



Forest Grove Campus Master Plan Update

For Approval by
the City of Forest Grove

31-March-2017

This Master Plan Update
was prepared for
Pacific University

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Pacific University Master Plan

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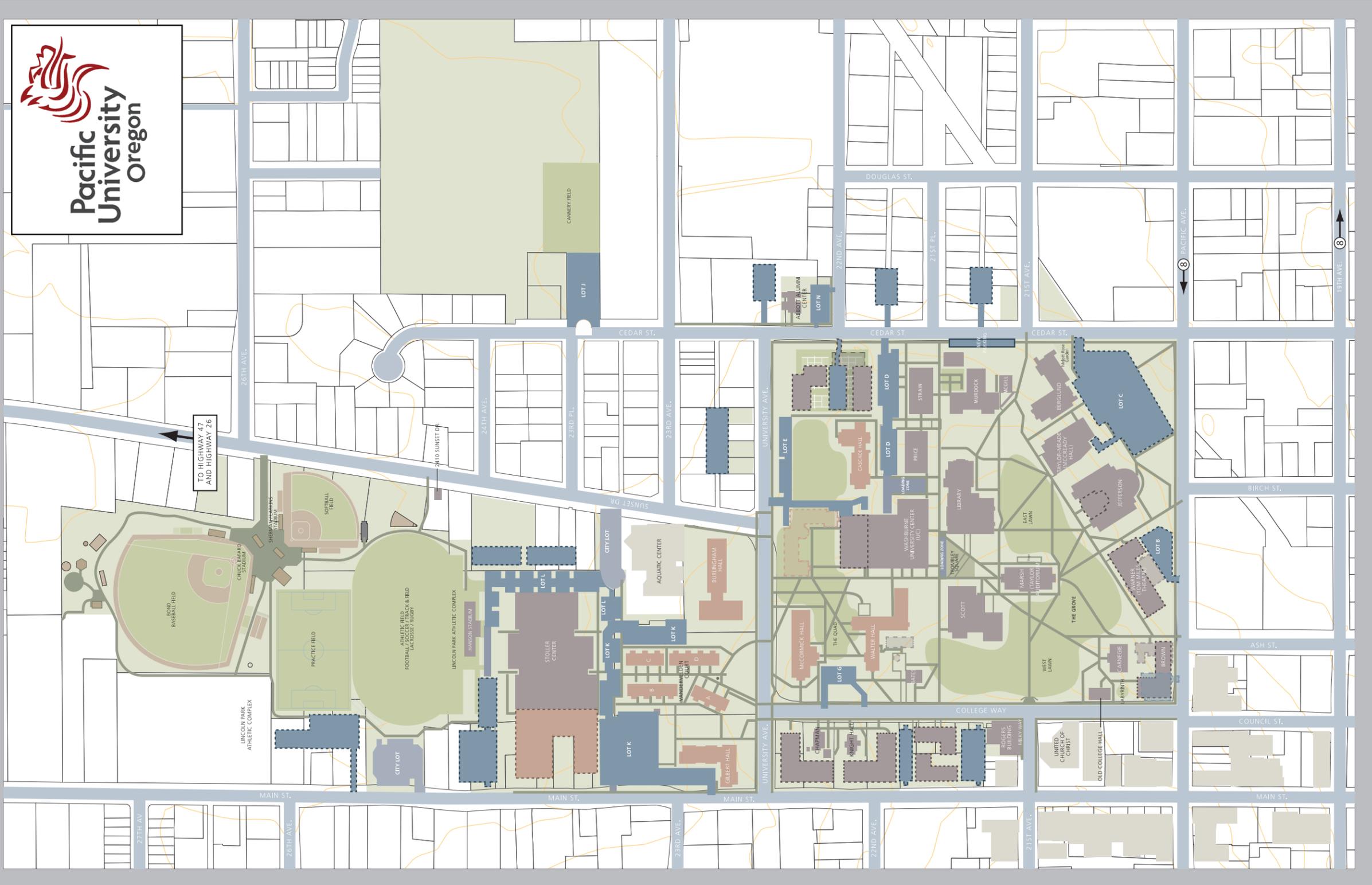
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PREPARED BY:
SERA

- MASTER PLAN LEGEND**
- Opportunity Sites
 - Potential Transit Expansion
 - Academic/Service Buildings (Master Plan proposed)
 - Residence Halls (Master Plan proposed)
 - Pacific University Parking Lot (Master Plan proposed)
 - City Parking Lot
 - Other Adjacent Significant Buildings

Campus Master Plan
PACIFIC UNIVERSITY MASTER PLAN UPDATE 2017
FOREST GROVE, OR
MARCH 2017

I: Introduction

Overview and Purpose

In 2005, Pacific University adopted a long-range vision for the Forest Grove campus, in conjunction with the launch of the Health Professions Campus (HPC) in Hillsboro. That vision - called the ***Landscape for Learning*** plan - continues to guide planning for the Forest Grove campus. The vision seeks to maintain the best qualities of a traditional campus landscape while integrating contemporary learning strategies and facilities.

This campus master plan is the implementing document to support that vision, and includes:

- Further articulation of the principles of the long-range vision;
- The quantities of campus development expected, and;
- Standards and guidelines that will govern redevelopment of the campus.

Development Procedures under this Master Plan

In addition to guiding on-campus planning, this Plan is intended to facilitate City review of University projects, to provide a basis for coordinated infrastructure planning, and to provide for community understanding of the University's plans. To that end this Plan describes the quantity of development allowed under the Master Plan and maps that development to "opportunity sites" within the campus where construction is expected. It also includes development standards for buildings (allowable areas, height, setbacks, etc.), design of parking areas and the location of open spaces.

Regulatory Framework for this Master Plan

In 2009, the City of Forest Grove established a Master Plan Zone designation in the City's Development Code, as an overlay to existing base zoning. The goal of the Master Plan Zone designation "is to promote and facilitate the coordinated development of larger-scale institutional facilities through adoption of a master plan." This Plan - defining the Pacific University Master Plan Zone - addresses the criteria of Section 10.4.100 *et seq* of the City's Land Development Code, addressing **Master Plan Zones**.

Procedures for Reviewing Development Projects under Approved Master Plan

Individual building projects proposed by the University under this Master Plan shall be reviewed by the City under a Type I, II or III process. Amendments to this plan shall require a Type III or IV process. The following describes each of these processes and the type of development proposal that would fall under each.

Type I Review: an administrative decision where there is little or no interpretation or exercise of policy. There is no notice of the process except to the applicant. See City of Forest Grove Development Code Section 10.1.400 *et. seq.*

University development projects described and planned for in the Master Plan including building construction, extension of existing buildings, elimination or reduction of parking lots in existence at the time of the Master Plan adoption, addition of new parking lots, and other smaller activities deemed minor by the Community Development Director will be subject to a Type I review provided that the proposed project is:

1. Consistent with the approved Master Plan. To meet the Type 1 review standard, a project shall:
 - Be proposed on a building opportunity site delineated in this Master Plan;
 - Satisfy all development standards included in the Plan: length & height limits, setbacks, etc.;
 - Comply with the parking policies established in this Master Plan;

- Demonstrate that adequate infrastructure capacity exists to serve the proposed facility; and
 - Show compliance with all applicable local development standards and codes, such as fire codes.
2. The design of public and private streets and utilities is in conformance with specifications of the City Engineer and City Code standards.

Type II Review: a limited land use decision that involves limited interpretation and discretion in evaluating a land use application. Notice is sent to surrounding property owners within 300 feet of the subject site consistent with the requirements of ORS 197.195 and City of Forest Grove Development Code Section 10.1.500 *et. seq.*

University projects under this Plan may be elevated to a Type II process when there is a specific finding by City Staff that the proposed project has a level of impact on neighboring properties not contemplated by the Master Plan:

- The project is sited on those Opportunity Sites in highest proximity to surrounding development in existence at the time of this Plan's adoption (see Section IV);
- The project involves a land use or activities that are a minor deviation from the approved Master Plan;
- There will be substantial increase in the nature, function or impact of a project element, including changes in noise, air quality, light, glare, stormwater drainage, or the design of the circulation system; or
- A substantial increase (more than 10%) in the size of a building or building coverage, the number of vehicle trips or required parking, beyond what is proposed in this Master Plan.

Projects on land acquired by the University after the time of adoption of this Plan, but otherwise anticipated and described in the master plan, shall be subject to a Type II review.

Type III Review: a quasi-judicial land use decision through a hearing held by the Planning Commission. Notice and hearing requirements shall be consistent with City of Forest Grove Development Code Section 10.1.600 *et. seq.*

Any project on land not owned by the University at the time of the agreement adopting this Plan and that is consistent with the Master Plan shall be reviewed under a Type III review. New projects shall be reviewed for consistency with the policies and other applicable provisions of the adopted Master Plan.

Type IV Review: legislative land use decisions that apply to the general population and prescribe policy and certain quasi-judicial land use applications are reviewed under the Type IV process. Type IV decisions require the greatest amount of discretion and evaluation of subjective approval criteria and must be heard by the City Council for final action. See City of Forest Grove Development Code Section 10.1.700 *et. seq.*

An update to this Master Plan triggered by any of the following circumstances shall be reviewed under a Type IV process:

- Enrollment at the Forest Grove campus projected to exceed the FTE enrollment goals stated;
- Construction in excess of the quantities allowed by Table 1 (Section III);
- Construction of facilities of a type not substantially consistent with, or directly supportive of (i.e. campus facilities) those described in this plan;
- Development on land within the City of Forest Grove and not identified as an opportunity site for development in this Plan;
- Reallocation of land uses or new land uses not addressed by the currently approved Master Plan, or;
- Development policy changes which depart from the **Campus-Wide Development Principles and Policies stated at the beginning of Section III.**

Land Ownership status

This Master Plan generally addresses land within the City of Forest Grove and owned by Pacific University or the University-affiliated Oak Tree Foundation. However, some lands are planned for which are not owned by the University. Should those lands be acquired by the University, they will at that time be governed by this Plan, and specifically, the opportunity site in which they are contained. As noted above, development on these lands shall require a Type II review process.

Occasionally, the University will opt to release lands through sale or other means. In the event of such sale, any University uses identified in the Master Plan for those lands would not transfer to the new landowner. University use of such sold lands would still be allowed on a lease-back basis, whereby the University retained access through lease. Land uses identified in the Master Plan for land no longer controlled by the University would need to be accommodated on other opportunity sites still controlled by the University. Where the uses are already anticipated to be accommodated in an Opportunity Site, no further action is required. Where the use is not anticipated in an Opportunity Site, then an amendment of the Master Plan through a Type IV process is required.

Timing of Other Required Permits

Application of other permits required by the City Development Code or Building Code may be reviewed simultaneously with zoning review under this Plan's provisions for Type I and II applications. For Type III review, information for all other required permits except for building permits, shall be submitted with the Type III application. Unless authorized by the Community Development Director and with the applicant accepting any related risks resulting from disapproval or modification, no Building Permit shall be submitted concurrently with any Type III or Type IV application.

Duration of this Master Plan

This Master Plan shall remain in effect until the Plan is amended due to additional new development or relocated buildings or other improvements, beyond the areas described in Table IV-1, or by the campus enrollment shown in Table I-1.

Progress Updates

In order to coordinate development on campus with City infrastructure planning, the University will provide development summaries periodically, at a minimum of every five years. These will summarize at a minimum:

- enrollment trends since the last update, focusing on enrollment at the Forest Grove campus;
- a summary of current campus built facilities, highlighting new development since the last update;
- current land holdings by the University and its Foundation;
- current off-street parking supply and TDM programs, when they affect parking demand.

Additionally, the University will provide on an annual basis the fall-term enrollment, once it has been confirmed.

University Goals

The following core goals inform the development objectives of the University under this Master Plan.

Enrollment Growth:

1. Increase enrollment on the Forest Grove campus from about 2,400 in Fall 2016 to 2,800 in Fall 2030. See Table I-1 for a break-down of enrollment projections.
2. Supply on-campus housing for 65%-85% of undergraduate students. See Table I-2.
 - i. Provide residence halls sized and developed to cultivate learning communities

Table I-1: Anticipated enrollment changes at Forest Grove under this Master Plan

Year	Undergraduate - Forest Grove		Graduate - Forest Grove		Total Enrollment - Forest Grove		Faculty/Staff - Forest Grove	Total Population - Forest Grove
	Headcount	FTE	Headcount	FTE	Headcount	FTE	Headcount	Headcount
2015-16	1,834	1,790	609	580	2,443	2,370	720	3,163
2020-21	2,025	1,976	672	656	2,697	2,633	795	3,492
2022-23	2,107	2,056	700	683	2,806	2,739	827	3,633
2023-24*	2,149	2,097	279	272	2,428	2,369	793	3,221*
2030-31	2,468	2,409	320	313	2,788	2,722	918	3,706

*School of Optometry assumed to move 2023-24, resulting in reduced staff and faculty on the Forest Grove campus.

Table I-2: Housing Goals

Academic Year	Forest Grove Undergrads	Residential Population Range	
		Head Count	65% 85%
2015-16	1,834	n/a	n/a
2020-21	2,025	1,316	1,721
2022-23	2,107	1,370	1,791
2023-24	2,149	1,397	1,827
2030-31	2,468	1,604	2,098

*Current housing is shown in Table I-3.

Table I-3: Current Campus Housing

Facility Name	Occupancy (Fall 2016)
Burlingham	161
Clark	200
Cascade	203
Gilbert	156
McCormick	125
Van der Velden	150
Walter	240
Total Current Capacity	1,235

1: Note that bed counts fluctuate due to operational decisions and demand considerations, regarding the number of students per room in some residence halls.

2: The current residential offerings house approximately 67% of Pacific's undergraduate students

Campus Development, Design & Physical Plan:

3. Use the opportunity represented by the established Health Professions Campus (HPC) to redefine and reinvigorate the Forest Grove campus.
 - i. Implement programmatic change to existing buildings as programs are moved to the HPC.
 - ii. Pursue modernization of the University's building stock, through a combination of adaptive reuse, preservation and replacement of existing facilities.
4. Enhance the visual impression of the campus for students, faculty, staff, visitors, and the community.
 - i. Create or improve circulation paths and visual connections that help improve wayfinding on campus.
 - ii. Enhance existing open spaces and create new ones that will make the campus more memorable and more supportive of the educational process.
5. Maintain a campus landscape that serves the University's programmatic goals, recognizes the cultural value of the campus in the community, and addresses regional goals for habitats of concern.
 - i. Manage campus landscapes for habitat potential & best stormwater management practices.
 - ii. Maintain and enhance documented habitats of concern for threatened or endangered species to the greatest extent feasible.

Athletics & Recreation:

6. Extend the identity of the University with enhanced intercollegiate athletic programs.
 - i. Create and maintain a competitive intercollegiate sports program for the purpose of enhancing campus life and creating a stronger relationship with the larger Forest Grove community.
 - ii. Attract more student athletes to Pacific University.
 - iii. Continue to collaborate with the City of Forest Grove in the operation of Lincoln Park Athletic Complex.

Community Interface:

7. Maintain an open campus that welcomes visitors, to the greatest extent consistent with the University's mission and operations:
 - i. Reinforce the physical, visual and perceptual linkages between the campus and the surrounding community of Forest Grove.
 - ii. Foster improved connections between the Pacific University campus, the City of Forest Grove and other community organizations.
 - iii. Enhance the campus frontages at significant entries to the campus.

Sustainability:

8. Make a clear commitment to sustainable practices and policies in all aspects of campus development and management:
 - i. Incorporate green building practices into the design, construction and operation of campus facilities.
 - ii. Pursue energy conservation through investment in existing buildings, transportation systems and emerging innovative energy solutions.
 - iii. In the spirit of the campus as living laboratory, encourage student involvement in, and curricular links to, campus environmental policies and initiatives.

II: Master Plan Approach

This section gives a brief overview of the main ideas of the Master Plan for Pacific's Forest Grove campus.

Background: A Campus Plan to Support Pacific University's Mission

Pacific University is a unique institution with a rich place in the history of the Northwest. The University brings together a traditional liberal arts undergraduate curriculum with graduate professional schools that play an important role in the advancement of metropolitan Portland's health and education professions. In its strategic mission for both the undergraduate and professional schools, Pacific University is creating a remarkable set of opportunities for the 21st century.

Over the past decade, the creation of the Health Professions Campus in Hillsboro has helped fulfill the University's goal to significantly improve access to those schools from a broader sector of the Portland metro area population. At the same time, reinvestment in the facilities on the Forest Grove campus enable Pacific University to reinvigorate the historic campus. This supports the University's mission to give its liberal arts offerings wider national identity in tandem with selective enrollment growth.

The University Master Plan articulates a campus development strategy encompassing the physical improvements to the campus in increments tied to the financial resources of the University. The proposed improvements reflect the unique opportunity that exists at this time to reinforce the campus' strengths and create a truly remarkable educational environment.

Facilities and Programs: Reallocation and Sequencing

The Master Plan provides for the growth of the campus from its current enrollment of 2,400 students to about 2,800 students. Residential Life will be expanded to modernize and expand housing options, with a goal of housing 65 to 85 percent of the undergraduate student body (See SEctio I, Goal 1). With the continued growth of the Health Professions Campus, significant areas of classroom and office space on the Forest Grove campus will become available for new uses.

Status of Existing Buildings

As described under Goal 3, the University seeks to provide modernized facilities to support its mission. At the same time, Pacific values its historic character. In support of Goal 3 and recognition of the campus character, existing buildings will be evaluated for renovation, adaptive reuse and/or preservation, based on multiple factors, including:

- suitability for their intended use
- condition and cost for renovation or restoration
- historic value

Old College Hall – the oldest building on the campus - is listed on the National Register of Historic Places (under the name Tualatin Academy) with the listing dating from 1974. Although not on its original site, this structure continues to represent Pacific's history. The University will maintain Old College Hall in keeping with this status.

Some buildings are anticipated to be removed – notably Clark residence hall - which is poorly sited, outdated, and expensive to maintain.

Other facilities have been identified as candidates for major rehabilitation. A prime example is Jefferson Hall - currently serving as the College of Optometry.



Figure II-1: Pacific University has seen continual demand for on-campus housing. Residence halls help build a learning community on the campus.

This program is planned to move to the Health Professions Campus, and Jefferson Hall will be back-filled with other programs after renovation. The science facilities are also projected for renovation and expansion.

Other facilities will be subject to further analysis, and may be either removed or renovated. These include:

- Warner and Tabitha Brown Halls,
- existing single-family residential type structures.

For buildings projected to be removed, the University will seek buyers willing to relocate, and will evaluate deconstruction opportunities.

Seismic renovation of existing buildings will be evaluated in the context of program-driven re-investment in structures.



Figure II-2: Older facilities have been adapted for many uses over the history of Pacific University. Marsh Hall was significantly renovated after a fire in the 1980s.



Figure II-3: The largest change proposed to the campus is demolition of Clark Hall and the conversion of the area north of the University Center to become a new north entry plaza to the campus. This will allow the University Center (above) to better serve as a welcome center and hub for students.

Campus Access: Coordinated Land Use & Transportation Planning

Connections between Forest Grove and the rest of the Portland metropolitan area are more important for the University than ever before. The University will continue to be an active partner with public agencies in pursuing improved transit service to the community.

The Forest Grove campus is expected to continue to see a larger ratio of students living on or near campus. Improvements to the internal campus circulation system, as well as connections to the adjacent community, are intended in part to help foster a more pedestrian and bicycle-friendly environment. Housing a large portion of the student body on campus will help manage transportation demand by making walking and biking trips more desirable.

Circulation, Transportation and Parking issues are the focus of Section V.

Campus Framework: Organizing Concepts

The Forest Grove campus has the essential qualities of a compact, walkable, human-scaled campus that can foster the collegial life that is critical for liberal arts institutions. Its landscape possesses the distinct beauty and character of the Northwest. Under this plan, academic, residential, and social/common functions will continue to be in close proximity in order to foster a lively, pedestrian-friendly collegial environment.

The Pacific University Master Plan proposes a set of coordinated strategies to make a more deliberate framework for campus planning. In this context, “framework” refers to the relationship between buildings, open space, circulation paths and other similar spatial features, which work together to form a series of places which have a clear relationship to one another and which support the academic goals of the University.

At the largest scale, several campus zones have been identified, indicating uses such as campus residential, athletics, sciences, etc. In addition, major and minor campus open spaces have been identified. Strategies for making these into a series of places which enhance the campus are discussed in the next section. Finally, the circulation systems of the campus have been reviewed and a series of improvements are proposed, from enhanced pathways to reallocated and relocated parking lots. These improvements are discussed in the final section.

A few key concepts contribute to the overall organization of the campus. Each of these will directly inform the shape that the campus will take under this master plan.

Organized for Residential Community:

In support of the University’s Goal 2, to cultivate learning communities, the University is committed to residential halls of 250 or fewer students. The Master Plan seeks to site residence halls in traditional quadrangles and/or where they can engage streets and major walkways, in order to foster community between halls.

Community & Connectivity: The University’s desire to make the campus an amenity within the larger community (see Goal 7) leads to a campus that is not just open, but that provides a welcoming presence. This shapes the open space and circulation planning directly. Creation of a new north entry plaza is one objective to meet this goal.

To support this connectivity, the Master Plan calls for clarifying the circulation system and making more direct and desirable connections between areas of the campus. Another is to create more open spaces that have strong definition and character to make one’s experience of the campus more memorable.

Sustainability: Natural Systems, Resource Conservation & Reducing Impacts

Development under this master plan will incorporate best practices for energy and water efficiency measures, to reduce operational costs and improve comfort in buildings. The University has made an internal commitment to use the LEED™ Green Building Rating System as a tool for the development of campus buildings.

The master plan also identifies strategies for managing the oak grove, consistent with its designation by Metro as a ‘habitat of concern’ under state land use planning goals. In recent years, Pacific has expanded mulch under the trees, reducing the impact of irrigation of law on these root systems.

Linking best environmental practices to the educational mission of the University can create teaching opportunities in conjunction with habitat restoration, stormwater management, and other campus practices. The University will also pursue partnerships with agencies focussed on resource management, such as Clean Water Services, to create successful demonstration projects.

Open Space: Concepts & Policies

A driving goal of the campus open space planning under this Master Plan is the formation of memorable places, which make the campus more unique and special in the minds of students, alumni and visitors of all types. This is an essential part of the undergraduate student experience and contributes to a campus that is valued and loved over generations.

In general, there are several strong open spaces on the Forest Grove campus such as Trombley Square, Barbara’s Garden, and the historic oak grove each of which has qualities that create a “sense of place”. The University Master Plan calls for enhancement and refinement of these spaces and a more consistent approach to open space planning on the campus.

Landscaped Setbacks: The Green Apron

Pacific University recognizes that the campus is an integral part of the City of Forest Grove, and that the edges of the campus in particular present a definite character to the community. This plan calls for maintaining and further defining these edges, so that the green nature of the campus will be readily perceived by visitors to, and residents of, Forest Grove. Setbacks of buildings are established in this Plan to increase the definition of these spaces. They take the position of existing buildings facing the campus edges as their source; see Table IV-1, section IV for the explicit definition of these setbacks.

Community Amenities

Exceptions to the pattern of generous green setbacks are called for where the campus intends to create a deliberate bridge to the community through cultural programs that would be of interest. The recent move of Old College Hall created the opportunity to welcome the community into the University’s historical museum. Similarly, this plan calls for a visual arts facility to be sited close to the corner of College Way and Pacific Avenue, to encourage community visitors to the galleries.



Figure II-4: *Trombley Square is the central gathering place on campus. Recent projects to create more group seating areas have helped it serve as a hub of activity.*

Habitat: Policies

The oak areas on the Pacific University campus are identified by Metro as a regionally significant Habitat of Concern because they provide breeding, nesting, and foraging habitat for one of the northernmost populations of a state-listed Sensitive Species, the Acorn Woodpecker (*Melanerpes formicivorus*). Acorn Woodpeckers rely on oak habitat, which has declined severely in the northern Willamette Valley over the last century.

In addition, the Tualatin Basin Program, a consortium of Washington County and local governments within the County (including Forest Grove), sets regulatory requirements in this area. To date, no specific policy has been set for this habitat.

Metro policy calls for limiting the impact of any removal and the replacement of trees when removed. The following guidelines have been recommended by Metro staff as appropriate to the preservation of this habitat.

1. Encourage student/faculty researchers to study the woodpecker population as a special project, including identifying which specific areas the birds are using, whether they prefer certain trees for certain activities, whether there is a minimum size of habitat patch the birds may tolerate (literature review plus research), how and where the population extends off-campus, and other qualities of this habitat.
2. Plant more, younger oak trees in the near term, so that they are partially grown when the mature trees need to be removed.
3. If some oaks are removed to accommodate campus expansion, minimize the oak habitat to be removed and maximize the contiguity of the remaining oaks. Identify areas near the campus to identify other oak habitat. Consider retaining the campus oaks closest to identified off-campus oaks to maximize the potential for connectivity to those oaks.
4. The University's landscape master plan and associated guidelines (Section VII) describe a landscape program for the campus, including improving conditions for the oaks, through irrigation management, monitoring of soil compaction and protection of root areas as needed, etc.

