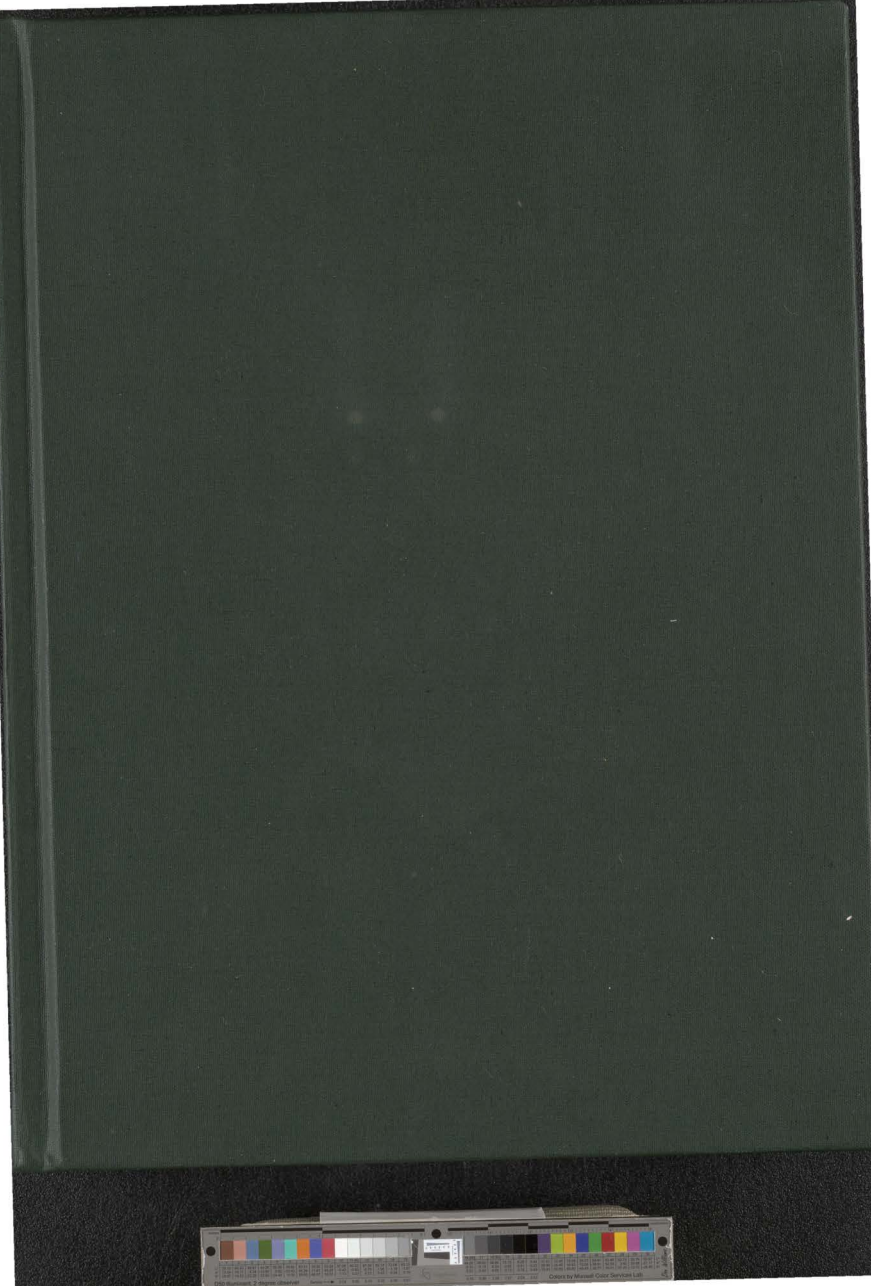

HISTORIC STRUCTURES REPORT:

THE EDUCATION BUILDING AND COMMERCE HALL, (THE WEST AND EAST WINGS OF THE GILBERT COMPLEX) ON THE UNIVERSITY OF OREGON CAMPUS, EUGENE

A TERMINAL PROJECT
BY DAVID ADAM SINGER

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HISTORIC PRESERVATION DEPARTMENT
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To Major

This man's best friend.

✦ACKNOWLEDGEMENTS✦

The quality and thoroughness of this project would not have been possible without the assistance of the University of Oregon Planning Office. I would like to individually recognize my Terminal Project Committee for their dedication, patience and professional contribution to this report. Professor Leland M. Roth has inspired me as a writer and distinguished historian. Christine Thompson's background in Historic Preservation and Planning has helped tailor this document to the specific needs of the University of Oregon Planning Office. Frederick L. Walters provided me with great encouragement throughout this project and I would like to offer thanks for his gentle lessons on how to really look at a building. Many thanks to Professor Donald Peting and Deborah Snyder who have helped make my experience in the Historic Preservation Department positive and productive. I would like to thank the Graduate School for their sincere interest in this project and the financial support to reproduce this document in color. The support of my friends and colleagues has given me the confidence to achieve my goals and I would like to heartily thank them all. Thanks to Grant Crosby, Robert Morgan and Bud, of the Dorris Ranch, who will always inspire me to be a better, kinder and gentler spirit. And, special thanks to my friend, colleague and confidant Tracey-Ann Althans for showing me that I had the moxie to make this project a success. Lastly, and most importantly, I would like to thank my mother and father, Laura and Sheldon Singer, for their continued support of my dreams, and all the love and all the pride that any parent could show a son.

✦EXECUTIVE SUMMARY✦

The Education Building and Commerce Hall represent a vital connection to the heritage of the University of Oregon's architectural development. The buildings signify the inception of Ellis Lawrence's planning and design efforts at the University, which are still quite evident on the campus today. The quality, craftsmanship and detailing of their original construction is demonstrated by their admirable condition.

There are a number of areas that need to be addressed in order to maintain and improve the quality and integrity of the condition of the structures in the long-term. The Education Building needs to be repointed above the third story level, at selective areas in the lower floors, and at the main entry stair. The brick walls of the main entry stair to Commerce Hall need to be repointed and repaired. Care should be given to the sensitivity of the seismic upgrading schemes for both buildings in order to avoid solutions that are intrusive to the building's historic fabric and overall character. The historic gable-end parapet and cascading corbelled arches on both buildings should be reinstated. The entry stairs and landings to both structures should be restored to their original orientation. A system of monitoring should be established for the building's envelope, and all fenestration should be examined and repaired appropriately. Any alterations to the interior of either structure should respect the extant historic fabric and remaining spatial organization wherever possible. Finally, the proposed replacement addition should not impinge any further on the exterior historic fabric and should attempt to appropriately address Lawrence's historic planning strategies.

✦Preface✦

This Historic Structures Report (HSR) was prepared as partial fulfillment of the requirements for a Master of Science in Historic Preservation at the University of Oregon. It is presented as a final project, which represents the individual research and documentation efforts of the author. The fundamental objective of the report is to document and assess the current conditions of the historic Education Building and Commerce Hall. Issues relating to the contextual history of the buildings will support this documentation. This HSR is intended for use as a reference guide for the University of Oregon Facility Services teams, the University Planning Office, Campus Planning Committee and others responsible for the stewardship of the buildings and the site. The final product of this project is a usable document consisting of recommendations for conservation treatments and restoration guidelines for the sensitive treatment of the historic components of the Gilbert Complex.

The Gilbert complex, which currently houses the Charles H. Lundquist College of Business and general classrooms, is comprised of four buildings, including two historic and two non-historic structures. This HSR provides an in depth examination of the 1916 Education Building, now known as the west wing of Gilbert, and the 1921 Commerce Hall, now known as the east wing of Gilbert. For purposes of clarity, these buildings will be referred to by their historic names in the body of the report. The two non-historic structures in the complex are the Chiles Business Center (1986), and the Commonwealth addition (1951). The Chiles Business Center was not included in this report, however, a critical design analysis of the Commonwealth addition is included in appendix A.

Several areas concerning the buildings and their infrastructure were not covered in this report, as they were beyond the scope of the investigation. Observations of the structural systems are included, however, seismic conditions and Life-Safety performance issues requiring a more technical background than the author was able to provide, have been addressed by Degenkolb Engineers. Degenkolb's recommendations are included in this report in the assessment and evaluation of the buildings. Cost estimates for the labor and materials necessary for the recommended treatments are not addressed in the report. To ensure accuracy and maintain

quality control, these estimates should be prepared under the supervision of the project management staff in the offices of Facility Services at the University of Oregon. The Secretary of the Interior's Standards for the Treatment of Historic Properties will be referred to in the body of the report. The recommended treatments outlined for each building will adhere to these Standards. The Secretary of the Interior's Standards for the Treatment of Historic Properties including, Preservation, Restoration, Rehabilitation and Reconstruction are located in Appendix E for the readers referral.

✦General Introduction✦

The design of the Education Building and Commerce Hall set a standard for quality in masonry construction that could never again be financed on the University of Oregon Campus, projecting a campus wide architectural idiom that remains both eclectic and diverse.[1] The Education Building and Commerce Hall represent the beginning of the largest major building campaign in the University of Oregon's history. This building campaign was headed by Ellis Fuller Lawrence, Campus Planner, University Architect and founding Dean of the School of Architecture, starting when Lawrence established his position at the University in 1915 and ending with his death in 1946. The Education Building, designed by Lawrence and constructed in 1916, was the first to be completed on the main quadrangle for the 1914 Campus Plan. Commerce Hall, also designed by Lawrence, became the second building on the proposed quadrangle in 1920. These buildings are constructed of brick with architectural terra cotta detail and mirror each other across a courtyard located prominently at the northern end of the Memorial Quadrangle. The Education Building and Commerce Hall became an integral pair within a set of six historic structures designed by Ellis Lawrence, which surround the quadrangle at the major academic center of the campus.[2]

Over the years the Education Building and Commerce Hall have suffered interior alterations, incompatible additions and deferred maintenance, leading to the deterioration and subsequent removal of historic building fabric and some loss of defining architectural character. These buildings represent Eugene's link with the expanding national interest in brick structures that incorporated terra cotta detailing. This trend lasted from the late nineteenth century to the 1930's.[3] The ornamental terra cotta and brick masonry detailing on these buildings were custom designed by Lawrence in his eclectic style, embellished with symbolic detail and handcrafted to exact specifications. This report will assess and evaluate the condition of all

[1] Michael Shellenbarger, "Ellis F. Lawrence: Nonresidential Design," in *Harmony in Diversity: The Architecture and Teaching of Ellis F. Lawrence* (Eugene: University of Oregon, 1989) 42-60

[2] The other four include: Condon Hall, Chapman Hall, Knight Library and the UO Museum of Art.

the materials that comprise the building envelope. The investigation will try to identify problem areas where building systems connect or join. Recommendations for monitoring, repair or replacement will detail the most current and sensitive conservation strategies.

Significant portions of the interiors of these buildings have been altered and manipulated into classrooms and office spaces with dividing walls and suspended ceilings. The entire stair structure in the Education Building has been replaced for Life-Safety purposes. Most of the original interior finishes and built-in features have been removed or covered over by two major interior alteration projects, which occurred in 1951 and 1975. This report will assess and evaluate the historic interior architectural elements which remain and will provide recommendations for interior treatments.

The Commonwealth addition attached the Education and Commerce buildings on their Northern facades in 1951.[4] The designed attachment required the removal of historic fabric and redefined the character of the setting where these buildings were originally placed. The Commonwealth addition is stylistically dissimilar with the historic structures. It is a modernist expression with banded steel sash windows and smooth faced brick cladding. The historic grand entry promenade, designed by Ellis Lawrence, is now minimally connected to the main quadrangle by a small breezeway through the addition. This report will briefly assess and evaluate the Commonwealth addition's compatibility and sensitivity to the historic structures and the site. The evaluations and recommendations will be based on the guidelines set forth in Preservation Brief 14, *New Additions to Historic Structures*, and the 1991 Long Range Campus Development Plan.

At present, the Lundquist College of Business has outgrown the capacity the Commonwealth addition provides and is planning to replace it. Current fiscal plans for the replacement of the

[3] James M. Hamrick, Jr., "A Survey of the Use of Architectural Terra Cotta in American Commercial Architecture, 1870-1930," *(M.S. Thesis* University of Oregon, 1979).

[4] The Portland firm of Wick and Hilger's, were the architects of the Commonwealth addition and the interior remodel of the Education building and Commerce Hall. The UO Campus Architect at the Facility Service Office holds their original drawings.

addition have risen to over thirty million dollars.[5] The SRG Partnership of Portland is the firm contracted by the University for the design of the new addition. The schematic plans for the addition include a net additional square footage of approximately 55,000 - 60,000 square feet. The proposed four-story structure is to provide general university classrooms as well as classrooms and offices for the Lundquist College of Business, and will result in a net gain of approximately 600 classroom seats. The proposal also includes a remodel of the three floors of the Education Building and Commerce Hall. As a result, these two historic buildings have been placed at the center of much discussion, heightening the potential for the stabilization and restoration of these building's facades. Given the significance of the structures, the quality and significance of their original construction and materials, the potential for available funding, and the wide array of people interested in the welfare of these buildings, this Historic Structures Report could have a vital impact on the quality and sensitivity of potential stabilization and restoration solutions.

[5] Charles Lillis and his wife, Gwen, have given $12 million to the University of Oregon's Lundquist College of Business to help finance construction of the Lillis Business Complex. Lillis, earned a Ph.D. from the UO business college in 1972. An additional $4.85 million in private gifts has been pledged to the project, and the State of Oregon will furnish 10 percent of the project cost through the sale of bonds.

FIGURE 1: 1916 EDUCATION BUILDING SOUTHEAST ELEVATION – CIRCA. 1935
Lawrence Collection, Courtesy of Special Collections, Knight Library, University of Oregon.

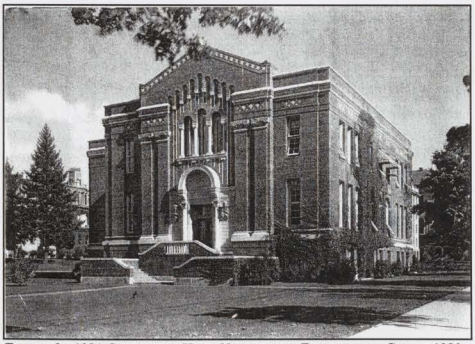

FIGURE 2: 1921 COMMERCE HALL NORTHWEST ELEVATION – CIRCA. 1930
Lawrence Collection, Courtesy of Special Collections, Knight Library, University of Oregon


Colors by Munsell Color Services Lab

PART ONE

CONTEXTUAL HISTORY

✦Abstract✦

On January 18th, 1916, the *Oregon Emerald* printed a front page headline article entitled, "New Unit Will House School of Education and Law Department." The article mentioned that the site chosen for the structure was a bit controversial in that it proposed to commandeer the baseball and soccer fields, which were also used for military training. The action had been authorized by the Board of Regents with an estimated cost of $40,000 for construction. The School of Education building was to temporarily house the School of Law and Extension Department. Another article appeared in that same column which referred to the new philosophical approach Oregon was to take toward higher education. President Prince Lucien Campbell advocated that the old academic theory of "education for leadership" be abandoned. "Educate them all" was Campbell's new motto. So began the history of the Education Building and the expansion of the University of Oregon campus. The Education Building was the symbolic beginning to a new philosophical era at the University of Oregon, as well as the beginning of the single largest architectural expression in the University's history. The Education Building bolstered Lawrence's ambition to take the helm of the University's architectural development. His desire to create the architectural landscape for the University was amplified by President Campbell's philosophical ambition to expand the academic capacity of the campus. To this end, Lawrence contacted A.C. Dixon of the Board of Regents in regard to the appointment of a Chief Architect for exclusive rights to all commissions on

the University campus. In a letter to Dixon dated January 26, 1916, Lawrence emphatically stated that,

> " It seems to me a question of definitely selecting, as the Head of the School of Architecture, a man who will give all of his time to teaching and who has the confidence of the profession...and, demonstrating the confidence in such a choice, by entrusting him with the care of the physical properties and execution of the university buildings, thus eliminating any disagreeable elements of competition for the architectural commissions of the university work." [6]

Lawrence strengthened his case by identifying the trend in "reputable schools" which appointed the Heads of the Schools of Architecture to exclusive university design commissions, such as Boston Tech's Mr. Despradelle, Carnegie Tech's Mr. Hornbostel in New York, the University of California's Mr. John Galen Howard, and the University of Washington's Mr. Carl Gould. Lawrence was shortly thereafter appointed University Architect and his planning efforts would begin to evolve.[7]

There are many anecdotal themes and variables that comprise the contextual history of the Education Building and Commerce Hall. The specific history of the buildings is not in itself compelling, but their relationship to certain trends in architectural philosophy, design, and planning can provide great insight into the development of the campus. Lawrence's planning efforts will forever be the major thematic core of the campus's landscape. His choice of building materials such as terra cotta reflect national trends, and the evolution of his unique style had a character based on the teachings of both the nineteenth and twentieth centuries. Changes in occupation and the chronology of alterations only tell a small part of the complex interdependent history between these buildings, the university, the state and the nation. This history is at a critical juncture where the planning and design decisions made in the present regarding the replacement of the 1951 Commonwealth addition will yield new interpretation

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[6] Lawrence to A.C. Dixon, Board of Regents, January 26, 1916, , University of Oregon Special Collections, Kinght Library, Lawrence Collection, Box 9.

[7] An earlier letter to A.C. Dixon at the Booth-Kelly Lumber Company appears in the Lawrence Collection, dated October 13th, 1915. Lawrence was responding to a request for supervision and development of the grounds, and specifically outlined hourly fees and a commission he and his partner, Mr. Holford would receive for the Education Building.

when these buildings are examined fifty years from now. It would have taken incredible foresight to imagine that from the humble beginnings of the University of Oregon Law Department and its small library in the Education Building that the Knight Law Center would come to pass.

✦Ellis Fuller Lawrence✦

To truly appreciate the significance of any building designed by Ellis Fuller Lawrence, it is necessary to understand the breadth of his impact on the architectural profession in the State of Oregon. The freedom to explore the undeveloped architectural landscape at the turn-of-the-century in the Pacific Northwest was the perfect match for Lawrence's passion for design and his personal motivation to establish himself within the profession both locally and on a national level. Architect Willis Polk, the first President of the Architectural League of the Pacific Coast (ALPC), founded by Lawrence in 1909, said, "He [Lawrence] was a steamroller for work. I never saw a man who works so industriously, so enthusiastically, so continuously."[8] The published works that document Lawrence's career chronicle several major organizational institutions, actively fostered or founded by Lawrence in the State of Oregon. These organizations include: the Portland Architectural Club (PAC) founded in 1906, the ALPC of 1909, the Oregon Chapter of the American Institute of Architects (AIA) established in 1910, the Builders Exchange founded in 1911, and the Oregon Building Congress established in 1921. The focus of these institutions and organizations varied from classes in architectural design and training in traditional building crafts, to providing a forum for communication between architects, owners, contractors, and the local politic.[9] The common thread of Lawrence's participation in these organizations was his desire to instill a level of professionalism and quality in the building community. He wanted to establish a standard of quality in Oregon's built environment, and he wanted that standard to include an artistic appreciation.[10] These simple but lofty goals were formed at the earliest stages of Lawrence's training.

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[8] Proceedings of the Second Annual Convention of the Architectural League (Los Angeles: April 1912) PG 42.

[9] Shellenbarger, *Harmony in Diversity,* 12-13.

[10] The first formal classes in architectural design were established by Ellis Lawrence in Portland, through the Portland Architectural Club in 1909. Lawrence also taught a night class for carpenters at the YMCA. Through his affiliation with the Oregon building Congress, he established an apprenticeship school and the Guild of Craftsmen. The Guild was recognized by both Herbert Hoover and FRD, and inspired others in both New York and Pennsylvania.

Lawrence was introduced to the tools of the architectural profession at a very early age at his father's manufacturing business in Boston, Massachusetts, where artist and engineer supplies were made and sold. His first love was portraiture, which he enjoyed throughout his lifetime. In college, though, he turned his developing drawing skills to architecture. Lawrence attended Massachusetts Institute of Technology (MIT) and graduated in 1902 with a Master of Architecture at the age of twenty-three. MIT was the first university in the United States to offer a program in architecture, beginning in 1865, and the school's guiding doctrine and curriculum were patterned after the distinguished program at the École des Beaux-Arts in Paris, France.[11] Lawrence's chief professor at MIT, Mr. Constant Désiré Despradelle, who was a graduate of the École des Beaux-Arts himself, highly influenced his conservative approach to design and planning.[12] Lawrence's campus planning efforts took advantage of traditional design strategies highly espoused by the École, characterized by strong symmetrical elements and dominating axis connecting promenades to malls, squares and quadrangles. His residential buildings were also conservative in nature, employing well-known and accepted styles such as the Colonial and Arts and Crafts style. His civic, academic and ecclesiastical design work had its basis in classicism and time-honored architectural form. Lawrence's old-school approach is clearly visible in his design for the Education Building, yet it is markedly unique.

Lawrence expanded his conservative trappings with modern design ideas that were developing in the architectural community at the turn of the century. Lawrence was a strong advocate of a trend referred to as Academic Eclecticism, which was a prevailing idea in the United States well into the mid-1930's.[13] Using classical precedent as its underpinning, the philosophy of Academic Eclecticism was based on the evolutionary manner in which new styles develop from styles of the past. The Education Building, Lawrence's first structure on the university

[11] Lawrence participated in an atelier while he was in Paris, France, after finishing his studies at MIT. The atelier, run by Eugene Duquesne, was not affiliated with the École des Beaux-Arts.

[12] Leland Roth, "Ellis Lawrence: The Architect and His Times," *Harmony in Diversity* (Eugene: University of Oregon, 1989). 62

[13] Bryan Crawford, *The Residential Architecture of Ellis Fuller Lawrence.* (M.S. Thesis, University of Oregon, 1988).

campus, was a statement that had great impact on the diverse architectural idiom he envisioned on the campus. The exotic style of the Education Building and Commerce Hall has been contemporarily labeled Mediterranean, but it is likely Lawrence himself might have termed the style, "Modernized Byzantine.[14]" Lawrence adapted his mastery of historical styles into an eclectic expression in the Education Building, whose design features stepped away from the strict form of classical elements in an inventive, lively manner. Many of the building's components such as column and pilaster capitals, inset tiles, roundels and fenestration are symbolic and allegorical, yet they playfully form a harmonious expression. Lawrence designed and built over twenty-five buildings on the University of Oregon campus, each with a unique expression that contributes to a collective diversity.

"Harmony in diversity" was an acclaimed saying of Lawrence. This saying represents a strong philosophical commentary on the melting pot culture in the United States at the beginning of the twentieth century. It represents the open-minded approach of men and women willing to change with the times, question the status quo, and re-examine societal norms within their profession in an evolutionary light. In design, it is clear by looking at Lawrence's work that he had a deep respect for history and tradition, but accepted the challenge to explore the nuances of several styles in order to form new successful expressions. His insightful, open-minded philosophy also inspired a controversial challenge to the accepted teaching methods within the architectural community.

Lawrence's formal architectural training had its roots in the traditional Parisian style of the École des Beaux-Arts. Lawrence embraced the opportunities which the fine arts could lend to his architectural design palette, using wrought iron, painting and sculpture in his own work. Once the School of Architecture at the University became established, Lawrence expanded the traditional architectural curriculum he was exposcd to at MIT and incorporated more classes

[14] *Ellis Lawrence Building Survey*, Volume 2, Micheal Shellenbarger and Kimberly Lakin-Project Directors, (Salem: State Historic Preservation Office, 1989). The Education Building and Commerce Hall evaluation forms are printed in this volume, as are all other Lawrence structures located in Eugene.

in the fine arts. The School of Architecture and Fine Arts was founded on this interdisciplinary curriculum and eventually becoming the School of Architecture and Allied Arts, including the following classes; weaving, textiles, pottery, tile, terra cotta, modeling, carving, bookbinding, leatherwork, needlework, jewelry, costume design, illustration and painting. At first Lawrence formed the coursework for the Architecture Program patterned after the disciplines of the competitive design studios, rooted in the Beaux-Art atelier system, and assigned traditional academic design problems. However, after the School's membership was secure in the Association of Collegiate Schools of Architecture, he eliminated the competitive tension of the studio, and began incorporating practical problem statements. The construction projects on campus became part of the studio experience.

Lawrence required his students to participate in real world construction projects at the university, linking the curriculum with the university's building program. At the height of Lawrence's building campaign on campus, the university was acting as its own general contractor. The Chief of Construction and Mechanical Inspector were part-time faculty members, teaching coursework in construction and working drawings at night. This situation provided a unique opportunity for the students at the University of Oregon. In combination with this, student efforts were called on in conjunction with faculty members to produce works of art for Lawrence's new building designs for the campus. Students in the School of Architecture's building classes made inspection of these new campus buildings twice a week. The Education Building and Commerce Hall provided an invaluable opportunity for Lawrence to instill in his students the value of teamwork, and his philosophical appreciation for the "art" of building.

Lawrence was a visionary architect and he incorporated his ability for insight and teaching into many realms of his professional and academic career. Lawrence reveled in the chance to create a forum to teach and improve the skills and knowledge of people in the building community. This is evident through his foundering and support of many organizations, most significantly his fathering of the School of Architecture and Allied Arts at the University of Oregon. Lawrence's former partner and classmate from MIT, E.B. MacNaughton, poignantly

summarized Lawrence's idealism when he said, "While so many of us were making money, Lawrence was making men."[15]

FIGURE 3: ELLIS LAWRENCE AS A SENIOR AT MASSECHUSETTS INSTITUTE OF TECHNOLOGY. Lawrence Collection, Courtesy of Special Collections, Knight Library, University of Oregon.

[15] Mable Holmes Parson, "One of Oregon's Great Men," radio script, c. 1946, Lawrence Collection, Knight Library, University of Oregon.

✧LAWRENCE SURVEY✧

Michael Shellenbarger, the Director for the Historic Preservation Program in the School of Architecture and Allied Arts at the University of Oregon, led a survey effort focused on the projects of Ellis F. Lawrence In 1989.[16] Students in the Historic Preservation Program and many professionals in the preservation community surveyed and evaluated each building identified as designed by Lawrence or his associated partners, 257 in all.[17] Survey forms that conformed to the Oregon's State Historic Preservation Office (SHPO) requirements were used for each individual field documentation. An intensive evaluation process followed this. The evaluation form was designed specifically for the survey, and rated each building in three separate categories including integrity, distinction, and educative or associative value. The total score for an individual building was a cumulative result of all three categories. A base line score of forty-one points or more was settled upon by SHPO to indicate primary ranking in the survey and determine eligibility for the Nation Register of Historic Places. Both the Education Building and Commerce Hall received primary ranking in the evaluation, scoring over sixty points each, and are eligible for listing on the National Register. The statement of significance in the survey forms for the Education Building and Commerce Hall read as follows.

> Commerce and Education buildings were designed by Lawrence to be the twin "entry pylons" for his new campus quadrangle, and Education was his first major building to be built on campus. Commerce and Education are near twins in appearance. Except for alteration to the front stairs and truncation of the entry gabled parapets of both buildings, and the addition that joined them, the appearance of both is nearly as built. The quality of these two buildings was never matched in other UO [University of Oregon] buildings, but their architectural style set the pattern for Condon and Chapman Halls, which followed with simplified detail, and to a lesser extent, The Library. Together with the Museum of Art, these six buildings form the major build ensemble of Lawrence's career.

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[16] *Ellis Lawrence Building Survey*, 7 vols. Micheal Shellenbarger and Kimberly Lakin-Project Directors, (Salem: State Historic Preservation Office, 1989).

[17] The Lawrence Survey marked the 75th anniversary of the establishment of the School of Architecture and Allied Arts, celebrating the achievements of its founding Dean, Ellis Lawrence. An exhibit was presented at the UO Museum of Art, with its companion publication Harmony in Diversity.

Lawrence's 1914, 1923, and 1932 Campus Plans were also included in the survey. The 1914 Campus Plan received a primary ranking in the evaluation. One year after the survey was completed, in 1990, a Multiple Property Documentation Form entitled *Architecture of Ellis F. Lawrence* was submitted to the National Register of Historic Places.[18] The Oregon SHPO approved the nomination, which established under Section F various associated property types eligible for future nomination. Under the property type "University Buildings," both the University of Oregon Museum of Art, and the University of Oregon Knight Library with Memorial Quadrangle are currently listed with the National Register.[19] The verbal boundary description for the Memorial Quadrangle does not extend into or include the shared courtyard between the Education Building and Commerce Hall. The boundary is delimited by East 13th Street at its northern end.

[18] *National Register of Historic Places*, "Architecture of Ellis F. Lawrence Multiple Property Submission," (Salem: Oregon State Historic Preservation Office, August 27, 1990).

[19] These buildings have had individual nominations submitted and approved by the SHPO.

