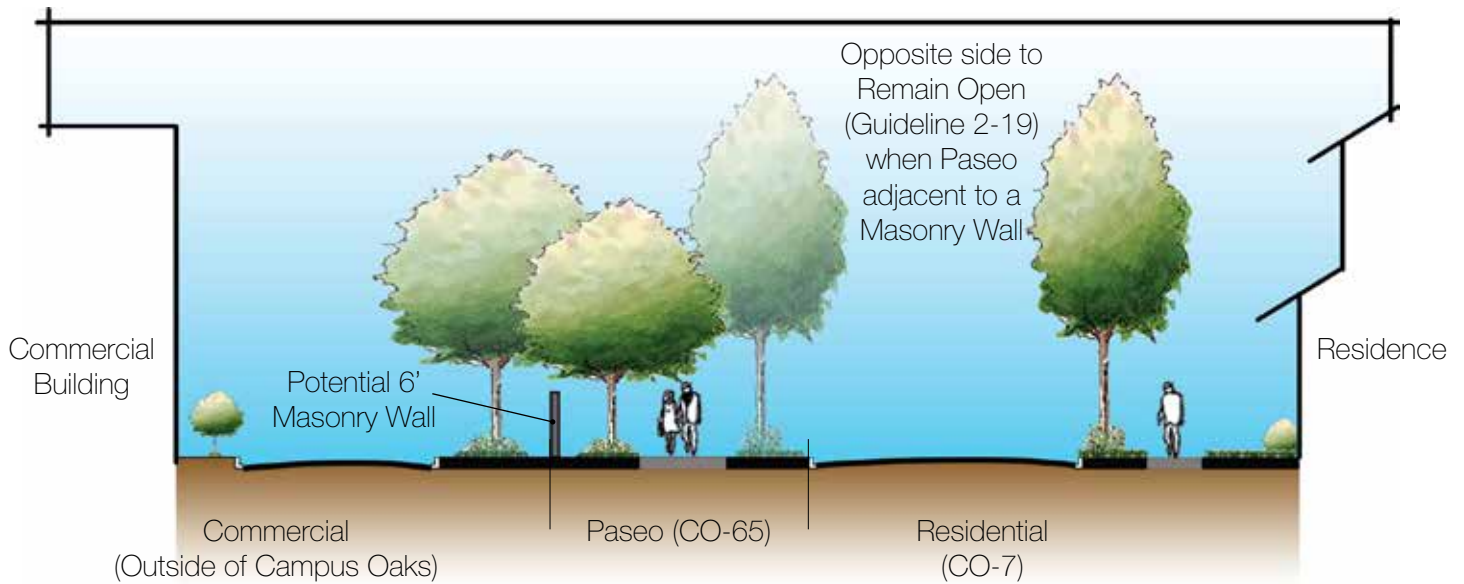


Figure 2-4: Paseo CO-65 Concept Cross Section

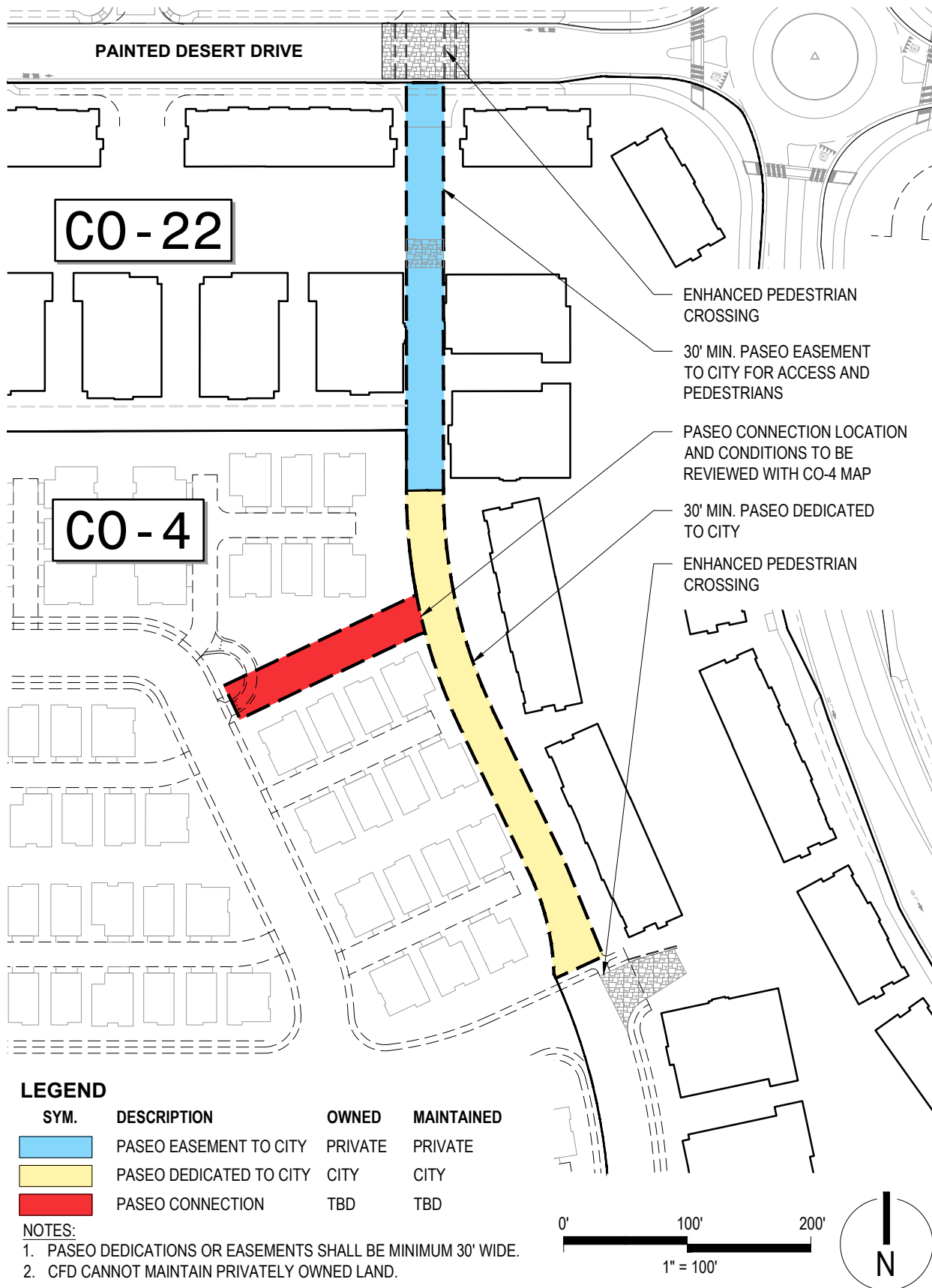


Figure 2-5a: Paseo CO-4 and CO-22 Ownership and Maintenance



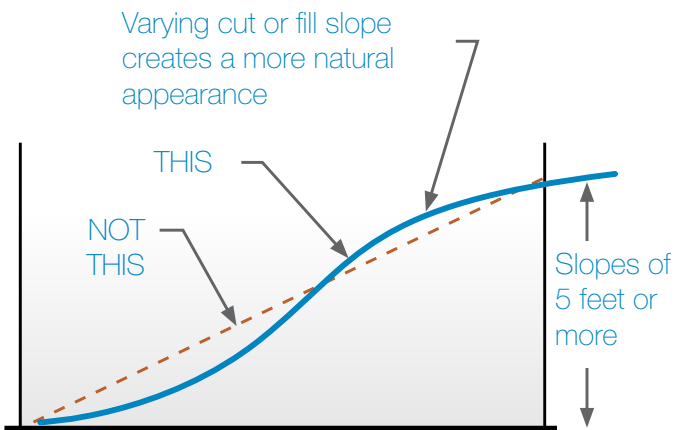
LEGEND

- A. Primary and enhanced pedestrian path of travel to retail center.
- B. Pedestrian Crossing: raised speed table with enhanced concrete aprons and walkway. LED bollards at both sides.
- C. Connection to internal paths at apartments
- D. Seating/Rest Areas at 400' intervals
- E. 30' min. paseo with 10' wide detached concrete walk (modified Class I path)
- F. Opportunity for subsurface LID/ Stormwater measures
- G. LED bollards at regular spacing, 30' on center
- H. Enhanced concrete crosswalk and Emergency/Maintenance vehicle access point

Figure 2-5b: Paseo CO-4 and CO-22 Concept Plan

2.2.5 TOPOGRAPHY AND GRADING

- 2-22. Existing rolling terrain should be retained to the extent practicable. The mass grading of large, flat residential subdivisions/projects shall be avoided.
- 2-23. Grading should be designed to retain and enhance view corridors/terminuses to and from parks, open space, paseos, paths, roadways, plazas, entries and other project features.
- 2-24. Cut and fill slopes shall be rounded and incorporate variable gradients to blend with the existing terrain and to minimize grade differentials with adjacent streets and properties.



- 2-25. The use of raised, stepped or other foundation treatments may be required to reduce the extent of grading needed to establish lots and building pads.

2.2.6 GREEN DESIGN

- 2-26. A minimum of 50% of all new residential units should provide solar electric photovoltaic systems interconnected to Roseville Electric's distribution grid.
- 2-27. Pre-wiring to support Level 2 (240V) electric vehicle charging stations shall be incorporated for:
- Each parking space within garages and carports attached to individual dwellings; and
 - 25% of spaces within shared/common residential parking facilities.

Pre-wiring shall include the installation of conduit, appropriately sized conductors, and adequate electrical panel capacity to serve the chargers.



- 2-28. Consistent with the City's Communitywide Sustainability Action Plan, City approval shall be expedited for new residential construction meeting ENERGY STAR, Green Point Rated, LEED, Roseville Electric's energy efficiency program, or similar green building benchmarks.

- 2-29. Water conservation measures shall be incorporated into residential projects including turf reductions and water efficient landscaping; smart irrigation controllers; and, re-circulating hot water systems. All development shall comply with the City of Roseville's Water Efficient Landscape Ordinance.
- 2-30. Post construction source control and Low Impact Development (LID) features shall be incorporated into residential projects and paseos such as tree plantings, infiltration galleries, disconnected roof drains, separated sidewalks, bio-retention facilities, rain gardens, bioswales, soil amendments, impervious surface reduction, and end of the pipe treatment Best Management Practices (BMP's). Hydromodification measures shall be required should LID measures not achieve infiltration and/or reuse runoff goals as specified by the City's Municipal Separate Storm Sewer System (MS4) Permit.
- 2-33. Prior to approval of the tentative subdivision map for residential uses fronting along HP Way, or other roadways where projected traffic volumes warrant, an acoustical study shall be prepared demonstrating that noise attenuation features would reduce noise levels in outdoor activity areas or indoor areas to less than the City's standards. Noise attenuating features may include, but are not limited to, berms, building orientation, setbacks, rubberized pavement, or other equally effective means of blocking or intercepting noise (See 2015 Mitigation Measures 12-4 and 12-5).

2.2.7 RESIDENTIAL NOISE MITIGATION

- 2-31. A minimum 6 foot high masonry soundwall shall be provided adjacent to LDR and MDR neighborhoods along the western edge of Campus Oaks to attenuate noise from Woodcreek Oaks Boulevard (see Guideline 3-43 through 3-53 and 2015 Mitigation Measure 12-3(a)).
- 2-32. Second story balconies on the west face of units that front on Woodcreek Oaks Blvd. (i.e., the first unit only facing Woodcreek Oaks Blvd.) shall be prohibited unless effective means of blocking or intercepting noise are identified by a site specific acoustical study (See 2015 Mitigation Measure 12-3(b)).



2.3 Development Standards

The Development Standard (DS) overlay district has been applied to all residential zones within Campus Oaks. The DS overlay allows the development standards (e.g., lot area, setbacks and building heights) to be modified from those specified by the underlying general zone districts. The intent is to allow flexibility to accommodate and encourage a wide range of residential building types and innovative designs appealing to different economic and life-style segments.

Figures 2-6 through 2-13 include sample elevations and plot plans to illustrate the potential character and layout of different building types. Figure 2-14 provides an illustrative of how the varied building types may be applied within Campus Oaks. Exact building types and development standards will be established through the Major Project Permit (MPP) Stage 2 for individual residential projects. Development projects with deviations from the Zoning Ordinance development standards shall remain consistent with the Campus Oaks Design Guidelines and the Community Design Guidelines.