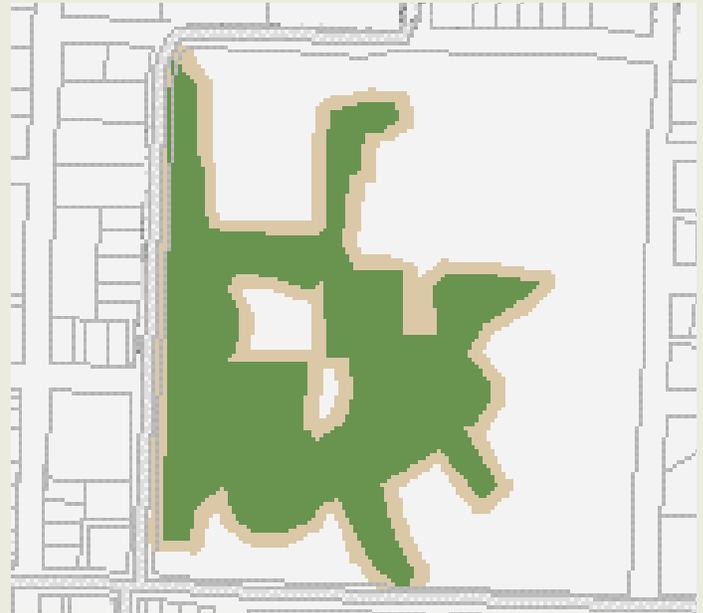


Figure II-5: Metro map of "Habitat of Concern" for the Acorn Woodpecker

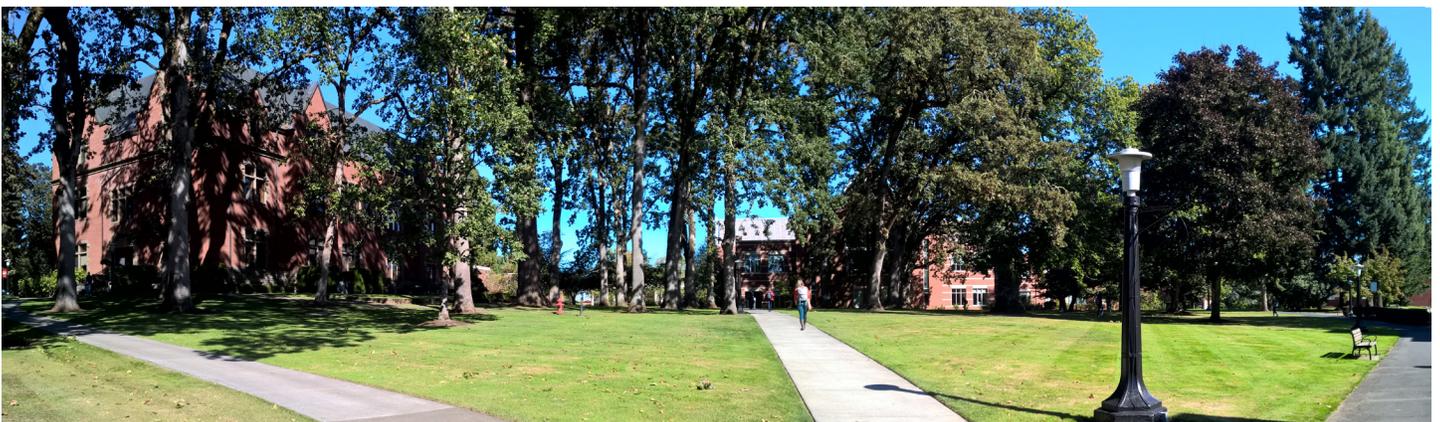


Figure II-6: Marsh Hall and the Oak Grove on the Central Campus

III: Allowable Development, Analysis and Policies

This section describes the specific development that is allowed and anticipated under this Master Plan. The intent is to provide the City and other public agencies with enough detail to plan for associated impacts on public services while allowing a reasonable amount of flexibility to the University in its selection and design of specific construction sites.

This section begins with a statement of the over-arching campus-wide policies that guide the campus-wide standards which follow. These policies are intended to guide campus development under this plan and are part of the core intent of all the standards. These are followed by a set of site-specific development plans in the next section. Many of the standards for development of buildings will vary depending on the location within the campus lands, and therefore are addressed by a description of development opportunity sites.

Campus-Wide Development Principles and Policies

Pacific University has adopted the following design and planning policies as part of this Master Plan. These are intended as over-arching principles that shape the site-specific development standards in the subsequent sections, as well as campus-wide systems such as stormwater and parking. In several cases, these policies are elaborated and more specific information is provided in the site-by-site standards that follow.

1. **Enrollment:** The maximum number of students enrolled at the Pacific University Forest Grove campus will not exceed 2,800 students without an update to this Plan.
2. **Resident Campus:** As noted in Section I, Goal 1 under this Master Plan is to increase enrollment on the campus and to increase the portion of all undergraduate students that will live in campus-owned facilities. Recognizing that student choice is also an important goal, housing policy, residential construction and provision of amenities will be managed to facilitate achieving this goal.
3. **Residence Communities:** In order to facilitate community building within residence halls, new residential buildings will not exceed a capacity of 250 students.
4. **Building Height:** Buildings within the campus core area will be generally in line with, or less than, the height of Marsh Hall or the Pacific University Library.
5. **Building Massing:** Buildings will be kept to an appropriate maximum length and will have architectural articulation that maintains a similar sense of scale to that existing prior to this Master Plan.
6. **Orientation to Public Rights of Way:** Campus buildings that are adjacent to a street edge of the core campus will have a primary, well-defined entry to that street frontage. Buildings on campus lands other than the core campus will also have their major entry to the primary street frontage. Example: the west side of College Way or the north side of University Avenue.
7. **Transitions to Neighborhoods:** Development on University lands adjacent to private homes will be designed to transition from a scale appropriate to the University to a scale compatible with residential neighbors.
8. **Supportive of Main Street:** Development between the core campus and Main Street will be designed to support the pedestrian, community-oriented nature of Main Street and the green aspect of College Way.
9. **Green Setback Edges:** The green edges of the campus will be preserved and enhanced as open space, and defined as setbacks. A few exceptions are recognized and described in subsequent sections, but the general feel of the core campus will be defined by the green edge.
10. **Campus Habitat Potential:** Campus lands will be managed to support critical habitat functions, as required by state land use laws and as guided by best management practices, to the greatest extent feasible, and consistent with other goals of the University.
11. **Stormwater Management:** To the greatest extent feasible, campus stormwater will be managed on site and there will be no increased runoff from the campus due to new development under this plan. Sub-basin plans will be considered as a strategy to manage stormwater for clusters of development, rather than building-by-building and low impact development strategies will be used to minimize runoff.

12. **Green Building:** To the greatest extent feasible, the University will pursue LEED™ certification of all new major campus construction, and potentially the entire campus. The use of LEED™ is intended to serve as a guide to best sustainable building practices, and will be used in conjunction with good integrated design that takes advantage of emerging strategies, technologies and programs.
13. **Property Ownership:** The Plan includes areas that are not under University ownership at the time this plan is adopted. These properties may be acquired by the University in the future. Until acquisition occurs (if at all), property owners are allowed to develop their properties pursuant to applicable regulations in effect at the time of development and not be constrained by the provisions of this Master Plan.

Table III-1: Overall Development Allowed Under Master Plan

Table III-1 summarizes the allowed growth in building area under this master plan. Since much of the development of the campus will actually be redevelopment, the table also indicates the area that is intended for removal, and gives the net building area projected at build-out. These building areas are the maximums allowed under the Master Plan, regardless of location on campus. Table IV-1, in the next section, indicates how these areas could be distributed to different areas of the campus and sets development standards appropriate to each region of the campus.

Table III-1: Development Allowed Under Master Plan, by Program Type

Building Type	Opportunity Sites ¹ Where Allowed	Existing Total Built Area	Existing Building Area Subject to Removal	New Building or Major Reconstruction	Built Area @ Master Plan Build Out ²
Academic	A, B ⁸ , C, D ⁸ , E, F ⁸	342,383		228,825 ⁷	560,000
Residential	A ⁵ , B, C, E, F	318,794	108,000 ⁶	130,000	450,000
Student Life	A, B, C, E, F	51,167		50,000	100,000
Athletics	A ³ , B, C, D	110,160		90,000	200,000
Support ⁴	A, B, C, D, E, F	33,401		27,000	60,000

Notes: All figures are in gross square feet (GSF), unless otherwise noted

1. See Section 4 for a discussion of Opportunity Sites and applicable standards.
2. This column indicates the maximum floor area that can be built under this Master Plan.
3. Athletics would be allowed to continue at the Holce Tennis Courts until potentially relocated; new athletics would not be allowed on Opportunity Site A
4. "Support" are facilities that provide support for the operation of the University, and that are not included in any other land uses identified in the Master Plan: maintenance, clinics, etc.
5. Student residential uses would only be permitted on Opportunity Site A north of the fire lane that runs east-west between University Center and the Library
6. Clark Hall (53,589sf) is anticipated for demolition and Walter Hall (54,309sf) could be replaced, if its replacement is determined to be beneficial for student life.
7. Buildings that will be evaluated for renovation or replacement include: Jefferson (53,589sf), Strain (30,393sf), Price (17,423sf), Murdock (13,572sf), Brown (4,632sf), Warner (19,216sf), and Stoller (90,000sf).
8. Academics would be permitted as a secondary use.

IV: Opportunity Sites & Development Standards

This section indicates the quantity of development and redevelopment that is projected for each area of the campus. The approach of indicating growth by area serves several purposes

- To establish the zone-based approach to the campus physical plan described earlier;
- To allow for infrastructure planning and assessment of impacts;
- To establish appropriate guidelines for how campus development should occur adjacent to other uses.

The following pages are a site-by-site discussion of how development is projected to occur in each area. Refer to Figure IV-1 for an indication of each Opportunity Site's location.

Opportunity Sites are identified in this master plan, where future construction is allowed. These do not represent exact building footprints for individual buildings, but rather give locations and parameters for how much development would be allowed in each area. This approach gives appropriate flexibility for future project development teams, while providing the City and community with limits on the type and scale of development. These Opportunity Sites are further described, along with development standards for each site, in Table IV-1.

Description of Development Standards

Development under this Master Plan will abide by the campus-wide policies listed in the previous section, as well as the site-specific requirements in this section. The intent of each type of standard is described below.

General Site Development Standards

The following standards apply to site development, regardless of where on campus they occur:

- 1. Consistency with development policies of this Master Plan:** a development must be consistent with the policies of the Plan as described in the previous section.
- 2. Consistency with parking policies of this Master Plan:** a development proposal must demonstrate that it is accommodated under the parking strategies of this plan or that additional parking will be provided if not; this shall be true for any proposal to remove existing parking.
- 3. Consistency with stormwater policies of this Master Plan:** stormwater management will be done on a building-by-building basis, consistent with adopted standards at the time of construction, unless an approved basin plan for the building site's basin has been completed and accepted by the City.
- 4. Consistency with other provisions of the Zoning Ordinance:** development of campus lands will be consistent with applicable provisions of the City of Forest Grove Zoning Ordinance, unless those provisions are modified by provisions in this Plan.
- 5. Landscape standards:** campus ornamental landscaping shall generally consist of native and/or drought tolerant vegetation. Exceptions shall be made for (i) lawns, (ii) landscape elements designed to have a specific programmatic purpose, such as arboretum plantings or (iii) localized, ornamental gardens and (iv) vegetable gardens. Ground cover and shrubs used near buildings shall be maintained at no greater than four feet in height to provide defensible space. Trees in these areas shall maintain a clear under-canopy view for the same purpose.
- 6. Consistency with building and fire codes:** buildings and building sites will be designed to meet all requirements of locally-adopted building and fire codes, including:
 - Provisions for building separation;
 - Emergency access paths and staging areas for aerial equipment;
 - Provision of fire infrastructure, including fire hydrant locations.

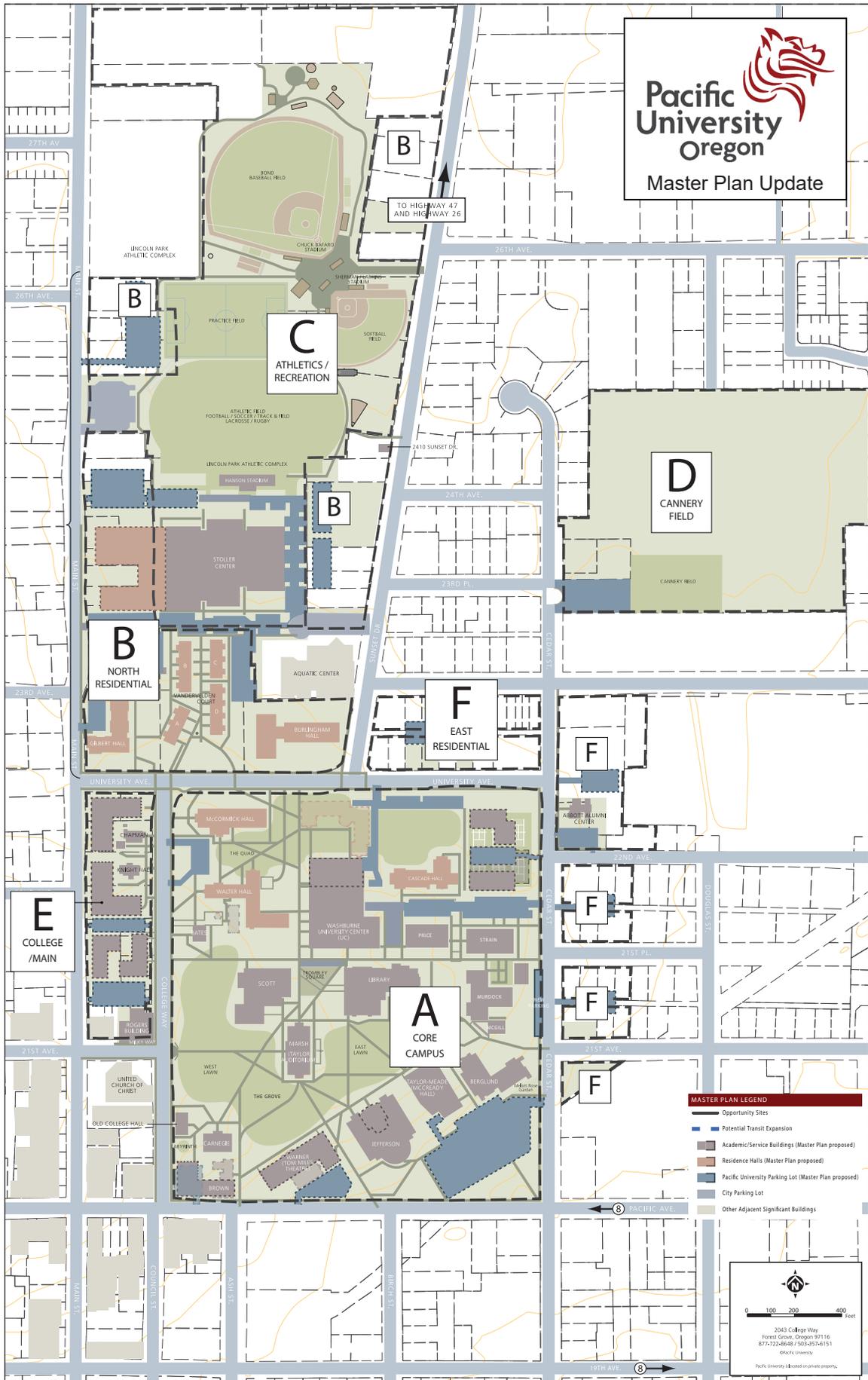


Figure IV-1: Map of Building Opportunity Sites

Table IV-1: Allowed Development and Applicable Standards by Opportunity Site

Opportunity Sites	Site Name	Uses	Existing Development						Building Massing & Site Coverage				Building Height & Transitions		Building Length		Setbacks				
			Site Area (acres)	Site Area (sf)	Total Building Footprint (sf)	Total Building Area (University Bldgs only. sf)	Academic	Residential	Student Life	Athletics	Support	Max combined bldg footprint: (gsf)	Max combined total floor area: (gsf)	Max footprint, individual bldg: (gsf)	Max. total area: per building (gsf)	Max Building Height, (stories)	Transition Standards	Max continuous facade length ^{3,4}	Max overall building length ⁴	Min Setback, at campus edge ^{5,6}	Max Setback, at campus edge ⁷
A	Central Campus	Classrooms, laboratories, lecture halls, residence halls, administrative offices, student services, student-serving commercial, dining facilities, clinics, arts facilities, performance halls	30.13	1,312,460	280,390	615,870	337,353	211,422	43,118	3,812	20,160	400,000	1,200,000	60,000 OR 40,000 within 50' of streets	120,000	4	None	100 ft.	300 ft.	30 ft. ⁹ (0 ft. at corners)	20': within 50' of corner of College Way & Pacific Ave.
B	North Campus Residential	Residence halls, student apartments, dining facilities, administrative offices, live-learn, university support facilities	14.61	636,410	80,890	119,140	-	107,372	-	10,181	1,584	240,000	720,000	32,000	100,000	4	Type 2: adjacent to single-family residential lots Type 1: adjacent to other uses	80 ft.	200 ft.	15 ft.	N/A
C	Athletics/ Recreation	Athletic event and practice facilities, gymnasium, locker rooms, fitness facilities, courts and fields, bleachers, concessions, offices, classrooms, restrooms, university support facilities	28.49	1,241,020	88,990	90,000	-	-	-	-	90,000	LPAC ⁹	LPAC ⁹	LPAC ⁹	LPAC ⁹	4	Type 2: adjacent to single-family residential lots Type 1: adjacent to other uses	200 ft.	400 ft.	Note 9	Note 9
D	Cannery Field	Athletics facilities, university support facilities	15.60	557,110	2,700	0	-	-	-	-	-	50,000	100,000	30,000	200,000	3	Type 2: adjacent to single-family residential lots Type 1: adjacent to other uses	200 ft. (100' on Cedar)	400 ft. (200' on Cedar)	15 ft. from streets	N/A
E	Main/College	Residence halls, student apartments, dining facilities, administrative offices, academic mixed-use, temporary modular offices, student health services	3.26	142,000	16,400	28,550	5,030	-	8,049	15,467	-	100,000	400,000	25,000	100,000	4	None	80 ft.	200 ft.	0 ft.	10 ft. on corner of Main St. & 21st Ave.
F	East Campus Residential	Residence halls, student apartments, live-learn, university support facilities	2.38	317,700	82,700	2,360	N/A	N/A	N/A	2,360	N/A	90,000	200,000	15,000	45,000	3	Type 2: adjacent to single-family residential lots Type 1: adjacent to other uses	80 ft.	200 ft.	15 ft.	N/A

Notes to Table IV-1

1. See Section IV text for standards that affect the location, and allowed uses, for buildings
2. Live-Learn facilities are buildings that are primarily residential in nature, but include some classrooms, facilitating academic programming that fully immerses students in the learning process.
Academic Mixed-Use buildings are primarily university facilities -classroom, lab and/or office - but with ground floor uses that may vary, based on site opportunities. For example, on Main Street ground floor uses could be office, retail or student life facilities, including dining services. The intent is to create activity along the street.
Campus Support facilities are facilities that provide support for the operation of the University, and that are not included in any other land use identified in the Master Plan.
3. See Section IV text for definition of continuous length.
4. Existing non-conforming buildings can be renovated without being brought into conformance, but not further lengthened without a Type III process.
5. Regardless of setbacks, ensure a clear vision area, consistent with the City of Forest Grove's Development Code (10.8.150).
6. The dominant, most northerly façade of new construction or additions facing University Av will set no further north than the main plane of McCormick Hall. The dominant, most westerly façade of new construction or additions facing College Way will set no further west than the main western face of McCormick Hall.
7. No setback is required for portions of any main campus building within 100' of the corner of Pacific Av and College Way.
8. New construction on this block and facing College Way or University Av. will set back a minimum of 20' from the back of sidewalk on College Way, except within 100 feet of the intersection of 21st Ave, where a zero (0) foot setback shall be allowed.
9. Development on the Lincoln Park Athletics Complex is governed by a separate User Agreement between the University and City. Standards and areas listed for this site apply to University-owned lands.

Site-by-Site Development Standards

The following standards vary by site and are keyed to Table IV-1. The campus has been divided into a series of opportunity sites for the purpose of describing growth allowed in each sector of the campus under this Master Plan. This approach is intended to provide flexibility appropriate to a Master Plan, while still explaining how development is regulated on campus.

Table IV-1 lists the allowable development on any given site, as well as the standards which apply for each site. The primary design considerations explained below and in the attached table are:

- Building Massing and Site Coverage
- Building Height and Transitions
- Building Length
- Setbacks

Site Development Categories (Table IV-1 Columns)

Existing Development

These columns of Table IV-1 document the baseline condition of the campus lands, indicating the amount of development that currently exists on each Opportunity Site. The approximate area of each site is indicated, as well as the combined footprint of development in the site and the combined total floor area. It should be recognized that site areas are estimated, since the boundary of a given site may be an open space with an inexact edge.

Building Massing & Site Coverage

Purpose:

- Building coverage standards, along with height limits help to ensure that new development does not overwhelm adjacent development, especially surrounding residential neighborhoods.
- The maximum developable areas per site allow adequate planning by the University, the City and other agencies for infrastructure and related impacts.
- When coupled with height limits (see next section), the site coverage limits describe the scale of buildings that are anticipated or allowed.

Explanation of Standard:

As described in Table IV-1, building massing and site coverage is evaluated four ways:

- Maximum combined building footprint per Opportunity Site or zone. This is the maximum amount of ground that could be covered by buildings within the site, and is established to ensure that the campus overall continues to be dominated by open space.
- Maximum combined floor area. This is the maximum amount of building area, over any number of stories and buildings that can be built on a site. This figure sets a limit on the amount of development allowed for each region of the campus.
- Maximum footprint per building. This governs the maximum area of ground that can be covered by a single building, and contributes to the building massing limits.
- Total floor area per building. This is the maximum amount of building area, over any number of stories that can be housed in a single building, and helps define the allowable massing.

This breakdown is useful in describing the amount of development per zone or Opportunity Site. The standards as established help distinguish different types of development in each area of the campus. For example, the proposed residential buildings have a maximum footprint of 40,000 SF and a maximum floor area of 100,000

SF versus academic buildings, which range from 30,000 SF to 180,000 SF for the proposed Arts and Performing Arts facilities.

Note: The amount of allowable area identified for residential buildings exceeds the 2,100 beds described in this Plan. The purpose of showing more residential sites than is required for 2015 is to provide the University with flexibility, in terms of determining the location of future development. Residential development is allowed throughout the University's land holdings, with an understanding that all residential and other uses will comply with the provisions described in this section and the attached Development Standards table

Building Height and Transitions

Purpose Statement:

- The building height standard is intended to promote a balance between the scale of buildings on campus with the scale of buildings in the vicinity.
- The building height standard is intended to recognize the University's role as an institution, its stature and longevity.
- In recognition that the campus abuts single-family residential areas, this section includes "transition" standards that ensures that multi-dwelling buildings blend in with single family residential buildings on adjacent lots.

Explanation of Standard

Height limits: Height limits are generally defined in terms of number of stories. This allows appropriate flexibility to utilize a variety of construction types appropriate to the facility type, fire code requirements and mechanical systems.

Where university development will border non-University residential development, transition standards are defined that address overall height. Chimneys and other limited architectural elements may exceed height limits. See sidebar, Table IV-1, and Table IV-2.

Transitions

Table IV-1 identifies two types of transition standards for University development outside the traditional core campus. Type 1 applies to University developments that are adjacent to parks, commercial areas and multi-family housing. Type 2 applies to University developments adjacent to single family residential areas. The standard near single family homes is intended to recognize the existing character of these areas, even where they may be zoned for higher density housing than exists.

Buildings that are next to existing single family homes are required to have a reduced height on the edges where they directly border residential lots – i.e. without a street or alley separating the uses. New campus development that shares the side or rear property line with non-University residential lots, will abide by the side and rear setbacks of the underlying residential zone.



Winter Solstice



Equinoxes

Figure IV-2: Transition standards are intended to reduce impacts on adjacent properties, including excessive shading of homes and yards.

Table IV-2

Transition Standard	Setbacks & Building Heights	Landscape Standards
<p style="text-align: center;">1 adjacent to non-residential uses</p>	<p style="text-align: center;">per underlying base zoning</p>	<p style="text-align: center;">per underlying base zoning</p>
<p style="text-align: center;">2 adjacent to residential lots</p>	<p>Follow side and rear setbacks of base zone, and</p> <p>Within 15 feet of the setback, the height shall be limited to the lesser of:</p> <ul style="list-style-type: none"> • two stories OR • 25 ft. 	<p>When developed to a density higher than would be allowed under base zoning:</p> <ul style="list-style-type: none"> • a minimum of 5 canopy trees, • 10 under-story or conifer trees and • 15 shrubs <p style="padding-left: 40px;">per 100 linear feet of side or rear yard.</p> <p>If an alley divides University and non-University lots, then the standard is as required by base zoning.</p>

Building Length (Continuous Façade and Overall Building length)

Purpose Statement:

- The building length standard is intended to prevent the creation of large uninterrupted wall planes and promote a more dynamic pedestrian environment. Similar to building coverage and building height, the building length is also intended to limit the bulk of the building, especially where the building fronts upon public streets.

Explanation of Standard

- The allowed length of buildings is dependent upon the location on campus as detailed in Table IV-1.
- The building length standard would not apply to renovation of existing buildings, though it is suggested as a guideline. However, an existing building could not be expanded in length to come into non-conformance with this standard, without a Type III review of the proposal.
- All other campus buildings may not exceed 250 feet.
- In all cases, uninterrupted building facades in excess of 100 feet in length are prohibited. For buildings longer than 100 feet, the façade must include a minimum offset of 5 feet.