✦ BRICK AND TERRA COTTA TO STEEL AND CONCRETE ✦

During the early Nineteenth Century in England, brick masonry buildings were often embellished with terra cotta ornament. The popularity of this type of masonry construction in Europe and especially in England had a direct influence on its prominent use in the United States at the beginning of the Twentieth Century.[20] Students enrolled in architectural training programs in the United States at that time, among them Ellis Lawrence, were being exposed to a wide array of construction materials and methods that were rapidly evolving. Traditional brick masonry, in combination with architectural terra cotta ornamentation, was quickly becoming the fashionable construction technology for civic and commercial buildings throughout the nation.

Lawrence's contemporary Ralph Adams Cram, was strongly advocating on the East Coast for "the revival of the medieval Gothic quadrangle as an expression of collegiate traditionalism."[21] Cram much like Lawrence was noted for his emphasis on employing the sister arts of sculpture, painting and other ornamental works in the design of a 'finished building'. The sculptural qualities of terra cotta, in combination with the detailed brickwork of a skilled mason, provided both architects the capacity to construct artful buildings without the economically preclusive use of stone. These materials enabled Lawrence to successfully meld Cram's veneration of the medieval English quadrangle with his plans for the future of the University of Oregon campus.

Four of the six historic structures built between 1916 and 1937 on the University of Oregon's Memorial Quadrangle were constructed of brick with architectural terra cotta ornament. Construction methods and materials were steadily advancing during that time period and Lawrence was a strong proponent of the new technology developing in the construction industry. As a result, each of the four brick and terra cotta buildings on the quadrangle employ a modified or evolved internal structure. The Education Building of 1916 uses a heavy timber

[20] Susan Tunick, *Terra Cotta Skyline* (New York, New York: Princeton Architectural Press, 1997) 2.

[21] Paul Venable Turner, *Campus: An American Planning Tradition* (Cambridge: MIT Press, 1984) 217.

frame within an unreinforced brick masonry bearing wall assembly. In 1921, Commerce Hall switched over to a structural frame composed of steel girders and columns. The construction of Condon Hall, which began in 1924, also used a steel frame within a brick masonry bearing wall assembly, but had reinforced the connections between the steel frame and the masonry. By 1938, when construction began on Chapman Hall, advances in construction technology had evolved much further, supplying Lawrence with a revolutionary concrete framing system. Lawrence's traditional brick masonry bearing wall system was relegated to become an ornamental facing material on Chapman Hall. The architectural terra cotta that was skillfully assembled as a composite unit within the masonry wall assembly of the older structures, was hung by steel rods embedded in the concrete frame.

✦EARLY CAMPUS PLANNING✦

A large part of the contextual history of the Education Building and Commerce Hall can be traced through the evolution of the Campus Plan for the University of Oregon. Lawrence was commissioned to design a master plan for the University of Oregon campus by the State Board of Regents, based on his experience and credentials, which included a campus plan and several buildings for Whitman College in Walla Walla, Washington.[22] Lawrence submitted his selected design to the Board of Regents in April of 1914. In that same year he founded the School of Architecture at the University in Eugene, traveling once a week from his offices in Portland where he maintained a private practice. As Dean of the School of Architecture and Allied Arts, Lawrence eventually took on the role of University Architect in 1915, which gave him exclusive design commissions for all University buildings in order to compensate for an inadequate teaching salary. Lawrence maintained his private practice and retained these positions at the University of Oregon until his death in 1946. During his affiliation with the University he developed a series of three Campus Plans including the 1914, 1923, and 1932 editions.

The 1914 Campus Plan had several prominent design characteristics similar to other campus designs with which Lawrence was familiar. The Regents had sent Lawrence and architect William Knighton to study several college campuses in California in order to generate schematic and stylistic design ideas for the overall layout of the campus. Based on Lawrence's professional experience and his training at MIT, he chose to adopt two traditional campus planning strategies, both of which had their roots in late nineteenth century campus design.

The first strategy involved the use of a modified Gothic quadrangle where the placement and the orientation of buildings surround and define open courtyard or quadrangle spaces.[23]

[22] Shellenbarger, *Harmony in Diversity,* 46.

[23] The adaptation of the modified gothic quadrangle for Whitman College in Walla Walla, Washington, inspired by fourteenth and fifteenth century English colleges, is clearly presented by Professor Leland Roth in the publication Harmony in Diversity. The origin of Beaux-Arts planning and design strategies used by Lawrence are also explained.

Lawrence however, chose to elongate the University's main quadrangle, providing central access to the campus through a north-south orientation. The construction of the Education Building established the first cornerstone of the main quadrangle in 1914, identifying the prominent northwest corner of the scheme. Together with its twin Commerce Hall, built in 1921, these buildings defined the prominent northern end of the Lawrence's original main quadrangle for the university campus, now known as the Memorial Quadrangle.

The second planning strategy employed by Lawrence in the 1914 Campus Plan was the creation of a dominant north-south axis through the main quadrangle. This axis paralleled the historic, more minor axis to the east defined by both Deady and Villard Halls. The use of a dominating axis is characteristic of the Beaux-Arts style of spatial ordering. The new major axis was situated to define an important entrance onto the campus through a set of grand entry gates, now known as "Dad's Gates," eventually built in 1940. These gates are located at the intersection of Eleventh street. This organizing principle defined the site context for the Education Building and Commerce Hall to become the "entry pylons" for the main quadrangle, leading from an arrival area for cars, railroad, trolley and travel along the Millrace.[24] The 1914 Campus Plan included eleven large buildings surrounding the main quadrangle likely with classically inspired eclectic expressions similar to that of the Education Building and Commerce Hall. These buildings were meant to form a grand promenade leading to the southern end of Lawrence's proposal, terminating with a large-scale auditorium structure. This vision was not realized and only two other structures on the main quadrangle, Condon Hall (1921) and Chapman Hall (1937), have survived Lawrence's 1923 and 1932 alteration to his campus plans. Eighty-five years later, however, the basic, prominent schematic design of the Memorial Quadrangle remains intact and well defined in the campus landscape.

Ellis Lawrence's 1923 Campus Plan was basically a revision of the original 1914 scheme. This plan updated the 1914 Campus Plan to include the new buildings that were constructed

[24] Taken from the Statement of Significance for the Education and Commerce building's evaluation. *Ellis Lawrence Building Survey*, 7 vols. Micheal Shellenbarger and Kimberly Lakin-Project Directors, (Salem: State Historic Preservation Office, 1989).

during Lawrence's first eight years as Campus Planner.[25] A total of seventeen new structures were added to the campus in that time frame including the Education Building and Commerce Hall. The 1923 Campus Plan also proposed several buildings to complete the east-west oriented women's quadrangle located behind Knighton's Administration building. It featured a redesign of the southern terminus of the Memorial Quadrangle at the auditorium, with the museum and the library flanking the east and west respectively. The auditorium was never built. Instead, coaxed by the President of the University, Arnold Bennet Hall, Lawrence moved the Library to the conspicuous northern terminus of his grand axial scheme, in effect creating the Jeffersonian metaphor which represented the focus of academic life.

Beyond relocating the library, the 1932 Campus Plan represented some truly visionary thought by Lawrence. Lawrence saw an upward curve in high school enrollment in Oregon and responded with a proposal for a massive expansion of the entire campus, almost doubling the total area. The proposal that relocated the library structure to the head of the Memorial Quadrangle also quadrupled its square footage. Dozens of new buildings were included in the proposal including ranges of dormitories and support buildings at the east edge of campus, and the entire campus was to expand one full block to the west. Pertinent to a discussion of the contextual history of the existing historic structures at the heart of the campus, was the fact that Lawrence himself proposed massive additions to all three existing structures on the Memorial Quadrangle, including the Education Building, Commerce Hall and Condon Hall. These historic buildings were to be integrated into new enlarged complexes for the humanities, sciences, and graduate schools. [26]

Today, the Planning Office at the University of Oregon manages the growth and expansion which Lawrence foresaw through design review of proposed projects the ensure consistency with the 1991 Long Range Campus Development Plan. . This planning document identifies Lawrence's strategic plans and tries to foster managed growth that will not compromise the successful qualities of Lawrence's 1914, 1923, and 1932 Campus Plans. Lawrence was not

[25] Shellenbarger, *Harmony in Diversity,* 49–50.

[26] Roth, *Harmony in Diversity*, 73-75.

far off in his estimation of growth for the University, and the success of his schematic design for the original 1914 Campus Plan remains evident in its ability to accommodate an ever-expanding student population, which has quintupled in size since the class of 1932.

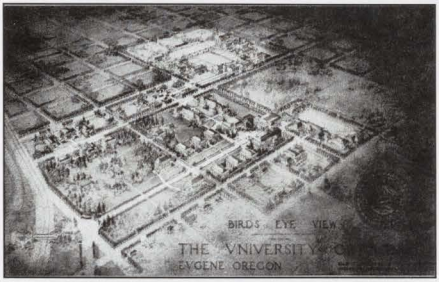

FIGURE 4: 1914 CAMPUS PLAN
COURTESY OF UNIVERSITY OF OREGON ARCHIVES, KNIGHT LIBRARY

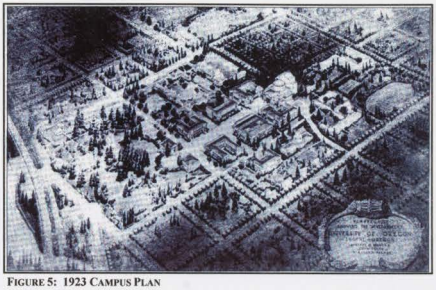

FIGURE 5: 1923 CAMPUS PLAN
COURTESY OF UNIVERSITY OF OREGON ARCHIVES, KNIGHT LIBRARY

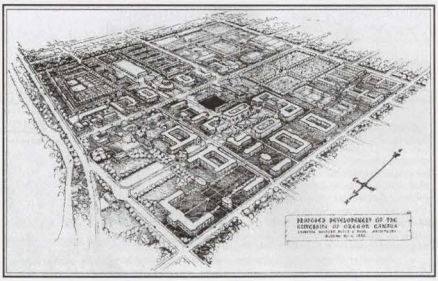

FIGURE 6: 1932 CAMPUS PLAN
COURTESY OF UNIVERSITY OF OREGON ARCHIVES, KNIGHT LIBRARY

✦The 1991 Long Range Campus Development Plan (LRCDP)✦

The Planning Office at the University of Oregon recognizes the broad impacts of Lawrence's visionary master plans, which established patterns of interconnected quadrangles, squares, malls and promenades for the campus. The University Planning Office however, has developed guidelines in the 1991 LRCDP for making development decisions on an on-going basis, rather than basing their decisions on a static "fixed image" master plan.[27]

This type of continual refinement of the development policies at the University is the result of a renowned examination of planning policies in 1973 called the Oregon Experiment. The Oregon Experiment was the brainchild of Christopher Alexander, the Head of the Center for Environmental Structure at the University. The Center collaborated with the University of Oregon Planning Office to develop a new concept for the development of planning policy. According to the LRCDP, "the concept acknowledges the fact that although change will occur, the exact nature and magnitude of that change cannot be predicted with any degree of certainty, and that object-oriented plans based on explicit assumptions about the future become outdated as that 'future' becomes known." Along these lines, the LRCDP adopted the six basic principles from the Oregon Experiment as its underlying premise.

These principles include:

1. Organic Order: Use guiding 'Patterns' which articulate shared traditions and understandings of the University Community, rather than 'fixed image' Master Plans.

2. Piecemeal Growth/Continuous Adaptation: Recognize that development of the campus occurs gradually.

3. Patterns: Articulate commonly held values of the campus environment as it exists.

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[27] The 1991 Long Range Campus Development Plan was written by the University Planning Office and received approval from the Campus Planning Committee, and Myles Brand, the President of the University in 1991. The Oregon State Board of Higher Education adopted the plan, and the Eugene City Council Acknowledged it with resolution #4263.

4. Diagnosis: A periodic analysis of the campus will enable a continuous adaptation of development policies for new structures and additions, and pinpoint needs for repair to existing sites and structures.

5. Participation: Appoint community members and neighborhood representatives for each project and development activity.

6. Coordination: Coordinate separate development activities.

The LRCDP applies these principles to its overall planning guidelines. The LRCDP guidelines have adopted a number of policies from several specialized local planning documents. The Eugene/Springfield Metro Area General Plan is one of these documents.

The Eugene/Springfield Metro Area General Plan lends specific guidance to the LRCDP in relation to its Land Development Policies that affect the historic components of Gilbert Hall. An adopted portion of the Eugene/Springfield Metro Area Plan reads, "adopt and implement historic preservation policies, regulations, and incentive programs that encourage the inventory, preservation, and restoration of structures, landmarks, sites, and areas of cultural, historic, or archeological significance consistent with overall policies." The LRCDP places emphasis on encouraging preserving and restoring campus buildings, witnessed by the ongoing preservation of Villard and Deady Halls and on occasion, other historic structures. It also places emphasis on the University's historic concepts of spatial organization, which were put in place by Ellis Lawrence. To this end, the LRCDP has identified a number of distinct Campus Analytical Areas. The Gilbert Complex is located in what is referred to as Area 11.

Area 11 is recognized as being a major part of the academic core of the campus. The LRCDP requirements for passive open space preclude additional developments in significant amounts in this area. As applied to the development of Area 11, the principles of Continuous Adaptation and Patterns yield the potential for great improvement to the design of the existing Commonwealth addition between the Education Building and Commerce Hall. When reviewing proposals for the new addition, the University Planning Office and the Campus Planning Committee, recognized the impact of the Commonwealth addition as severe. Ellis Lawrence's 1932 Campus Plan, which placed a temple structure on the dominant axis at the

north end of the Memorial Quadrangle, has been referred to for support of the preliminary schematic design of the new addition. The LRCDP provides three stipulations regarding new development in Area 11, including:

1. Further development of East 13th Avenue frontage is to be avoided.

2. Proposals for development in this area need to account for preserving and strengthening (a) the north-south axis from Dad's Gates south to Gilbert, (b) the east-west view corridor from Kincaid and 12th Avenue to Deady Hall, and, (c) the Old Campus Quad.

3. Additions to existing buildings are to be compatible in terms of materials and general character with the original building being improved. New buildings should be compatible with the style of adjacent buildings, particularly with respect to orientation, massing, scale, and materials.

Constructed before guidelines of the University of Oregon Land Use Development Policies outlined by the LRCDP, the design of the Commonwealth addition in 1951 probably received minimal community input regarding its design. The University was responding to the post-war drive to quickly provide increased classroom capacity by expanding its existing infrastructure. Hard evidence of rash decisions to expand are visible in the Robinson addition to Villard Hall, which has compromised the historic integrity of the West façade. Plans for the new connecting addition between the Education Building and Commerce Hall hold great potential to compliment the original intent of Ellis Lawrence's historic planning strategies. The LRCDP can provide some of the guidance necessary to make general planning and schematic design decisions for the new addition. There are also several good publications which can help guide decision-making processes regarding the design of additions and their connection to historic structures. A critical design analysis of the 1951 Commonwealth addition, and a discussion of its impact on the Education Building and Commerce Hall can be found in Appendix A.

PART TWO

THE EDUCATION BUILDING (WEST WING)

- PHYSICAL DESCRIPTION
- CHRONOLOGY OF ALTERATIONS
- INTERIOR DESCRIPTIONS AND ALTERATIONS
- ASSESSMENT OF EXISTING CONDITIONS
- CONSERVATION STANDARDS
- EVALUATION OF EXISTING CONDITIONS
- RECOMMENDATIONS FOR TREATMENT

INTRODUCTION

This section begins with a describing of the location and orientation of the building, and the general style and plan shape. The physical description contains a detailed description of each cardinal elevation. The alterations to the exterior of the building will then be presented in chronological order. A description of the alterations to the building's interior spaces follows. The Assessment of Existing Conditions will break down the building by component including, foundation, entry stairs, exterior walls, fenestration, structure, and interior finishes. Conservation goals ranging from specific to broad-based issues are presented and defined next. Evaluations and Recommendations for Treatment for each of the building components are addressed with regard to the outlined conservation goals.

✦PHYSICAL DESCRIPTION✦

General location

The Education Building was constructed in 1916 on the University of Oregon campus on the northwest corner of what was to become the Memorial Quadrangle. The Education Building is an integral part of the U-shaped Gilbert Hall complex. It is the western wing of the complex. The Gilbert Hall complex was established in 1951 when the Education Building and Commerce Hall were connected on their northern facades by the Commonwealth Addition. The Gilbert Hall complex is separated from the Memorial Quadrangle by East Thirteenth Street, which borders the complex on the south. The Education Building's main entrance faces east, across the central courtyard of the complex from historic Commerce Hall (1920), its twin. Gilbert Hall has become the northern terminus of the campus's dominant central axis, which runs from Knight Library on the southern end, through the Memorial Quadrangle.

Style and Plan Shape

Ellis Lawrence designed the Education Building with his distinctive flair for the eclectic, joining many stylistic nuances into a unique architectural expression. Likely based on his European travel and experience, Lawrence chose a stylistic typology uncommon to the Pacific Northwest, referred to as Mediterranean. Typical elements of the Mediterranean style include a low rectilinear massing with red of buff colored brick or stone walls, and a low pitched clay tile roof. The style was chosen to emulate an academic idiom typical of other campus architecture Lawrence encountered in California, where he traveled with architect William Knighton to research other campus planning and design strategies in 1915. The Education Building employs an L-shaped plan that rises from a concrete slab-on-grade, to three full stories. The first floor is partly submerged approximately two feet below finished grade, and there is no basement level.

East Elevation

A granite cornerstone marked with the 1916 construction date in Roman Numerals is located on the south corner. The Education Building sat prominent and alone on Lawrence's proposed quadrangle when it was first constructed. Each facade of the building therefore, was composed with great care, articulating visual interest from all directions, and rendering certain expressions dependent upon the orientation to the campus. The greatest embellishment went to the main entrance on the east elevation. Here, Lawrence broke the strong horizontal layering of his design with a powerful vertical expression. This vertical expression was achieved with a number of architectural elements. Large paired brick pilasters flank the entry portico, rising from the composite belt course to the building entablature. The pilasters are adorned with flared terra cotta bases and ornamental capitals, embellished with an open book motif surrounded by pine boughs with cones. Two dogleg staircases rise to a central landing, establishing a balcony-like entrance at the second floor level. The stairs and landings are made of cast-in-place concrete. Low brick walls with terra cotta coping follow the stair's configuration. Where this wall fronts the upper landing, a set of ten terra cotta balusters supports the coping. Two wooden doors with ¾ lights are positioned beneath a sixteen paned operable transom. The doorway is set in a coffered terra cotta surround. Engaged terra-cotta columns and a waffle-like field of 8½" square inset terra-cotta panels, set between terra-cotta half pilasters flank the doorway. The engaged columns have square bases with a taurus, and capitals with stylized volutes framing pine boughs with cones. A high-pressure sodium light fixture has replaced the ornamental lanterns, which historically were installed in the waffled terra cotta paneling.

A semi-circular coffered terra cotta arch rests on console brackets supported by the columns, projecting two feet from the wall surface. A terra-cotta roundel sits inside the arch, depicting the symbolic lamp of knowledge resting on several books. Above the entablature and surrounding the arch, is a brick soldier course. The wall assembly above the arch has 2" wide continuous vertical joints rising all the way to the roofline. Three deeply set, narrow, multi-pane-arched windows on a large terra cotta lug sill sits above the entry. The center window rises one pane above the outer windows. These windows are set on vertical hinges. Flanking

the windows are small terra-cotta columns with simply detailed capitals and square bases. The semi-circular arches above the windows are finely crafted with rubbed brick voussoirs, springing from the column capitals and each other. The wall continues to the parapet level where copper flashing, formed to imitate the terra cotta coping's profile and glaze color, has been installed to protect the masonry. Eight terra cotta pendants are set in faux support of the coping. These pendants were salvaged from an alteration to the original wall and parapet detail, which will be described in the Alteration section. The ornately detailed main entrance described above is located on the south side of the East elevation. Typical 6/6 windows flank the south side of the east elevation on the second and third floors. The north side of the east elevation is a simple symmetrical composition with five windows on each floor.

South Elevation

The south elevation faces Thirteenth Street, and is predominantly symmetrical in design. Centered on the first floor is a stepped down entranceway with a terra cotta surround and a twelve pane operable transom. One 6/9 and three 9/9 windows flank the entrance. The third floor has six multi-paned arched windows on vertical hinges. The windows are paired between four brick pilasters with simple terra cotta capitals and bases. Semi-circular brick archs above each windows spring from small terra cotta columns between the pilasters. Small square tiles are inset into the brickwork above the arches. A simple brick entablature rests on the pilasters with herringbone brickwork and inset terra cotta tiles. A corbelled soldier course and rowlock course caps the entablature. The third floor has nine typical 9/9 windows centered above the windows in the lower floors.

West Elevation

The west elevation is broken into two expressions. The north side of the West elevation is a simple symmetrical composition with five windows on each floor, including three 9/9 windows flanked by one 6/6. The wall plane of the south side of the West elevation jogs forward approximately two feet. Centered on the first floor of the south side is a stepped down entranceway and a concrete handicap ramp with pipe railing. Three 9/9 windows flank each side of the entrance. The third floor has two 6/6 windows flanking a centered group of

six 9/9 windows. Brick pilasters with simple terra cotta capitals and bases divide these six windows. The pilasters support a simple brick entablature with herringbone brickwork and inset terra cotta tiles, capped by corbelled soldier and rowlock courses. A 6/6 window, with six 9/9 windows centered between them also flanks the third floor. The windows of the third floor protrude through the first elements of the building's entablature, subtly breaking the strong horizontal geometry on this side of the elevation.

North Elevation

The north elevation, which originally faced Dad's Gates, is divided in two sections. The eastern side has one 6/6 window and three 9/9 windows on each floor. The north elevation's western side is where the Commonwealth addition attaches with a nine foot wide connecting hallway, rising from the first floor to the frieze in the entablature. This side is symmetrical in design, and more detailed. The center portion of the wall jogs forward, book-ended on the second and third floors by paired brick pilasters with terra cotta bases and capitals identical to those that flank the main entry. The first floor has no exterior fenestration. Typical 6/6 windows flank the second and third floors. The frieze in the entablature is embellished with a herringbone brick pattern with terra cotta tiles set on edge. The roof parapet that rises from the entablature has three extra stretcher courses and one soldier course before the coping. A small 6/6 window remains in its original position on the third floor level.

FIGURE 7: EAST ELEVATION – EDUCATION

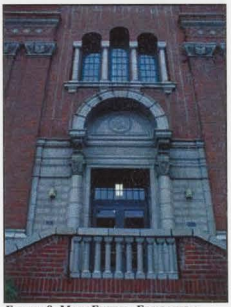

FIGURE 8: MAIN ENTRY - EDUCATION

FIGURE 9: SOUTH ELEVATION – EDUCATION

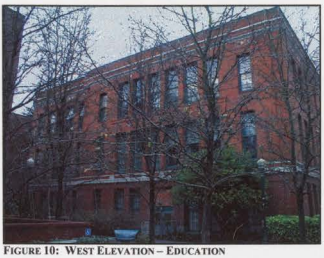

FIGURE 10: WEST ELEVATION – EDUCATION

FIGURE 11: PILASTERS AT NORTH ELEVATION. NOTE VINES AND GROWTH.

FIGURE 12: DETAIL OF TERRA COTTA ROUNDEL

FIGURE 13: TERRA COTTA PILASTER CAPITAL

✦ CHRONOLOGY OF EXTERIOR ALTERATIONS ✦

The Education building retains a high degree of integrity on the exterior, however, there were several alterations that had a significant impact. A minor but symbolic alteration occurred in the early 1920's when Lawrence designed a new Education Building for the University. A framed panel in the entablature above the main entry that read "Education Building" was replaced with a blank panel to avoid confusion. Based on photographic evidence, the large ornamental lanterns that flanked the entry were removed and replaced with more modern fixtures sometime around the 1951 alteration.

The most notable alteration is the 1951 Commonwealth addition. The addition drastically changed the character and flow of the site, disrupting the axial circulation and view corridor established in Lawrence's 1914 Campus Plan. It required the removal of significant and copious detailed historic fabric on the northern façade, which fronted Ellis Lawrence's grand entrance promenade from Dad's Gates. The University of Oregon Seal, depicted in a bass relief terra cotta roundel, was removed from the northern façade at that time and relocated on the northern façade of the Commonwealth addition.

The original entry stairs were manipulated in 1951 to accommodate a regrade of the courtyard created by the Commonwealth addition, raising the finish grade elevation 18 inches which resulted in the removal of one leg of the stair configuration on both the Education Building and Commerce Hall. Apart from the effect on the 1914 Campus Plan, the most notable alteration to the Education Building and Commerce Hall was the truncation of the Gable-end parapet wall above the main entrance. This architectural feature, with its pan and saucer clay roofing tile, was key to the Mediterranean style that Ellis Lawrence designed. In combination with the truncation of the gable-end parapet wall, the cascading corbelled arches in the gable were also removed. Strangely, there is no documented evidence of the alteration in the Physical Plant's records. The location of the missing terra cotta crown pieces underneath the Education Building's stair vault indicate that the regrade, removal of the gabled parapet, and construction of the Commonwealth are chronologically linked.

The stair access to the first floor on the west elevation was manipulated and a handicap ramp access with pipe railing was added in 1975. It is presumed that the terra cotta surround was removed at this time and the transom window above the doors was bricked up. The transom above the southern entry was also removed at this time, which remains covered by a wood panel. The reason for the alteration was probably the lowering of the ceiling height in the hall to accommodate new infrastructure.

When the roof was replaced on the building in 1992, a standing seam metal flashing was installed on the truncated parapet wall, formed to imitate the terra cotta coping which surrounds the rest of the building's roof line. Copper flashing was installed on the inside of the parapet wall at this time and five of the skylights were cleaned, painted and had broken panes replaced. The large skylight over room 301, the historic Law Library, was removed and curbed up.

FIGURE 14: HANDICAP RAMP AT EAST ENTRY, 1975
NOTE THAT THE TRANSOM WAS BRICKED-IN

FIGURE 15: HIGH PRESSURE SODIUM LIGHTS REPLACED THE ORNAMENTAL LANTERNS THAT FLANKED THE ENTRY

FIGURE 16: SOUTH ENTRY WITH ALTERED TRANSOM

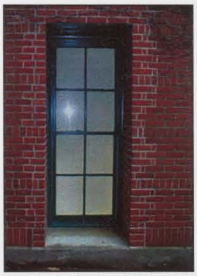

FIGURE 17: WINDOW OPENING ADDED TO THE NORTH ELEVATION ON THE FIRST FLOOR

FIGURE 18: ALTERATION OF TERRA COTTA COPING, 1951

✦ INTERIOR DESCRIPTIONS AND ALTERATIONS ✦

The Education Building had two major alterations to its interior in 1951 and 1975, but the basic spatial organization remains intact. The 1951 remodel, designed by Wick and Hilgers, was done in conjunction with the construction of the Commonwealth addition. It removed almost all finishes and moldings and installed acoustic ceiling tile and asphalt floor tile throughout the building. Most all the interior walls and ceilings were refinished with plaster and a number of the original solid doors were replaced with a hollow wooden core type. The centrally located stair tower, which was originally wood construction, was replaced in the remodel with steel stringers, risers and landings. The walls of the stair tower were replaced at that time with fire-resistant concrete block, and fire doors were added at each floor.

The firm of Michael, Mann and Lakeman designed the 1975 remodel. In this remodel several interior partition walls were added and removed. Suspended ceilings were installed in rooms which had been reconfigured to hide alterations. The handicap ramp access that split the corridors on the second and third floors were also added in 1975.

FIGURE 19: SUSPENDED CEILING, RM 201

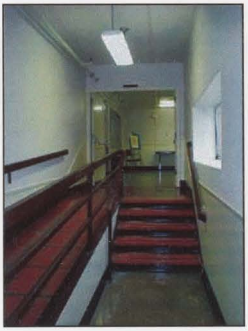

FIGURE 20: TYPICAL RAMP

✦ ASSESSMENT OF EXISTING CONDITIONS ✦

Foundation – Education Building

The foundation around the perimeter of the building is built of a four-foot high, cast-in-place, concrete stem wall with two ¾" reinforcing rods in the footing. It is tied to a slab-on-grade, which forms the substructure of the first floor. The slab-on-grade and stem walls have a layer of water proofing membrane that was imbedded into the concrete. This membrane is composed of five to six layers of tarpaper. No settlement cracks are visible in the accessible portions of the foundation walls. The foundation stem wall in the mechanical room under the stair vault has been cut through for pipe and conduit installation. At ground level on the exterior, the building is finished with a cement plaster or stucco over the concrete stem wall at one to two feet above finished grade. Some of the stucco is spalling off the foundation surface. The wood columns of the interior structural framing rest on cast-in-place concrete spread footings with ¾" reinforcing steel.