Figure 2-6: Conceptual Building Type A - Single-Family Detached Front Loaded



Figure 2-7: Conceptual Building Type B - Single-Family Detached Front Loaded

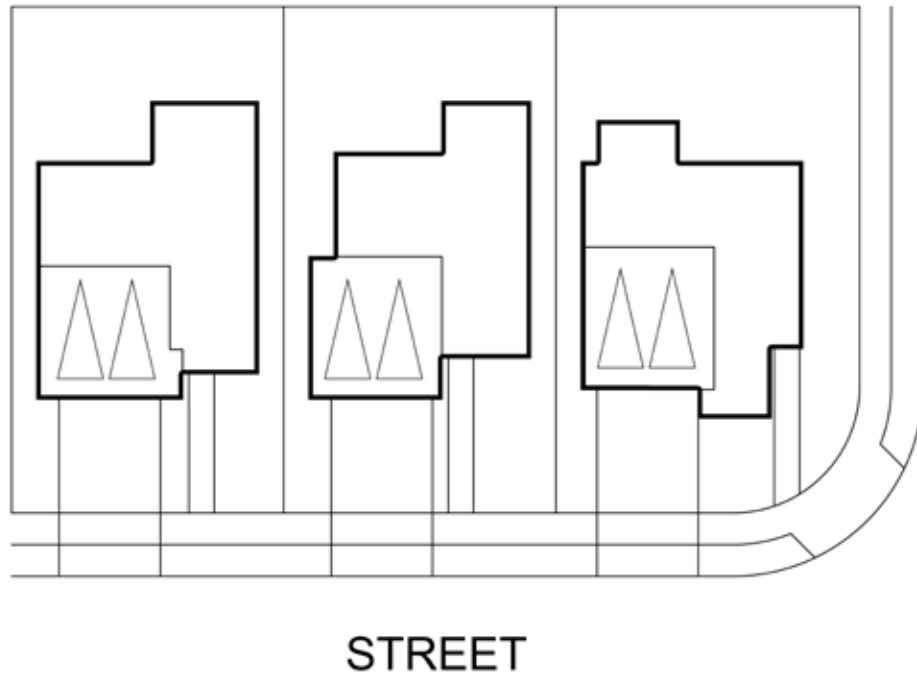
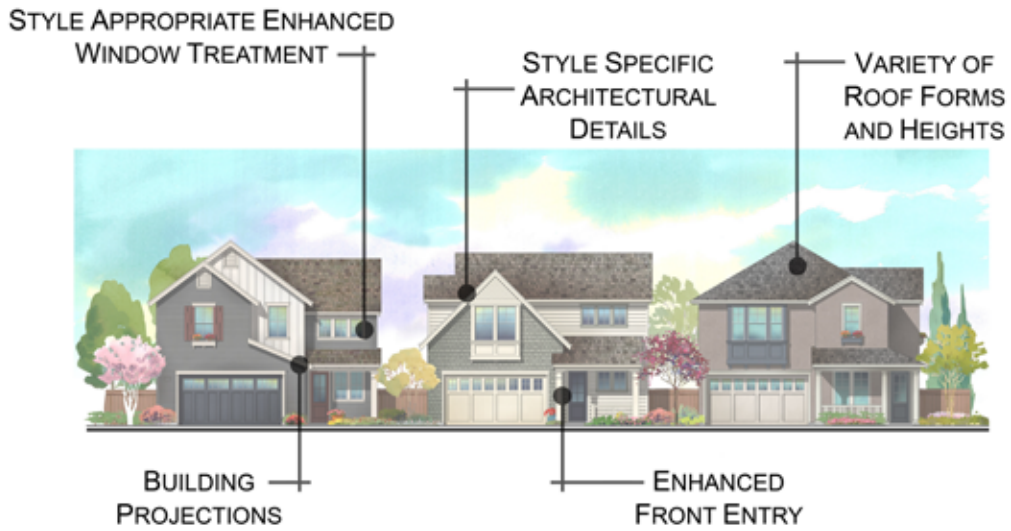


