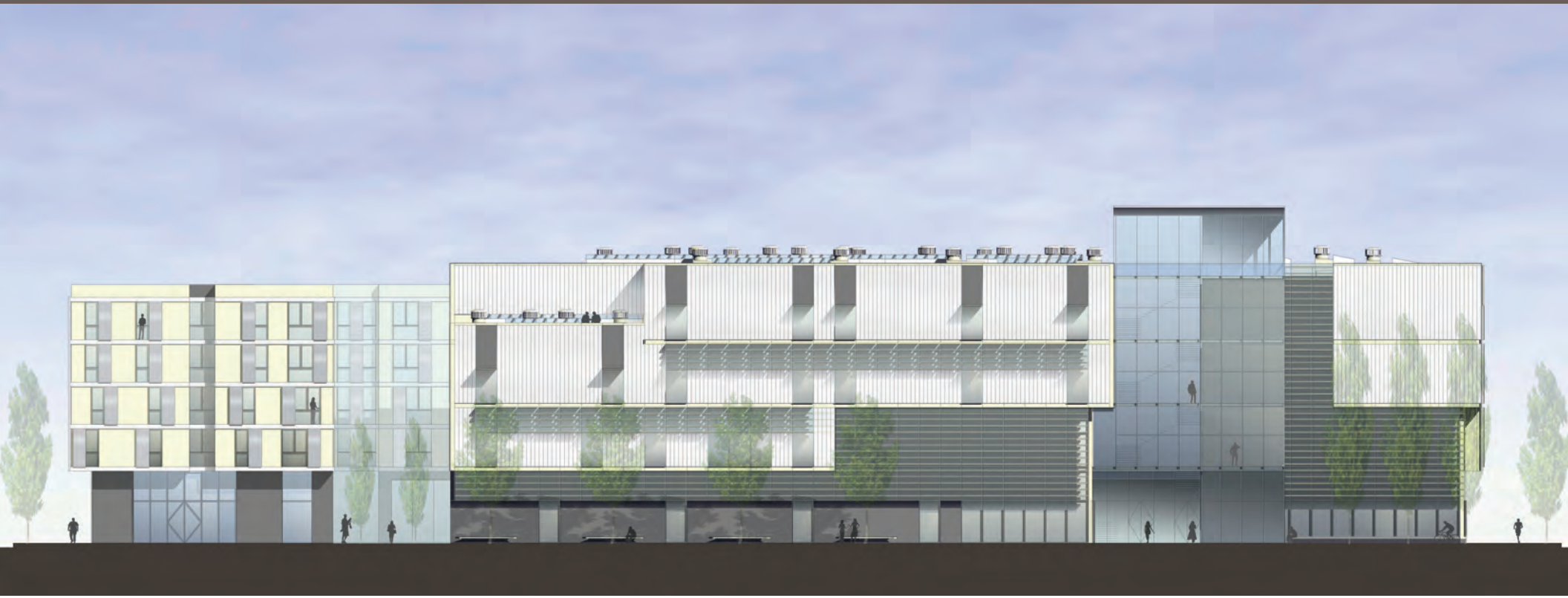
LANE COMMUNITY COLLEGE

Downtown Campus (DTC) Building

Feasibility Report - DRAFT

March 10, 2010



Gerding Edlen DEVELOPMENT

Robertson | Sherwood | Architects PC

SRG PARTNERSHIP INC
ARCHITECTURE | PLANNING | INTERIORS

Lane Community College

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1. Executive Summary

INTRODUCTION

Lane Community College has provided educational services from its Downtown Center in Eugene, Oregon for over 30 years. The Downtown Center has served its useful life and the College intends to build a new facility – the Downtown Campus (DTC) Building. The DTC is envisioned as a state-of-the-art educational facility that will provide an excellent learning environment for a diverse student body. The design of the building is intended to serve as a teaching tool, as well as achieve very high sustainability goals. The College is working closely with the City of Eugene, who currently owns the site where the DTC is proposed to be built. The proposed site located in downtown Eugene has long been targeted for dense, mixed-use development by the City. The proposed DTC would clearly achieve the City's vision for this site.

Through a competitive process, the College hired a Project Manager (Gerding Edlen) and a Design Team (Robertson Sherwood Architects/SRG Partnership Inc) to complete a feasibility study intended to address a number of issues. The 90-day feasibility study was completed through a series of interactive planning sessions involving College administration, staff, instructors, and students, and City of Eugene staff.

TENANT ANALYSIS

The College was interested in analyzing the inclusion of tenants in the DTC as a potential revenue generator for the College. In addition, the inclusion of 'like-minded' organizations (i.e., other Colleges or Universities, entities focused on workforce and small business development, community-based nonprofits and businesses and nonprofits focused on sustainability) could facilitate collaboration and synergies among entities.

It became clear early in the feasibility study that the square footage needs of the College require nearly all of the square footage that can be built for the target budget. Thus, in order to include square footage that could be leased to tenants, additional square footage would have to be built. This additional square footage would have to be financed, and even assuming a low cost of financing, the resultant rents would be above both market rates and what potential tenants could pay.

Thus, while there are particular tenant opportunities that the College should continue to evaluate, such as, tenants that have special alliances with the College (like the OSBDN, which is currently included in the concept building program), the inclusion of tenants is unlikely to provide a source of revenue to the College.

STUDENT HOUSING FEASIBILITY

Although Lane Community College does not currently have student housing, the College recognizes the potential benefits of including a student housing component as part of the Downtown Campus project. Student housing at the DTC would be expected to support the College's growing international student enrollment. The housing is intended to target these particular subsets of the College's student population who are more likely to be able to afford the rents associated with a new, downtown high quality housing project. The housing would also increase the resident population in the downtown core, which would significantly bolster the City of Eugene's efforts to revitalize the area.

In fall 2009, the College commissioned a student housing market study by a national consultant. Assumptions regarding unit types, amenities, rents and operating expenses were informed by the consultant's analysis and recommendations. It was decided early on that the housing would have to be wood frame construction over a concrete podium to improve the probability of its economic feasibility. Wood construction is significantly less expensive than concrete or steel, which is what would have been required if the housing were located above the College component.

The current economic analysis shows an approximately $900k difference or 'gap' between the total cost to build the project and amount of debt that can be supported by the housing income. One option to address this gap could be rent payments made by the tenants of the small amount of tenant square footage included in the program.

CONCEPT PROGRAM

The proposed development will accommodate the College's programs currently located at the existing Downtown Center; programs currently located at the Wildish Building; and components of the Energy Management Program currently located at the main campus. Specific programs and departments are as follows:

- Continuing Education
- Adult Basic and Secondary Education
- English as a Second Language
- Energy Management
- Successful Aging Institute
- Senior Companion Project
- Business Development Center
- Enrollment and Student Financial Services
- Center for Meeting and Learning
- Lane Community College Bookstore
- City of Eugene
- Oregon Small Business Development Network

A summary of the concept program is as follows:

Lane Community College Academic Program Spaces and Support Areas	85,016 gross square feet (gsf)
City of Eugene/Oregon Small Business Development Network	5,000 gsf
Student Housing	76,432 gsf
Total	**166,448 gsf**

A primary issue relevant to the feasibility of the new DTC was the need to reconcile the size of the proposed building with the reality of the project budget. In order to conform to the target budget, a prioritization of functional needs was required. This resulted in the identification of space efficiency strategies that resulted in a lower square footage requirement without compromising the College's overall institutional mission and specific goals for the DTC. Key strategies were to encourage sharing of common functional spaces and to optimize classroom use through efficient scheduling.

CONCEPT DESIGN

The DTC has the potential to enhance the existing uses adjacent to the site and to generate vitality in this portion of downtown Eugene that will benefit the College, the Library, the Lane Transit District Eugene Station and the surrounding fabric of the community. Together these three landmark institutions will infuse each other and this portion of the city with a fresh energy and provide the citizens of Eugene with an unparalleled level of service.

In the concept design, two "L" shaped buildings are nested on the site in a manner that simultaneously places active uses at the perimeter of the site and shelters a courtyard and community gathering place within. One building is devoted to College functions and the other provides convenient student housing in the heart of downtown Eugene. The College building at 10th and Olive streets locates the most public uses near the Library and the LTD station while the student housing located on Charnelton Street faces the residential neighborhood to the west and enjoy views of Skinners Butte to the north. The two buildings will bring together living and learning, creating a holistic learning environment. At 10th and Olive a plaza shared by the Library and the Downtown Campus provides for both daily "drop-off" functions and a gathering area for community events. The plaza will provide an inviting and active space, and along with the four story glass wall, will establish a strong presence for the College.

SUSTAINABLE STRATEGIES

The College component of the project is targeting LEED Platinum; the housing component is targeting LEED Gold. Key strategies include:

- Passive cooling and ventilation for 75% of the College building
- Daylighting
- Solar shading
- Super insulation
- Ground source heat pump
- Rainwater harvesting for toilet flushing
- Demonstration "off the grid" restroom

- Bioretention cells
- Green roof
- Photovoltaic array

A BUILDING THAT TEACHES

The building design is intended to both demonstrate and teach and sustainable building strategies. The design achieves these objectives through the following strategies:

- Energy Management Lab. Lab includes a number of different mechanical systems to expose students to a variety of high efficiency systems, and allows students to manipulate their environment (i.e., open or close windows, turn systems on or off) and experience and measure the impact.
- Visible Demonstration Components. These include a glass walled main mechanical room, the "off the grid" public restroom and the green roof.
- Data Share. The design includes extensive monitoring and controls so that data can be assessed and utilized for teaching.

DEVELOPMENT BUDGET

Estimated sources and uses of funds for each component are summarized in the tables below.

COLLEGE BUILDING

SOURCES	
Lane Community College Bond	9,000,000
State Match Bond	8,000,000
Federal Appropriation for Energy Technology	550,000
Additional Federal Sources	4,450,000
City Contribution	8,000,000
NMTCs (net of fees)	5,000,000
Sustainability Incentives	TBD
TOTAL SOURCES	$35,000,000

USES	
Land Cost	0
Site, Core and Shell and Tenant Improvements	25,957,000
FF&E and Technology	1,600,000
Other Construction Hard Costs	564,000
Architecture & Engineering	2,726,000
Permits & Fees	485,000
Other Soft Costs	2,050,000
Financing Costs	0
Contingencies	1,618,000
TOTAL USES	$35,000,000

HOUSING

SOURCES	
New Issuance of College Full Faith and Credit Bond	15,623,000
Sustainability Incentives	TBD
TOTAL SOURCES	15,623,000

USES	
Land Cost	0
Site, Core and Shell and Tenant Improvements	10,810,000
FF&E and Technology	746,000
Other Construction Hard Costs	70,000
Architecture & Engineering	961,000
Permits & Fees	432,000
Other Soft Costs	859,000
Financing Costs	1,074,000
Contingencies	671,000
TOTAL USES	15,623,000

SCHEDULE AND NEXT STEPS

Based on the assumption that construction completion would need to occur in time for a fall quarter building opening, the Project Team analyzed a timeline that would result in completion for fall 2012 and a timeline that would result in completion for fall 2013. A fall 2012 completion would require a "fast-track" process, and a Construction Manager/General Contractor (CM/GC) delivery method. A fall 2013 completion could utilize either a CM/GC or Design/Bid/Build delivery method and could generally proceed on a slower path.

Regardless of the timeline on which the College moves forward, the Project Team recommends the CM/GC approach for design and construction with a highly integrated design process whereby the College, the City, project manager, architect and general contractor work closely together to ensure the project's goals are met in the most cost effective manner possible.

An advantage of an accelerated timeline is to take advantage of the current economic climate and minimizing the risk of construction cost escalation. National averages for construction prices are currently about 14% less than they were 18 months ago. The decline has slowed significantly and may even be beginning to rise with predictions of 2% to 3% increases during 2011.

2. Project Participants

Management Committee

LANE COMMUNITY COLLEGE:

Robert Mention – Bond Project Manager

Dennis Carr – Chief Human Resources Officer

David Willis – Director, Facilities Management

Andrea Newton – Executive Dean of Academic Affairs

Roger Ebbage – Director, Energy Management Program

CITY OF EUGENE:

Denny Braud – Senior Development Analyst

GERDING EDLEN DEVELOPMENT:

Jill Sherman – Project Manager

Steering Committee

LANE COMMUNITY COLLEGE:

Dennis Carr – Chief Human Resources Officer

Dawn DeWolf – Division Dean, ABSE/Workforce Development

Roger Ebbage – Director, Energy Management Program

Helen Garrett - Associate Dean of Student Affairs, Enrollment & Student Financial Services

Jennifer Hayward - Sustainability Coordinator

Jenette Kane – Interim Director, Continuing Education

Brian Kelly – Division Dean, Conference & Culinary Services

James Lindly – Director, Business Development Center

Cathy Lindsley – Division Dean, Academic Learning Skills, ESL

Todd Lutz - Chief Information Officer

Robert Mention - Bond Project Manager

Andrea Newton – Executive Dean of Academic Affairs

Anna Scott - Energy & Indoor Air Quality Analyst

Michael Sims - Recycling Coordinator

Barbara Susman – Director, Successful Aging Institute

Craig Taylor – Director, Institutional Research Assessment & Planning

David Willis – Director, Facilities & Management

Design Team

ROBERTSON/SHERWOOD/ARCHITECTS PC
(Prime Architects)

James Robertson, FAIA, FCSI

Carl Sherwood, AIA

Randy Nishimura, AIA, CCS

Scott Stolarczyk, AIA, LEED AP

SRG PARTNERSHIP, INC.
(Associate Architects)

Jon Wiener, AIA, LEED AP

Kent Duffy, FAIA, LEED AP

Tim Grinstead, AIA, LEED AP

PYATOK ARCHITECTS, INC.
(Housing Consultant Architects)

Curtis Caton, AIA

PAE, CONSULTING ENGINEERS
(Mechanical/Electrical Engineers)

Paul Schwer, PE, LEED AP

Marc Brune, PE, LEED AP

KPFF CONSULTING ENGINEERS
(Structural Engineers)

Art Johnson, PE, SE

BALZHISER & HUBBARD ENGINEERS
(Civil Engineers)

Monica Anderson, PE, LEED AP

CAMERON MCCARTHY GILBERT & SCHEIBE
(Landscape Architects)

Larry Gilbert, RLA, ASLA

GREEN BUILDING SERVICES
(LBC & LEED Consultants)

Ralph DiNola, AIA, LEED AP

Peter Walker-Keleher, PE, LEED AP

ENERGY STUDIES IN BUILDINGS LABORATORY
(Sustainability Design Consultants)

G.Z. (Charlie) Brown, FAIA

CHRIS WEBB & ASSOCIATES
(Sustainable Water Consultants)

Chris Webb, PE

Contractor Consultant

LEASE CRUTCHER LEWIS

Matt Pearson, Operations Manager

Bart Ricketts, General Manager

Jeff Spencer, Senior Estimator for Special Projects

3. Background & Process

Lane Community College has provided educational services from its Downtown Center in Eugene, Oregon for over 30 years. The Downtown Center, located at 1059 Willamette Street, has served its useful life and now the college intends to build and own a new mixed-use facility from which to offer educational and other services on another site in downtown Eugene. The new building will be called the Downtown Campus Building.

The principal goals for the project are:

- To provide "state of the art" educational and public service facilities
- To demonstrate the college's Mission, Vision, Core Values and Strategic Directions
- To achieve LEED Platinum certification and meet as many Living Building Challenge Standards as are practically and economically possible
- To be a building that teaches
- To be a good neighbor
- To meet the functional and operational requirements of the college and other tenants as well as City regulatory requirements
- Help bring a fresh vitality to downtown Eugene
- Form a strong bond with the library to better serve the community

The instructional needs of the Energy Management Program will play an integral and significant role in shaping the new building into a teaching laboratory that will allow students to experiment, interact, observe and measure how the building and its mechanical, electrical and plumbing systems relate to the environment.

The college plans to utilize a three-phase process to accomplish this project. The first phase will result in a Feasibility Report; the second phase consists of developing the design, financial and legal directions into final documents that are ready to be implemented; and the third phase is building construction and move-in.

PHASE 1 - FEASIBILITY PHASE

The college retained Gerding Edlen Development to manage the feasibility phase of the project. The college selected a collaboration of Robertson/Sherwood/Architects pc and SRG Partnership Inc to provide architectural planning services. The study was completed through a series of multi-day interactive planning sessions, or charrettes, conducted over a 90-day period. The process involved college administration, staff, instructors, students, and City of Eugene staff as listed in Section 2 - Project Participants.

STEERING COMMITTEE

The Steering Committee helped establish the program requirements for the project, including the roster of users and occupants, the composition of the mixed-use program, and the development's overarching goals including targets for project sustainability.

During the charrettes, the project participants established a communication system that provided opportunities for creative and frank discussions. This enabled everyone to be involved in design alternatives being considered and aware of their effects on budget and schedule.

DESIGN CHARRETTES

The first of the charrettes occurred over a three-day period (January 19-21, 2010). During Day 1 the participants reviewed the project background, work plan, and existing site context, and utilized an interactive process to set goals for the project. They also discussed the U.S. Green Building Council's Leadership in Environment and Energy Design (LEED) certification program and the Living Building Challenge, and participated in an "eco-slam" to identify sustainability goals for the project.

During Days 2 and 3, the design team conducted interviews with representatives from each workgroup planned to occupy the new building. This information was compiled and used as the basis for a draft functional program listing area requirements and desired functional relationships.

The purpose of the second two-day charrette (February 2-3, 2010) was to review and update the functional program and subsequently explore options for arranging and stacking the program elements on the site. These various options were then evaluated by the Steering Committee for the purpose of narrowing down the number of design concepts to be carried forward.

During the third and final charrette (February 17, 2010), the design team presented the favored design concept, which formed the basis for preparing a preliminary construction cost estimate and project budget.

MANAGEMENT COMMITTEE

The Management Committee provided oversight for the design process. Weekly meetings were held with the project manager, and representatives from Robertson/Sherwood/Architects and SRG Partnership Inc to review the work in progress and help make decisions necessary to move the study forward.

4. Due Diligence

TITLE REPORT

A current title report for the Property was provided by Cascade Title Co. (a copy of the report is included in the Appendix). The report includes an exception for an unrecorded lease. Discussion with the City clarified that the lease provides parking spaces that serve Bradford's High Fidelity (a store located on the parcel north of the Property). This exception should be removed prior to closing. It is anticipated that to remove the exception, the City will have to negotiate with the owner of Bradford's and likely offer parking in another location. The City does not expect that it will be a problem to remove this exception.

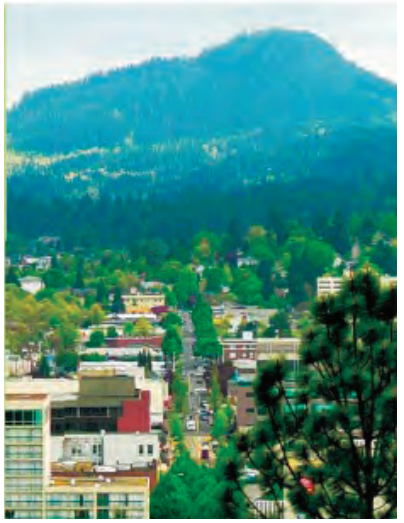
There is also an exception for easements for utilities, if any, in the north-south alley that was vacated. Records from the City regarding the alley vacation show that the only utility in the alley is a Qwest two-duct conduit system (a copy of the City's report regarding the alley vacation is included in the Appendix). Cascade Title was contacted to request a revision of the exception to clarify that the only utility in the vacated alley is Qwest. The title company will only revise the exception once construction is underway and it can be verified via site inspection that Qwest is the only utility in the alley. The Project Team recommends that the College follow up with the title company during site work, so that the title company can verify the only utility in the alley is Qwest, and revise the exception accordingly.

Regarding the Qwest lines, before redevelopment, the City, College and Qwest will need to work together to either relocate the lines (at Qwest's expense) or to leave the lines in place (which would require that the College grant an easement to Qwest.

Prior to completing the Property transaction, the title report should also be review by the College's legal counsel.

ENVIRONMENTAL SITE ASSESSMENT (ESA) STUDIES

GeoDesign Inc. completed Phase I and Phase II environmental site assessments in 2005 associated with preparations for the design of a new office building to be occupied by the Oregon Research Institute. This project subsequently did not advance. A summary of the findings of these Phase I and Phase II assessments is as follows:



- The project site was previously occupied by the Sears department store and automotive center, a wood yard, a Masonic temple, and residences.
- The surrounding properties have historically been used for residential and commercial purposes.
- Review of aerial photographs, reverse city directories, and Sanborn Fire Insurance maps did not reveal any indication of recognized environmental conditions on the project site.
- Two permitted underground storage tanks (USTs) were decommissioned in 1990 (associated with the Sears Automotive Center that was formerly located on the north side of the east half of the project site).
- Previous environmental reports indicated that petroleum contaminated soil associated with the USTs was removed to a depth of 17 feet; however, some contaminated soil was reportedly left in place.
- Gasoline-range petroleum hydrocarbons were detected in soils samples obtained from the area surrounding the former UST excavation at concentrations ranging from 14 to 30 milligrams per kilogram (mg/kg).
- A groundwater sample from a monitoring well installed immediately west of the UST excavation contained chloroform and tetrachloroethylene (PCE).
- Concentrations of VOCs in a groundwater sample obtained from MW (monitoring well)-3, located south of the project site, were greater than MW-1, which indicates that the source of contaminants detected in MW-1 are from an off-site source to the south of the project site.
- One groundwater monitoring well owned by the City of Eugene (presumably MW-1) is located on the project site; if it is not to be used in the future, it should be decommissioned in accordance with OWRD guidelines.