FIGURE 21: STUCCO DETERIORATION

FIGURE 22: EMBEDDED WATER PROOF MEMBRANE

Entry Stairs – Education Building

The two dogleg staircases and their respective landings on the front elevation are made of cast-in-place concrete. Small areas of the finish surface of the concrete are chipping away or cracking at the nosing of the risers, and what appears to be the original concrete finish of the stairs is visible beneath. The low brick walls with terra cotta coping that follow the stair's configuration are experiencing some deterioration. The coping is damaged where it was manipulated from the previous configuration, as well as other minor chipped spots on the corners and arrises. Some of the coping has been filled with a cement grout. The set of terra cotta balusters and the terra cotta coping which fronts the upper landing also has some similar damage where the terra cotta body is exposed. The glaze does not only seem to be spalling, but rather the body is chipped by what appears to be mechanical abrasion. The brick walls that support the landing are experiencing some movement due to the expansion of a steel lintel, which is rusting above a ventilation opening in the stair vault.

FIGURE 23: MORTAR DISINTERGRATION AT STAIR

FIGURE 24: CORRODING LINTEL LIFTING STAIR WALL

FIGURE 25: SPALLED TERRA COTTA COPING AT STAIR

FIGURE 26: GROUT PATCH OF SPALLED TERRA COTTA. NOTE THE MORTAR DISINTERGRATION BETWEEN THE COPING PIECES.

Exterior Walls – Education Building

The exterior walls of the structure employ clay brick in an unreinforced composite structural bearing wall construction. Striations on the bricks indicate they were manufactured using a stiff-mud process, where a column of clay is extruded through a steel die, and wire cut to the correct dimension. The first story measures 17 inches thick at four brick wythes, and the second and third story measure 13 inches at three wythes. The walls are composed of a Common Bond assembly. The first floor uses rowlock positioned bricks in every seventh bond course, and the upper two floors have header bricks in every sixth bond course. The brick joints are finished with a concave profile in a relatively hard mortar. Portions of the exterior wall surface, detailed earlier in the Physical Description section are embellished with finely crafted brickwork and unique, cream-color, glazed terra cotta ornamentation with mineral-like speckles in the glazing that imitate stone. The terra cotta is composite with the brick masonry construction, set directly into the assembly with no evidence of metal anchoring systems visible on the building or in the original plans and specifications for the construction. Damage to the terra cotta ornament, which has exposed the porous body to the elements, includes chipping and broken corners. This damage is most visible in areas accessible to human activity around the entry. Moss and ferns have taken root in the joints between the terra cotta above the large entry arch and in numerous places along the upper belt courses and the tops of the terra cotta pilaster capitals.

The windows and doors in the exterior wall have two paired sets of steel angle iron that form the structural lintel above each opening. These are readily visible on the exterior and were protected with a green paint. The second and third floor windows employ lug sills made of brick in a rowlock position. The sills of the first floor windows are weathered to shed moisture, with a cement stucco finish over the brick masonry.

The wall plane is divided horizontally between each floor by continuous design elements. The first horizontal element is the cement stucco finish on the exposed portion of the concrete stem wall. The brick masonry begins with a soldier course above the foundation then continues with the Common Bond assembly. The first floor is separated from the second floor by a large

composite belt course. This belt course is composed of several elements, beginning with a soldier course, then a corbelled rowlock course, then a weathered terra cotta ledger, another soldier course and capped with a simple terra cotta band. This terra cotta band ties into the bases of decorative brick pilasters that appear at various locations on each façade. The transition from the second floor to the third floor is much simpler, with a continuous course of soldier bricks forming the belt course. Finally, a large entablature springs directly from the top of the third story windows, composed of eight elements including both brick and terra cotta. Starting from the bottom, these horizontal elements include a corbelled rowlock course; a corbelled soldier course; another rowlock course; a frieze composed of nine stretcher courses with inset quatrefoil terra-cotta panels centered above each window and pilaster; a molded terra-cotta band with an inset trefoil decoration; a soldier course; a rowlock course; and a weathered terra-cotta cap. Above this rises a brick parapet wall which surrounds the perimeter of the roofline.

The continuous roof parapet varies in depth from 13 to 17 inches. The 33 foot span above the main entry, where the tile covered gable-end parapet was originally located, uses a cavity wall construction, connected with ¾ inch tie rods at 4 feet on-center. The width of the cavity wall parapet is 4 foot 2 inches, measuring approximately 5 feet in height. The remainder of the roof parapet measures approximately 3 feet. The parapet has a large decorative terra cotta coping with standing seam joints. The terra cotta coping on the parapet wall was cleaned and repointed during a 1992 re-roofing project. The mortar joints of the coping were sealed with approximately ¼ inch of latex sealant at that time. Chips in the terra cotta where the clay body was exposed were in-painted or painted over with an enamel-like paint to protect the body from water absorption. Sheet copper flashing protects the masonry around the interior of the parapet wall. 16 oz. standing seam copper flashing, formed and painted to imitate the historic terra cotta coping, protects the top of the masonry wall above the cavity wall where the gable parapet had been removed.

The brick assembly in the entablature and parapet level of the Education Building has a significant amount of moss and algae growth on almost all mortar joints. Upon inspection of

the interior of the attic crawl space, which is relatively warm and dry space, the inside of the exterior walls were found to be dry. The coping on the parapet has a smooth, curved, outer profile, which has become stained dark green from algae growth where water seems to travel. The brick coursing underneath the coping has an accumulation of moss and algae growth also, as do many of the more protected areas and inside corners of the exterior wall. The mortar beneath the growth is soft and is easily removed, indicating that it is not well bonded to the brick or the terra cotta. Clinging to the lower sections of the building are remnants of dead vines and organic debris. Photographic evidence held by the University Archives indicates that these vines once covered the building with a thick mat of growth.

FIGURE 27: ACCUMULATION OF MOSS AND VEGETATION ON THE ENTABLATURE ABOVE THE THIRD FLOOR

FIGURE 28: A MOIST ENVIRONMENT IS NOT APPARENT BEHIND THE PROTECTION OF THE COPPER FLASHING ON THE PARAPET WALL

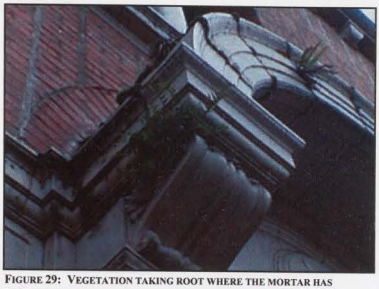

FIGURE 29: VEGETATION TAKING ROOT WHERE THE MORTAR HAS DISINTEGRATED DUE TO WATER INFILTRATION

FIGURE 30: SPALLED TERRA COTTA COPING ON PARAPET

FIGURE 31: SOME IN-PAINTED REPAIR WORK IS PEELING ON PARAPET

Roofing – Education Building

The roofing system on the Education building was replaced in May of 1992. The older built-up roofing membrane was removed down to the historic wood decking. The new roofing surface is flat with a fully adhered elastic sheet membrane over a new layer of 1 ½ inch rigid insulation and a thin moisture barrier. It appears that the slope of the roof was increased. The edges of the new membrane now extend above the bottom lip of the terra cotta coping on the east parapet wall, where it is attached with a metal retaining bar fastened by lead expansion nails through the coping. The roof drains to the west toward an interior iron leader downspout. A new drain body and strainer were installed during the re-roof. 16 oz. Copper counter flashing covers the perimeter edges of the new roofing membrane. This counter flashing was tucked under the older sheet flashing on the roof ventilators and historic skylights. The original roof-ventilating penthouse is still in use, consisting of a wood structure with a flat metal roof covered with tar and louvered walls. The metal components and fasteners are showing signs of rust and the paint has weathered away, leaving the wood exposed.

FIGURE 32: HISTORIC ROOF VENT "PENTHOUSE"

FIGURE 33: LEAD ANCHOR NAILS INSTALLED THROUGH TERRA COTTA COPING TO HOLD THE ROOF MEMBRANE'S RETAINING BAR

Fenestration: Windows, doors and skylights – Education Building

The window jambs are set into the masonry wall, flush with the interior wall surface. All window jambs and sashes are constructed of wood with 6/6 or 9/9 configurations of the panes. All the windows appear original and the typical windows are operable on a horizontal pivoting mechanism. The components of the mechanism seem of the highest quality, cast from a corrosion-resistant brass alloy. The pivoting mechanism allows the windows to rotate backward from the top into a hopper configuration at the half open position and return flush with the jamb when in the fully opened position. A pin at the upper and lower edges of the sash rides in a track in the frame. This pin has caused some damage to the interior finish on several of the windows where it has popped out of the track. The typical locking mechanism is located on top of the lower sash and engages automatically when closed. Window jambs, sashes and other wooden trim are painted green. All windows available for inspection were serviceable. Each window inspected was experiencing a loss of paint and desiccation of the wooden sash, where the wood was deteriorating between the grains causing a rippled surface texture.

Solid wood doors with three-quarter length lights have replaced the paired exterior doors on the east, west and south elevations. Operable transoms sit over the doors on the south elevation and the main entry doors on the east. The operable mechanism is functioning correctly. The transom above the entry on the west was bricked in, in 1975. The wooden surrounds and sashes appear original.

There are five historic gabled skylights on the roof of different sizes. Each is 4 foot 6 inches wide. Two measure 7 feet, two measure 6 feet and one measures 8 feet in length. The skylights use metal framing and mullions with a sheet metal ridge cap. Some of the glass appears original, and some has been replaced. The glass is set into the mullions with a silicon sealant. According to project documents, the skylights were cleaned, resealed and repaired during the 1992 re-roofing. Water leakage was present on the inside of several skylights. According the maintenance worker in charge of the repair, the new caulking did not appear to be dried or cracking badly, but the leak was due to a spotty application of sealant. Finish nails

were pushed through holes in the metal mullions where rivets or screws historically would have been installed. New 16 oz. Copper flashing was installed around the skylights during the 1992 re-roofing. The largest skylight measuring 14 feet by 6 ½ feet was removed and in-filled during the re-roofing.

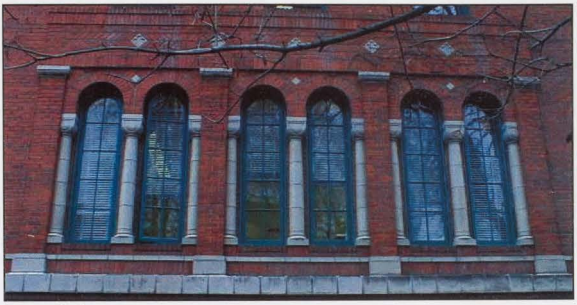

FIGURE: 34: VERTICALLY HINGED, WOODEN SASH WINDOWS WITH BRICK ARCHED HEADDERS, LOCATED ON THE SOUTH ELEVATION.

FIGURE 35: GABLED SKYLIGHTS WITH OPERABLE VENT CAPS

FIGURE 36: TYPICAL ROTATING AWNING WINDOWS

FIGURE 37: PAINT DETERIORATION AND DESICCATION OF WINDOW JAMB AND SASH.

FIGURE 38: PAIRED DOORS WITH ¾" LENGTH LIGHT AND TRANSOM AT MAIN ENTRY.

FIGURE 39: PAIRED SOLID WOOD DOORS AT SOUTH ENTRY WITH TRANSOM REMOVED.

Structure – Education Building

The interior structure is not readily visible. The following description is based on the original construction drawings held by the Campus Architect at the Facility Services Office.

The unreinforced brick masonry bearing walls around the perimeter of the building provide the entire lateral force-resisting system for the structure. These walls contain a large number of window openings, reducing the overall area of the wall surface. The interior framing is connected to the unreinforced masonry walls at the floor levels by metal straps connecting to the joists.

The structural framing throughout the interior of the building is composed of heavy timber column and girder construction. The columns rest on five foot square spread footings, which have ¾" reinforcing rods in their base. There are six spread footings total. Column dimensions are 12x12 at the first floor, 10x10 at the first and 8x8 at the third floors. The girders range in size from 12x16 to 12x20 depending on span. The girders attach to the columns with channel steel supported by 3x3 steel angles. A 14 inch long, ¾" diameter drift pin through a steel plate keeps the columns from shifting off their footings. The girders are set directly into the masonry wall on a steel plate. The floor diaphragms consist of 1x straight sheathing with an overlay of tongue and groove flooring. Floor joists are 2x16 actual dimension at 12" and 16" centers, depending on location. The third floor ceiling joists are 2x14 on 16" centers, and the roof joists are 2x6 on 14" centers. Bridging is common between all joists.

Interior Finishes – Education Building

The building's floor plans are included in the page following this description for reference to individual rooms and the location of original walls and existing historic fabric.

The first floor hall corridors are double loaded, crossing at the central stairs. Two pairs of exterior doors access the hallways at the south and the west. The north side of the building connects to the Commonwealth addition on the first floor, with two doors accessing room 107 and 108. The first floor is dedicated to classroom spaces as it was historically, but several of the traditionally small classrooms have had their dividing walls removed to create larger spaces. The subdivided classrooms include 102, 104, 107 and 108. The classrooms that remain intact include rooms 101 and 111. The two bathrooms in 106 and 110, and the mechanical room in 112 also remain unchanged dimensionally. Most historic interior finishes have been removed from the first floor. Elements remaining include two historic blackboards with chalk rails located in room 101 and 102, and the closet doors appear original in the classrooms and on the storage room at the base of the stair. The mechanical room was left unfinished. In the mechanical room, board form marks and cold joints are visible in the concrete on the underside of the exterior stair. Off the mechanical room, under the stairs, is a vault-like space where the original terra cotta roof parapet ornament and tile had been stored for 48 years.

Currently, the second floor is dedicated to office spaces and a conference room. There is one women's lavatory in room 211. All the rooms on the second floor essentially remain intact. Spatial alterations include the enclosure of a small space off corridor H201 and the extension of a wall in room 209A. Hallway H212 has been split past the stairwell, and a handicap ramp has been added on the left side of the hall with stairs on the right side, accessing the Commonwealth addition. Circulation on the second floor follows the L-shape plan of the building with a double loaded hallway. The hallway begins from the main entry foyer with a set of five steps up, continues straight then doglegs right (north) at the central stair. Sprinkler pipes and suspended fluorescent fixtures follow the hallways. Ceiling, wall and

floor finishes are similar to the first floor in all the spaces except room 201 and 209, which are carpeted and room 201 has cedar wall paneling.

The Third floor houses several offices including Career Services and the Lundquist School of Business Graduate Office. This floor has been altered more significantly than the lower floors but the circulation and spatial organization of the rooms are close to their original configuration. The rooms left intact include 311, 312, 313, 314, 316 and 316. Most all of the interior finishes have been removed. The existing finishes are similar to the lower floors. The north-end of the L-shaped hallway is similar to that of the second floor, double loaded and split with a handicap ramp to the Commonwealth. Five skylights illuminate the third floor. One skylight is located above hallway H312, and another is located next to it, above room 312. One large skylight sits over the stair well, one smaller skylight is located over room 307, and one is partially obstructed over the lobby area outside the Graduate Office. The Graduate Office in room 300, which originally housed the Law Library, had its skylight removed in 1992 when the roof was replaced. The Graduate Office used to be a large space but has since been split up into several rooms. The three arched windows above the main entry on the exterior façade are split on the interior of this space by a dividing wall and a suspended ceiling shortens the room to 12 feet from the original 16 ½ feet. The historic picture molding, plaster cove ceiling and mezzanine were removed from this large third floor space in the 1951 alteration.

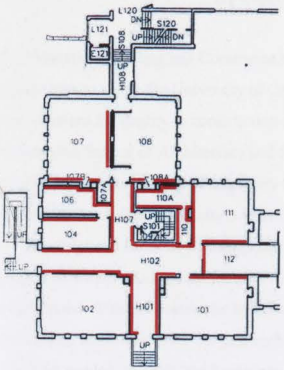

FIGURE 40:FIRST FLOOR EDUCATION BUILDING

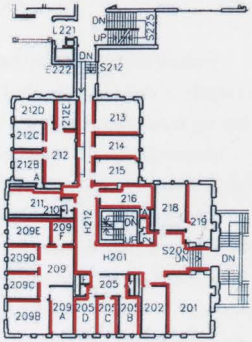

FIGURE 41: SECOND FLOOR EDUCATION BLDG.

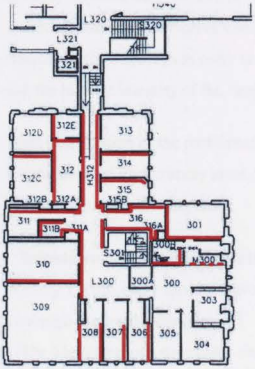

FIGURE 42: THIRD FLOOR EDUCATION BUILDING

Red Lines indicate location of original walls and extant historic finishes.

✦CONSERVATION GOALS✦

The Education Building and Commerce Hall were among the first major architectural expressions to shape the University of Oregon campus in the twentieth century. They set a high standard for quality in construction on the campus and helped to establish strong ties between the School of Architecture and the planning and construction activities on the campus. Given their status of eligibility for listing on the National Register based on issues of integrity and the direct association with Ellis Fuller Lawrence, it is recommended that treatment options for these buildings be carefully evaluated based on long-range conservation goals. The conservation goals for both the Education Building and Commerce Hall should be broad-based. This is because the building's components exist today in various states of repair due to their alterations over the past eighty to ninety years. Therefore, the author believes it would be prudent to apply the **Secretary of Interior's Standard for Rehabilitation**. Rehabilitation is defined as "the act or process of making possible a compatible use for a property through repair, alterations, and additions while preserving those portions or features which convey its historical, cultural, or architectural values." A Rehabilitation standard fosters a broad-based application of various degrees of conservation. This will allow for the improvement of the buildings in order to meet the changing needs of the university, while honoring the historic integrity of the campus's architectural legacy.

An overall examination of the problems that the stewards of the Education Building must manage has revealed four primary areas of concern. Specific conservation goals are recommended for the following areas:

1) Reinstatement of missing architectural elements

The building's main entry facades have had several signature elements of Ellis Lawrence's original design removed including:

- The Mediterranean style gable-end roof parapet
- The cascading corbelled arches below the parapet
- The original entry stair and landing configuration
- The ornamental lamps that flanked the main entry
- The inset terra cotta signage that read, "EDUCATION"

These elements clearly represent Lawrence's great talent in manipulating eclectic historic detail, and his specific decisions about how to effectively address the north end of the Memorial Quadrangle. The high caliber of their craftsmanship is well understood, and accurate documentation and samples exist which will enable the reconstruction and replication of these missing features. It is recommended that the Secretary of the Interiors Standards for Reconstruction be adhered to when crafting the specifications for this section of the work.

2) Conservation and care of the existing exterior fabric

Most of the exterior of the Education Building remains nearly as built. Conservation goals relating to the care of the exterior of the building should make every attempt to preserve in perpetuity the fabric of the historic building's envelope in accordance with the Secretary of Interior's Standards.

3) Conservation and care of the existing interior fabric

Much of the interior of the Education Building has been altered or covered over by subsequent alterations. There are several salient historic characteristics identified in the following assessment that remain intact within the interior spaces. Any rehabilitation efforts within the building should focus on the goal of preserving historic fabric and spatial integrity wherever possible. However, the Standards for Rehabilitation recognize the building's continued use must take into account the changing needs of the university. Therefore, any alteration of the interior spaces should preserve existing fabric where possible and respectfully address any changes that might impact it.

4) Sensitive design of the proposed new addition

The 1951 addition has impacted the Education Building architecturally and has affected the character of the site. Conservation goals relating to the design of a proposed new addition should address the historic planning efforts of Ellis Lawrence and limit any further impact to the building's architectural character and fabric. A thorough examination of the design issues relating to the new addition and recommendations are included in Appendix A of this report.

✦ EVALUATION OF EXISTING CONDITIONS ✦

Foundation – Education Building

The foundation of the Education building consists of a concrete reinforced stem wall and a slab on grade with an embedded waterproof membrane. It appears in good condition. No significant cracks are visible in the stem wall foundation around the perimeter of the building. However, several pipes have been run through the foundation wall that supports the main exterior stair. This does not seem to be causing any problems at the present time, but it should be monitored for settlement and water leakage. Because the building's first floor sits below grade, it is important to delimit or closely monitor any changes that would compromise the waterproofing membrane that was embedded in the stem walls and slab-on-grade.

At ground level, the building's cement plaster or stucco over the concrete stem wall on the exterior is spalling off the foundation surface in small, localized spots. The stucco is susceptible to water penetration especially given its location at the bottom of the wall. The stucco should be repaired before any further penetration and freeze thaw cycles can occur. Cracks should be filled and missing portions built up with a stucco mixture that matches the texture and color of the original material. An acrylic bonder should be applied to the subsurface before patching.

Entry Stairs – Education Building

The stairs are in poor to fair condition with several areas in need of attention. The alteration of the stair in 1951 likely initiated several of the current problems. Water, moss and algae growth have substantially deteriorated the head joints in the mortar between almost all of the terra cotta coping pieces. The mortar joints between the intact terra cotta coping pieces need to be cleaned and the pieces reset. Careful attention should be paid to the mortar mix to provide a good bond between the coping pieces. This is a key issue because the glaze on the terra cotta is minimally absorptive, precluding a good bond.

The coping is spalled and chipped. Most of the damage is along the corners of the pieces where they may have been set down when the stair was dissembled and reconfigured in 1951. Where the coping is damaged and the clay body is exposed, water can easily be absorbed causing further damage. The damage is severe enough in some localized spots that replacement is a possible option. The set of terra cotta balusters that front the upper landing are experiencing similar problems. This is a highly trafficked area and mechanical abrasion of the coping and the balusters is an ongoing problem. Some of the coping has been filled or patched with a cement grout. This is a solution that is not easily reversible. In order to halt the absorption of water in a non-intrusive way, a cold glaze or in-painting can be applied to areas of limited damage. Cold glazing in-paints available on the market today include acrylic based and urethane based products. In testing done at the Columbia University by Ricardo Viera in 1992, it was found that acrylic based products provided a better bond to the slick surfaces of the glaze, which surround the rougher surface of the spall.

The brick walls flanking the stairs are experiencing some movement due to the rusting and expansion of the steel lintels that span the ventilation opening in the stair vault. The ventilation of the building through the stair vault causes high humidity levels and this problem will continue if not treated. These lintels must be removed before any further damage occurs to areas above in the upper landing. The new lintels should be painted with a protective epoxy coating or rust inhibitor.

The bricks walls surrounding the stair are in fair condition because water infiltration and movement have compromised their mortar joints. Some areas have no mortar remaining. These walls may need to be partially rebuilt or have their mortar replaced as a temporary fix.

Exterior Walls – Education Building

The unreinforced brick masonry bearing walls of the Education building are generally in good condition. There is no visible leakage on any of the interior wall surfaces. There are several issues though, which require attention in the near future. The area of greatest concern is the upper portion of the wall, including the entablature and parapet above the third story windows. The mortar joints in the lower portions of the building are intact and still relatively hard. The mortar in the upper portion of the building however, is soft and the bond between the bricks is near to being compromised. In the area of the upper portion of the building where moisture and weathering is more commonly a problem, a significant amount of moss and algae growth has obscured the mortar joints, holding a moist environment against them continually. Other problem spots include corbelled areas and inside corners of the building's envelope where a more protected environment has allowed organic growth to accumulate. It is recommended at this time that the upper portion of the building be cleaned and repointed down to the tops of the third story windows. Vines that once covered the lower areas of the building may have compromised the mortar in the past. Selective re-pointing should also occur in areas that appear soft. Other problematic areas include the head joints in the rowlock windowsills, and the terra cotta coping and belt courses, which have difficultly retaining a good bond due to their glazed surfaces.

The large terra cotta coping pieces on the parapet wall were cleaned and repointed in 1992, but they will soon be in need of attention again. The mortar joints of the coping were sealed with approximately ¼ inch of latex sealant at that time. The sealant appears in good condition, but it will need to be replaced sometime in the next five to ten years to avoid damage to the repointed mortar joints and the wall below. The buildup of algae on the underside of the coping needs to be cleaned to prevent further growth and help reestablish the drip edge in order to divert water from the wall surface. Chips in the terra cotta coping along the parapet, which were in-painted with an enamel-like paint, are peeling. These areas need to be cleaned and in-painted again. Above the main entry on the west elevation, the copper coping which protects the cavity wall is in good condition, but counter flashing around the coping is diverting water toward the building.

The 1 to 2 inch holes on the north side of the east elevation, where the historic fire escape was connected to the building have not been filled. The steel anchor pins look as thought they have been cut and left in place. The holes should be filled with colored mortar and the pins removed if possible or left in place and protected from corrosion if the fire escape is not to be reinstated.

The terra cotta ornament which is composite with the brick masonry wall assembly is in excellent condition, though it needs to be cleaned and repointed in several areas. These areas are associated with places where water collects and stimulates organic growth. Ferns and moss have take root in the joints between the terra cotta where the mortar has popped out. There is no evidence of a metal anchoring system for the terra cotta. This is typically the major cause of failure with this type of material when water has penetrated the system. The terra cotta ornament of the Education Building is a signature material of the building's character and must not be altered. It is imperative that the terra cotta ornament not have its protective glaze or the clay body compromised by efforts to reinforce it within the masonry wall assembly by epoxy dowels or other intrusive elements. It is worthwhile economically to extend further tests examining the stability of the terra cotta within the masonry assembly. Should these tests show instability, methods of anchoring from the back into the masonry-filled core of the pieces should be investigated. All the terra cotta units produced for this building have webbing in their hollow backside with punched holes to provide anchoring and stiffness.

The window and door openings in the exterior walls have two paired sets of steel angle iron that form their structural lintels. Upon inspection from the ground, the lintels seem in good repair. Rusting and expansion could cause serious problems in the future, and it is recommended that the window and door lintels be periodically monitored for signs of distress, and regularly repainted.

Roofing – Education Building

The roofing system on the Education building was replaced in May of 1992. The new roofing surface is well maintained and appears to be in excellent condition. The slope of the roof looks as thought it might have been increased above the old wood decking. It is difficult to establish this based on the historic sectional drawings held by Facility Services. There is no evidence of this on the inside attic space, where the original pony walls supporting the roof are intact.

There is some concern about the attachment of the new roofing surface to the bottom lip of the terra cotta coping. Drilling through the coping to insert lead expansion fasteners has compromised the protective glazing of the terra cotta. This may not be a problem now, but failure of the terra cotta body at these points will compromise the roof membranes' seal in the future. The system should be left intact and any future roof repair should note this potential failure of the fastening system.

The 16 oz. copper counter flashing, which protects the perimeter edges of the new roofing membrane, the roof ventilating penthouse, and the historic skylights, is in good condition. The sheet copper flashing around the inside of the parapet wall was slightly damaged when the counter flashing was installed. There is concern that the sheet flashing might not allow the brick parapet to breath properly and may be causing excessive moisture buildup behind it. It is difficult to establish this using non-destructive means. It is recommended that the rivets be drilled out in several sections in order to make and accurate assessment and evaluation for recommended treatment.

The historic roof-ventilating penthouse is in poor to fair condition. The wood louvers are desiccated and have lost paint. The galvanized nails are showing signs of corrosion, as is the terne-plate metal roof flashing. This penthouse is repairable and efforts should be taken to maintain its effectiveness. The wood components should be sanded down and painted with an alkyd oil primer and latex topcoat. The fasteners should be replaced with deck screws and the roof flashing replaced with traditional terne-plate flashing.

Fenestration: windows, doors and skylights – Education Building

All windows that were accessible to the author for inspection were in fair to good, serviceable condition. Items inspected include sashes, sills, glass and glazing, locks and operable mechanisms. It is recommended that a complete inspection survey be conducted that includes each window. The inspection should provide a thorough examination of the wooden sash for loss of paint, rot, and proper sealant. The lintels should be inspected for corrosion. The operating mechanisms should be checked to insure that they ride correctly in their track. The replacement or repair of the interior window-stay, if necessary, will eliminate the damage to the interior trim caused by the window sash mechanism not riding correctly. The glazing should not be missing or loose which could allow water penetration. All the locking mechanisms should function with ease. If this is not the case, some lubricate should be applied. The window jambs are set into the masonry wall, flush with the interior wall surface. There should be no sign of moisture around the interior trim. If there is, check the exterior sealant and apply new caulk to the area once it has been properly prepped.

Solid wood doors with a three-quarter length light have replaced the paired exterior doors on the east, west, and south elevations. These are in good condition. Their historic operable transoms appear in good condition and should be periodically inspected using the recommendations above.