Figure 2-8: Conceptual Building Type C - Single-Family Detached Front Loaded



ALLEYWAY

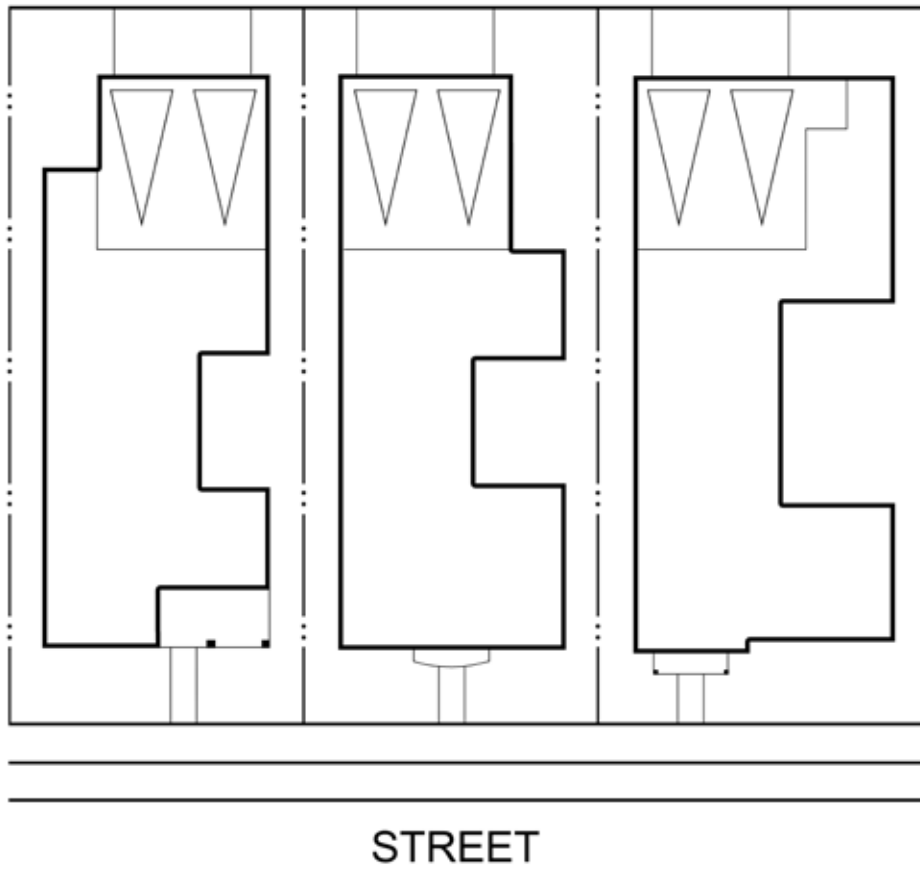


Figure 2-9: Conceptual Building Type D - Single-Family Detached Alley Loaded

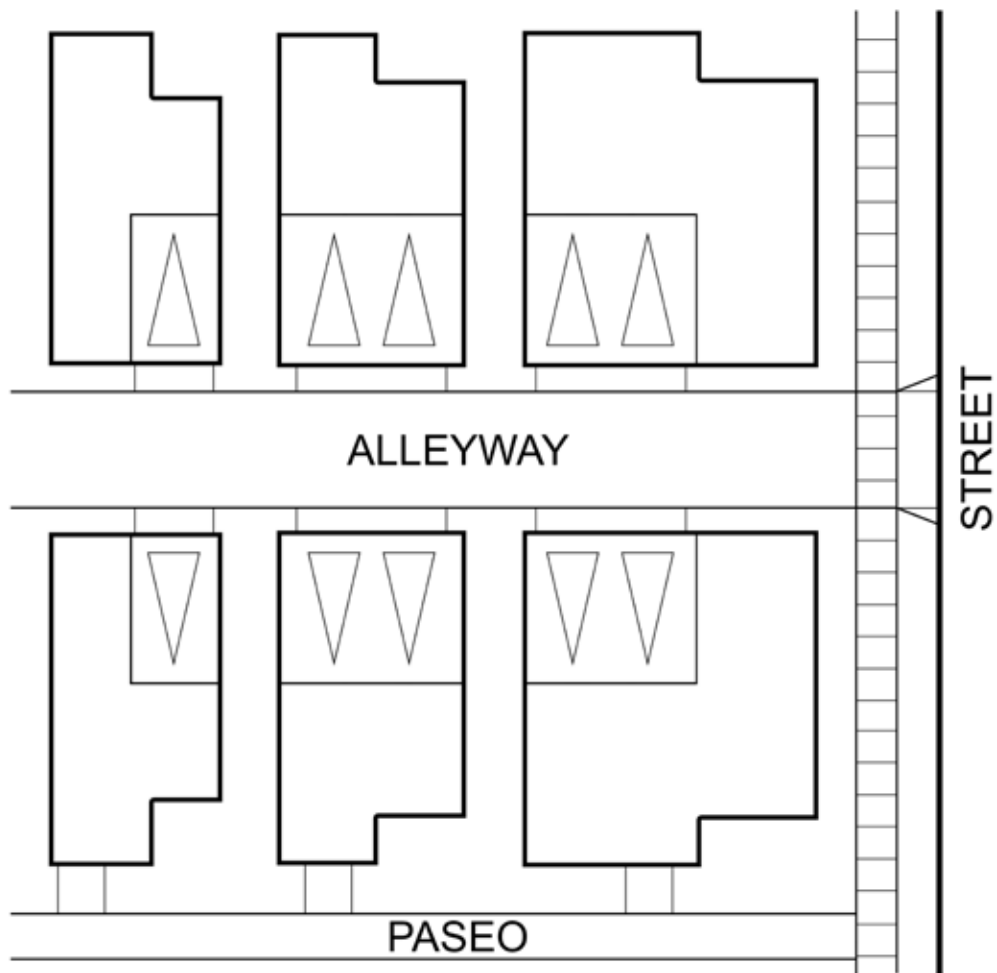


Figure 2-11: Conceptual Building Type F - Cluster Alley Loaded

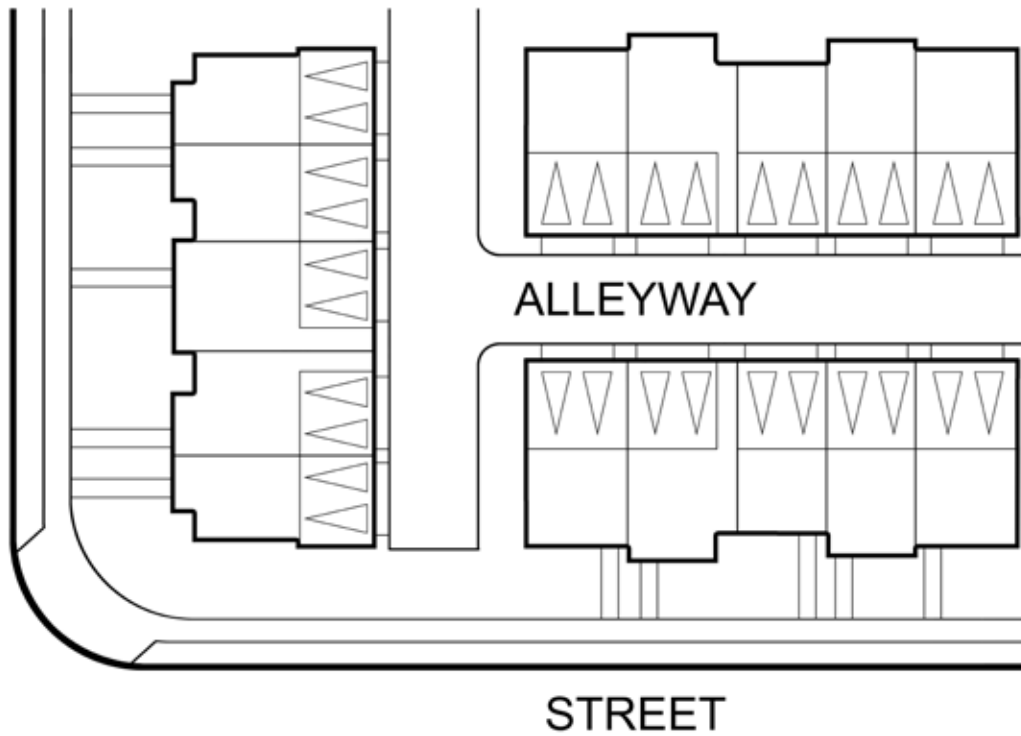


Figure 2-12: Conceptual Building Type G - Townhome

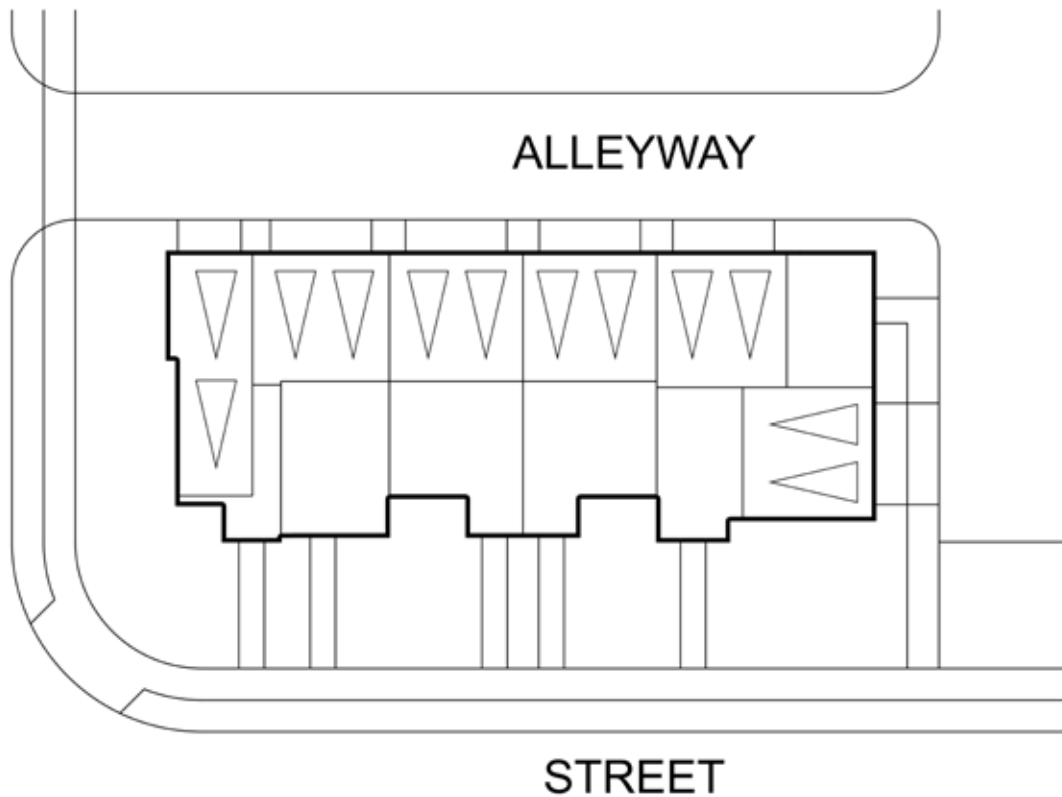


Figure 2-13: Conceptual Building Type H - Townhome

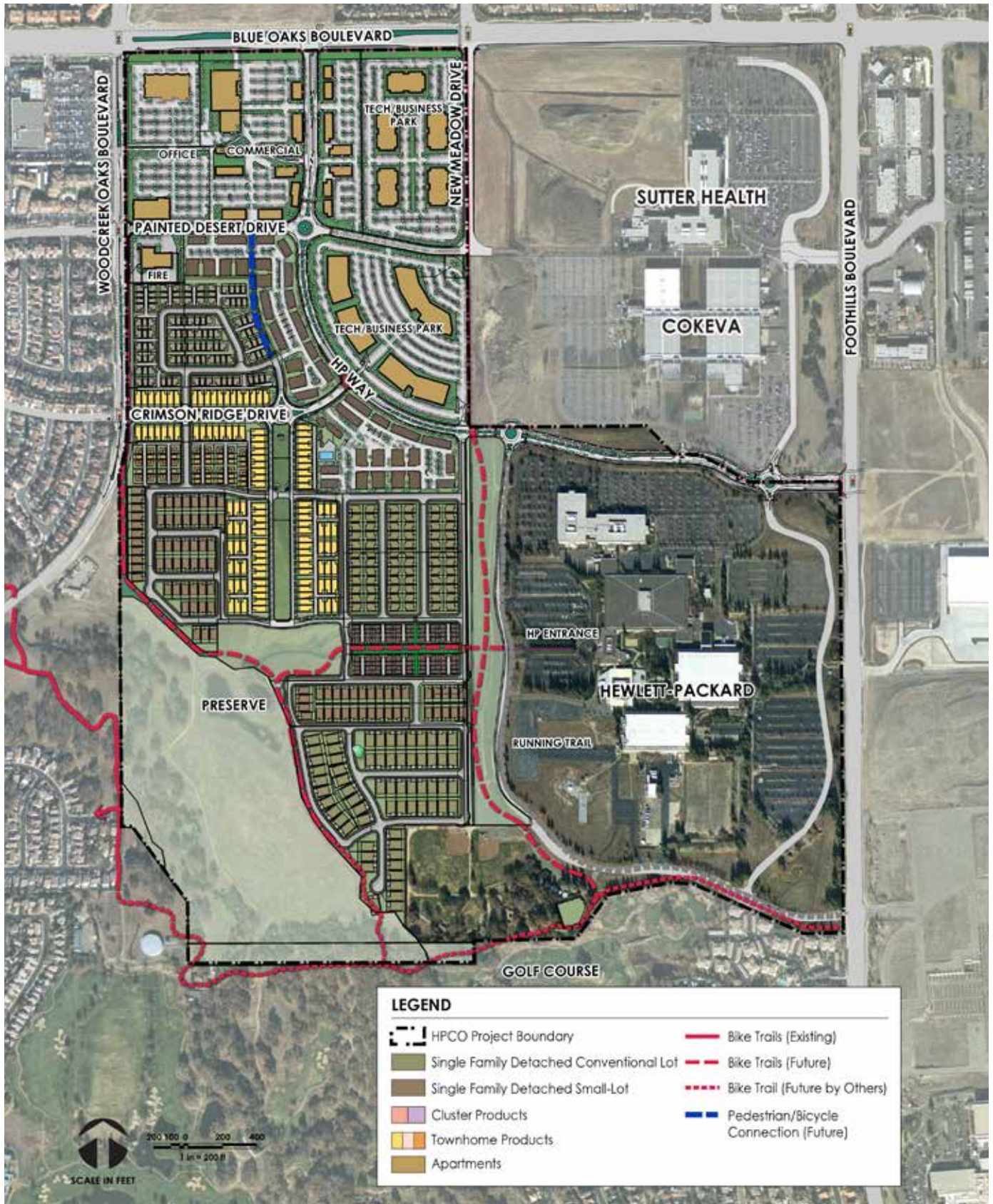


Figure 2-14: Campus Oaks Illustrative Plan



03

streetscapes

Campus Oaks streetscapes are intended to be visually attractive, pedestrian friendly, and complimentary to the natural and man-made elements within the community. Emphasis is placed on creating safe, comfortable and inviting settings that takes into account the needs of all users. Streetscape elements including landscaping, gateways and entries, intersections and roundabouts, walls and fences, lighting and amenities will be coordinated to create a cohesive sense of place that ties individual projects together.

3.1 Design Intent

In addition to other goals identified in the City's Community Design Guidelines, streetscapes in Campus Oaks shall place particular emphasis on the following supplemental design intent:

- Create pleasant environments with landscaping, tree canopies, separated sidewalks, bulb-outs, enhanced crossings, street furnishings and other pedestrian amenities.
- Emphasize HP Way as a local oriented, pedestrian friendly "complete street" that presents a highly walkable and bikeable environment.
- Establish gateways to provide a sense of identity and arrival into Campus Oaks and the larger HPCO Plan Area.
- Retain and enhance Campus Oaks' natural rolling terrain and view corridors.
- Provide for the inclusion of easy to care for edible landscape components.

- Incorporate recycled water for irrigation, native and adaptive drought tolerant plants, and efficient irrigation systems.

Designs are encouraged which balance aesthetic and functional sensitivities and result in the conservation and efficient use of natural resources.

3.2 Design Guidelines

Streetscapes in Campus Oaks shall comply with the relevant Public Space Design Guidelines identified in the City's Community Design Guidelines. In addition, the following supplemental design guidelines shall apply:

3.2.1 LANDSCAPING

Streetscapes are intended to incorporate consistent landscape themes that share a common visual thread throughout Campus Oaks. Key landscape elements are defined below and are generally reflected on Figures 3-1 (Typical Streetscape Corridor), Figure 3-2 (Blue Oaks Boulevard), Figure 3-3 (Woodcreek Oaks Boulevard) and Figure 3-4 (HP Way - Central).

Street Trees



Primary Street Trees

3-1. **Primary street trees** shall be:

- Located in landscape parkways between the street edge and sidewalk to frame the street, maximize shade for pedestrians, cyclists and on-street parking areas, and reduce heat gain;
- Selected in accordance with the Campus Oaks Street Tree and Recommended Plant Lists (Tables 3-1 & 3-2) to establish continuity and define community identity;
- Chosen for their large-scale, deep rooted, single-trunk character with high and broad canopies that arch over the adjacent street and sidewalks to provide sufficient pedestrian and vehicle clearance; and
- Planted in regular linear patterns spaced 30 to 40 feet on center depending upon species to create a consistent cadence, with a minimum of one tree per lot frontage along residential streets.



Median Trees

3-2. **Median street trees** shall be:

- Located generally along the centerline of landscape medians to maximize distance from paved surfaces;
- Selected in accordance with the Campus Oaks Street Tree List (Table 3-1) applying multiple species along each roadway to provide variety along the streetscape;
- Chosen for their large-scale, deep rooted, single or multi-trunk character with high upright branching structures to provide adequate clearance and sightlines for all users; and
- Planted in regular or semi-regular linear patterns spaced 30 to 40 feet on center depending upon species.



Secondary Street Trees

3-3. **Secondary street trees** shall be:

- Located behind the back of walk within landscape corridors to provide a background to the primary street trees and maximize shade along sidewalks and other pedestrian/cyclist areas;
- Selected in accordance with the Campus Oaks Street Tree and Recommended Plant Lists (Tables 3-1 & 3-2) to contrast with the primary street trees;
- Chosen for their deep rooted, single or multi-trunk character incorporating multiple tree species with different forms, sizes, colors and textures along a street to establish variety; and
- Planted in irregular patterns spaced an average of 30 feet on center or equivalent quantities when planted in clusters.



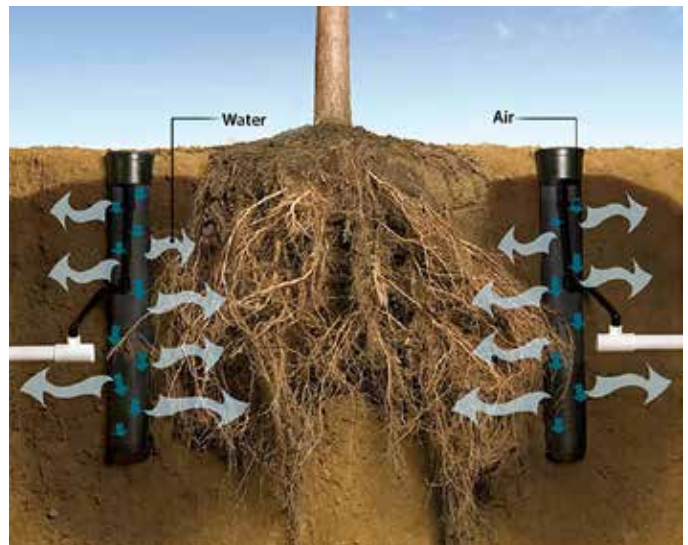
Accent Street Trees

3-4. **Accent street trees** shall be:

- Located in both landscape corridors and medians at specialized locations such as gateways, entries, intersections and roundabouts.
- Selected in accordance with the Campus Oaks Recommended Plant List (Tables 3-1 & 3-2) to provide visual interest through their structure, texture, flowers, or seasonal color;
- Chosen for their deep rooted, single or multi-trunk character; and
- Planted in informal groupings when feasible.

3-5. **All street trees** shall be:

- Set back from curbs, sidewalks and driveways far enough to accommodate ultimate growth.
- Provided with a deep root watering irrigation system to encourage downward, healthy root growth. Deep root irrigation provides water and air directly to the root zone and prevents surface root intrusion. Deep root irrigation shall be consistent with City Parks & Recreation construction standards.



Deep Root Watering

- Planted from a minimum 15-gallon container;
- Drought-tolerant, long-lived species that are well adapted to local climate and soil conditions incorporating efficient irrigation systems and practices to conserve water consistent with the City's Water Efficient Landscape Ordinance; and
- Coordinated with underground utilities and street lighting to minimize potential conflicts.

Table 3-1: Campus Oaks Street Tree List

Street Trees		
Blue Oaks Boulevard		
	<p>Primary: London Planetree (<i>Platanus x acerifolia</i> 'Columbia') or <i>Platanus racemosa</i> (California Sycamore)</p> <p>Secondary: Southern Live Oak (<i>Quercus virginiana</i>), Valley Oak (<i>Quercus lobata</i>), Oregon Oak (<i>Quercus garryana</i>)</p> <p>Median: Mixed tree plantings including: Southern Live Oak (<i>Quercus virginiana</i>), London Planetree (<i>Platanus acerifolia</i> 'Columbia'), <i>Acer rubrum</i> 'Franksred' or 'October Glory'</p> <p>Accent: Maidenhair Tree (<i>Ginkgo biloba</i> 'Fairmount'), Blue Italian Cypress (<i>Cupressus sempervirens</i> 'Glauca') <i>limited quantities & with City approval</i>, Fruitless Olive (<i>Olea</i> 'Swan Hill'), Grecian Laurel (<i>Laurus nobilis</i>), <i>Chionanthus retusus</i> (Chinese Fringe Tree)</p>	
	<p><i>Platanus x acerifolia</i> 'Columbia'</p>	
	Woodcreek Oaks Boulevard	
		<p>Primary: London Planetree (<i>Platanus x acerifolia</i> 'Columbia') or <i>Platanus racemosa</i> (California Sycamore)</p> <p>Secondary: Southern Live Oak (<i>Quercus virginiana</i>), Valley Oak (<i>Quercus lobata</i>), Oregon Oak (<i>Quercus garryana</i>)</p> <p>Median: Mixed tree plantings including: Sour Gum (<i>Nyssa sylvatica</i>), Oregon Oak (<i>Quercus garryana</i>), Glendora White Crape Myrtle (<i>Lagerstroemia indica</i> 'Glendora White')</p> <p>Accent: Maidenhair Tree (<i>Ginkgo biloba</i> 'Fairmount'), Blue Italian Cypress (<i>Cupressus sempervirens</i> 'Glauca') <i>limited quantities & with City approval</i>, Fruitless Olive (<i>Olea</i> 'Swan Hill'), Grecian Laurel (<i>Laurus nobilis</i>), <i>Chionanthus retusus</i> (Chinese Fringe Tree)</p>
<p><i>Platanus x acerifolia</i> 'Columbia'</p>		
HP Way Entry		
		<p>Primary: <i>Acer rubrum</i> 'Franksred' or 'October Glory', Emerald Sunshine Elm (<i>Ulmus propinqua</i>)</p> <p>Secondary: Maidenhair Tree (<i>Ginkgo biloba</i> 'Fairmount'), Swan Hill Fruitless Olive (<i>Olea europea</i> 'Swan Hill'), Grecian Laurel (<i>Laurus nobilis</i>), Blue Italian Cypress (<i>Cupressus sempervirens</i> 'Glauca') <i>limited quantities & with City approval</i></p> <p>Accent: <i>Chionanthus retusus</i> (Chinese Fringe Tree), Japanese Flowering Cherry (<i>Prunus serrulata</i>)</p>
	<p><i>Acer rubrum</i> 'Franksred'</p>	

Street Trees

HP Way Central



Primary: Emerald Sunshine Elm (*Ulmus propinqua*) or Frontier Elm (*Carpinifolia x parvifolia* 'Frontier')

Secondary: Sour Gum/Tupelo (*Nyssa sylvatica*), Southern Live Oak (*Quercus virginiana*), Oregon Oak (*Quercus garryana*)

Accent: Maidenhair Tree (*Ginkgo biloba* 'Fairmount'), Lavender Crape Myrtle (*Lagerstroemia indica* 'Muskogee')

Carpinifolia x parvifolia 'Frontier'

Painted Desert Way



Primary: Goldenrain Tree (*Koelreuteria paniculata*)

Secondary: Carolina Cherry Laurel (*Prunus carolinia*), Chionanthus retusus (Chinese Fringe Tree)