- GeoDesign's subsurface investigations involved six borings on the project site.
- Suspicions of an additional UST located in the alley north of the northeast corner of the demolished Sears building were not confirmed by the Phase II investigation.
- The DEQ's Contaminated Aquifer Policy states that where hazardous substances in groundwater come to be located at a property solely as a result of subsurface migration from offsite sources, the DEQ will not take enforcement action against the owner of the impacted property to require remedial actions.

Bergeson-Boese & Associates, Inc prepared Phase I and Phase II Environmental Site Assessment Reports in 2007 which investigated a large area of the downtown for the proposed West Broadway Redevelopment Area. This study included the proposed Downtown Campus Building Site. The Bergeson-Boese & Associates Phase I report for tax lots 5000, 5100 and 5200 includes a discussion of GeoDesign's findings from their 2005 subsurface investigation as well as a recommendation that the City contact DEQ to let DEQ know that low levels of petroleum hydrocarbons were found on Tax Lot 5100 (after the DEQ had issued the No Further Action for the site).

The Bergeson-Boese Phase II report concludes that the contaminate migration from adjacent dry cleaning operations to the Sears site do not pose a threat to human health or the environment. The Bergeson-Boese Phase II report does not refer to their Phase I recommendation regarding contacting DEQ about the low levels of petroleum found on the Sears site. The Project Team is following up with both the City and Bergeson-Boese to get clarification on this issue. If the City has not contacted DEQ, the College should request that the City do so and that the City be responsible should DEQ require that additional investigation be conducted.

Impacted soils may be encountered during site work and will require special handling and disposal. The project budget includes an environmental remediation allowance to cover costs associated with proper disposal of any contaminated soil.

Because these investigations were not specifically conducted for the College, the College may not rely on the studies and will need to obtain its own updated report.

Copies of these reports are included in the Appendix.

GEOTECHNICAL SITE STUDIES

GeoDesign Inc. completed a study describing soils investigations done for the proposed Oregon Research Institute (ORI) facility in 2005 to be located at the proposed site. This project subsequently did not advance. Their investigation assumed a new five-story building and the potential for a basement. The investigation was conducted prior to demolition of the Sears structure. A summary of this investigation is as follows:

- The building can be supported on shallow foundations founded on the medium dense to dense gravel and sand encountered in the borings. Additional boring are recommended to confirm that subsurface conditions under the structure are consistent with conditions observed during the subsurface explorations.
- Pile foundations may be used to support the structure, but would be more expensive than shallow foundations.
- Excavation sidewalls in the sandy surface soils will be prone to raveling, and caving is likely for excavations below the water table. Raveling of sidewalls into excavations might result in undermining of adjacent utilities and structures.
- The existing basement should be backfilled using select granular fill. Dewatering may be required once the basement walls have been removed.
- Shoring will be required to protect adjacent facilities during excavation for utilities and any new basement construction. Groundwater will likely be encountered during excavation and dewatering will be required.
- Any new basement structure should be designed assuming a groundwater depth of 5 feet.

A supplement report was conducted after the structure was demolished (the existing basement was left in place). An additional boring was conducted in the area of the demolished structure. The investigation confirmed that the building can be supported on conventional shallow footings and recommended that precautionary measures be taken prior to backfilling the basement to minimize any potential for future foundation settling.

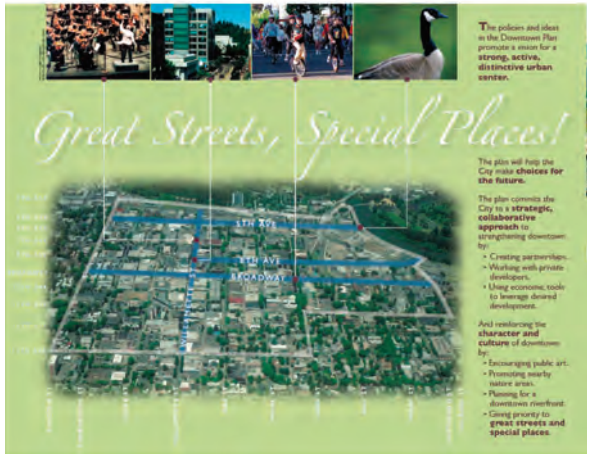
The study does not cover part of the site that was acquired later by the City and was not part of the ORI project site. The Project Team recommends that an additional boring be completed on this part of the site to confirm that subsurface conditions are consistent with the rest of the site. The project budget includes a line item to cover the cost of the additional geotechnical investigation.

A copy of the original and supplementary reports is included in the Appendix.

Because this investigation was made for the ORI project, the College may not rely on this information and will need to obtain its own update of this report based on the requirements for the Downtown Campus building.

SITE SURVEY

Branch Engineering, Inc prepared a topographic survey of the property in 2003 for the ORI project. The survey indicates property dimensions, grades, and identifies and locates existing trees, improvements and utilities. According to the City of Eugene, the portion of the alley from 10th Avenue to the east-west alley has been vacated. The alley contains existing underground electrical lines, underground telephone lines, and an abandoned 12 inch wastewater sewer. The telephone lines will either need to be relocated as part of the development of the property or will be left in place with an easement provided to the utility. The survey did not identify any existing easements which would adversely impact development of the property.



A copy of the survey is included in the Appendix.

Because this survey was prepared for the ORI project, the College may not rely on it and will need to obtain its own survey prior to moving forward with the project.

5. Potential Tenants

The College was interested in analyzing the inclusion of tenants in the DTC as a potential revenue generator for the College. In addition, the inclusion of 'like-minded' organizations (i.e., other Colleges or Universities, entities focused on workforce and small business development, community-based nonprofits and businesses and nonprofits focused on sustainability) could facilitate collaboration and synergies among entities. Specifically identified as potential tenants were the Oregon Small Business Development Network (OSBDN-a program affiliated with the College that currently leases space in the City's Atrium building); Lane Workforce Partnership (currently leasing space on County Club Road); and Pacific University (currently in leased space in downtown Eugene and considering expansion of programs and relocation to space that would better serve its students and programs). These entities were surveyed as part of the feasibility study; a summary of the information gathered is included in a table at the end of this section.

It became clear during the feasibility study that the square footage needs of the College (see Program and Area Summary in Section 7) require nearly all of the square footage that can be built for the target budget (Section 11 of this report discusses projected Sources and Uses). Thus, in order to include square footage that could be leased to tenants, additional square footage would have to be built. It is likely that the additional cost associated with building additional square footage would have to finance. An analysis of the additional cost per additional square foot built and the associated per square foot rent requirement is below. The analysis assumes that the additional cost would be financed through an issuance of College full faith and credit tax-exempt bonds with a 4.5% interest rate and 30-year amortization (likely the lowest cost of capital that would be available).

Rents Analysis	
Total Project Cost per SF	$ 388.78
Add Financing Costs per SF:	
Capitalized Interest	$ 18.47
Lumped Costs of Issuance	$ 7.78
Total Cost per SF with Finance Costs	$ 415.02
Resulting Annual Debt Payment per SF	$ 25.23
Operating Expenses	$ 5.85
Annual Full Service Rent per SF	$ 31.08
Current Class A Downtown Eugene Rents	$ 19.80 - $ 22.80
Percent Premium over Current Market Rents	36% - 57%

In this scenario, the rent that tenants would pay would cover required debt payments. Based on the analysis above, the required rent would be approximately $25.23 per SF per year, or $2.10 per SF per month, without operating expenses. With the addition of $5.85 per SF per year for operating expenses (expense estimate assumes no property taxes due to nonprofit status and lower utility cost due to a highly efficient building), and then the full service rent would be $31.08 per SF per year or $2.59 per SF month. This is significantly above current downtown Class A office rents as well as the rents that surveyed entities are currently paying ($13 - $22 per SF per year full service). This disparity between the cost of new construction and market rents is endemic in the current real estate market and explains why no new office construction is occurring. For the DTC, this situation is exacerbated because the cost of construction is typically higher for public institutions due to prevailing wage requirements and higher quality levels (institutions typically build 100 year buildings rather than 30-50 year buildings).

Thus, while there are particular tenant opportunities that the College should continue to evaluate, such as, tenants that have special alliances with the College (like the OSBDN, which is currently included in the concept building program) and tenants that may want to participate in the DTC project in lieu of developing their own new building (Pacific University could potentially fit this description), the inclusion of tenants is unlikely to provide a source of revenue to the College.

Survey of Potential Tenants			
Organization	Current SF	Desired SF	Notes
OR Small Business Development Network	1,540 USF	1,500 USF	Also need approx. 200 sf storage, current lease is month-to-month, will move if in College's best interest
Lane Workforce Partnership	4,000 USF	5,000 USF	Lease ends Dec. 2010, City may purchase building for police dept., need conf. room for 20 (not shared)
Pacific University	8,874 RSF	12-15k RSF	Move would occur concurrent with expansion of programs in Eugene

Definitions:
USF-Usable square feet, the private space that tenant uses to house their own personnel, furniture and equipment
RSF-Rentable square feet, includes a proportion of the building's common area, i.e., lobbies and restrooms, typically calculated by adding a load factor to the USF
GSF-Gross square feet, total square footage in the building, includes non-rentable square footage (vertical penetrations)
NNN lease-Tenant pays all expenses
Full Service lease-Landlord pays all expenses

6. Housing Feasibility

Although Lane Community College does not currently have student housing, the College recognizes the potential benefits of including a student housing component as part of the Downtown Campus project. Student housing at the DTC would be expected to support the College's growing international student enrollment. Other target groups for a student housing project at the DTC include: a subset of the College's full-time credit students, dual enrolled students at the College and the University of Oregon, University of Oregon students who want to live downtown, and students enrolled in the College's Energy Management Program. The housing is intended to target these particular subsets of the College's student population who are more likely to be able to afford the rents associated with a new, downtown high quality housing project. The housing would also increase the resident population in the downtown core, which would significantly bolster the City of Eugene's efforts to revitalize the area.

In 2009, the College engaged housing market consultant Campus Advantage from Austin, Texas, to determine whether sufficient demand exists for new student housing in the downtown core. Campus Advantage's study assumed a project with 350 beds and concluded that the project is viable. The Campus Advantage study is included in the Appendix of this report.

It was decided early on that the housing would have to be wood frame construction over a concrete podium to improve the probability of its economic feasibility. This construction type is significantly less expensive than concrete or steel construction, which is what would have been required in order to put the housing component of the project above the College component. The resulting number of beds (195) is based on what could comfortably fit on the site assuming the housing component's location adjacent to the College component, rather than on top of the College component. In addition to the residential units, the student housing component includes community/amenity spaces to serve its residents, including a large lobby with meeting space and an office for the property manager, laundry rooms, lounge/study areas, small fitness room, bicycle storage and a cooperative bicycle workshop.

An economic feasibility analysis was conducted to determine whether the anticipated revenue from the housing would be sufficient to cover debt service. The analysis determined that the housing should continue to be included in the project and studied further. The economic analysis is described in the remainder of this section.

The proposed unit mix, square foot per unit, and rents is summarized in the table below. Based on their analysis of the market and comparable projects, Campus Advantage identified the following rent ranges as achievable for the project: studios at $875-919 per bed per month; two bedroom units at $675-709 per bed per month; and four bedroom units at $600-630 per month including all utilities (assumes an allowance for utilities of $50 per . The proposed rents for the College project are within these ranges.

Two other Oregon Community Colleges offer student housing: Central Oregon Community College and Southwestern Oregon Community College. According to Central Oregon Community College's website, rent per bed per month in double dormitory style housing (i.e., no kitchens and group bathrooms) for the 2009-2010 academic year was about $475. If you escalate this amount at 3% a year for three years, rents for the 2012-2013 academic year would be approximately $520 per bed per month. According to Southwestern Oregon Community College's website, rent per bed per month for a private bedroom in apartment style housing for the 2009-2010 academic year was approximately $455 (assuming that 60% of the total cost for room and board is attributable to room). If you escalate this amount at 3% a year for three years, rents for the 2012-2013 academic year would be approximately $497 per bed per month.

At Green River Community College in Auburn, Washington (cited by the Campus Advantage study as a comparable project) rents for private bedrooms in four bedroom, two bathroom apartment style units was approximately $669-732 per bed per month for the 2009-2010 academic year. If you escalate this amount at 3% a year for three years, rents for the 2012-2013 academic year would be approximately $731-800 per bed per month. In general, when the type of housing and local market conditions are taken in to account, the rents proposed for the DTC housing seem in line with projects at other Community Colleges. In addition, as detailed in the Campus Advantage study, rents for relatively new construction in downtown Eugene or close to the University of Oregon are in line with the rents proposed for the DTC housing.

Unit Type	Number of Units	NSF per Unit	Beds per Unit	Total Beds	Rent per Bed per Month	Rent per Unit per Month	Annual Revenue
Studio	19	331	1	19	875	875	199,500
2 BR 2 BA	24	678	2	48	690	1,380	397,440
4 BR 2 BA	12	1,118	4	48	620	2,480	357,120
4 BR 2 BA	20	1,069	4	80	620	2,480	595,200
Total	75			195			1,549,260

The analysis assumes 12-month leases (or academic year leases and additional income during the summer from leasing units for special programs and conferences). Ancillary revenue includes laundry revenue as well as miscellaneous deposits and charges (for example, damaged or lost access cards and cleaning). Vacancy loss includes vacant units as well as units provided to employees (i.e., resident assistants). Operating expense assumptions are based on budgets provided by Campus Advantage as well as experience with similar projects. Further refinement of the operating expense budget should be undertaken as the project progresses.

It is assumed that the College would finance the housing component of the project via issuing tax exempt full faith and credit revenue bonds. This would provide the lowest cost of capital for the project. Assumptions regarding debt cover ratio requirements (assumed to be 1.0) and interest rates (assumed to be 4.5%) are based on discussion with Seattle Northwest Securities, the underwriter working on the College's current bond. Interest rates are based on today's financial market and are subject to change over time.

Total Annual Gross Revenue	1,549,260
Ancillary Revenue (2.5% of annual gross revenue)	38,732
Less Vacancy (7% economic vacancy)	(108,448)
Less Housing Expenses ($3,000 per bed per year)	(585,000)
Net Operating Income	894,543
Available for Debt Service at 1.0 Debt Coverage Ratio	894,543
Maximum Debt Amount	14,712,342

Based on the assumptions described above, the maximum debt amount that can be supported is approximately $14.7M. The estimated total project cost is $15.6M (section 11 of the report describes the total project cost in detail). One option to address the $900k difference, or 'gap,' between the project cost and debt amount could be through rent payments made to the College by the City (for its approximately 3,500 USF) and the OSBDN (for its 1,500 USF). Assuming a 10% load factor and rents of $15 per RSF full service, an additional $1.3M could be financed, more than enough to cover the gap.

It was noted that there are currently privately owned and financed student housing projects being developed in Eugene, and the question asked as to how these projects could be economically feasible given the 'gap' found for the DTC housing component. The answer is that the private market projects

will be constructed at a lower cost because these projects will not require prevailing wage and will not have the same level of quality. The DTC housing component, while economical, is of institutional quality, includes an efficient mechanical system and is targeting LEED gold.

A sensitivity analysis was conducted to understand how the 'gap' would be impacted if the actual rents, vacancy, operating expenses, or interest rate were different than the preliminary estimated proforma. This can be considered a measure of the risk to the College of undertaking the housing in that if the revenue is insufficient to cover the debt payment, the College would be required to cover the shortfall from other sources. The summary of this analysis is included below.

Regarding the interest rate, while today's interest rate for full faith and credit bonds issued by the College would be about 4.5%, historically, the rate for the College would be closer to 5.0%. The Appendix includes a graph provided by Seattle Northwest Securities that shows the 20-Year AAA MMD from 2000 through current. The graph shows that since 2000, the rate was typically around 4.5%. The current rate of 3.8% is especially low. The College's rate is typically 50 basis points higher than this measure. While interest rates are not anticipated to increase during 2010 while the recession continues, once the economy begins to grow, it is likely that rates will increase. Thus, the further in the future that the bond issuance for the housing occurs, the more likely that interest rate could be higher than 4.5%.

Scenario	Approx. Gap
Base scenario	900k
Rents 2% lower	1.40M
Rents 4% lower	1.88M
Vacancy at 8% instead of 7%	1.16M
Operating Expenses 4% higher	1.30M
Operating Expenses 8% higher	1.68M
Interest Rate 5.0%	1.74M
Interest Rate 5.5%	2.49M

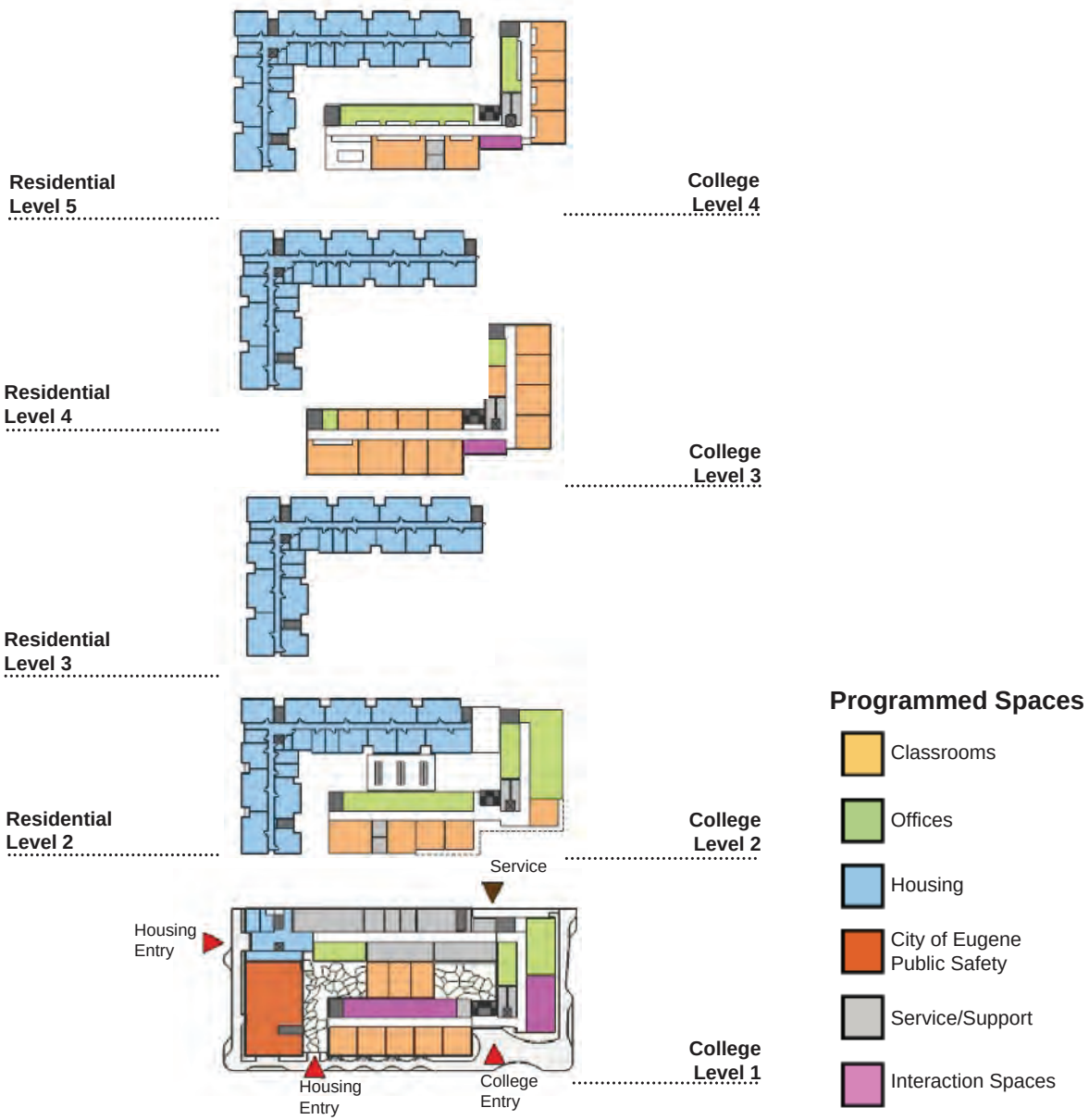
7. Analysis & Design

INTRODUCTION

The proposed new Lane Community College Downtown Campus (DTC) will replace an existing facility that has served its useful life and is lacking in terms of accessibility and physical condition. The project is unique in that the College seeks to create not only a functionally efficient, state-of-the-art educational facility, but also because the College wishes to achieve very high levels of project sustainability. The project's proposed site in the heart of downtown Eugene – on the vacant half-block on the north side of 10th Avenue between Olive and Charnelton streets – has long been targeted for dense, mixed-use development by the City. The proposed DTC would clearly achieve the City's vision for this site.