The five historic gabled skylights on the roof are in fair to good condition. The skylights were cleaned, resealed and repaired during the 1992 re-roofing. The skylights use metal framing and mullions with a sheet metal ridge cap, which covers an operable louver. The louvers are functioning. Most of the glass appears original although some has been replaced with new wire reinforced obscure panes. The silicon sealant which holds the panes is in good condition, but recent repairs in 1999 indicated that there might be a need for cleaning and new sealant soon. At the time of the repair, water leakage was present on the inside of the skylight above the lobby area outside the Graduate Office. According to the maintenance worker in charge of the repair, the new caulking did not appear to be dried or cracking badly, but the leak was due to a spotty application of sealant.

Structure – Education Building

The author does not have the expertise to evaluate the structural integrity of the building. However, Degenkolb engineering firm was contracted by the university to evaluate the building and propose a scheme to seismically upgrade the building to meet Zone 3 requirements of the Uniform Building Code. The author will therefore evaluate the recommendations for the seismic upgrade scheme based on its sensitivity to the Secretary of Interior's Standards for Rehabilitation.

Degenkolb engineers proposed four structural and one nonstructural component in their seismic strengthening scheme including:

I. **Vertical lateral elements**
II. **Foundations**
III. **Diaphragms**
IV. **Collectors**
V. **Braces and terra cotta anchors**

I & II Vertical lateral elements and foundations:

The incorporation of new vertical lateral elements and new foundation components are proposed in two areas. The first area is the interior stairwell. It is proposed that the stairwell be moved to the northwest corner intersection of the unreinforced brick masonry wall. The new stairwell would be constructed of 8-inch cast-in-place reinforced concrete and rest on footings at bedrock. The second proposal calls for a 6-inch layer of shotcrete to be applied to four large piers on the west elevation and across the middle-third of the south elevation on the interior of the first and second floors. The shotcrete layer would be epoxy doweled to the existing masonry at 24 inch centers in both directions. The new composite wall would bear on new footings at bedrock.

There are several issues associated with the proposed scheme that should be examined. First, the addition of shotcrete is non-reversible. However, it is difficult to up-grade an unreinforced masonry building without impacting the historic fabric. Other than clumsily attaching a steel frame, one of the only other options is to drill and grout-in vertical steel reinforcement down the full height of the wall. This is cost prohibitive and although not visible, it is extremely

intrusive. The area proposed for the application is limited to 6 inches on several piers and a section of wall, all restricted to interior surfaces. Therefore, the author feels that the proposal is primarily sensitive to the Rehabilitation Standards, but adjustments could be investigated for the application of the shotcrete. The engineer should be requested to calculate the option to hold back the shotcrete at least two inches from wall edges at window and door locations. This will help retain the architectural expression of the walls as viewed from the interior and exterior of these spaces. Perhaps this loss of surface area could be made up with a minimal increase in the thickness of the application.

Secondly, the relocation of the stairwell is a bit problematic. Although the stairs and the walls were replaced in 1951, the spatial integrity of the stairwell and the room which surround it on all three floors are intact. There is also an existing historic skylight centered over the stairwell. Perhaps some additional planning could avoid the relocation, but if it is absolutely necessary to improve life-safety issues, it could be deemed sensitive to the preservation effort.

Regarding the foundation scheme, it is understandable to compromise the slab-on-grade and the stem wall foundations in the pursuit of a seismic up-grade. There are water table issues to manage and the waterproofing membrane of the original foundation will need to be addressed properly.

III. Diaphragms:

There are three components proposed to improve the performance of the diaphragms in the building. First, a layer of plywood would be added to each floor joist system, including the ceiling joists above the third floor in order to strengthen the diaphragms. Second, epoxy anchors would be bolted through the existing wood ledgers and into the existing masonry walls for shear transfer to the diaphragm. Third, steel rods would be drilled and epoxied either into or through the historic masonry walls to secure them to the joists. The installation of plywood sheathing sounds unintrusive at first, but the proposal calls for the removal of the entire historic 2x6 roof system including the decking, the roof joists, and the pony walls. Perhaps the sheathing could be added to the bottom of the ceiling joists instead, or more

blocking could be added between the joists. This application on the third floor joists is highly intrusive and perhaps avoidable.

With regard to epoxy anchoring into the historic unreinforced masonry wall at the floor levels around the perimeter of the building, the Secretary's Standards take no exception with strictly interior applications that transfer the sheer from the diaphragm to the wall. However, the introduction of steel rods **through** the masonry in order to attach the diaphragm to the joists, is not a sensitive measure and should be avoided.

IV. Collectors:

The collector elements consist of steel channel, which would be attached to the new concrete stairwell and run from one wall of the building across to the other. They are meant to drag shear forces to the strengthened walls. Based on the drawings included in the proposal, the steel channel seems to be hidden in the floor joists and the anchoring does not penetrate the outer wall. This seems to be a sensitively designed solution.

V. Braces and terra cotta anchors (nonstructural)

Steel braces are proposed to fasten the roof parapet to the roof diaphragm around the perimeter of the building at four feet on-center. Preservation Standards would recommend that the braces not be visible from the ground, notably from the Memorial Quadrangle. The braces are a solution, which would enable the original gabled parapet with terra cotta ornament to be reintroduced above the main entry. The nonstructural recommendations also refer to the introduction of helical or epoxy anchors to tie back the terra cotta ornament at strategic locations on the buildings façade and parapet. It would not be prudent or sensitive to the Secretary's Standards to compromise the glazing or the clay body of the terra cotta ornament. The terra cotta was installed as a composite component within the masonry walls. It was manufactured with webbing for the purpose of stiffening and anchorage. The engineer should investigate this installation further for adequate integrity regarding seismic stability. The webbing straps of the terra cotta should be used for any precautionary nonstructural solutions wherever possible.

The diagrams below depict several components of the seismic retrofitting scheme.

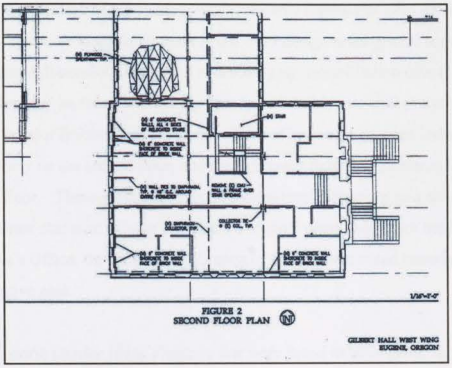

FIGURE 43: PROPOSED SEISMIC UPGRADING SCHEME.
DEGENKOLB ENGINEERS, PORTLAND

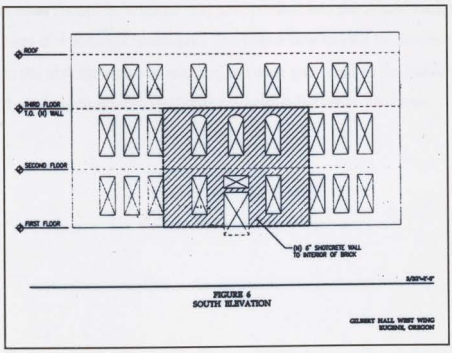

FIGURE 44: SHOTCRETE PROPOSAL ON SOUTH ELEVATION.
DEGENKOLB ENGINEERS, PORTLAND

Interior Finishes – Education Building

The Education Building retains a high degree of spatial integrity. Most of its rooms are intact dimensionally, and the location of the existing walls primarily follow the 1915 plans laid out by Ellis Lawrence. The most tangible remnant of the 1915 design is the spatial organization of rooms. These spatial dimensions should be honored by any rehabilitation efforts. The illustration that follow this section identifies the location of the historic wall placements and areas where extant interior finishes may be found. Areas of increased concern include the main entry and hallway on the second floor, and the Lundquist School of Business Graduate Office on the third floor. These spaces have undergone several alterations and are important to the buildings interior character. Using Lawrence's original plans, which are held by the University Architect's Office, the future rehabilitation of these spaces could remedy these alterations with relative ease.

There are several historic interior finish elements that were found to be in good, serviceable condition. These elements include most of the bathroom fixtures and bathroom stalls, several blackboards with chalk rails on the first floor, and several closet doors found throughout the building. These elements should be retained and incorporated into the rehabilitation of the interior of the buildings if it does not necessarily preclude a new use for the interior spaces. It was hard to ascertain the historic status of many of the door surrounds in the building, but the author believes the key to any further investigation is held in the hinge hardware.

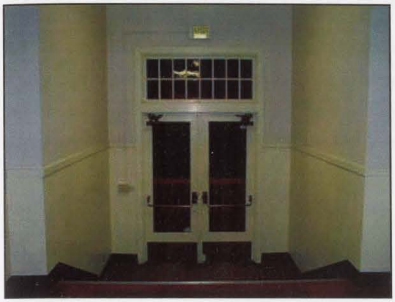

FIGURE 45: MAIN ENTRY FOYER AT SECOND FLOOR

FIGURE 46: TYPICAL HINGE

FIGURE 47: HISTORIC BLACKBOARDS WITH CHALK RAILS

FIGURE 48: ORIGINAL TOILET FIXTURE

FIGURE 49: ORIGINAL SINK FIXTURE

FIGURE 50: ORIGINAL 'STANDARD' UNIRALS

✧SUMMARY OF RECOMMENDATIONS✧

This section of the report will briefly summarize the recommendations for each of the building's components. The recommendations presented below reflect the author's interpretation of what would be the most appropriate treatment, given the conservation goal of preserving or reinstating character defining architectural features in accordance with the Secretary of Interior's Standards.

Foundation – Education Building

a) The foundation stem wall under the main exterior stair should be monitored for settlement and water leakage where the pipe run has compromised the wall.

b) The cement plaster or stucco around the base of the building should be repaired before any further penetration and freeze thaw cycles can occur. Cracks should be filled and missing portions built up with a stucco mixture that matches the texture and color of the original material. An acrylic bonder should be applied to the subsurface before patching. See Appendix F – Preservation Brief 18.

Entry Stairs – Education Building

a) The original configuration of the entry stairs and the landings of the Education Building should be restored. The stairs defined Lawrence's carefully planned entry procession into the building, affording important, otherwise unavailable views of the Memorial Quadrangle from the large elevated landings.

b) The mortar joints between the terra cotta coping pieces need to be cleaned and the pieces reset. Careful attention should be paid to the mortar mix to provide a good bond between the coping pieces. This is a key issue because the glaze on the terra cotta is minimally absorptive, precluding a good bond. A water sealant should be applied to the vertical head joints periodically. See appendix F – Preservation Brief 2.

c) The chipped and spalled coping and terra cotta balusters need to be treated to halt their exposure to the moist environment. An acrylic based cold glaze or in-painting should be applied to areas of limited damage. Severely damaged pieces should be replaced in-kind. See Appendix F – Preservation Brief 7.

d) The bricks walls that support the landings need to be partially rebuilt in order to replace the corroding and expanding steel angle lintels. Many of the joints in the wall must have their mortar replaced or repointed. The mortar should be softer than the brick and match the absorptive quality of the brick to ensure a good bond.

e) The new lintels should be painted with a protective epoxy coating or rust inhibitor.

Exterior Walls – Education Building

a) It is recommended at this time that the upper portion of the building be cleaned and repointed down to the tops of the third story windows. Vines that once covered the lower floors of the building may have affected the mortar joints in the past and should be removed. See Appendix F – Preservation Brief 2, 6 and 7.

b) A full repointing should be considered for this building in the future if economically possible. As a temporary measure, selective re-pointing should occur in areas of the lower portion of the building that appear to be failing. Problematic areas include the head joints in the rowlock windowsills, and the terra cotta coping and belt courses which have difficultly retaining a good bond due to their glazed surfaces.

c) The build-up of algae on the underside of the parapet coping needs to be cleaned to prevent further growth and help re-establish the drip edge in order to divert water from the wall surface. This will serve to avoid damage to the newly repointed mortar joints.

d) Chips in the terra cotta coping along the parapet, which were in-painted with an enamel-like paint, are peeling. These areas need to be cleaned and in-painted properly.

e) Above the main entry on the west elevation, the copper coping that protects the cavity wall is in good condition, but counter flashing around the coping is diverting water toward the building. This area needs to be re-flashed correctly. See Appendix F – Preservation Brief 39.

f) The 1 to 2 inch holes on the north side of the east elevation should be filled with colored mortar and the pins removed if possible or left in place and protected from corrosion if the fire escape is not to be reinstated.

Exterior Walls Continued– Education Building

g) It is imperative that the terra cotta ornament not have its protective glaze or the clay body compromised by efforts to reinforce it within the masonry wall assembly by epoxy dowels or other intrusive elements. Methods of anchoring from the back should be investigated.

h) The window and door lintels need to be periodically monitored for signs of distress, and regularly repainted.

i) The terra cotta panel signage above the main entry should be replicated. This signage should not be construed as misleading but rather as interpretive.

j) The high-pressure sodium lamps that flank the entry should be removed. New fixtures should be replicated using photographic evidence of the historic lanterns. All other lighting fixtures should be consistent in style yet not misrepresent themselves as historic. The new fixtures should use the original mounting holes and not further compromise the building envelope.

k) The gable-end parapet wall should be reinstated following the Secretary of Interior's Standards for Reconstruction. The cascading corbelled arches below the parapet should be reconstructed as part of this work. Replacement tiles should be crafted to match the size and color of the originals. The roof pitch should be duplicated, and any additional seismic stabilization efforts should be designed in a manner sensitive to the integrity of the masonry wall. See Appendix F – Preservation Briefs 7 & 30.

Roofing – Education Building

a) The attachment of the new roofing membrane to the bottom lip of the terra cotta coping should be left intact and any future roof repair should note the potential failure of the fastening system. Drilling through the coping to insert lead expansion fasteners must be avoided during future repairs or installation. See Appendix F – Preservation Brief 4.

b) The sheet copper flashing around the inside of the parapet wall might not allow the brick parapet to breath properly and may be causing excessive moisture buildup behind it. Therefore, it is recommended that the rivets be drilled out in several sections in order to make and accurate assessment and evaluation for recommended treatment. See Appendix F – Preservation Brief 39.

c) The roof-ventilating penthouse is an important historic mechanical component of the building and should be maintained properly. The wood components should be sanded down and painted with an alkyd oil primer and latex topcoat. The fasteners should be replaced with deck screws and the roof flashing replaced with traditional terne-plate flashing. See Appendix F – Preservation Brief 10.

Fenestration: windows, doors and skylights – Education Building

a) The scope of this report only provided for a preliminary inspection of a handful of windows and doors. Therefore, it is recommended that a complete inspection be given to every opening in the building's envelope. Inspections should examine the wooden sashes, the lintels, the glass and glazing, the operable mechanisms and the locking mechanisms. A window and door schedule should be assembled to document the condition of each of these elements in order to establish specific problems and overall patterns of deterioration. Problems to identify include water penetration, corrosion, paint failure, rot and broken parts or mechanisms. Sensitive, non-intrusive solutions, which meet the Secretary of the Interior's Standards for Preservation, should be used in every repair. See Appendix F – Preservation Brief 9 and 24.

Structure – Education Building

a) The application of shotcrete to the interior of the unreinforced masonry wall should be held back the at least one half wythe from wall edges at window and door locations to retain the architectural character of the wall plane. Examine an engineered solution. See Appendix F – Preservation Brief 41.

b) Avoid the relocation of the stairwell in order to maintain the spatial integrity of the original floor plans. Examine other engineered solutions.

c) Avoid the removal of the original 2x6 roof structure for the installation of the third floor's diaphragm. If possible, place the sheathing that forms the diaphragm on the bottom side of the third floor ceiling joists or install blocking from below.

d) Do not install steel rods or epoxy dowels **through** the exterior unreinforced brick masonry walls. Epoxy dowels are acceptable on the inside of the masonry walls, so long as they do not break the exterior surface.

e) The installations of the shear collector elements are recommended as presented in the original proposal.

f) Design the parapet wall-bracing system to be minimally intrusive to the unreinforced brick masonry and hide it below the parapet level.

g) Do not compromise the glaze surface or the body of the terra cotta pieces with intrusive doweling. Reinforce the terra cotta with new mortar.

Interior Finishes – Education Building

a) Any rehabilitation plans should respect the high degree of spatial integrity that the building has retained over the past 85 years. New walls should not radically alter the circulation or the orientation of the spaces. See Appendix F – Preservation Brief 18.

b) Restoration of the main entry on the second floor and the Lundquist School of Business Graduate Office on the third floor should be considered during the design phases of future rehabilitation projects. Lawrence's original plan drawings for the Education Building delineate the character defining elements of these historically prominent spaces, and can be easily reproduced.

c) The historic bathroom fixtures should be maintained and incorporated into any rehabilitation project planned for the Education Building.

d) The historic blackboard and chalk rails should remain in-situ and not relocated or replaced.

e) Where feasible, all historic hardware, doors, and what appear to be historic door and window surrounds, should be retained and preserved in good working order.

PART THREE

COMMERCE HALL (EAST WING)

- PHYSICAL DESCRIPTION
- CHRONOLOGY OF ALTERATIONS
- INTERIOR DESCRIPTIONS AND ALTERATIONS
- ASSESSMENT OF EXISTING CONDITIONS
- CONSERVATION GOALS
- EVALUATION OF EXISTING CONDITIONS
- RECOMMENDATIONS FOR TREATMENT

INTRODUCTION

This section begins with a describing of the location and orientation of the building, and the general style and plan shape. The physical description contains a detailed description of each cardinal elevation. The alterations to the exterior of the building will then be presented in chronological order. A description of the alterations to the building's interior spaces follows. The Assessment of Existing Conditions will break down the building by component including, foundation, entry stairs, exterior walls, fenestration, structure, and interior finishes. Conservation goals ranging from specific to broad-based issues are presented and defined next. Evaluations and Recommendations for Treatment for each of the building components are addressed with regard to the outlined conservation goals.

✦ PHYSICAL DESCRIPTION ✦

General Location

Commerce Hall is located at the North end of the Memorial Quadrangle. Construction of the building was completed in 1921. Commerce Hall's main entrance faces west, across the central courtyard of the Gilbert complex to its twin the Education Building. It is referred to as the East Wing of the Gilbert Complex.

Style and Plan Shape

Commerce Hall is Mediterranean in style, close to a mirror image of the Education Building. The decorative elements are crafted from ornamental brickwork and architectural terra cotta. The building has an L-shape plan measuring approximately 88 feet by 83 feet. The building has three full stories and a total area of approximately 19,000 square feet. The first floor is submerged approximately four feet below finished grade. Some of the detailing of Commerce Hall differs from the Education Building. The following physical description will identify these differences.

West Elevation

The main entry on the west elevation of Commerce Hall mimics the Education Building in all but three details. First, the framed terra cotta panel in the small entablature directly above the entry reads "Commerce," where the Education Building's signage was removed. Second, the terra cotta capitals of the great brick pilasters that flank the entry are embellished with a figurative 'wheel of commerce' draped with pine boughs, representing the transportation of goods. Third, the iconographic roundel which sits inside the coffered, semi-circular terra cotta arch, depicts a schooner under full sail. The elaborate physical description of the Education Building's main entry on its East elevation, clearly describes the remaining details on the main entry of Commerce Hall's west elevation.

The northern end of the west elevation differs slightly from the Education Building in its window configuration. This end of the elevation is balanced with three 9/9 windows centered at each floor. The windows on the first floor are protected by a concrete retaining wall, creating a large window well. These retaining walls were added in 1951 to compensate for the regrade of the courtyard.

South Elevation

The south elevation is a simple symmetrical composition. The first floor has nine 9/9 windows spanning the façade. The second floor has three pairs of arched 6/6 operable windows at the center of the elevation, flanked by three 9/9 windows on either side. The pairs of arched windows are set into arched wooden frame sashes below a semi-circular brick arch. A wooden roundel embellishes the area above the windows in the arch of the wooden frame. Simple brick pilasters flank these windows supporting an entablature of herringbone brickwork with corbelled rowlock and soldier courses. This type of detailing is visible on the south elevation of the Education Building. The third floor has nine, typical 9/9 windows spanning the façade.

East Elevation

The east elevation is broken into two expressions on the north and south sides. The north side of the east elevation is a simple symmetrical composition with three 9/9 windows centered on each floor. A number of 1" to 2" holes appear below the windows of the first and third floor. Anchor bolts fastened the original fire escape to the building at this location.
The south side of the east elevation jogs forward 3'-6" from the wall plane to the north. Centered on the first floor of the south side is an entranceway. Concrete stairs flank the entry, descending four feet below finish grade to the first floor level. A low brick wall with terra cotta coping and terra cotta balusters sit above the concrete retaining wall that protects these stairs. Deep, narrow 6/6 windows flank the entry stairs, and typical 6/6 windows flank the first floor entry composition. These first floor windows are protected by concrete window wells and due to the proximity of foot traffic, the wells are covered with metal a grate. The second and third floors have three centered 9/9 windows flanked by typical 6/6 windows. The

centered windows are framed by herringbone brickwork. Paired brick pilasters with terra cotta capitals similar to those at the main entry flank these windows. The roof parapet wall that rises from the entablature above the pilasters has an extra three stretcher courses and one soldier course before its coping.

North Elevation

The north elevation which historically faced Dad's Gates, is divided in two sections. The western side is composed of three 9/9 windows on each floor. The windows on the first floor are sheltered by concrete retaining walls. The north elevation's eastern side is where the Commonwealth addition attaches with a nine foot wide connecting hallway, rising from the first floor to the frieze in the entablature. Similar to the Education Building, this side is symmetrical in design, and more detailed. The center portion of the wall jogs forward, book-ended on the second and third floors by paired brick pilasters with terra cotta bases and capitals identical to those which flank the main entry. The first floor has no exterior fenestration. Typical 6/6 windows flank the second and third floors. The frieze in the entablature is embellished with a herringbone brick pattern with terra cotta tiles set on edge. The roof parapet that rises from the entablature has three extra stretcher courses and one soldier course before the coping. A small 6/6 window remains in its original position on the third floor level.

FIGURE 51: DETAIL ABOVE MAIN ENTRY

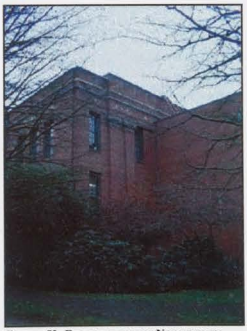

FIGURE 52: EAST SIDE OF THE NORTH ELEV.

FIGURE 53: WEST SIDE OF THE NORTH EVELATION – COMMERCE HALL

FIGURE 54: VIEW FROM THE COMMONWEALTH ADDITION

FIGURE 55: EAST ELEVATION - COMMERCE HALL

✦CHRONOLOGY OF EXTERIOR ALTERATIONS ✦

Commerce Hall retains a high degree of integrity on the exterior, but there were several alterations that had a significant impact. Alterations which are unaccounted for include the removal of the historic fire escape on the East elevation and the replacement of the large ornamental lanterns, which flanked the entry.

The most notable alterations involve the 1951 Commonwealth addition. The addition drastically changed the character and flow of the site, disrupting the axial circulation and view corridor established in Lawrence's 1914 Campus Plan. It required the removal of important historic fabric on Commerce Hall's northern façade, including corbelled arches, sections of the belt courses and the frieze, and a terra cotta State of Oregon Seal. The Seal, depicted in a bass relief, was relocated to the northern façade of the Commonwealth addition.

The re-grade of the courtyard for the 1951 addition caused three problems for Commerce Hall. First, the entry stairs were manipulated in a similar fashion to the Education Building, resulting in the removal of the first leg of the configuration and its lower landing. Second, the re-grade required the installation of concrete retaining walls around each of the first floor windows. Third, the elevated grade required that the entry stair on the East elevation be raised along with its low brick wall with terra cotta coping and balusters.

The truncation of the gable-end parapet wall above the main entrance in 1951 was perhaps the most notable if not most invasive alteration to Commerce Hall. The detailing of the unglazed terra cotta crown pieces on the Commerce Hall were much more elaborate than those on the Education Building. A large terra cotta finial with a deeply carved acanthus leaf sat atop the building, and ornate terra cotta scrolls capped the ends of the gable's eaves where the roof tile ended. In addition, duplicate terra cotta ornament was visible from the backside or east elevation. The four-foot thick gabled parapet was highly visible from the quadrangle. Just as in the alteration of the Education Building, the cascading corbelled arches directly under the gable were removed. The dismantled terra cotta crown pieces and much of the historic roofing tiles have been located underneath the Education Building's stair vault.

When the roof was replaced on the building in 1992, standing seam metal flashing was installed on the truncated parapet wall, formed to imitate the terra cotta coping. The 16 oz. copper flashing was installed on the inside of the parapet wall at this time and two of the skylights were cleaned, caulked, painted and had broken panes replaced. The large skylight over the rooms 383 and 384, the historic Library/Museum space, was removed and curbed up.

FIGURE 56: BACK OF CAVITY WALL WITH COPPER COPING INSTALLED

FIGURE 57: FLASHED CONNECTION AT THE TOP OF THE 1951 ADDITION.

FIGURE 58: DETAIL OF THE EXPANSION JOINT SEAM BETWEEN COMMERCE HALL AND THE 1951 ADDITION

✦ INTERIOR ALTERATIONS ✦

Commerce Hall has had two major alterations to its interior in 1951 and 1975. The layout of the interior spatial organization has changed significantly but large portions of the original walls along hallways and the bathrooms remain with their finishes intact. The building was originally designed to house twelve classrooms, eight offices, and one library/museum space, totaling twenty-one rooms. Today the building houses a total of sixty-seven rooms, almost all office space. The rooms which appear relatively unaltered dimensionally are the bathrooms, closets, and janitors rooms. Most other rooms have been subdivided.

The 1951 remodel designed by Wick and Hilgers was done in conjunction with the construction of the Commonwealth addition. It replaced almost all finished plaster and installed acoustic ceiling tile and asphalt floor tile throughout the building. When the interior walls and ceilings were finished with new plaster with wire mesh backing, a large portion of interior door and window surrounds were left intact along the hallways. Many of the doors were replaced with wood panel doors, but a number of the original doors and transoms remain intact. Also, a notable portion of the original picture moldings and chair rails were left intact in many of the rooms.

The 1975 remodel was designed by the firm of Michael, Mann and Lakeman. In this remodel, many interior partition walls were added. Suspended ceilings were installed in the rooms that were reconfigured. The handicap ramp access that split the corridors on the first, second and third floors were also added.

✦ ASSESSMENT OF EXISTING CONDITIONS ✦

Foundation - Commerce Hall

Commerce Hall rests on a cast-in-place concrete perimeter stem wall, with a slab-on-grade sub-floor similar to the Education Building. Evidence on the inside of the stair vault where the mechanical space is located, indicates that the foundation was poured in layers. Several cold joints are visible among the board formed marks in the concrete stem wall. A well built, segmental, brick arch leads from the janitors closet in room 184, through the foundation wall to the stair vault. The concrete stem wall is plastered on the exterior with a cement stucco finish, exposed one to two feet above finish grade. Five square concrete footings support the internal structure. The stairwell has a concrete strip footing which supports the interior unreinforced brick bearing walls of the stair.

FIGURE 59: FOUNDATION STEM WALL UNDER STAIR VAULT. NOTE THE COLD JOINTS AND THE BOARD FORMED MARKS

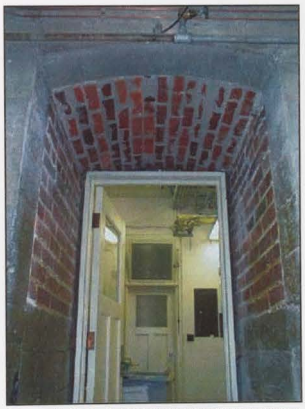

FIGURE 60: SEGMENTAL BRICK ARCH PASSAGE THROUGH THE FOUNDATION WALL TO THE MECHANICAL ROOM

Entry Stairs - Commerce Hall

The entry stairs are identical to those on the Education Building and are experiencing similar problems. Some of the surface of the concrete is chipping away or cracking at the nosing of the risers, and what appears to be the original concrete finish of the stairs is visible beneath. The brick walls with terra cotta coping which follow the stair's configuration are experiencing some trauma. The lintel above the vent opening to the stair's vault is corroding and jacking the wall upwards. The coping is damaged where it was manipulated from the previous configuration. There are chipped spots exposing the body of the terra cotta on the corners and arrises of the coping. Some of the coping has been filled with a cement grout. The set of terra cotta balusters and the terra cotta coping which fronts the upper landing, has some similar damage where the terra cotta body is exposed. The glaze and body seem to be spalling, appearing broken in localized spots and perhaps further impacted by the mechanical abrasion of people and bicycles. The stair and brick wall at the first floor's east entry have similar terra cotta detailing and are experiencing the same chipping and spalling of their components.