Setbacks

Purpose Statement: Building setback regulations serve several purposes:

- The main purpose of the setback standards is to describe and maintain the existing campus pattern that has established a generous green ‘apron’ around the core campus (Opportunity Site A). This edge condition creates a particular identity for the campus and by extension for Forest Grove, an identity that is appropriate to a smaller town and semi-rural area.
- In special sub-areas, zero-setback development is allowed and incentivized, to create a development pattern that complements adjacent town center and commercial development patterns.
- Away from the core, setbacks are intended to create a university development pattern that is compatible with nearby development, and appropriate to the context: street frontage, zoning, etc.

Explanation of Standard

- The core campus is currently characterized by a green setback established by the siting of perimeter buildings such as McCormick Hall. The setbacks established in the master plan will continue to reinforce the open space pattern that wraps the edges of the campus, with limited exceptions at the town center and commercial edges, and the new north entry.
- The intent of the setback is primarily for landscaping. Parking is allowed, but should not be developed as a dominant use in these areas. Specifically, parking lots should be perpendicular to the street to minimize their extent along the public street edge.
- On campus lands outside the core, building setbacks are defined to help buildings fit into the surrounding context and to create affinities between developments that might face each other across the streets which bound the core campus. An example would be the way that new buildings across University Avenue are being designed to face the core campus and to simultaneously back up to non-campus neighbors.

Opportunity Site A:

Central Campus

The main campus square - the contiguous block bounded by Pacific Avenue, College Way, University Avenue and Cedar Avenue - is the oldest part of the Pacific University campus. This area will remain the hub of most academic opportunity, as well as administrative functions and several major student life facilities, such as the University Center.

Recent projects in the Central Campus include the construction of Cascade Residence Hall on the site of the former women's soccer fields, a renovation to the interior and exterior plaza around Washburne University Center, completion of the University Ave streetscape renovation, and removal of parking on the north side of McCormick Hall, to re-establish the green apron in this area.

Major development projects in this area may include:

- Demolition of Clark Hall.
- Renovation of Jefferson Hall, at such time that the School of Optometry is relocated to Pacific's Health Professions Campus in Hillsboro. The vision for this project is to organize the renovated buildings around a central atrium that creates a new "second front" to the Oak Grove. Program options are still being refined.
- Redevelopment of existing science buildings, including potential direct connections between them. With any modifications to either Murdoch or the eastern edge of Strain, improvement of the relationship between these buildings and the campus edge. Offices and other spaces with windows should be placed on this edge, along the defined setback, to provide a street edge with active adjacent uses.
- New development on the current site of the Holce tennis courts complex, with academic buildings - likely for the sciences - residential halls, or a combination of both. Tennis courts would likely be relocated to another site identified for athletic uses.
- Rehabilitation or replacement of Tabitha Brown and Warner Halls to provide updated facilities for the visual and performing arts.
- Potential construction of a new academic facility on the corner of Cedar and Pacific Avenues.

Minor development projects in this area may include:

- Further renovation of Washburne Hall (University Center) A primary focus of this remodel would be to improve the north elevation, in order to create a welcoming impression to people entering the campus from the north entry plaza and Sunset Drive.
- Potential relocation of historic residential structures from other areas - especially west of College Way - when they are found to have inherent historic value, and can not be well integrated to future development plans on their current site. Examples: Knight and/or Chapman Halls.
- In the event of any additions to Taylor-Meade Hall, make every effort to wrap the existing loading dock with spaces that would provide windows to the Pacific Avenue edge to reduce the appearance that this facility puts a "back door" to the public street.
- Harvey Scott Hall may be further renovated and expanded to provide space for student support services, and student life facilities. Only modest (+/- 5%) increases to the building footprint are expected.

Supporting grounds and infrastructure projects in this area could include:

- Construction of a new north entry plaza south of University Ave at the Sunset Dr intersection.
- Reconfiguration of Parking Lot C and relocation of some parking spaces.
- Adjustments to parking areas, to optimize parking supply, including reduce reliance on long-term leased lands for parking. Relocation of parking supply from potentially displaced lots prior to initiating any site redevelopment projects.

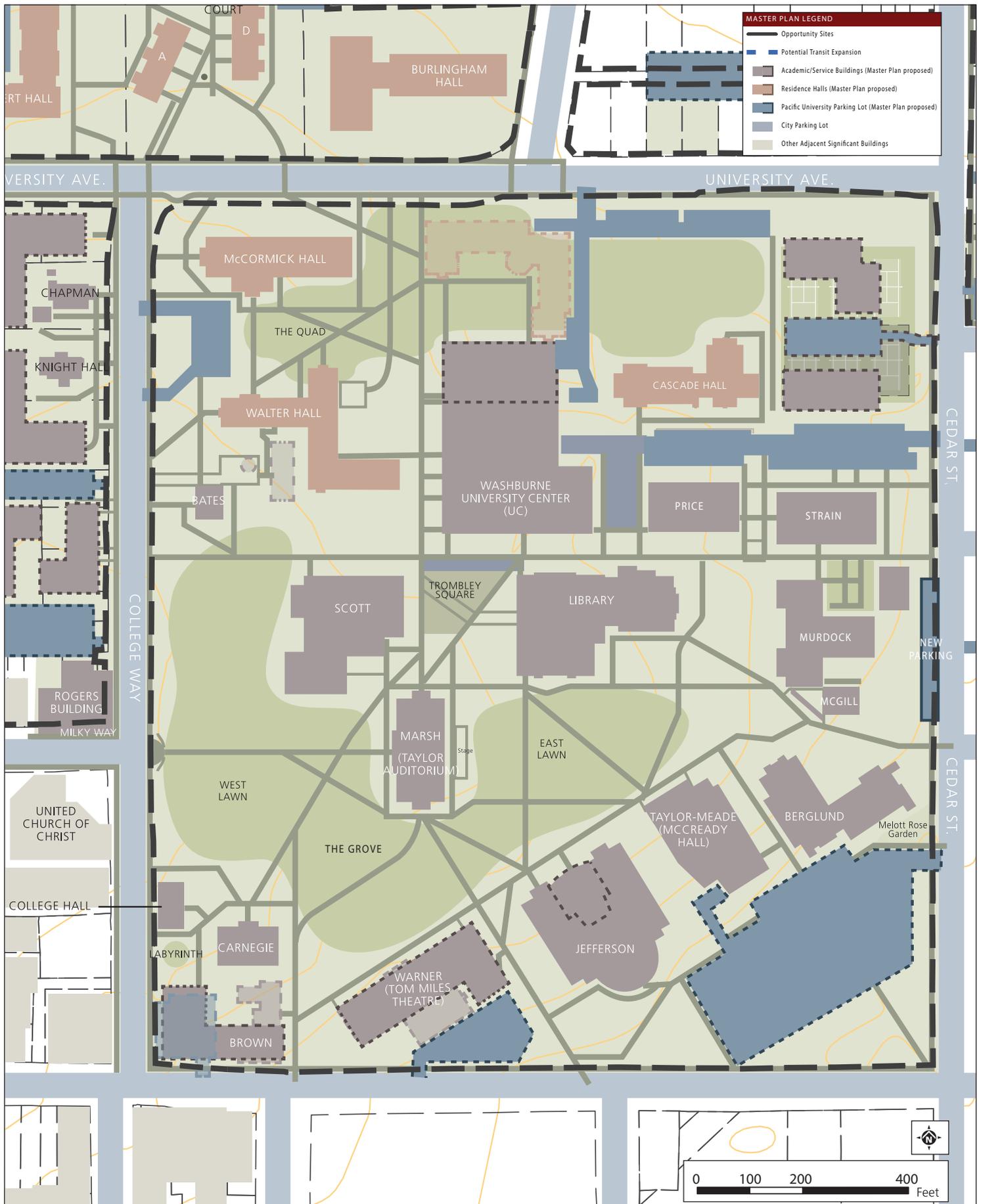


Figure IV-3: Map of Opportunity Area A - Central Campus



Figure IV-4: Jefferson Hall was originally constructed in the early 1950's, and has seen significant additions in the 1960s and 1990s. With the relocation of the existing Optometry School functions to the Health Professions Campus, Jefferson Hall will be completely renovated and organized around a central atrium.



Figures IV-5 and IV-6: The most recent remodel of Jefferson Hall – in the early 1990s - included the creation of a new formal entryway and lecture hall on the south side of the building, towards Pacific Avenue (left). This orientation creates a strong relationship with the street, but the façade facing the campus (right) is effectively a back side. A goal under this plan is to shape Jefferson Hall so that it turns an equally appealing face to the heart of the campus.



Figure IV-7: *Trombley Square, re-considered as an open gathering campus “crossroads” plaza*

- Potential relocation of the existing tennis courts - to other opportunity sites designated for athletic uses - facilitating redevelopment of the northeastern corner of the campus.
- Improvements to - or redesign of - Trombley Square to function as more of an open plaza and campus gathering place
- Improvements to stormwater infrastructure for treatment, and to minimize or eliminate the need to fenced enclosures of stormwater swales.
- Enhancement of the network of pedestrian walkways throughout campus and connecting to the surrounding community.
- Improvements to the east courtyard of Murdock Hall - known as Barbara’s Garden - for studying and potentially stormwater treatment.

*Additional projects may be identified over the course of the planning cycle, in response to opportunities tied to funding availability and changing needs.



Figure IV-8: *Recent improvements to Washburne Hall (University Center) improve its connection to Trombley Square and create an improved central gathering place on the campus. This encourages the type of informal peer to peer learning outside the classroom that has a demonstrated benefit for the overall educational experience.*

Important planning goals for this section of the campus include:

- Follow guidelines (Section VII) to maintain the Oak Grove “habitat of concern” to the greatest extent feasible.
- Buildings and athletics facilities shall respect the setbacks that apply along the frontages of University Avenue, Cedar Street, Pacific Avenue, and College Way, as well as other development standards (see Table IV-1);
- Provide significant building entries on the street-facing facade of any building located along public streets
- Shape circulation networks to connect to significant areas off the core campus, including downtown Forest Grove, the Cedar Street complex, and areas of campus north of University Avenue.
- Use interstitial spaces between buildings, formal open spaces, and key pedestrian walkways to support a variety of studying and teaching opportunities, and areas that facilitate casual peer-to-peer learning. Integrate furnishings, lighting, power outlets and wi-fi service to support key outdoor areas as part of the learning environment.
- Integrate site specific designs with key pedestrian walkways to be developed across the campus, and any improvements to the College Way street scape; reinforce the larger campus goal of creating a robust pedestrian network, by orienting important building entries and spaces to these walkways. Seek to avoid putting loading docks on primary walkways.
- At such time that Walter Hall is replaced, lay out new facilities in this area to shape a strong campus quadrangle between this site and McCormick Hall;
- Integrate improvements to buildings in the center of campus - such as Scott Hall, the University Center, and the Sciences buildings with design work on Trombley Square and adjacent development

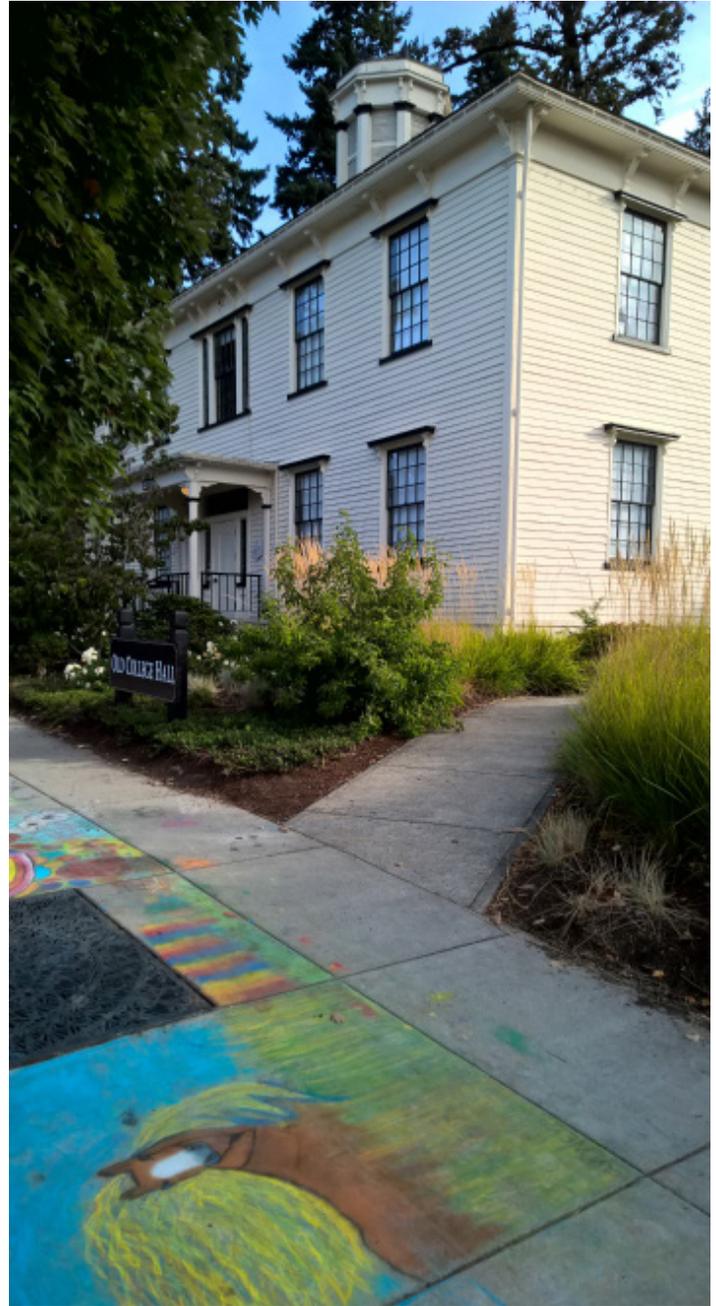


Figure IV-9: *Old College Hall is Pacific University’s most historic structure and now stands on College Way as a welcoming icon of the campus.*

Landscape Guidelines and Recommendations for Opportunity Site A

General Guidelines

- Protect and preserve mature Oregon white oaks by following appropriate tree preservation practices.
- Use large scale, massed plant compositions to provide a strong campus identity rather than a collection of scattered different single species.
- Review landscape plantings for 'defensible space' and avoid dense planting near entries or paths that could create hiding places.
- Improve visual and physical connections between Trombley Square and the Oak Grove.
- Consider using stormwater flow-through planters and/or vegetated green street facilities for stormwater treatment adjacent to campus driveways and parking areas. Avoid disrupting contiguous gathering space and pedestrian circulation.
- Establish large deciduous trees and generous sunny areas.
- Minimize the use of tall evergreen trees to support solar exposure of buildings (rooftops and southern facades), as well as primary open spaces.
- Use trees to create spatial enclosure and small to medium flowering trees to mark entrances.
- Use massed, large-scale plant compositions to create landscape gateways at key entrances to primary pedestrian walkways
- Shade the southern façades of the buildings with large deciduous trees, to reduce heat gain during warmer months.
- Visually anchor building corners with large trees.
- Provide ample lighting and visual accessibility to the building entries.
- Use landscape plantings around building approaches to create a variety of horticultural teaching opportunities.
- Along entries to residence halls, create a variety of thresholds and cues in the landscape, to demarcate private and public space. For example:
 - Strong massed plantings and materials for communal spaces and more detailed planting design to mark private spaces
 - Elevation changes using low site walls
 - Small trees near entrances

Site-Specific Opportunities

- Redevelop Trombley Square to serve as a gathering space for large groups by creating a large flexible open space, and scaled perimeter spaces for smaller groups or individuals.
- Employ layered foundation plantings to soften the southern walled perimeter of Barbara's Garden, which is located between Murdock Hall and Strain Hall. Install plants to fill planting areas and eliminate unplanted bark mulch.
- At the north side of Warner, Jefferson, Taylor-Meade and Berglund Halls, upgrade the walkway to support a high quality campus experience. Evaluate resurfacing the entire asphalt service drive with concrete or unit pavers or creating upgraded pavings at key areas: intersections with other paths and at building entries.
- Plant appropriate foundation plantings along the western façade of Scott Hall.

Special Condition Areas

Within the Core Campus, several areas warrant special consideration, as they define the interface between the campus and the larger community of Forest Grove. These community edges are described below, and additional planning guidelines for them are detailed.

Special Condition Area 1: Community Edges

Pacific University is an open campus, which welcomes the community to attend public events or to stroll and enjoy the character of the grounds. The edges of the campus are intended to be welcoming and to express the identity of the University.

The general development pattern for the Core Campus - as provided in Table IV-1 - includes maintaining the traditional setback from street edges. However, two exceptions to this pattern are allowed for, at the southwest corner of campus and the southeast corner of campus (see Special Condition Areas 3 and 4).

Guidelines specific to campus/community edges:

In addition to the guidelines for the whole of Opportunity Site A, the following standards apply specifically to the campus edges.

- Buildings and athletics facilities shall respect the setbacks that apply along the frontages of University and Pacific Avenues, Cedar Street, and College Way (see Table IV-1).
- Provide significant building entries on the street side to any buildings located along public streets.
- Coordinate with public agencies on enhanced transit service, including the potential for light rail at the eastern and/or southern edge of campus.
- Shape the circulation system to create a strong connection to the corner of Cedar and University, to enhance pedestrian movement through this area to the Alumni Center and to the Cedar Street fields area.
- Provide replacement parking as needed prior to any development on sites of existing parking lots.

Landscape Guidelines and Recommendations for Community Edges

- Create large-scale, massed foundation plantings to screen utilities from view: for example, east of Murdock Hall



a: Before



b: During



c: After

Figure IV-10a,b,c: Relocating parking from the 'green apron' of the campus - such as on the north side of McCormick Hall - communicates that the campus is a place for learning. Balancing this character with required parking is an important goal of the master plan.

- Provide appropriate visual screening of parking from the adjacent public streets.
- Protect large existing street trees.
- Use strong shrub mass plantings within the setback to partially screen the street parking along College Way, taking defensible space guidelines into account.
- Replace birch trees from Alpha-Zeta walk and rededicate it to the class for whom the trees were originally planted. Remove cedar trees from Alpha-Zeta Walk to revitalize the birch trees in the short term.
- Plant new trees along Pacific Avenue to provide a signature perimeter landscape.
- Improve landscape screening of existing parking areas facing Pacific Avenue.

Special Condition Area 2: North Entry

The North Entry centers on the area currently occupied by Clark Hall, which is a University priority for demolition. The building is substandard in terms of its configuration and comfort. The existing building is also poorly sited and presents a poor image of the campus as one approaches the campus from Sunset Drive.

In response to these shortcomings and following the recent improvements to Sunset Drive and University Avenue, this area is to be developed as a formal entryway from the University/Sunset intersection.

Important planning goals for this section of campus include:

- Design the north entry courtyard as a visual extension of the Sunset Drive approach to campus. Provide views to the University Center to support way-finding and campus identity.
- Shape the circulation network in surrounding areas to establish the north entry plaza as a ‘crossroads’ for pedestrians.
- Coordinate any required vehicular access to the north entry plaza with the City to avoid unsafe conflicts with the intersection’s operations.

Landscape Guidelines for North Entry

- Preserve mature trees to the extent possible.
- Incorporate existing grade changes into the plaza design, allowing access to both floors of Washburne Hall.
- To avoid conflict with existing power line along University Avenue, provide a generous building setback to establish large canopy street trees.
- Within the entry plaza, design for a mix of sunny open areas and shaded areas, as well as active and quiet areas.



Figure IV-11: Demolition of Clark Hall to allow creation of a North Entry Plaza is a top priority under this planning cycle. The intent is to create a welcoming entry from the intersection of Sunset Drive and University Avenue.

Special Condition Area 3: Southwest Campus Corner

At the southwest corner of the Campus Core - adjacent to the intersection of College Way and Pacific Avenue - development is intended to create a welcoming connection to the commercial areas of Forest Grove. Significant redevelopment of this area is considered in the medium to long term.

This corner site is intended to become a new arts complex when funding allows, in conjunction with rehabilitation or replacement of Tabitha Brown and Warner Halls. Zero-lot-line development at this site is allowed by Table IV-1, and encouraged, to fit the context of the adjacent commercial downtown context. The corner itself might include an entry plaza or atrium space to create a welcoming presence to the community.

Important planning goals for the SW Campus:

- Future development at the corner site should maximize “eyes on the street” through active uses - such as studio space, offices, and gathering areas - with windows on the street edge.
- Ensure clear vision tolerances are met at the corner of Cedar Street and Pacific Avenue, per City of Forest Grove Zoning Code.
- To the extent that redevelopment on this site reduces parking or generates more demand in this local sub-area, provide replacement parking as needed prior to construction on this site. As described in the parking section (Section V), a shared parking strategy for special events should be evaluated.



Figure IV-12: *The Southwest corner is where the Pacific campus most directly interacts with the Forest Grove downtown center. The master plan calls for future development on this corner that supports better integration with community activities.*

Landscape Guidelines for Southwest Campus Corner

- During redevelopment of the Arts facilities, protect the oak trees north of the visual and performing arts center.
- While Parking Lot B (south of Warner Hall) is in place, re-configure and improve landscape screening to balance prioritized demand for parking in the south campus area and the desire to reduce the visual impact of parking along Pacific Avenue.
- Along the street, use tall deciduous columnar trees and low shrubs to invite the community into the corner building, verifying that these present no conflict with overhead utility wires.

Special Condition Area 4: Southeast Campus Corner

The southeast corner of the core - adjacent to the intersection of Pacific and Cedar Avenues - is a third gateway to the campus, creating a first impression for visitors arriving from points east on Pacific Avenue/ Highway 8.

This site currently serves multiple functions, with the largest parking lot in the southern area of the campus, as well as access to the daycare facility in Berglund Hall; it also includes a pedestrian entry from Pacific Avenue, which cuts through the parking area.

A potential long-term use for this site would be an academic building, including zero lot line development. While there is not a planned program for a building in this location, this site is one area of the campus core where a significant academic building could be added.

Important planning goals for the SE Campus:

- Reconfigure Parking Lot C as needed, to maintain adequate day use parking, without increasing the visual impact of parking from the public streets and sidewalks.
- Enhance the street edge of the Berglund Center to provide a welcoming gesture to community members using the associated daycare facility. Evaluate moving drop-off parking spaces for the daycare to the street edge, allowing more flexibility in the use of Parking Lot C.
- Upgrade the paths from the Cedar/Pacific entry, to ensure safety through high visibility of the path and users.
- Ensure that any future development in this area is designed in consideration of the possibility of future rail-based transportation.

Landscape Guidelines and Recommendations for Southwest Campus Corner

- Plant new trees along Pacific Avenue to provide a signature perimeter landscape.
- At the stormwater pond, use appropriate vegetation to create habitat for wildlife.
- Create a gateway landscape at the corner of Cedar Street and Pacific Avenue by using large-scale massed landscape compositions, rather than many species of singular plants.



Figure IV-13: The Southeast corner currently accommodates parking, signage and landscaping and an important pedestrian entry. There is an opportunity to organize these diverse uses into a more cohesive entry experience.

North Campus

The north campus area is an area combining athletic and residential/student life facilities. Two opportunity sites have been identified in the area, based on the dominant intended use of each:

- Opportunity Site B is a set of non-contiguous lots where the primary intended function is for residence halls and student life facilities.
- Opportunity Site C is a clustered area where athletics and recreation are the primary uses. This site includes the Lincoln Park Athletics Complex.

Opportunity Site B:

North Campus Residential

The North Campus Residential opportunity site comprises several non-contiguous zones north of University Ave and between Main Street and Sunset Drive including the residential cluster of Gilbert Hall, Vandervelden Court, and Burlingham Hall; areas just west of Stoller Center; non-Pacific-owned properties just northwest of Hanson Stadium; and several grouping of sites running north up Sunset Dr.

It is the University's intent that development in this area be complimentary to the north edge of the core campus, especially where buildings face one another across University Avenue. It is also recognized that buildings in this area need to transition gracefully to the lower scale and density of surrounding single-family residential zoning. The development standards in this section prescribe some aspects of those transitions, but project designers are encouraged to study the built context carefully and use a variety of design strategies i.e. materials, horizontal divisions, landscaping, etc., to make a thoughtful transition.

Primary development projects in this area could include:

- A residential building or buildings providing 250 beds on the sites between Main St. and Stoller Center; this development may also include student services such as a dining facility that would serve building residents as well as a growing body of students athletes who spend a significant amount of time north of University Ave using sports facilities;
- A residence hall west of Sunset Dr on the site of the temporary Campus Facilities structures;
- Additional residence halls on northern parts of the opportunity site, contingent on university enrollment growth and fund-raising capacity.

Supporting grounds and infrastructure projects in this area could include:

- Walkway improvements connecting north-south, and east-west through the North Residential area, including reducing the barrier impacts of parking lots and lengthy building facades.
- Parking reconfigurations to allow for redevelopment of sites for housing.

Important planning goals for the North Campus Residence sites:

- Design buildings to be of similar material quality to buildings on the core campus.
- Where university development is adjacent to residential zones, use the transition standards to create an limit impacts on neighboring parcels.
- Apply the setback that applies established in Table IV-1 along University Avenue; other streets, follow setbacks established by the City of Forest Grove's base zoning.
- Provide replacement parking as needed prior to construction on any areas of the opportunity site currently used for parking.

Landscape Guidelines and Recommendations for Opportunity Site B

General Standards

- Design and maintain the landscape along both sides of University Avenue in a consistent fashion.
- Use landscape plantings at the corner of Sunset Drive and University Avenue to support the north entry plaza at the terminus of Sunset Drive.
- Plant large trees to help scale down and buffer buildings located opposite residential neighborhoods, taking fire safety guidelines into account.