Koelreuteria paniculata

New Meadow Drive



Primary: Red Sunset Maple (*Acer rubrum* 'Franksred')

Secondary: Strawberry Tree (*Arbutus Unedo*), Chionanthus retusus (Chinese Fringe Tree)

Acer rubrum 'Franksred'

Street Trees

Crimson Ridge Drive



Primary: Chinese Pistache (*Pistacia chinensis* 'Keith Davey')

Secondary: Japanese Flowering Cherry (*Prunus serrulata*)

Pistacia chinensis

Park Couplet



Primary: Trident Maple (*Acer buergerianum*)

Accent: Grecian Laurel (*Laurus nobilis*), Forest Pansy Redbud (*Cercis canadensis* 'Forest Pansy')

Acer buergerianum

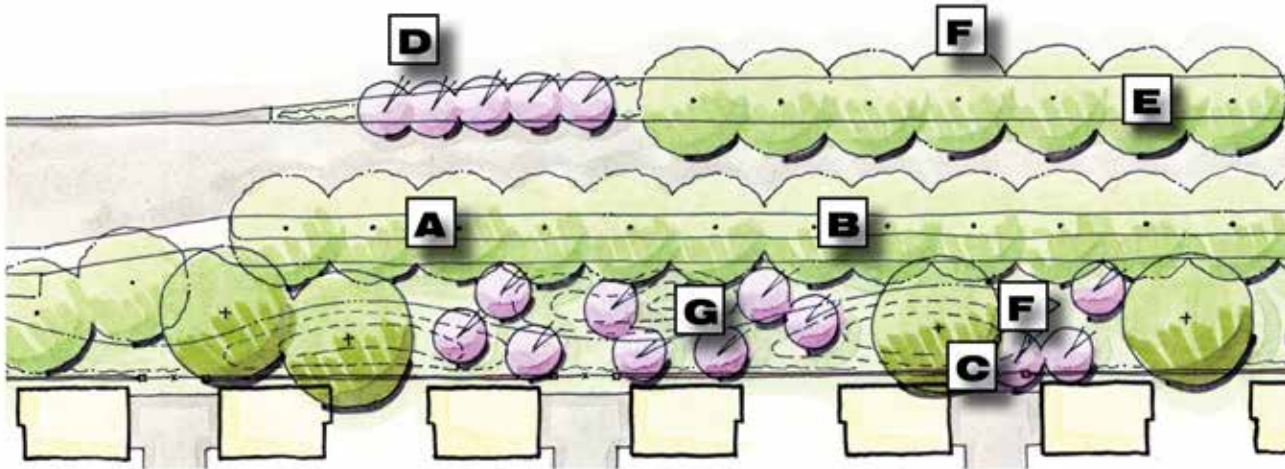
Other Local Streets



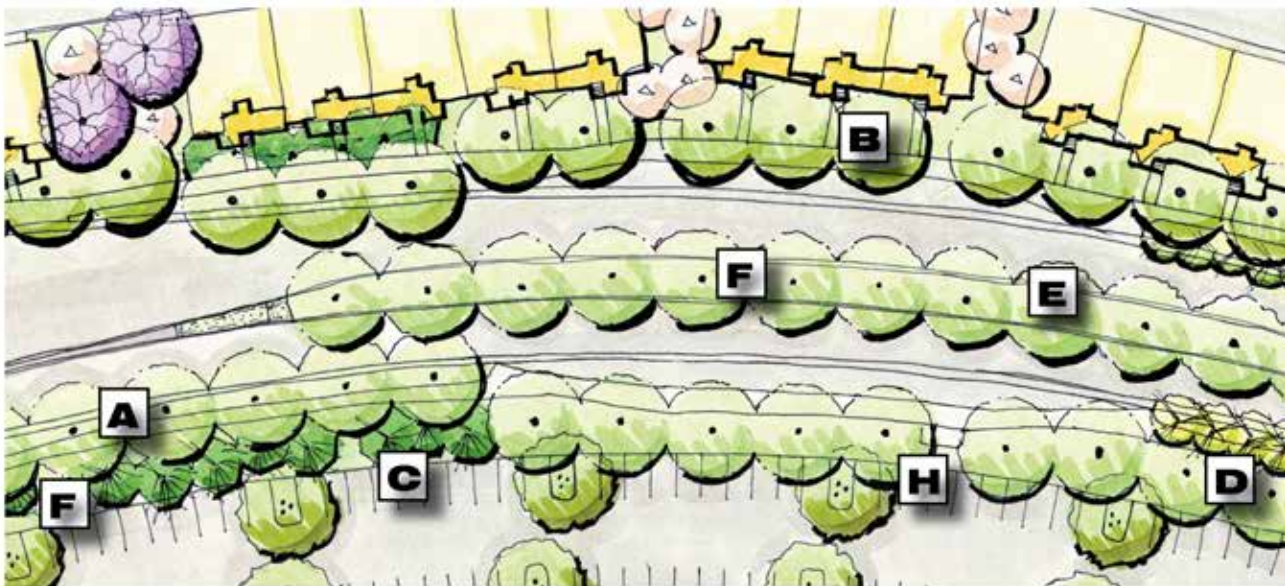
Primary: Selected through small lot tentative subdivision map review from Table 3-2: Campus Oaks Recommended Plant List.

Varied Species per Table 3-2

ARTERIAL ROADWAYS (Blue Oaks Blvd and Woodcreek Oaks Blvd)



COLLECTOR ROADWAYS (HP Way, Painted Desert Drive, New Meadow Drive and Crimson Ridge Drive)



LEGEND:

- | | |
|-----------------------------------------|---------------------------------------------------------------------------|
| A. Parkway strip with detached sidewalk | F. Understory planted with low water use groundcover (no turf in medians) |
| B. Primary Street Tree | G. Vegetative bio-swale where possible for storm water treatment |
| C. Secondary Street Tree | H. Bus Stop |
| D. Accent Tree | |
| E. Median Tree (where applicable) | |

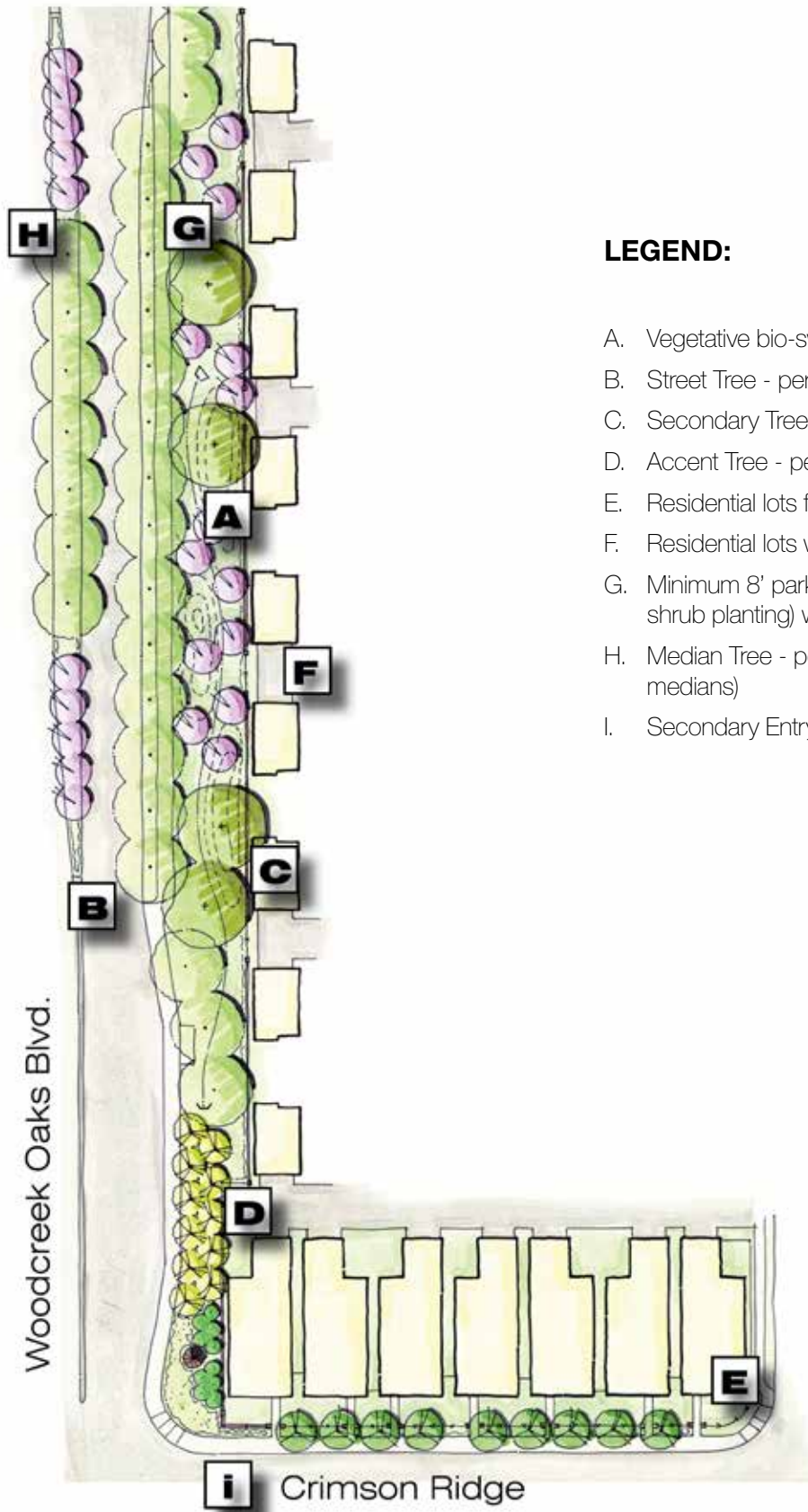
Figure 3-1: Typical Streetscape Corridor



LEGEND:

- A. Existing Drainage swale
- B. Street Tree - per Campus Oaks tree list
- C. Secondary Tree - per Campus Oaks tree list
- D. Accent Tree - per Campus Oaks tree list
- E. Commercial Development
- F. Primary Gateway and Community monument
- G. Minimum 8' parkway (low water use groundcover and shrub planting) with 8' detached sidewalk.
- H. Median Tree - per Campus Oaks tree list (no turf in medians)

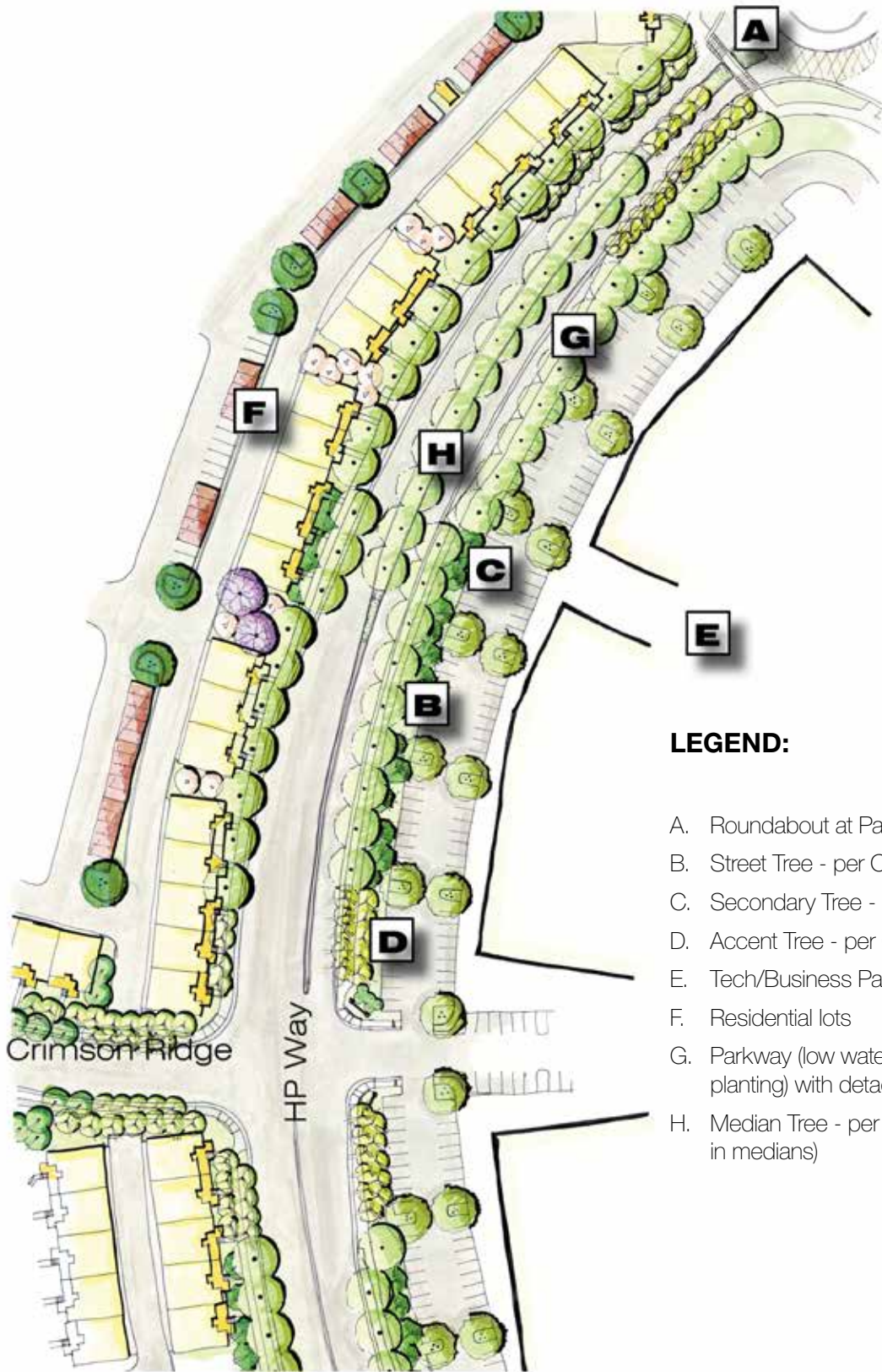
Figure 3-2: Blue Oaks Boulevard



LEGEND:

- A. Vegetative bio-swale along frontage where possible
- B. Street Tree - per Campus Oaks tree list
- C. Secondary Tree - per Campus Oaks tree list
- D. Accent Tree - per Campus Oaks tree list
- E. Residential lots fronting on Collector
- F. Residential lots with masonry soundwall
- G. Minimum 8' parkway (low water use groundcover and shrub planting) with 8' detached sidewalk.
- H. Median Tree - per Campus Oaks tree list (no turf in medians)
- I. Secondary Entry Gateway

Figure 3-3: Woodcreek Oaks Boulevard



LEGEND:

- A. Roundabout at Painted Desert
- B. Street Tree - per Campus Oaks tree list
- C. Secondary Tree - per Campus Oaks tree list
- D. Accent Tree - per Campus Oaks tree list
- E. Tech/Business Park
- F. Residential lots
- G. Parkway (low water use groundcover and shrub planting) with detached sidewalk.
- H. Median Tree - per Campus Oaks tree list (no turf in medians)

Figure 3-4: HP Way – Central



Shrubs and Ornamental Grasses

Shrubs and Ornamental Grasses

3-6. A combination of shrubs and ornamental grasses are to be used in landscape corridors, medians, and roundabouts to provide visual interest, soften the ground plane, and function as a screen to fences, walls, parking lots and utility equipment.