FIGURE 61: WALL AND STAIR AT EAST ENTRY

FIGURE 62: DAMAGED CONCRETE NOSING

FIGURE 63: MECHANICAL ABBRASION OF GLAZE FROM BICYCLE CHAINS

FIGURE 64: MOVEMENT DUE TO JACKING OF THE CORRODED LINTEL

Exterior Walls - Commerce Hall

The exterior walls of Commerce Hall are unreinforced composite brick masonry bearing walls. The walls use a Common Bond assembly with header bricks in every sixth bond course. The first floor uses this same type of assembly with rowlock positioned bricks in every seventh bond course. Striations on the bricks indicate they were manufactured using a stiff-mud process, where a column of clay is extruded through a steel die and wire cut to the correct dimension. The brick joints are finished with a concave profile in a relatively hard mortar. A large portion of the exterior wall surface is embellished with finely crafted brickwork and unique, cream-color, glazed terra cotta ornamentation with mineral-like speckles in the glazing that imitate stone. The terra cotta is composite with the masonry construction, set directly into the assembly with no evidence of metal anchoring systems visible on the building or in the original plans and specifications for the construction. Some damage to the terra cotta ornament, which has exposed the porous body to the elements, includes chipping and broken arrisses. This damage is most visible in areas accessible to human activity around the entry. Moss and ferns have taken root in the joints between the terra cotta in numerous places along the upper belt courses and at the tops of the terra cotta pilaster capitals. There are several locations where graffiti has been painted on the brickwork of the south façade. Brickwork details and terra cotta ornament match the Education Building very closely. The multi-layered horizontal belt courses, the entablature, and the parapet walls are identical to those on the Education Building.

Two paired sets of steel angle iron form the structural lintel above each window, visible on the exterior and protected with a green paint. The second and third floor windows employ lug sills made of brick in a rowlock position.

There are concrete window well retaining walls around the first floor window groups. These retaining window wells were added during the 1951 re-grade of the site. These wells have drains at their centers. Most of these window wells have collected leaves and other debris around their drain covers. There are small cracks in the concrete finish where the wells connect to the building's foundation.

The wall plane of Commerce Hall is divided horizontally between each floor by continuous design elements. These elements are similar to those used on the Education Building. The cavity wall parapet over the main entry is also similar.

During the 1992 roof replacement, the terra cotta coping on the parapet wall was cleaned, repointed and the joints were sealed with a ¼" of latex sealant. The sealant seems to be in good shape. 16 oz. standing seam copper flashing, formed and painted to imitate the historic terra cotta coping, was installed during the project to protect the top of the masonry wall above the entry façade where the gable-end parapet had been removed.

The brick assembly in the entablature and parapet level of Commerce Hall has a significant amount of moss and algae growth on almost all mortar joints. Upon inspection of the interior of the attic crawl space, which is relatively warm and dry space, the inside of the exterior walls were found to be dry. However, in some areas behind the entablature and parapet, efflorescence was present around the mortar joints, especially in the northeast corner. The coping on the parapet has a smooth curved outer profile, which has become stained dark green from algae growth where water seems to travel. The brick coursing underneath the coping has an accumulation of moss and algae growth also, as do many of the more protected areas and inside corners of the exterior wall. Although there is significant growth on the mortar joints, the mortar beneath the growth is hard and appears well bonded to the brick. Clinging to the lower sections of the building are remnants of dead vines and organic debris. Photographic evidence held by the University Archives indicates that these vines once obscured the building completely.

FIGURE 65: CRACKING OF THE STUCCO FINISH ON THE CONCRETE WINDOW WELL RETAINING WALLS

FIGURE 66:STAINING AND ORGANIC DEBRIS ON THE BELT COURSES AND WINDOWS SILLS

FIGURE 67: PAINTED GRAFFITTI

FIGURE 68: STAINING AND GROWTH ON THE DRIP EDGE OF THE TERRA COTTA PARAPET COPING. HEAVY BUILD-UP ON THE MORTAR JOINTS BELOW

FIGURE 69: SHEET METAL FLASHING WHERE THE CAVITY WALL AND GABLED PARAPET WAS REMOVED

FIGURE 70: MOSS GROWTH ON THE MORTAR JOINTS BETWEEN THE TERRA COTTA PIECES AND VINES ON THE BRICKS IN THE LOWER FLOORS

Roofing– Commerce Hall

The roofing system on Commerce Hall was replaced in May of 1992, using the same fully adhered elastic membrane and rigid insulation of the Education Building. All new flashing was installed around all roof vents, mechanical equipment, and skylights. The roof surface sits over a shallow attic space. The roof drains to the east, toward an interior iron leader downspout. A new drain body and strainer were installed in 1992. 16 oz. Copper flashing covers the inside of the brick parapet wall around the perimeter of the building. Sealant has been applied to the joint between the coping and the flashing on the parapet wall to prevent water penetration behind the new roofing membrane. The sheet copper flashing was damaged at several inside corners during the installation of the new counter flashing and some of the pop rivets are now rusting out. Some inside and outside corners, especially near the cavity wall parapet which were difficult to seal, were not flashed properly and appear to be directing water toward the masonry wall where some mortar joints are wet and deteriorating.

Metal retaining bars used to fasten the edges of the elastic roof membrane and the flashing, are held in place by expanding lead anchor nails. These anchors were drilled and embedded through the base of the terra cotta coping at some places along the perimeter and slathered with a black bituminous–like sealant.

FIGURE 71: FULLY ADHERED ELASTIC ROOF MEMBRANE AFFIXED WITH METAL RETAINING BARS, ANCHORED TO THE PARAPET COPING

FIGURE 72: LATEX SEALANT BETWEEN PARAPET COPING

Fenestration: Windows, Doors and Skylights – Commerce Hall

The window jambs are set into the masonry wall, flush with the interior wall surface. All window jambs and sashes are constructed of wood with 6/6, and 9/9 configurations of the panes. All the windows appear original and use single pane glass. All of the windows accessible for inspection appeared serviceable. Typical windows are operable, using awning-type sashes. The lower sash locks the upper sash into position so it cannot operate independently. Each window inspected was experiencing a loss of paint and desiccation of the wooden sash. The arched windows on the south and west elevations operate on vertical hinges. Many of the brass window latches and plates are intact. The sills of the first floor windows are weathered to shed moisture, with a cement stucco finish over the brick masonry. The second and third floor windows employ lug sills made of brick in a rowlock position. Two paired sets of steel angle iron form the structural lintel above each window, protected with a green paint. Window jambs, sashes and other wooden trim are also painted green. Solid wood doors with a three-quarter length light have replaced the paired exterior doors at the second floor main entry, and the first floor east entry.

FIGURE 73: SKYLIGHT

FIGURE 74: WINDOW HARDWARE AND DAMAGE AT MULLION

FIGURE 75: MAIN ENTRY DOORS AT WEST ELEVATION

FIGURE 76: FIRST FLOOR ENTRY DOORS AT SOUTH ELEVATION

FIGURE 77: TYPICAL 9 OVER 9 WOODEN SASH

FIGURE 78: TYPICAL 6 OVER 6 IN OPEN POSITION

Interior Structure– Commerce Hall

The interior structure is not readily visible. The following description is based on the original construction drawings held by the Campus Architect at the Facility Services Office.

The unreinforced brick masonry bearing walls around the perimeter of the building provide the entire lateral force-resisting system for the structure. These walls contain a large number of window openings, reducing the overall area of the wall surface. The piers between the windows are larger that those of the Education Building.

Built five years later than the Education Building, Commerce Hall uses a more modern internal structure, composed of steel I-section columns and girders. Girders range from 12 inches to 20 inches deep. The steel columns rest on concrete footings, attached by steel plates and angles. The girders are let into pockets in the masonry for support. Girders on the first floor rest in steel plates embedded in the masonry. Girders on the second floor rest on 5 inch steel I-sections measuring 2'-6" across, also embedded in the masonry. The steel frame was assembled using ¾" rivets. Wooden 8x12 struts tie the girders to each other and connect the steel frame to the exterior masonry bearing walls at several points. The 2x16 floor joists are set with bridging 16-inch centers, and 12-inch centers. The floor joists span from the top of the steel girders to the perimeter bearing walls, where they are set into pockets in the masonry. Metal straps are nailed to the tops of the joists and let into the masonry wall to transfer lateral loads. The largest floor joist span is 28 feet. The floor diaphragms consist of 1x straight sheathing with an overlay of tongue and groove flooring.

Interior Finishes – Commerce Hall

The building's floor plans are included in the page following this description for reference to individual rooms and the location of original walls and existing historic fabric.

The interior spaces of Commerce Hall have been manipulated more than those of the Education Building. However, some areas remain veritably intact and there are prominent historic finishes located throughout the building and the centrally located stairwell. The main stairwell is centrally located at the inside corner of the L-shaped plan of the building. The stair treads and landings have been covered with asphalt tile with metal nosing. Fire doors have been added at each floor. All other elements of the stair including square newels, balusters, rails and moldings are wood and appear original to the stair. Portions of the original wooden base board molding, which were used throughout the building historically, are present in the stairwell on the first floor. A large skylight illuminates the space.

The first floor houses mostly offices and the Finance Center. The first floor retains a majority of its historic interior wall finishes along hallways H176 and H160, complete with doors, door surrounds and operable transoms. The eastern entry hall H170 appears almost as built. The wall around the first floor bathroom also retains much of its original fabric. The first floor can be accessed from the handicap ramp of the Commonwealth addition, the centrally located stairwell, or a pair of exterior doors leading to the below-grade stair on the East elevation. Entering from the east elevation, the corridor proceeds down a set of three steps and doglegs right, past the stairwell toward the Commonwealth. Room 184 which is the janitor's closet, and accesses the heating room located under the main exterior entry stairs. A small passage with a segmental brick arch header leads through the buildings concrete stem wall foundation to the heating room. The heating room is a rectangular space constructed of board-formed concrete.

The second floor houses the Office of the Dean of the Charles Lundquist School of Business, the Earl Chiles Student Services Offices, the Office of Development and External Affairs, and a number of other individual office spaces. All of the original classroom spaces on this floor

have been subdivided into smaller offices. The main entry to Commerce Hall is located on this floor. The entry has the original transom light above its doors and two arches that span across the foyer to the tops of half pilasters which flank the hallway. From the entry there are five steps up to the main hall, which continues past the stair and doglegs left toward the Commonwealth. This hallway, H260, is split with a set of steps and the 1975 handicap ramp addition. Apart from the entry foyer, most of the extant historic finishes on the second floor are located off this hall including several doors, door surrounds, and operable transoms. Several of the rooms have their original chair rails and picture moldings.

The third floor houses the Accounting Department office and twenty-eight other individual office spaces. All of the original spaces have been subdivided. The interior finishes from the previous alterations, including asphalt floor tile, suspended ceilings, and glued on acoustic ceiling tile, are typical to the lower floors. Many of the offices retain their original doors and surrounds. There are several original operable transoms and a bank of historic dividing wall windows located off hallway H377. There is a handicap access ramp at the end of hallway H360, connecting to the Commonwealth addition through the north wall of the building.

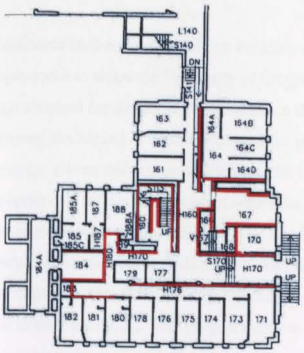

FIGURE 79: FIRST FLOOR COMMERCE HALL.

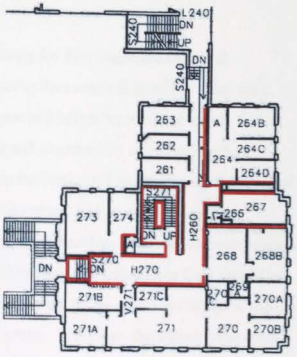

FIGURE 80: SECOND FLOOR COMMERCE HALL

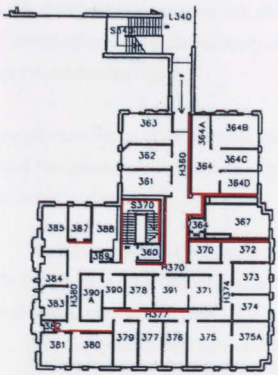

FIGURE 81: THIRD FLOOR COMMERCE HALL

Red Lines indicate location of original walls and extant historic finishes

✦CONSERVATION GOALS✦

Commerce Hall and the Education Building were among the first major architectural expressions to shape the University of Oregon campus in the twentieth century. They set a high standard for quality in construction on the campus and helped to establish strong ties between the School of Architecture and the planning and construction activities on the campus. Given their status of eligibility for listing on the National Register based on issues of integrity and the direct association with Ellis Fuller Lawrence, it is recommended that treatment options for these buildings be carefully evaluated based on long-range conservation goals. The conservation goals for both the Education Building and Commerce Hall should be broad-based. This is because the building's components exist today in various states of repair due to their alterations over the past eighty to ninety years. Therefore, the author believes it would be prudent to apply the conservation goals outline by the **Secretary of Interior's Standard for Rehabilitation**. Rehabilitation is defined as, " the act or process of making possible a compatible use for a property through repair, alterations, and additions while preserving those portions or features which convey its historical, cultural, or architectural values." A Rehabilitation standard will allow for the improvement of the buildings in order to meet the changing needs of the university, while honoring the historic integrity of the campus's architectural legacy.

An overall examination of the problems that the stewards of Commerce Hall must manage has revealed four primary areas of concern. Specific conservation goals are recommended for these four following areas:

1) **The reinstatement of missing architectural elements**

The building's main entry facades have had several signature elements of Ellis Lawrence's original design removed including:

- The Mediterranean style gable-end roof parapet
- The large ornamental terra cotta crown pieces and endcaps
- The cascading corbelled arches below the parapet
- The original entry stair and landing configuration
- The ornamental lamps that flanked the main entry.

These elements clearly represent Lawrence's great talent in manipulating eclectic historic detail, and his specific decisions about how to effectively address the north end of the Memorial Quadrangle. Accurate documentation and samples exist which will enable the reconstruction and of these features. The catalogued terra cotta depicted in Appendix B should be restored to its original position. It is recommended that the Secretary of the Interiors Standards for Reconstruction be adhered to when crafting the specifications for this section of the work.

2) The conservation and care of the existing exterior fabric

Most of the exterior of Commerce Hall remains nearly as built. Conservation goals relating to the care of the exterior of the building should make every attempt to preserve in perpetuity the historic building's envelope in accordance with the Secretary of Interior's Standards.

3) The conservation and care of the existing interior fabric

Much of the interior of Commerce Hall has been altered or covered over by subsequent alterations. There are several salient historic characteristics identified in the following assessment that remain intact within the interior spaces. Any rehabilitation efforts within the building should focus on the goal of preserving historic fabric and spatial integrity wherever possible. However, the Standards for Rehabilitation recognize the building's continued use must take into account the changing needs of the University. Therefore, any alteration of the interior spaces should preserve existing fabric where possible and respectfully address any changes that might impact it.

4) The sensitive design of the proposed new addition

The 1951 addition has impacted Commerce Hall architecturally and has affected the character of the site. Conservation goals relating to the design of a proposed new addition should address the historic planning efforts of Ellis Lawrence and limit any further impact to the building's architectural character and fabric. A thorough examination of the design issues relating to the new addition and recommendations are included in Appendix A of this report.

✦ EVALUATION OF EXISTING CONDITIONS ✦

Foundation – Commerce Hall

The foundation of Commerce Hall consists of a concrete reinforced stem wall connected to a slab-on-grade with an embedded waterproof membrane. The portions of the foundation that are accessible for inspection appear to be in good condition. No significant cracks are visible in the stem wall foundation around the perimeter of the building, and no rust staining is present. Because the building's first floor sits below grade, it is important to delimit or closely monitor any changes to the stem walls or the slab-on-grade that would compromise the embedded waterproofing membrane.

The cement plaster or stucco finish on the stem wall foundation at ground level is spalling or chipped in small localized spots. The stucco is essentially a vertical cold joint and is susceptible to water penetration especially given its location at the bottom of the wall. The stucco should be repaired before any further penetration and freeze thaw cycles can occur. Cracks should be filled and missing portions built up with a stucco mixture that matches the texture and color of the original material. An acrylic bonder should be applied to the subsurface before repair.

Entry Stairs - Commerce Hall

The concrete stair with brick walls and terra cotta coping at the main entrance is in poor to fair condition. The two legs of the stair are experiencing problems in several areas similar to those of the Education Building, including spalling of the concrete steps and the terra cotta coping, failure or disintegration of the mortar, and expansion of the steel lintels above the ventilation windows in the stair vault.

Water, moss and algae growth have substantially deteriorated the head joints in the mortar between most of the terra cotta coping pieces. The mortar joints between the intact terra cotta coping pieces need to be cleaned and the pieces reset. Careful attention should be paid to the

mortar mix to provide a good bond between the coping pieces. This is a key issue because the glaze on the terra cotta is minimally absorptive, precluding a good bond. A water sealant should be applied to the vertical head joints periodically.

The terra cotta coping pieces on these stairs are spalled and chipped in a similar manner to the Education Building. Most of the damage is along the corners of the pieces where they may have been set down when the stair was dissembled and reconfigured in 1951. Where the coping is damaged and the clay body is exposed, water can easily be absorbed causing further damage. The set of terra cotta balusters that front the upper landing are experiencing similar problems. This is a highly trafficked area and mechanical abrasion of the coping and the balusters is an ongoing problem. Filling or patching spalled pieces with a cement grout is not recommended. In order to halt the absorption of water in a non-intrusive way, a cold glaze or in-painting can be applied to areas of limited damage.

The steel lintels that span the ventilation opening in the stair vault are experiencing some corrosive attack. These lintels are not expanding severely but they should be monitored and perhaps replaced if damage to the brick walls becomes problematic. The lintels should perhaps be treated with a rust inhibitor and painted with a protective coating.

The brick walls surrounding the stair are in fair condition, but some of the joints are missing mortar, especially along the bottom of the coping. The cause of the damage is likely due to moisture infiltration and movement due to expansion. These walls may need to be partially rebuilt or have their mortar repointed in localized areas.

Finally, small areas of the 1951 finish surface of the concrete are chipping away, cracking on portions of the landings, and at the nosing of the risers. This could be due to the failure of the bond between the new finish and the subsurface. These cracks and spalls should be patched and filled with new mix before any further damage can occur. The mix should match the aggregate as closely as possible and an acrylic bonder should be applied to the subsurface.

Exterior Walls - Commerce Hall

The unreinforced brick masonry bearing walls of Commerce Hall are in good condition. There is no visible leakage on any of the interior wall surfaces and the build up of efflorescence at the mortar joints in the attic space does not appear to be softening the mortar or compromising bond. This could remain from the original construction. In the upper portion of the building where moisture and weathering is more commonly a problem, a significant amount of moss and algae growth has obscured the mortar joints. The moist environment created by the growth however, does not seem to have compromised the brick assembly or the mortar on the outside of the building. Spots of accumulated organic matter are visible at corbelled areas and inside corners of the building's envelope where there is a more protected environment and need to be cleaned. There are several areas in the decorative brickwork of the east elevation where bricks were set in corbelled positions with their head joints exposed. Several of the bricks are in danger of falling. The bond is compromised between the mortar and some brick due to either water penetration, freeze thaw, or a combination of both. These bricks need to be carefully removed and reset. It is also recommended at this time that the entire building is cleaned of deleterious growth and dead vines that once covered the lower areas of the building. A thorough inspection of all mortar joints should be conducted at that time in order to identify other problematic areas including the head joints in the rowlock windowsills, and the terra cotta coping and belt courses which have difficultly retaining a good bond due to their glazed surfaces.

The large terra cotta coping pieces on the parapet wall were cleaned and repointed in 1992, but they will soon be in need of attention again. The mortar joints of the coping were sealed with approximately ¼ inch of latex sealant at that time. The sealant appears in good condition, but it will need to be replaced sometime in the next five to ten years to avoid damage to the repointed mortar joints and the wall below. The buildup of algae on the underside of the coping needs to be cleaned to prevent further growth and help reestablish the drip edge in order to divert water from the wall surface. Chips in the terra cotta coping along the parapet which were in-painted with an enamel-like paint are peeling. These areas need to be cleaned and in-painted again. Above the main entry on the east elevation, the copper

coping which protects the cavity wall is in good condition but counter flashing around the coping is diverting water toward the building. The flashing details need to be checked and realigned to divert water away.

The 1 to 2 inch holes on the north side of the west elevation, where the historic fire escape was connected to the building have not been filled. The steel anchor pins look as though they have been cut and left in place. The holes should be filled with colored mortar and the pins removed if possible, or left in place and protected from corrosion if the fire escape is not to be reinstated.

The terra cotta ornament which is composite with the brick masonry wall assembly is in excellent condition, though it needs to be cleaned and repointed in several areas. These areas are associated with places where water collects and stimulates organic growth. Ferns and moss have take root in the joints between the terra cotta where the mortar has popped out. There is no evidence of a metal anchoring system for the terra cotta. This is typically the major cause of failure with this type of material when water has penetrated the system. The terra cotta ornament of Commerce Hall is a signature material of the building's character and must not be altered. It is imperative that the terra cotta ornament not have its protective glaze or the clay body compromised by efforts to reinforce it within the masonry wall assembly by epoxy dowels or other intrusive elements. It is worthwhile economically to extend further tests examining the stability of the terra cotta within the masonry assembly. Should these tests show instability, less intrusive methods of anchoring from the back into the masonry-filled core of the pieces should be investigated. All the terra cotta units produced for this building have webbing in their hollow backside with punched holes to provide anchoring and stiffness.

The window and door openings in the exterior walls have two paired sets of steel angle iron that form their structural lintels. The accessible lintels seem in good repair. Rusting and expansion could cause serious problems in the future, and it is recommended that the window and door lintels be periodically monitored for signs of distress, and regularly repainted.

The concrete window well retaining walls around the first floor window groups need to be monitored for signs of movement in the future. The thin cracks in the outer surface should be patched and signs of rust staining should be looked for which could indicate corrosion and harmful expansion of the reinforcing steel. The small drains at the center of the window wells need to be kept clear of leaves and debris to prevent ponding and the danger of water infiltration.

Roofing – Commerce Hall

The roofing system on Commerce Hall was replaced in May of 1992. The new roofing surface is well maintained and appears to be in excellent condition. Similar to the Education Building, the slope of the roof looks as thought it might have been increased above the old wood decking. It is difficult to establish this based on the historic sectional drawings held by Facility Services. There is no evidence of this on the inside attic space, where the original pony walls supporting the roof are intact.

There is some concern about the attachment of the new roofing surface to the bottom lip of the terra cotta coping. Drilling through the coping to insert lead expansion fasteners has compromised the protective glazing of the terra cotta. This may not be a problem now, but failure of the terra cotta body at these points will compromise the roof membranes' seal in the future. The system should be left intact and any future roof repair should note this potential failure of the fastening system.

The 16 oz. copper counter flashing, which protects the perimeter edges of the new roofing membrane, the roof ventilating penthouse, and the historic skylights, is in good condition. The sheet copper flashing around the inside of the parapet wall was slightly damaged when the counter flashing was installed. There is concern that the sheet flashing might not be allowing the brick parapet to breath properly and may be causing excessive moisture build-up behind it. It is difficult to establish this using non-destructive means. It is recommended that the rivets be drilled out in several sections in order to make and accurate assessment and evaluation for recommended treatment.

Fenestration: Windows, Doors and Skylights – Commerce Hall

All windows that were accessible to the author for inspection were in fair to good, serviceable condition. The components inspected include sashes, sills, glass and glazing, locks and operable mechanisms. It is recommended that a complete inspection be given to every window. The inspection should include a thorough examination of the wooden sash for loss of paint, rot and proper sealant. The lintels should be inspected for corrosion. The operating awning-type mechanisms should be checked to insure that they do not bind in either the upper or lower sashes. The glazing should not be missing or loose which could allow water penetration. All the locking mechanisms should function with ease. The original locking mechanisms should not be replaced or additional locks installed if it can be avoided. The window jambs are set into the masonry wall, flush with the interior wall surface. There should be no sign of moisture around the interior trim. If there is, check the exterior sealant and apply new calk to the area once it has been properly prepped.

The paired exterior doors on the west elevation and the solid wood doors with a three-quarter length light on the east elevations have been replaced. These are in good condition. Their historic operable transoms appear in good condition and should be periodically inspected using the recommendations above.

The two gabled skylights on the roof are in fair to good condition. The skylights were cleaned, resealed and repaired during the 1992 re-roofing. The skylights use metal framing and mullions with a sheet metal ridge cap, which covers an operable louver. The louvers are functioning properly. Most of the glass appears original although some has been replaced with new wire reinforced obscure panes similar to the historic panes. The silicon sealant which holds the panes is apparently in good condition but should be monitored for leakage.

Structure– Commerce Hall

The author does not have the expertise to evaluate the structural integrity of Commerce Hall. However, Degenkolb engineering firm was contracted by the University to perform the evaluation of Commerce Hall and has proposed a scheme similar that of the Education Building for a seismic upgrade. The author will evaluate their recommendations here, based the applicability of the Secretary of Interior's Standards for Rehabilitation.

Degenkolb engineers again proposed four structural components and one nonstructural component in their seismic strengthening scheme for Commerce Hall including:

I. **Vertical lateral elements**
II. **Foundations**
III. **Diaphragms**
IV. **Collectors**
V. **Braces and terra cotta anchors**

I & II Vertical lateral elements and foundations:

The incorporation of a new vertical lateral element and new foundation components are proposed for the centrally located historic stairwell. It is proposed that the existing historic stairwell be reinforced around its perimeter with a 6-inch layer of shotcrete over the solid walls and an 8-inch layer on the wall with door openings. A metal stud framing system is proposed on the interior of the stairwell to help brace the unreinforced masonry. Shotcrete on the inside of the stairwell is proposed as an option for this purpose. The slab-on-grade and strip footing below the unreinforced masonry wall would be removed and replaced down to bedrock with a new foundation.

There are several issues associated with the proposed scheme that should be examined. The application of shotcrete is a non-reversible process. However, as discussed earlier in this section, it is difficult to up-grade an unreinforced masonry building without impacting the historic fabric. The area proposed for the shotcrete application is limited to 6 to 8 inches on interior surfaces and could be applied in a way that is minimally noticeable. The introduction of metal stud framing on the interior of the stair would however, render a noteworthy impact to the character of the stairwell space. The stairwell is essentially one of the only

dimensionally intact spaces remaining in the building. Several moldings that parallel the rail are intact along the interior of the entire stair rail. These moldings should be retained and reinstalled if the metal stud framing or the interior shotcrete application must be carried out. If the engineer could re-examine the possibility to introduce several key structural pieces of steel in unobtrusive places at the ceilings and landings, the impact could be limited. The Secretary of Interior's Standards should take no issue with the upgrade to the foundation. Careful attention should be paid to the detail of waterproofing the new foundation where the original slab-on-grade would be compromised.

II. Diaphragms:

The same three components are proposed to improve the performance of the diaphragms of Commerce Hall as were recommended for the Education Building. First, a layer of plywood would be added to each floor joist system, including the ceiling joists above the third floor in order to strengthen the diaphragms. Second, epoxy anchors would be bolted through the existing wood ledgers and into the existing masonry walls for shear transfer to the diaphragm. Third, steel rods would be drilled and epoxied either into or through the historic masonry walls to secure them to the joists. The installation of plywood sheathing sounds unintrusive at first, but the proposal calls for the removal of the entire historic 2x6 roof system including the decking, the roof joists, and the pony walls. Perhaps the sheathing could be added to the bottom of the ceiling joists instead, or more blocking could be added between the joists. This application on the third floor joists is highly intrusive and perhaps avoidable.

With regard to epoxy anchoring into the historic unreinforced masonry wall at the floor levels around the perimeter of the building, the Secretary's Standards take no exception with strictly interior applications that transfer the sheer from the diaphragm to the wall. However, the introduction of steel rods **through** the masonry in order to attach the diaphragm to the joists is not a sensitive measure and should be avoided.

III. Collectors:

The collector elements for Commerce Hall are similar to the proposal for the Education Building. They consist of steel channel, which run transverse through the building connecting the walls together and connect to the newly reinforced stairwell. They are meant to drag shear forces to the improved stair core. Based on the drawings included in the proposal, the steel channel seems to be hidden in the floor joists and the anchoring does not penetrate the outer wall. This seems to be a sensitively designed solution.

V. Braces and terra cotta anchors (nonstructural)

Steel braces are proposed to fasten the roof parapet to the roof diaphragm around the perimeter of the building at four feet on-center. As mentioned earlier in the report, Preservation Standards would recommend that the braces not be visible from the ground, notably from the Memorial Quadrangle. The braces are a solution, which would enable the original gabled parapet with terra cotta ornament to be reintroduced above the main entry.