The proposed development will accommodate the College's programs currently located at the existing Downtown Center at 11th and Willamette including continuing education and short-term training. The programs currently located at the Wildish Building at 14th and Willamette, including Business Development and Employee Training, and senior programs, will also occupy the new building. In addition, components of the Energy Management Program currently located on the main campus are proposed to relocate to the new DTC. Other possible tenants and uses addressed in this report include City agencies, commercial ventures and student housing. The envisioned DTC is targeted to achieve a LEED platinum certification. The building design will enable the building itself to serve as teaching tool for the College's Energy Management Program.

The College's board approved the 10th and Charnelton site in September 2009 as the preferred location to construct a signature building that meets the College's goals of learning and sustainability while also contributing to downtown redevelopment. Toward this latter goal, the project proposes the inclusion of a student housing component in addition to its academic facility. The introduction of new housing downtown will add significantly to the resident population there and further the City of Eugene's efforts to revitalize its core.


Residential
Level 5
College
Level 4
Residential
Level 4
College
Level 3
Residential
Level 3
Residential
Level 2
College
Level 2
Service
Housing
Entry
College
Level 1
Housing
Entry
College
Entry
Programmed Spaces
Classrooms
Offices
Housing
City of Eugene
Public Safety
Service/Support
Interaction Spaces

PROGRAM & AREA SUMMARY

The space needs for all of the functional components result in a projected total area requirement of approximately 166,500 gross square feet (gsf), and includes the following components:

Program Component	Space Requirement	
Lane Community College Academic Program Spaces and Support Areas	85,016	gsf
City of Eugene/Oregon Small Business Development Network	5,000	gsf
Student Housing	76,432	gsf
Total	**166,448**	**gsf**

The appendix to this Feasibility Study includes the detailed Facility Program, which is a description of the space requirements for the project. This information is essential because it helps to define key parameters of the design problem before detailed design itself occurs. The program describes the activities of each faculty, department or unit (it can be all of these combined) and the student, staffing, and support requirements to properly carry out these activities. The Facility Program took into account the College's current standards for office and classroom sizes to develop the overall net assignable space that is required to support the educational and other services that will be provided in the proposed new Downtown Campus Building.

Below is a summary of the programmed instructional space:

Instructional Spaces	Quantity	Capacity/Each	Total Capacity
Classroom, Small	8	20 Students	160 Students
Classroom, Medium *	10	30 Students	300 Students
Classroom, Large	5	40 Students	200 Students
Classroom, Massage	1	20 Students	20 Students
Classroom, Nursing	1	30 Students	30 Students
Computer Labs	2	20 Students	40 Students
Conference / Seminar Rooms	4	20 Students / Staff	80 Students / Staff
Center for Meeting and Learning	3	60 Students / Participants	180 Students / Participants
Total	**34**		**1,010 ** **

***** Medium Classrooms will be paired with operable partitions to create additional Large Classrooms.
****** The facility will have a capacity of 1,010 students at any one point in time. As a comparison, the existing Downtown Center has 35 instructional spaces with a capacity of 736 students.

The program document also permits comparison of the College's Downtown Campus' requirements against those of other faculties and units on campus as well as against spaces of similar types to determine that the space requirements are reasonable, fair, and a proper utilization of available resources. Importantly, the program identifies design objectives and organizational goals that will influence consideration of the various design options.

For clarity and ease of use, the detailed Facility Program is organized by functional or administrative components that together comprise the Downtown Campus building. In addition, the program lists the space requirements for the College's Center for Meeting and Learning, and the City of Eugene, who will lease space within the facility for a Public Safety Station. Finally, while the program summarizes the proposed residential component for the project, information regarding how the exact composition and number of the unit types was determined is included in the Housing Feasibility section of this report.

THE COLLEGE'S MISSION STATEMENT

The new Downtown Campus Building is expected to advance the overall mission of Lane Community College, which is to be a learning-centered community college that provides affordable, accessible, high-quality, lifelong educational opportunities that include: professional technical and lower division college transfer programs; employee skill upgrading, business development and career enhancement; foundational academic, language and life skills development; lifelong personal development and enrichment; and cultural and community services.

The College's vision is to provide educational opportunities that meet the goals of all current and future students. Recognizing that a cooperative working atmosphere affects its ability to provide a positive learning environment, the College is dedicated to comprehensive and respectful service. For more than forty years, Lane has been "transforming lives through learning." The new DTC will significantly enhance the realization of this vision.

PROJECT GOALS

In the Request for Proposals for the Feasibility Study, the College summarized the principal goals of the DTC project as follows:

- Mission, Vision, Core Values and Strategic Directions
- To achieve a Platinum LEED certification and meet as many Living Building Standards as are practically and economically possible
- To be a building that teaches
- To be a good neighbor

One of the goals of the first Steering Committee workshop was to delve deeper into the vision, aspirations and priorities for the DTC project. The project stakeholders (represented by the Steering Committee) embody a variety of interests and perspectives, and the Project Team hoped to develop a consensus around key goals and priorities, against which future decisions about the project could be analyzed. To solicit input from Steering Committee members, the Project Team conducted a brainstorming session posing questions such as:

- How does this architectural project fit into the broad picture of the College's future in downtown Eugene?
- What should be the aesthetic and psychological impact of the design? How should it relate to the surroundings?
- What major functions will take place in the building? How many people are to be accommodated? How might the building design enhance or impact occupant interactions?
- What is the total project budget? What is the attitude toward initial costs versus long-range operating and maintenance costs? What level of quality is desired (often stated in relation to other existing projects)?
- What is the attitude toward conservation of resources and sustainability (energy, water, etc.)?
- When is the project to be occupied? What types of changes are expected over the next 5, 10, 15, and 20 years?

The following are answers received during the session:

General Goals

- Achieving a sustainable project, both ecologically and fiscally
- "Partnering" with users
- Creating a building that is a teaching tool; providing "teachable moments"
- Engaging in "change management"
- Managing expectations
- Ensuring clear communications with project stakeholders
- Thinking outside the box
- Avoiding competitive conflicts with the private sector
- Achieving the "triple bottom line" (environment, economics, equity)
- Incentivizing good behavior

Lane Community College Goals

- Bringing a mission to downtown
- A facility that supports Lane Community College's programs
- Ease of maintenance
- Cross-collaboration, synergy
- Net zero waste
- Support for marginalized students
- Supporting an enhanced international program
- Establishing a "brand" with the project
- Remembering who the student population is

- Providing functionality for students, staff, occupants
- Creating an innovative landmark
- Creating a welcoming, accessible building
- Creating environmentally friendly spaces
- Considering users with environmental sensibilities
- Planning for flexibility
- Engaging the business community
- Creating a high performance, internationally recognized facility
- Achieving buy-in by users
- Enhancing adjacent buildings
- Minimizing life-cycle costs
- Providing more credit course offerings downtown.

City of Eugene Goals

- Generating a hub of activity
- Magnifying the economic benefit of the College
- Realizing a model of sustainability
- Convincing people that walking from parking is OK
- Engaging Eugene Public Library users

PROGRAM COMPONENTS

As stated above, the new DTC will accommodate several distinct programs, each with its own, unique requirements. The following is a brief summary of these programs. All typically require general or specialized classroom or laboratory spaces, faculty offices, and administrative support spaces. More detailed information regarding each is contained with the appendix to this Feasibility Study.

CONTINUING EDUCATION

Continuing Education offers hundreds of non-credit courses to enrich the lives of the residents in and around Lane County. Topics include career exploration and training as well as art, music, financial and retirement planning, health and wellness, recreation, sign language, real estate, massage, health occupations, photography, foreign languages, cooking, computers, dance, sewing, and much more.

Enrollment in most courses is open to any interested person over 16 years of age. A few courses have prerequisites. Instructors are practitioners in the subjects they teach.

ADULT BASIC & SECONDARY EDUCATION

Adult Basic and Secondary Education (ABSE) classes are designed for adult learners who need to learn or re-learn basic reading, writing, math, or employment skills. ABSE students come from many walks of life, and are attending our classes for many different reasons. ABSE students include:

- Adults and teens preparing for the GED tests
- College-bound students who want to improve their scores on Lane's placement tests or the Ability to Benefit test
- Individuals in and out of the workforce who want to increase their employability
- English language learners who want to improve their reading and writing skills
- Students with developmental disabilities who are learning employment and life skills

Instruction can be self-paced or guided through structured classes, individualized assistance, or small group work. Class times are flexible and offered days and evenings, from 8:30 AM to 8:30 PM.

ENGLISH AS A SECOND LANGUAGE

The English as a Second Language (ESL) Program at Lane Community College provides intensive English language training to a wide cross-section of residents in Lane County. This program enrolls students from more than 40 different nations and features staff who are highly-qualified and culturally-sensitive to the needs of second language learners.

ESL currently offers classes on the 30th Avenue campus during the day and downtown at night. This arrangement will continue after completion of the new DTC building.

ENERGY MANAGEMENT

The Energy Management Program is a curriculum that combines the principles of basic physics with energy analysis techniques. Students in the Energy Management Program gain a working understanding of energy systems in today's built environment and the tools to analyze and quantify energy efficiency efforts. The program began with an emphasis in residential energy efficiency/solar energy systems and has evolved to include commercial energy efficiency and renewable energy system installation technology.

The College offers three 2-year degree programs (Associate of Applied Science) in the areas of Energy Management, Renewable Energy, and Resource Conservation Management. Under Energy Management there is also a degree option in Water Conservation.

The Energy Management Program has operated outside of the general fund since 1998 but now enjoys some support from the college. The program's business plan objectives include construction of a new energy management demonstration building. This was originally conceived of as a new building on the main campus and is now proposed to be included as part of the new DTC building.

The program currently has an enrollment of 90 students in three sections.

SUCCESSFUL AGING INSTITUTE

The Successful Aging Institute (SAI) at Lane Community College provides lifelong learning opportunities for adults of all ages. Students explore new careers, including those related to work with older adults. They cultivate new skills in small and inviting learning communities and enjoy stimulating interactive courses in a variety of disciplines. The Institute also offers on-site training, tailored for those working in senior-related businesses.

SENIOR COMPANION PROGRAM

For more than thirty years, the Senior Companion Program (SCP) has recruited, extensively trained, and placed low-income federally-stipend supported senior volunteers (Companions) with agencies and care facilities throughout the county that serve frail seniors and disabled adults.

Approximately 40% of the Companions serve the rural elderly. The SCP has a two-pronged goal: to provide opportunities for Companions to give meaningful service to their communities and to provide companionship services to those at high risk of losing their current level of independence and autonomy.

SCP is part of the National Senior Service Corps and is funded in part by the national government and by the local communities of Lane County.

BUSINESS DEVELOPMENT CENTER

The Business Development Center is a premier provider of customized workplace training for employers. The Center assists local businesses, from start-up to established business operations, to; meet their specific learning requirements. The programs are tailored for each individual organization in a variety of training formats to ensure local businesses remain productive and prosperous. The Center works with client organizations to schedule skills-based training sessions for any time during any shift either at the client's location, at the Center or at other locations convenient for the employer.

The Business Development Center currently operates out of donated space in the Wildish Building at 1445 Willamette Street, next door to the Eugene Chamber of Commerce.

OTHER COMPONENTS

In addition to the programs listed above, the College expects to accommodate several other functional components and their associated space requirements as part of the new DTC. These include the following (more detailed information may be found in the Facility Program in the Appendix):

ENROLLMENT AND STUDENT FINANCIAL SERVICES

The Enrollment and Student Financial Services (ESFS) department at the College provides information and assistance on admissions, registration, financial aid and other enrollment-related services.

CENTER FOR MEETING & LEARNING

The College's Downtown Center for Meeting and Learning (CML) will be a contemporary event facility that accommodates campus, community, and regional events of all types. The Center will feature main event space, breakout rooms, a computer lab, demonstration kitchen, and a spacious lobby. The Center will feature professional, full-service, in-house catering and is a learning lab environment for Culinary Arts and Hospitality Management students at the College. The CML is the only program in the Northwest accredited for event management and culinary arts.

The CML receives no operational funding from the College general fund and is a net revenue generator for the College.

LANE COMMUNITY COLLEGE BOOKSTORE

The proposed bookstore at the DTC will not be a bookstore in the traditional sense; rather, the preferred concept is similar to a convenience store and service center (fax, print service and copies, with some self-service capabilities). Students would order books online. The books would then be delivered to the DTC and picked up by the student. This approach eliminates the need to store book inventory and therefore, space requirements are minimized. Students would also download and print out course materials as needed.

The store would also offer limited food service including 'grab and go' service of refrigerated items. Drip coffee only would be provided, not espresso, to avoid competition with nearby private-sector vendors (such as the Novella Café in the Eugene Public Library entry garden).

CITY OF EUGENE / OREGON SMALL BUSINESS DEVELOPMENT NETWORK

The City of Eugene is interested in locating a Public Safety station in the Downtown Campus Building. The new station would be a critical hub for programs and services focused on the downtown area, providing access to police services and increasing police presence in the area. A Public Safety station previously occupied space at the Lane Transit District Downtown Station (a block away from the DTC site), but it was closed in 2008. With the likely relocation of the Eugene Police Department main station outside of downtown, a new home for a Public Safety station in the downtown core area is a City of Eugene priority.

The Oregon Small Business Development Network is a partnership program of the US Small Business Administration in association with the Oregon Economic Community Development Department and Lane Community College. The program operates a network of 19 service centers throughout the state. The Eugene center is currently located in the Atrium Building. They provide comprehensive business management assistance, training, resources and information services to the business community.

BUILDING SUPPORT SPACES

Areas required for the building's operation, as well as circulation to and from the various program components, are categorized as building support space. These spaces include but are not limited to: building lobby, loading dock, elevators, stairs, mechanical and electrical rooms, bike lockers, exit hallways, water storage tanks, and other spaces required to support technologies.

STUDENT HOUSING

The DTC project offers the College the opportunity to provide housing to serve its students. The inclusion of student housing in the DTC project would also make a significant contribution toward the City of Eugene's goal of creating a vibrant, 24-hour downtown. As the College's role evolves toward serving an ever-broadening and demographically diverse student body, including a growing international student population, the availability of convenient, affordable, and safe housing where residents participate in a supported learning environment, is viewed as increasingly vital to achieving the College's mission.

The College does not currently offer on-campus housing for their students, nor do they refer or place students in housing. The College does, however, have a "Housing Information" website that students reference to find rental properties in the area. Students who are dually enrolled at both Lane Community College and the University of Oregon (UO) may live in UO on-campus housing.

GENERAL PROGRAM ISSUES

A primary issue relevant to the feasibility of the new DTC was the need to reconcile the size of the proposed building with the reality of the project budget. In order to conform to the target budget, a prioritization of functional needs was required. This resulted in the identification of space efficiency strategies that resulted in a lower square footage requirement without compromising the College's overall institutional mission and specific goals for the DTC.

Key strategies were to encourage sharing of common functional spaces and to optimize classroom use through efficient scheduling. This facilitated significant reductions to the program total square footage, while continuing to satisfy the functional requirements. Fundamental aspects of these strategies are detailed below:

OPTIMIZING SPACE UTILIZATION

- The list of space requirements submitted by the departments was scaled back by the College prior to presentation to the Project Team.
- There will be a consistent policy toward office space allocation. Considerations include the facts that contracted faculty have traditionally had private offices and have a lot of possessions (so locking file cabinets alone may not be sufficient storage assuming a shared office arrangement.

SHARING OF COMMON FUNCTIONAL SPACES

- Scheduling of common functional spaces (i.e., classrooms and conference rooms) is the key to space efficiency.
- Flexible use of spaces is critical. Where practical, spaces will be shared across department lines.
- Sharing of open office areas may be necessary in order to meet sustainability goals (such as daylighting and passive ventilation) and to economize on space.
- It may be an all or nothing proposition: private offices or shared spaces. If the shared spaces are attractive, that could help. Attractive examples of shared spaces will be presented.
- Shared spaces improve collaboration and foster a richer line of communication. This is the way the future will work.
- Workrooms, staff lounges, and storage areas are typically assigned to each department (home to mail slots, department copiers, fax machines, etc.) but can be shared by multiple departments.
- Conference rooms can be shared and the design will distribute them throughout the building. Classrooms can be used for meetings if they are available.
- The building will be generally scheduled (conference rooms, classrooms) rather than assigning rooms to individual departments to schedule to ensure maximum utilization of space.

FUTURE EXPANSION

The program initially proposed the construction of some flexible space that would be leased by the City of Eugene for administrative office use for a period of time (i.e., five to ten years) and, at the expiration of the City's lease term, would provide expansion space for the College. However, the target project budget precludes the inclusion of additional built area, so the program and Conceptual Design does not include this added space.

The potential for future expansion is thus limited to the possibility of the College eventually occupying the space earmarked initially for use as the Eugene Police Department's Downtown Public Safety Station. Again, the scenario envisioned is one wherein the City would construct a new City Hall that would accommodate a Public Safety Station, freeing the 3,500 square foot space within the DTC for use by the College.

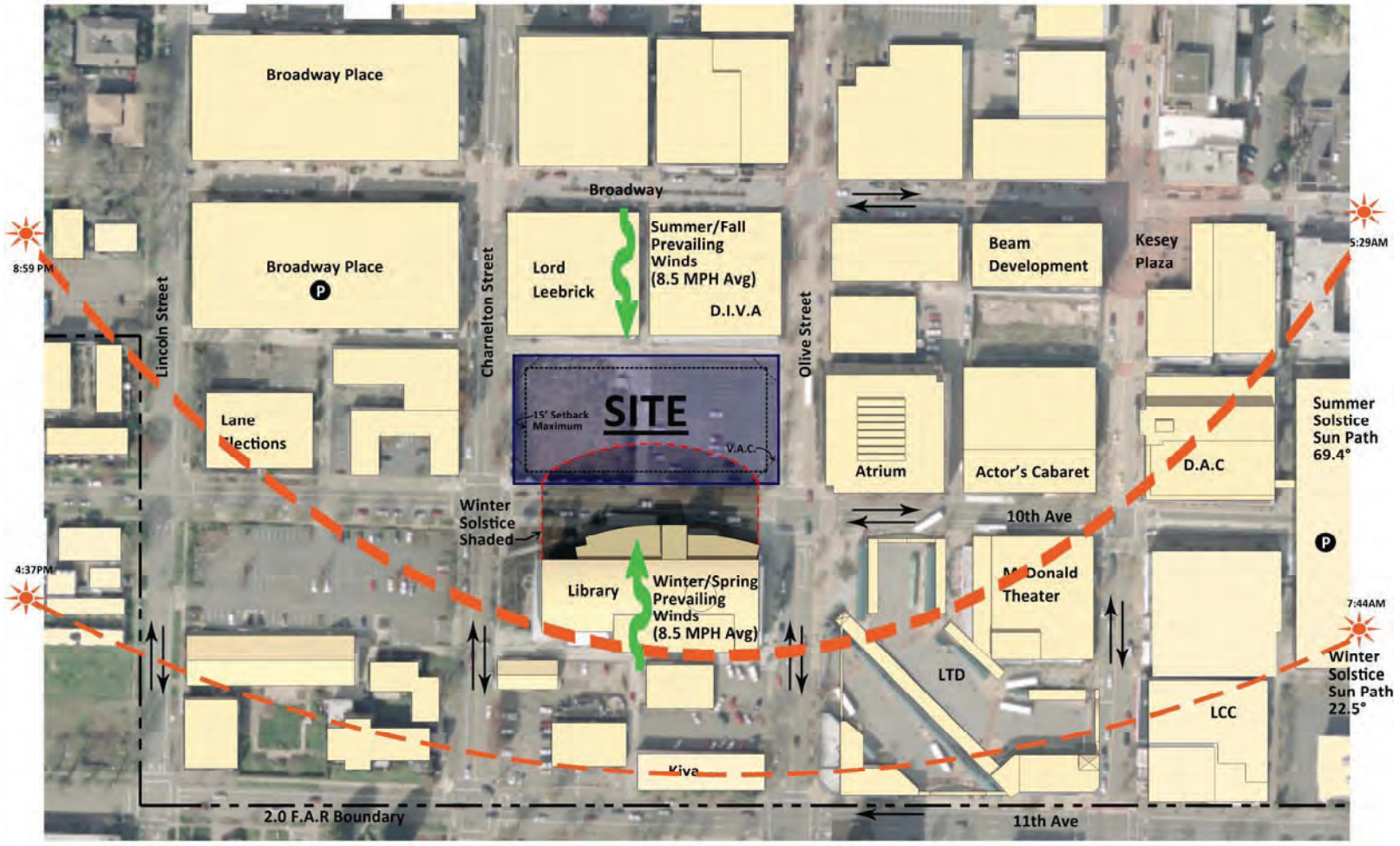
PROJECT PHASING

Possible phasing of the project may yet be contemplated if deemed necessary to allow immediate construction of functional components within the limits of the available budget. The most likely strategies include:

- Construction of some "shell" space only, deferring finishing and outfitting of functional areas until funding is available
- Deferring initial construction of a functional component of the project

PARTNERSHIP WITH THE CITY OF EUGENE

As mentioned in the Introduction, Lane Community College has forged a collaborative approach with the City of Eugene to ensure that the plans for the DTC are consistent with the City's vision for a strong, active, and distinctive urban center.