3-7. Drought tolerant, water conserving and native species are to be considered that are well adapted to local climate and soil conditions incorporating efficient irrigation systems and practices to conserve water consistent with the City's Water Efficient Landscape Ordinance.

3-8. Mulch is to be layered (minimum 3 inches thick) within all shrub planting areas to reduce weed growth and retain moisture.

3-9. Shrubs and ornamental grasses shall be:

- Selected from the Campus Oaks Recommended Plant List (Table 3-2) and applied in a consistent manner along a street;
- Chosen according to size, color, texture, and seasonal interest;
- Chosen for their non-invasive character and to not outgrow their designated space or require unnecessary maintenance;
- Used in large masses and not singularly, except where unique treatments call for specimens to highlight a special streetscape design element;
- Planted to include a variety of evergreen and deciduous species, spaced in a manner that landscaped areas maintain their character and visual interest during the dormant season;
- Placed to not obstruct important pedestrian, cyclist or vehicular sight lines or create hiding spots that may threaten safety;
- Coordinated with underground utilities to minimize potential conflicts; and
- Planted from a mixture of 1 to 5-gallon containers.

3-10. Berms within streetscape areas planted with shrubs or groundcover should not exceed 30 inches in height, as measured from the adjacent curb.

3-11. To provide sufficient area for median landscaping, median turn pockets should be spaced to minimize disruption of landscape plantings and to not create small islands that are not practical to landscape.



Groundcover

Groundcover

3-12. Groundcover shall be planted in all portions of landscape corridors, medians and roundabouts not planted with shrubs. Selection of plant materials should reflect the potential level of pedestrian use of a particular area.

3-13. Drought tolerant, water conserving and native species are to be considered that are well adapted to local climate and soil conditions incorporating efficient irrigation systems and practices to conserve water consistent with the City's Water Efficient Landscape Ordinance. The use of turf within streetscapes is to be minimized. The use of low water use, walk-on type groundcovers or grasses is encouraged.

3-14. Mulch is to be layered (minimum 3 inches thick) within all groundcover planting areas to reduce weed growth and retain moisture.

3-15. Groundcover shall be:

- Selected from the Campus Oaks Recommended Plant List (Table 3-2) and applied in a consistent manner along a street;
- Chosen for their non-invasive character;

- Defined with concrete mow strips. Mow strips should also be used to delineate the edges of formal landscape/maintenance areas; and
 - Planted from a mix of liners and 1-gallon containers.
- 3-16. Large decorative rocks may be incorporated within groundcover areas as accent elements.



Large Decorative Rock



Bio-Swale

- 3-17. Interlocking pavers, stones, or stamped concrete may be used where medians narrow or other areas where plantings are impractical. A consistent palette of such materials should be used throughout Campus Oaks.
- 3-18. Post construction source control and Low Impact Development (LID) features should be considered within larger streetscape corridors and medians such as tree plantings, infiltration galleries, separated sidewalks, bio-retention facilities, rain gardens, bioswales, soil amendments, impervious surface reduction, bio-retention basins, and end of the pipe treatment Best Management Practices (BMP's). Hydromodification measures shall be required should LID measures not achieve infiltration and/or reuse runoff goals as specified by the City's Municipal Separate Storm Sewer System (MS4) Permit.



Edible Landscaping

Edible Landscaping

3-19. The use of plant species that produce edible fruits, nuts, berries and flowers may be incorporated as part of any streetscape, park or other public landscape area subject to City approval. City approval will be granted on a project by project basis.

3-20. Edible landscape plantings shall be:

- Selected from the Campus Oaks Recommended Edible Plant List (Table 3-3) to be easy to establish, low maintenance, hardy and high yielding;

- Located and under planted with species that allow access for harvesting; and
- Planted and maintained to not overhang adjoining paved areas including sidewalks, driveways, curbs, roadways or trails.

3-21. Climbing vines such as grape and kiwi may be used for arbors, pergolas, fence lines, or trellises.

3-22. Streetscape landscaping may incorporate the use of nectar producing and flowering plants that supply food, shelter, and breeding habitat for beneficial insects that pollinate edible crops and control pests.

3-23. Signage should be located in proximity to edible plantings to inform and educate residents about their benefits and opportunities to participate in maintenance and harvesting.

3-24. The Campus Oaks CFD or other mechanism acceptable to the City shall include funding to properly maintain edible landscape plantings including harvesting and measures to prevent vector infestations. The City and landowners shall coordinate to encourage the establishment of community organizations to support such activities.

Table 3-2: Campus Oaks Recommended Plant List

*Low water use plants according to the Water Use Classification of Landscape Species 4th Edition (WUCOLS IV)	
Primary Street Trees	
Acer buergerianum	Trident Maple
Acer campestre 'Metro Gold'	Metro Gold Maple
Acer rubrum 'Autumn Blaze'	Red Maple
Acer rubrum 'Franksred'	Red Sunset Maple
Acer rubrum 'October Glory'	October Glory Maple
Acer tataricum	Flame Maple
Koelreuteria paniculata	Goldenrain Tree
*Pistacia chinensis	Chinese Pistache
Platanus x acerifolia 'Columbia'	Columbia Sycamore
*Platanus racemosa	California Sycamore
Ulmus Carpinifolia x parvifolia 'Frontier'	Frontier Elm
Ulmus morton 'Accolade'	Accolade Elm
Ulmus propinqua	Emerald Sunshine Elm

***Low water use plants according to the Water Use Classification of Landscape Species 4th Edition (WUCOLS IV)**



Secondary Street Trees

*Arbutus Unedo	Strawberry Tree
Calocedrus decurrens	Incense Cedar
*Cedrus deodora	Deodar Cedar
Cupressus sempervirens 'Glauca'	Italian Cypress
Ginkgo biloba 'Fairmount'	Maidenhair Tree
*Laurus nobilis	Grecian Laurel
Magnolia grandiflora 'St. Mary'	Southern Magnolia 'St. Mary'
Nyssa sylvatica	Sour Gum
Olea europea 'Swan Hill'	Swan Hill Fruitless Olive
*Pistacia chinensis 'Keith Davey'	Chinese Pistache
*Prosopis glandulosa Mavrick	Thornless Texas Honey Mesquite
*Prunus carolinia	Carolina Cherry Laurel
*Quercus garryana	Oregon Oak
*Quercus ilex	Holly Oak
*Quercus lobata	Valley Oak
*Quercus Phellos	Willow Oak
Quercus virginiana	Southern Live Oak
*Quercus wislizenii (native transition areas only)	Interior Live Oak
Zelkova serrata	Zelkova



Accent Street Trees

Cercis canadensis 'Forest Pansy'	Forest Pansy Redbud
Cercis canadensis 'Oklahoma'	Oklahoma Redbud
Chionanthus retusus	Chinese Fringe Tree
*Chitalpa tashkentensis	Chitalpa
Eriobotrya deflexa	Bronze Loquat
*Lagerstroemia indica	Crape Myrtle
*Laurus nobilis	Grecian Laurel
Magnolia soulangeana (standard)	Saucer Magnolia
Olea europea 'Swan Hill'	Swan Hill Fruitless Olive
Prunus serrulata	Japanese Flowering Cherry
*Rhus lancea	African Sumac
Thuja occidentalis 'Emerald Green'	American Arborvitae

*Low water use plants according to the Water Use Classification of Landscape Species 4th Edition (WUCOLS IV)

Shrubs and Ornamental Grasses	
*Artemisia 'Powis Castle'	Powis Castle Wormwood
*Arbutus unedo 'Compacta'	Dwarf Strawberry Tree
*Berberis thunbergii	Japanese barberry
*Berberis thunbergii 'Helmond Pillar'	Helmond Pillar Barberry
*Bouteloua gracilis 'Blonde Ambition'	Blonde Ambition Blue Grama Grass
Buxus microphylla 'Japonica'	Japanese Boxwood
Buxus m. japonica 'Winter Gem'	Winter Gem Boxwood
*Calamagrostis x acutiflora 'Karl Foerster'	Feather Reed Grass
*Callistemon viminalis 'Little John'	Dwarf Bottle Brush
*Carpenteria californica 'Elizabeth'	Bush Anemone
*Chaenomeles speciose 'Orange Storm'	Double Take Orange Storm Flowering Quince
*Cistus hybridus	Rockrose
Coleonema pulchellum	Pink Breath of Heaven
*Diets bicolor	Fortnight Lily
*Elymus condensatus 'Canyon Prince'	Canyon Prince Wild Rye
Escallonia 'Terri'	Dwarf Escallonia
Escallonia fradesii	Escallonia
*Euryops viridis	Green Leaf Euryops
*Forsythia x intermedia 'Mindor'	Show Off Forsythia
*Frangula californica	Coffeeberry
*Grevillea 'Noelli'	Noel's Grevillea
*Helictotrichon sempervirens	Blue Oat Grass
Hemerocallis spp.	Daylily (evergreen only)
*Kniphofia uvaria	Red Hot Poker
*Lavandula angustifolia 'Alba'	White Lavender
*Lavandula angustifolia 'Munstead'	English Lavender
*Lavandula intermedia 'Provence'	Hedge Lavender
*Lavatera maritima	Tree Mallow
*Leptospermum scoparium	Tea Tree
*Leucophyllum zygomphyllum	Blue Ranger
Loropetalum chinense	Chinese Fringe Flower
*Mahonia aquifolium	Oregon Grape
*Mahonia eurybracteata 'Soft Caress'	Soft Caress Mahonia
Miscanthus sinensis 'Zebrainus'	Zebra Grass
*Muhlenbergia dubia	Pine Muhly Grass
*Muhlenbergia capillaris 'Regal Mist'	Regal Mist Pink Muhly
*Muhlenbergia rigens	Deer Grass
*Nandina domestica 'Compacta'	Compact Heavenly Bamboo
*Nandina domestica 'Gulf Stream'	Heavenly Bamboo
*Pennisetum alopecuroides 'Hameln'	Dwarf Fountain Grass
*Phormium tenax 'Maori Maiden'	New Zealand Flax
*Phormium tenax 'Bronze Baby'	Red-Bronze New Zealand Flax

***Low water use plants according to the Water Use Classification of Landscape Species 4th Edition (WUCOLS IV)**

Photinia x fraseri	Red Leaf Photinia
Pittosporum tenuifolium 'Golf Ball'	Golf Ball Kohuhu
*Punica granatum 'Nana'	Dwarf Pomegranate
*Raphiolepis indica	Indian Hawthorn
*Raphiolepis umbellate 'Minor'	Dwarf Yeddo Hawthorn
*Ribes viburnifolium	Evergreen Currant
*Salvia greggii 'Heatwave Blaze'	Heatwave Blaze Sage
*Salvia greggii 'Wild Thing'	Pink Salvia
*Syringa vulgaris 'Charles Joly'	Charles Joly Lilac
*Viburnum tinus 'Compactum'	Spring Bouquet Laurustinus
Vaccinium corymbosum 'ZF06-043'	Brazelberries Beach Sorbet Blueberry
*Xylosma congestum	Shiny Xylosma



Groundcover

*Achillea Millefolium 'Red Velvet'	Red Velvet Yarrow
*Achillea Millefolium 'Moonshine'	Yellow Yarrow
Arctostaphylos 'Emerald Carpet'	Emerald Carpet Manzanita
*Baccharis pilularis 'Pigeon Point'	Dwarf Coyote Brush
*Berberis aquifolium var. repens	Creeping Mahonia
*Callistemon 'Little John' or 'Better John'	Dwarf Bottlebrush
*Ceanothus maritimus 'Frosty Dawn'	Frosty Dawn Ceanothus
*Ceanothus g. h. 'Yankee Point'	Wild Lilac
*Cistus 'Sunset'	Sunset Rock Rose
*Coprosma pumila	Prostrate Coprosma
*Coprosma x Kirkii	Kirk's Coprosma
*Dianella revolute 'Little Rev'	Little Rev Flax Lily
*Erigeron karvinskianus	Santa Barbara Daisy
Euonymos fortunei 'Colorata'	Purple Leaf Wintercreeper
Isotoma fluviatilis	Blue Star Creeper
*Lavandul stoechas 'Larkman hazel'	Hazel Spanish Lavender
*Lomandra longifolia 'Breeze'	Dwarf Mat Rush
*Mimulus aurantiacus	Sticky monkey Flower
Muehlenbeckia axillaries	Wire Vine
*Myoporum parvifollum 'Prostrata'	Creeping Myoporum
*Nandina 'Harbor Dwarf'	Heavenly bamboo
Rosa noaschnee	Flower Carpet Rose
*Salvia nemorosa 'Pink Friesland'	Meadow Sage
*Scaevola 'Mauve Cluster'	Pink-Purple Fan Flower
*Teucrium chamaedrys	Germander
Trachelospermum jasminoides/Asiaticum	Star Jasmine/Asian Jasmine
*Tulbaghia violacea 'Silver Lace'	Variegated Society Garlic
Vinca minor	Dwarf Periwinkle

***Low water use plants according to the Water Use Classification of Landscape Species 4th Edition (WUCOLS IV)**

Vines	
Clytostoma callistegioides	Violet Trumpet Vine
Distictis buccinatoria	Blood Red Trumpet Fine
Ficus pumila 'Repens'	Creeping Fig
Grewia occidentalis	Lavender star Flower
Hardenbergia violacea 'Happy Wanderer'	Lilac Vine
*Macfadyena unguis cat	Catclaw Trumpet Vine
Parthenoisis tricuspidata 'Veitchii'	Boston Ivy
*Rosa 'Cecile Brunner'	Cecile Brunner Rose
*Rosa banksiae	Lady Banks Rose
Wisteria sinensis	Chinese Wisteria

Note: Other plant species may be considered to augment this list, subject to review and approval by the City.