The nonstructural recommendations also refer to the introduction of helical or epoxy anchors to tie back the terra cotta ornament at strategic locations on Commerce Hall's façade and parapet. It would not be prudent or sensitive to the Secretary's Standards to compromise the glazing or the clay body of the terra cotta ornament. The terra cotta was installed as a composite component within the masonry walls. It was manufactured with webbing for the purpose of stiffening and anchorage. The engineer should investigate this installation further for adequate integrity regarding seismic stability. The webbing straps of the terra cotta should be used for any precautionary nonstructural solutions wherever possible.

The diagrams below depict several key components of the seismic retrofitting scheme.

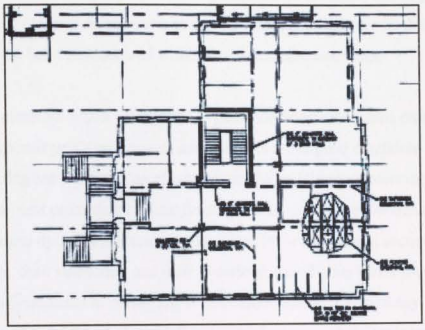

FIGURE 82: PROPOSED SEISMIC UPGRADING SCHEME.
DEGENKOLB ENGINEERS, PORTLAND

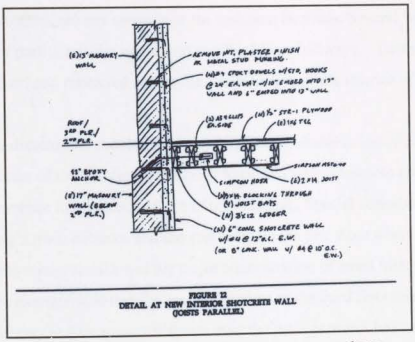

FIGURE 83: PROPOSAL FOR EXOPY DOWELS WITH HOOKS TO ANCHOR 6-INCH LAYER OF SHOTCRETE TO UNRIENFORCED MASONY BEARING WALL AT STAIRWELL.
DEGENKOLB ENGINEERS, PORTLAND

Interior Finishes – Commerce Hall

Commerce Hall does not retain the high degree of spatial integrity among its rooms that is found in the Education Building. Many of its original finishes are intact and in good, serviceable condition at the main entrances to the building's first and second floors, along several of the original hall corridors, and within the central stairwell space

The interior finish elements which were found in good condition are located on all three floors of the building. The stairwell's rail, newels and balusters are in good condition, but care should be taken during any construction efforts within the building to protect them from damage. One of the most prominent historic finishes are the decorative wooden door surrounds with integral operable transoms, as described in the assessment section of this report. These doors, their surrounds, and their historic obscured glass panes should be retained and carefully attended to during any rehabilitation efforts to curtail any damage during construction. Most of the bathroom fixtures and bathroom stalls are intact on each floor level. New plumbing has been incorporated throughout the life of the building but the ceramic fixtures have faired well. They should be retained with their original stalls where possible and incorporated into any upgrade of the restroom facilities. Several window bands are intact on interior partition walls in the first and third floor hallways. These elements should also be retained and protected during the rehabilitation of the interior of the structure.

Any historic spatial dimensions should be honored by future rehabilitation efforts wherever possible. The structure of the building lends itself to certain wall placement opportunities created by Ellis Lawrence in his initial design of the building. Special consideration should be given to the building's main entrance and the east entry on the first floor where the spatial integrity has not been compromised and the major concentration of intact historic fabric exists. It is further recommended that the reestablishment of the third floor space that housed Commerce Hall's library and museum collection over the main entrance be considered for reinstatement. The location of the space could take advantage of the decorative arched fenestration above the main entry and the sixteen-foot ceilings, which still remain. Using Lawrence's original plans, which are held by the University Architect's Office, the

rehabilitation of these spaces could be done accurately and remedy the earlier alterations with relative ease.

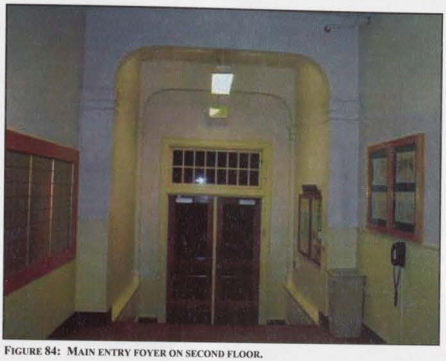

FIGURE 84: MAIN ENTRY FOYER ON SECOND FLOOR.

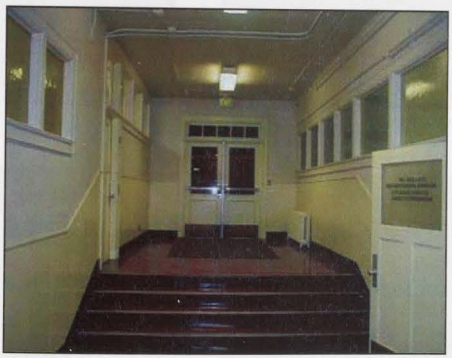

FIGURE 85: EAST ENTRY AT FIRST FLOOR. NOTE THE CONCENTRATION OF HISTORIC FABRIC

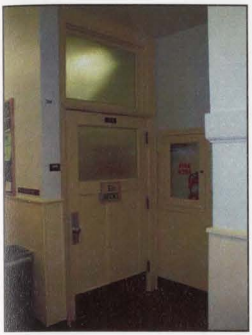

FIGURE 86: ROOM 364. ALL ORIGINAL MILLWORK

FIGURE 87: TYPICAL HISTORIC SECONDARY DOOR

FIGURE 88: ORIGINAL BATHROOM STALLS

FIGURE 89: STAIRWELL WITH MOLDINGS, RAILS, BALUSTERS AND NEWELS

FIGURE 90: ORIGINAL 'STANDARD' FIXTURE

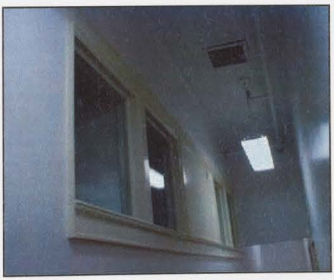

FIGURE 91: WINDOW BANK IN PARTITION WALL ON 3RD FLOOR

+SUMMARY OF RECOMMENDATIONS +

This section of the report will briefly summarize the recommendations for each of the building's components. The recommendations presented below reflect the author's interpretation of what would be the most appropriate treatment, given the conservation goal of preserving or reinstating character defining architectural features in accordance with the Secretary of Interior's Standards.

Foundation – Commerce Hall

a) The areas of the foundation that were accessible on the interior of the building show no signs of failure. However, any seismic retrofitting work through the slab-on-grade and other areas of the foundations will allow better inspection opportunities and should be monitored for cracks, settlement or rusting reinforcement. See Appendix F – Preservation Brief 15.

b) The cement plaster or stucco around the base of the building should be repaired before any further penetration and freeze thaw cycles can occur. Cracks should be filled and missing portions built up with a stucco mixture that matches the texture and color of the original material. An acrylic bonder should be applied to the subsurface before patching. See Appendix F – Preservation Brief 22.

Entry Stairs - Commerce Hall

a) The original configuration of the entry stairs and the landings of Commerce Hall should be restored. The stair defined Lawrence's carefully planned entry procession into the building, affording important, otherwise unavailable views of the Memorial Quadrangle from large elevated landings.

b) The mortar joints between the terra cotta coping pieces need to be cleaned and the pieces reset. Careful attention should be paid to the mortar mix to provide a good bond between the coping pieces. This is a key issue because the glaze on the terra cotta is minimally absorptive, precluding a good bond. A water sealant should be applied to the vertical head joints periodically. See Appendix F – Preservation Brief 1 and 2.

c) The chipped and spalled coping and terra cotta balusters need to be treated to halt their exposure to the moist environment. An acrylic based cold glaze or in-painting should be applied to areas of limited damage. Severely damaged pieces should be replaced in-kind. See Appendix F – Preservation Brief 7.

d) The bricks walls that support the landings need to be partially rebuilt in order to replace the corroding and expanding steel angle lintels. Many of the joints in the wall must have their mortar replaced or repointed. The mortar should be softer than the brick and match the absorptive quality of the brick to ensure a good bond.

e) The new replacement lintels above the ventilation openings in the sidewalls of the stair should be painted with a protective epoxy coating or rust inhibitor.

Exterior Walls - Commerce Hall

a) It is recommended at this time that the upper portion of the building be cleaned. Vines that once covered the lower floors of the building may have affected some mortar joints in the past and should be removed. See Appendix F – Preservation Brief 1 and 2

b) Selective re-pointing should occur in areas of the building that appear to be failing. Problematic areas include the head joints in the rowlock windowsills, and the terra cotta coping and belt courses, which have difficultly retaining a good bond due to their glazed surfaces.

c) The build-up of algae on the underside of the parapet coping needs to be cleaned to prevent further growth and help re-establish the drip edge in order to divert water from the wall surface. This will serve to avoid damage to the newly repointed mortar joints.

d) Chips in the terra cotta coping along the parapet that were in-painted with an enamel-like paint are peeling. These areas need to be cleaned and in-painted properly. See Appendix F – Preservation Brief 7.

e) Graffiti should be removed by the gentlest means possible. Small test patches should be used prior to larger applications. See Appendix F – Preservation Brief 38.

f) Above the main entry on the west elevation, the copper coping that protects the cavity wall is in good condition but counter flashing around the coping is diverting water toward the building. This area needs to be re-flashed correctly.

g) The 1 to 2 inch holes on the north side of the east elevation should be filled with colored mortar and the pins removed if possible or left in place and protected from corrosion if the fire escape is not to be reinstated.

h) It is imperative that the terra cotta ornament not have its protective glaze or the clay body compromised by efforts to reinforce it within the masonry wall assembly by epoxy dowels or other intrusive elements. The stability of the pieces, which are composite within the masonry assembly, should be investigated further. Methods of anchoring from the back should be examined if this is not sufficient. All the terra cotta units produced for this building have webbing in their hollow backside with punched holes, to provide anchoring and rigidity.

i) The window and door lintels need to be periodically monitored for signs of distress, and regularly repainted.

j) The concrete window well retaining walls around the first floor window groups need to be monitored for signs of movement and corrosion of the reinforcing steel. The thin cracks in the outer surface should be patched. The small drains at the center of the window wells need to be kept clear of leaves and debris to prevent ponding and the danger of water infiltration. See Appendix F – Preservation Brief 15 and 39.

l) The high-pressure sodium lamps that flank the entry should be removed. New fixtures should be replicated using photographic evidence of the historic lanterns. All other lighting fixtures should be consistent in style yet not misrepresent themselves as historic. The new fixtures should use the original mounting holes and not further compromise the building envelope.

m) The gable-end parapet wall should be reinstated following the Secretary of Interior's Standards for Reconstruction. The cascading corbelled arches should be reconstructed as part of this work. The original terra cotta ornament should be installed and anchored in a sensitive manner, and replacement tiles should be crafted to match the size and color of the originals. The roof pitch should be duplicated, and any additional seismic stabilization efforts should be designed in a manner sensitive to the integrity of the masonry wall. See Appendix F – Preservation Brief 30.

Roofing – Commerce Hall

a) The attachment of the new roofing membrane to the bottom lip of the terra cotta coping should be left intact and any future roof repair should note the potential failure of the fastening system. Drilling through the coping to insert lead expansion fasteners has must be avoided during future repairs or installation. See Appendix F – Preservation Brief 4.

b) The sheet copper flashing around the inside of the parapet wall might not be allowing the brick parapet to breath properly and may be causing excessive moisture buildup behind it. Therefore, it is recommended that the rivets be drilled out in several sections in order to make and accurate assessment and evaluation for recommended treatment.

Fenestration: Windows, Doors and Skylights – Commerce Hall

a) The accessible windows and both sets of entry doors on Commerce Hall were found to be in good serviceable condition. The scope of this report however, only provided for a preliminary inspection to a handful of the windows in each building. Therefore, it is recommended that a complete inspection be given to every opening in the building's envelope. Inspections should examine the wooden sashes, the lintels, the glass and glazing, the operable mechanisms and the locking mechanisms. A window and door schedule should be assembled to document the condition of each of these elements in order to establish specific problems and overall patterns of deterioration. Problems to identify include water penetration, corrosion, paint failure, rot and broken parts or mechanisms. Sensitive, non-intrusive solutions, which meet the Secretary of the Interior's Standards for Preservation, should be use in every repair. See Appendix F – Preservation Brief 9, 10 and 24.

Structure – Commerce Hall

a) The application of the shotcrete to the interior of the unreinforced masonry wall around the stairwell should be held back the at least one half wythe from the door locations to retain the architectural character of the wall plane. Examine an engineered solution. See Appendix F – Preservation Brief 41.

b) Avoid the removal of the original 2x6 roof structure for the installation of the third floor's diaphragm. If possible, place the sheathing that forms the diaphragm on the bottom side of the third floor ceiling joists or install blocking from below.

c) Do not install steel rods or epoxy dowels **through** the exterior unreinforced brick masonry walls. Epoxy dowels are acceptable on the inside of the masonry walls, so long as they do not break the exterior surface.

d) The installation of the shear collector elements are recommended as presented in the original proposal.

e) Design the parapet wall-bracing system to be minimally intrusive to the unreinforced brick masonry and hide it below the parapet level.

f) Do not compromise the glaze surface or the body of the terra cotta pieces with intrusive doweling. Reinforce the terra cotta with new mortar.

Interior Finishes – Commerce Hall

a) Any rehabilitation plans for Commerce Hall should respect the spatial integrity of the few spaces that remain uncompromised, including the main entrance on the second floor, the stairwell, and the first floors east entry and adjacent hall. The concentration of historic fabric in these areas, warrant extra care when construction activities are in progress. See Appendix F – Preservation Brief 14 and 18.

b) It is strongly recommended that the finishes in the stairwell be protected with plywood during the construction phase of any rehabilitation project in the building.

c) It is recommended that the reestablishment of the third floor space that housed Commerce Hall's library and museum collection over the main entrance be considered. The space could take advantage of the decorative arched fenestration above the main entry and the sixteen-foot ceilings that still remain. The original plans are available at the through Facility Services.

d) The historic bathroom fixtures should be maintained and incorporated into any rehabilitation project planned for Commerce Hall.

f) All historic hardware, doors, and decorative historic door surrounds with operable transoms should be retained and preserved in good working order. See Appendix F – Preservation Brief 14 and 18.

APPENDIX A

CRITICAL DESIGN ANALYSIS OF THE CONTEMPORARY ADDITION

CRITICAL DESIGN ANALYSIS OF THE CONTEMPORARY ADDITION

Introduction

The attachment of additions to historic buildings and structures has been the subject of continuous debate, and a number of articles and policies have attempted to address the issues surrounding the topic. An addition which attaches to two historic buildings that are part of a major ensemble will ultimately yield many more repercussions. There are serious implications and site-specific issues regarding additions to the ensemble of buildings that surround Ellis Lawrence's Memorial Quadrangle on the University of Oregon campus. The goal of this examination is to extrapolate useful information which could affect the historic structures and the site in the future. The redesign of the connecting addition to the Education and Commerce buildings proposes a net gain of 55,000 to 60,000 square feet, resulting in a significant change to the footprint, massing, and architectural expression of the current structure.

There exists a general consensus among the professional planners, architects and other people concerned with the stewardship of the Education Building and Commerce Hall, that the 1951 Commonwealth addition does not compliment the ensemble of buildings or the original intentions of the historic campus plans. However thorough the planning and design processes were in 1951, this consensus indicates that the questions, concerns, and programmatic requirements set for the design did not fully explore the historic context of the site.

The following discussion will briefly examine the design and context of the Commonwealth addition. Part of the examination will include a critique of the addition's impact on the integrity of the historic buildings and the character of the site. Based on the results of the examination, a set of recommendations will be prepared. The recommendations are intended to identify sensitive design issues and potential solutions for the current Gilbert addition project. The design recommendations will be based on guidelines extrapolated from the National Park Service's Technical Preservation Brief 14, *New Exterior Additions to Historic Buildings: Preservation Concerns*. These guidelines adhere strictly to the Secretary of the

Interior's Standards for Rehabilitation. The campus-specific planning and design guidelines, outlined in the 1991 Long Range Campus Development Plan, will also be employed to formulate design recommendations.

Preservation Brief #14

The attachment of an addition onto an existing historic structure should only be considered after it has been determined that the programmatic or spatial constraints of an existing building cannot meet future demands or changes in use. The Gilbert Hall complex currently provides over 2,800 classroom seats and dozens of offices. Many of those spaces however, are cramped and do not provide state-of-the-art teaching and working space. Preservation Brief #14 outlines three key points regarding the protection and preservation of historic buildings that cannot accommodate new changes in spatial and technology requirements. The key points to consider when building an addition include:

1) Preservation of historic materials and features
2) Preservation of historic character
3) Protection of historic significance

1) The first point specifically identifies significant historic materials and features which are present on both the Education and Commerce buildings, including architectural terra cotta and ornamental brickwork. Many features are significant on these buildings, including decorative wooden window sashes, architectural metals, historic concrete stairs and landings, and several historic interior partition walls with original doors and operable transoms. Preservation Brief #14 outlines the protection and preservation of these features with two strategies. The first strategy involves simply minimizing the loss of historic material from external walls and internal floor plans. The second strategy is to avoid constructing an addition on a primary or other character defining elevation.

Three solutions are offered in Brief #14:

a) Reduce the overall size of the new addition.

b) Limit the size and number of openings between the old and new buildings.

c) Attach the new addition to the historic block by means of a link or connector.

2) The second point in Preservation Brief 14, identifies several of the physical aspects of historic buildings which are essential to preserving historic character. These character defining aspects include the building's shape, materials, features, craftsmanship, window arrangements, color, setting, and interior. Once the character defining components are identified, the Secretary of Interior's Standards for Rehabilitation specifies that the new addition must be compatible with the size, color, material and the character of the building to which it is attached. These recommendations also address the proportions and massing of the new addition. There are no steadfast rules set forth for square or cubic foot ratios in Preservation Brief #14, but it does recommend that the existing building's proportions, site and setting should establish the basic parameters for the design of a new addition. Several other recommendations regarding the preservation of historic character are offered including the following:

a) Accurately assess the relationship between the actual size and the relative scale of the buildings under consideration so as not to over power the historic structure.

b) Construct the new addition on a secondary side or rear elevation.

c) If the addition is to be attached to a primary elevation, set back the attachment from the existing structure's wall plane so the outer edges, which define the historic form are still present.

3) Protecting the historic significance of an older structure, or making a visual distinction between historic structures and their additions, has been an issue subject to intense debate. Design is a subjective topic, where often one person's tastes do not necessarily match those of another. Preservation Brief #14 recommends that a new addition be planned in a way that

discerns the new work from the older buildings with differentiation in materials, color and details. However, care should be taken in the design process, enabling the new addition to compliment the historic building, the existing setting, and immediate site. The main concern here is with the issue of authenticity. The brief states that it is conceivable for a small addition to be replicative without changing the older structure's historic character. Several areas for differentiating the older structure from the new are outlined in the text including:

a. Set backs on wall planes
b. Different roof lines and cornice heights
c. Variations in siding exposures
d. Similar but discernable materials for ornament
e. Variations in window types.

The key points listed in Preservation Brief 14 outline many strategies which have been adopted by the 1991 LRCDP, and offer solutions which can be tailored to the specific needs of most building additions. In order to examine the specific issues revolving around the proposed addition to the Gilbert complex, an understanding of the existing Commonwealth addition is necessary.

The Commonwealth Addition in Context

In 1951, the 46th regular session of the Oregon Legislative Assembly adopted a resolution which included the provision of $700,000 from the General Fund for "The purposes of planning, altering, repairing, adding to, furnishing or equipping the Business Administration building at the University of Oregon." The majority of the appropriation was earmarked for the Commonwealth addition. The Portland architecture firm of Wick and Hilgers was retained for the design portion of the contract, with Bickford Construction Company as the General Contractor. The Commonwealth addition connected to the historic Education and Commerce buildings on their northern facade. The northern facade of the Education and Commerce buildings prominently faced Ellis Lawrence's grand entry gates until they were obscured by the addition. "Dads Gates", were sited on axis with Lawrence's Memorial Quadrangle. The Commonwealth addition joined an elegant ensemble of six buildings surrounding the

Memorial Quadrangle, which Lawrence designed and built between 1916 and 1937. Today the Commonwealth addition sits prominently at the southern edge of the quadrangle perfectly aligned with the historic Knight Library.

For the past forty-nine years, the Commonwealth Addition has helped to define the character of the north end of the Memorial Quadrangle and the coherent outdoor spaces in its vicinity. The quality of the outdoor spaces created by the Commonwealth have matured into landscape features that have impacted the way people use and interact with the original planning concepts and the historic buildings. Site-specific campus planning policies for Area 11, as outlined by the 1991 LRCDP, have been developed around the salient characteristics of these outdoor spaces. The Commonwealth addition has established an understood preconception about what type of schematic building plan best meets the programmatic needs of the connection between the historic buildings and satisfactorily addresses historic planning efforts at the northern end of the Quadrangle. This is evidenced by the similarities of the new schematic design developed by the SRG Partnership architects, and its subsequent approval by the Campus Planning Committee. However, there is a general consensus that the Commonwealth's modern aesthetic is discordant with the historic structures on the site, and chokes the visual continuity of Ellis Lawrence's axial promenade.

It is important to note that the Commonwealth addition is approaching the fifty-year mark when buildings are considered historic. The aesthetic of the Commonwealth does reflect a common Modernist idiom visible throughout the campus and the City of Eugene. So, is the Commonwealth addition worthy of preservation?

The author mentions this in order to make a point about the expected lifespan of a building. This perception is as much a cultural issue as it is an issue of economics. The Commonwealth addition is a Modernist expression. The Modernist Movement, supported by the sweeping ideals of Urban Renewal, believed in the obsolescence of buildings and styles. Change was celebrated. My point is that the University of Oregon cannot plan for obsolescence in its buildings, especially those on the Memorial Quadrangle. A building at such a prominent location must be built to last.

Design Assessment and Evaluation

The design of the Commonwealth addition employs some typical Modernist ideas. The building's straightforward rectangular plan and massing is important to its stylistic expression. The massing affords clean, unbroken lines on the building's exterior. The addition is composed of a three story horizontal rectangular form spanning approximately 170 feet, book-ended by simple rectangular stair towers. Little relief is incorporated into the exterior expression of the building's envelope. The envelope is primarily composed of brick veneer and steel sash windows with metal panels. The brick is assembled in a simple running bond pattern with no variation. The windows are operable. They sit almost flush with the exterior walls of the building, enhancing the broad, continuous surface of the exterior. On the south elevation facing the Memorial Quadrangle, the second and third floors are composed entirely of windows set into a frame of thin concrete panels. The stair tower walls that face the central courtyard on the south elevation are composed of brick on one side, and typical steel sash windows with metal panels on the other, creating a very stark, almost industrial aesthetic.

In contrast to the Education Building and Commerce Hall, the Commonwealth uses minimal ornamentation. On the south elevation which faces the Memorial Quadrangle, a set of six large cylindrical concrete columns with no bases or capitals provide support for the cantilevered floors above. These columns punctuate the ground floor massing, helping to identify the location of the otherwise inconspicuous entrances to the building. The entrances have low profile, brushed stainless steel thresholds with side lights. They are located off of a brick paved breezeway at the center of the first floor. The breezeway is a severe twenty-two foot wide rectangular space with white stucco finish. It provides the only entry from Dad's Gates to the heart of the campus along Ellis Lawrence's historic axial scheme. Large aluminum letters which read 'Commonwealth' were located above the breezeway. The signage was removed when the name of the building was changed to Gilbert Hall. Smaller metal letters now spell out Business Administration and Social Sciences across the top of the breezeway.

The massing is repeated on the north elevation, facing Dad's Gates. The central rectangular portion of the building, which measures approximately 125 feet, has continuous steel sash windows across the breadth of the façade on each floor. The large rectangular forms that flank the north elevation have no window fenestration to break the plane of their walls, which span approximately 40 feet. The only ornamentation on the north elevation are the large historic terra cotta roundels depicting the Seal of the State and the University, which flank the building at the third floor level.

The east and west elevations employ a similar architectural vocabulary. The stair tower and connecting link or passageway to the Education Building and Commerce Hall are clearly visible on these elevations. The connection to the historic structures was limited to the nine-foot width required for circulation between the buildings. The wall surface where the Commonwealth attaches to the center of the northern facades of the historic buildings was richly detailed with finely crafted brickwork including corbelled arches, various bond patterns, and handcrafted ornamental terracotta. Brick pilasters with symbolic motifs detailing the bases and capitals now flank the connecting passageway A two inch wide expansion joint is visible at the seam where the buildings meet, however, the buildings are not structurally connected.

FIGURE 92: SOUTH ELEVATION OF COMMONWEALTH

FIGURE 93: STAIR TOWER

FIGURE 94: NORTH ELEVATION OF COMMONWEALTH

FIGURE 95: BREEZEWAY

Assessment and Evaluation of Outdoor Spaces

The Commonwealth has helped to define three important outdoor spaces. The open courtyard to the south, which is essentially framed by the Gilbert complex, is paved with concrete and surrounded by a variety of trees. The courtyard looks out on to the Memorial Quadrangle. The breezeway of the Commonwealth addition converts travel through the space into a shortcut rather than a primary path of circulation. Compounding the secondary nature of the path is the lack of benches or seating areas in the courtyard. People who use the space sometimes sit on the stairs leading to the entry of the historic buildings.

The open space to the North, towards Dad's Gates, is essentially grass, bordered by sidewalks and the row of Douglas-Firs trees that lead to the entrance of Deady Hall. Classes meet on the grass in clear weather and people sit and read in the afternoons. From this open space it is difficult to have a clear perspective of the axial geometry beyond the Commonwealth.

To the east of the Gilbert complex is the third outdoor space, which is oriented along a paved concrete sidewalk and an asphalt path running parallel to the edge of Commerce Hall. The sidewalk begins at Deady Hall and goes past Fenton to connect to Thirteenth street. The quiet backsides of the buildings along the sidewalk provide a quality place to sit and study, and also a buffer from the campus traffic. Several benches and a set of steps provide outdoor seating in the space. There are a variety of plantings and several large trees along the path and the sidewalk. Further to the east of the sidewalk is a secondary, more secluded space with a

fountain. The primary handicap access to the Commonwealth addition and Commerce Hall is located off of this outdoor space.

FIGURE 96: MEMORIAL QUAD, LOOKING SOUTH FROM THE COMMONWEALTH ADDITION TO THE SOUTH

FIGURE 97: CENTRAL COURTYARD TO THE SOUTH

FIGURE 98: 2ND EMPIRE STYLE DEADY HALL

FIGURE 99: GRASSY OPEN SPACE TO THE NORTH

FIGURE 100: QUIET BACKSIDE TO THE EAST

FIGURE 101: FENTON HALL TO THE EAST

Design Recommendations

In applying the guidelines from Preservation Brief #14 and the 1991 LRCDP to the Commonwealth addition, a number of positive and negative design issues became apparent. The design recommendations in the following table will attempt to provide solutions which address these issues. It is expected that these recommendations will have a positive impact on the sensitivity of the redesign of the addition to the Education Building and Commerce Hall.

#	Design Issues	Recommendations
1	The Commonwealth addition has outgrown its useful service to the University and become obsolete.	Any prominent addition to the Memorial Quadrangle should be designed with a high degree of permanence. Building systems, components, and materials should be chosen for their serviceability and longevity.
2	The Commonwealth addition limited the size of its connection to the historic structures, reducing the need for removal of valuable historic fabric.	Limit the new addition's connection onto the historic structures to the area already impacted. Brick pilasters with ornamental terra cotta capitals, which historically defined the façade, now flank the connection and are in danger of being compromised.
3	The connection between the Commonwealth addition and the historic buildings remained structurally independent limiting the impact to the historic buildings.	Maintain the structural independence of the buildings unless it is required for life and safety reasons.
4	The Commonwealth addition assisted in providing ADA access to the upper floors of the historic buildings. However, the floor levels are not similar, creating the need for ramps and stairs in the historic buildings.	Match the new floor levels to those in the historic buildings. The altered corridor spaces are cramped and the ramps should be removed. Circulation between the buildings needs to address the convoluted pathways established by the Commonwealth.
5	The massing of the Commonwealth addition, which is limited to three stories, does not over power the scale of the historic buildings.	If the new addition is four or more stories, it should step down or back. Breaking up the plane of the top story could alleviate problems with scale and proportion.
6	The breezeway chokes the visual continuity of the historic axis from Dad's Gates, through the Memorial Quadrangle to Knight Library.	Open the breezeway both vertically and horizontally if possible. If the new addition encloses the space, provide visual elements on the exterior and interior that enhance the essence of the axial flow through the space, and sufficient glazing to provide visual continuity.

