2.0 PROJECT ANALYSIS

2.1 Operational Needs

2.1.1 EWU Mission and Commitment

Eastern Washington University (EWU) was originally founded in 1882 as the Benjamin P. Cheney Academy in Cheney, Washington. The school evolved throughout its 125 year history, becoming an accredited 4-year institution by the time it became Eastern Washington College of Education in 1937, eventually being renamed Eastern Washington University in 1977 by the State Legislature.

Eastern Washington University has a custodial responsibility to maintain facilities suitable to support the educational goals of the institution.

EWU is currently the fastest growing public institution in Washington State serving over 10,000 students, yet still manages to maintain a student to teacher ratio of 20:1. It has been recognized regionally as a high value institution, offering a diverse and high quality education at costs well below that of other 4-year institutions.

EWU’s Cheney campus location offers small college town serenity with numerous recreational activities including fishing, hiking, boating, and wildlife viewing within minutes of the campus. Yet its location 17 miles from Spokane, the second largest metropolitan area in Washington State, allows its students invaluable internship and civic involvement opportunities.

While EWU’s only campus is located in Cheney, the university offers programs throughout Washington State at additional learning centers in Bellevue, Everett, Kent, Seattle, Shoreline, Spokane, Tacoma, Vancouver and Yakima.

University’s Mission

EWU is a student centered, regionally based, comprehensive university. Its mission is to prepare broadly educated, technically proficient, highly productive citizens to attain meaningful careers, to enjoy enriched lives, and to make contributions to a culturally diverse society. EWU will achieve its mission through the following means:

- Provide an excellent student-centered learning environment.
- Provide professionally accomplished faculty who are strongly committed to student learning.
- Provide high-quality integrated, interdependent programs that build upon the regions assets and offer a broad range of choices as appropriate to the needs of the university’s students and the region.
- Provide exceptional student support services, resources, and facilities.

University’s Commitment

At the core of EWU’s values is the idea of quality, characterized by rigorous and challenging academic experiences. This quality is a hallmark of EWU in their student learning and success, in their distinctive academic programs, in the excellence of the faculty and in the connections to communities near and far.

2.1.2 Goals
2.1.2.1 Administrative Goals

EWU believes that an integrated academic environment fosters connections among disciplines, between faculty and students, and with campus and community. Such an integrated experience is rich in opportunities for exploration, discovery and learning. It connects the liberal arts to professional preparation. It provides diverse perspectives and prepares students to be thoughtful competent citizens able to contribute to the common good. EWU goals are:

- Provide a rigorous and engaged student learning experience.
- Foster an academic community culture that supports and engages faculty and staff throughout their careers.
- Strengthen institution-wide commitment to engagement that benefits the University, the region and the world.
- Grow resources and capacity to enhance EWU’s academic quality.
- Allocate resources, capacity and people in support of our mission and academic goals.
- Manage resources, capacity and people effectively and efficiently.

2.1.2.2 Facility Goals

- Create a state-of-the-art facility serving the diverse academic programs currently housed in Patterson Hall.
- Integrate Patterson Hall access better into the revitalized central core of the campus consistent with the current master plan.
- Optimize land use on the campus to serve the evolving educational and cultural needs of EWU, the community of Cheney, and the larger metropolitan area of Spokane.
- Correct campus-wide deficiencies in quantity, quality and size variety of instructional spaces.
- Provide necessary faculty office and support space to support increased needs for teaching and instructional space.
- Correct heating, ventilating and air conditioning inadequacies in the current building, creating a comfortable teaching and learning environment.
- Improve the thermal envelope of the existing building shell reducing long term facility operating costs.
- Provide a visually pleasing enhancement to the campus central mall.
- Create a facility and environment that will cultivate interaction, creativity and collaboration between faculty, staff, students, alumni, and the community.
- Create a safe and welcoming environment for students with clear orientation.
- Provide exceptional spaces for teaching, learning and research with flexibility, long-term value, and modern teaching and learning technique capabilities.
- Construct a building promoting a healthy micro- and macro-environment meeting LEED Silver certification level.

2.2 Existing Conditions

2.2.1 Architectural:

Paterson Hall was originally constructed in two phases from approximately 1969 through 1973. It is the largest general use classroom building on the EWU campus. Small, minor remodel projects have taken place within the building over the life of the facility to accommodate changes in use, but generally the building remains as originally constructed.

The 3-story building is just over 100,000 gross square feet. It is a steel frame building utilizing a composite steel and concrete floor deck. The roof structure is metal deck over
sloped open web steel joists. The exterior wall system is typically reinforced double wythe brick masonry walls. There is no insulation in the exterior wall system.