Figure IV-14: Improved pedestrian crossings and street scape design of University Avenue help to unify the north campus with the core campus.



Figure IV-15 and IV-16: The Lincoln Park Athletics facilities are now the first impression one gets of Pacific University when approaching Forest Grove from the north.

- Select and locate plants to maintain the privacy of neighboring backyards.
- Design parking lot landscaping and lighting in concert with their residential context.
- Along entries to residences, create a variety of thresholds, cues in the landscape in order to demarcate private and public space. For example:
 - Massed plantings and materials for communal spaces and more detailed design to mark private spaces, taking defensible space guidelines into account.
 - Elevation changes, entry courts and low site walls
 - Small trees near entrances



Figure IV-18: *The current site of campus maintenance facilities is a potential site for residence halls in the long term.*

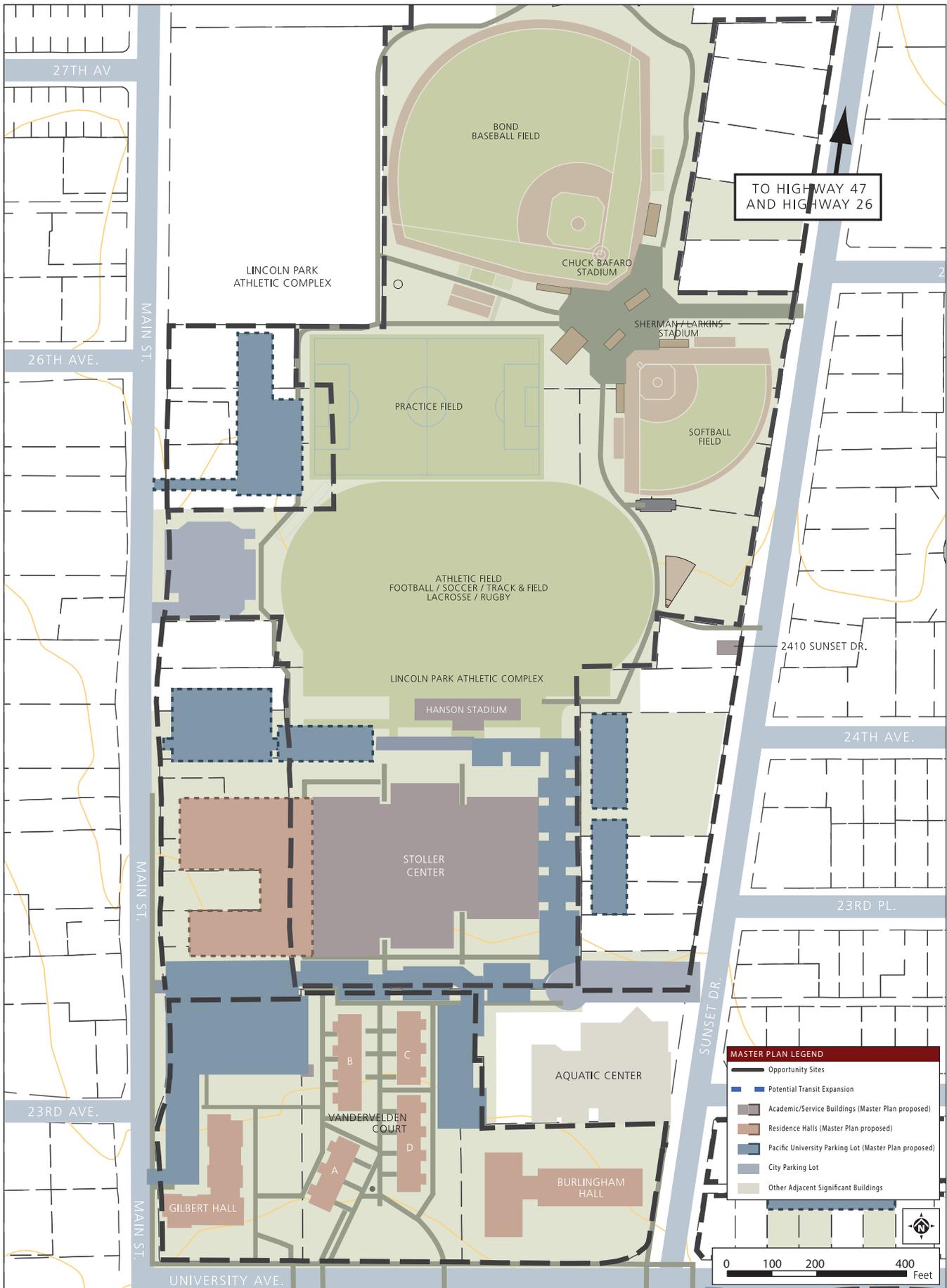


Figure IV-17: Map of Opportunity Area B - North Residential

Opportunity Site C:

Athletics/Recreation

The area north of Pacific University's Stoller Center is a joint-use athletics complex serving the University, City, and local community groups. A separate, shared use agreement has been entered into by the City and University to describe the terms of the joint use and other aspects of this relationship, including easements and licenses granting use of each party's facilities to the other party.

Most of the land in the Lincoln Park Athletic Complex (LPAC) is owned by the City, while the facilities will be developed by the University. The area immediately adjacent to the Stoller Center is owned by the University.

Types of Uses Allowed:

University facilities in this area are intended to serve the athletics and recreation programs and are delineated in the User Agreement. Built facilities include stadium seating, concession and restroom facilities and other facilities incidental to the outdoor athletics uses. Other indoor functions – such as locker rooms - will typically be housed within the existing Stoller Center, which is part of this opportunity site.

When fully adopted by the City and University, amendments to the User Agreement governing the types of uses allowed and the standards to which they are built shall constitute amendments to this Master Plan, as well.

Primary development projects in this area could include:

- An expansion of Stoller Center on the SE corner of the building to provide more athletics, classroom, and office space



Figure IV-19: *Lincoln Park Stadium and Soccer Field*

Landscape Guidelines and Recommendations for Opportunity Site C

General Standards

- Design the landscapes along Sunset Drive in a consistent fashion, appropriate to the blend of athletics and residential uses.
- Plant large trees to help scale down buildings located adjacent to residential neighborhoods, taking fire safety guidelines into account. Select and locate plants to maintain the privacy of adjacent residential backyards.
- Parking lot lighting shall be designed to minimize the trespass of lighting to adjacent residential lots.
- At street edges and adjacent to non-University residential properties, City screening standards shall be applied to screen maintenance facilities, storage areas and parking areas.

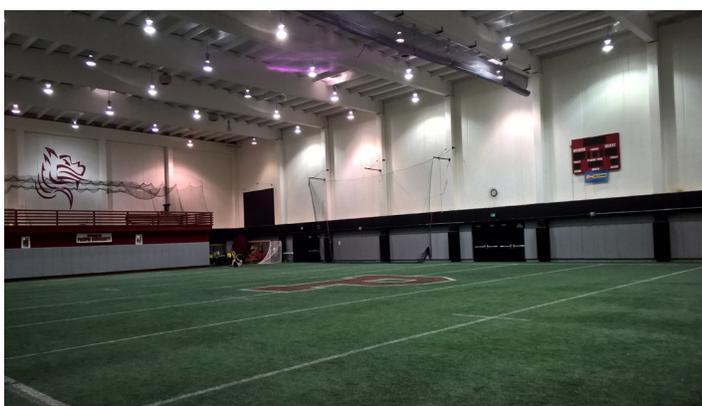


Figure IV-20: *Stoller Center is the core Pacific University athletics training and physical education facility*

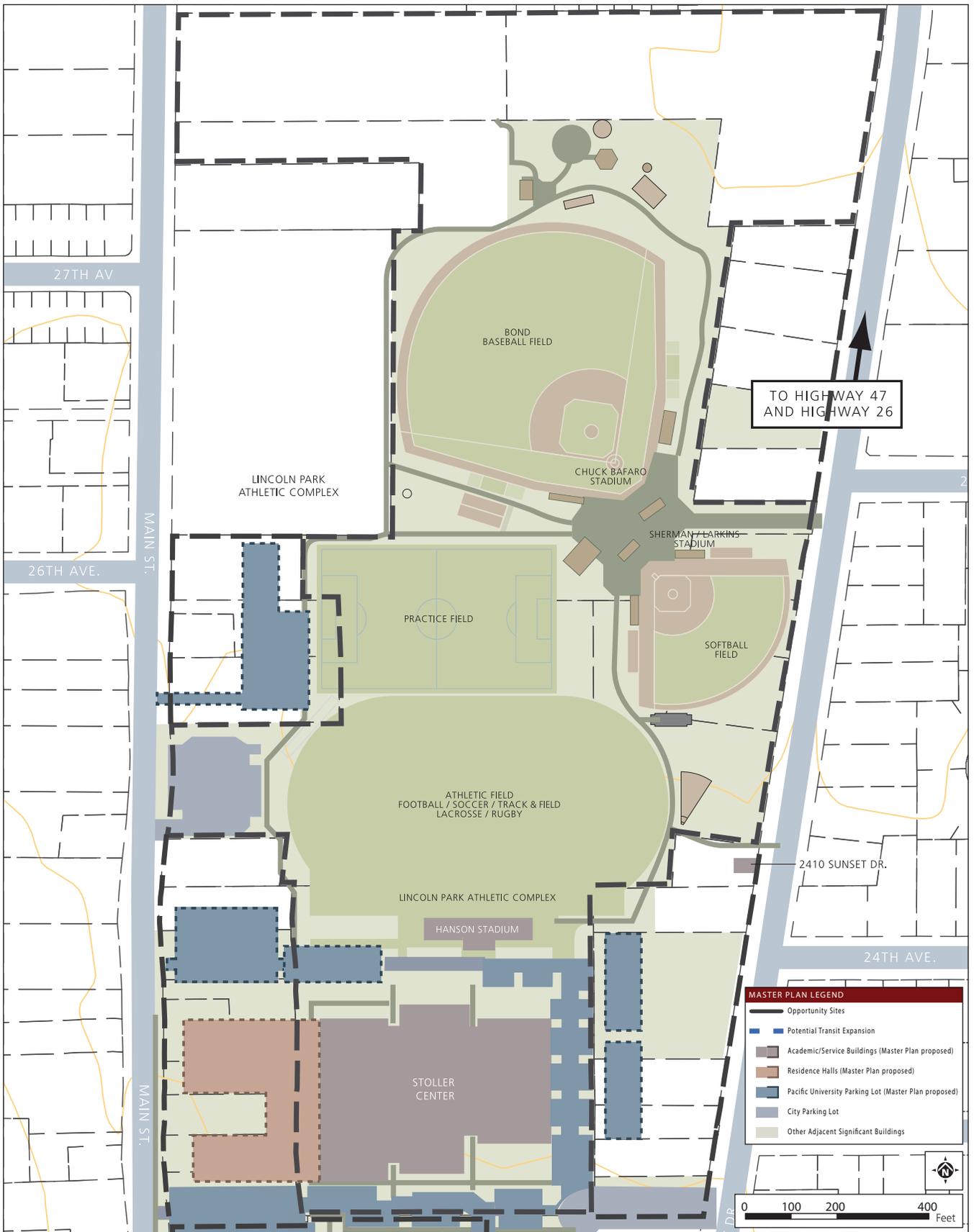


Figure IV-21: Map of Opportunity Area C - Athletics

Opportunity Site D: Cannery Field

University lands at the Cannery are intended for university supporting services.

Primary development projects in this area could include:

- Overflow athletics and recreational facilities, remote parking, and university support services

Supporting grounds and infrastructure projects in this area could include:

- Improved circulation and signage/way-finding to connect the area to the campus core.

Important planning goals for this section of the campus include:

- The University is open to partnerships on the Cannery field that support community programs.
- Ensure that future development minimizes negative impacts on adjacent residential neighborhoods by limiting site edge development, planting buffer landscape areas, abating traffic and parking impacts, and other strategies.
- Cooperate with the City of Forest Grove to ensure safe pedestrian crossings of Cedar Street and University Avenue.

Landscape Standards for Opportunity Site D: Cannery Field

General Standards

- Select and locate plants to maintain the privacy of adjacent residential backyards.
- Design parking lot landscaping and lighting in concert with their residential context.
- At street edges and adjacent to non-University residential properties, City screening standards shall be applied to screen maintenance facilities, storage areas and parking areas.

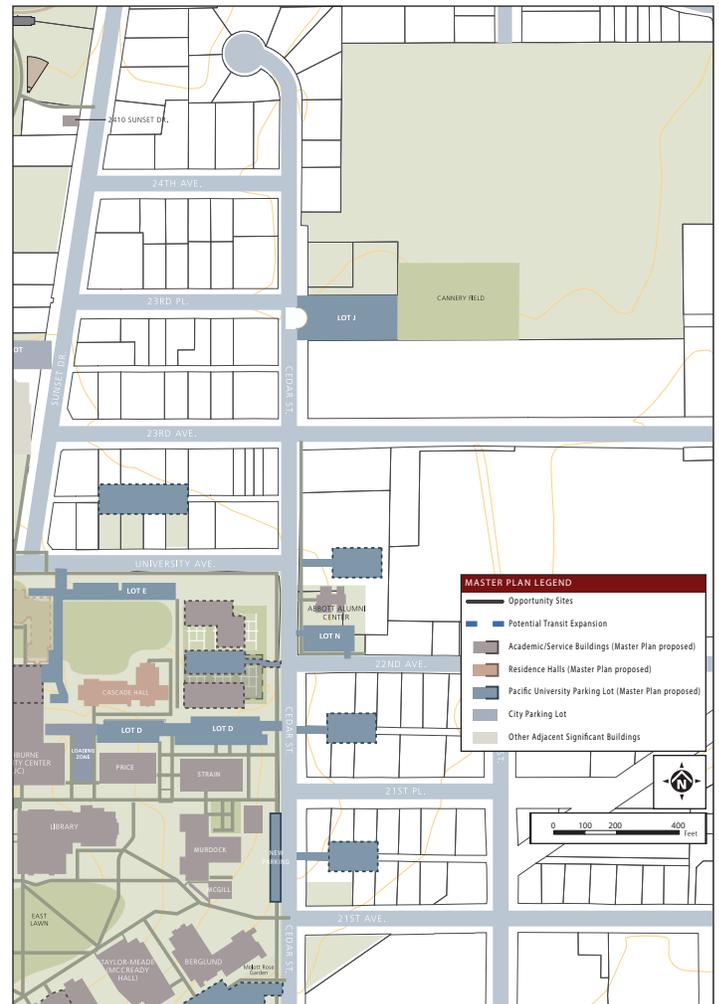


Figure IV-22: Map of Opportunity Area D - Cannery Field



Figure IV-23: Cannery Field in Fall of 2015

Opportunity Site E:

Main/College Blocks

Currently, the University-owned houses in the area between College Way and Main Street, and between 21st and University Avenues, serve a variety of campus functions, from the admissions office in Knight Hall to classrooms, academic offices and campus security. University lands fronting on Main Street are currently used primarily for parking.

Over time, the University intends to transition this area to provide a significant amount of student housing in a mixed-use environment appropriate to its setting on Forest Grove's Main Street. This site is a longer-term priority for the University.

The wood frame homes that are currently sited in this area would be moved, incorporated into the redevelopment site plan, or demolished, based on case-by-case determinations of their condition and historic value. Structures registered as historic or otherwise deemed by the University to have historic value will be maintained consistently with that status, except in special circumstances, such as excessive damage due to calamity.

Pacific University sees this area as a major opportunity to refine its presence in the community and to help with economic development in Forest Grove. Along Main Street, the intent is that buildings would be built in a more 'urban' configuration, oriented to the sidewalk and with ground floor uses that would contribute to the pedestrian life of the street. Along College Way, the intent is to provide a green setback, similar to that on the main campus east of Main Street.



Figure IV-24: *Knight Hall on College Way represents the University's history and welcomes students as the admissions office. It could become the centerpiece of a newly-imagined College-Main block.*

Primary development projects in this area could include:

- Development of student residential halls and/or mixed-use facilities in these blocks south of University Ave and abutting the back edge of commercial development along 21st Ave.
- Seek strategies to provide active ground floor uses facing multiple street edges in new development; uses could at first include academic and administrative functions, later transitioning to private commercial uses if the business district along Main St. robustly expands northward.

Supporting grounds and infrastructure projects in this area could include:

- Relocating existing parking behind and between buildings to allow maximum building exposure on streets and consolidate driveways
- Walkways connecting east-west through the site to improve overall business district connectivity

Important planning goals for this section of the campus include:

- Create strong urban building forms along Main Street, using awnings, articulation, retail-type windows and window sizes and street furnishings to contribute to a comfortable street scape.
- Respect the setbacks that apply along all street frontages of this block (see Table IV-1);
- Extend important walkways from the main campus into this block, to increase pedestrian connectivity;

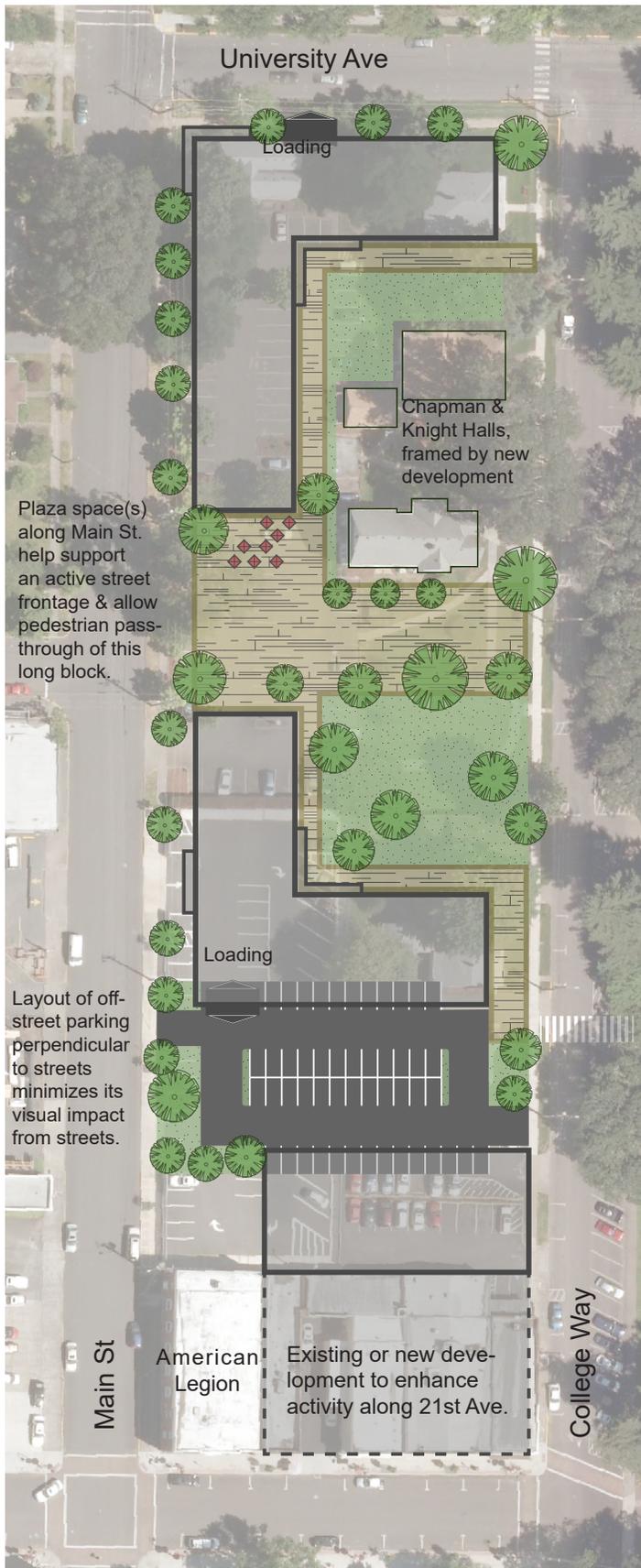


Figure IV-25: *Redevelopment concept for the College/Main Block showing new student residential and an example layout that could support retail or other active ground-floor uses along Main Street.*

- Provide for clear sight lines at zero-setback corners, as required by City Zoning Code;
- Provide replacement parking as needed for the existing Parking Lot D prior to this lot's removal and incorporation into the campus edge landscaping. In this area, with space at a premium, parking may best be provided integral to new buildings;
- Coordinate relocation or removal of wood-framed structures in this area.



Figure IV-26 & 27: *The College Main block is where Pacific University directly links to the historic downtown of Forest Grove.*

Town Gown Opportunities at the College/ Main/University/21st Ave Block

The block between College and Main is a key block for future development for the University, the City, and the community of Forest Grove.

Therefore, it is an area where a collaborative or partnership approach to redevelopment could be well suited.

The block is also complicated to develop physically. Neither College Avenue or Main St. is an appropriate location for loading docks and similar service functions, for example. Extreme care should be taken in site development to create strong, welcoming edges to all of the major street frontages.

Retail in this area should be considered as part of Forest Grove's larger efforts to help support a thriving retail district in and near Main Street.



Figure IV-28: The 21st Avenue frontage of this block offers the opportunity for more active uses, such as cafes and retail, supporting Forest Grove's downtown.

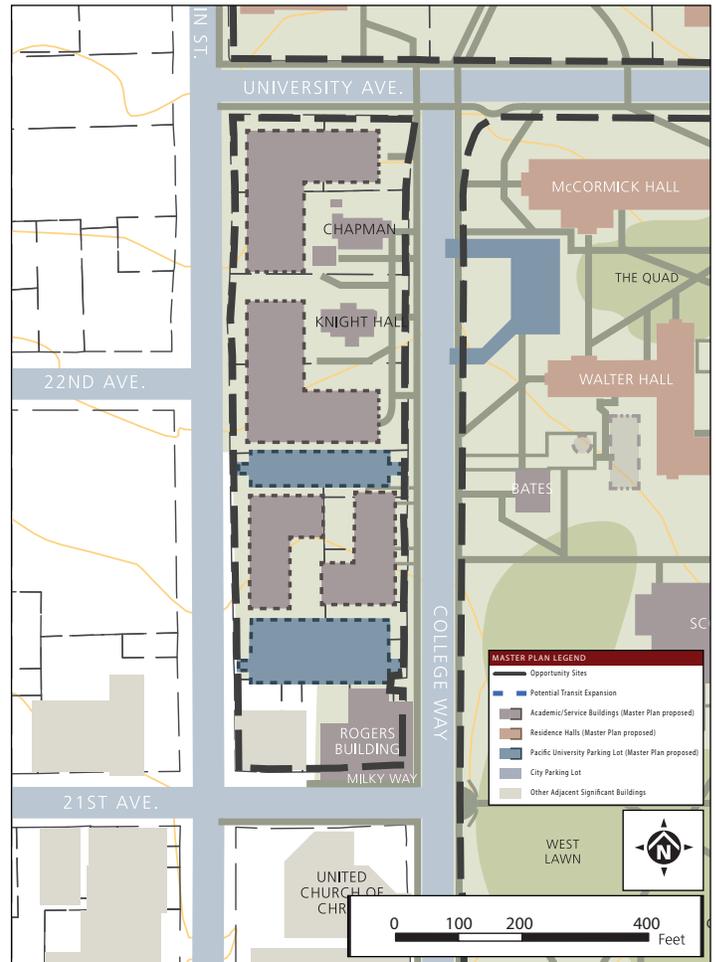


Figure IV-29: Map of Opportunity Area E - College/Main Block

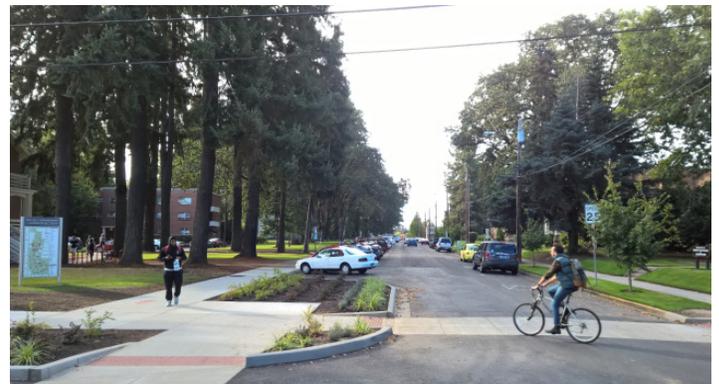


Figure IV-30: College Way is the "front door" of Pacific University, where first time visitors form their first impressions of the campus.

Maintaining a comfortable welcoming street scape is an important goal. The introduction of 45-degree parking has helped welcome visitors to campus and downtown, and improved wayfinding.

Landscape Guidelines and Recommendations for Opportunity Site E

General Standards

- Protect existing large trees to the greatest extent feasible with the urban setting of this site;
- Establish new street trees while accommodating views to store fronts and clearance under power lines;
- Employ a similar palette of tree species on both sides of College Avenue in coordination with the city;
- Continue landscape patterns along University Avenue to Main Street;
- Use landscaping to relate the open space created mid-block between 22nd Avenue and University Avenue to the family of open spaces that includes the proposed quadrangle, proposed entry courtyard at Sunset Drive and the quad at McCormick Hall;
- Avoid tall shrubs that screen storefronts and block clear vision at driveways;
- Place contiguous shrub beds with consistent compositions between Knight and Chapman Halls and the surrounding buildings to associate them as a family of buildings;
- Plant large deciduous trees when space and program allow;
- Screen internal parking lots from the street with trees and shrubs;
- Design planting areas in concert with pedestrian traffic levels and street life associated with mixed-use urban developments;
- At entries to residences, create a variety of thresholds and cues in the landscape, to demarcate private and public space. For example:
 - Massed plantings and materials for communal spaces and more detailed design to mark private spaces
 - Elevation changes, entry courts and low site walls
 - Small trees near entrances
- Along residential edges, use shrub foundation plantings and large trees at corners of buildings to mitigate building height and mass.