Table 3-3: Campus Oaks Recommended Edible Plant List

Trees		Shrubs	
Almond	Prunus dulcis 'Nonpareil'	Blueberry	Vaccinium sp.
Apple	Malus, sp.	Improved Green Globe Artichoke	Cynara scolymus 'Improved Green Globe'
Apricot	Prunus armeniaca	Pineapple Guava	Acca (Feijoa) sellowiana
Cherry	Prunus, sp.	Rosemary	Rosmarinus officinalis
Citrus	Citrus, sp.	Currants, Gooseberries,	Ribes, sp.
Fig	Ficus carica	Raspberry	
Pecan	Carya illinoensis		
Peach / Nectarine	Prunus persica / nucipersica		
Persimmon	Diospyros kaki 'Fuyu'		
Pomegranite	Punica granatum 'Wonderful'		
Walnut	Juglans regia		
Groundcover		Vines	
Lantana	Lantana montevidensis	Blackberry (Thornless)	Arapaho, Apache, Choctaw, Navajo
Mint	Mentha	Grape	Vitis, sp.
Oregano	Origanum	Kiwi	Actinidia deliciosa
Rosemary	Rosmarinus prostratus	Rose	Rosa, sp.
Strawberry	Fragaria		
Thyme	Thymus		
Verbena	Verbena peruviana		

Note: The use of plant species that produce edible fruits, nuts, berries, and flowers may be incorporated as part of any streetscape, park or other public landscape area subject to City approval. Other plant species may be considered to augment this list, subject to review and approval by the City.



Channel Treatment

3.2.2 LANDSCAPED DRAINAGE CHANNELS

- 3-25. The existing drainage channel within the landscape corridor along Blue Oaks Boulevard shall be upgraded to include a modified concrete pan and maintenance access ramps.
- 3-26. The modified concrete pan shall incorporate areas of permeability, subsurface drains or other measures to provide for percolation of dry season runoff and treatment of storm water.
- 3-27. Rocks/boulders shall be placed intermittently along the edge of the concrete pan, and the slope grading shall be rounded, to blend with the existing terrain and create a “natural” look.
- 3-28. Slopes shall be landscaped with low maintenance groundcovers, shrubs and trees to enhance aesthetic appeal. Plantings should be selected to be suitable with water flows.
- 3-29. At road crossings, rockery walls may be used to create visual interest in the channel, to create larger planting areas at the street elevation, and to accommodate enhanced plantings at project entries.



Entry Signage

3.2.3 GATEWAYS AND ENTRIES

Primary Entry Gateway and Minor Project Entry - Blue Oaks Boulevard

3-30. A Primary Entry Gateway shall be provided at the intersection of Blue Oaks Boulevard and HP Way to create a sense of arrival into Campus Oaks as reflected on Figure 3-5 through 3-8. The Primary Entry Gateway shall incorporate:

- An enhanced pedestrian intersection as specified in Guidelines 3-36 and 3-37;

- Complimentary low-scale hardscape features along each side of HP Way such as low walls, decorative fencing, entry monuments, pilasters, raised planters, rockery walls along the drainage swale, plazas, and/or similar features. Hardscape elements shall be clad with stone or other natural materials that are unified and complement the overall Campus Oaks streetscape theme;
- Signage integrated into the hardscape features identifying the project (Campus Oaks and/or Hewlett-Packard Enterprise). Signage should be subtle, consisting of either flush mount (with mounting hardware embedded into the surface onto which it is affixed), cast or laser cut letters, emblems or logos. All signage shall be consistent with the City of Roseville Sign Ordinance;
- Enhanced landscaping with specimen oak trees will be used to identify the project entry and create visual scale that is prominent along Blue Oaks Boulevard;

LEGEND

- A. Project entry monuments with decorative rail fence and pilasters
- B. Enhanced drainage swale
- C. Project sign wall
- D. Rockery retaining walls in drainage swale near project entry
- E. Project entry tree
- F. Specimen accent tree at entry - oaks
- G. Planted median
- H. Commercial development

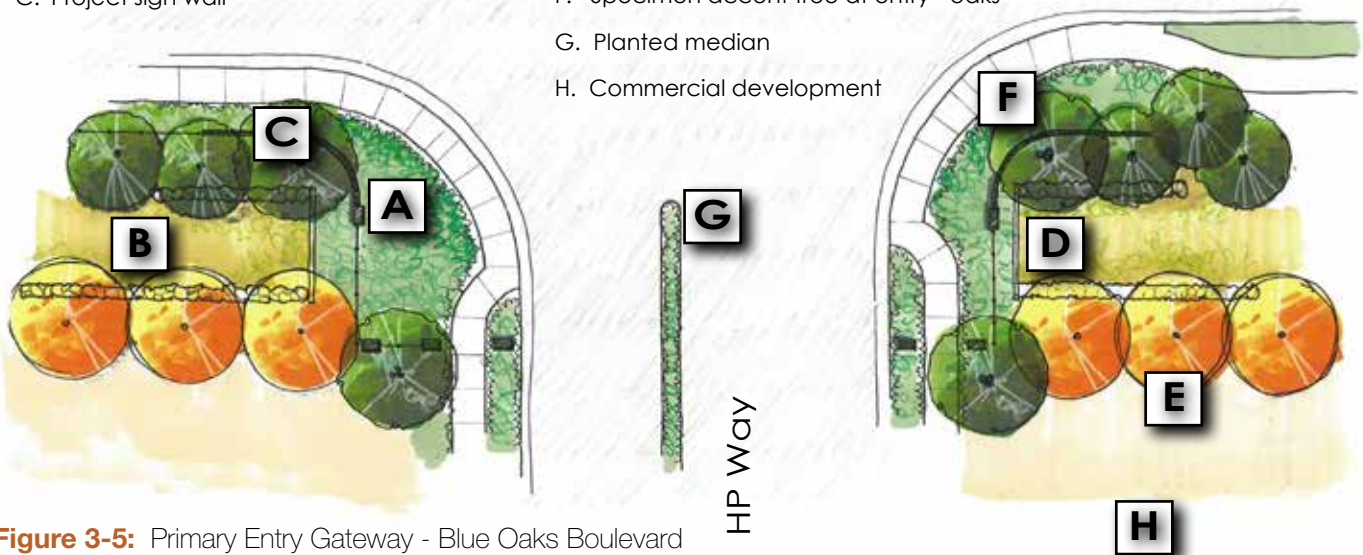


Figure 3-5: Primary Entry Gateway - Blue Oaks Boulevard

LEGEND

- A. Stone veneer clad pilaster with project logo medallion
- B. Curved sign wall, stone veneer cladding
- C. Project sign - Cor-ten steel blade sign with laser cut letters. Sign to be up lighted.
- D. Project fence 2 rail style with rectangular space pickets. Cor-ten steel.
- E. Specimen oak tree

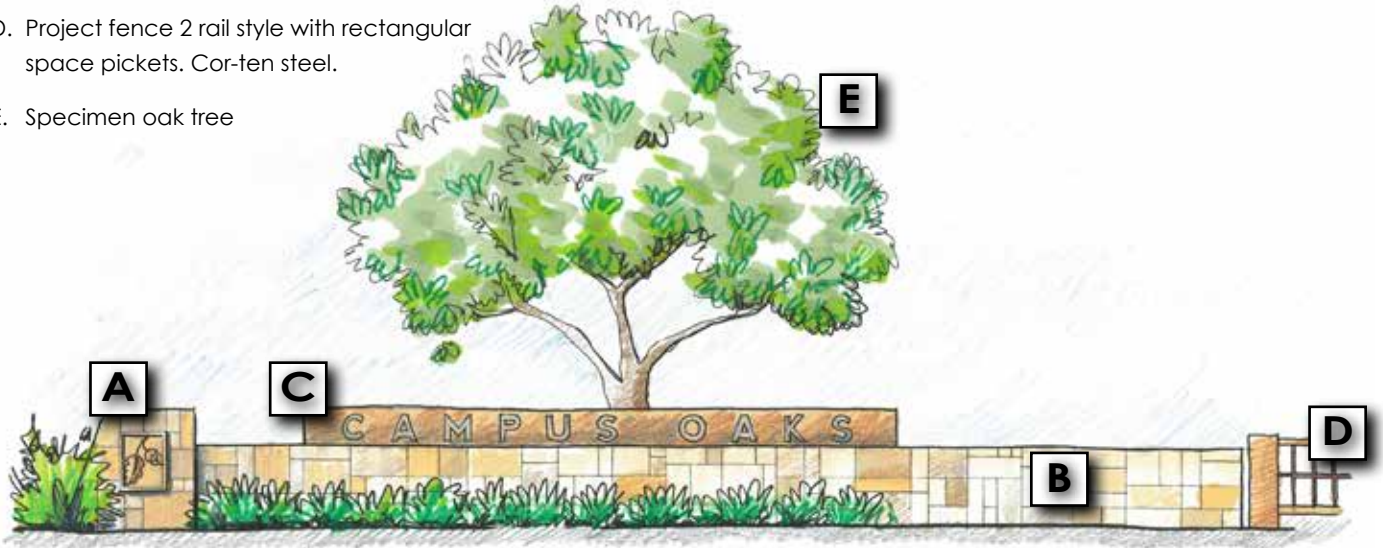
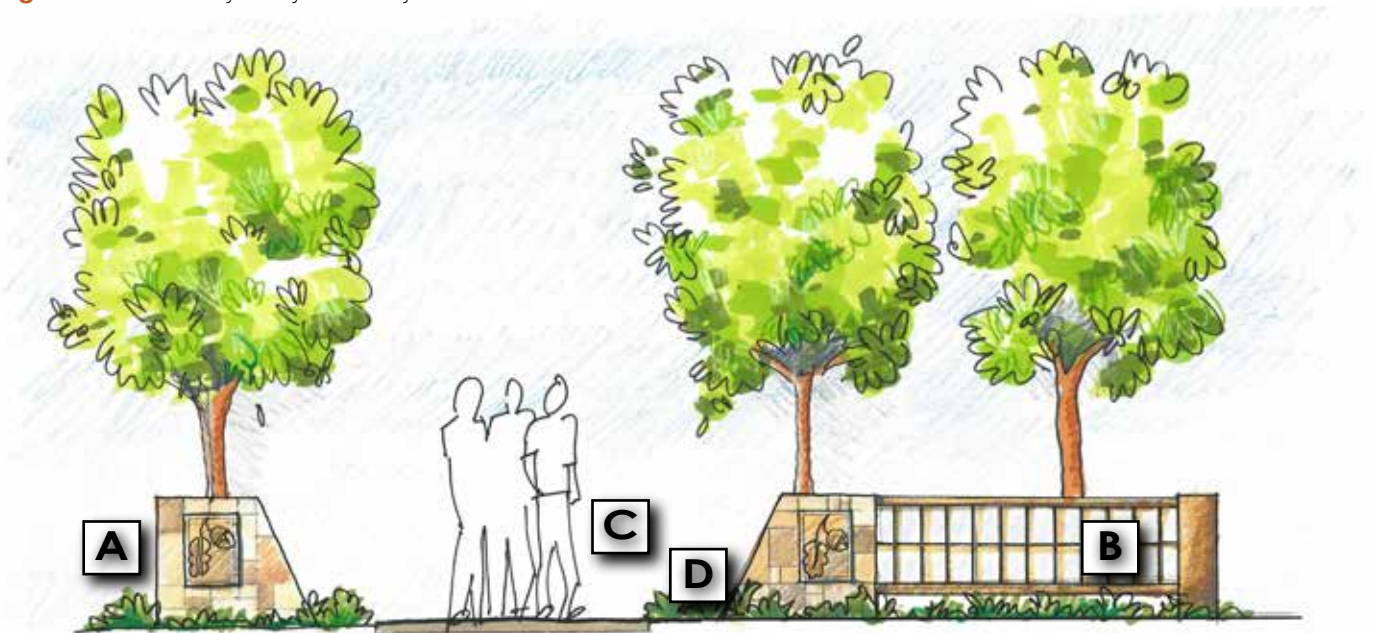