Aesthetically, Patterson Hall is representative of typical 1960’s academic institutional buildings. Exterior precast concrete ribs with arched concrete capitals supporting a concave precast concrete parapet adorn the exterior face of the brick building around the entire building perimeter. This architectural motif is bolted to the structural steel frame and is purely decorative serving no structural function. Interior finishes are consistent with the 1960’s era architecture with exposed brick on the interior surface of the exterior walls and other “highlight” areas within the building. Floor finishes in the public corridors are sealed brick pavers and hexagonal shaped quarry tile.

2.2.2 Mechanical:

The classrooms and offices are served by a Variable Air Volume (VAV) reheat system. There are a total of 167 VAV boxes located throughout the building. All of the boxes have reheat coils. Two VAV air handling units located in separate first floor mechanical rooms provide preconditioned air (cooling only) to each VAV box via a medium pressure duct system. Air from the classrooms and offices is returned to the mechanical room by way of a ceiling plenum.

Central campus steam is used to heat the facility. Heating water is provided by steam to water converters located in each mechanical room. This water is circulated to the heating coils located at each VAV box. A fin-tube radiation system provides additional heating along the building perimeter walls. Central campus chilled water is used to cool the facility. This water is circulated to chilled water coils located in each air handling unit.

Central campus steam is used to provide domestic hot water to the facility. A storage tank with a steam to water converter is located within each mechanical room. A building wide recirculating loop is used to distribute this hot water to the plumbing fixtures.

2.2.3 Electrical:

The electrical power system for the building consists of two original vintage separate electrical services served from the campus primary distribution system. Radial distribution from these two electrical services feed branch panelboards located in corridors in each section of the building. The building voltage is 208Y/120VAC 3-phase 4-wire. Each switchboard is demand metered with central data collection. The building shares a common exterior LPG standby generator with Isle Hall.

Lighting is predominantly fluorescent lensed troffer-style lighting with local room control switches. No daylight harvesting features are present. Luminaires are aged and do not provide good glare control for visual comfort nor proper illumination control for multi-media applications.

Systems in the facility consist of conventional non-addressable fire alarm, line carrier clocks, and limited telephone/data in offices. Most of the systems are antiquated and do not meet current industry standards.

2.2.4 Programs Served in the Existing Building:

General use classrooms serving programs predominantly the College of Arts and Letters and the College of Social and Behavioral Sciences occupy Patterson Hall. In addition, faculty
and administrative offices for many of these programs are also currently housed within Patterson Hall. Programs within these two colleges that currently utilize Patterson Hall include:

College of Arts and Letters:
- Modern Languages
- English Language Institute (a sub-department of Modern Languages)
- Philosophy (a sub-department of Modern Languages)
- English
- English Composition (a sub-department of English)

College of Social and Behavioral Sciences:
- Justice Studies
- Economics
- Government
- History

Classes within these programs are also taught within other buildings on the EWU campus besides Patterson Hall.

2.3 Alternatives Explored -

Two possible alternatives were explored in developing this project:

1. Do nothing to Patterson Hall and leave the building in its current state.
2. Renovate the existing Patterson Hall building and provide a modest addition to the building to accommodate campus-wide needs and Patterson Hall department specific needs for additional instructional space and offices to support the added instructional spaces.

Patterson Hall in its current state is inconsistent with two of the EWU’s stated mission statements: 1) It does not provide an “excellent student-centered learning environment,” and 2) it does not “provide exceptional student support services, resources, and facilities.”

The un-insulated building envelope and outdated mechanical heating, ventilating and air conditioning systems do not provide thermal comfort to Patterson Hall occupants severely compromising the occupants focus on teaching and learning. The electronic teaching media in all classrooms is outdated and inconsistent with current teaching methods and university standards. Electronic media is only available to some classrooms via roll-in carts that may not be available when requested by faculty.

Aesthetically, the building portrays a dated image consistent with its mechanical, electrical and program inadequacies. Because it is the largest general classroom building on EWU’s campus, it serves a majority of the student population attending EWU, all of whom must suffer the current building’s uncomfortable environment and inadequate teaching media. The building’s location on the central campus mall on axis with the recently renovated Kennedy Library portrays an image that is not consistent with the goals of the university campus.