Opportunity Site F: East Residential

The areas north of University Avenue/east of Sunset Drive, as well as those east of Cedar Street are areas of potential future growth for the University. Because only a few properties are owned by the University, any development here is considered a secondary and longer-term option. However, the University is open to acquisition of property in this area as one option for meeting campus housing goals. These properties are indicated as an Opportunity Site to recognize that any future development by the University in this area would follow the guidelines and standards stated in this Plan.

It is the University's intent that development in this area be complementary to the north edge of the core campus, especially where buildings face one another across University Avenue. It is also recognized that buildings in this area need to transition gracefully to the lower scale and density of surrounding single-family residential homes. The development standards in this section prescribe some aspects of those transitions, but project designers are encouraged to study the built context carefully and use a variety of design strategies, i.e. materials, horizontal divisions, landscaping, etc., to make a thoughtful transition.

Primary development projects in this area could include:

- Student housing and related campus life uses
- Temporary use as parking lots

Supporting grounds and infrastructure projects in this area could include:

- Landscape, utility, and access improvements would be needed if or when the University acquires properties in these areas in order to incorporate them into Pacific's campus standards.

Important planning goals for this section of the campus include:

- Design building massing, façades and entries to balance the scale of buildings on the core campus across University Avenue
- Design to be compatible with adjacent building types and neighborhood character.
- Utilize transition standards required in Table IV-1 to minimize shading and other impacts on lots to the north.

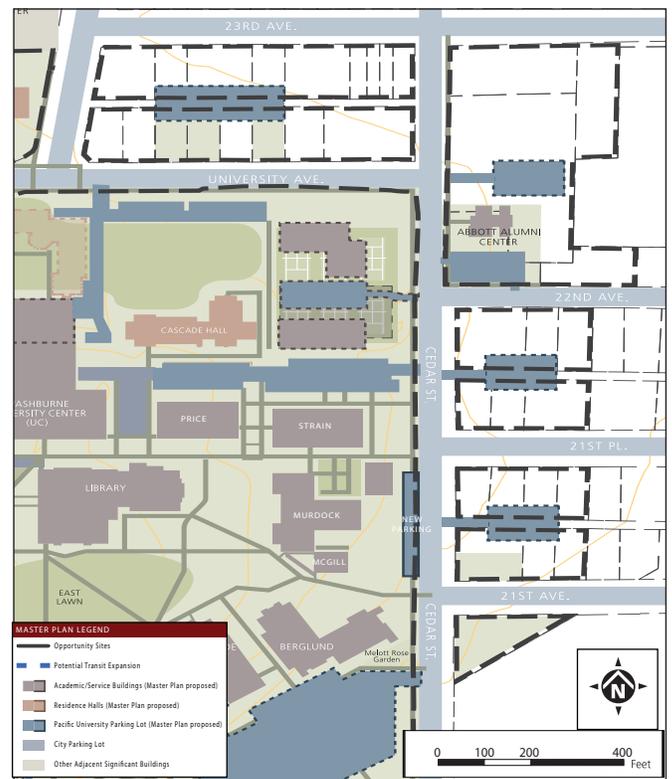


Figure IV-31: Map of Opportunity Area F - East Residential

Landscape Standards for Opportunity Site F

General Standards

- Use landscape plantings at the corner of Sunset Drive and University Street to support the quadrangle at terminus of Sunset Drive.
- Design the landscape along both sides of University Avenue in a consistent fashion.
- Plant large trees to help scale down buildings located adjacent to residential neighborhoods, taking fire safety guidelines into account. Select and locate plants to maintain the privacy of backyards.
- Design parking lot landscaping and lighting in concert with their residential context.

V: Circulation, Transportation and Parking

A Walkable University Neighborhood

The campus framework is based on a strong circulation system, designed to create a comfortable and inspiring walkable experience. The increased percentage of residential students allows many campus users to reach their destination without reliance on cars. This reduces transportation demand and creates a livelier and more interesting campus environment.

Transportation Systems: Transit and Auto

Currently, the primary public transit to the Forest Grove campus is the #57 bus operated by TriMet, which originates at the Beaverton Transit Center and also serves the Hillsboro Transit Center, near the western end of the MAX light rail network. This bus line provides regular bus service, and typically connects riders to Hillsboro in 20 minutes. For trips within Forest Grove, the GroveLink service - currently provided at no charge to riders - provides shuttle service between major destinations, including the University.

Automobile access to the campus from outside Forest Grove is typically from one of two routes: State Highway 8, which becomes the couplet of Pacific and 19th Avenues in central Forest Grove, and Highway 47, which connects to the north to Highway 26, serving both the Portland metropolitan area and the coast. The central Forest Grove segments of both of these highways have been transferred to the City in recent years, and therefore they serve as city streets.



Figure V-1: The City of Forest Grove has conducted some preliminary studies of how rail service might be brought into the community. The University is committed to an ongoing process with the City and other jurisdictions to pursue transit with a layout that serves the needs of all parties.

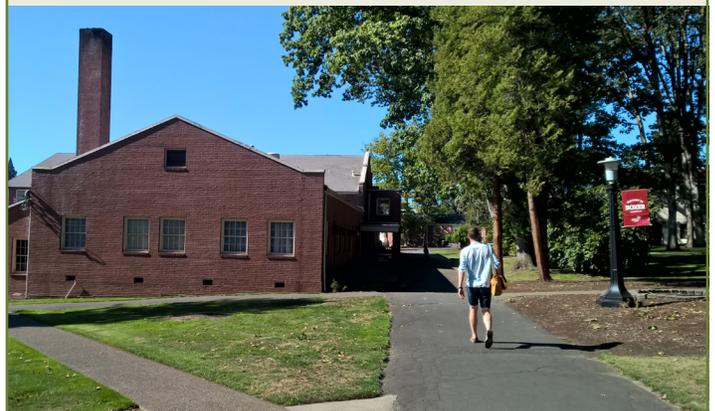
Pedestrian Network

The Master Plan calls for improvements to the pedestrian network on the Pacific University campus. Improved path alignments and materials in select areas will reinforce a hierarchy of paths that make way-finding and understanding of the campus easier.

Opportunities for improvements include:

Alpha Zeta Walk: Tree-lined Alpha Zeta Walk which is a prime example of a path that has special meaning on campus, as it has been maintained over decades by the Alpha-Zeta fraternity. This plan proposes that similar walks be developed elsewhere to provide a welcoming experience at other points of entry for pedestrians.

Improved materials and design: Currently, many campus paths are asphalt service roads that are in need of repair. This plan calls for the development of a palette of materials that will make a distinction between major paths between quadrangles and other destinations, minor paths and service roads.



Figures V-2 and V-3: Improving major walkways on campus helps with wayfinding.

Transportation Demand Management (TDM)

The University will also support and facilitate Transportation Demand Management (TDM) programs that can help reduce drive-alone trips and vehicle miles traveled.

Current TDM programs at Pacific University include:

- provision of TriMet passes at discounted rates to students and staff;
- promotion of the GroveLink local shuttle service;
- hosting of car-share programs (ZipCar) on campus to reduce the need for students to own personal cars;
- hosting of a bike-share program;
- support of carpools through coordination and preferred parking spaces;
- charging staff with reserved parking for their parking permits, and paid parking for other commuters for some spaces;
- provide information to user-groups through web-based travel information.

TDM programs are necessarily market-responsive and therefore dynamic in nature. Pacific will track TDM efforts and provide periodic updates to the City on their performance.



Figure V-4: The emergence of car sharing and other programs has made it more practical to attend college - even as a resident - without bringing a car.

Pacific University's campus currently hosts multiple ZipCar vehicles, and has seen significant use of them. These programs will be an important tool in ongoing Transportation Demand Management efforts.

TDM Best Practices

In the interests of sustainability, cost control, and maintaining a walkable campus environment, many institutions have sought to limit the dominance of cars on the campus.

Universities have adapted many tools in recent decades to manage the dynamic relationship between travel options. Doing so with the support of staff and student requires a sensitive blend of programs that meet real needs.



Figure V-5: Local shuttles like GroveLink provide choices for students and staff within the community.

Transportation Demand Management programs seek to provide alternative travel options that are workable for students, staff and visitors. The modes provided vary by need:

- Walkways and bike ways for local commutes - supported by showers & lockers for riders with longer commutes
- Transit passes for commuters - or resident students' regional trip needs
- Shuttles for frequent routes - such as between multiple campuses or from regional transit to the campus (these can be operated on fixed schedules or on-demand)
- Parking "cash-out" programs, where an employee is paid a cash incentive to not drive (often tied to the price of a transit pass, or to the cost of a parking space)
- "Guaranteed ride home" programs that provide taxis for commuters who may have carpool or take transit, but have the occasional emergency (a 'sick-child' call from daycare or the need to work late & miss the carpool)
- Preferred parking incentives which make the most sought-after parking spaces available to carpool drivers and other preferred modes.

University Parking: Analysis, Policies and Standards

Parking is a dynamic concern, with multiple factors changing how parking demand and supply are understood:

- National and regional trends toward reduced car ownership among student demographics;
- Alternatives to personal car ownership, such as car-share and ride-share programs;

The University is committed to a managed approach to parking supply and demand, that evolves as these trends are better understood. Parking management strategies to manage supply and demand include:

- Maintain an adequate supply of parking, while avoiding over-supply of parking - in order to avoid excessive costs and creation of an incentive to drive to campus;
- Provide parking for residential students near residential halls and away from the campus core, to encourage walking and biking for trips internal to campus;
- Reduce parking demand in the core by offering incentives to park in somewhat remote locations; (experiments at the Cannery Field lot in 2015-16 and 2016-17 have shown early success with this approach);
- Adjusting the ratio of assigned/reserved parking relative to open parking;
- Manage parking supply in tandem with transportation demand management (TDM) programs.

Parking Assessment

A parking assessment prepared for the University determined current demand associated with the campus. The supply and demand are summarized in Table V-1 below. If current demand rates are projected, then additional parking may need to be added to meet peak demand.

It is worth noting that the projected actual demand (1,260 autos) is less than the total current supply of parking (1,305 spaces). However, it is typical to provide an over-supply of parking (the “Peaking Factor” indicated in Table V-1) to reduce ‘circling’ at peak demand times for a limited number of remaining vacant parking spaces.

Based on this analysis, the current supply may be adequate, if parking is managed dynamically to match the demand with the supply, and reduce the need for this over-supply.

Table V-1: Parking Supply and Projected Demand

Parking Supply		Off-Street Parking	On-Street Parking	Total Supply
Existing Supply		999	306	1,305
Potential Added Supply		1,176	306	

Parking Demand ¹	Student Headcount	Faculty & Staff	Total Population	Demand Rate	Parking Demand	Peaking Factor
Demand, Fall 2016	2,200	720	2,920	0.34	980	1,153
Demand, Fall 2030	2,788	918	3,706	0.34	1,260	1,482
Demand, Fall 2030, with enhanced TDM	2,788	918	3,706	0.30	1,112	1,308

1: As indicated in Table I-1, Fall 2030 is projected to be the peak year for the campus population.

2: Peaking Factor would allow the University to meet the forecast demand with the overall parking provided filled to 85%. This reduces searching for parking as lots approach full capacity. This factor is recommended when lots are open, but may be reduced when more parking is assigned by category of use.

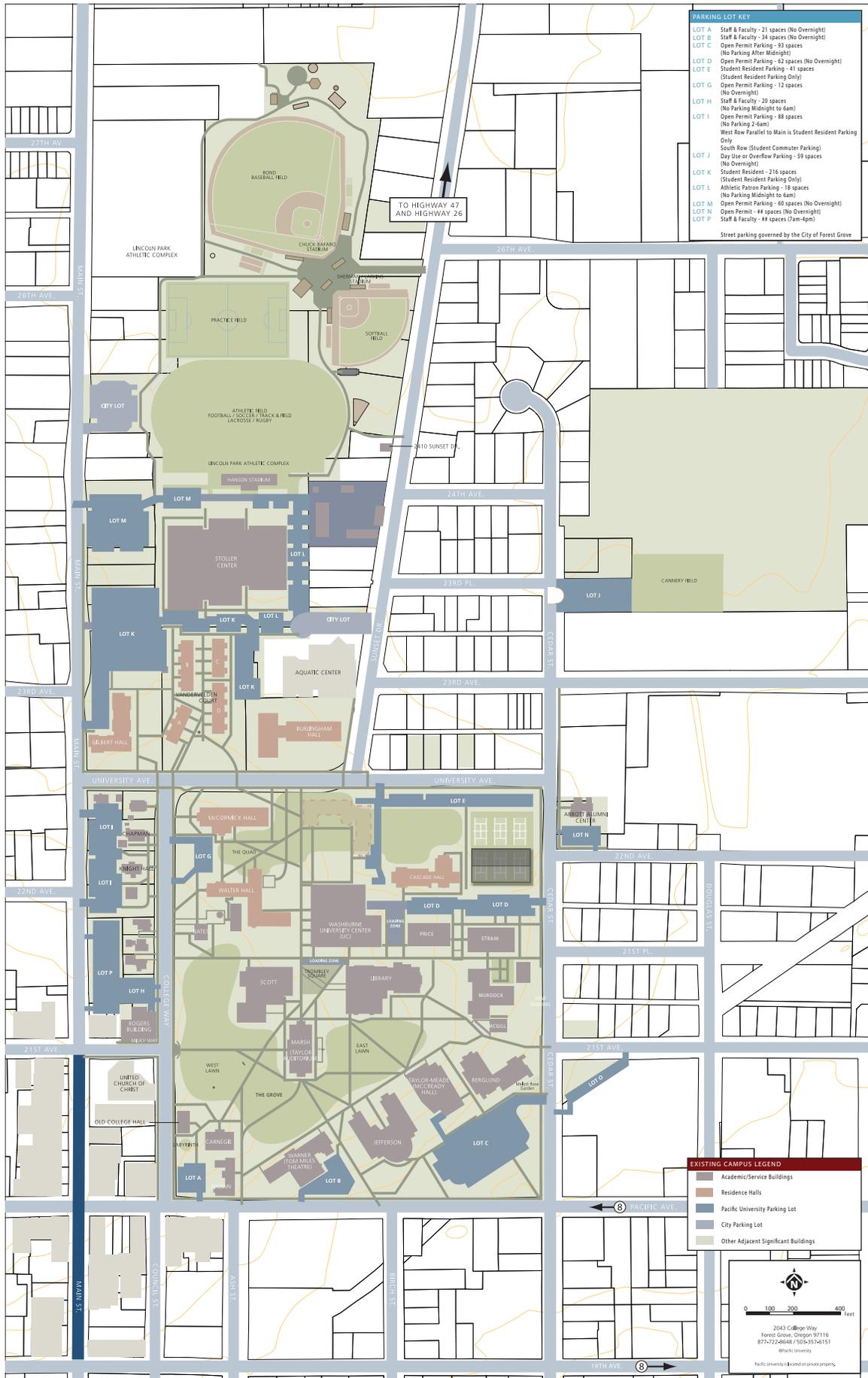


Figure V-5: Existing University Parking

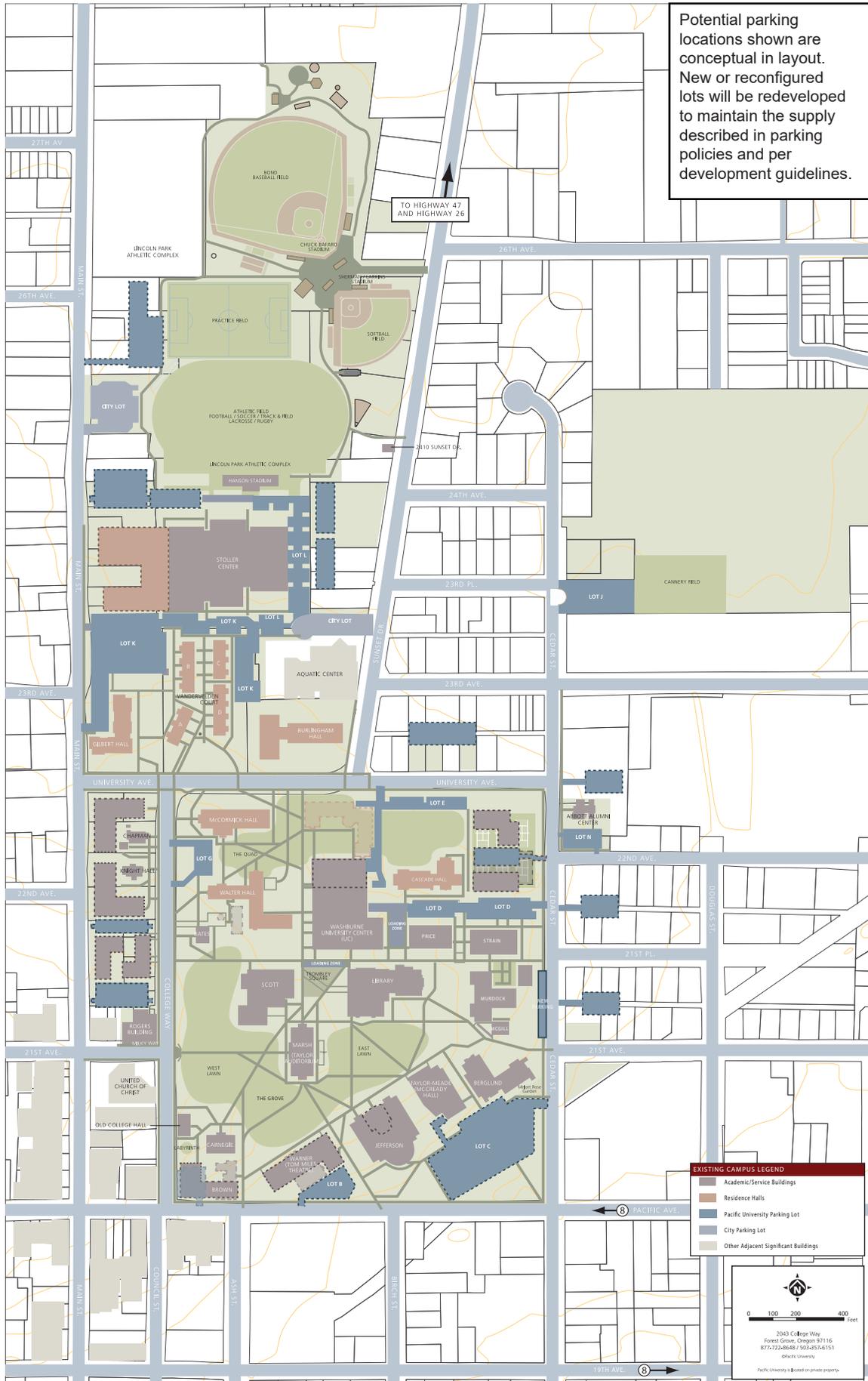


Figure V-6: University Parking: Potential Locations

Table V-1 also indicates an adjusted parking demand projection, based on reducing demand through TDM programs. This projection indicates the level of parking demand reduction that would be required to meet parking demand with current parking supply. If TDM policies can attain an 12% reduction in parking demand, the need to add parking may be reduced or eliminated.

Parking Management, Objectives and Policies

Based on the parking assessment, the following policy commitments are made by the University to provide assurance to the community of Forest Grove that parking will be adequate, despite the changes to campus developments.

1. **Maintain an adequate parking supply:** The University will ensure that parking supply is maintained per the projected demand: a ratio of 0.34 (the current demand rate) X total campus population (based on fall of current academic year).

Prior to removal of any existing parking that would take the overall supply below the demand as described above, replacement parking will be provided. The University shall not exceed a campus population in excess of the projections in this master plan (Table II.1) without an updated parking analysis.

As noted below, this analysis could include an adjustment in the demand rate, based on increased success with transportation demand management (TDM) programs. This will allow the university to right-size parking based on demand over time.

2. **Integrate parking management with TDM:** Pacific University will continue to manage and track programs to reduce driving and associated parking demand, as well as parking management strategies to encourage parking in preferred locations.

If a future parking/TDM study demonstrates that University programs have reduced parking demand by 12% or greater, the "Enhanced TDM demand rate" from Table V-1 could be applied.

3. **Discourage off-campus neighborhood parking:** The University will continue to cooperate with the City of Forest Grove and community leaders to address parking by University-bound drivers on the public streets of neighborhoods surrounding the campus.

To address the concerns around this issue, Pacific will:

- Provide outreach to the University community to discourage this practice;
- Assist the City with periodic monitoring efforts to assess the degree of the concern;
- Work with the City to evaluate expanded permitting programs, as these are a highly effective disincentive to park in these areas;
- Manage parking supply and incentives to provide appropriate parking for University-bound students, staff and visitors;

4. **Shared event parking:** The University and the City have agreed in principle to a shared parking strategy for special campus events that create economic activity in the community.

For events such as evening performances on campus, usage of the municipal lots across Pacific Avenue for some portion of the audience would be allowed when not in conflict with other uses.

Such a parking strategy will require further agreement on implementation, and should be designed to encourage patronization of neighboring businesses by members of the public attending performances on campus.

5. **Distribution of Parking:** Parking shall be distributed within the campus to assure availability of spaces in key, high demand areas.

To the greatest extent possible, new or reconfigured lots will be sited to minimize visual impacts on the campus edge and key open spaces. As shown in Figures V-7 & V-8, lots that are near and perpendicular to the campus edge are an effective strategy to meet this objective.

Parking Lot Development Standards

University owned and operated parking lots will comply with sections 9.826-9.828 of the City of Forest Grove Development Code. In addition, parking lots shall follow these guidelines to the greatest extent possible within site constraints:

- In areas of the core campus, parking areas between a building and the primary access street are to be avoided whenever possible, to limit the visual impact of parking lots from neighborhood streets.
- Parking lots oriented perpendicularly to the street and on the campus perimeter provide access to core campus buildings without an overt visual impact on the street edge. Lot D (Figures V-7 & V-8) is a good example of this practice.
- Curb cuts to parking areas will be minimized to not detract from sidewalks and the pedestrian realm.
- As part of Pacific University's ongoing efforts to implement more sustainable practices, future parking lots will be designed to take an approach to stormwater management in hard-scaped areas that seeks local infiltration of stormwater. The University will collaborate with the City on adopting appropriate standards to this end.
- Parking lots with more than one double loaded corridor (typically 120 feet in width) require a clearly defined pedestrian connection from the parking area to the network of sidewalks, paths and opens spaces that define the larger campus. This connection must be a minimum of 4 feet wide and distinguished from the parking area through changes in elevation (minimum of 4 inches) and / or materials.
- Parking lots will be designed to provide shade on the parking area with tree islands at a density of not less than one island every 10 spaces.
- Parking areas will be lit per the City of Forest Grove Standards.



Figure V-7 & V-8: Parking lots perpendicular to the street provide convenient parking at the campus edge, without an excessive visual impact on the campus edge.

VI. Stormwater Management Systems: Analysis and Policies

As part of this Master Plan process, the consultant team updated earlier reviews of the stormwater system, and prepared recommendations on best practices. The primary goals of the assessment were:

1. provide a 'proof of concept' review of stormwater management concepts in the Master Plan goals, pertaining to specific building mitigation;
2. provide general concepts for stormwater management practices appropriate to the campus, the regulatory environment, and emerging best practices for stormwater management; and
3. provide direction on specific mitigation and design strategies appropriate for the types of development anticipated under this plan.

The Pacific University Master Plan calls for the creation of a stormwater management system that not only addresses water quantity and water quality issues but to also provides a learning opportunity on ecological systems. A portion of this system may include a pond located at the southeast corner of the campus which could also act as an entry element at this prominent location. The analysis for this project finds that this approach would be viable in the location shown for collecting water from the basin bordering the pond, though not for the whole campus. The assessment suggested the following goals for stormwater planning on the campus:

- Adoption of a clear goal, such as "no net increase in stormwater flows to the City's piped system," relative to existing conditions;
- Create a campus stormwater management plan to detail implementation strategies;
- Develop improved mapping of the existing piped infrastructure within the campus;
- A basin-by-basin approach to stormwater planning - see conceptual list below;
- Use of Low-Impact Development (LID) practices to reduce stormwater runoff from developed sites: pervious pavement, eco-roofs, contained planters, etc.

Policies for Campus Stormwater System

Based on the stormwater assessment (see Appendix), the following policies guiding stormwater systems for the campus are adopted as part of this Master Plan:

4. The University agrees in principle to a standard that there will be no net increase in stormwater flows from the campus relative to the baseline year. This Plan calls for additional stormwater planning in conjunction with City staff to:
 - Determine the storm event level against which this standard will be based;
 - Conduct basin-by-basin assessments of stormwater flows on the campus.
5. Stormwater management may occur in two ways: mitigation associated directly with a new project or mitigation within the appropriate basin.
 - A project-specific strategy is similar to current practices on campus (IE, green building). For example, when a new building is constructed a stormwater management facility is also constructed to mitigate the stormwater runoff generated from that building project.
 - A basin-by-basin strategy would provide the campus flexibility to implement stormwater mitigation strategies throughout the campus and potentially off-campus. These mitigation improvements would provide "mitigation banking" opportunities within each basin. This mitigation banking system would work through building additional management into the stormwater system to cover increased runoff from future developments. As such, future development projects would already have stormwater mitigation satisfied.
 - Both of these strategies could be used in tandem: the basin strategies might be more appropriate to larger basins with more open space, and smaller, more constrained basins would be more appropriate for development-specific strategies.