7	The style and architectural vocabulary of the Commonwealth addition did not attempt to address the historic structures.	Use architectural detailing and materials that are complimentary to the eclectic Mediterranean style of the buildings. Do not mimic the original forms or details exactly. These details should include horizontally layered brick and buff toned materials, and could include low-pitched clay tile roof elements. Other materials recommended include, stone, tile, cast stone, terra cotta, pigmented cast-concrete, wood and cast iron.
8	The connecting passageways which link the Commonwealth addition to the Education Building and Commerce Hall were stepped back from the wall plane of the historic structures.	Maintain the historic building edge by delimiting the connection. This will help to minimizing the massing of the overall complex, but more importantly it will preserve the processional character originally planned by Lawrence. This will also help to clearly identity the historic building edges.
9	The long, unbroken wall planes of the Commonwealth addition are out of character with the scale and massing of the historic buildings.	Break up the wall planes of the new addition to reduce the potential dominance over the historic structures and the site. The historic buildings have strong, layered horizontal emphasis.
10	The Commonwealth addition uses continuous, horizontally banded windows with steel sashes and metal panels.	Design window fenestration more sensitive to the historic buildings in terms of size, orientation and materials. However, do not mimic the historic windows.
11	The Commonwealth addition has no clearly defined main entrance.	The dominance of the entrances to the Education Building and Commerce Hall should be balanced in a hierarchical order with the new addition. Make a statement but do not over power the historic entrances, rather compliment them.
12	The siting of the Commonwealth helps to create coherent larger outdoor spaces, on the north towards Dad's Gates, and the south towards the Memorial Quadrangle.	Design strong building edges in order to render a clear message about the continuation of the historic axis through the building, out into these coherent outdoor spaces. The building's footprint should define not impose upon the open spaces.
13	The Commonwealth addition maintains its footprint within Lawrence's primary historic axis. Therefore, it limits the effect on surrounding buildings and outdoor spaces.	Schematic plans for the new addition extend further east toward Deady and Fenton. The new addition should respect these historic structures, and maintain a reasonable distance.
14	The terra cotta components for the historic gable-end parapet on the Education Building and Commerce Hall have been located and there is a possibility that these parapet walls will be reconstructed.	Design scenarios for the new addition should consider these stylistic elements, which may be reinstated.

APPENDIX B

CATALOGUE OF RECOVERED TERRA COTTA

FIGURE 102: STAIR VAULT
Hidden access to the stair vault of the Education Building was found off the mechanical room, 112. The terra cotta was found in this space. A pilaster capital and a stack of terra cotta roofing tiles are pictured in the foreground.

FIGURE 103: PILASTER CAPITAL
Type: Pilaster capital
Number: 1 each
Glazing: Glazed buff clay body
Size: 27"x15 ½" x 14"
Condition: Good condition
Original Location: Extra piece

FIGURE 104: CROWN PIECE
Type: Crown piece
Number: 3 total (1 pictured)
Glazing: Unglazed red clay body
Size: 27"x17"x19" at front
Condition: Good Condition
Original Location: Commerce

FIGURE 105: CROWN PIECE
Type: Crown pieces
Number: 2 Pictured
Glazing: Unglazed red clay body
Size: 27"x17'15" at center
Condition: Good condition
Original Location: Commerce

FIGURE 106: ROOFING TILES
Type: Roofing tiles
Number: Approx. 100 each
Glazing: Unglazed extruded
Size: 16"x6 ½"x ½"
Condition: Good to poor
Original Location: Commerce

FIGURE 107: EAVE CAP
Type: Eave cap
Number: 2 each
Glazing: Unglazed red clay body
Size: 19"x12"x8 ½"
Condition: Good condition
Original Location: Commerce

FIGURE 108: EAVE CAP
Type: Eave cap
Number: 4 each
Glazing: Unglazed red clay body
Size: 23"x9"x8 ½"
Condition: Good condition
Original Location: Commerce

FIGURE 109: QUATREFOIL IN RELIEF
Type: Quatrefoil in relief
Number: 1 each
Glazing: Glazed buff clay body
Size: 10 ½" square x 4"
Condition: Good
Original Location: Extra piece

FIGURE 110: QUATREFOIL INSET
Type: Quatrefoil inset
Number: 9 each
Glazing: Glazed buff clay body
Size: 8" square x 4"
Condition: Good to fair
Original Location: Commerce

FIGURE 111: BELT COURSE PIECE
Type: Belt course piece
Number: 2 each
Glazing: Glazed buff clay body
Size: 18"x10 ½"x7"
Condition: Fair (chipped)
Original Location: Extra piece

FIGURE 112: BELT COURSE PIECE
Type: Belt course piece
Number: 2 each
Glazing: Glazed buff clay body
Size: 15"x12"x7"
Condition: Fair (chipped)
Original Location: Commerce

FIGURE 113: BALUSTER
Type: Baluster
Number: 2 each
Glazing: Glazed buff clay body
Size: 27"x6"x6"
Condition: Good condition
Original Location: Extra piece

FIGURE 114: PILASTER SECTION
Type: Pilaster section
Number: 2 each
Glazing: Glazed buff clay body
Size: 15"x11"x6" radius
Condition: Fair (chipped)
Original Location: Education

FIGURE 115: CORNER DETAIL
Type: Corner detail
Number: 4 each
Glazing: Glazed buff clay body
Size: 5 ½" isosceles
Condition: Good condition
Original Location: Commerce

FIGURE 116: CORNER DETAIL
Type: Corner detail
Number: 1 each
Glazing: Glazed buff clay body
Size: 10" isosceles curved hypo.
Condition: Good condition
Original Location: Extra

A BRIEF DISCUSSION ABOUT TERRA COTTA

Architectural terra cotta was used in the construction of five historic buildings on the University of Oregon campus. Ellis Lawrence designed four of these including Chapman Hall (1937), Condon Hall (1921), Commerce Hall (1921), and the Education Building (1916). He advised Architect William C. Knighton on the design of the fifth, Johnson Hall (1914), historically known as the Administration Building. Architectural terra cotta afforded Lawrence and Knighton great freedom for artistic expression in the design of these buildings. Use of the material on these earliest structures has become critical to the salient architectural character of the campus. The extensive use of the material at the academic core of the university exemplifies the expanding role of terra cotta in shaping the urban environment in other Pacific Northwest cities and elsewhere in the United States.[1]

The architectural terra cotta catalogued in the previous pages was found while investigating the settlement of the main entry stair of the Education Building. Most of the terra cotta found was associated with Commerce Hall, either taken from the gable-end parapet during its removal in 1951, or as extra pieces provided by the manufacturer at the date of construction. All Commerce Hall pieces are inscribed with the job number 1284. The individual roof tiles have no markings. The reconstruction of the gable-end parapets of both the Education Building and Commerce Hall was at the center of much debate in the early stages of the schematic design for the replacement of the connecting addition. When these pieces were found, a greater interest developed and planning for their reconstruction became increasingly imminent. Therefore, it has become especially important to understand the material's characteristics and briefly document the manufacturer's contribution to the building's original construction.

Two companies began producing architectural terra cotta on the Pacific coast in the late 1880's. These were N. Clark and Sons of West Alameda, California and Gladding, McBean

[1] The Mcdonald Theater and the US Post Office are good examples of the use of architectural terra cotta on small scale commercial and civic buildings in Eugene. Portland, Tacoma, Seattle and several California cities including Sacramento, San Francisco and Los Angeles have many smaller buildings and large skyscraper's which exemplify the application of terra cotta. Consult the attached bibliography in this appendix for further investigation.

in Lincoln, California. Ellis Lawrence contracted the N. Clark and Sons company to manufacture the terra cotta components for Commerce Hall. The N. Clark and Sons company was founded by Nehemiah Clark in 1882 after he came across a vast clay deposit while searching for gold in the Sutter's Fort area outside Sacramento. The 1870 California census listed four potters living in Clark's house, producing 'jugs' and other traditionally thrown pottery. By 1898 the company had relocated to Alameda, built a new factory and began producing architectural terra cotta. The N. Clark and Sons company was praised within the terra cotta manufacturing industry at the turn-of-the-century, reputed as having "the finest architectural terra cotta departments on the Pacific Coast, thoroughly modern in every respect."[2]

Terra cotta, from the Latin translation meaning "cooked earth," is a high grade of weathered or aged clay which, when mixed with sand or pulverized fired clay (grog), can be molded and fired at high temperatures to a hardness and compactness not obtainable with brick."[3] The relatively recent history of architectural terra cotta production in the United States began in the last quarter of the 19th century and the popularity of the material lasted until the mid 1930s. During the past hundred years in the United States, terra cotta has been used in the manufacture of several distinct types of ceramic construction products including brownstone, fireproof construction, ceramic veneer and architectural terra cotta. The basic differences between these terra cotta products include the grade of clay, the forming techniques such as casting, molding and extrusion, the application of glazes and slips and the final firing specifications. The most complex type of terra cotta is termed "architectural terra cotta," which is the type used in the Education Building and Commerce Hall.

Tests on terra cotta's physical and mechanical properties have been refined since the late 1800s. Beginning in 1897, a civil engineer named F.E. Kidder, made one of the first attempts at

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[2] Walter Geer, *The Story of Terra Cotta*. (New York: Tobias A. Wright, 1920)

[3] D. P. Tiller. "The Preservation of Historic Glazed Architectural Terra cotta," *Preservation Brief 7*, Technical Preservation Services Division, Heritage Conservation and Recreation Service, (Washington, DC: US Government Printing Office, 1979).

publishing a set of test results for "properly burned" terra cotta including compressive strength, density, working strength and abrasion resistance.[4] The scientific explanation of how the clay manufacturing process directly imparted these qualities was still a gray area. In 1927, the National Terra Cotta Society produced a set of specifications, which specifically noted the lack of scientific knowledge "to write either quality clauses in terms of crushing strengths, densities and elasticity, specifications for tests."[5] Not until 1961 did the Architectural Terra Cotta Institute publish minimum and maximum values for physical and mechanical properties of ceramic veneer identifying only compressive strength, absorption, and saturation coefficients. Because of the lack of standards and specifications among manufacturers, conservation efforts on historic buildings lack a benchmark for expected physical characteristics and properties. The most comprehensive testing done historically was performed in the late 1920's by H.G. Schurecht, Senior Research Associate with the National Terra Cotta Society. Schurecht compiled an obscure Confidential Special Report "J" for the National Bureau of Standards, specifically based on the performance of N. Clark and Sons terra cotta spanning 20 years. [6] The report remarks on the durable quality of N. Clark and Sons terra cotta in warm climates, but found it to fail in areas where freeze thaw cycles were prevalent.

The architectural terra cotta for the Education Building and Commerce Hall was traditionally manufactured by hand pressing clay into a negative plaster mold. A Slip-cast method was employed for the encased balusters at the entry landings. The plaster molds were cast from original clay sculpture, designed oversized to account for the shrinkage associated with the firing process. The initial drying shrinkage released the clay from the mold, and the exposed face was then carved and finished accordingly. Vertical clay straps, called webbing, were added at the back for stiffness, bearing strength, and erection purposes. The pieces recovered from the

[4] F. E. Kidder, *Building Construction and Superintendance: Part 1; Mason's Work* (New York: William T. Comstock, 1897).

[5] This observation, and the reference to F. E. Kidder's experiments were taken from a contemporary review of standard specifications for terra cotta in: S. M. Tindall, "How to prepare project specific terra cotta specifications", *APT Bulletin*, Vol. XXI, No. 1, pp 26-36, 1989.; The National Terra Cotta Society. *Terra Cotta Standard Construction*, rev. ed., (New York: National Terra Cotta Society, 1927).

[6] The National Bureau of Standards, *Confidential Special Report "J"*, Compiled by H.G Schurecht. *(Washington, D.C.: August 17, 1927).*

parapet were left unglazed and treated with a clay slip. The slip is essentially a thin mixture of clay and water that is applied to the dried piece before firing. The other pieces were finished with a vitrified, impermeable, glazed surface. Often times, as in the case of the Education Building and Commerce Hall, glazes were designed to visually imitate different types of stone. The glazing on the Education Building and Commerce Hall are a close match in color, nearly cream with a stone-like, slightly matt, speckled finish.

The revolution of steel frame construction changed the face of the urban core of many prominent North American cities. Between 1870 and the 1930s, architects and developers using steel frame construction came to rely heavily on the use of many different types of terra cotta ceramics for structure, fire protection and ornament. In Portland, where Lawrence maintained his private practice, block after block of the downtown urban core is filled with terra cotta-clad buildings. Through the efforts of architects like Lawrence, small towns such as Eugene were exposed to terra cotta, and incorporated the material into their commercial and civic architecture. Contractors and builders in emerging cities began to embellish their buildings with standardized terra cotta components that were becoming readily available through catalogues and building supply houses. Terra cotta did not become a staple in architectural design strictly for reasons of availability however. The plastic nature of the material could adapt to any style of ornamentation, no matter how detailed. The relatively light-weight quality of the material enabled buildings to express ornate classical detail while rising to heights unattainable with stone. Most important though was the inexpensive, repetitive nature of the manufacturing process. Terra cotta units were produced from an original carving from which a negative plaster mold was taken. This meant that individual units could be manufactured repeatedly, saving time, materials and most importantly, skilled labor. Ellis Lawrence likely saw the economy of using architectural terra cotta, but he also saw the beauty of the handmade artisanship employed in its manufacture.

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APPENDIX C

HISTORIC PHOTOGRAPHS

FIGURE 117: EDUCATION BUILDING SOUTHEAST ELEVATION – CIRCA. 1935
Lawrence Collection, Courtesy of Special Collections,
Knight Library, University of Oregon.

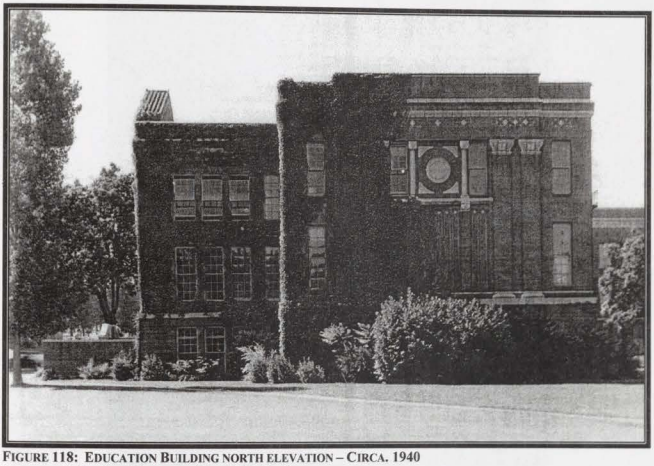


FIGURE 118: EDUCATION BUILDING NORTH ELEVATION – CIRCA. 1940
Lawrence Collection, Courtesy of Special Collections,
Knight Library, University of Oregon.

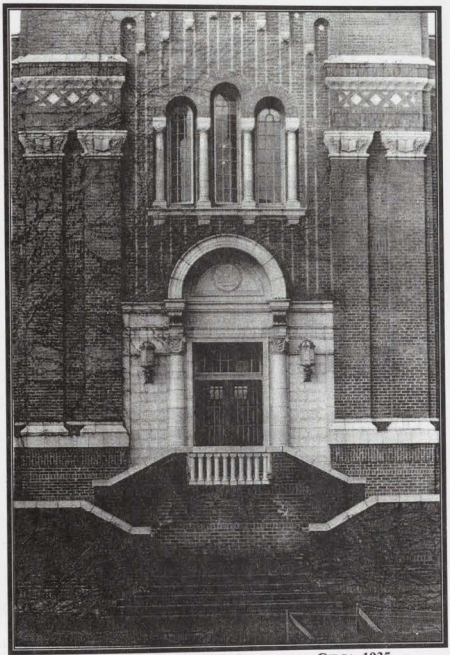


FIGURE 119: EDUCATION BUILDING MAIN ENTRY – CIRCA. 1935
Lawrence Collection, Courtesy of Special Collections,
Knight Library, University of Oregon.

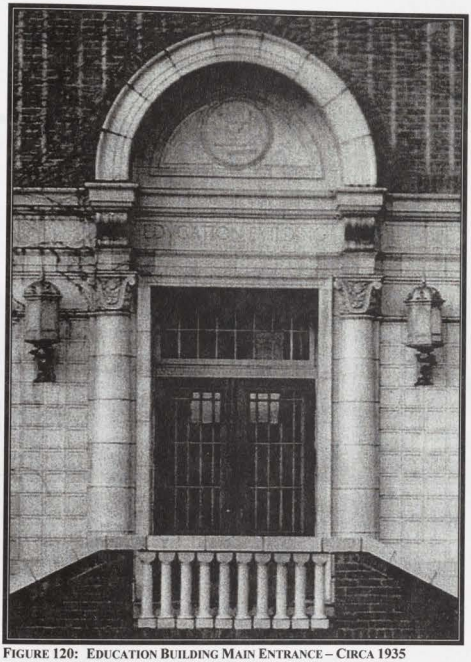


FIGURE 120: EDUCATION BUILDING MAIN ENTRANCE – CIRCA 1935
Lawrence Collection, Courtesy of Special Collections,
Knight Library, University of Oregon.

Note: Ornamental Lanterns flanking entry.

FIGURE 121: COMMERCE HALL NORTHWEST ELEVATION – CIRCA. 1945
Lawrence Collection, Courtesy of Special Collections,
Knight Library, University of Oregon.

FIGURE 122: COMMERCE HALL SOUTHWEST ELEVATION – CIRCA. 1930
Lawrence Collection, Courtesy of Special Collections,
Knight Library, University of Oregon.

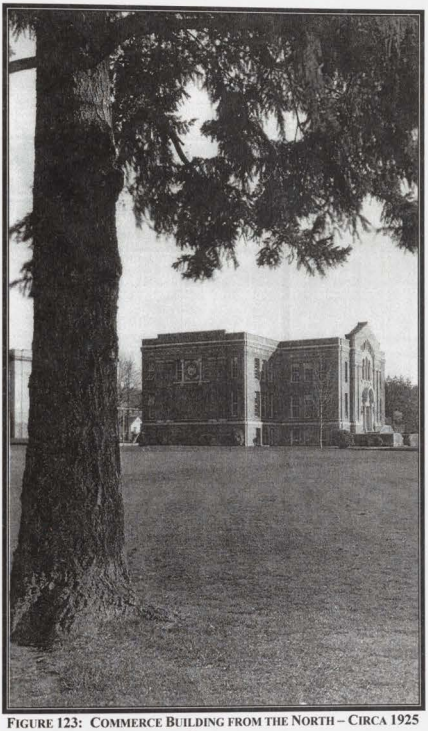


FIGURE 123: COMMERCE BUILDING FROM THE NORTH – CIRCA 1925
LAWRENCE COLLECTION, COURTESY OF
SPECIAL COLLECTIONS, KNIGHT LIBRARY,
UNIVERSITY OF OREGON.

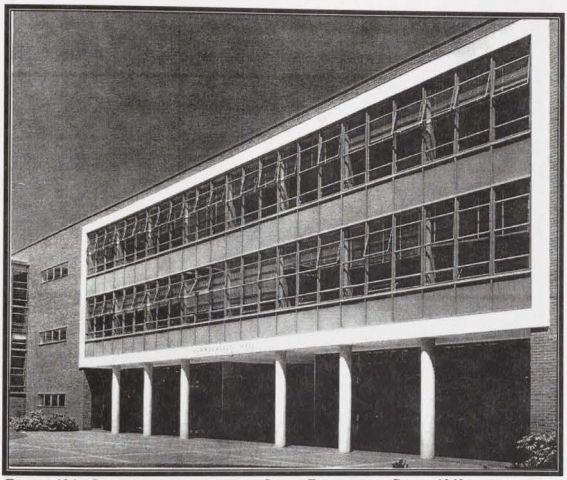


FIGURE 124: COMMONWEALTH ADDITION SOUTH ELEVATION – CIRCA. 1960
Lawrence Collection, Courtesy of Special Collections,
Knight Library, University of Oregon.

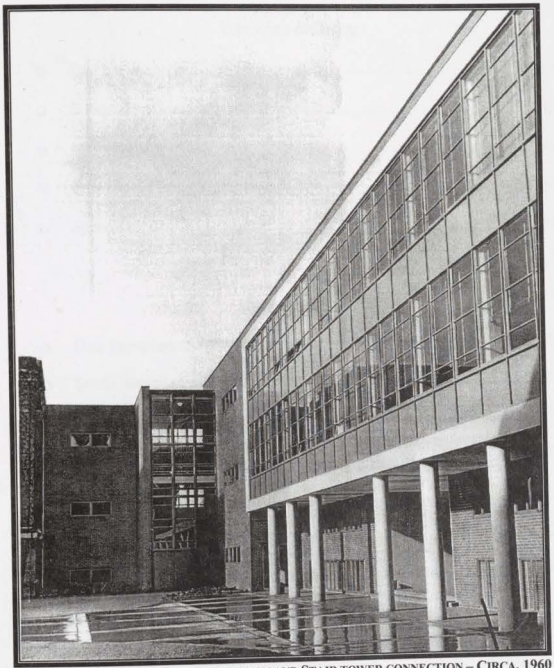


FIGURE 125: COMMONWEALTH ADDITION AND STAIR TOWER CONNECTION – CIRCA. 1960
Lawrence Collection, Courtesy of Special Collections,
Knight Library, University of Oregon.

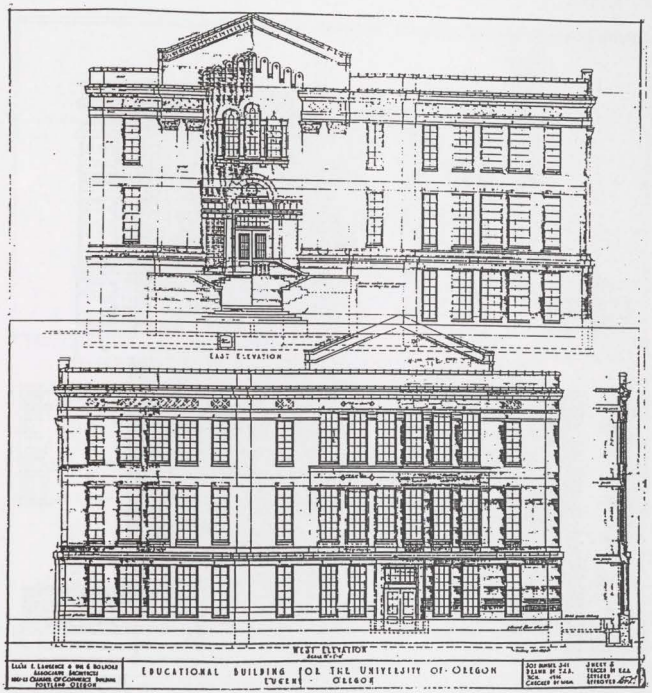
APPENDIX D

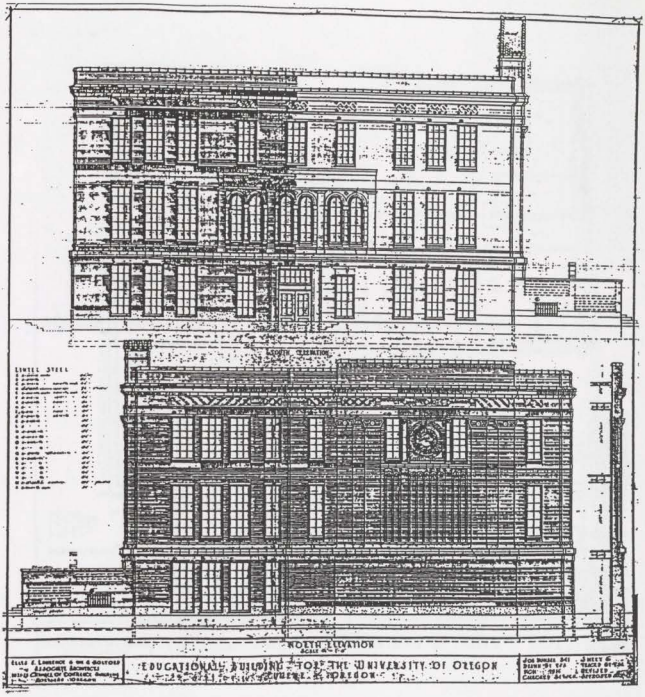
HISTORIC DRAWINGS SETS

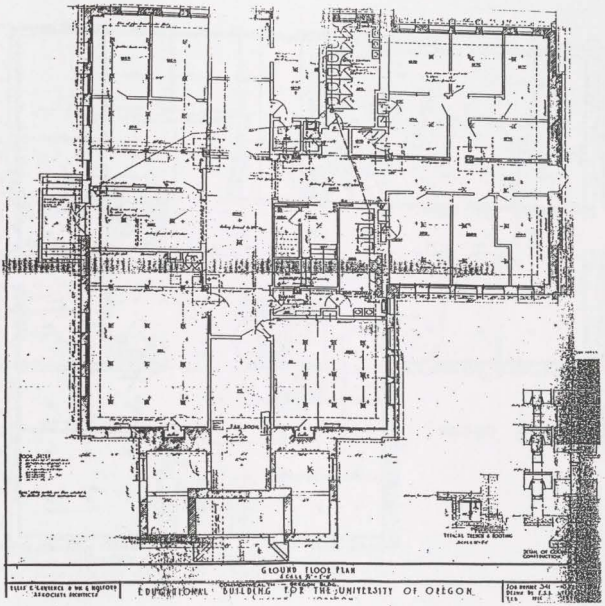
Education Building:

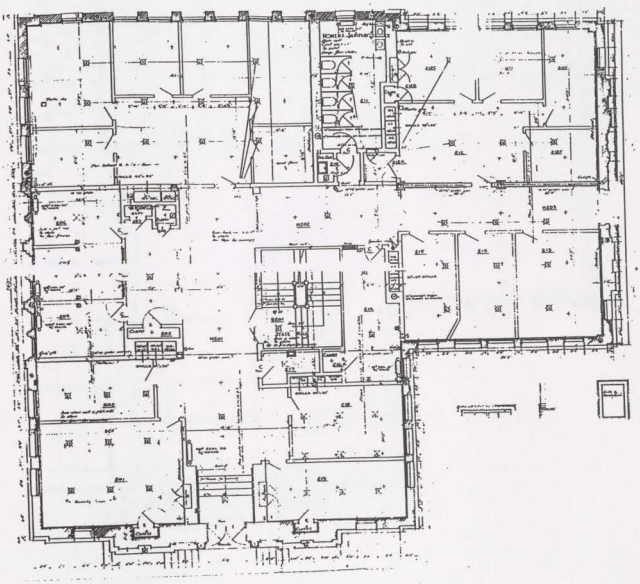
Commerce Hall:

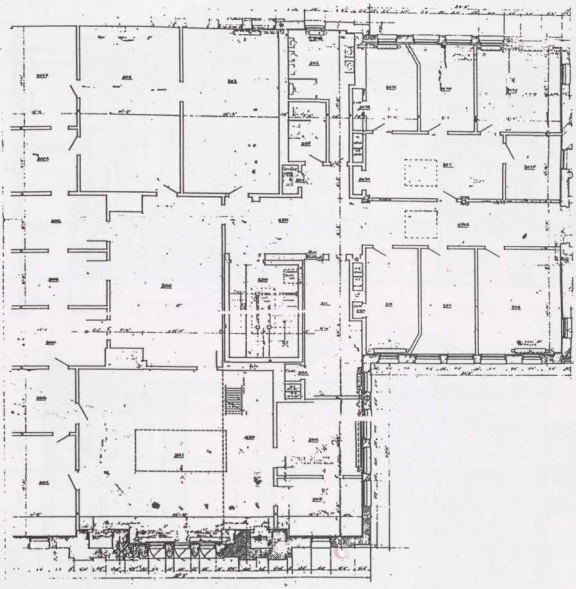
*Note: The original Ellis Lawrence drawing sets are held at the University of Oregon in the office of the campus architect at Facility Services.