2.4 Selected Alternative --

In evaluating the 2 proposed alternatives, renovating the existing Patterson Hall is the selected alternative proposed.
2.4.1 Reasons for Proposed Alternative -

Campus-wide, Eastern Washington University has a deficiency in terms of both quantity and quality of instructional space. Patterson Hall is over 40 years old and is badly in need of building envelope upgrades and mechanical systems upgrades. The quality of teaching media within the building is below faculty and student standards and expectations. There is insufficient faculty office space to meet the growing number of instructional spaces required at EWU. The departments housed within Patterson Hall are all in need of additional instructional and office space. Patterson Hall does not comply with current life safety and ADA accessibility codes. And Patterson Hall portrays a negative image regarding the quality of Eastern Washington University as a whole due to the number of students it serves and its prominent campus location.

In summary, the problems which this project addresses are as follows:

- Lack of large teaching instructional spaces campus wide that can accommodate 40 students or more.
- Lack of large teaching instructional spaces serving the departments currently housed within Patterson Hall.
- Lack of office and office support facilities to accommodate increased instructional seats available both campus wide and serving the departments currently housed within Patterson Hall.
- Inadequate and inefficient mechanical heating, ventilation and air conditioning systems which result in high annual maintenance and operation costs and decreased faculty and student productivity.
- Inadequate and out-dated electronic teaching media does not meet current faculty and student standards and expectations.
- The existing building is not up to current life safety, energy and ADA code requirements.
- The building portrays a negative image about the quality of Eastern Washington University as a whole.

2.5 Selected Alternative Scope and Project Description -

2.5.1 Summary Statement: Patterson Hall Renovation and Addition -

The scope of the this project consists of renovation of the existing 102,347 square foot building and the addition of approximately 25,000 square feet of space on to the existing building located at the core of Eastern Washington University’s campus in Cheney Washington. The building envelope and mechanical systems will be upgraded to meet current energy code requirements. Electronic instructional media will be upgraded to be consistent with University standards, current educational practices, and faculty and student expectations. The building program developed is required to meet an increased need campus-wide for classrooms of various sizes; the increased need for more department specific classrooms for departments currently in Patterson Hall; the administration’s strategic plan for additional large classroom spaces to provide greater educational efficiency at EWU; and the need for more faculty office space to support increased instructional space.

2.6 Issues Identification -

2.6.1 Existing Building Asset -
The existing Patterson Hall building is a significant capital asset on the Eastern Washington University campus. Because it is EWU’s largest general classroom building, renovation of Patterson Hall significantly improves Eastern Washington University’s ability to effectively and efficiently provide a high quality educational teaching and learning environment for its faculty and students. Its prominent location on the core of the campus directly across from the Kennedy Library and the fact that it serves a majority of the student population at EWU make it a prominent and significant landmark on campus reflecting the quality Eastern Washington University as a whole.

2.6.2 Building Systems- -

Structurally, the building is sound and meets all current International Building Code structural standards. The buildings structural steel frame with composite concrete and steel deck floors are easily adaptable to new penetrations that may be needed or desired when updating the building. The building’s un-insulated exterior walls will be furred and R-13 insulation will be added. The mechanical systems will be updated to be more energy efficient with better zoning and controls. Faculty and student occupants will be comfortable and therefore more productive. The building will be designed, constructed and certified to a LEED Silver standard ensuring it is sustainable in its use of energy, natural resources and provides a healthy environment for its occupants.

2.6.3 Instructional Program Needs- -

The registrar’s office has identified a need for more large lecture halls and large classrooms campus wide, allowing EWU to increase the availability of many of its courses. The proposed solution adds three fixed seat lecture auditoriums that house between 80 and 120 students. This is in addition to the current lecture hall in Patterson 103 which was added after the original construction, has current updated electronic teaching media and meets ADA accessibility requirements. The proposed solution recognizes this prior investment and leaves Patterson 103 as is. Additional new classrooms complete with raceway to accept the latest electronic teaching media have been sized to meet the needs of the departments within Patterson Hall as well as the EWU campus as a whole. It is EWU’s intention to construct all new instruction classrooms as “smart classrooms” with the latest electronic teaching media either installed with this budget request or readily installed in the future where appropriate.

2.6.4 Office and Support Program Needs- -

Additional offices for faculty, adjunct faculty, and teaching/research assistants will be provided to support the additional instructional space needed campus wide and within Patterson Hall. The increase in faculty offices is smaller than the increase in instructional spaces by percentage, but necessary to ensure all faculty have adequate office space that is currently lacking. Office space for the Deans of the College of Arts and Letters and the College of Social and Behavioral Studies will be incorporated into the building.