Acceptable Mitigation Strategies

Stormwater Management Strategy	Description
1 – Development-Specific Stormwater Management	<p>Performance Objective: No net increase in campus stormwater flows to public stormwater facilities.</p> <p>Mitigation Strategy: Implement development-specific stormwater management facilities.</p> <p>Example: Construct a stormwater detention pond to manage stormwater from a new building.</p> <p>Implementation Requirement: Stormwater mitigation improvements must be constructed with future building development.</p>
2 – Basin-Specific Stormwater Management	<p>Performance Objective: No net increase in campus stormwater flows to public stormwater facilities.</p> <p>Mitigation Strategy: Implement mitigation improvements as credit for future development.</p> <p>Example: Expand the capacity of existing facilities to provide additional mitigation capacity. Construct regional stormwater pond.</p> <p>Implementation Requirement: Stormwater mitigation improvements must be constructed prior to OR concurrent with future building development.</p>

6. Low-impact development strategies shall be preferred in order to meet this standard. At either the basin or development level, the following low-impact development practices should be considered for their potential to treat or direct stormwater. In addition, a basin-by-basin description discusses which strategies would likely have the most merit in each region of the campus. These are keyed to the map of stormwater basins (Figure IV-1).

Recommended Low-Impact Development (LID) Stormwater Practices

Building Specific	Basin Specific
Eco-roof & Roof Garden	Vegetated Infiltration Basin
Vegetated Filter	Green streets
Flow-Through Stormwater Planter	Wet Pond
Vegetated Swale	Dry Pond
Grassy Swale	Treatment Wetland
Rainwater Harvesting	Subsurface Infiltration Galleries
Manufactured Treatment Systems	
Infiltration Stormwater Planter*	Vegetated Infiltration Basin*
Vegetated Infiltration Basin*	Green streets*
Pervious Pavement*	Subsurface Infiltration Galleries*
Drywells (with pre-treatment)*	
*Additional LID facilities that are infiltration based (including pervious pavements) are not expected to perform well due to shallow groundwater and typically poor soils, however could be implemented in specific locations if existing conditions support that facility type	

7. All mitigation improvements shall be developed based on City of Forest Grove and Clean Water Services stormwater standards (current, 2006 versions).

Campus Basin-Specific Stormwater Concepts

The campus contains seven distinct drainage basins (Figure III-1). As such, basin-specific strategies should be developed. Based on the concept planning efforts to date, the following recommendations should be considered:

1. **South Campus A** - Convey basin stormwater via pipe or swale to a new pond located in the southeast corner of the basin (designing the pond to avoid conflicts with regard to the existing 42-inch sewer). Stormwater runoff reduction techniques (pervious pavement, eco-roofs, contained planters, etc.) and stormwater management facilities (stormwater planters, swales, etc.) could also be implemented to achieve the campus stormwater goal. Depending on soil conditions, it may be possible to infiltrate stormwater on-site.
2. **South Campus B** - Convey basin stormwater to the proposed pond in South Campus A. This may be achievable with a surface swale. Stormwater runoff reduction techniques (pervious pavement, eco-roofs, contained planters, etc.) and stormwater management facilities (stormwater planters, swales, etc.) could also be implemented to achieve the campus stormwater goal. Depending on soil conditions, it may be possible to infiltrate stormwater on-site.
3. **Central Campus** - Convey basin stormwater via pipe or swale to the southeast campus pond or to a new pond located within the basin. Implement stormwater runoff reduction techniques (pervious pavement, eco-roofs, contained planters, etc.) and stormwater management facilities (stormwater planters, swales, etc.) to achieve the campus stormwater goal. To the extent that soil conditions allow, infiltrate stormwater on-site.
4. **West Campus** - Implement stormwater runoff reduction techniques (pervious pavement, eco-roofs, contained planters, etc.) and stormwater management facilities (stormwater planters, swales, etc.) to achieve the campus stormwater goal. To the extent that soil conditions allow, infiltrate stormwater on-site.
5. **East Campus** – Implement stormwater runoff reduction techniques (pervious pavement, eco-roofs, contained planters, etc.) and stormwater management facilities (stormwater planters, swales, etc.) to achieve the campus stormwater goal. To the extent that soil conditions allow, infiltrate stormwater on-site.
6. **North Campus** – Implement stormwater runoff reduction techniques (pervious pavement, eco-roofs, contained planters, etc.) and stormwater management facilities (stormwater planters, swales, etc.) to achieve the campus stormwater goal. To the extent that soil conditions allow, infiltrate stormwater on-site.
7. **Athletic Fields** - Coordinate efforts with other design team members. A low-impact surface stormwater management system could be implemented utilizing many of the same strategies recommended for the basins above.

In planning for any development of this site, the conveyance of upstream, off site stormwater needs to be addressed. Both surface and piped solutions will be considered, as well as the best inter-tie to downstream systems.

VII: Landscape Master Plan

Overview

Purpose

The campus landscape of Pacific University is a cultural, historical, academic and natural resource that is shared by both the University community and the residents of Forest Grove. The purpose of the Landscape Master Plan is to document, renew and plan for the continued stewardship of these valued resources. By coordinating with the Framework Strategy elaborated upon in the Pacific University Master Plan, the intent of this document is to foster an integrated planning approach to support the University's goals by:

- Describing the historic character of the campus
- Summarizing the existing conditions
- Stating goals and objectives
- Describing strategies
- Providing guidelines
- Illustrating physical improvements

Policy Context

The Landscape Master Plan functions as a supplement to the Pacific University Master Plan for the Forest Grove Campus. With the exception of those landscape goals and policies addressed in Section I, policies identified are primarily intended for internal decision-making at the University.

The Landscape Master Plan addresses these topics:

- Natural resource areas
- Tree protection
- Street trees
- Historic landmarks
- Access and circulation
- Clear vision areas
- Open space, recreation facilities and common areas
- Landscaping, screening and buffering

The Landscape Master Plan will build on the goals, policies and standards established in these documents.

As capital and operational budgets become available, the existing and future campus landscapes will be constructed in accordance with this Landscape Master Plan. The Director of Facilities will rely on recommendations from licensed and/ or certified professionals when approving work or electing to perform work as deemed appropriate by the Director of Facilities.

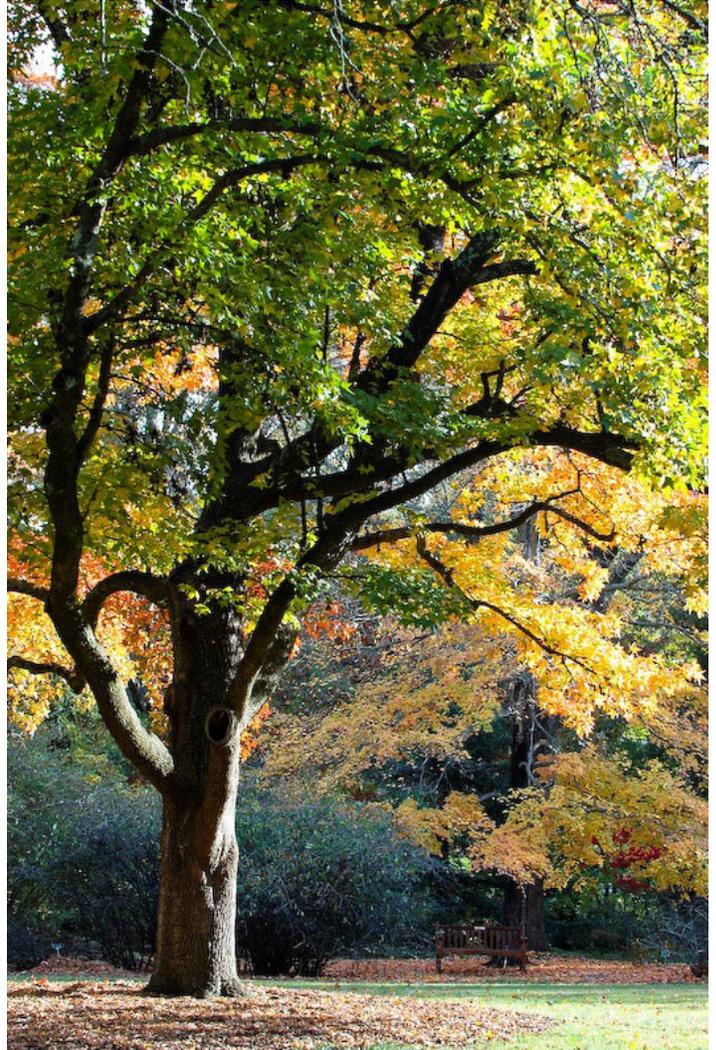


Figure VII-1: Mature oak tree (Flickr open source)

Campus Origins and Character

In September 1849, the Territorial Legislature of Oregon's Provisional Government incorporated the Tualatin Academy (later known as Pacific University). The campus, located on a knoll overlooking the fertile Tualatin plains was to be the second oldest academic institution west of the Mississippi (Bates).

It was recounted at the semi-centennial jamboree that Mrs. Tabitha Moffet Brown "Grandma Brown" with Mrs. Clark had gathered 15 to 20 children in her orphanage in a log cabin church that stood on the campus near a petrified stump. Later, a house was built on Dr. D.W. Ward's property. This house became the nucleus around which the University grew (Pacific University).

The name Forest Grove was selected on January 10, 1851, at a meeting of the trustees of Tualatin Academy upon a motion brought by J. Quinn Thornton. Contrary to some accounts that the Oak Grove on campus became the name, Forest Grove, Thornton recounted later that, "We arrived in Forest Grove, which was the name bestowed by me upon a claim in Polk County, then possessed by Mr. William Allen"(Quinn).

The picturesque movement of landscape design, which began in the 1820s, had a great effect on Pacific University's landscape. This style was customary among many American universities built during the 19th century. The 19th century American picturesque movement is a natural style, evolving from 18th century England's preference for nature. Park-like gently rolling green lawns, distant views, large informal plantings and mature, dignified trees characterize the picturesque style. Large tree canopies produce filtered light within woodlands that contrast with open lawn. It follows then that the Oak Grove exemplifies this style and still provides the core campus identity of Pacific University.

At the time of the Pacific University site donation, campus design in the United States expressed the moral benefits of the picturesque landscape and the nurturing character of the "academic village", which is a place where shared learning infused daily life, rather than more European prototypes of universities. Therefore, often campus plans made use of axial organization, straight roads, and buildings aligned within or bordering park-like landscapes reminiscent of village greens. This, however, was not the case with the early layout of Pacific University.

On a visit to the campus in 1908, John Charles Olmsted noted with interest a, "plan, neatly drawn and colored in the German style framed and hanging on wall.... It was by M. Scheydecker. The area is staked at 28.5 acres... Roads and walks are all on curves and not very logical I thought for shortcutting and cutting the grounds up too much. Existing buildings are



Figure VII-2: 1906, Campus Photo (Hockaday)



Figure VII-3: Landscape style example from Stourhead England (open source flickr commons)

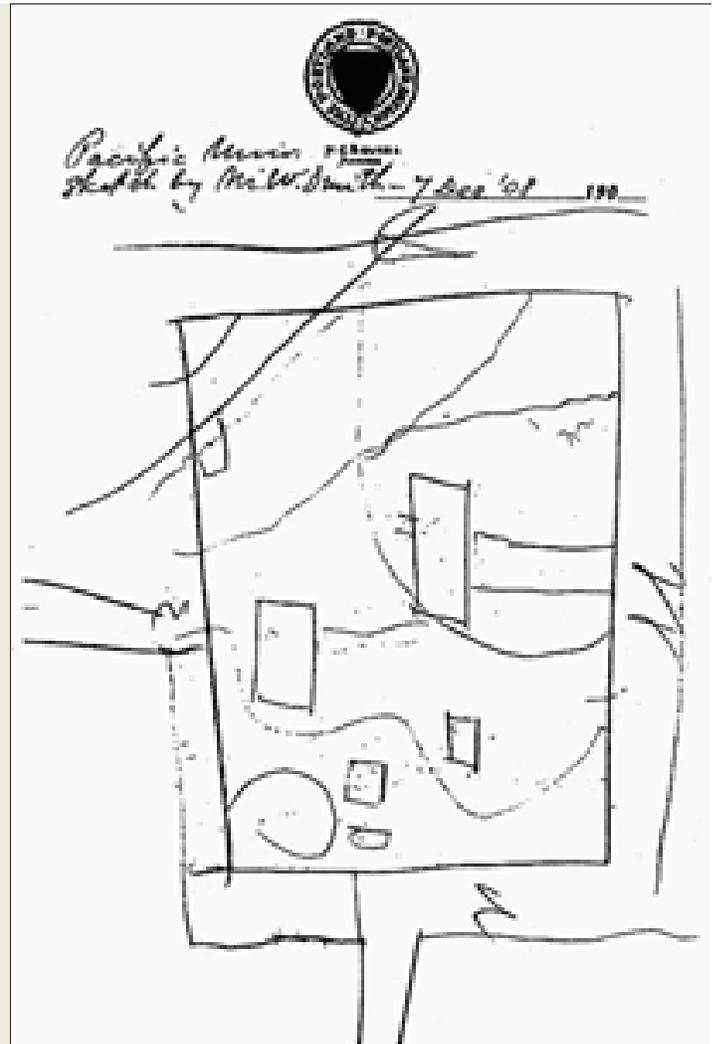
shown and sites for new ones, but these ... are not placed on axes nor symmetrically, but are all oriented parallel with boundaries. I could see no system as to facing of buildings and no consistent rule as to drives to front or rear doors.” (Hockaday)

Olmsted provided the University with field notes and recommendations, however neither these plans nor the Sheydecker plan were officially implemented. Although in time, the addition of other buildings began to form a variety of organized open spaces and the University Walk is now on axis with the center of the campus.

The University has expanded from its 19th century American landscape tradition to include such landscapes as Trombley Square, the campus’s primary courtyard, which has a complex of steps, seats and social niches on a diagonal. Other recent landscapes are designed with individual buildings and follow no discernible pattern or style. Here, the plant compositions relate primarily to the building and less often consider the surrounding campus landscape or the open spaces as a whole.

The most recent buildings and campus landscapes respond to the campus goal of incorporating sustainable development practices. Some of these landscapes incorporate stormwater facilities, native plants, shading of buildings and courtyards, and sustainable maintenance practices. A few special gardens have also been recently added, providing unique expressions and functions.

Athletic fields dominate the north side of campus. The maintenance of the fields is critical to the sustainability policies of the university as well as the safety of such places. The athletic fields receive a high degree of use in certain seasons, followed by reduced use at other times.



FigureVII-4: On December 7, 1908, when asking Olmsted to consider a site visit to Pacific University, Trustee Milton W. Smith drew this sketch of the campus (Hockaday).

Key Landscape Goals

Goal 1: Health, Safety and Welfare

Health, safety and welfare of the campus community and its visitors is the foremost goal and implicit to all the goals and guidelines in this Landscape Master Plan. Existing and future campus environments will be reviewed for their ability to support this goal. The landscape design must work in concert with the building design, building program, campus maintenance and campus safety to thoughtfully respond to the diversity of social and physical contexts inherent to campus.

Objectives

- Provide for personal safety by considering site planning, circulation planning, site transparency, site entry points, vision clearance at street intersections, pedestrian refuge from traffic, adequate site lighting and visual access to windows and doorways.
- Abide by fire safety regulations and guidelines through the diligent review of design, construction and maintenance practices including creation of defensible landscapes. Consider fire-wise plants, plants proximity to structures, ladder fuels, irrigation practices, mulching practices, fuel sources and ignition sources. Ensure that landscape plans are coordinated with designated fire equipment staging areas.
- Incorporate healthy landscape maintenance practices by using products and practices that eliminate or reduce exposure of toxic substances to people and wildlife.



Figure VII-5: *21st Avenue Entrance*

Goal 2: Education

Develop the campus landscape to support the educational mission of Pacific University. The campus landscape will support the teaching, research and the community-building efforts of the University by providing places for academic and social interaction, outdoor classroom space and individual places for students to study. The most important of these places is the Oak Grove, which is irreplaceable to the historic, ecological and experiential environment of Pacific University.

Objectives

- Attract and recruit excellent students and faculty through an improved and compelling campus experience.
- Promote landscapes on campus that serve a wide variety of outdoor activities and teaching opportunities.
- Develop a diversity of plant species to promote visual interest and the use of the campus for teaching and research.
- Make sustainable landscape practices apparent and accessible.

Goal 3: Campus Character

The appearance of the landscape reflects on the image of the University and the City of Forest Grove. Therefore, maintain the campus character of buildings within a park-like setting. The landscapes and pathways of the Pacific University campus support its buildings and programs, providing views that orient visitors, creating multi-use spaces and fostering a sense of community. As the campus enrollment grows, so will the building density and the value of open space.

Objectives

- Preserve and enhance the qualities of distinctive and high-quality open spaces.
- Plan new building sites and open space improvements jointly and with a high degree of quality to ensure each new investment elevates the quality of campus life.
- Convey an image distinct from the surrounding community through appropriately planted perimeter open spaces, gateways and axial walks.
- Utilize large deciduous shade trees and a strong, massed planting design approach as part of the spatial structure of the campus.

Goal 4: Historic Continuity

By having contributed to the University's history, the campus landscape enriches the University's identity, perception and experience. To this end, preserve and enhance the campus landscape features that provide continuity with University traditions and to the City of Forest Grove. Traditional treatments of planting, site design, pathway patterns and materials are essential for maintaining the appropriate setting for historical open spaces.

Objectives

- Protect historic landscapes of the campus core to ensure they are not conspicuously altered.
- Ensure all projects near or within the Oak Grove are compatible with and protect the grove based on the management objectives in this Landscape Master Plan.
- Preserve and strengthen the unique characteristics of the picturesque landscape tradition.
- Design landscapes in consideration of the University's architectural and landscape context.
- Emphasize sustaining mature trees and planting appropriate new tree species. In areas with sensitive species, re-plant with the same species when appropriate for the health of the overall grove or landscape.

Goal 5: Landscape Quality

The Pacific University campus benefits from an improved landscape that incorporates appropriate design principles, values visual qualities and pedestrian experiences and builds with high quality materials. Therefore, provide and maintain high quality landscapes that enhance the use of campus open space.

Objectives

- Provide high quality materials including site walls, paving, plants, site furnishings, art, way-finding, and lighting.
- Screen utilities, parking lots and other features and places that detract from the campus's visual quality and park-like experience.
- Install materials that are commercial grade, durable, uniform, and relate to the context of the campus environment.
- Design stormwater facilities and landscape treatments relative to parking, fire access, service needs and utilities vaults to support the highest quality visual experience and serve educational goals.
- Establish training programs for landscape management and maintenance personnel to develop improved and consistent practices for the landscape types.
- Comply with City standards at edge of public right-of-way or when abutting non-University property.

Goal 6: Sustainability

Pacific University believes in the interconnectedness among its academic, ecological, economic, and cultural goals. To this end, the landscape will support sustainable landscape design practices as a means to vitalize the University.

Objectives

- Incorporate sustainability principles throughout the planning, design, construction and maintenance of campus landscapes.
- Provide research and stewardship opportunities for students, faculty and the community.
- Protect and enhance wildlife habitat on campus, especially in the Oak Grove.
- Knit stormwater design as green infrastructure into the fabric of the campus.
- Limit the use of pollutants, chemicals and greenhouse gases.
- Do not use invasive plant species.
- Maintain and protect soil, vegetation and water resources.
- Reduce energy use, both embodied and operational.

Landscape Design Guidelines

The guidelines in this section are recommended practice, subject to operational considerations and update at the University's discretion.

Goal Statement

Each campus landscape design will support the landscape goals and the landscape typologies described below. Landscapes, particularly those providing screening, will not hide unsafe behavior. Mulch will only be used as temporary erosion control and weed abatement until the permanent planting grows to fill the plant bed.

Topography and Viewsheds

The natural topography of the campus is a gentle to moderate sloping grassy knoll and flat fields. The Oak Grove offers distant views essential to picturesque landscapes. Marsh Hall sits on the high point of the campus, while gradients slope gently away in all directions. It is essential to maintain this natural topography and enhance these viewsheds to build upon the core campus character.

Objectives

- Respect and reinforce natural topography, slopes and their drainage functions.
- Maintain views and visual transparency through the campus.
- Consider placing utility vaults underground or against buildings, and clustering bike parking.
- Screen unattractive features, including parking lots.

Corridors

The University Walk and the Alpha Zeta allée are examples of corridor compositions. Corridor plantings, either straight or curvilinear in nature, serve as significant landscape expressions on campus and create distinct places within a campus with a park-like setting.

Objectives

- Reinforce the corridors and support way-finding through campus with trees and low plantings.
- Consider planting trees of matched species, size and nursery grade at regular intervals.
- Consider giving pedestrian experience the highest priority throughout the campus interior.



Figure VII-6: Existing hedgerows at Burlingham Hall with bark Mulch (Mayer/Reed)



Figure VII-7: Example of how plants are allowed to fill planting areas (Mayer/Reed)

Spatial Definition

Planting configurations spatially define open spaces, central plazas, quadrangles and building forecourts. Trees and evergreen shrubs greatly influence how spaces are formed, scaled and defined.

Objectives

- Maintain large contiguous open spaces with distant views.
- Reinforce the expression of outdoor rooms with formal or informal plantings.
- Employ consistent plant material to help define districts, quadrangles, and courtyards.
- Use perennials, ornamental grasses and annuals on campus only at select locations such as campus gateways or in special gardens.
- Due to their high maintenance and water requirements, annuals will not be a part of the typical campus landscape.

Architectural Enhancement

When used properly, plants can accentuate building façades, reinforce pedestrian entries and screen service elements. For example, large trees are often located near building corners to provide scale, while smaller trees mark the building entries.

Objectives

- Enhance and accentuate the architectural style of campus buildings.
- Use large evergreen trees as backdrops to buildings.
- Distinguish entrances with evergreen shrubs.
- Avoid large, dark plantings at pathways, parking lots and other places that may create unsafe environments for people.
- Avoid plants that screen windows and doors.



Figure VII-8: Marsh Hall Building entrance landscape

Sustainability

Plants can support a variety of sustainable building and maintenance practices. While native plants can and should be used on campus, proper selection of ornamental plants can allow for greater horticultural diversity on campus.

Objectives

- Ensure that plant selections are appropriate for the environmental site conditions and are not invasive species.
- Plant large deciduous trees to shade buildings and allow winter light into the buildings
- Ensure that plants will not inhibit the health of the Oak Grove or other natural resources.



Figure VII-9: Unshaded southern building façades can lead to excessive energy use. Deciduous trees can help provide seasonal shading.

Oak Grove

Goal Statement

As part of the early campus landscape, a prime source of campus and Forest Grove community identity, and as a designated Natural Resource Area, Pacific University will manage the Oak Grove into perpetuity.

Introduction

The Oak Grove is a Metro-designated critical upland habitat and is governed as a Natural Resource Area under Article 5 of the City of Forest Grove Development Code. The Oak Grove is over 100 years old and portions may predate the University and much of Forest Grove. Historically, the Oak grove was also an important social landscape as delegates attending the semi-centennial “jamboree” of the University in 1898 explained:

“A brief rest in the shade of the oaks and firs on the spacious campus preceded the gathering in the chapel of Marsh Hall, where the day's exercises took place. The generosity and kindness of the people was markedly shown in the bountiful collation that was served under the oaks back of Memorial Hall. Long tables were stretched out in the shade, and a dinner, seasoned for any palate, was served to all who came. Of the 1,000 people who attended the celebration, none went hungry.

“At the close of the dinner hour, about 7 o'clock, a New England arbutus, brought from Plymouth Rock on the Council train from Boston, was planted by Miss Whitcomb, of Worcester, Mass., at the foot of the "old bee tree," a rugged oak a dozen rods south of Marsh Memorial Hall, the tree having been preserved for years because of the special request of Mrs. Tabitha Brown, an early benefactor of the college” (Pacific University).

The Oregon white oaks (*Quercus garryana*) that comprise the grove are known to live for over 400 years. Consequently, the existing Oak Grove may continue to form the identity of the main campus and play a significant role in the natural resources of the campus and the city.

There is however concern about the future of the Oak Grove. *Armillaria mellea* (Armillaria root rot) has been reported in the grove. Continued summer watering may bolster this otherwise innocuous fungus to the detriment of the native oak trees (OSU Extension).

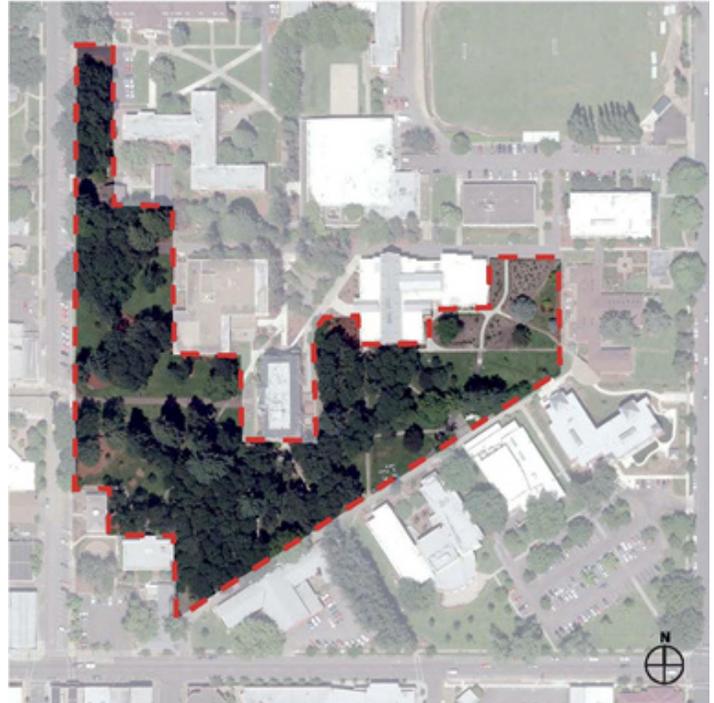


Figure VII-10: Aerial view of Oak Grove at Pacific University (Google Earth)



Figure VII-11: Douglas-fir tree growing within the Oak Grove at Pacific University (Mayer/Reed)

The grove is also living through a recent regional trend of rapid oak decline. This has prompted many agencies including Metro and the City of Forest Grove to develop policies to protect Oregon white oak woodlands and savannas. These policies are critical to Pacific University because the Oak Grove has the educational capacity to convey the history between the pre- and post-European settlement during which the University and the City were established.