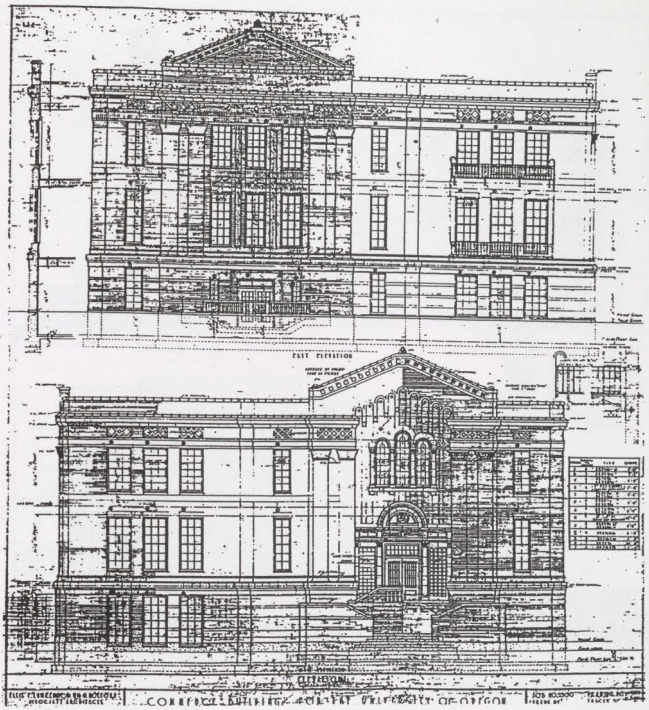

EAST ELEVATION
WEST ELEVATION
EDUCATIONAL BUILDING FOR THE UNIVERSITY OF OREGON
EUGENE OREGON

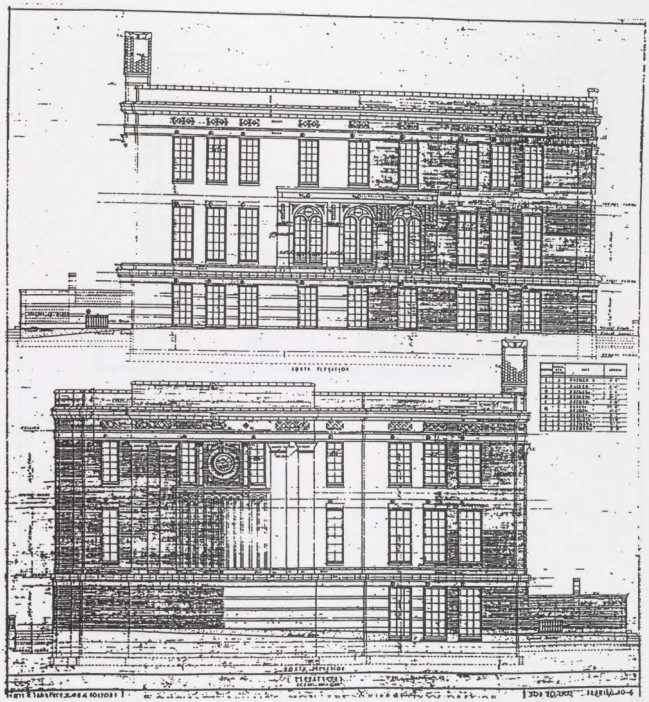

SOUTH ELEVATION
NORTH ELEVATION
EDUCATIONAL BUILDING FOR THE UNIVERSITY OF OREGON

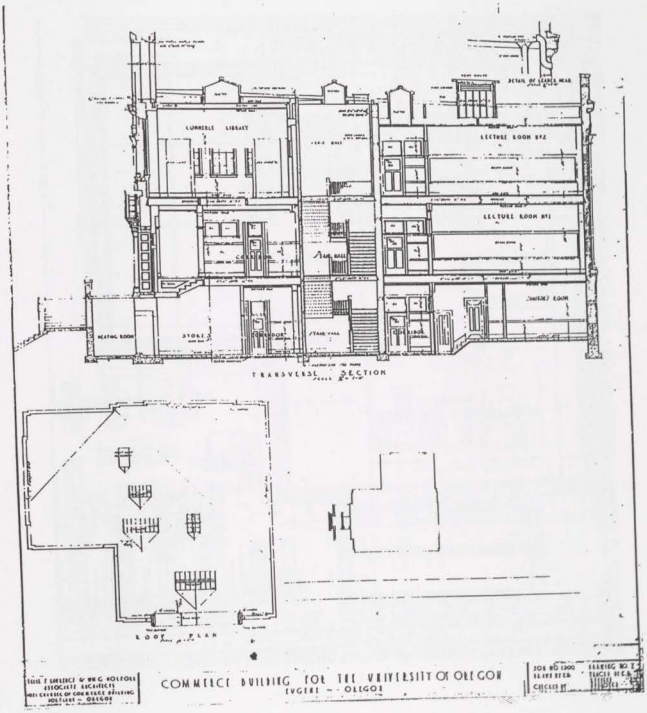

GROUND FLOOR PLAN
EDUCATIONAL BUILDING FOR THE UNIVERSITY OF OREGON

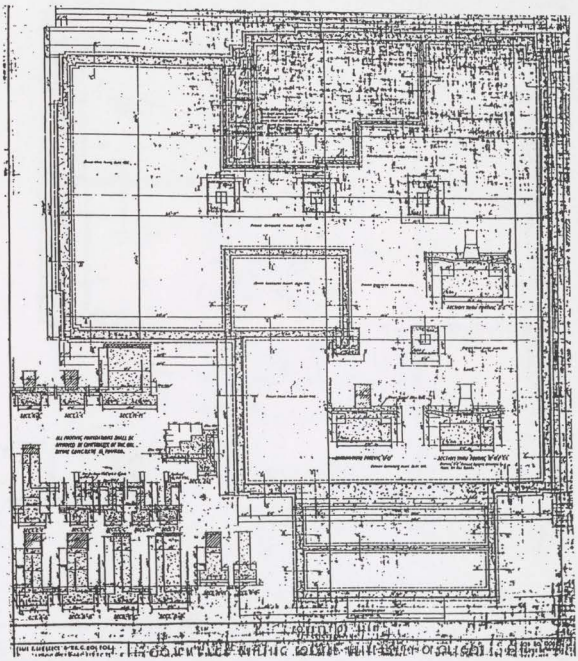


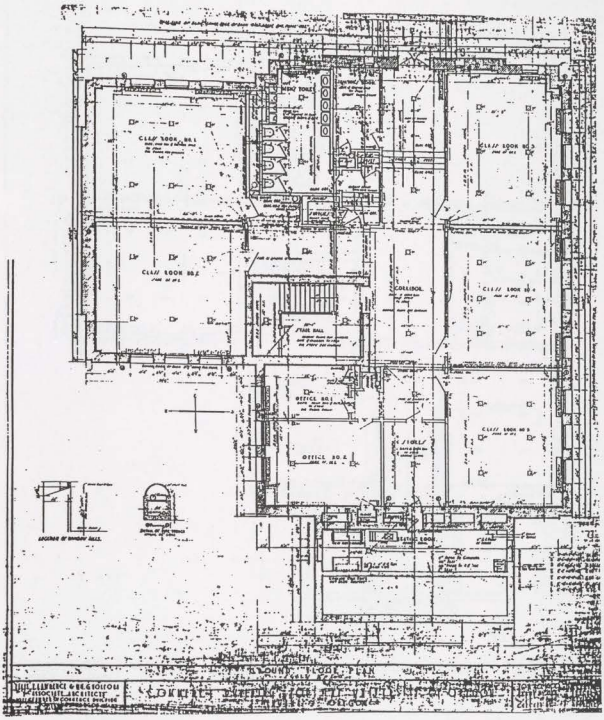


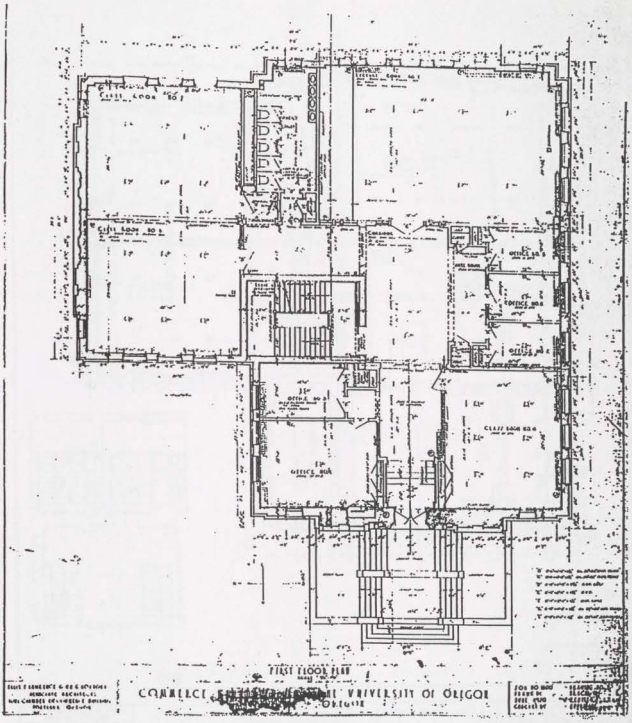

EAST ELEVATION
COMMERCE BUILDING

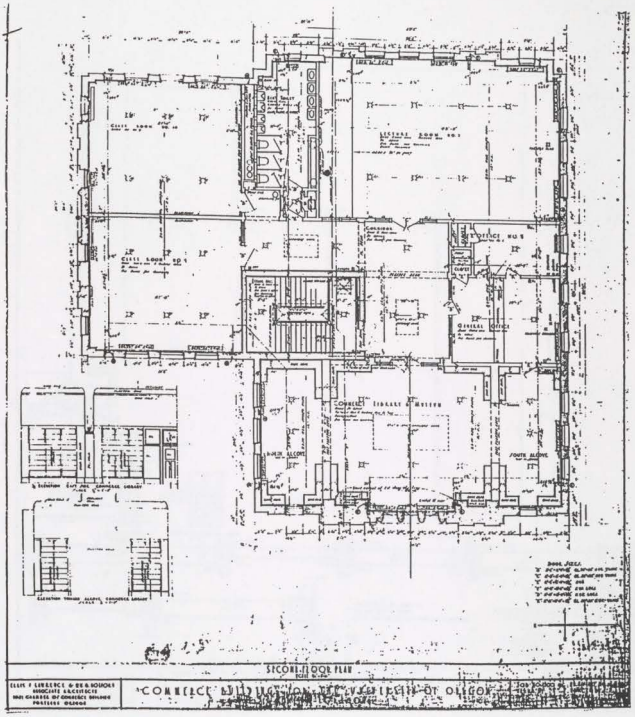


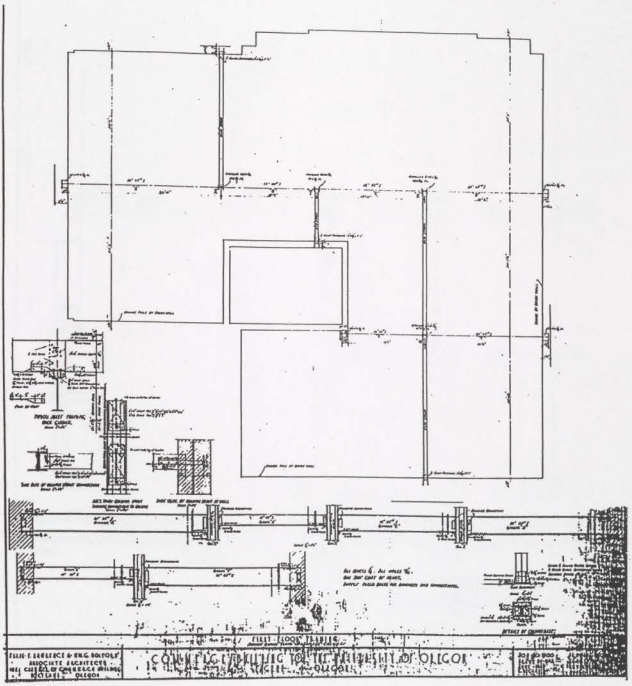

LUNDELL LIBRARY
LECTURE ROOM #2
LECTURE ROOM #1
TRANSVERSE SECTION
COMMERCE BUILDING FOR THE UNIVERSITY OF OREGON
EUGENE ~ OREGON

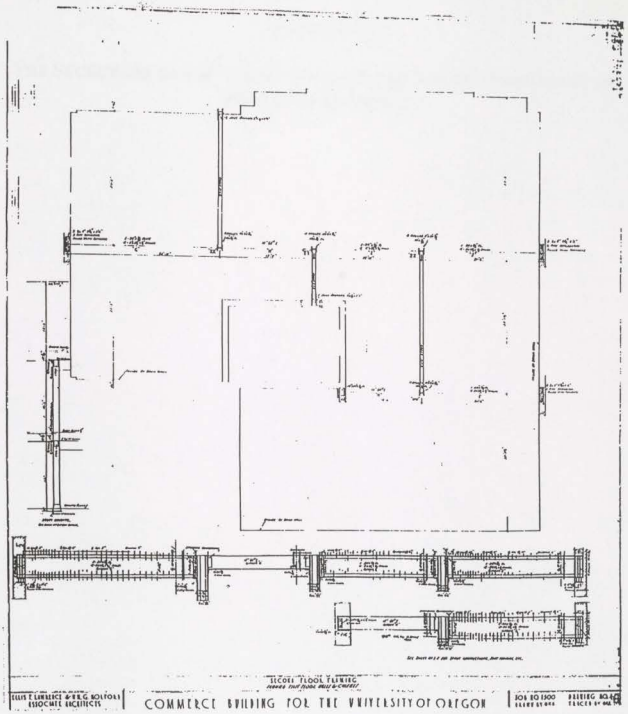







SECOND FLOOR PLAN
COMMERCE BUILDING, THE UNIVERSITY OF OREGON


COMMENCEMENT OF THE UNIVERSITY OF OREGON


COMMERCE BUILDING FOR THE UNIVERSITY OF OREGON

APPENDIX E

THE SECRETARY OF THE INTERIOR'S STANDARDS FOR THE TREATMENT OF HISTORIC PROPERTIES

THE SECRETARY OF THE INTERIOR'S STANDARDS FOR THE TREATMENT OF HISTORIC PROPERTIES

It should be understood that the Standards are a series of concepts about maintaining, repairing and replacing historic materials, as well as designing new additions or making alterations; as such, they cannot, in and of themselves, be used to make essential decisions about which features of a historic property should be saved and which might be changed. But once an appropriate treatment is selected, the Standards provide philosophical consistency to the work.

FOUR TREATMENT APPROACHES

There are Standards for four distinct, but interrelated, approaches to the treatment of historic properties--preservation, rehabilitation, restoration, and reconstruction.

Preservation focuses on the maintenance and repair of existing historic materials and retention of a property's form as it has evolved over time. (Protection and Stabilization have now been consolidated under this treatment.)

Rehabilitation acknowledges the need to alter or add to a historic property to meet continuing or changing uses while retaining the property's historic character.

Restoration depicts a property at a particular period of time in its history, while removing evidence of other periods.

Reconstruction re-creates vanished or non-surviving portions of a property for interpretive purposes.

PRESERVATION

Preservation is defined as the act or process of applying measures necessary to sustain the existing form, integrity, and materials of an historic property. Work, including preliminary measures to protect and stabilize the property, generally focuses upon the ongoing maintenance and repair of historic materials and features rather than extensive replacement and new construction. New exterior additions are not within the scope of this treatment; however, the limited and sensitive upgrading of mechanical, electrical, and plumbing systems and other code-required work to make properties functional is appropriate within a preservation project.

STANDARDS FOR PRESERVATION

1.A property will be used as it was historically, or be given a new use that maximizes the retention of distinctive materials, features, spaces, and spatial relationships. Where a treatment and use have not been identified, a property will be protected and, if necessary, stabilized until additional work may be undertaken.

2.The historic character of a property will be retained and preserved. The replacement of intact or repairable historic materials or alteration of features, spaces, and spatial relationships that characterize a property will be avoided.

3.Each property will be recognized as a physical record of its time, place, and use. Work needed to stabilize, consolidate, and conserve existing historic materials and features will be physically and visually compatible, identifiable upon close inspection, and properly documented for future research.

4.Changes to a property that have acquired historic significance in their own right will be retained and preserved.

5.Distinctive materials, features, finishes, and construction techniques or examples of craftsmanship that characterize a property will be preserved.

6.The existing condition of historic features will be evaluated to determine the appropriate level of intervention needed. Where the severity of deterioration requires repair or limited replacement of a distinctive feature, the new material will match the old in composition, design, color, and texture.

7.Chemical or physical treatments, if appropriate, will be undertaken using the gentlest means possible. Treatments that cause damage to historic materials will not be used.

8.Archeological resources will be protected and preserved in place. If such resources must be disturbed, mitigation measures will be undertaken.

PRESERVATION AS A TREATMENT

When the property's distinctive materials, features, and spaces are essentially intact and thus convey the historic significance without extensive repair or replacement; when depiction at a particular period of time is not appropriate; and when a continuing or new use does not require additions or extensive alterations, Preservation may be considered as a treatment.

REHABILITATION

Rehabilitation is defined as the act or process of making possible a compatible use for a property through repair, alterations, and additions while preserving those portions or features which convey its historical, cultural, or architectural values.

STANDARDS FOR REHABILITATION

1.A property will be used as it was historically or be given a new use that requires minimal change to its distinctive materials, features, spaces, and spatial relationships.

2.The historic character of a property will be retained and preserved. The removal of distinctive materials or alteration of features, spaces, and spatial relationships that characterize a property will be avoided.

3.Each property will be recognized as a physical record of its time, place, and use. Changes that create a false sense of historical development, such as adding conjectural features or elements from other historic properties, will not be undertaken.

4.Changes to a property that have acquired historic significance in their own right will be retained and preserved.

5.Distinctive materials, features, finishes, and construction techniques or examples of craftsmanship that characterize a property will be preserved.

6.Deteriorated historic features will be repaired rather than replaced. Where the severity of deterioration requires replacement of a distinctive feature, the new feature will match the old in design, color, texture, and, where possible, materials. Replacement of missing features will be substantiated by documentary and physical evidence.

7.Chemical or physical treatments, if appropriate, will be undertaken using the gentlest means possible. Treatments that cause damage to historic materials will not be used.

8.Archeological resources will be protected and preserved in place. If such resources must be disturbed, mitigation measures will be undertaken.

9.New additions, exterior alterations, or related new construction will not destroy historic materials, features, and spatial relationships that characterize the property. The new work will be differentiated from the old and will be compatible with the historic materials, features, size, scale and proportion, and massing to protect the integrity of the property and its environment.

10.New additions and adjacent or related new construction will be undertaken in a such a manner that, if removed in the future, the essential form and integrity of the historic property and its environment would be unimpaired.

REHABILITATION AS A TREATMENT

When repair and replacement of deteriorated features are necessary; when alterations or additions to the property are planned for a new or continued use; and when its depiction at a particular period of time is not appropriate, Rehabilitation may be considered as a treatment.

RESTORATION

Restoration is defined as the act or process of accurately depicting the form, features, and character of a property as it appeared at a particular period of time by means of the removal of features from other periods in its history and reconstruction of missing features from the restoration period. The limited and sensitive upgrading of mechanical, electrical, and plumbing systems and other code-required work to make properties functional is appropriate within a restoration project.

STANDARDS FOR RESTORATION

1.A property will be used as it was historically or be given a new use which reflects the property's restoration period.

2.Materials and features from the restoration period will be retained and preserved. The removal of materials or alteration of features, spaces, and spatial relationships that characterize the period will not be undertaken.

3.Each property will be recognized as a physical record of its time, place, and use. Work needed to stabilize, consolidate and conserve materials and features from the restoration period will be physically and visually compatible, identifiable upon close inspection, and properly documented for future research.

4.Materials, features, spaces, and finishes that characterize other historical periods will be documented prior to their alteration or removal.

5.Distinctive materials, features, finishes, and construction techniques or examples of craftsmanship that characterize the restoration period will be preserved.

6.Deteriorated features from the restoration period will be repaired rather than replaced. Where the severity of deterioration requires replacement of a distinctive feature, the new feature will match the old in design, color, texture, and, where possible, materials.

7.Replacement of missing features from the restoration period will be substantiated by documentary and physical evidence. A false sense of history will not be created by adding conjectural features, features from other properties, or by combining features that never existed together historically.

8.chemical or physical treatments, if appropriate, will be undertaken using the gentlest means possible. Treatments that cause damage to historic materials will not be used.

9.Archeological resources affected by a project will be protected and preserved in place. If such resources must be disturbed, mitigation measures will be undertaken.

10.Designs that were never executed historically will not be constructed.

RESTORATION AS A TREATMENT

When the property's design, architectural, or historical significance during a particular period of time outweighs the potential loss of extant materials, features, spaces, and finishes that characterize other historical periods; when there is substantial physical and documentary evidence for the work; and when contemporary alterations and additions are not planned, Restoration may be considered as a treatment. Prior to undertaking work, a particular period of time, i.e., the restoration period, should be selected and justified, and a documentation plan for Restoration developed.

RECONSTRUCTION

Reconstruction is defined as the act or process of depicting, by means of new construction, the form, features, and detailing of a non-surviving site, landscape, building, structure, or object for the purpose of replicating its appearance at a specific period of time and in its historic location.

STANDARDS FOR RECONSTRUCTION

1.Reconstruction will be used to depict vanished or non-surviving portions of a property when documentary and physical evidence is available to permit accurate reconstruction with minimal conjecture, and such reconstruction is essential to the public understanding of the property.

2.Reconstruction of a landscape, building, structure, or object in its historic location will be preceded by a thorough archeological investigation to identify and evaluate those features and artifacts which are essential to an accurate reconstruction. If such resources must be disturbed, mitigation measures will be undertaken.

3.Reconstruction will include measures to preserve any remaining historic materials, features, and spatial relationships.

4.Reconstruction will be based on the accurate duplication of historic features and elements substantiated by documentary or physical evidence rather than on conjectural designs or the availability of different features from other historic properties. A reconstructed property will re-create the appearance of the non-surviving historic property in materials, design, color, and texture.

5.A reconstruction will be clearly identified as a contemporary re-creation.

6.Designs that were never executed historically will not be constructed.

7.Replacement of missing features from the restoration period will be substantiated by documentary and physical evidence. A false sense of history will not be created by adding conjectural features, features from other properties, or by combining features that never existed together historically.

RECONSTRUCTION AS A TREATMENT

When a contemporary depiction is required to understand and interpret a property's historic value (including the re-creation of missing components in a historic district or site) ; when no other property with the same associative value has survived; and when sufficient historical documentation exists to ensure an accurate reproduction, Reconstruction may be considered as a treatment.

APPENDIX F

CONSERVATION REFERENCES AVAILABLE ON THE INTERNET

CONSERVATION REFERENCES AVAILABLE ON THE INTERNET

Technical Preservation Services, a branch of the National Park Service, has published a series of Preservation Briefs to assist owners and developers of historic buildings in identifying and resolving common preservation and repair problems. The Preservation Briefs listed in this appendix were chosen based on the applicability to this report. There are a total of 41 Briefs available. The complete text of each Preservation Briefs is available online. Many of the briefs include references to selected readings for more in-depth research. These briefs should be consulted during the early planning stages of the preservation work. Technical specifications written for rehabilitation work on the historic structures should refer contactors and sub-contractors to these briefs.

Preservation Brief 1

The Cleaning and Waterproof Coating of Masonry Buildings

- Types Of Cleaning
- Planning A Cleaning Project
- Potential Problems Of Cleaning
- Problems Of Water Repellent And Waterproof Coatings

www2.cr.nps.gov/tps/briefs/brief01.htm

Preservation Brief 2

Repointing Mortar Joints in Historic Masonry Buildings

- Identifying the Problem Before Repointing
- Finding an Appropriate Mortar Match
- Properties of Mortar
- Mortar Analysis
- Components of Mortar
- Mortar Type and Mix
- Budgeting and Scheduling
- Contractor Selection
- Execution of the Work
- Visually Examining the Mortar and the Masonry Units

www2.cr.nps.gov/tps/briefs/brief02.htm

Preservation Brief 4

Roofing for Historic Buildings

- Significance of the Roof
- Historic Roofing Materials in America
- Locating the Problem
- Repair or Replace
- Historical Research
- Replacing the Historic Roofing Material
- Alternative Materials
- Temporary Stabilization
- Precautions
- Maintenance

www2.cr.nps.gov/tps/briefs/brief04.htm

Preservation Brief 6

Dangers of Abrasive Cleaning to Historic Buildings

- What is Abrasive Cleaning?
- Why Are Abrasive Cleaning Methods Used?
- Problems of Abrasive Cleaning
- How Building Materials React to Abrasive Cleaning Methods
- When is Abrasive Cleaning Permissible
- Historic Interiors that Should Not Be Cleaned Abrasively
- Mitigating the Effects of Abrasive Cleaning

www2.cr.nps.gov/tps/briefs/brief06.htm

Preservation Brief 7

The Preservation of Historic Glazed Architectural Terra-Cotta

- What is Terra-Cotta
- Types of Terra-Cotta
- Characteristics of Glazed Architectural Terra-Cotta
- Common Deterioration Problems
- Deterioration Inspection and Analysis
- Maintenance, Repair and Replacement

www2.cr.nps.gov/tps/briefs/brief07.htm

Preservation Brief 9

The Repair of Historic Wooden Windows

- Architectural or Historical Significance
- Physical Evaluation
- Repair Class I: Routine Maintenance
- Repair Class II: Stabilization
- Repair Class III: Splices and Parts Replacement
- Weatherization
- Window Replacement

www2.cr.nps.gov/tps/briefs/brief09.htm

Preservation Brief 10

- Exterior Paint Problems on Historic Woodwork
- Purposes of Exterior Paint
- Treating Paint Problems
- Justification for Paint Removal
- Paint Removal Precautions
- Repainting Historic Buildings for Cosmetic Reasons
- Conditions/Recommended Treatments
- Selecting the Appropriate/Safest Method to Remove Paint
- General Paint Type Recommendations

www2.cr.nps.gov/tps/briefs/brief10.htm

Preservation Brief 14

New Exterior Additions to Historic Buildings: Preservation Concerns

- Preserving Significant Historic Materials and Features
- Preserving the Historic Character
- Protecting the Historical Significance

www2.cr.nps.gov/tps/briefs/brief14.htm#Preserving Significant Historic Materials and Features

Preservation Brief 15

Preservation of Historic Concrete: Problems and General Approaches Historical Overview

- Causes of Concrete Deterioration
- Major Sign of Concrete Deterioration
- Planning for Concrete Preservation
- Concrete Repair

www2.cr.nps.gov/tps/briefs/brief15.htm

Preservation Brief 18

Rehabilitating Interiors in Historic Buildings - Identifying Character-Defining Elements

- Identifying and Evaluating the Importance of Interior Elements Prior to Rehabilitation
- Recommended Approaches for Rehabilitating Historic Interiors
- Meeting Building, Life Safety and Fire Codes.
- Sources of Assistance
- Protecting Interior Elements During Rehabilitation

www2.cr.nps.gov/tps/briefs/brief18.htm

Preservation Brief 22

The Preservation and Repair of Historic Stucco

- Historical Background
- Repairing Deteriorated Stucco
- Mixes for Repair of Historic Stucco

www2.cr.nps.gov/tps/briefs/brief22.htm

Preservation Brief 24

Heating, Ventilating, and Cooling Historic Buildings: Problems and Approaches

- History of Mechanical Systems
- Climate Control and Preservation
- Planning the New System
- Overview of HVAC Systems
- Designing the new system
- Systems Performance and Maintenance
- HVAC Do's and Don'ts

www2.cr.nps.gov/tps/briefs/brief24.htm

Preservation Brief 30

The Preservation and Repair of Historic Clay Tile Roofs

- Historical Background
- Revival Styles Renew Interest in Clay Roofing Tiles
- Early Tiles
- Clay Tile Substitutes
- Traditional Tile Shapes and Colors
- How Tiles are Attached
- Flat Tiles
- Pantiles
- Ridge or Hip Tiles
- Roof Pitch and Weather are Factors in Tile Attachment
- Preservation and Repair

www2.cr.nps.gov/tps/briefs/brief30.htm

Preservation Brief 38

Removing Graffiti from Historic Masonry

- Identifying the Graffiti and the Masonry
- Graffiti Removal Methods and Materials
- Testing
- Health and Safety Considerations
- Environmental Considerations
- Barrier Coatings
- Preventing and Controlling Graffiti
- Development of a Treatment Plan
- Criteria to Consider Before Selecting a Barrier Coating
- Tips for Successful Graffiti Removal

www2.cr.nps.gov/tps/briefs/brief38.htm

Preservation Brief 39

Holding the Line: Controlling Unwanted Moisture in Historic Buildings

- Remedial Actions within an Historic Preservation Context
- How and Where to Look for Damaging Moisture
- Looking for Signs
- Uncovering and Analyzing Moisture Problems
- Transport or Movement of Moisture
- Surveying and Diagnosing Moisture Damage: Key Questions to Ask
- Selecting an Appropriate Level of Treatment
- Ongoing Care

www2.cr.nps.gov/tps/briefs/brief39.htm

Preservation Brief 41

The Seismic Retrofit of Historic Buildings: Keeping Preservation in the Forefront

- Balancing Seismic Retrofit and Preservation
- Earthquake Damage to Historic Buildings: Assessing Principal Risk Factors
- Putting a Team Together
- Planning for Seismic Retrofit: How Much and Where?
- Assessing the Cost of Seismic Retrofit
- Seismic Strengthening Approaches
- Post-Earthquake Issues
- About the Federal Emergency Management Agency

www2.cr.nps.gov/tps/briefs/pb41/brief41.htm »