Unlike the current building, office support spaces such as copier/work rooms, break rooms and conference rooms will be shared by the nine departments within the building. The program proposes five shared conference rooms and three shared copier centers and kitchenette/break rooms distributed throughout the building. This allows maximum instructional support space to be dedicated to faculty offices where there are current deficiencies and keeps additional square footage beyond instructional space to a minimum size and cost.

2.6.5 Flexibility- -
Flexibility and adaptability is a major consideration in the design of all spaces within Patterson Hall. Evolution and growth in the programs within the building is anticipated, and the building must accommodate change and expansion during its useful life of an additional fifty years.

### 2.6.6 Additional Program Spaces Considered

During the programming process, additional spaces for Patterson Hall were considered as follows:

**Map Archives Room**: This space was originally requested by the History Department as a room where the University’s collection of maps could be properly displayed and stored. Because of the other program pressures for instructional space and faculty offices to support the instructional space as well as budget concerns, it was determined that this would not be included in Patterson Hall.

**Archeology Museum**: The Archeology Department has stored all items they once displayed in a museum on campus that has since been dedicated to a new use. Patterson Hall’s location near surface parking with good automobile access made it a candidate for providing a new space to serve as an Archeology Museum. However, with other program pressures, budget concerns, and the fact that the Archeology faculty are not located in Patterson, it was determined that this would not be included in Patterson Hall.

**Additional Conference Rooms**: With appropriate scheduling and distribution within the building, the conference rooms included in the program will be adequate and more fully utilized, decreasing the size and cost of the project.

**Additional Copier Rooms**: With correct distribution within the building and appropriate sizing, shared copier rooms will provide more efficient utilization of space, decreasing the size and cost of the project. Shared support services also encourage interaction between departments potentially leading to a more collegial atmosphere.

**Additional Kitchenette/Break Rooms**: With correct distribution within the building and appropriate sizing, shared kitchenette/break rooms will provide more efficient utilization of space, decreasing the size and cost of the project. Shared support services also encourage interaction between departments potentially leading to a more collegial atmosphere.

**Classrooms of smaller sizes**: Through meetings with the EWU Registrar’s office, it became apparent that more diversity in classroom size is needed and that the number of lecture classrooms with larger seating capacities are inadequate on the campus. It is important that Patterson Hall address not only classroom needs for the departments within the building, but also deficiencies in classroom spaces campus wide.

### 2.7 Prior Planning and History --

Eastern Washington University updated their campus master plan in September of 2000. Goals of the updated master plan included the following:

- Enhance the collegiate experience for campus residents.
- Improve utilization of existing classrooms and labs.
• Maintain a compact, pedestrian-friendly campus.

Renovation of Patterson Hall was specifically mentioned in the 2000 master plan document as a priority project necessary to meet the above master plan goals and, furthermore, to meet the university’s overall Mission Statement and goals. Specifically recognized and recommended upgrades to Patterson Hall in the master plan include:

• Upgrade mechanical systems
• Replace interior finishes
• Upgrade interiors for ADA code compliance
• Remove the loading dock area facing Isle Hall and create a new pedestrian friendly entrance
• Remove the ramp connection to the campus mall to both improve ADA accessibility and enhance this feature that is both an entry to the building and a significant element in the mall

In the 2005-2007 Capital Budget Request, EWU, through the budget process, initiated a request to the Office of Financial Management for pre-design funding and additional project funds. The request for pre-design funding was approved and design funding indicated for 2007-2009.

2.8. Stakeholders --

Meetings were held with the following Stakeholders to address the campus and building program requirements:

EWU Patterson Hall Project Planning Committee
EWU Construction and Planning Services
College of Arts and Letters:
  Modern Languages Department
  English Language Institute (a sub-department of Modern Languages)
  Philosophy (a sub-department of Modern Languages)
  English Department
  English Composition (a sub-department of English)
College of Social and Behavioral Sciences:
  Justice Studies Department
  Economics Department
  Government Department
  History Department
EWU Registrar’s Office
EWU Custodial Services
Consultant Design Team

2.9 Project Description

2.9.1 Agency Name – Eastern Washington University
2.9.2 Agency Code- 370
2.9.3 Project Identifier -
2.9.4 Project Title – Patterson Hall Renovation and Addition at Eastern Washington University, Cheney, Washington
2.9.5 Agency Contact – Jim Moeller, Project Manager EWU Construction and Planning Services Facilities, 526 5th Street ROZ 101, Cheney Washington 99004, 509/359-6565, james.moeller@mail.ewu.edu.
2.10 **Implementation Approach** – Eastern Washington University has dedicated staff in their Department of Construction and Planning Services for continued decision making and implementation of the Patterson Hall project. For this particular project, EWU will dedicate a Project Manager and Construction Coordinator from their Construction and Planning Services Department.