Broadway Place
Broadway Place
Broadway
Lord
Leebrick
Summer/Fall
Prevailing
Winds
(8.5 MPH Avg)
D.I.V.A
Lincoln Street
Charnelton Street
Olive Street
Beam
Development
Kesey
Plaza
8:59 PM
5:29AM
15' Setback
Maximum
SITE
V.A.C.
Lane
Elections
Atrium
Actor's Cabaret
D.A.C
Summer
Solstice
Sun Path
69.4°
Winter
Solstice
Shaded
10th Ave
4:37PM
Library
Winter/Spring
Prevailing
Winds
(8.5 MPH Avg)
Donald
Theater
7:44AM
LTD
Winter
Solstice
Sun Path
22.5°
LCC
Kiva
2.0 F.A.R Boundary
11th Ave

SITE ANALYSIS

SITE DESCRIPTION

The selected site for the proposed DTC is a prime half-block parcel in downtown Eugene bounded by 10th Street to the south, Olive Street to the east, Charnelton Street to the west, and a mid-block alley to the north. The approximate site dimensions are 161 feet in the north to south direction and 334 feet in the east to west direction. Overall site area is thus 53,774 square feet (1.23 acres). The site is owned by the City of Eugene. The City has vacated the mid-block North-North alley that would otherwise bisect the site.

The site is presently undeveloped: its eastern half is leased from the City and operated as a parking lot by Diamond Parking Services; the western half is occupied by the notorious "Sears pit," which is the exposed basement of the former, now demolished, Sears Department Store that stood on the site between the 1940s and 2006. With the exception of the pit, there is only a modest change in grade across the site, most pronounced along the southeastern and eastern boundaries where the parking lot meets the public right-of-way.

The urban context includes the following significant features:

- The 4-story, 127,000 square feet Eugene Public Library, located to the south of the project parcel across 10th Street. The Library receives an average of 4,300 visitors every day, contributing significantly to street activity in the vicinity during its hours of operation. In addition to three floors devoted to books and reading space, the top floor of the building is occupied by City of Eugene administrative offices, and the basement accommodates 69 public parking spaces. The popular Novella Café occupies the Library's glassy entry garden that faces north toward the east end of the DTC site. The Library has been in use since 2002.
- The Lane Transit District Eugene Station, located caddy-corner to the southeast of the DTC site, is the primary bus station and terminus in Eugene, serving the buses of the Lane Transit District (LTD). The station covers most of a city block, and includes a clock tower featuring glass pyramids and arches inset with colorful glass blocks created by local glass artist John Rose. Bus lines include LTD's EmX service and the Breeze to Valley River Center and the University of Oregon. Eugene Station was completed in 1998.

» The City-owned, 3-story Atrium Building stands to the east of the subject property across Olive Street. Presently occupied by City offices (including the City's Planning and Development Department) and various businesses, the building features a large, sky lit, central atrium space often used for public gatherings. The construction of the Atrium Building dates back to the 1970s.

» Broadway Place, situated west and northwest across Charnelton Street from the site, is a mixed-use residential apartment building constructed over retail and office spaces. The development includes 170 apartments organized around landscaped courtyards atop a 742-space parking structure (owned by the City of Eugene). 14,000 square feet of commercial space wraps around the parking structure at the ground level. Broadway Place was completed in 2000.

» Immediately north of the project site across the alley are properties owned by local property owners and the City of Eugene presently occupied by aging, single-story retail storefront buildings, of which some are vacant. These parcels are underdeveloped with significant potential for future mixed-use redevelopment. In fact, in 2006, a local developer, Connor & Wooley partnered with national real estate firm Opus Northwest, to propose the large mixed-use Broadway District project. The project fell through because of the developer's inability to assemble all of the necessary properties on the adjacent blocks.

Noteworthy specimen trees are not present on or adjacent to the site. The existing street trees are relatively small, with those potentially worthy of preservation limited to the row of trees planted within tree grates along Olive Street. The trees along 10th and Charnelton are distressed, with damaged bark and root systems that are heaving the sidewalks. More information regarding the existing trees is contained in the Landscape Architecture narrative located in the Appendix to this report.

A site plan diagram and site section diagram were prepared at the beginning of design to illustrate climatic context (sun path, rainfall, wind direction) and the allowable zoning envelope (building heights and setbacks). The site section diagram was also used to illustrate issues with allowable building heights on adjacent properties, and the projects building height and shading impacts to the properties north of the LCC site, especially as it related to imperatives in the Living Building Challenge.

SITE HISTORY

The City of Eugene has long sought a developer for the subject property, popularly known as the "Sears site" after the long-standing department store that occupied its western half between the 1940s and 2006. Sears vacated the building in 1989 after completion of its new store at the Gateway Mall in Springfield. The City subsequently purchased the property with the view of ensuring its development in a manner consistent with the City's goals for downtown development and revitalization. The building sat unoccupied for years until it was demolished in 2006 in anticipation of the construction of a new office building for the Oregon Research Institute (ORI). The project fell through (ORI has since planned a new project in the University of Oregon owned Riverfront Research Park), leaving behind the "pit."

Previous to ORI, the City unsuccessfully courted several other developers. The City itself proposed converting the Sears building to be its new downtown main branch of the Eugene Public Library, which ultimately would be constructed as a completely new building across the street. Most recently, in 2008, the City issued a Request for Proposal to developers, attracting several serious plans (including Opus Northwest's six-story, 472-bed student apartment building, and the ultimately selected mixed-use project by WG Development that would fall victim to credit freeze-related financing difficulties).

Information about the site history prior to the Sears Building is included in the environmental site assessment (ESA) conducted by GeoDesign, Inc. during 2005 in association with the then proposed Oregon Research Institute project (a copy of the report is included in the Appendix to this report).

URBAN DESIGN

As noted in the Zoning Code Analysis found in Section 7.5, the site is zoned by the City of Eugene for C-3 Major Commercial use, which permits University or College uses outright. Multi-family housing is permitted subject to an administrative zone verification and Special Development Standards for Certain Uses. Zone overlays include the Eugene Downtown Plan, the Transit-Oriented Development (TOD) zone, and the Downtown Parking Exempt Zone. In addition, the property falls within the Multi-Unit Property Tax Exemption (MUPTE) overlay zone. The MUPTE program is a 10-year property tax exemption established to stimulate the construction of multi-unit housing in the downtown core area, and to ensure use of the core area as a place where citizens have the opportunity to live as well as work. Projects eligible for the tax exemption include new construction, addition, or conversion of rental or ownership multi-unit housing within the MUPTE boundary. Assuming that the College owns the housing proposed to be included in the DTC, MUPTE is not applicable, as the housing would be publicly-owned property.

The site also falls within the Central Eugene (Downtown) Urban Renewal Plan Boundary. The City's Urban Renewal Agency is authorized to assist in the creation of, and participate in, public/private partnerships that result in development or redevelopment. The Agency may make this assistance available as it deems necessary to achieve the objectives of the Urban Renewal Plan. Projects receiving Agency assistance may include, but are not limited to:

- Assisting the construction or expansion of job-creating developments such as the Lane Community College DTC
- Assisting in the development of housing and mixed-use projects like the proposed DTC

The 2000 Vision for Downtown Eugene and the 2004 Downtown Plan outline the preferred attributes of future projects in the downtown core. These include:

- A diverse mix of uses that energize and enliven the streets
- Active ground floors, such as retail and active office spaces
- Dense residential development, preferably owner occupied
- Employment centers offering high-quality jobs and extended hours of occupancy

The City also seeks dense downtown development, which would be consistent with its goal of compact urban growth, countering pressures to expand the urban growth boundary by offering more opportunities for housing and employment within the center of the metropolitan area rather than at its periphery. Intense development of the downtown is necessary to realize the City's vision. The construction of a significant, multi-story, mixed-use structure is consistent with this vision.

1. Downtown Campus Site
2. Library
3. LTD Eugene Station
4. Kesey Plaza
5. Hult Center
6. Park Blocks
7. City Hall
8. East Broadway
9. The Shedd
10. 5th Street Market
11. Federal Courthouse

P. Parking Garage

SITE UTILITIES

Being a downtown urban setting, all necessary domestic water, sanitary sewer, storm sewer, electrical, and natural gas utilities are available to serve the future project.

- Public sanitary sewer service of adequate capacity is located at mid-block at the north side of the site with additional public sanitary sewers located in Charnelton and Olive Streets at the north side of the site.
- Public storm drain systems of adequate capacity are located in Charnelton and Olive Streets. Additionally, there is a public storm drain, which appears to have adequate capacity, located at mid block on the north side of the site.
- Public water services of appropriate size for the provision of domestic and fire protection services to the proposed development are located in the east/west alley at the north side of the site as well as in Charnelton and Olive Streets. There are four existing fire hydrants, located at essentially each of the four corners of the site, which are anticipated to be adequate to provide required site fire protection.
- Natural gas service, which appears to be of adequate size and capacity for the project, is located in Charnelton Street and in the alley north of the site.
- Public steam service provided by EWEB is located in the alley along the north side of the site, but EWEB will be eliminating steam service in the near future, so public steam will not be available to the site.
- No public utility reconstruction or improvements are anticipated except for a new public plaza in the 10th Avenue right of way.

PARKING

The site is located within the parking exempt overlay district in the downtown and no parking is required to be constructed as part of the project. There is however an abundance of available public parking within four blocks. Additional short term on-street parking is also available.

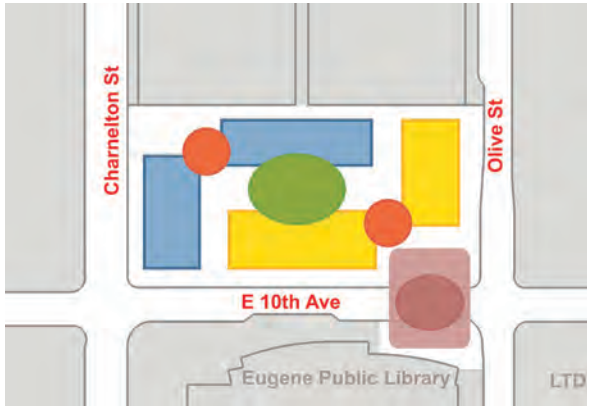
Garage	Capacity
Eugene Public Library	69
Broadway Place	729
Overpark	598
Pearl Street	264
Parkcade	438
Hult Center	520
Total	**2,618**

BIRD'S-EYE VIEW

DESIGN CONCEPT

The LCC Downtown Center is a remarkable opportunity. It has the potential to enhance the existing uses adjacent to the site and to generate a vitality in this portion of downtown Eugene that will benefit LCC, the Library, the Eugene Station and the surrounding fabric of the community. The Library will serve the LCC students and its users will benefit from convenient educational offerings next door. Locating the Downtown Center so close to the Eugene Station delivers students from throughout the city to LCC's doorstep and facilitates easy access to the main campus at the same time. Together these three landmark institutions will infuse each other and this portion of the city with a fresh energy and provide the citizens of Eugene with an unparalleled level of service.

Two "L" shaped buildings are nested on the site in a manner that simultaneously places active uses at the perimeter of the site and shelters an academic courtyard and community gathering place within. One building is devoted to academic functions and the other provides convenient student housing in the heart of downtown Eugene. The college building at 10th and Olive streets will locate the most public uses near the Library and the Transit Center while the student housing located on Charnelton Street will face the residential neighborhood to the west and enjoy views of Skinners Butte to the north. The two buildings will bring together living and learning, creating a holistic learning environment.



At 10th and Olive a plaza shared by the Library and the Downtown Campus provides for both daily "drop-off" functions and a gathering area for community events. It clearly demonstrates the underlying principle of working together to serve a broad cross section of the population. This is also where the primary entrance to the college building will be. The plaza will provide an inviting and active space, and along with the four story glass wall, will establish a strong presence for the College. Student gathering and study spaces inside will overlook the plaza providing additional security.

The buildings share a common vocabulary of materials and details. Charcoal colored brick and glass will be used at the base to establish a strong public streetscape and a podium for student activities on the upper levels. Active educational and civic functions will be located on this level. Above that the buildings each take on a character appropriate to their respective uses. In this way the buildings can express their shared identity and their distinctive characters. The college building will house the Energy Management Program and will incorporate a number of innovative energy efficient building systems that will be employed as demonstrations for the academic programs. It is organized to express the learning environments within as well as their associated daylighting and passive cooling strategies. The

exterior materials will be silver colored metal panels and glass. The housing building will also be very energy efficient and will express clusters of students living within. The exterior materials will be color impregnated cementitious panels and glass. One of building's features will be rolling grills that shade the windows from unwanted glare and heat gain.

The shared meeting rooms and courtyards within the heart of the site will provide an important and flexible resource for the College and community gatherings. The three meeting rooms can be combined into a single larger space through the use of operable partitions in order to accommodate events of different sizes. Operable glass walls facing onto the two adjacent courtyards can be opened to allow freedom of movement between inside and outside for events during good weather. These meeting rooms can also be used in collaboration with the adjacent classrooms and student gathering areas for larger events.

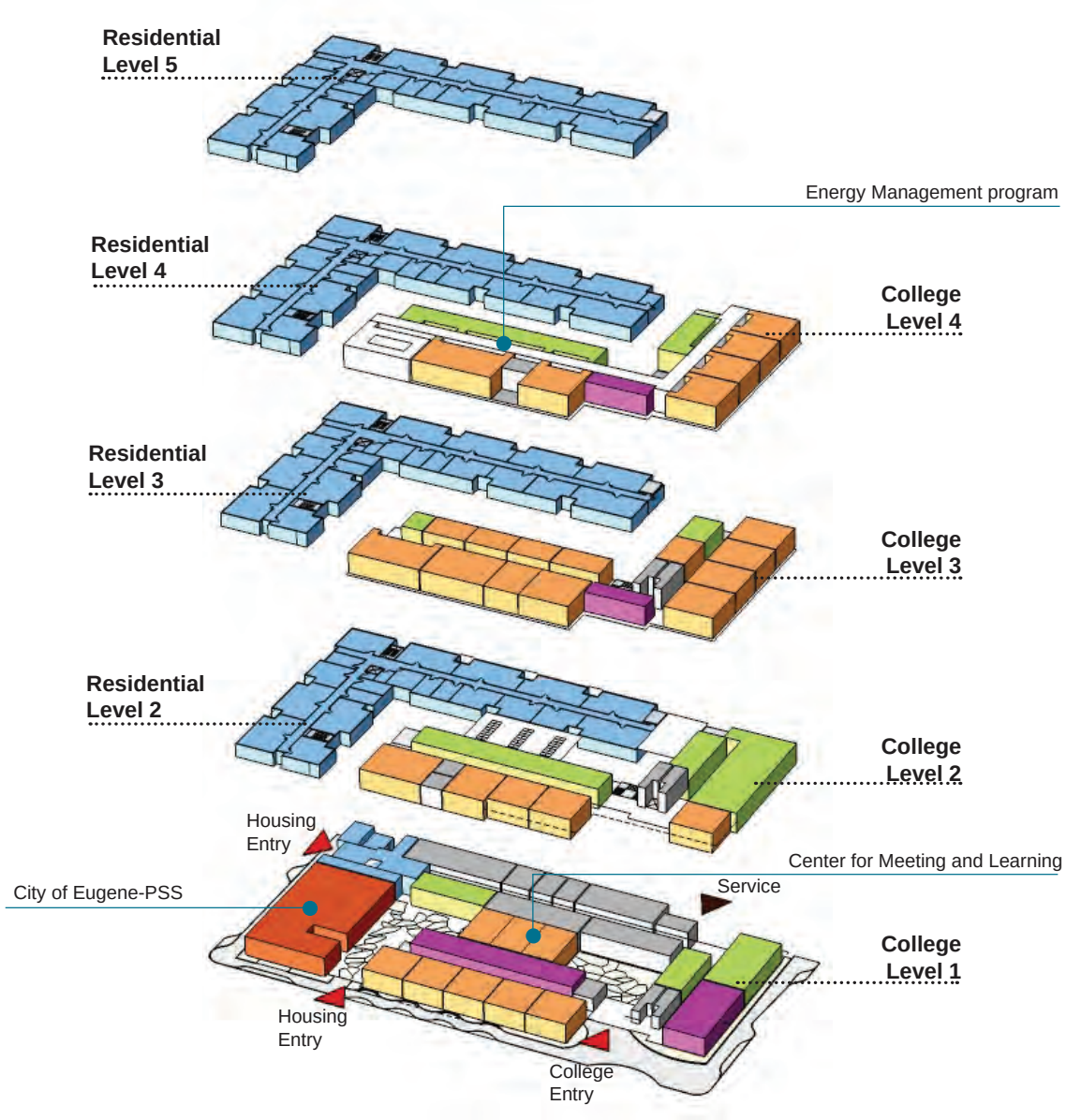
COLLEGE BUILDING

The academic portion will be four stories. The podium level (first floor) will be Type 1A construction with a floor-to-floor height of 18 feet. The upper three floors will be Type 2B non-rated construction with floor-to-floor heights of 15 feet. The third and fourth floors will be 100% passively ventilated, cooled and day-lit. The lower two floors will be passively ventilated (with fan assist) through a four-story central atrium space located at the main entry.

The existing 25,000 square foot basement space (i.e., the "Sears pit") will house rainwater storage tanks. The intent is to provide 70% of the water required to flush toilets throughout the entire academic facility. The remainder of the existing basement will be unused and can be filled if this is the most cost effective approach.

The primary mechanical system for the college building will be a closed-loop ground source heat pump utilizing 50 deep wells below the building.

The exterior material at the podium level on the three public sides is proposed to be dark-colored brick. This base will be recessed about five feet from the walls above, creating a strong shadow line in contrast to the lighter materials above. The upper floors cantilever over this space, giving the additional space to the public sidewalk. The material facing the alley will be CMU. The upper floors of the college building are proposed to be ribbed or metal panels. There will be cantilevered sunshades on the south facade. The walls and roofs will be super-insulated, with R-30 walls and R-60 for the roof.



College Programs

-Energy Management
-Continuing Education
-ESL/ABSE
-Business Development Center
-SAI

- Classrooms
- Offices
- Housing
- City of Eugene Public Safety
- Service/Support
- Interaction Spaces

The structure will be post-tensioned eight inch thick concrete slabs with poured-in-place concrete columns on a 30 foot by 30 foot grid. The roof slab will also be concrete to accommodate passive cooling mass requirements. The roof and fourth floor will be a one way system to address the large daylight/ passive ventilation shafts. They will have a four inch drop panel above each column. The second and third floors may be two way systems if this is more economical.

ACADEMIC ENVIRONMENT

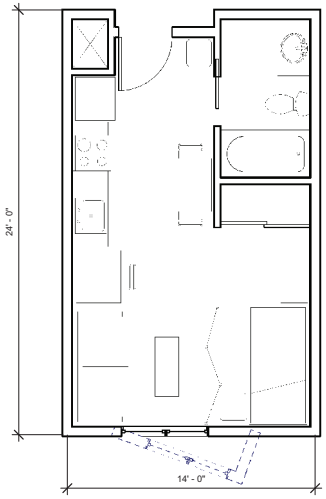
As befits an academic building designed for the 21st Century, the classroom experience for students in the new LCC Downtown Center will be state-of-the art. All of the proposed classrooms will include generous daylighting and natural ventilation as well as full Internet connectivity and incorporation of other technology as required to support the academic mission. The design of the classrooms will also be as flexible and adaptable as possible to accommodate current requirements for optimized facility scheduling while also meeting as yet unforeseen future needs.

Learning in the classroom will be augmented by generous "interaction" spaces – hallways, student lounges, courtyards – where students and faculty can come together in less-structured ways to exchange ideas and reinforce the DTC community. Like the classrooms, these spaces will offer wireless Internet access, and natural lighting and ventilation. They will be designed to be comfortable, enhance orientation, and encourage casual encounters. The interaction spaces will receive as much design attention as any other aspect of the building to ensure that the Downtown Center provides a pleasant environment supportive of the College's programs.

Because of its purpose-built, energy-efficient design, the future Downtown Center will allow the College to better realize its vision of providing life-long educational opportunities to the community for many years to come.