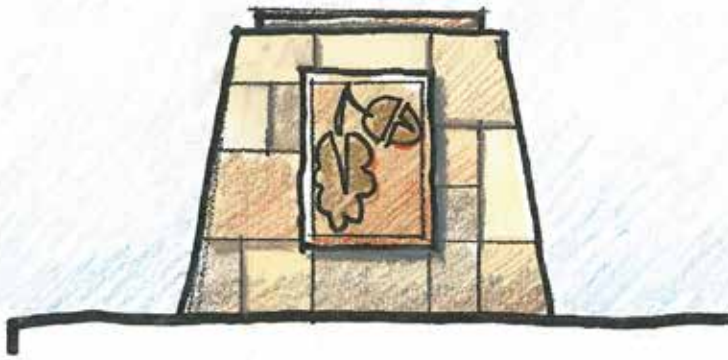
Figure 3-6: Primary Entry Gateway - Elevation



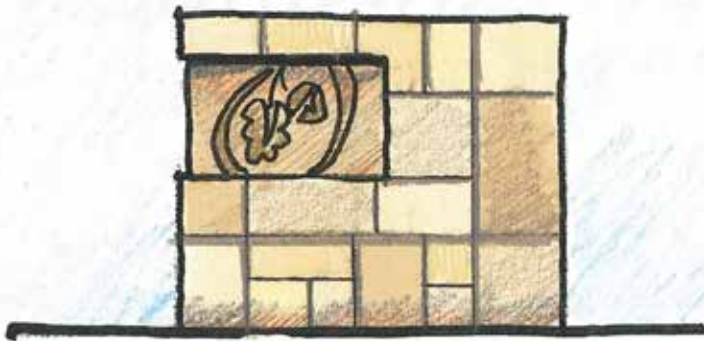
LEGEND

- A. Parkway Planter with stone clad pilaster & project logo medallion
- B. Low project fence and pilaster. Fence to connect to monument wall
- C. 8' wide sidewalk
- D. Project entry trees and landscaping

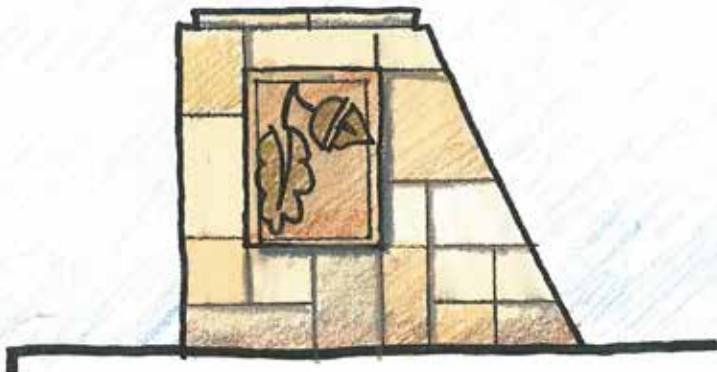
Figure 3-7: Primary Entry Gateway - Pedestrian Entry at HP Way



Option 1
Double battered



Option 2
Rectangular with inset medallion



Option 3
Single batter

Monument walls and pilasters shall be clad on all sides with cut stone veneer and mortared joints. A project medallion with the Campus Oaks logo may be incorporated into each pilaster.

Figure 3-8: Primary Entry Gateway - Pilaster Examples

- Significant stands of distinct accent trees and plantings to further define the physical form of the gateway, with a scale that reinforces the sense of arrival. Trees should be selected for their architectural form, seasonal color, and/or flower habit. Accent shrubs should have a growth habit low enough not to obscure hardscape features. All plantings shall be selected in accordance with the Campus Oaks Street Tree and Recommended Plant Lists (Tables 3-1 & 3-2); and
- Indirect lighting highlighting hardscape features, accent trees and signage.



Architectural Focal Point

3-31. Development at the corners adjacent to the Primary Entry Gateway should be pulled back to provide for the gateway, with adjacent buildings incorporating architectural focal points, enhanced design features, and pedestrian access/plazas linked to the Gateway where feasible.

3-32 Driveway access to individual parcels from Blue Oaks Boulevard will incorporate minor project entries complimentary to the primary entry gateway as illustrated on Figure 3-9.

LEGEND

- A. Commercial driveway per city of Roseville Standards
- B. Variation of project entry monument and sign adapted to commercial center
- C. Enhanced landscape and specimen trees
- D. Drainage channel with rockery walls
- E. Project pilasters and low fence
- F. Parking

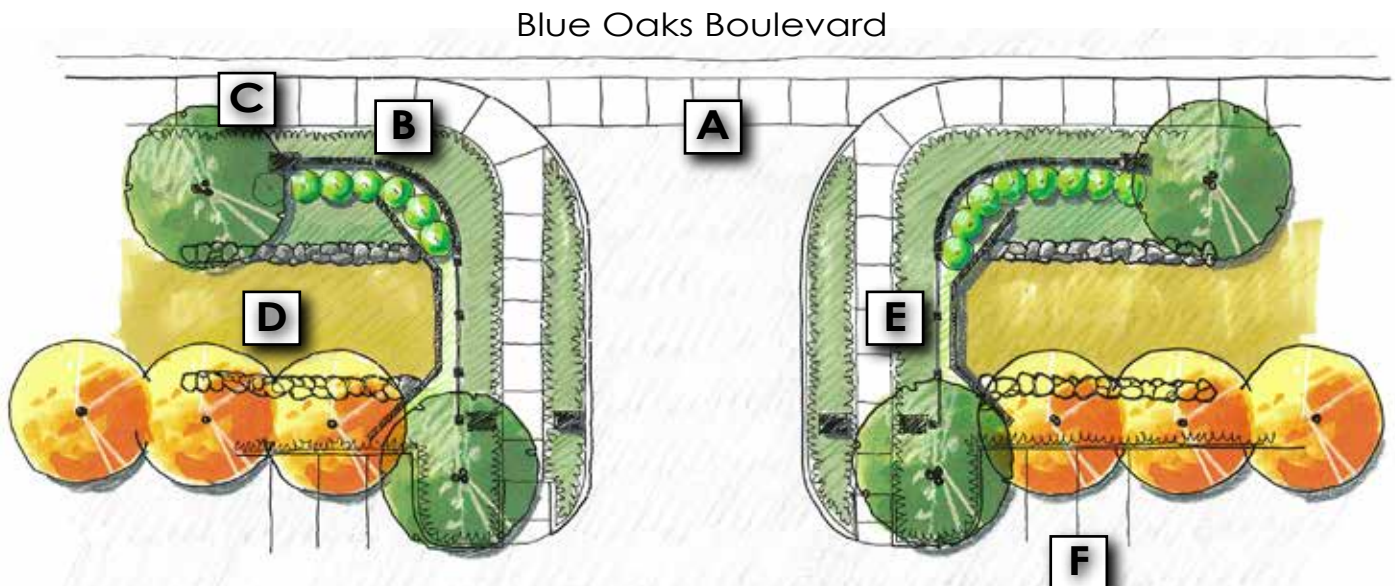


Figure 3-9: Minor Project Entry - Blue Oaks Boulevard

Secondary Entry Gateways

3-33. Secondary Entry Gateways shall be provided at the intersection of New Meadow Drive and Blue Oaks Boulevard, and at the intersections of Painted Desert Drive and Crimson Ridge Drive with Woodcreek Oaks Boulevard. The Secondary Entry Gateways shall be of a smaller scale than Primary Entry Gateways and create a more subtle sense of arrival into Campus Oaks as reflected on Figure 3-10. Secondary Entry Gateways shall incorporate:

- Enhanced pedestrian intersections as specified in Guidelines 3-36 and 3-37;
- Lower-scale entry and hardscape features along each side of the street such as low walls, rockery walls, pilasters, raised planters, and/or similar features. Vertical entry and hardscape elements shall be clad with stone or other natural materials that are unified and complement the Primary Entry Gateway;
- Signage integrated into the vertical entry or hardscape features identifying the project or a subarea of the project. Signage should be subtle, consisting of either flush mount (with mounting hardware embedded into the surface onto which it is affixed) or cast or laser cut letters, emblems or logos. All signage shall be consistent with the City of Roseville Sign Ordinance;
- Accent trees and plantings to further define the physical form of the gateways. Trees should be selected for their architectural form, seasonal color, and/or flower habit. Accent shrubs should have a growth habit low enough not to obscure hardscape features and signs. All plantings shall be selected in accordance with the Campus Oaks Street Tree and Recommended Plant Lists (Tables 3-1 & 3-2); and
- Indirect lighting highlighting hardscape features, accent trees and signage.



Lower-scale Hardscape Features

3-34. Development or walls at the corners adjacent to Secondary Entry Gateways should be pulled back as appropriate to ensure adequate sight distance.



Figure 3-10: Secondary Entry Gateway

LEGEND:

- A. Primary Street Tree - per Campus Oaks tree list
- B. Vegetative swale (where applicable)
- C. Entry Feature
- D. Decorative screen wall at corner lot
- E. Entry Tree
- F. Accent Tree
- G. Proposed Residential lots fronting on Collector street

Neighborhood Entries

3-35. Neighborhood Entries may be provided at entrances into individual neighborhoods along HP Way, Painted Desert Drive and Crimson Ridge Drive. Neighborhood Entries shall be minimal and understated as reflected on Figure 3-11. Neighborhood Entries may incorporate:

- Enhanced pedestrian intersections as specified in Guidelines 3-36 and 3-37;
- Thematic walls or other hardscape features (such as raised planters or pilasters) on both sides of the street or in an entry median. Thematic walls and hardscape elements shall be clad with stone or other natural materials that are unified and complement the Primary and Secondary Entry Gateways;
- Signage integrated into the thematic walls or hardscape features identifying the neighborhood. Signage should be subtle, consisting of either flush mount (with mounting hardware embedded into the surface onto which it is affixed) or cast or laser cut letters, emblems or logos. All signage shall be consistent with the City of Roseville Sign Ordinance;
- A landscape entry median;
- Accent trees and plantings to further define the physical form of the entries. Trees should be selected for their architectural form, seasonal color, and/or flower habit. Accent shrubs should have a growth habit low enough not to obscure hardscape features and signs. All plantings shall be selected in accordance with the Campus Oaks Street Tree and Recommended Plant Lists (Tables 3-1 & 3-2); and
- Indirect lighting highlighting hardscape features, accent trees and signage.

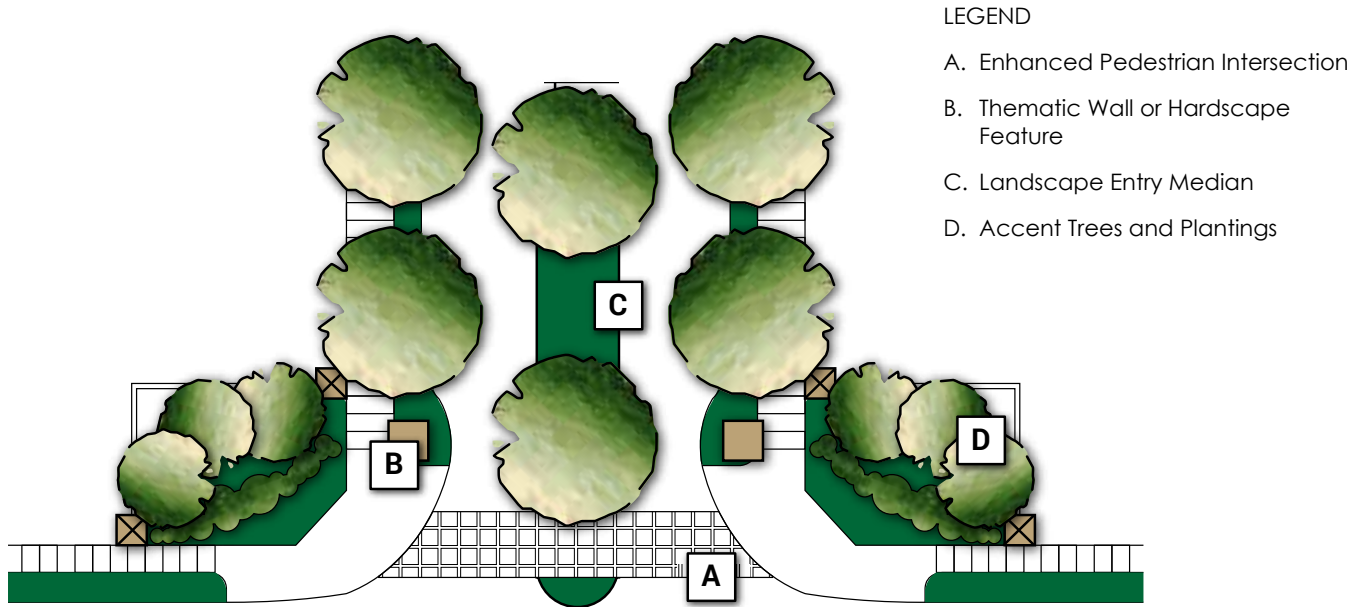


Figure 3-11: Neighborhood Entry



Thematic Wall



Stamped Concrete



Painted



Stamped Asphalt

3.2.4 INTERSECTIONS AND ROUNDABOUTS

3-36. Enhanced pedestrian intersections are encouraged at intersections throughout Campus Oaks subject to approval of the City.

3-37. Enhanced pedestrian intersections may incorporate:

- Accent paving materials or markings on crosswalks, such as concrete pavers or stamped concrete/asphalt with banding and/or a mix of textures/colors different from surrounding surfaces to clearly define pedestrian space. All paving materials and markings, if applied, shall be approved by the City and selected to minimize maintenance and potential road noise;
- Enhanced signage to provide advanced warning to drivers of upcoming pedestrian crossings;
- Protected islands at crossings where landscaped medians are present to provide a refuge for pedestrians between light cycles. Refuge areas should be the same width as, and level with, the crosswalk. If the intersection includes a pedestrian actuated control device, one should also be located at the median island;
- Bulb-outs (curb extensions) to narrow intersection crossings and slow turning speeds; and
- Adequate illumination to enhance pedestrian visibility.