The space beneath the Oak Grove has additional significance since it was once the site of a pioneer cemetery. Since the establishment of the University, the generous lawns on three sides of Marsh Hall are used for a variety of campus activities, such as musical events, picnics, rallies, displays and an annual historic car show. The University intends to continue to program these traditions. Therefore, turf management is important to balancing the desire for activities and the health of the oak trees.

Background

Oak tree soils

Oregon white oaks grow in a variety of soils, but are often found on sites too dry and exposed to support other species. Nonetheless, Oregon white oak is also often found in very moist locations such as floodplains and river terraces. These locations can have standing water or a shallow water table, but they must have gravelly or clayey soils that provide an extended dry period. The Pacific University Oak Grove grows on a knoll above a historic creek, containing deep moderately well drained soils (NRCS), which are conducive to growing many plants including Oregon white oak. Soils under Oregon white oak are generally acidic, ranging from 4.8 to 5.9 pH (Wilken). Like most oaks, Oregon white oaks have an obligate relationship with mycorrhizal fungi, which provide additional moisture and nutrients. Therefore, maintaining a holistic approach to soil health and lawn care is critical.

Rooting Habit

Oregon white oak has a deep taproot, however the majority of its roots are lateral. This makes the trees very wind-firm, even in wet areas (Wilken). It is important to note that roots systems will vary depending on the site conditions. For example, the hydrology, soil compaction, presence of bedrock, pavement and architectural structures all impact root locations of any given tree.

The relatively shallow root system makes Oregon white oaks vulnerable to ground-disturbing activities such as digging, trenching soil compaction, and potentially even seismic activity. Root injuries are also common infection sites for tree diseases and insect pests. The microscopic spaces between soil particles are crucial to gas exchange that occurs between the tree roots and soils. Heavy equipment moving near trees can compact the soil, decreasing its permeability and inhibiting root health.

Rainfall

Forest Grove receives approximately 44 inches of rainfall each year, which is comfortably within the regional



Figure VII-12: Acorn Woodpecker with granary snag (open source wikimedia commons)

limits found to support Oregon white oak. However, the amount of rainfall and irrigation during the growing season (April-September) can significantly affect the long-term survival of Oregon white oaks. Sapling-size oaks are tolerant of changes in irrigation patterns, but mature oaks may be damaged by over-watering. Moderate irrigation is even beneficial to newly planted acorns and seedlings. However, naturally established oaks are adapted to summer drought and do not require watering. In fact, irrigation may lead to root rot or cause flowering late in the summer, and therefore decreased acorn production, which is important food for wildlife (Vesely) including the acorn woodpecker.

Shade Tolerance

Mature Oregon white oaks thrive in full sun and are not shade tolerant. When growing in close proximity to other oaks, they will form a single canopy to take advantage of sun. They are readily killed from shade created by Douglas-firs and other tall evergreen trees. Reducing or eliminating shading from tall evergreen trees is one of the most important management strategies to preserve Oregon white oaks. In other words, large evergreen trees are considered nuisance trees in the specific context of the Oak Grove, competing for sun, water and soil nutrients.

Wildlife

Oregon white oak trees are very important for wildlife. Oak woodlands provide food and habitat for many species including the acorn woodpecker and Merriam's wild turkey. Both acorns and foliage provide high-quality food for these and many other animals.

Acorn woodpeckers live in families of up to 15 individuals. To store acorns over the winter, the birds gather acorns and wedge them, often by the thousands, into pockets they create in snags. Snags used for this purpose are called granaries. In addition, acorn woodpeckers prefer pine trees for granaries due to their soft wood. They are also known to use telephone poles and buildings as granaries.

Management Recommendations

Pacific University and the City of Forest Grove will seek to collaborate on achieving the objectives listed below.

Objective: Maintain and perpetuate the current number of Oregon white oaks in the Oak Grove.

Actions:

- Replace Oregon white oaks with new Oregon white oaks to ultimately maintain a contiguous canopy.
- Plant Oregon white oaks to connect the Oak Grove to other contiguous tree canopies on campus or off campus.
- Only plant trees native to Oregon white oak communities. Buildings adjacent to or within the Oak Grove will have a 15-foot buffer that is exempt from this action item.
- Prevent shading of the oak trees by removing young evergreen trees and not planting new evergreen trees that will shade the oaks.

Objective: Develop a multi-age stand of Oregon white oak to sustain and enhance wildlife habitat.

Actions:

- Plant new Oregon white oaks within the grove to maintain a stand of trees with a wide variety of ages.
- Retain sound dead or dying trees for habitat snags without compromising public safety.

Objective: Protect existing oaks from construction impacts of any kind.

Action:

- Follow the measures described in the Tree Protection section of the Master Plan.

Objective: Encourage wildlife habitat on campus.

Actions:

- Within the Oak Grove, remove lawn around some trees to provide an irrigation-free zone and plant vegetation compatible with a surface root system and a reduced watering regime.
- Do not use herbicides or pesticides within or near the Oak Grove.
- Eliminate outdoor food sources such as trash receptacles that attract predators such as raccoons, cats and rats.
- Do not remove fallen acorns, unless they pose a safety hazard or interfere with campus walk or other activities.
- Protect granaries of the acorn woodpecker.
- Create an interpretive information panel about the Oak Grove and its important biological role.

Objective: To the degree possible, provide and maintain the lawn around the oaks all year.

Actions:

- Follow the Lawn Care Guidelines in the Master Plan.
- Do not abruptly change the existing watering regime.

Objective: Implement a long-term Adaptive Management Strategy to ensure Oaks thrive under an appropriate, but reduced irrigation regime.

Actions:

- Incrementally create non-irrigated areas around the base of oak trees that do not contain lawn. The size of non-irrigated area will depend on the aesthetic considerations and long-term health of the Oak Grove. Plant bulbs or other vegetation that is compatible with the oak's many surface roots and a reduced watering regime. Document the effects of this strategy.
- Use the Lawn Care Guidelines in the Master Plan to maintain green lawn all year between non-irrigated areas around the oaks. Document the effects of this strategy.

Objective: Create a landscape management legacy.

Actions:

- Document management practices, and record changes to those practices and monitor the results.
- Monitor and record evidence of wildlife activity.
- Install signage describing the campus's sustainable landscape practices.

Special Gardens

Goal Statement

Special gardens or plantings will be approved by Pacific University to support the policies and development standards of the campus Master Plan. Special gardens and plantings must proceed through site selection process and design review by the University. At a minimum, purpose, location, funding sources, faculty sponsors, stewardship programs, curriculum opportunities and long-term maintenance plans will be addressed.

Special gardens and plantings include, but are not limited to the following:

- Vegetable or herb gardens
- Orchards, berries and vineyards
- Flower gardens
- Sculpture gardens
- Rock gardens
- Native plant gardens
- Butterfly gardens
- Botanical gardens
- Memorial gardens
- Children's gardens
- Garden typologies existing before the 18th century, e.g. Japanese, Spanish, French
- Labyrinths
- Winter (tropical and arid) gardens
- Community gardens

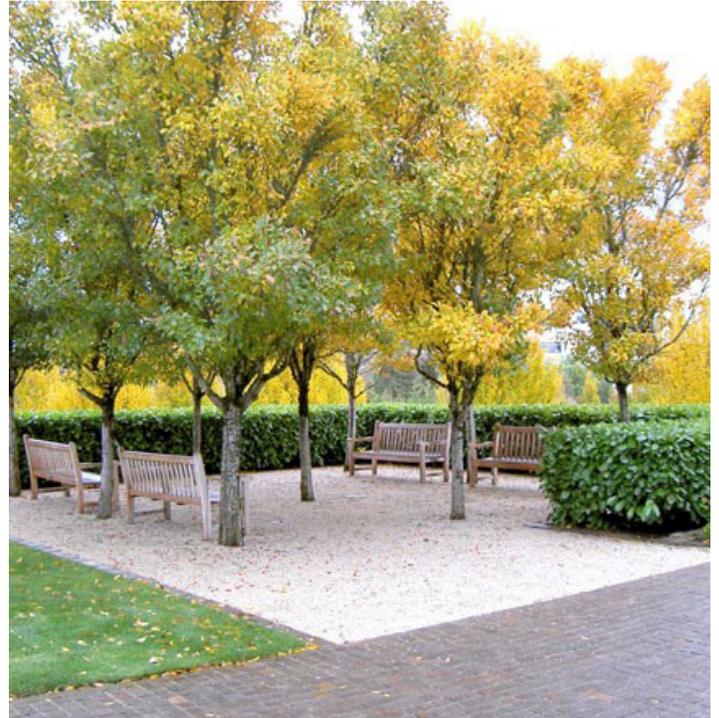


Figure VII-13: *Barbara's Garden at Pacific University (Mayer/Reed)*



Figure VII-14: *Barbara's Garden at Pacific University (Mayer/Reed)*

Prohibited Areas

Special gardens are prohibited from the following areas:

- Oak Grove
- Public right-of-ways
- Plazas and quadrangles
- Parking lots
- Future building development sites, unless the proposed garden is considered temporary

Preferable Areas

Special gardens are preferable in areas such as the following:

- Under-utilized open space
- Future open space
- Building courtyards

The purpose of locating special gardens in underutilized spaces is to improve existing places on campus that are less desirable, misused or unnoticed. The otherwise poor condition of these places is often a result of pedestrian circulation, architectural context and/or the social environment. The garden design proposal must include a broader analysis to understand how to remedy an underutilized space.

Future open spaces may be planned to accommodate special gardens in concert with adjacent land uses and building programs. Planning for special gardens offers the best opportunity to integrate the garden into the campus fabric and academic curricula. The University may consider which, if any, special gardens may be appropriate to support academic goals.

Designing special gardens as part of a building courtyard is often appropriate because it provides the opportunity to strongly tie the program of the garden to the program of the building. The campus can then become a powerful teaching opportunity. The convenience of a courtyard location allows it to be easily activated by the campus community, creating a vibrant and safe environment.

Stormwater Landscape

Goal Statement

Landscapes that convey and treat stormwater will support Pacific University's mission to express the distinct and beautiful character of the Northwest, improve water quality, provide teaching opportunities, enhance wildlife habitat and promote sustainability practices.

Stormwater Design

Comply with Pacific University Master Plan stormwater guidelines in Section III. Stormwater facilities will be carefully integrated into the campus in order to maintain the historic identity of the campus. Creating a series of smaller landscapes will make this, as well as other development objectives, easier. The type, size, shape and planting design of the Low-Impact Development (LID) strategies listed in the Master Plan each will be implemented to support these goals. Use of high quality natural materials such as regional stone and native plant selections will help build a common landscape language in the stormwater facilities on campus. Hiding or fencing stormwater facilities should be avoided. Care should be taken that stormwater facilities do not change the hydrological conditions of the roots of existing trees. This is especially important within the Oak Grove.

Stormwater Facility Sizing

Reducing the area and depth of the facility can reduce costs, spatial conflicts with other uses and maintain the existing character of the campus. Reducing the facility size is best accomplished by minimizing impervious surfaces, dispersing the stormwater and accurate stormwater calculations.

By building a single water quality facility or by linking several stormwater facilities, the University can create more effective wildlife habitat opportunities.

Topography

For any given stormwater facility size, shallow and broad-shaped facilities with gradual, graceful slopes should be designed instead of steep slopes and narrow channels. Shallower slopes will reduce soil erosion, enhance plant establishment and safety, reduce maintenance and support the existing character of the campus. Strategies that are more spatially efficient are appropriate for urban design contexts.



Figure VII-15: Existing catch basin at the University Center offers a stormwater planting opportunity (Mayer/Reed)



Figure VII-16: Existing catch basin near Strain Hall offers stormwater planting opportunities (Mayer/Reed)

Planting Design

The planting design needs to support the historic character of the campus while visually illustrating the University's green building goals. Strategic use of lawn, use of large trees and a limited palette of traditional evergreen shrubs and evergreen ground-covers can form the backbone of the design. Native plants, in particular rushes and sedges express a wetland quality, which can make stormwater treatment easier to identify. Contemporary planting design and naturalistic planting designs will be reserved for places where those designs function collaboratively with contemporary architecture and natural surroundings.

Selected Stormwater Opportunities

Selected areas for stormwater provide opportunities for the University to demonstrate its commitment to improvement of water quality.

- Create a stormwater treatment pond at the southeast corner of the campus as a foreground to the campus. Existing stormwater systems can be day-lighted into this new facility.
- Disconnect downspouts where possible to allow water to flow into planted stormwater areas.
- Cut curbs around parking lots to allow water to flow into planting areas.
- Retrofit parking lots with bioswales rather than using catch basins.
- Retrofit building roofs with eco-roofs where possible.
- Consider removal of underused pavement to reduce stormwater runoff.
- Reduce or eliminate the use of fertilizers, herbicides and other pollutants by following best management practices.
- Reduce soil erosion by establishing vegetation and slowing water.
- Design swales, ponds and other stormwater facilities so that safety fencing is not required.



Figures VII-17 and VII-18: *Stormwater landscape design, with a variety of scales of planting. (Flickr open source)*

Street Trees and Right-of-Way Landscape

Goal Statement

Street trees and right-of-way landscaping will support the campus character and adhere to the policies, goals and objectives set forth in this Master Plan.

The following guidelines will be used when locating street trees and planting in the right-of-way.

Minimum Street Tree Trunk clearances

- Curb line of intersection: 25 feet
- Alley margins and driveway: 5 feet
- Fire hydrants, underground utilities, and utility poles: 5 feet
- Traffic signals: 10 feet
- Property lines: 2 feet
- Stop and yield signs: 25 feet
- Street lights: 25 feet. If a narrower-growing tree species is selected, the distance may be reduced to 15 feet.
- Adjacent trees: 20 feet -- determined by the mature canopy species of tree selected and the mature canopy size of adjacent trees. If a narrower-growing species of tree is selected, the distance may be reduced to 15 feet.
- Power lines: The mature height of the tree must stay 5 feet below power lines. Do not confuse communication lines with power lines.
- Building setback: The crown of a tree at maturity should not be in serious conflict with the neighboring



Figure VII-19: Large shade trees along mix-used district (Flickr open source)



Figure VII-20: Existing tall hedge with bark mulch landscape behind McCormick Hall (Mayer/Reed)



Figure VII-21: Low hedges designed to fill plant beds (Flickr open source)

structures.

- Streets and sidewalks: As trees grow, pruning to provide 8 feet clearance over sidewalks, 13 feet over residential streets, and 15 feet over main arterial streets.
- Minimum tree planter area: 40 square feet and 4 feet width. The preferred planter size equals the area of the mature tree canopy.
- Minimum tree well area: 5 feet by 5 feet.
- Minimum caliper size of tree: 3.5 inches

When selecting a healthy tree, abide by the City of Forest Grove prohibited trees list and the procurement guidelines in this Master Plan.

Landscaping in the Right-of-Way

- No vegetation taller than three feet, other than street trees, will be planted in the right-of-way.
- Landscapes along street parking must create defensible space to minimize conflicts between occupants of parked vehicles and moving vehicles.

Parking Lots

Goal Statement

Parking areas will be designed to improve the existing campus character, substantially shade the parking areas, screen vehicles and treat stormwater where appropriate.

Definitions

- An interior parking area is the hard surface area including parking stalls and drive aisles.
- The perimeter is the outermost edge of the interior parking area.

Off-street Parking

Parking Lot Screening

Plant the parking lot perimeter with a continuous row of evergreen shrubs that grow to a 3 foot minimum height. The minimum shrub container size used for screening is 5 gallon and the minimum size for ground-cover is 1 gallon. Shrubs and ground-covers must be planted in a density that will cover the entire ground surface within three years. Mulch will only be used as temporary erosion control and weed abatement until the permanent planting grows to fill the plant bed.

Perimeter Parking Lot Trees

Along the perimeter, plant one large tree per 30 linear feet or one medium tree per 20 linear feet or one small tree per 15 linear feet. A combination of tree sizes is acceptable. Plant the largest trees that the space and overhead utilities (if any) will allow. The minimum tree caliper is 3 inches.

Interior Trees

Plant one large tree for every 1600 square feet interior area, one medium tree every 1200 square feet or one small tree every 800 square feet. A combination of tree sizes is acceptable. Plant the largest tree that the planting bed area and overhead utilities will allow. The minimum tree caliper is 3 inches.



Figure VII-22: *An example of using trees and plantings to manage stormwater and provide shade in a parking lot*

On-street Parking

Perimeter Parking Lot Trees

Within 10 feet parallel to the perimeter (often along a curb or wheel stops), plant one large tree per 30 linear feet, 1 medium tree per 20 linear ft or 1 small tree per 15 linear feet. A combination of tree sizes is acceptable. Plant the largest tree that plant bed space and overhead utilities will allow. The minimum tree caliper is 3 inches.

Parking Lot Screening

For every 200 linear feet of street, install 200 square feet of landscaping including 100 square feet of evergreen shrubs within the parking area. The evergreen shrubs must grow to a 3 foot minimum height. The minimum individual landscape area is 25 square feet. The landscape screening will be reasonably dispersed. The minimum shrub container size used for screening is 5 gallons and the minimum container size for ground-covers is 1 gallon. Shrubs and ground-cover will be planted in a density that will cover the entire ground surface within three years. Mulch will only be used as temporary erosion control and weed abatement until the permanent planting grows to fill the plant bed.

Tree Size Designations

- Large tree: mature canopy over 60 feet diameter
- Medium tree: mature canopy over 30 feet diameter
- Small tree: mature canopy between 10 feet and 30 feet diameter

Tree and Shrub Preservation

Goal Statement

Trees provide numerous tangible and intangible benefits to Pacific University. Therefore, the University will protect, nurture and renew these valuable resources. To fulfill this commitment, Pacific University establishes the following principles:

- Pacific University will take all reasonable actions to protect and maintain the health of campus trees.
- Trees that are removed shall be replaced with new young tree(s) of selected species with the required caliper size as described in this section and previous sections.
- Trees showing signs of decay, disease or decreased vigor will be assessed before commencing removal, planning treatments, canopy thinning or other pruning procedures.
- The Director of facilities will rely on recommendations from licensed and/or certified professionals when approving work or electing to perform work. The University will consult with City staff on the removal or re-planting of trees.

Definitions

New Tree: All new trees will be of specimen quality, meet or exceed American Nurserymen Standards and be no less than 3 inches caliper upon installation.

Donor Tree: A donor tree is either planted by a donor or purchased and planted by the University from gifts given to the University.

Heritage Tree: A heritage tree is a campus landmark due to its species, size, or a tree with historical or memorial significance.

Valuable Tree: A valuable tree is a healthy tree of less significance than a heritage tree, but with a caliper in excess of 18 inches, a valuable example of a species, or a native tree.

Nuisance Trees: Nuisance trees are documented to be invasive or have a negative impact on a natural resource area, e.g. firs in the Oak Grove, as well as those that are included in the City of Forest Grove development code.

Donor Trees

Pacific University welcomes gifts of trees dedicated to specific people or events. The donor works with Pacific University to choose a specific species of tree and a location. The University will make every effort to accommodate the wishes of the donor; however, the location and species of the tree will be determined by the University in accordance with campus standards and Master Plan.

All memorial trees become the property of the University. While they will receive the best care possible, the University cannot guarantee their perpetuation. Additionally, every effort will be made to locate memorial trees in areas that will not be disturbed in the future; however, there may be circumstances, such as when master plans are modified or emergency repairs are necessary, that requires the removal of a donated tree. In these cases, the University reserves the right to plant a replacement tree in another location or to recognize the donor on the donor wall.



Figure VII-23: *Tree-lined campus path, established and maintained by donors (Mayer/Reed)*

For the duration of its life span, each commemorative element will be maintained by University. If a tree becomes damaged by disease, vandalism or other cause within ten years of installation, it will be removed and replaced. If unforeseen construction causes the removal of the memorial within fifteen years of installation, it will be relocated or replaced. At the end of its useful life span, the commemorative element will be retired and the original donor will be notified. Donors have the opportunity to replace the memorial at that time if they wish.

Commemorative Display

A commemorative display in honor of the person for whom a tree is donated may be attached to the large donor wall constructed from trees grown on campus and located in Marsh Hall. As the donor wall becomes full, other donor walls will be erected. The corresponding donor trees will be identified by a discrete marker attached to or otherwise associated with the tree.

Tree Replacement Program

Heritage Trees

Heritage trees will be replaced with the same species or more appropriate variety of the same species. Heritage trees will be replanted in an equally or more prominent location. A replacement tree will immediately be designated as a heritage tree.

Valuable Trees

Valuable trees will be replaced with an appropriate species.

Nuisance Trees

Nuisance trees will be removed and replaced with a species beneficial to the campus and natural resource or not replaced, depending on the location and circumstances.

Tree Protection Zone

This section will be included in campus construction specifications as deemed appropriate by the Director of Facilities.

The location of roots, tree protection zones and method of protection required for construction will be determined in consultation with a certified arborist during the planning phase of a project. The determination will be made after observing the site conditions first hand.

The following activities within tree protection zone will be prohibited:

- Parking or operation of any vehicles or heavy equipment
- Erecting structures
- Storage of any equipment or materials
- Heavy foot traffic
- Dumping of any waste materials or liquids
- Impoundment of water
- Addition of soil, unless to cover cut roots
- Cutting roots without root inspection
- Erecting silt fences
- Placing materials in contact with the tree trunk
- Leaving roots exposed to the air for more than 24 hours
- Spraying herbicides or pesticides
- Attaching anything to trees

Shrub Pruning

- To avoid routine pruning to change the shape or size of the shrub, the mature plant size will be considered during the planning and design of a project.
- Plants will only be pruned for shape or size to support the health of the plant, create a hedge or maintain public safety. Plants requiring pruning for other reasons or plants requiring pruning more than 20% of their canopy will be considered for transplant or replacement.
- Shrubs should create masses of vegetation where appropriate. Shrubs should not be routinely pruned into balls or geometric shapes unless specifically key to the design in a specialty garden.
- Only plant species with a tradition of hedging for design purposes should be pruned as a hedge. Otherwise, foundation plantings and parking lot perimeters should be allowed to achieve the natural form and size with only minor pruning.
- Native shrubs will not be hedged, topped or otherwise pruned for shape or size. Consider transplanting these shrubs to locations where they can achieve their natural size and form.



Figure VII-24: *Layering of perennials and shrubs (Mayer/Reed)*

Tree and Plant Procurement Standards

Goal Statement

The University will purchase and maintain the highest quality plant material to produce long-lived distinguished trees and shrubs that are essential to the campus character, image, identity, culture, and educational capacity.

The remainder of this section will be included in campus construction specifications as appropriate.

A. Professional Standards

- Quality definitions, grading tolerances, and caliper to height ratios will be no less than the minimums specified in American Standards for Nursery Stock, published by American Association of Nurserymen, Inc., ANSI Z60.1-2004.
- Meet or exceed the specifications of federal, state and county requirements regarding inspection of trees and planting material for disease and control.
- All material used in the growing and maintenance of these trees, as well as the trees themselves, will conform to the standards of the best commercial practice for the production of high-quality specimen tree material.
- Native Species: Where specifying native plants, use only true native species.
- Local Sourcing: The University will source tree procurement from local nurseries whenever feasible and when technical requirements can be met.



Figure VII-25: Visit nurseries to select specimen quality trees (Mayer/Reed)

B. Nursery Conditions:

- Trees will be grown under favorable growing conditions, under climatic conditions similar to the campus and having received the proper treatment to develop a well-branched root system. Soils will be friable, nutrient rich, well drained and free of heavy or binding clay.
- Tree leaves will be healthy, sizable, vigorous and well formed. Trees leaves will not show signs of leaf spots, leaf damage, leaf discoloration, chlorosis, leaf wilting or curling.
- Trees will be free of disease, insects, weeds, eggs, larvae, structural defects, injuries, and disfigurements or otherwise atypical.

C. Trunk and Main Stems

- Trees species that have a form with a central leader will have a single dominant leader (absent of co-dominant branches) and a single dominant trunk from the leader to its root crown. Dominant leader will be at minimum 2 times the diameter of any leader considered a branch. The central leader will not have been cut.
- The trunk will be straight and true from the root crown to the dominant leader.

- The trunk will be free of wounds, sunburns, fungus, wood cracks, bleeding areas, signs of boring insects, galls, cankers and lesions.
- The trunk root collar (root crown) and large roots will not circle or kink.

D. Branching

- Main branches may not exceed two-thirds the diameter of the trunk measured 1-inch above the point of branching.
- Trees will not require removal of branches larger than 1/4 the trunk diameter at the point of branching.
- Tree branches will be evenly spaced. Species with alternating branch form will have branches no closer than 1-inch along the trunk. Branch spacing will not exceed 18-inches at any point. Branch spacing will not exceed 12-inches at three or more points on a tree.
- Trees will have an abundance of well developed terminal buds on the leaders and branches, and have a cambium, which is light green to yellowish green in color.
- Branches or twigs will not show signs of die-back.