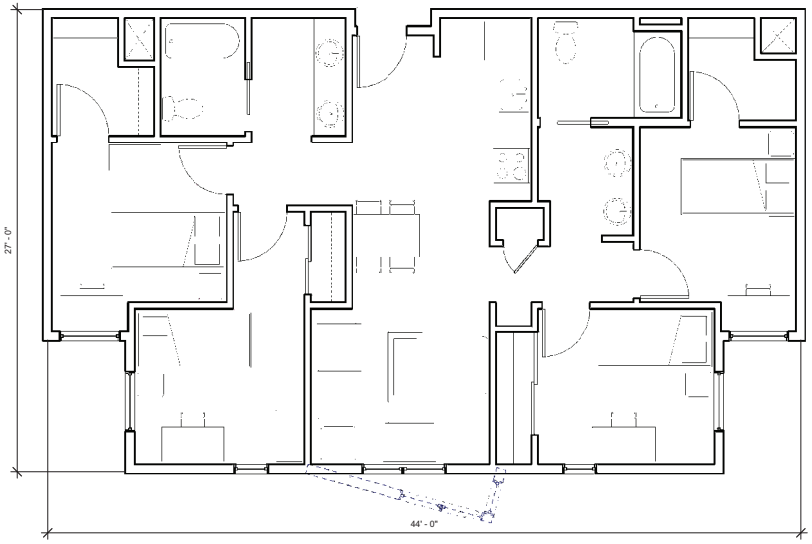
RESIDENTIAL BUILDING

The residential building will occupy 76,432 square feet of space in the development. The housing is proposed to include (19) studios, (24) 2-bedroom/1 bath units, and (32) 4-bedroom/2 bath units for a total of 75 apartments and 195 beds (using single occupancy bedrooms). The configurations and the mix of units, with a prevalence of four bedrooms, was based upon the recommendations of the market analysis, and adapted for building efficiencies.



STUDIO UNIT

2 BEDROOM/1 BATH UNIT



4 BEDROOM/2 BATH UNIT

The residential units are all contained in four stories of standard wood frame Type 5A, one hour fire rated structure built on top of a post-tension concrete podium of Type 1A construction. The floor-to-floor height will be 10 feet (9-foot high ceilings) to allow lofting of beds, enhanced day-lighting and more effective ventilation. Fire sprinklers will be required throughout per National Fire Protection Agency (NFPA) 13. The main exterior material will be cementitious panels ("Hardipanel" or equivalent).

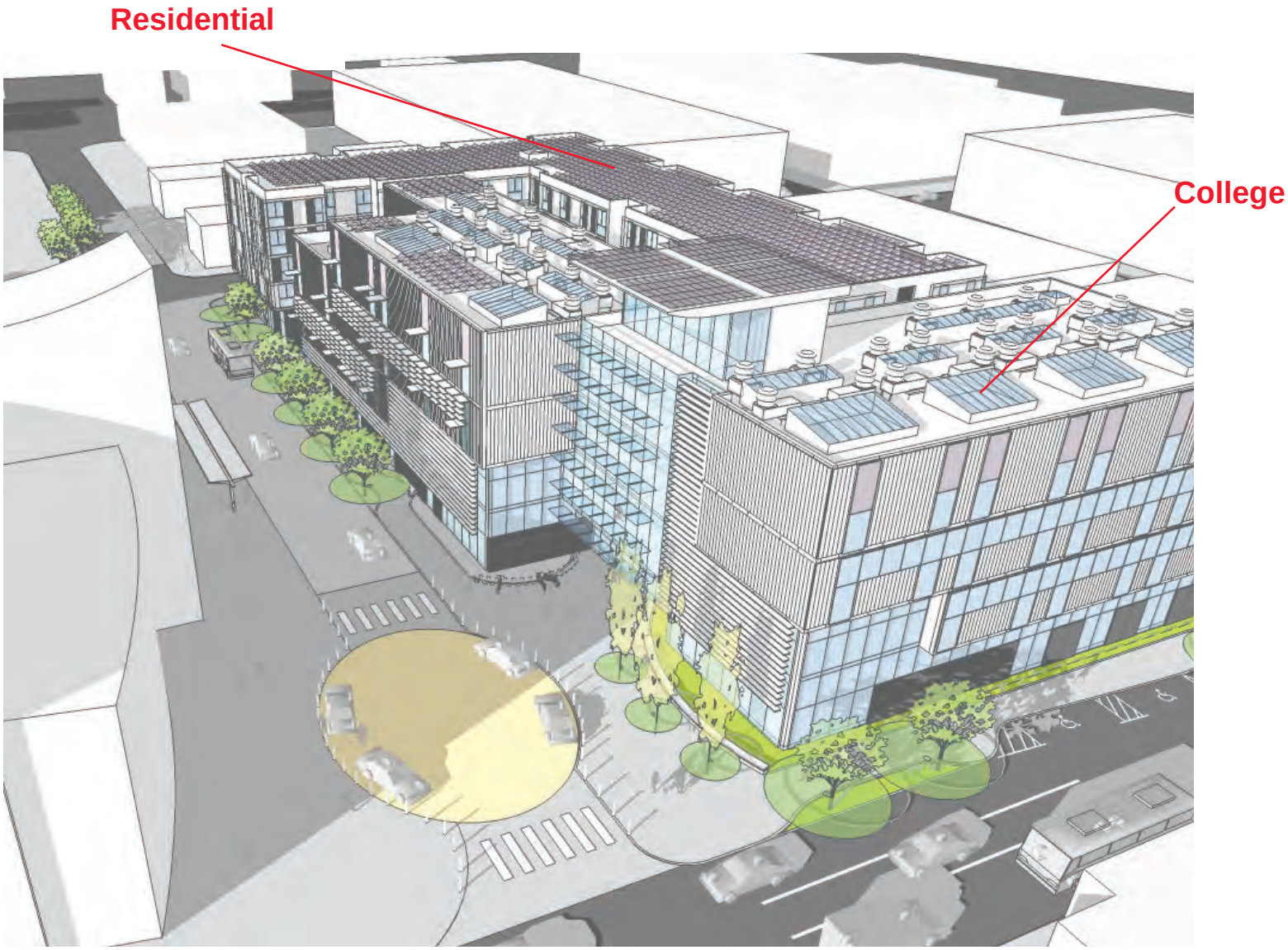
The main lobby for the housing will be accessed off of Charnelton Street, across from the public parking garage, or via the interior courtyard and its entrance on 10th. The housing lobby will be a two story space, giving the housing a street presence. There will be an open stair to the floor above, activating the space and helping to make it secure and inviting. Two exit enclosures located at the building ends, as well as a central stair located at the knuckle of the "L", will serve all floors. One of these stairs will continue to the roof for maintenance access to rooftop systems. All the exterior doors and the elevators will have card-key access control, and where possible will be coupled with exterior gates with access control for the preferred dual-level security configuration. Video cameras are an important option to consider at later planning stages to further enhance student safety, and could easily tie into security systems to be planned for the academic building.

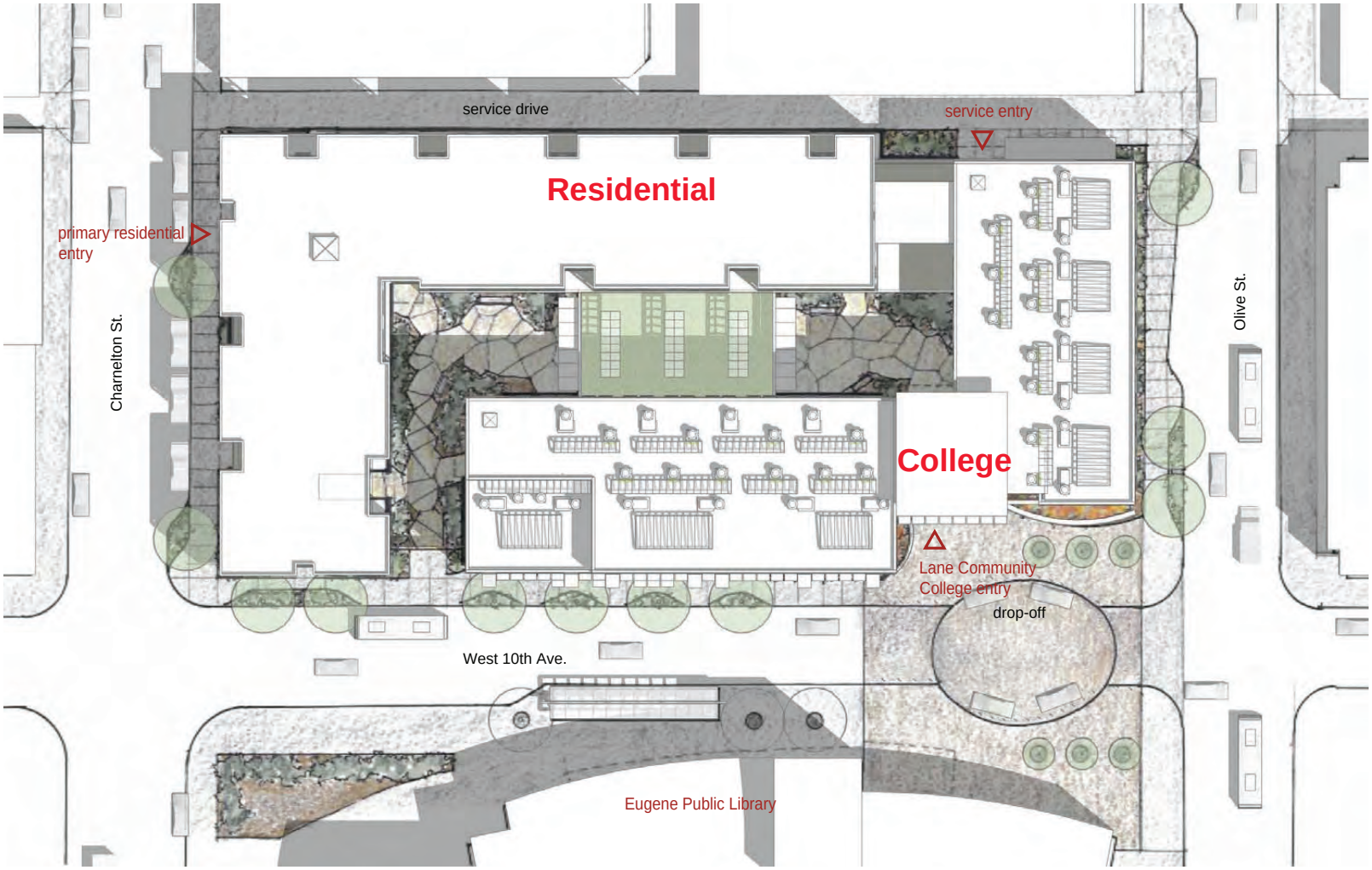
As recommended by the market study, a competitive level of amenity is required to attract prospective students. The very nature of the mixed-use and highly sustainable development will be attractive to students in Eugene. The building design, signage and operations will be programmed and framed to celebrate these enhancements; this is a "cool" and "eco-right" place to live and study! The residential floors will incorporate laundry and study lounges with views into the courtyard. Adjacent to the ground floor lobby, there will be ample secured bicycle storage and a proposed bicycle repair co-op and lounge. The entire building will be wired for hi-bandwidth internet access; wireless as well as dedicated wired outlets for every bed. Maintenance and operations will be assisted by janitorial spaces suited to support regular cleaning of the apartment bathrooms, which is typical in housing owned and operated by an institutional provider.

The interior finishes will be typical for market-rate student apartments, with an emphasis on long term durability and ease of maintenance. The design will strive to provide enhanced ventilation and indoor air quality through the use of appropriate materials and systems. In accordance with building codes and fair housing laws, three apartments (studio, two and four bedroom) will be developed with fully accessible spaces and features to meet both Uniform Federal Accessibility Standards (UFAS) and

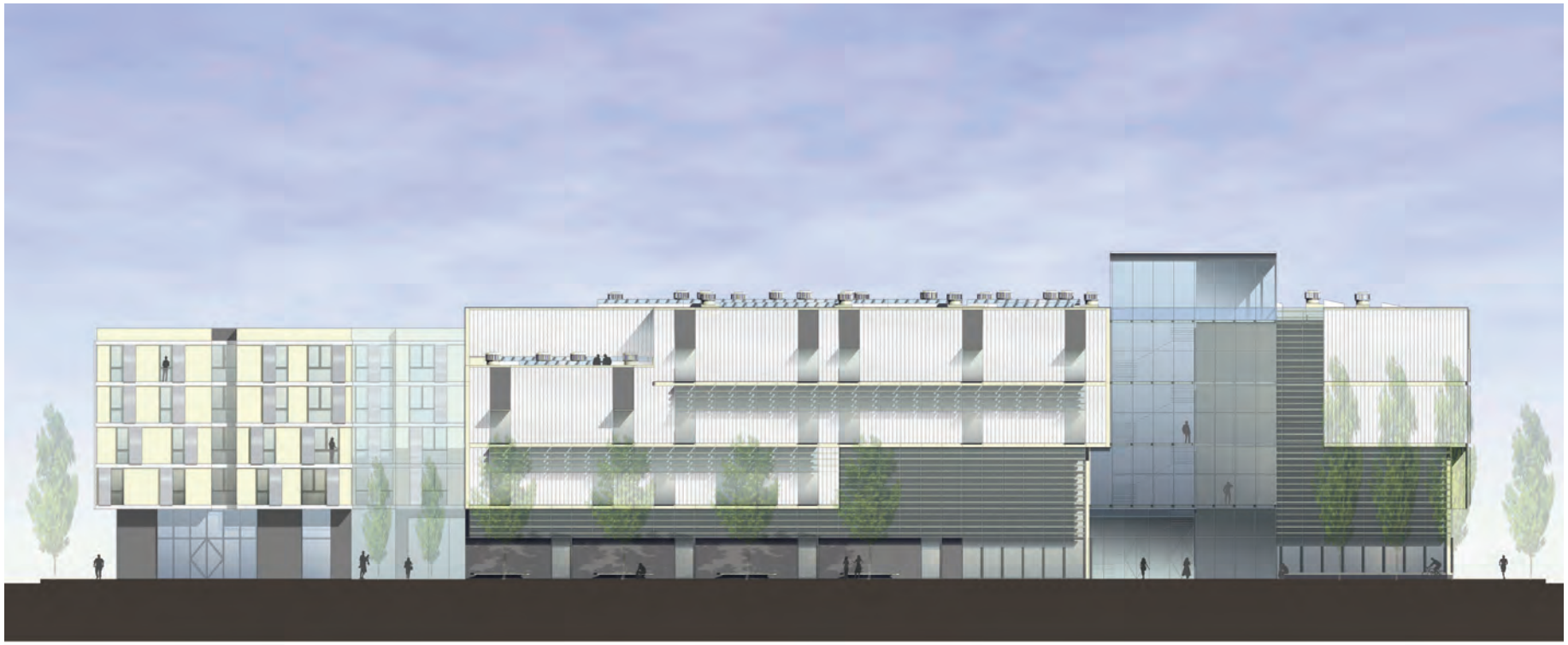
Chapter 10 of the American National Standards Institute (ANSI) A117.1 Type A units. All remaining units will be adaptable and visitable per ANSI A117.1 Type B units. The apartments will be furnished with durable dormitory-grade hardwood furniture. Kitchens will be compact and provided with Energy-Star rated appliances.

The feasibility of the Housing program is tied directly to the density of beds in the project. During the cost analysis stage of this report, the team discussed the possibility of dual-occupancy bedrooms for a portion of the program. A likely configuration would create an enlarged two-bedroom apartment for four students, but in less space then the single occupant four bedroom units. Bedrooms are enlarged for additional closet space and furnishings, while the bathroom is fully compartmentalized to manage compacted usage. Rent for the dual occupant bedroom would be lowered accordingly, but providing more beds per square foot of building space. Further review with market analysts would be recommended to establish the feasibility of the lowered rent, as well as to understand the market interplay of a partial offering of dual-occupancy rooms in a mostly single occupant building.


Residential
College


service drive
service entry
Residential
primary residential entry
Charnelton St.
Olive St.
College
Lane Community College entry
drop-off
West 10th Ave.
Eugene Public Library

SITE PLAN



SOUTH ELEVATION - 10TH AVENUE

EAST ELEVATION - OLIVE STREET

NORTH ELEVATION - ALLEY

WEST ELEVATION - CHARNELTON STREET

COURTYARD - ELEVATION/SECTION LOOKING SOUTH

COURTYARD - ELEVATION/SECTION LOOKING EAST

ENTRY PLAZA

VIEW FROM OF 10TH AND CHARNELTON

INTERIOR COURTYARD

SITE DEVELOPMENT

The development of the exterior portions of the site includes three primary improvement areas: the two interior courtyards, the entry plaza, and the streetscape. The building footprint will fill the entire one-half block to within approximately five feet of the public right-right of- way. The landscapes are proposed to reflect the character of the DTC's urban context and will include decorative paving accents, seat walls, benches, bike racks, bollards, pedestrian lighting, and litter receptacles, trees in tree grates, plantings, and possibly public art. Sustainable components of the site design include permeable paving, flow-through planters for storm water treatment and detention, and a demonstration installation of a Silva Cell stacking system under a paved area to accommodate large soil volumes for urban trees. The planted areas will be comprised of native and native analogue plants selected for drought tolerance, ease of maintenance and seasonal changes. A low volume drip irrigation system to sustain plant growth during summer months will be installed. The irrigation will be connected to the rain catchment system and will utilize this water when not needed for toilet flushing. Alternately this drip system could be fed with collected building greywater. Also in the landscape will be a small self-contained drain field, composed of gravel and water loving plants such as sedges and rush, which will treat the grey water discharged from a demonstration "off the grid" waterless toilets in the building.

Refer to the Cameron McCarthy Gilbert & Scheibe report in the Appendix for further information

MECHANICAL SYSTEMS – COLLEGE BUILDING

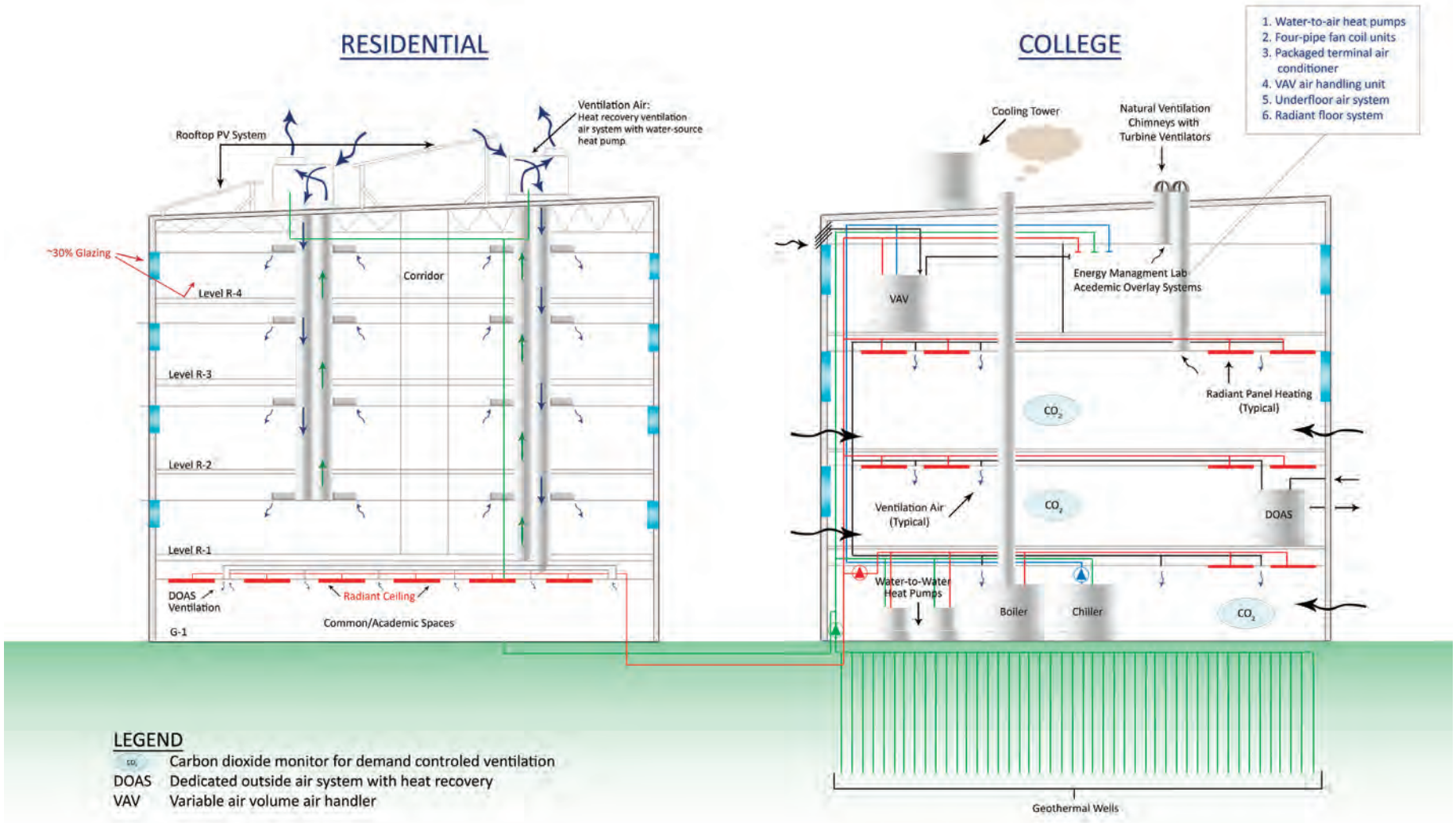
The college building is targeting LEED Platinum and nearly 50% energy savings over ASHRAE 90.1-2007. The mechanical design for this building provided a unique challenge, in that it needed to incorporate a number of different mechanical systems to serve as teaching tools for the College's Energy Management Program. The building will be 75% passively cooled with radiant panel heating. The heating source for the radiant panel system will be a closed loop geothermal heat pump system. Ventilation air will be provided by a dedicated outside air heat recovery air handler with heating and cooling coils. To achieve the teaching goals of the building, six different demonstration HVAC systems are included in the Energy Management Program space. All systems will be designed for the highest possible efficiency and will have extensive controls and measurement capability so that the building's systems' operation can be studied by the Energy Management students. The six HVAC systems will include: Variable Air Volume (VAV), water source heat pump, four pipe fan coil unit, under floor air, radiant floor heating and packaged terminal heat pumps. Some of the systems will be served by a small water cooled chiller with a roof mounted cooling tower and a small condensing boiler plant.