Protected Pedestrian Island

3-38. In addition to the above, mid-block pedestrian crossings shall be raised to slow travel speeds and provide for more level pedestrian paths of travel.

3-39. Roundabouts may be provided at key intersections along HP Way, Painted Desert Drive, and Crimson Ridge Drive. Their use is also encouraged at other intersections within Campus Oaks as approved by the City.

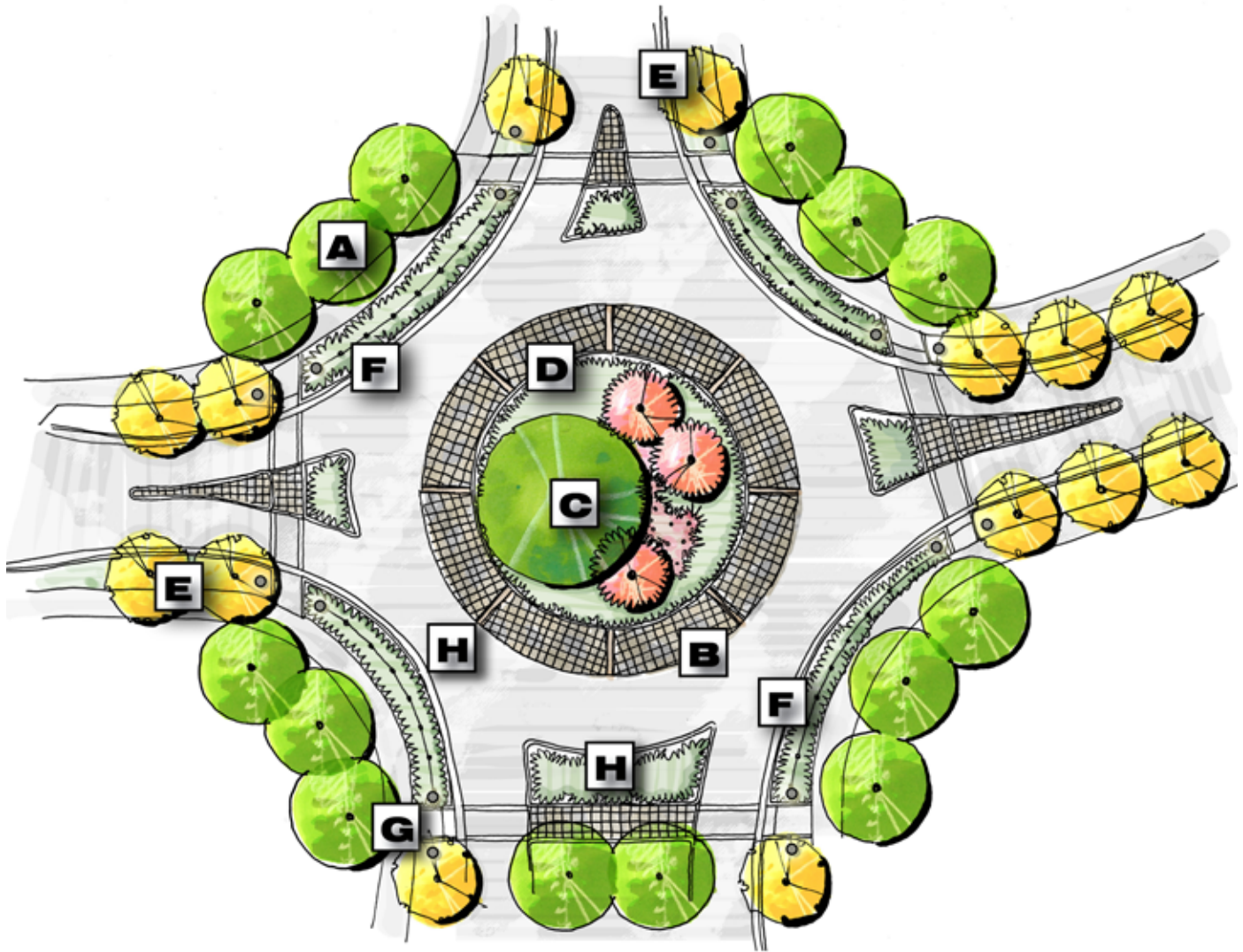


Figure 3-12: Roundabout

LEGEND:

- A. Primary Accent Tree - per Campus Oaks tree list
- B. Enhanced paving at apron and splitter islands
- C. Focal Speciment Tree - per Campus Oaks tree list
- D. Flowering Accent Trees - per Campus Oaks tree list
- E. Primary Street Trees - per Campus Oaks tree list
- F. Low decorative community fence at Roundabout Planters
- G. Lit bollards at pedestrian crossings
- H. Puck lights (Bega 88 804 or equal) at decorative apron and splitter island paving

3-40. Roundabouts shall be designed in accordance with Figure 3-12 and shall incorporate:

- A focal element, such as an accent tree or public art, along with low to moderate height shrubs and groundcovers within the center planter;
- Up light fixtures and/or exterior electrical outlets to accommodate tree/artwork lighting;
- A overrun area (apron) adjacent to the center island raised above the travel lane and incorporating a rolled curb and decorative paving materials;
- Lighted pavement markers to demarcate the edge of the overrun area;
- Pedestrian crosswalks set back at least one full car length from the yield line and incorporate protected splitter islands to enhance pedestrian safety.



Roundabout

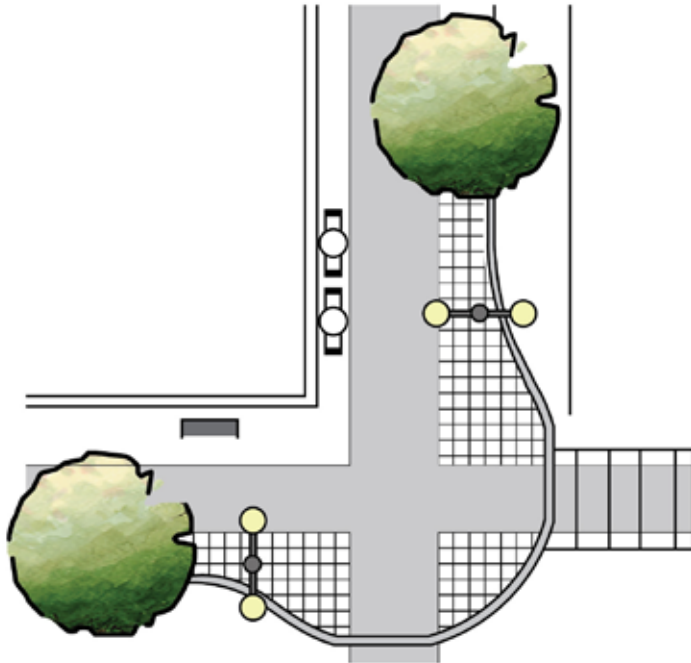


Lighted Pavement Marker



Focal Point

3-41. In addition to their use within enhanced intersections, pedestrian bulb-outs should be used at other intersections within Campus Oaks where feasible. Intersections with bulbouts shall be designed so that the outer travel lane has adequate clearance for large vehicles to turn. Bulbouts should be accented with decorative paving materials.



Bulb Out



Bulb Out with Enhanced Paving

3-42. Enhanced paving may be applied on local streets at select locations such as neighborhood entries, pedestrian crossings and select intersections. All enhanced paving materials shall be approved by the City and selected to minimize maintenance and potential road noise.



Masonry Wall Design

3.2.5 WALLS AND FENCES

Masonry Walls

- 3-43. Masonry walls shall be used adjacent to LDR and MDR neighborhoods along the western edge of Campus Oaks to attenuate noise from Woodcreek Oaks Boulevard (Parcels CO-5, CO-13, CO-14 CO-15 and the northwest corner of CO-7). The use of masonry walls elsewhere within Campus Oaks is discouraged.
- 3-44. Masonry walls shall be a minimum of 6'-high, and may be higher if necessary to meet the requirements of a site specific acoustical study. Walls higher than 7' are encouraged to be constructed atop low earthen berms.
- 3-45. Masonry wall materials shall have a textured face such as split-faced, comb-faced, or stucco finish on both sides of the wall. The wall color should consist of subtle, natural tones.
- 3-46. Masonry walls shall include trim caps that extend beyond the face of the wall to provide a visible shadow line.
- 3-47. Masonry walls shall include pilasters spaced at regular intervals of no greater than every 100 feet on center. Pilasters shall also be used at each side of neighborhood vehicular and pedestrian entrances and at each angle point or change in direction.
- 3-48. Pilasters should have sufficient bulk and dimensions to appear in proportion to the height and mass of the wall. Pilasters may not be less than 18" in any dimension at the base.
- 3-49. Pilasters shall be finished with stone or other textured surface. Pilaster caps or other articulation shall be incorporated to add architectural interest and shadow lines.
- 3-50. Wall openings in masonry walls shall be included where appropriate to facilitate pedestrian access between land uses and adjacent streetscapes/sidewalks/paseos. Wall openings shall incorporate pilasters on each side as well as arches or other architectural elements to enhance design and visibility. Wall openings should be provided on an average of every 600 linear feet of frontage.



Wall Opening

3-51. Landscaping in front of masonry walls shall include shrubs close to the wall to break up any stretches of wall not interrupted by pilasters.

3-52. Consistent masonry wall, pilaster and cap design shall be applied throughout Campus Oaks.

3-53. The maintenance obligation of masonry walls adjacent to LDR and MDR neighborhoods shall be the responsibility of the Campus Oaks Community Facilities District (CFD).



Landscaping in Front of Masonry Wall

Capped Wood Fencing

3-54. Residential units are proposed to front or side onto collector and local roadways subject to City approval of a site specific acoustical study (See Guideline 2-33). In those limited instances where fencing is approved adjacent to a roadway or a public park, capped wood fences shall be used.

3-55. Capped wood fences shall typically be constructed 6' to 7'-high, and include an infill board design with a solid base and architectural cap. Bottom, waistline, and cap rails should be a minimum 1"x4" (6 foot span) or 1"x6" (8 foot span).



Capped Wood Fencing

3-56. Capped wood fences shall be of redwood construction and have a consistent design appearance on each side.

3-57. Capped wood fencing shall include pilasters at strategic locations including terminuses, neighborhood vehicular and pedestrian entrances and at angle points or changes in direction. Pilasters should be finished with stone or other textured surface, with caps or other articulation to add architectural interest and shadow lines.

3-58. Consistent capped wall design shall be applied throughout Campus Oaks



Vinyl Coated Chain Link Fencing

Open Fencing

3-59. Single loaded roadways will typically be provided between residential and open space uses. In those limited instances where residential uses immediately abut open space, open fencing shall be used.

3-60. Open fencing shall be 4' to 7'-high and constructed of black wrought iron, tubular steel, vinyl coated chain link, or other material that is visually penetrable.



Tubular Steel Fencing



Alternating Rail Design

- 3-61. Where tubular steel or wrought fencing is used, alternating rail designs or other elements are encouraged to break-up the cadence of the railing.
- 3-62. Masonry pilasters may be used with tubular steel or wrought iron fences. Pilasters should be finished with stone or other textured surface, with caps or other articulation to add architectural interest and shadow lines.
- 3-63. Tubular steel or wrought iron fences may incorporate masonry knee walls with a textured face on both sides such as split-faced, comb-faced, or stucco finish in subtle, natural tones.



Concrete Rail Fencing



Post-and-Cable Fencing

Low Fencing

- 3-64. Post-and-cable or concrete rail fencing shall generally be used adjacent to open space along the edge of streetscapes and public parks to define boundaries and control access.



Acorn Style Lighting Fixture



Up Lighting

3-69. Up light fixtures and/or exterior electrical outlets shall be provided within the HP Way median between Blue Oaks Boulevard and Painted Desert Drive and within all roundabouts to accommodate tree lighting.

3.2.6 STREET LIGHTING

3-65. Decorative acorn-style lighting fixtures constructed to Roseville Electric standards shall be used along all collector and local roadways within Campus Oaks.

3-66. All street lighting shall meet the illumination, dark sky/shielding and energy efficiency standards established by Roseville Electric.

3-67. Supplemental low pedestrian scale lighting is encouraged at key activity areas such as transit stops, intersections, mid-block crossings, near key project or building entries, and at other similar locations.

3-68. Accent lighting should be provided to highlight unique streetscape features such bridges and project entries.



Street Light Banners

3-70. Lighting standards along HP Way between Blue Oaks Boulevard and Painted Desert Drive may include mountings to accommodate street light banners. Such banners may be used to provide a sense of arrival to Campus Oaks and to promote the Town Center, special events, or seasonal periods. In addition, mountings may be included to accept flower baskets.



Street Furnishings and Amenities

3.2.7 STREET FURNISHINGS AND AMENITIES

3-71. Street furnishings and amenities such as seating areas, trash receptacles, and special hardscape treatments with accent lighting shall be provided along HP Way and are encouraged along all other streetscapes within Campus Oaks.

3-72. The design of street furnishings and amenities shall be consistent throughout Campus Oaks, complement the design of surrounding elements, and be durable and low maintenance.



3-73. Furnishings and amenities should be clustered at key pedestrian activity areas such as transit stops, intersections, mid-block crossings, near key project or building entries, and at other similar locations.

3-74. The creation of seat walls, steps, and planters that can serve as informal seating areas are encouraged.

3-75. Where appropriate, bollards should be used to clearly define pedestrian areas and restrict vehicle entry. Bollard placement and design shall be coordinated with emergency vehicle access.

3-76. Public art is encouraged along streetscapes. All public art shall be designed, constructed and maintained in accordance with the Community Design Guidelines and established City policy.



Street Furnishings and Amenities