E. Branch Connections

- Severely acute branch connections will not be allowed. Branch to trunk angles less than 10-degrees will be considered severely acute, regardless of canopy form or tree species.
- Branch connections will not exhibit signs of included bark, which is often found on defective V-shaped crotches in which the bark grows inward and on itself. This causes a physical weakness where the co-dominant leaders meet.

F. Canopy

- Trees will have uniform overall canopy geometry when viewed from all sides in accordance with their natural canopy shape classification.
- Trees will have a uniform canopy density. Holes or blank spots cannot be larger than 10% of the total canopy area when viewed from any side.

G. Pruning

- Pruning limbs or roots greater than 1 inch will be done under the consultation of a certified arborist when deemed appropriate by the Director of Facilities.
- Trees will not be severely pruned in any single pruning effort to meet quality requirements. Severe pruning will be defined as removal of more than 20% of canopy, or 20% of the total diameter of branches.
- All pruning cuts will be made in accordance with best nursery practices. There will be no long pruning stubs, flush cuts, ragged edges, or poorly angled cuts.
- Pruning will be limited to the minimum necessary to remove dead or injured branches and to compensate for the loss of roots as a result of transplanting operations. Pruning will be done in such a manner as to preserve the natural character of the plants, unless directed to prune into a sheared hedge. Only clean, sharp tools shall be used. All cuts will be clean and cut to the branch collar, leaving no stubs. Cuts, bruises or scars on the bark will be traced back to living tissue and removed. The affected areas will be shaped so as not to retain water.
- Additional pruning, thinning, and shaping of trees may be required to provide a healthy looking symmetrical plant.

H. Disease and Pests

- Trees will not exhibit evidence of disease or insects, fungus, or pests, except minor aphid infestations.
- Trees will not be allowed with damage of any size where the cambium of the trunk is visible.

Species Selection and Installation

Goal Statement

The placement of new plants will support the educational process by enhancing the campus's character, safety and sustainability. As with all guidelines, the health, safety and welfare of the campus community is the first and foremost priority.

Character

Establish long-lived, large trees to enhance the character of the campus by representing the history, traditions and permanence of the University. To help realize these goals, plan future developments in concert with existing trees and proposed trees. Consider planting a single large-canopy tree in lieu of smaller trees when space allows. Strive for a tree canopy that has an uneven age structure and diverse tree species.

New plants will be as true to their natural species as practical. Plants bred for canopy shape, height, fall color, leaf color, leaf shape and bark will be judiciously used in special circumstances. New plants will be native to the Pacific Northwest or adaptable to the climate. Tropical plants, desert plants and other exotics not associated with the Pacific Northwest will be avoided unless they are a part of a specialty garden with an approval process.

The spacing between trees and structures, utilities and lighting will be taken into consideration when anticipating the width of the mature tree. Shrubs and ground-covers will be planted at spacings that allow for full coverage of the ground surface when they reach their natural mature size. Unless a hedge is desired, plant species will be carefully selected so pruning is not necessary to contain them within the plant bed area. Mulch will only be used as temporary erosion control and weed abatement until the permanent planting grows to fill the plant bed.

Horticultural Program

Consider seasonal qualities, color, texture, biological value, species diversity, aesthetics, design and instructional benefits when selecting trees and shrubs to replace existing or to establish new plantings.

Lawn Care Guidelines

Goal Statement

Lawn is the most extensive landscape on campus due to its traditional aesthetic and ability to accommodate flexible uses. Due to the large areas of lawns and sports field and in response to Pacific University's commitment to sustainable practices, an ecological approach to lawn care will be employed. This ecologically based lawn care can provide a green mowed lawn throughout the year as well as being cost effective and time efficient. The University will give particular consideration of an ecological lawn care approach for the lawns under Oregon white oaks to maximize the long-term health of each.

Background

Understanding and working within the natural processes that affect lawns and its soil biology can yield a durable, beautiful lawn that is easier to care for. These ecologically based methods will also help reduce water use, waste generation, water run-off and water pollution. The following information is provided here as published substantially from the document titled Ecologically Sound Lawn Care for the Pacific Northwest, Findings from the Scientific Literature and Recommendations from Turf Professionals by David K. McDonald in 1999.

The ecological approach to lawn care described below has several advantages, including:

- Reduced mowing time and fertilizer needs, and improved turf color, quality, and density
- Enhanced resistance to diseases and weed invasion
- Improved nutrient availability, and less soil compaction, acidification, and thatch buildup

Recommended Lawn Care Practices

- Use soil testing to determine and remedy soil deficiencies.
- Set realistic expectations for lawn appearance, and tolerate a few weeds.
- Properly select the site and prepare the soil by tilling in compost to a depth of 6 to 12 inches.
- Select site-adapted and disease-resistant grasses



Figure VII-26: Existing lawn north of Burlingham Hall (Mayer/Reed)

- Moderate fertilization with natural or natural/synthetic-slow-release combination fertilizers, to build soil nutrient reserves and biodiversity. Over-fertilization promotes rapid shoot growth (requiring more mowing), thatch, and disease.
 - Fall is the key time to fertilize, in order to build plant carbohydrate reserves in the roots during slow fall and winter growth.
 - Applying just enough nitrogen to promote dense turf and prevent yellowing will yield healthier turf, which is often a total of 4 lb. of nitrogen per 1000 square feet per year, as part of a balanced fertilizer with an N-P-K ratio of 3-1-2 or 6-1-4. This is consistent with the needs of perennial rye-grass lawns. Fescues and bentgrasses have somewhat lower nitrogen requirements. Shifting to grasscycling (leaving clippings on the lawn) can supply a large part of that nitrogen requirement.
 - Unless the lawn needs help to overcome disease or insect damage, do not fertilize in the early spring. Early fertilization promotes rapid top growth, which requires more mowing and can exhaust the plant's carbohydrate reserves – wait for the spring flush of growth to slow before fertilizing.
- Mulch-mow (also called “grasscycling”) whenever possible. Mulching mowers are required to fulfill this objective.
- Mow regularly (remove only 1/3 of grass height each time), and mow a little higher, at 2 to 2 1/2 inches on most lawns.
- Avoid over-watering: instead, water deeply, to moisten the whole root zone, but infrequently, to limit disease, particularly *Armillaria mellea* In Oregon white Oaks and build deeper roots to prevent a brown lawn. For best results:
 - Incorporate weather-based automatic irrigation controllers.
 - Wait to water until the lawn needs it. Depending on root depth, allow the upper 2 to 4 inches of soil to partially dry out before watering.
 - Water in the early morning.
 - Water slowly or intermittently to ensure water doesn't run off.
 - Water somewhat less than the 1-inch-a-week average during the “shoulder” months of May, June, and September, and somewhat more during the hottest periods of July and August.
- Implement renovation/improvement practices that include aeration, compost topdressing, and over-seeding, to reduce compaction, increase water infiltration, improve soil structure and natural disease control, and crowd out weeds.
- Take an integrated approach to pest problems (weeds, insects, and diseases) that includes:
 - Correctly identifying the cause of the problem
 - Understanding the biology of the pest organism and its natural predators
 - Setting realistic thresholds of acceptable damage to the lawn from pests
 - Monitoring for pest problems at appropriate times of the year, and treatment of over-threshold problems with methods that support the turfgrass ecosystem and have the least non-target impacts on beneficial soil organisms, wildlife, pets, or humans.
 - Repeated broadcast or calendar-based applications of pesticides should be avoided because they may damage the diversity and stability of the grass/soil ecosystem.

Adaptive Management

The University will monitor the effectiveness of the ecological approach to lawn care over time and make careful adjustments as necessary. The determination of effectiveness will be based on how well the management techniques lead to healthy green lawn and thriving Oregon white oaks in accordance with the goals of the Landscape Master Plan, particularly safety, the key landscape goals and cost effectiveness.

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VIII: Signage

Purposes and Scope of the University Signage Plan

Pacific University has developed a coordinated signage program to serve several goals:

- To assist campus visitors – especially new students and staff, visiting families, and event attendees - to readily find their destinations;
- To encourage visitors and community members to more fully explore and utilize the campus;
- To ensure that signage consistently communicates the University's identity;
- To coordinate signage with the City of Forest Grove's policies.

This section of the Master Plan describes the types of signage to be used on the campus, as well as siting guidelines and design standards for signs. The following types of permanent exterior signage correspond to types addressed by the City's Signage Code:

- Monument Signage – larger permanent signs that are located at major approaches to the campus, to announce one's arrival at the University;
- Wall signs – signs mounted to the wall of a structure;
- Building Identification Pole Signs – located at major building entries or approaches;
- Campus Map Pole Signs – located at key locations to orient visitors to the overall campus layout;
- Changeable Copy Signs;
- Marquees;
- Banners.

In addition, other types of sign are anticipated to be used on campus, including:

- Smaller directional signage – to be located as needed along campus paths to orient visitors
- Temporary signage – for events or construction projects

City of Forest Grove Signage Code Provisions

The City's new signage code –adopted in November, 2009 - defines numerous categories of signs, including those below. In addition, the Code section addressing definitions defines the area of a sign as the limits of a signage cabinet - when mounted in a cabinet - and when not, the area "within a single continuous perimeter composed of any straight line geometric figure which encloses the extreme limits of the message". Unless otherwise noted, these definitions have the same meaning in this Master Plan amendment.

- Monument Signs
- Free-standing Pole or "Pylon" Signs
- Wall-mounted Signs
- Marquee Signs
- Illuminated Signs
- Banner Signs
- Portable Signs
- Temporary Signs
- Video Display Signs
- Changeable Copy (both Manual and Electronic) Signs

The majority of signage on campus is not limited by the City's signage code, either due to the small scale of the most common sign types or because they are internal to the campus and not visible from public lands or rights-of-way.

Permitting and Review of Sign Installations

For any signs described by this Plan, and requiring a building or land use permit, land use review by the City shall consist solely of a demonstration of consistency with this Plan. For any signs not specifically described in this Plan, and not explicitly prohibited by the City's signage code, the City's Type I review process shall apply. Where a sign type is not addressed by this plan, the City's Sign Code shall apply.

Consistent with the City's signage code, the following sign types are not subject to approval of the City:

- Any sign which is not visible to motorists or pedestrians on any public highway, sidewalk, street, alley, or other area open to public travel;
- An exterior sign erected next to an entrance, exit, rest room, office door, or telephone, provided the sign is no more than four square feet in area. This type of sign is typically used to identify and locate a property feature;
- Signs located within a sports stadium or athletic field, or other outdoor assembly area which are intended and oriented for viewing by persons within the facility;
- Incidental Signs, provided the signs do not exceed one and a half (1.5) square feet in area for each sign, with no more than three (3) signs allowed for each permitted structure;
- Tablets, cornerstones, or commemorative plaques;
- Others as exempted by the City's Sign Code.

Pacific University Signage Policies

The following policies shall apply to signage located on University property. Campus signage will be upgraded – and existing signage phased out – in conjunction with major capital projects and other funding opportunities. When new signage is introduced, it shall be consistent with this Plan.

The University will coordinate with the City on signage and way-finding programs of mutual benefit, including walking tours, directional signage, etc. The University will also coordinate with the City on “dual message” signage as appropriate. For example, it is intended that the monument sign near the Athletics facility would include both University and City identification, consistent with the Joint Operating Agreement for the facilities.

Approval required: All permanent signage and construction signs located on campus shall be approved by the Facilities Director or his/her designee. Signage shall be subject to City review as indicated in this Section and shall be subject to building permit as required by state and local building codes.

While Pacific University is committed to academic freedom and free speech, as a 501 (c)(3) organization it is obligated to comply with Federal and State law prohibiting its participation or attempts to influence campaigns for any elective public office or any political initiative. Signage posted in University common areas which support a political candidate, party, referendum or political action committee giving the appearance that the University is supporting one candidate or position over another is not permitted.

The University reserves the right to pre-approve all signage and remove signage that does not comply with University posting guidelines or which violates federal, state or municipal law. University posting guidelines are subject to change and available upon request by contacting the University's Vice President for Finance and Administration.

Monument signs: Locations currently planned for monument signs are indicated in Figure 1. The proposed monument sign design is indicated in Figures 2 & 3. In order to allow for reasonable long-term flexibility, the following general policies shall apply to the location of monument signs:

- One monument sign is allowed along each major street frontage of the University. Signs may be up to eight feet high and forty square feet of message area and/or eighty feet of complete surface

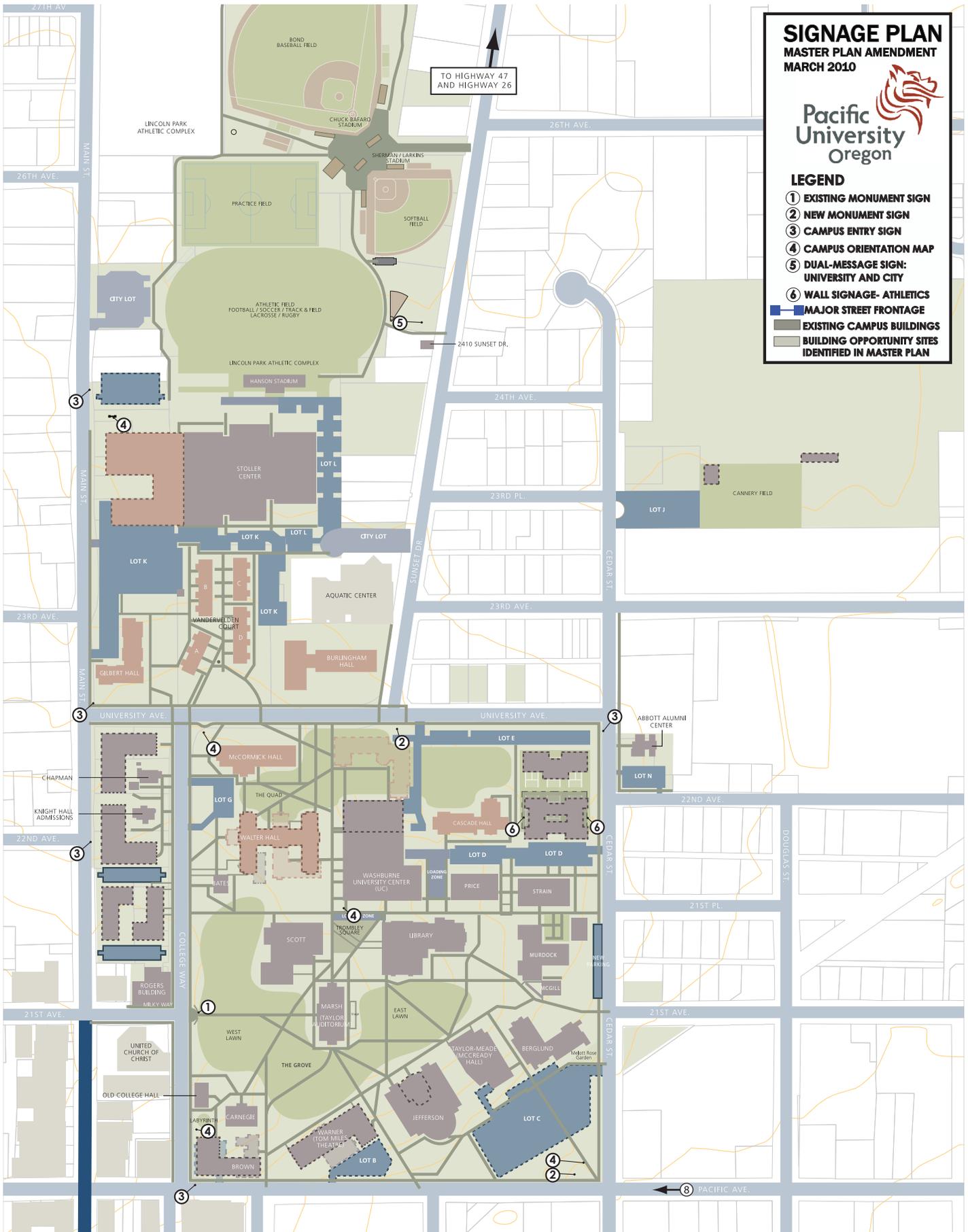


Figure VIII-1: Signage Map

area, including supports. Major street frontages are also indicated in Figure 1.

- Monument signs shall be located on University property, and shall generally be located 10-50 feet from the public right-of-way.



Figure VIII-2: Proposed Monument Sign with Dimensions. Main body of sign is approximately 40 SF.



Figure VIII-3: Proposed Monument Sign in Proposed Setting.

Campus Directory maps: These signs are also considered monument signs under the City's signage code definitions. Campus maps of up to 8 feet in height and 32 feet in area shall be allowed, up to three on each major street frontage of the campus, and internal to the campus as needed.



Figure VIII-4: Typical campus map – per the City's signage code definition, this sign type is a Monument sign, due to the proximity of the bottom edge to the ground, less than 3 feet.

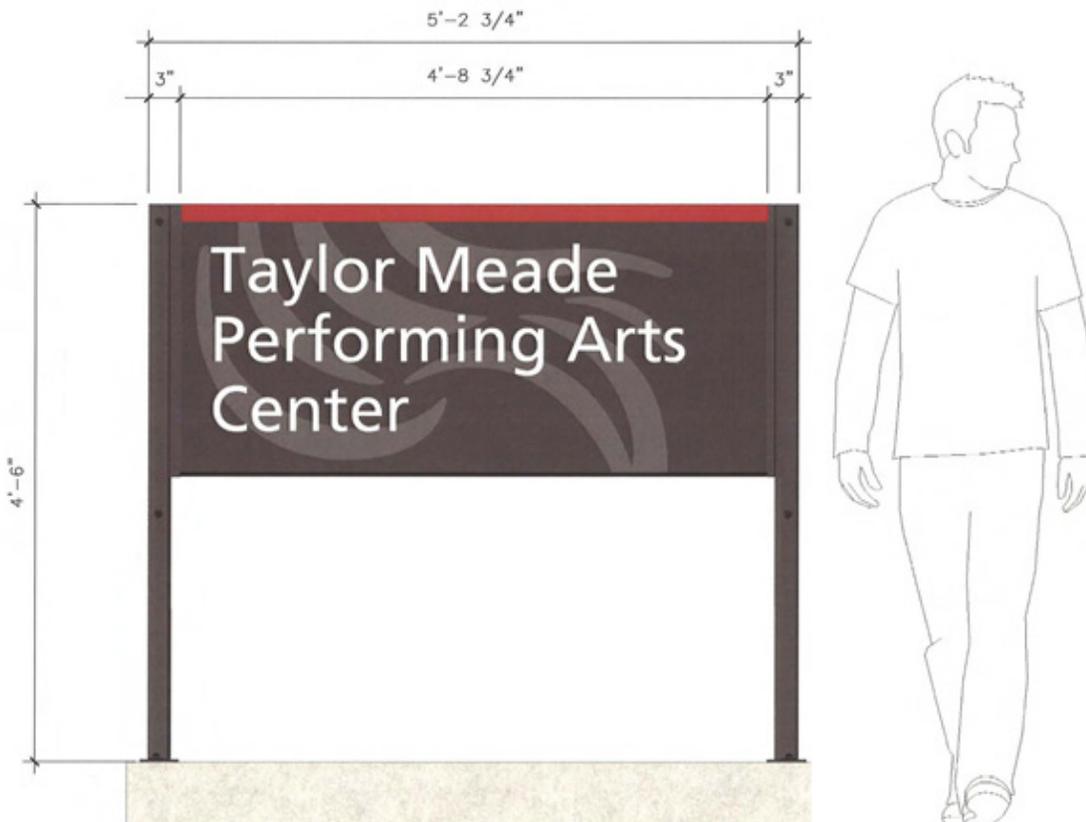


Figure VIII-5: Proposed "Campus Entry" Signage

Campus Entry signs: These signs will be used at campus entry locations where the site is not appropriate for the larger scale of the monument signs. Locations currently planned for these signs are indicated in Figure 1. The proposed sign design is indicated in Figure 5.

In order to allow for reasonable long-term flexibility, the following general policy shall apply to the location of campus entry signs:

- One campus entry sign is allowed along each edge of the campus, in the vicinity of each intersecting street of the surrounding street grid. Sign design is allowed to vary, as long as the design is consistent with the size guidelines indicated in Figure 5.

Pole signs: Pole signs of two types are planned for the campus: building identification signage (as indicated in Figure 5A) and Campus Maps (as shown in Figure 5B). Current and potential locations for Campus maps are indicated in Figure 1. The following guidelines apply to building identification signage:

- One pole sign of up to 4' x 6' shall be allowed at each approach to a campus building;
- Building identification signage shall not have changeable copy per the City's definition. The secondary message area – shown in Figure 5A as “Modular Signage Information” – will be removable to allow changing signs on occasions that University offices are moved from one facility to another.

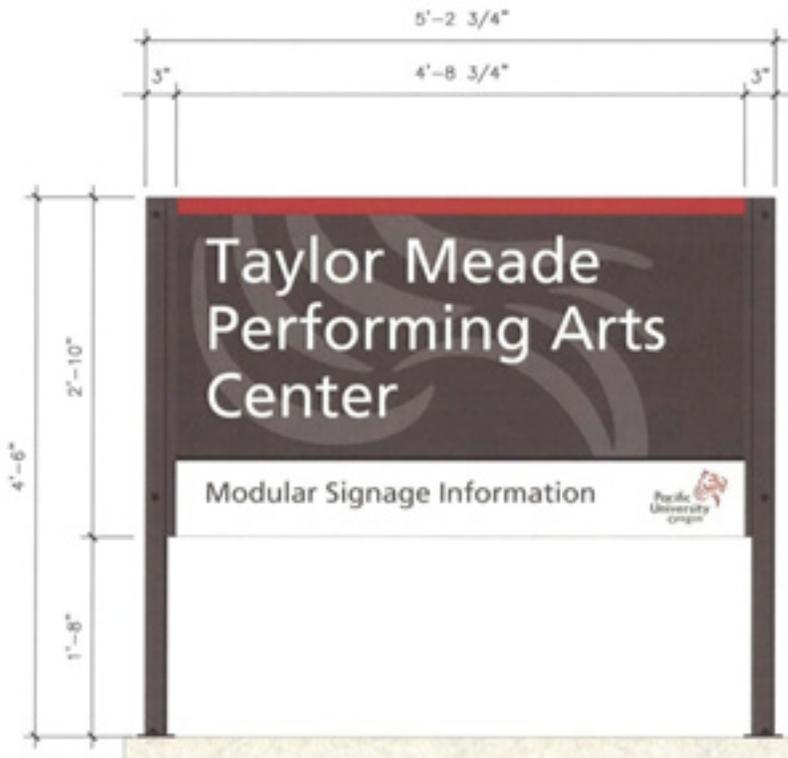


Figure VIII-6: Typical pole sign – “Pylon Sign”, per City Sign code - for Building Identification.

Wall signs: Wall signs are allowed on campus buildings up to an area of 15% of the building wall area on which they are mounted, exclusive of window area. This is consistent with the City's sign code for commercially zoned properties.

¹Per the City of Forest Grove signage code, area is defined as the limits of an enclosed cabinet, or where not enclosed, as the area of any straight-line geometric form that encloses the text and graphics of the sign's message.

²Although the base zoning for the Pacific University campus is a residential zone, the campus is adjacent to the Town Center and near to light industrial uses. In addition, through the master planning process, the City recognizes that the University is a significant and unique institutional land use that has much in common with town center and commercial uses.



Figure VIII-7: Wall sign at Tennis Courts. The sign board area represents approximately 8% of the building face (red outline).

Marquee signs: Marquee signs shall be allowed on University buildings facing the public right-of-way, for buildings that regularly host public events. These signs shall be allowed to have changeable copy, and shall be allowed to project into the public right-of-way by up to five feet. When the changeable copy is electronic in nature, provisions of the City’s Sign Code regarding changeable copy shall apply (10.8.830, G). A clear area of ten feet in height shall be maintained at any public walkways below marquee signs.

They shall be lit by an internal source, or indirectly by a source screened from view from any sidewalk or street. In order to meet dark sky design standards, indirect lighting from the sides shall be allowed, consistent with the screening standard above.



Figure VIII-8: Marquee Sign

Banners: Fabric-type banners of up to two feet wide and six feet tall shall be allowed on campus lighting fixtures and similar poles, and/or building faces. Banners shall be allowed on street light fixtures in the public right-of-way on streets bordering the University campus, subject to a City permit and consistent with the following guidelines:

- Banners for special events shall be allowed for up to 45 days, in advance of significant on-campus events, when the event is related to the educational mission of the campus. For events held on campus but not related to the educational mission of the campus, banners shall be approved under the base provisions of the City’s Sign Code.
- Banners bearing the University’s name and logo shall be allowed to be mounted on appropriate streetlight poles on the major street frontages of: University Avenue, College Way, Cedar Street and Pacific Avenue. Such banners shall be maintained in good condition and shall only be allowed on any side of these streets that borders University-owned or leased property, unless the adjacent property owner agrees to their placement.
- Banner signs along Pacific Avenue shall be subject to coordination with other events in the community and any related requests for banners.



Figure 9A: Building-mounted event banner sign



Figure 9B: Pole-mounted banner sign.

Temporary and construction signs: Temporary signs are allowed on campus buildings, of unlimited size or quantity for up to 45 days, in relation to special events on campus or related to University activities.

In addition, construction project signs of up to 4' by 8' are allowed for the duration of a construction project, with one sign allowed facing each public street adjacent to a construction project. Construction signs may include both text and graphics related to the project and the project team.