Refer to the PAE Report in the Appendix for further information.

MECHANICAL SYSTEMS – RESIDENTIAL BUILDING

The residential building is targeting LEED Gold and about 35% to 40% greater efficiency than a building built to ASHRAE 90.1-2007 standards. To achieve these goals, the building will have a very high performance envelope, including ultra-low infiltration, super-insulating windows and walls, and solar gain control features such as external sun shades. Heating will be provided by rooftop-mounted fresh air heat recovery units with water-sourced heat pumps served by a geothermal well system. Because of the high-performance envelope, supplemental heat will not be required in the individual residential units. Heat will be provided through the ventilation air system. The building will not be mechanically cooled. Strategies employed to reduce cooling load will include building envelope measures, design for daylighting, low power lighting, efficient appliances, and design for single-sided natural ventilation.

Refer to the PAE Report in the Appendix for further information.


RESIDENTIAL
Rooftop PV System
Ventilation Air:
Heat recovery ventilation air system with water-source heat pump
~30% Glazing
Level R-4
Corridor
Level R-3
Level R-2
Level R-1
DOAS Ventilation
Radiant Ceiling
Common/Academic Spaces
G-1
COLLEGE
1. Water-to-air heat pumps
2. Four-pipe fan coil units
3. Packaged terminal air conditioner
4. VAV air handling unit
5. Underfloor air system
6. Radiant floor system
Cooling Tower
Natural Ventilation Chimneys with Turbine Ventilators
Energy Managment Lab Acedemic Overlay Systems
VAV
Radiant Panel Heating (Typical)
CO2
Ventilation Air (Typical)
DOAS
Water-to-Water Heat Pumps
Boiler
Chiller
Geothermal Wells
LEGEND
CO2 Carbon dioxide monitor for demand controled ventilation
DOAS Dedicated outside air system with heat recovery
VAV Variable air volume air handler

ELECTRICAL SYSTEMS – COLLEGE BUILDING

To achieve its LEED platinum and educational goals, the college building will have extensive daylighting, ultra efficient fluorescent, LED, and other high efficiency light sources. High performance luminaires and controls system will be incorporated to maximize occupant comfort and minimize energy usage. An approximately 125 kW photovoltaic system will generate about 13% of the building's annual energy needs as well as demonstrate different photovoltaic technologies. The teaching tools in the electrical design include the Lighting Design Lab lighting controls systems, the building visualization and display system, and an optional DC power distribution system. Extensive monitoring and control at the individual receptacle level will be provided in the Energy Management Program space. The systems will be designed to communicate detailed systems operational and energy usage information, as well as to allow for comparison between systems by the College's Energy Management students.

Refer to the PAE Report in the Appendix for further information.

ELECTRICAL SYSTEMS – RESIDENTIAL BUILDING

To achieve the LEED Gold for the residential component, the building will have high efficiency lighting, building-wide lighting controls in common spaces, compact fluorescent lighting in dwelling units, and full cutoff luminaires for exterior lighting. The lighting and control systems will be designed to exceed Oregon Energy Code requirements by 20 percent and typical building energy usage by 50 percent.

Refer to the PAE Report in the Appendix for further information.

CODE ANALYSIS

LAND USE CODE SUMMARY

In accordance with Chapter 9 of the Eugene Municipal Code, the project site is zoned C-3 (Major Commercial). The uses envisioned in the project are allowed outright for this zone. Zoning overlays for the site include the Downtown Plan, Transit Oriented Development, and the Downtown Parking Exempt Zone. Development on the site is required to achieve a minimum floor-to-area ratio (FAR), or ratio of building square footage to site square footage, of 2:1.

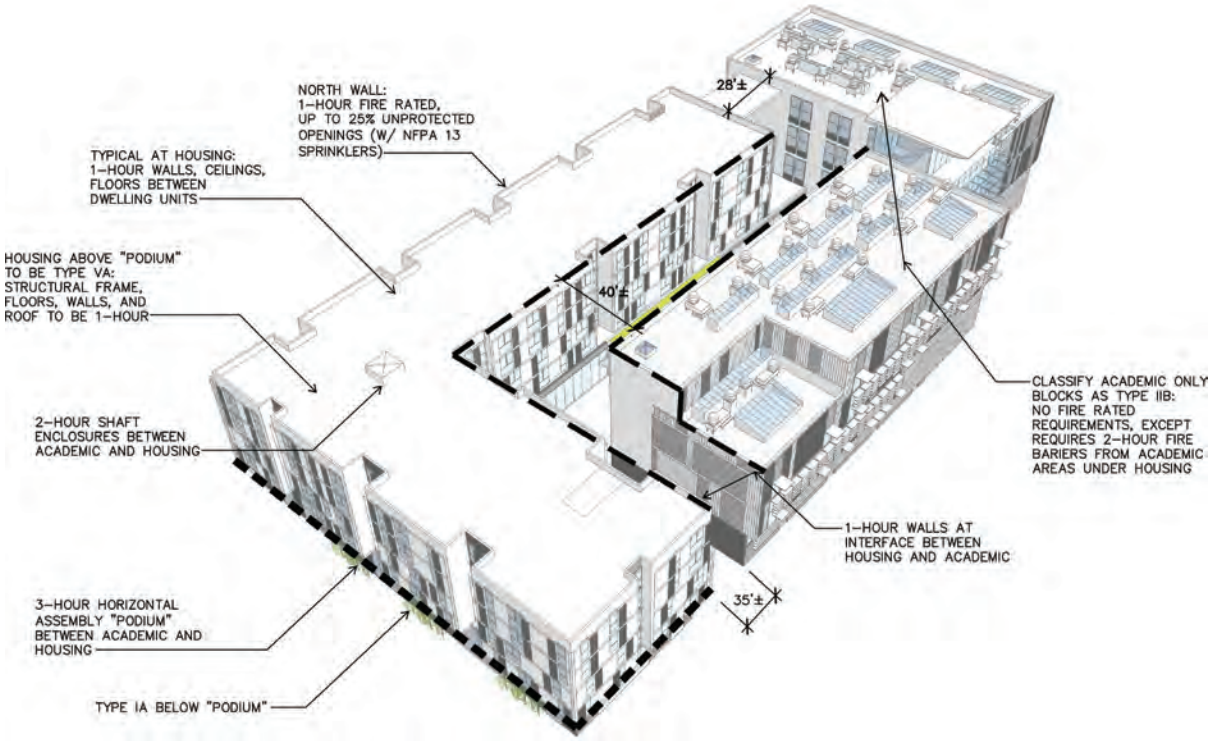
There are multiple design requirements that the project must comply with such as Commercial Zone standards, Large Commercial Facility design standards, and Transit Oriented Development standards. The Design Team anticipates that there may be a few minor design issues that will require an Adjustment Review application to be submitted for City approval, such as locations of building entrances and setback requirements. It remains to be determined if a Transportation Impact Analysis needs to be submitted for the project. However, it is unlikely that the Transportation Impact Analysis will have much impact on the final project scope due to the location of the project in the downtown area.

BUILDING CODE SUMMARY

The project consists of two primary uses: 1) college areas; and 2) housing. The 2007 Oregon Structural Specialty Code (building code) classifies the primary occupancies for the building as B (academic and lease spaces) and R-2 (housing). For code purposes the project is considered to have these as separated occupancies, with the B and R-2 areas having different restrictions for allowable height and area.

The B occupancies will be Type 2B construction, with the exception of B occupancies located on the ground floor below the housing, which will be considered Type 1A. The R-2 occupancies are considered Type VA. To allow the height of housing shown in the design it is assumed the entire building is equipped with an NFPA 13 compliant sprinkler system.

The Preliminary Code Analysis included in the Appendix includes further information.



8. Sustainability Strategies

LIVING BUILDING CHALLENGE

As stated in the College's Request for Proposals, the project's sustainability objectives were "to develop a strategy to obtain LEED Platinum certification" for the college building and "to recommend which elements of the Living Building Challenge are financially feasible to pursue."

Initially in the DTC feasibility study, the Project Team explored the possibility of the project meeting the LBC in its entirety. However, it quickly became evident that there were some inherent challenges in balancing the requirements of the LBC against other requirements that the College has for the project. Key concerns included:

1. The LBC does not allow any type of combustion to be used by the building. Since a critical goal of the DTC is to house the College's Energy Management Program and use the building as a "living laboratory" for teaching about different types of building systems, this created a direct conflict with the Net-Zero Energy imperative due to the intention of including gas-fired equipment in the building such as boilers and furnaces.
2. The LBC requires that a project protects the access to sunlight for adjacent properties, so that all development can strive to be a Living Building. This imperative is in conflict with the density and height for the project needed to meet the program requirements.
3. Early discussions on the construction cost premium to become a Living Building raised concerns that a higher per square foot cost would require a reduction to the project size, which could only be achieved by cutting desired program.

As a result, it was determined that the LBC was not the appropriate sustainability goal for the project.

USGBC LEED

The Project Team considered the possibility of achieving LEED Platinum for both the academic and the housing portions of the project. However the target budget precludes LEED Platinum for the housing component on its own. The Project Team did endeavor to identify synergies between the academic and housing components. As there were no complimentary needs in terms of heating or water usage, or any other ways to trade energy from one use to the other, the Project Team and the College agreed. The decision was made to pursue LEED Gold for the housing.

Leadership in Energy & Environmental Design

LEED scorecards for both the academic and residential buildings are included in the Appendix. Below is a summary of key features.

PASSIVE COOLING AND VENTILATION

If designed appropriately, eliminating air conditioning saves considerable energy without sacrificing occupant comfort, particularly in the moderate climate of the Willamette Valley. To be successful requires careful integration of a number of building design strategies. The proposed design includes these features and intends to passively ventilate and cool approximately 75% of the college building. This is a major component of the sustainable approach for this building.

The units in the residential building will not be air conditioned. The primary source of heat will be rooftop heat recovery units in support of a direct outside air system (DOAS). There will not be any thermostats within each unit; instead, each DOAS unit will serve a different orientation and provide the same temperature to each unit. This is an extremely efficient system and is contingent upon a highly insulated building envelope.

MASS AND NIGHT FLUSH:

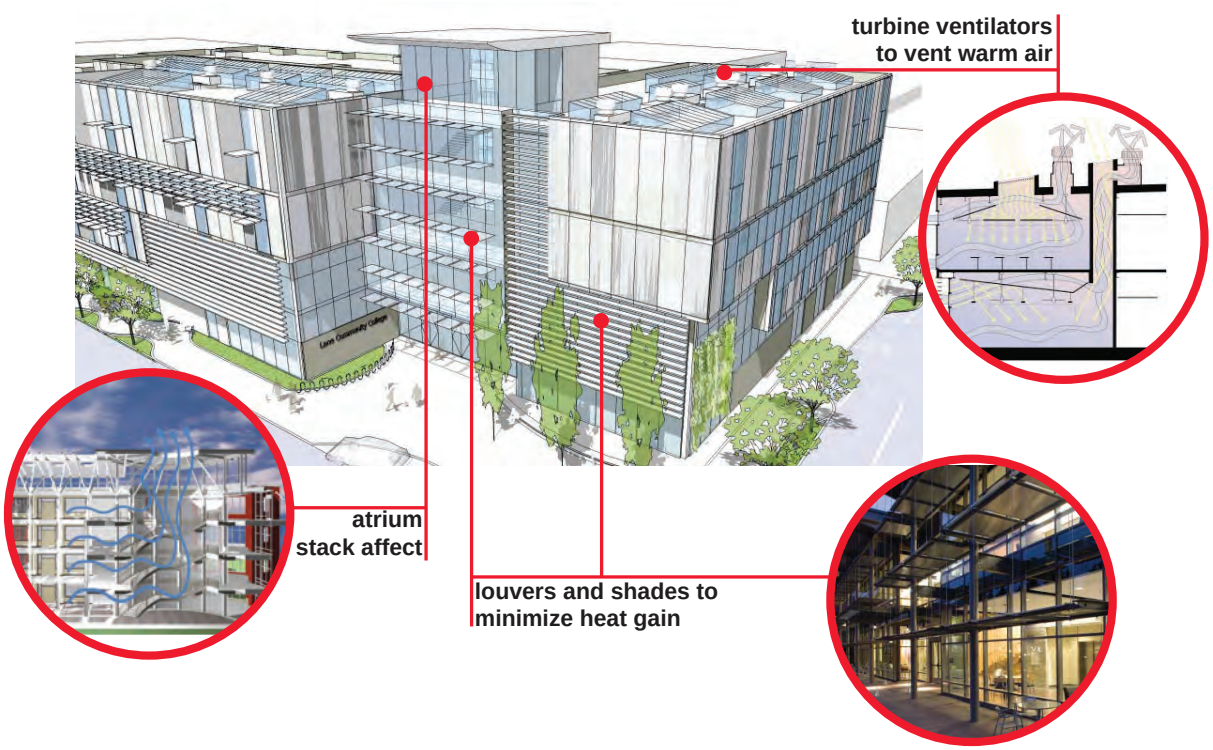
Building mass absorbs and gives off energy at a much slower rate than air. The college building's concrete floors and roof will provide the mass necessary to remain cool during a warm day, and then discharge heat to the outside cool air during the night. Windows which open automatically during the night time will allow the cool outside air to be drawn into the building and remove heat from the mass. Carpet will be used sparingly, and wall to wall suspended ceilings will be avoided in order to maximize exposure of the mass.

STACK EFFECT:

Shafts at the third floor will act as a "chimney" to create a positive airflow from this level. Turbine ventilators on the roof will passively vent the rising warm air. The four-story atrium in the center of the building will create a stack effect that will partially passively ventilate the first and second floors.

AIR MOVEMENT:

Moving air makes people feel two-three degrees cooler. There will be ceiling fans in every classroom and office.



DAYLIGHTING:

Artificial lighting not only consumes energy, but also produces heat. For natural lighting to be effective in a classroom setting, it must be distributed evenly throughout and be controllable. The proposed design includes skylights, light shafts, light shelves and high windows. Control and distribution are achieved through a combination of automated blinds and louvers, traditional manual window shades, and reflectors below the skylights. Daylight analysis should be done to confirm that there will not be a daylight differential factor of greater than two within any room

SHADING:

The most effective way to reduce the cooling loads is to minimize solar heat gain by shading the windows from the summer sun. The design includes cantilevered sunshades protecting the south facing windows of the academic wing and manual sliding exterior shutters on all of the student housing windows facing south and west The western orientation requires a different approach to shade the low angles of the late afternoon sun, which these shutters address.

SUPER INSULATION:

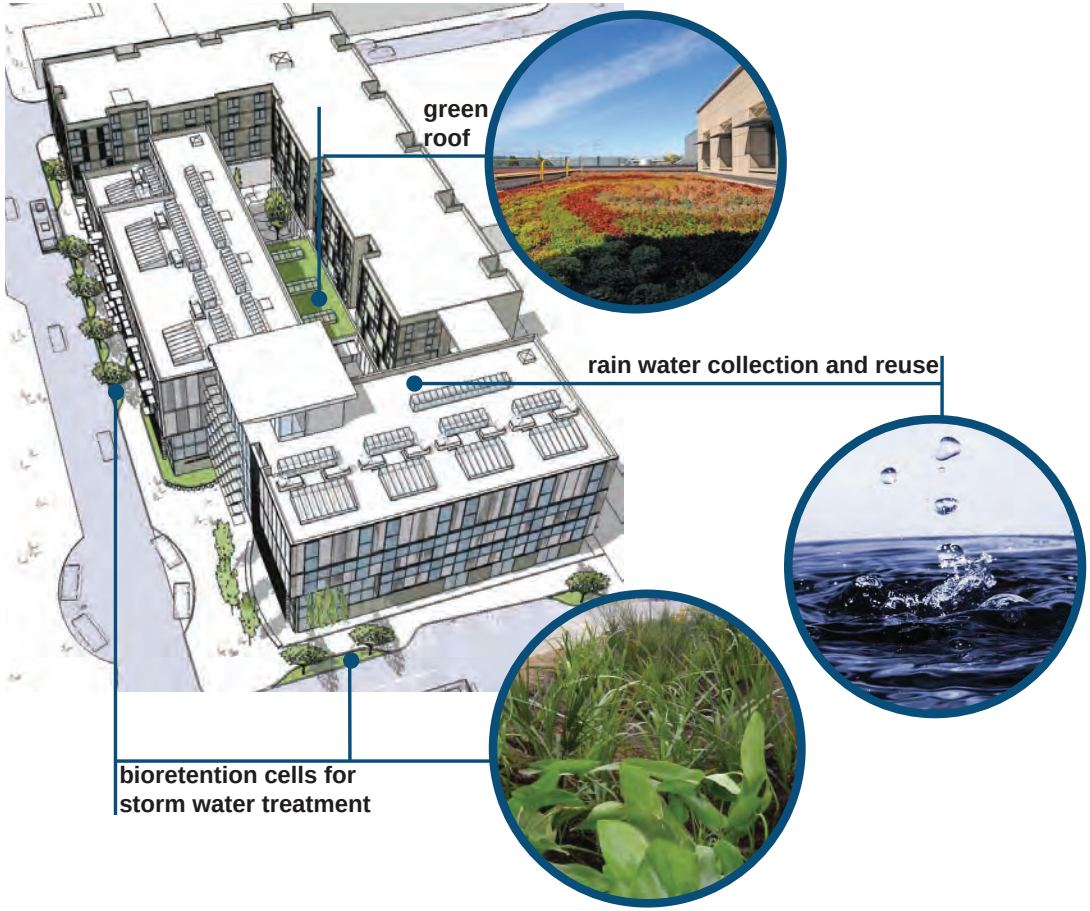
Central to the passive approach is much higher insulated values for the exterior envelope of the building, along with minimizing infiltration. The proposed design includes R-30 walls and R-60 walls, along with triple-glazed (R-5) windows for the housing.

EXTENDED COMFORT ZONE:

Summer time indoor temperatures can be 82 -84 degrees and the occupants will still be comfortable due to the cool mass and the moving air. As the design progresses, computational fluid dynamic studies should be done to project what the maximum interior temperatures will be.

WATER STRATEGIES

Another significant component of the sustainable strategies for this project is the approach for minimizing potable water use for non-potable uses and minimizing storm water runoff. The elements noted below are the key components; for a more detailed description see the Sustainable Water report in the Appendix.



Refer to Chris Webb and Associates report in the Appendix for further information.

RAIN WATER HARVESTING:

Two key conditions of the site influenced the choice of sustainable water strategies. First, the design concept requires covering the majority of the site with building, leaving little area for storm water collection. Second, the existing basement on the site offers the opportunity to collect and store rain water relatively cost effectively. Consequently, the approach will be to collect all rain water that falls on the roof, store it in an underground cistern, and use it for toilet flushing. The proposed tank will handle approximately 70% of the toilet flushing requirement in the academic component. The design concept includes an additive alternate to enlarge the tank and store enough additional rain water to also handle 70% of the toilet demand of the housing.

STORM WATER MANAGEMENT:

All of the interior courtyard paving will be pervious to allow rain water to percolate into the ground. There will be a demonstration "green roof" over the one-story Center for Meeting and Learning spaces in the center of the courtyard. This area will only be accessible for academic purposes, but will provide a verdant view from the upper stories of both the housing and academic wings. Small demonstration bio-retention cells will capture and treat storm water at the sidewalk curbs.

"OFF-THE-GRID" DEMONSTRATION RESTROOMS:

The public restrooms on the ground floor will include composting toilets, reverse osmosis water purification and grey water wetlands just outside adjacent to the alley. The goal is to demonstrate the potential for being totally removed from the public water system.

COMPOSTING TOILET

ACTIVE SYSTEMS

RENEWABLE ENERGY:

In order to meet the LEED criteria of 13% power from renewable sources for the academic component, the proposed design anticipates an array of roof top mounted, mono-crystalline panels that will produce approximately 110 KW of power. Because of the extensive skylights and turbine ventilators located on the roof of the academic wings, the panels will be located on the roof of the residential building, requiring about 7,000 square feet of roof area. While the development budget includes the State's 1.5% for solar requirement, this amount is less than the anticipated cost of the 110 KW system. An alternative for funding the photovoltaic system is third-party ownership (discussed in detail in Section 10 of the report). To be attractive for this type of arrangement, a much larger system of approximately 500 KW is needed. The remainder of the system could be located on the main Lane Community College campus.

monocrystalline panels for renewable energy and solar hot water

The Lane Community College Downtown Campus site has some special considerations when planning for on-site energy generation through photovoltaics. The site is located in what is called the secondary network in the downtown area. This is a redundant network system that provides protections to the area from outages. There are network protectors downtown so that if there are problems with some place in the downtown system the outage is contained and does not knock down all the buildings in the downtown area. The College site is right at the edge of this secondary network. The west side of Charnelton Street is outside of the network.