2.11 **Project Management**

2.11.1 **Management Organization** – The EWU Department of Construction and Planning Services will manage the design and construction of this project with the assistance of the architect and engineering design consultants. Construction and Planning Services is staffed by registered architects, licensed professional engineers, construction management professionals, and office management personnel. In addition to the staff of professionals, there are many others with journeyman experience in these fields. All of the licensed staff has extensive experience in all aspects of programming, design, and construction. The professional and journeyman staff has a wide range of private practice experience and many years of University experience.

2.11.2 **Methods of Delivery** – Traditional Design/Bid/Build construction delivery method will be utilized for this project. Because of the size of the project, EWU intends to fund the construction of the project over two consecutive biennia using two separate contracts. This will extend the construction time required to complete the entire project.

2.12 **Schedule** –

Due to concerns about temporary housing for the existing classroom and offices currently located in Patterson Hall, three possible schedule alternatives were developed and studied in preparing the pre-design study. The cost impact of each schedule was examined in the Project Budget Analysis section of this report.

The first schedule requires that temporary housing be found for all current occupants and classes currently in Patterson.

The second alternative assumes the project is constructed in phased construction by a single contractor with all funding received in the 2009 biennium. This alternative requires finding temporary housing for only half the occupants and classes currently in Patterson.

The third alternative also requires temporary housing for only half the occupants and classes, but assumes the construction funds for the project are appropriated in two separate, consecutive legislative biennia in 2009-11 and 2011-13 with the construction work completed in two separate contracts.

All three schedules were developed to coordinate with EWU’s academic schedule and assume occupancy of the building can occur at the beginning of any quarter. They also assume that hazardous abatement will be included as part of the construction contract. This allows the contractor to begin demolition after partial abatement is complete rather than waiting to begin construction until after all abatement is complete by either an outside contractor or by EWU personnel.

2.12.1 Alternative Schedule 1 – Construction of entire project in a single phase for a total construction duration of 26 months (through substantial completion):

Approval for design funding from the State: May 2007
2.0 Project Analysis

2.12.2 Alternative Schedule 2 – Construction project in two phases for a total construction duration of 37 months (through substantial completion):

Approval for design funding from the State: May 2007
Schematic Design Phase: September 2007........January 2008
Owner review of SD Documents February 2008
Design Development Phase: March 2008........July 2008
Value Engineering June 2008
Owner review of DD Documents August 2008
Owner review of 75% CD’s March 2009
Constructability Review April 2009
Owner review of 100% CD’s: June 2009
Approval for construction funding from the State: May 2009
EWU move out of Patterson into Surge Space June 2009........September 2009
Issue Bid Documents: July 2009
Open Bids: August 2009
Construction through Substantial Completion: October 2009........December 2011
Furniture & Equipment Installation January 2012........March 2012
Final Completion: March 2012
Occupy Building April 2012

2.12.3 Alternative Schedule 3 – Fund the project in two phases with the first phase funded in the 2009 biennium and the second phase funded in the 2011 biennium. Construction for each phase of the project would be completed under two separate contracts under two separate bids. Each phase of the project would last approximately 19 months (through substantial completion):

Approval for design funding from the State: May 2007
Schematic Design Phase: September 2007........January 2008
Owner review of SD Documents February 2008
Design Development Phase: March 2008........July 2008
Value Engineering June 2008
Owner review of DD Documents August 2008
Owner review of 75% CD’s March 2009
Constructability Review April 2009
Owner review of 100% CD’s: June 2009
Approval for construction funding from the State: May 2009
EWU move out of Phase 1 into Surge Space June 2009........September 2009
Issue Bid Documents: July 2009
Open Bids: August 2009
Construction through Substantial Completion: October 2009........December 2011
Furniture & Equipment Installation January 2012........March 2012
Final Completion: March 2012
Occupy Phase 1 of Building April 2012

EWU move out of Phase 2 into Surge Space June 2011........August 2011
Phase 2 Construction to Substantial Completion September 2011........November 2012
Phase 2 Furniture & Equipment Install December 2012........February 2013
Final Completion: February 2013
Occupy Phase 2 of Building April 2013

Occupy Building April 2012
### PHASE 1 CONTRACT

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### PHASE 2 CONTRACT

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2.12.4 Selected Alternative: Schedule 3 – Funding the construction of the project in 2009-11 and 2011-13 biennia and construct the project in two separate phases under two separate contracts.