Eugene Water and Electric Board (EWEB), the local utility provider, has regulations based on Oregon Public Utilities Commission Rules for this secondary network that basically says a building cannot produce more energy than it uses at any time of the year. EWEB implements the PUC rules by looking at the time of year with the lowest building demand and the highest potential PV output (for example, a Sunday afternoon in July). This is the scenario that sets the limits for how much on-site electrical generation can occur. A project cannot produce more energy at this point than is used in the building.

There are possible approaches the Lane Community College project can pursue to address the issues caused by being within this secondary network:

- Provide a protector, or disconnect, inside the building so that if the building at any time produces more energy than it is using it disconnects from the downtown network and stops excess energy from leaving the site.
- The Lane Community College site is within in a "mini-district" tied in with the library. It may be possible to feed excess electricity directly to the library, allowing that building to use it before the energy hits one of the protectors in the secondary network. In this scenario the maximum amount of electrical generation at any point would be the electricity used by the College building and the library.
- Given the proximity of the site to the edge of the secondary network, it may be possible to provide power to the site from the other side of Charnelton and basically stay out of the secondary network. EWEB has hesitation about this approach since they generally do not allow building in the downtown area to be "disconnected" from the secondary network that they are in.

Further calculations will be needed to determine if excess electrical generation would ever occur at the College project. If so, proposed solutions to deal with the secondary network will need to be submitted to and reviewed by EWEB. Typically EWEB would need about six months to review and approve any solution.

SOLAR HOT WATER:

Housing presents an opportunity to benefit from solar hot water because of the high volume of hot water used for showers. Consequently, the design team is proposing an alternate to add a rooftop mounted solar hot water system.

GROUND SOURCE HEAT PUMP:

The primary heating source for the college building will be an extensive ground source heat pump system with wells drilled below this building. This is an extremely energy efficient approach that will have long term benefits in terms of lower energy costs.

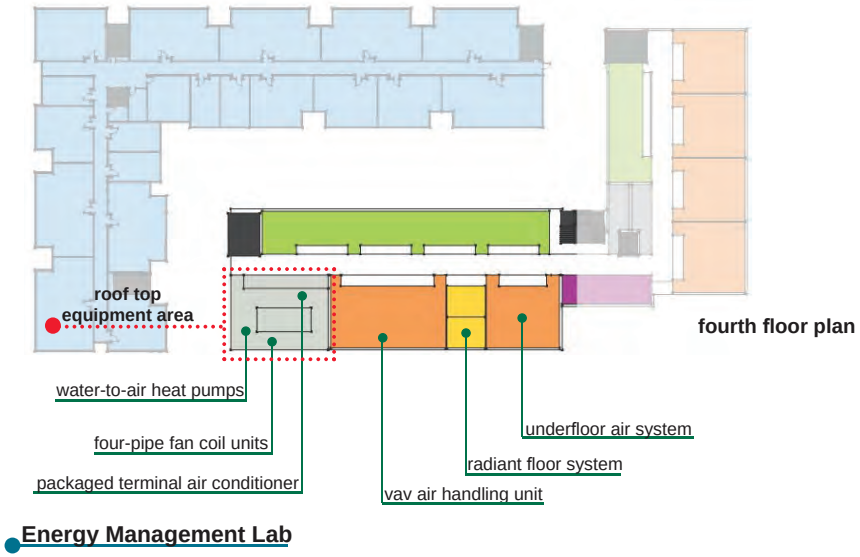
9. A Teaching Building

A BUILDING THAT TEACHES

The synergy between high sustainable design goals and a very ambitious and successful Energy Management Program creates a unique opportunity to design a building to demonstrate as well as teach. A description of how the proposed design will make this convergence of forces visible follows:

ENERGY MANAGEMENT LAB

The proposed design locates the Energy Management Program space on the top floor of the college building. This is done for several reasons. First, dedicating a discrete portion of the building allows the energy management students to freely experiment with their environment. Students can turn off the HVAC and experience a totally passive system, or open the windows and monitor the impact on energy consumption. Second, it provides easy access to a small roof top observation area where students can inspect working mechanical equipment, including a cooling tower, heat pumps and a packaged terminal air conditioning unit. This outdoor access will also allow students to experiment with exterior wall assemblies. Finally, it allows them to experience firsthand the most advanced and sophisticated passive systems, such as skylights with extensive automated daylighting controls and automated motorized window vents.



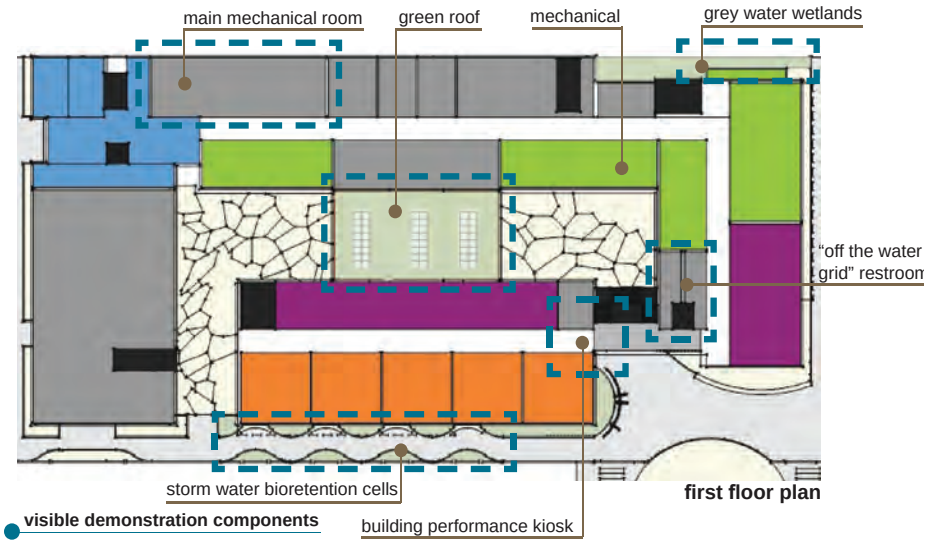
VISIBLE DEMONSTRATION COMPONENTS

There will be a number of unique and innovative features on the ground level that will be designed to be highly visible. The intent is to create a building that "speaks" to the College's ambitious energy management and sustainable design goals and engages building visitors as well as the students in these issues:

» **Main mechanical equipment room:** Although typically buried in the basement of a building or hidden on the roof-top, in the DTC the main mechanical room it will be located on the ground level and surrounded with glass walls. Different components will be identified, labeled and color coded. There will be ample room inside so that groups of students can enter the room and walk around the equipment.

» **Green roof:** In the center of the main courtyard there is a one story portion of the building that houses the Center for Meeting and Learning. The roof of this area will be a demonstration "green or eco-roof" so that students as well as building visitors can observe how it works and understand the maintenance issues.

» **"Off-the-water grid" restrooms:** A public restroom on the ground floor will include a composting toilet, reverse osmosis water purification and grey water wetlands just outside, adjacent to the alley. The goal is to demonstrate the potential for being totally removed from the public system.



» **Storm water bio-retention cell:** There will be several small storm water detention gardens that capture rain water at the sidewalk curb, and then purify and percolate it back into the ground water.

» **Building performance kiosk:** In the main lobby there will be a "dashboard" where actual building performance data will be displayed.

SHARING DATA

As part of the academic overlay, there will be extensive metering, monitoring, and controls for the mechanical and electrical systems in the building. The intent is to provide data that can be accessed for educational purposes. However, given the unique and highly sustainable nature of the building other people may also be very interested in this information. The methods for sharing this information can range from web sites to brochures to signage within the building. As noted above, a kiosk in the lobby will provided information about building energy and water usage. The full range of possibilities is presented in the Appendix.

SUSTAINABLE DESIGN FEATURES

Many of the sustainable design features will be very visible, such as cantilevered sunshades, the green roof and automated, operable windows. Others will be hidden from view such as the rainwater collection system, highly insulated shell, and roof top photovoltaic panels and turbine ventilators. Some will be so fully integrated in the building design, such as building mass and shafts for daylighting and ventilation, that they won't be noticed. But all will have the potential to contribute to the academic delivery in different ways. The "building that teaches" can leverage those features that cannot be directly experienced through signage and educational displays.

ENERGY MANAGEMENT PROGRAM OVERLAY

Students in the Energy Management Program learn about energy systems in today's built environment and the methods and tools for analysis of such systems. The students are being prepared for careers in energy analysis and operation of highly efficient buildings.

Over the course of their careers, students completing the College's Energy Management Program will have a exponentially greater impact on reducing energy use and greenhouse gas emissions, than what could be achieved by one building, regardless of how efficient the building is. Recognizing the enormous potential of the College's Energy Management Program to change behavior and reduce energy use, a key design goal for the College Building is to be a "building that teaches" where you can "see the energy flowing." To accomplish this goal, the HVAC systems in the College Building will be designed to be part of the Energy Management Program curriculum.

A variety of common mechanical system types will be included in the Energy Management Program space as part of the teaching building. The systems will be provided as an "overlay" in that multiple systems may serve a single space. This configuration will allow experimentation with different system types and easy incorporation of real-time experiments into the daily curriculum.

Students will have access to direct experience with six different HVAC systems all serving the Energy Management Program spaces. These include a packaged terminal air conditioning system, a 4-pipe fan coil system, water-to-air heat pumps, VAV system, a radiant floor and an under-floor distribution system. Faculty and students will be able to switch between different heat sources, as well as different distribution systems, while also experimenting with different exterior wall assemblies. Extensive controls and metering will allow evaluation of different monitoring approaches, as well as actual performance.

SYSTEMS

The following systems will be included in the Teaching Building:

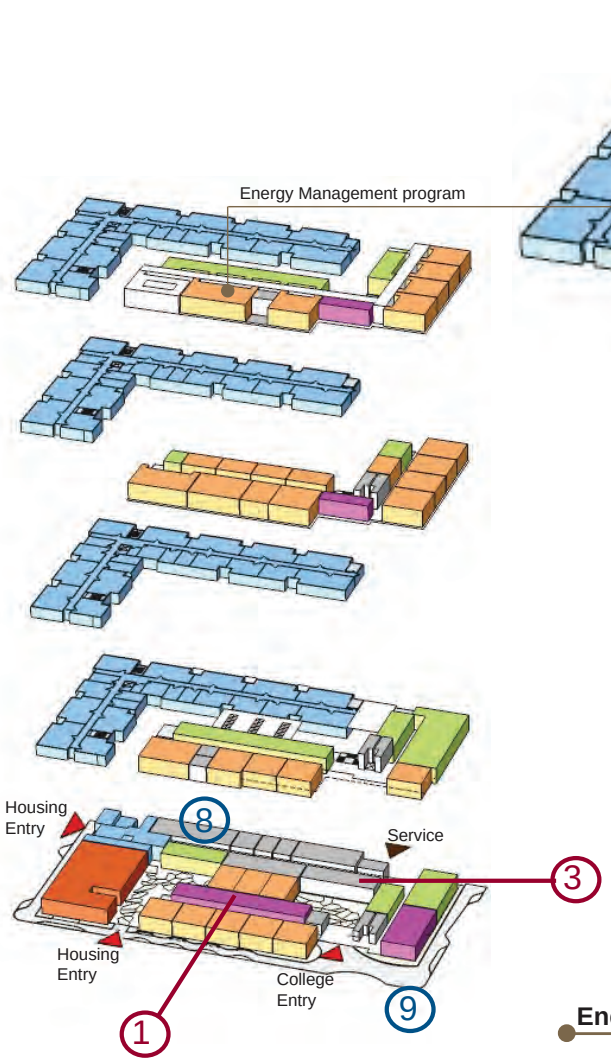
- Water-to-air heat pumps: These heat pumps will be connected to the building's geothermal condenser water system for high efficiency operation. Two console (wall-mounted) and two ceiling mounted heat pumps will serve approximately 2,000 s.f. of space.
- Four-pipe fan coil units: The four pipe fan coils will be connected to the building's hot and chilled water systems. The fan coil units may serve the same spaces as the water-to-air heat pumps.
- Packaged terminal air conditioner: Packaged terminal air conditioners will be provided through wall sleeves penetrating the wall separating the classroom space from the Rooftop Viewing Area. This allows students easy access to the condenser and evaporator sides of the air conditioners for experiments.
- Variable Air Volume (VAV) Air handling unit: A 6,000 CFM VAV system will provide ventilation and temperature control to roughly 4,000 s.f. of Energy Management Program space. Two terminal units will be ducted to a lab bench for classroom access. Heating and cooling energy for the VAV system will be from the building's hot and chilled water systems.
- Under floor air system: One room will be served through a raised floor plenum. Air will be supplied to the plenum from the VAV system.
- Radiant floor system: Two rooms will be served by a radiant floor system. The radiant floor system will be connected to the building's hot water system.
- 100-ton cooling tower (on roof): A 100-ton cooling tower will be located on the building's rooftop viewing area. The cooling tower will only be used for academic exercises and for trimming load if the geothermal system does not have sufficient cooling capacity on days with especially high cooling load.

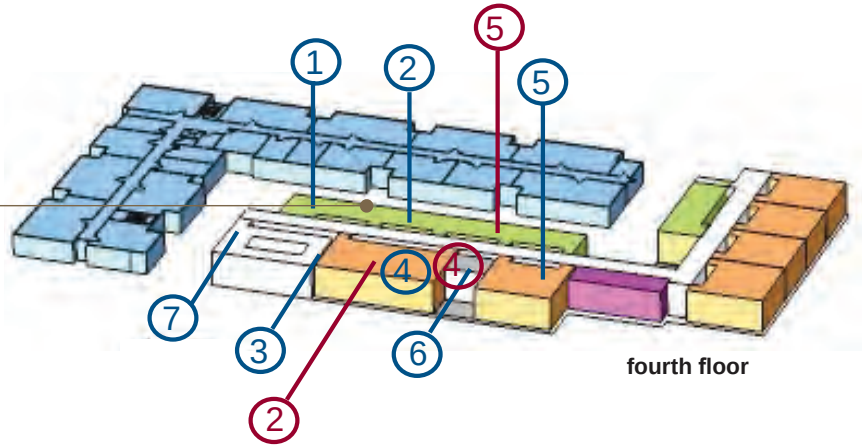
The building's main mechanical room will be located in prime viewing area on the building's ground floor and will contain the following equipment:

- 1,000 MBH gas fired boiler: The condensing gas-fired boiler will be ultra high-efficiency and will operate only when the geothermal system does not have sufficient heating capacity on especially

cold days or for experiments for the Energy Management Program.

» 100-ton water cooled chiller: The water cooled chiller will provide cooling for the Energy Management System's VAV system and is sized with sufficient capacity to expand the building's cooled floor area.





HVAC

1. Water-to- air heat pumps
2. Four-pipe fan coil units
3. Packaged terminal air conditioner
4. VAV air handling unit
5. Underfloor air system
6. Radiant floor system
7. Equipment viewing area (on roof)
   - 100 ton cooling tower
8. Mechanical room with:
   -1,000 MBH gas fired boiler
   -100 ton water cooled chiller
   -Geothermal heat pumps
9. Geothermal wells (underground)

Lighting and Metering

1. Building sustainability kiosk
2. Room-level DALI lighting control system
3. Lighting Design Lab
4. Receptable-level energy metering
5. DC Power distribution

Energy Management Equipment

» Water-to-water geothermal heat pumps: Two 500 MBH water-to-water geothermal heat pumps will be the primary heat-providers for the College Building.

METERING & LIGHTING

The following metering and lighting features will be included:

» Building sustainability kiosk: A building visualization and display system will provide real time and historic building systems data to the building users via interactive touch screen kiosk and internet accessible web portal. The system is designed for public use and incorporation into class curriculum.

» Room level DALI lighting control system: Digital lighting controls (DALI) will be provided for a classroom, offices, and the lighting design lab within the Energy Management Program for demonstration purposes.

» Lighting Design Lab: Multiple lighting and lighting control systems will be integrated into a flexible lab space. The lab will be designed for easy mock up, demonstration, and testing of systems by students. An option under consideration is to include a DC micro grid to allow photovoltaics to power luminaires directly.

» Receptacle level energy metering: Metering will be provided at the circuit breaker level for all power in the Energy Management Program space. Additional metering will be provided for individual receptacles within the Energy Management Program space. This will allow students to evaluate the effect that different plug loads have on the energy load. The Design Team proposes that during the next phase of design, the possibility of connecting the receptacle level metering to social media software to display real time energy data be investigated.

» DC power distribution: A DC micro power distribution will connect photovoltaic power to various small building loads, possibly including mechanical controls, lighting controls, and technology loads. Students will be able to compare the energy efficiency of DC and AC electrical systems.

CONTROLS

The following monitoring features will provide students with opportunities for real-time analysis of the building's operation:

- Extensive monitoring points including temperature and pressure sensors throughout all the HVAC systems.
- Pressure and temperature sensors at multiple points along the duct supply and return mains and branches.
- Pressure and temperature sensors at multiple points in the air handlers.
- Extensive monitoring of renewable energy system energy output.
- Temperature and moisture sensors built into walls, roof and floors. The sensors will be placed at various depths in the envelopes to measure the temperature profile.
- Extensive "instructional level" graphs for all equipment and energy meters. These graphs will be available in real time on a website.
- Extensive use of "micro" cameras to see dampers, valves, fans, etc. operational in the HVAC system.
- Extensive trending of all energy data.

10. Project Delivery Method

For significant public design and construction projects like the DTC, the choice of project delivery approach should be made in response to the public agency's needs and priorities, management capabilities, approach to risk and desire for involvement in design and construction decisions. Furthermore, a public agency must meet statutory requirements prior to proceeding with one method over another, particularly those which involve some level of qualification-based or negotiated selection in awarding of the public contract. For virtually all public agencies the proper selection of a project delivery method will likely require dealing with some or all of these questions:

- What are the statutory requirements for public contracting?
- What are the owner's delivery requirements and capabilities?
- Should responsibilities for design and construction be separate or combined?
- Should design and construction be sequential or overlap?
- Who will have responsibility for design?
- When will commitments to cost be made? And based on what?

The three most desired outcomes for any design and construction project are highest quality, lowest cost, and shortest time. While usually all three are desired equally, priorities are often dictated by fixed budgets, absolute deadlines, or established quality standards. To achieve these goals to the maximum extent possible, the design and construction project delivery method for a particular project must be selected with care.

BASIC PROJECT DELIVERY OPTIONS

Design-Bid-Build, Construction Manager/General Contractor, and Design-Build are the three project delivery methods most commonly employed. All three methods, in some form, may be appropriate for a public agency to select for use on a particular project. While the goals of highest quality, lowest cost, and shortest time may be common to all three methods, the differences in achieving the goals are significant. The following is a brief description of each method:

DESIGN-BID-BUILD

The most common delivery method for public projects is the Design-Bid-Build approach. In its most conventional form the owner agency engages the architect to produce the design and construction documentation, support the bidding process, and administer the contract for construction.

During the design process the architect engages engineers and other consultants to provide specific building systems designs. The architect-led design team produces a complete set of construction documents that serve as the basis for construction bidding.

Construction cost commitments (bids) are made on the basis of these documents. The contract for construction is awarded to the lowest responsible bidder. The contractor assumes responsibility for construction, subcontracting with specialty trade contractors and suppliers as needed.

CONSTRUCTION MANAGER/GENERAL CONTRACTOR (CM/GC)

Under the CM/GC approach, the owner engages both an architect and a construction manager at the outset of the project. This project delivery approach has often been used when fast-tracking of a project is desired to reduce overall project duration by overlapping the design and construction processes, but has also gained favor for allowing for builder input early in the design process.

The design responsibilities of the architect and relationship with the owner are essentially the same as Design-Bid-Build; however, the CM/GC takes on an advisory role during the design process to address and manage issues of constructability, cost, and schedule. At an appropriate point in the design process, the CM/GC prepares a Guaranteed Maximum Price (GMP) and enters into a single direct construction contract with the owner, and then acts as a general contractor for the duration of the project.

The selection process for the CM/GC is typically a qualifications-based process. Typically, the Request for Proposals for CM/GC services would solicit a statement of qualifications and a fee proposal for management services up to the point of establishing the GMP and assuming the role of General Contractor. It is important to note that all subcontractors are competitively bid.

DESIGN/BUILD

Design/Build is a method of project delivery in which the owner executes a single contract with one entity (the Design/Builder) to provide architectural, engineering services, and construction. The methods for selecting a design/build entity range from pure qualifications-based selection to pure price-

based selection with many combinations in between. The key difference in all design/build approaches in contrast to other project delivery systems is that the design component is combined with construction under a single contract with a design/build entity.

For public projects, the design/build entity has traditionally been awarded a contract based on a response to a statement of design and/or technical performance requirements, usually through a Request for Proposal process. The statement of design and/or performance criteria is prepared by the owner or a selected design/build consultant, and is the basis for establishing the earliest possible cost commitment for the project. Accordingly, the importance of the statement of performance criteria cannot be underestimated in achieving the desired design results.

RECOMMENDATION

The DTC project presents a distinct set of criteria that must be satisfied if the project is to be considered successful. Paramount amongst these are the College's desire to achieve the highest possible level of sustainability for the project, satisfy a complex assortment of functional requirements, and construct the requisite amount of space within a fixed overall budget.

The Project Team recommends the CM/GC approach for design and construction with a highly integrated design process whereby Lane Community College, the City, developer, architect and general contractor will work closely together to ensure the project's goals are met in the most cost effective manner possible. Although the general contractor would be brought on early (as mentioned above, this could occur through an RFP process whereby a GC is selected based on qualifications, general conditions, overhead and fees), all subcontractor work would be bid out, ensuring competitive pricing for the project.

Through use of CM/GC, with ongoing review of project budget during the design phase, there is greater assurance that the project will meet the established budget and schedule.

The CM/GC procurement method is also suitable for fast-tracked projects. The College may choose to take a fast-track approach for the DTC project in order to take advantage of the current economic climate and favorable pricing of construction labor and materials. As noted in Section 12, there is a potential 12 months savings by using this method.

11. Preliminary Development Budget

CONSTRUCTION COST ESTIMATE

The conceptual construction budget for the project was developed based on the concept design, code diagrams, conceptual floor plans, student housing unit layouts, building system narratives, and LEED scorecard generated by the design team during the first two weeks in February. Refer to the Clarifications & Assumptions Document included in the Appendix for specifics on the basis of the estimate.

Key to the budget approach was the review and baseline pricing of the sitework and structural considerations in response to the existing site conditions – specifically the existing pit and the sequence of work required for ground source well drilling, selective demolition, placement of new foundations and structural backfill operations.

The structural systems were budgeted as post-tensioned concrete for the podium and College Building, with wood-framed structure for the Residential Building. The exterior closure for both buildings is priced as a high-performance system to coincide with the mechanical systems selected to maximize energy efficiency in the operation of both the College Building and the Residential Building.

Included in the budget are several mechanical systems that respond to the goal of creating a building that teaches – these systems have been described as the "Teaching Building" in the narrative and budget process.

College Building:	$26,436,848.65 (90,016 GSF at $293.69 / SF) *
Residential Building:	$10,809,851.359 (76,432 GSF at $141.43 / SF)
Total Construction:	$37,246,700.00

* $480,000 over target budget

VALUE ENGINEERING/COST REDUCTION

The following is a list of possible value engineering/cost reduction strategies that could be exercised if

project costs at the time of the establishment of the Contract sum or Guaranteed Maximum Price exceed the available budget. It should be noted however that all of these have implications that may not serve the long term interests of the College. They also need to be studied further to confirm their viability and appropriateness.

1. Reduce the number of geothermal wells in half (from 50 to 25)
2. Delete the geothermal system (this would have to be further studied to determine the LEED impact)
3. Reduce the insulation values at walls from R-30 to R-20
4. Reduce the insulation values at the roofs from R-60 to R-40
5. Reduce the cost of the skin on the academic portion to $30/sf
6. Reduce the floor-to-floor height in the housing from 10 feet to 9 feet (not desirable if bunk beds are used to increase density)
7. Reduce the floor-to-floor height of the ground floor podium from 18 feet to 16 feet
8. Eliminate the fifth floor of the atrium
9. Reduce the size of the rain water storage tank to minimum required to achieve LEED water use reduction and storm water flow reduction points
10. Delete demonstration green roof over the CML (this would increase storm water catchment)
11. Delete demonstration compost toilet / waterless urinal and demonstration drain field in the alley
12. Eliminate the curbless plaza extension in 10th to connect to the library plaza
13. Change the residential heat recovery units from water cooled heat pump heat recovery units to air cooled heat pump heat recovery units
14. Eliminate the radiant ceiling in the first floor common space of the residential building (heat it from the ventilation air and a four pipe fan coil unit)
15. Change from hydronic radiant panels to finned tube radiation (this eliminates the possibility of getting any cooling out of the panels)

16. Reduce classroom sizes in the college building closer to the College's standard sizes (possible 2,000 gross square feet of area reduction, which limits flexibility of classroom layouts)
17. Reduce the controls budget by $2.50 per gross square foot
18. Reduce the controls budget by $5 per gross square foot
19. Eliminate DALI lighting controls
20. Reduce the scale of energy monitoring in the Residential Building
21. Eliminate raised access floor in computer classrooms

PROFORMA

Preliminary total development budgets were developed for both the college and residential components of the project as part of the feasibility study. The development budgets include site costs, hard costs, soft costs and financing costs. Because the funding sources for the academic and residential components are distinct, each component is analyzed on its own. Estimated sources and uses of funds for each component are summarized in the tables below. A description of the approach used to estimate budget line items follows each table. Detailed proformas as well as cash flows showing anticipated project expenditures by month, are included in the Appendix.

COLLEGE BUILDING

Sources of Funds

Anticipated funding sources for the DTC include $9M from the College's current bond program, an $8M matching bond from the State, a $550k federal appropriation for energy systems in the building, additional federal sources totaling $4.45M, an $8M contribution from the City of Eugene, and $5M in New Markets Tax Credit (NMTCs) equity. The College bond, State bond and federal appropriation for energy systems in the building are sources that are already 'in hand.'

The amount included for additional federal sources is based on discussions with the College regarding the level of federal funding realistic to anticipate for the project. The amount from the City is the based on the level of Tax Increment Financing (TIF) that City staff recommends that the City contribute and was approved by City Council at their March 8, 2010 meeting. A public hearing will be held on

April 19, 2010 and the Council's vote for final approval will occur on May 24, 2010. The amount for NMTCs assumes that approximately $25M of the total sources of funding for the project are able to be leveraged in the NMTC structure and that the resultant NMTC equity to the project (net of all fees) is approximately 20% of the amount leveraged. It should be noted that the typical amount allocatees (entities with allocations of NMTCs) put into a single project is $15-20M, which means that two allocatees may be required to achieve the target of $25M of allocation. As long as there is only one investor for the transaction, the additional costs of having two allocatees are relatively small. The College has retained Seattle Northwest Securities to assist with structuring the NMTCs.

Sustainability Incentives are anticipated to include Business Energy Tax Credits (BETCs) and grants from EWEB and Energy Trust of Oregon (ETO). Assuming a Platinum LEED certification for the College component of the project, the BETC pass-through amount (i.e., amount that the purchaser of the tax credit would pay to the College), would be approximately $198k. It should be noted that per current changes to the program by the State, the BETC program for sustainable buildings will sunset in July 2012; thus, unless the legislature decides to extend the program, projects would have to be complete and have received their LEED certification by July 2012 to be eligible for the tax credit. The EWEB incentive is $ 0.25 per kilowatt hours (kWhs) of electricity saved as compared to a building designed to meet code; assuming the College building saves 50% over a building designed to meet code, the approximate grant amount would be $100k. The Sustainability Incentives should be studied and refined during the next phase of the project, and can serve to reduce the amount needed from additional federal sources.

SOURCES	
Lane Community College Bond	9,000,000
State Match Bond	8,000,000
Federal Appropriation for Energy Technology	550,000
Additional Federal Sources	4,450,000
City Contribution	8,000,000
NMTCs (net of fees)	5,000,000
Sustainability Incentives	TBD
TOTAL SOURCES	**$35,000,000**

Uses of Funds

It is assumed that the City will transfer ownership of the site to the College at no cost. The site, core and shell and tenant improvement hard cost estimate was provided by Lease Crutcher Lewis (LCL), based on the concept drawings. LCL's estimate includes a 10% design and estimating contingency and

a 2% construction contingency. The site, core and shell and tenant improvement amount included in the College sources and uses above assumes that value engineering/cost reduction strategies totaling $480,000 are implemented. A initial list of potential value engineering/cost reduction strategies is included in Section 10 of this report. The Project Team is confident that this target can be achieved.

Additional hard costs include a furniture, fixture and equipment allowance as well as an allowance for audio visual, teledata and low voltage equipment. These allowances are based on actual per square foot costs from similar academic projects. The 'other construction hard costs' line item also includes: an environmental remediation allowance (to dispose of any contaminated soil that is encountered during construction); an allowance for lighting lab equipment (based on input from the electrical engineer and assumes that 50% of the equipment is donated); 1.5% of the LCL construction estimate for solar (a requirement of the State bonds that will be used); security and access control equipment; and building signage. Further discussion of the strategy for funding the photovoltaic array is included later in this section.

The City of Eugene provided an estimate of building permit fees and system development charges. The Design Team provided the estimate of Architectural and Engineering fees. Other soft costs (i.e., legal fees, title insurance, general liability insurance, testing and inspection, commissioning, LEED documentation and moving costs) were estimated based on input from relevant consultants as well as prior experience on similar projects.

The overall project budget includes a 5% contingency on the hard and soft costs. Because the funding sources are essentially grants, the development budget does not include any financing costs (the amount for New Markets Tax Credits included as a source is net of all associated costs and fees).

USES	
Land Cost	0
Site, Core and Shell and Tenant Improvements	25,957,000*
FF&E and Technology	1,600,000
Other Construction Hard Costs	564,000
Architecture & Engineering	2,726,000
Permits & Fees	485,000
Other Soft Costs	2,050,000
Financing Costs	0
Contingencies	1,618,000
TOTAL USES	**$35,000,000**

* (Assumes $500,000 in VE reductions)

Third Party Solar

The Project Team is proposing a third party owned and financed photovoltaic system. Under this scenario, a third party purchases and installs the system and receives all of the applicable state, federal and utility incentives. The third party owner enters into an agreement with the College to lease the roof area where the panels are installed and to sell the electricity generated by the system to the College at standard electricity rates. The third party is responsible for maintenance of the system during this period. The College would make a 'Host Contribution,' which is essentially an up front payment to the third party owner. The amount of the 'Host Contribution' is determined by the level of incentives that are available as well as the return requirement of the investor/owner. Once the third party owner achieves its required return, the College has the option to take ownership of the system.

The current threshold in the market for investor interest is a 500kW system. This is significantly larger than the array included in the design concept, which is 110kW. It was assumed that the additional photovoltaic panels would be installed on other College buildings on the main campus. This additional 390kW is anticipated to require approximate 32,000 square feet of roof area. For a 500kW array, the required 'Host Contribution' would be approximately $720k, nearly two times the 1.5% for solar ($389k) that is included in the budget. This Host Contribution would leverage an approximately $2.8M array. The relatively large Host Contribution is in part a result of the magnitude of the local utility incentive. While a project of this size located in PGE's service area could expect an incentive amount up to $600k, the local EWEB incentive amount is $100k (assuming four separate installations and meters, and a $25k maximum incentive per meter). EWEB may provide additional grants for solar projects; the Project Team recommends further discussion with EWEB on this issue.

If it were possible to find a third party owner interested in a 250kW array, the Host Contribution would be roughly equivalent to the 1.5% for solar in the project budget. In the scenario, the Host Contribution would leverage an approximately $1.4M array. Alternatively, the College could purchase the 110kW system outright, which would cost approximately 100k more than the 1.5% for solar in the budget (net of incentives) and would receive the power generated at no cost.

A summary of the solar options discussed in the preceding paragraphs is included in the table below. An important caveat to this analysis is that the analysis is based on today's incentives which may change by the time the project would be implemented.

Array Size	Approx. Cost	Ownership	BETC (net of broker fee)	EWEB Grant	Federal Tax Credit	Cost to College	College Cost per kWh	College Cost as % of Total
110kW	660,000	College	148,000	25,000	N/A	487,000	0.00	74%
250kW	1,581,000	Third party	321,000	50,000	437,000	375,000	0.07	24%
500kW	3,025,000	Third party	676,000	100,000	920,000	750,000	0.07	25%

HOUSING

Sources of Funds

The anticipate source of funds for the residential building is assume to be new full faith and credit tax-exempt bonds issued by the College. The debt service on the bonds would be covered by the net operating income of the project (a detailed financial analysis of the residential component is included in Section 5 of this report).

Sustainability Incentives are anticipated to include Business Energy Tax Credits (BETCs) and grants from EWEB and Energy Trust of Oregon (ETO). Assuming a LEED Gold certification for the Housing component of the project, the BETC pass-through amount (i.e., amount that the purchaser of the tax credit would pay), would be approximately $110k. As explained above, per current changes to the program by the State, the BETC program for sustainable buildings will sunset in July 2012; thus, unless the legislature decides to extend the program, projects would have to be complete and have received their LEED certification by July 2012 to be eligible for the tax credit. Assuming the residential building saves 35% over a building designed to meet code, the approximate EWEB grant amount would be $60k. The Sustainability Incentives should be studied and refined during the next phase of the project.

SOURCES	
New Issuance of College Full Faith and Credit Bond	15,623,000
Sustainability Incentives	TBD
TOTAL SOURCES	**15,623,000**

Uses of Funds

It is assumed that the City will transfer ownership of the site to the College at no cost. The site, core and shell and tenant improvement hard cost estimate was provided by Lease Crutcher Lewis (LCL), based on the concept drawings. LCL's estimate includes a 7% design and estimating contingency and a 2% construction contingency.

Additional hard costs include a FF&E allowance to furnish the units and community areas (based on actual per bed costs from similar projects), as well as an allowance for technology-related equipment. The 'other construction hard costs' line item includes security and access control equipment and building signage.

The City of Eugene provided an estimate of building permit fees and system development charges. The Design Team provided the estimate of Architectural and Engineering fees. Other soft costs (i.e., legal fees, title insurance, general liability insurance, testing and inspection, commissioning and LEED documentation) were estimated based on input from relevant consultants as well as prior experience on similar projects.

The overall project budget includes a 5% contingency on the hard and soft costs. The financing costs assume 2% of the total bond amount for all costs associated with the bond issuance (underwriter fee, legal fees, rating agency fee, etc.). Capitalized interest was estimated assuming the entire bond amount is outstanding during a 19 month construction period at 4.5% (today's interest rate based on a tax-exempt bond with the full faith and credit of the College), with some of the interest expense being offset by earnings of 1.5% on the reinvestment of the bond funds until they are needed for the project. It is assumed that a debt service reserve fund will not be required.

USES	
Land Cost	0
Site, Core and Shell and Tenant Improvements	10,810,000
FF&E and Technology	746,000
Other Construction Hard Costs	70,000
Architecture & Engineering	961,000
Permits & Fees	432,000
Other Soft Costs	859,000
Financing Costs	1,074,000
Contingencies	671,000
TOTAL USES	**15,623,000**

12. Project Schedule

The College originally envisioned a three-phase implementation process, with open competition at each step.

Phase 1 – Feasibility Study (completed)

Phase 2 – Design

- Selection of Phase 2 project manager and design team
- Schematic Design
- Design Development
- Construction Documentation

Phase 3 - Construction and Move-In

- Bidding
- Construction
- Commissioning
- Move-in

This process is representative of the traditional design-bid-build delivery method outlined in Section 10. Assuming that the ideal opening for the Downtown Campus is in the fall, it would be easy to have the facility completed by Fall Term 2013. This schedule is the upper option depicted on page 12-3.

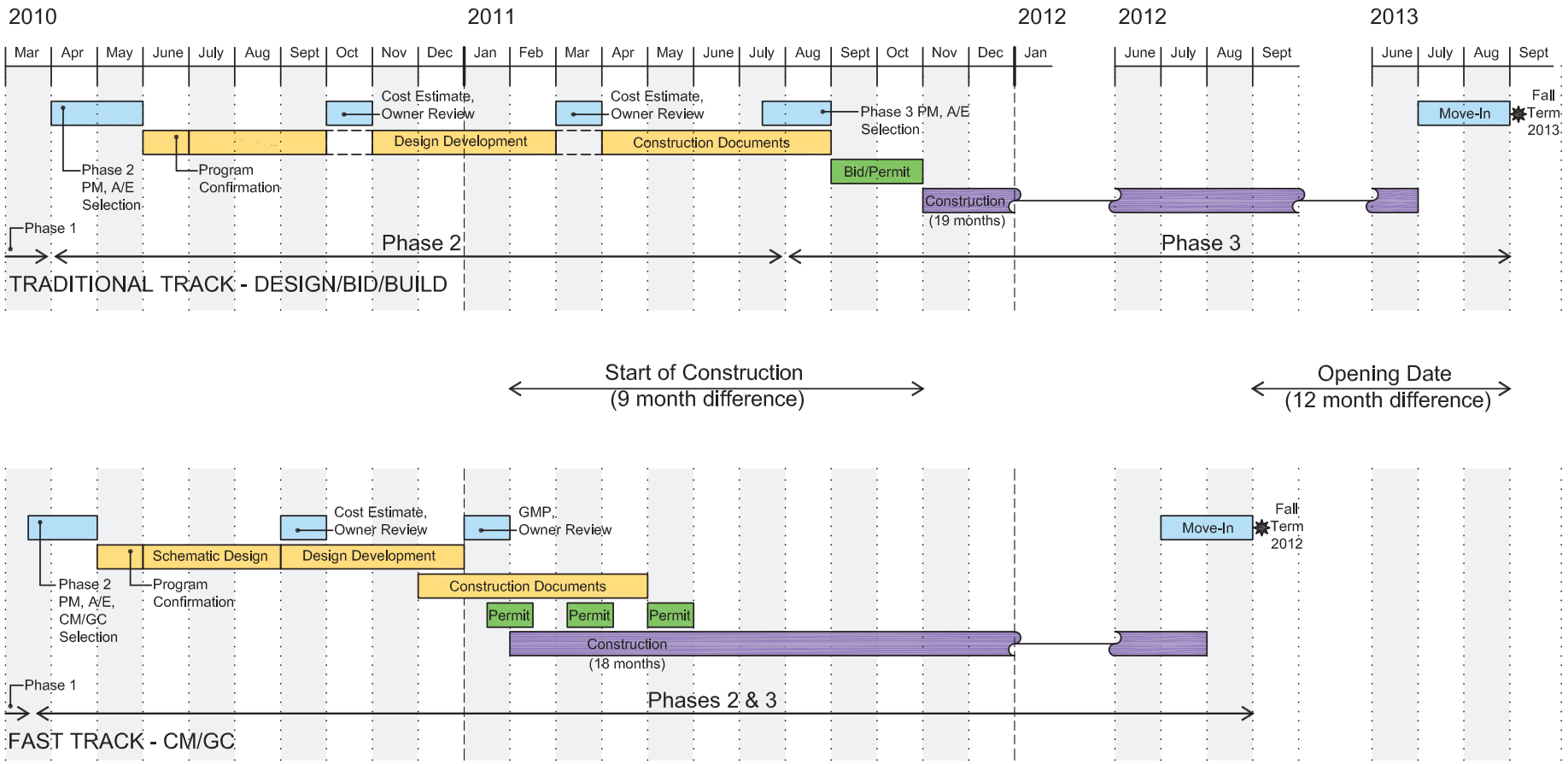
However, if the College is in a position to move forward more quickly it is feasible, using the fast-track CM/GC method, to have the Downtown Campus building completed for the fall of 2012. This represents a potential time savings of up to a year. This approach would require the College to expedite the selection of the project manager, the design team, and the CM/GC as quickly as possible. This option is the lower schedule depicted on page 12-3.

A comparison of the two schedules graphically indicates the potential 12 month time savings. Retaining the CM/GC early and the establishment of the Guaranteed Maximum Price before all construction

documents are completed, allows for phased permitting and the potential of the construction to begin in February 2011. This is about 9 months sooner than the Design-Bid-Build approach shown.

A significant advantage of an accelerated timeline is to take advantage of the current economic climate and minimizing the risk of construction cost escalation. National averages for construction prices are currently about 14% less than they were 18 months ago. The decline has slowed significantly and may even be beginning to rise with predictions of 2% to 3% increases during 2011.

The fast-track approach would require the College to make design decisions very quickly so as not to slow down the design process. Because some design issues prompt questions about educational objectives, and because key decision makers continue to have normal teaching and administrative responsibilities throughout the design and construction process, the need for quick decisions can be challenging. However the savings in both time and money make it worth considering.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Sept
Cost Estimate, Owner Review
Cost Estimate, Owner Review
Phase 3 PM, A/E Selection
Move-In
Fall Term 2013
Design Development
Construction Documents
Phase 2 PM, A/E Selection
Program Confirmation
Bid/Permit
Construction (19 months)
Phase 1
Phase 2
Phase 3
TRADITIONAL TRACK - DESIGN/BID/BUILD
Start of Construction (9 month difference)
Opening Date (12 month difference)
Cost Estimate, Owner Review
GMP, Owner Review
Move-In
Fall Term 2012
Schematic Design
Design Development
Construction Documents
Phase 2 PM, A/E, CM/GC Selection
Program Confirmation
Permit
Permit
Permit
Construction (18 months)
Phase 1
Phases 2 & 3
FAST TRACK - CM/GC