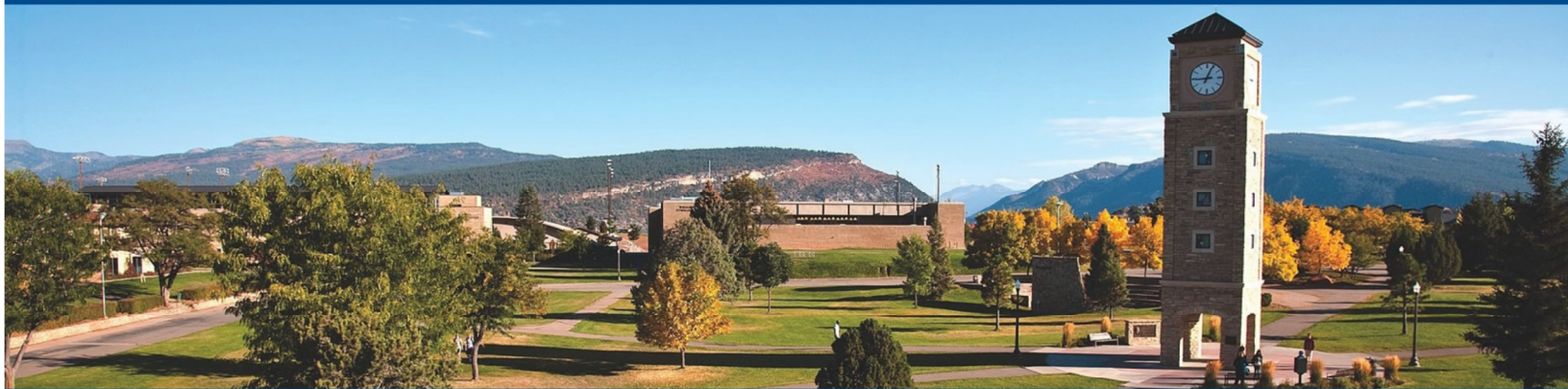




# Whalen Academic & Athletic Complex Program Plan

Exercise Science Whalen Gymnasium Renovation & Expansion South

Athletics Whalen Gymnasium Renovation & Expansion North



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**Fort Lewis College**  
Whalen Gymnasium  
Program Plan  
Table of Contents

A. Overview	
A.1. Executive summary	5
A.2. Program plan process	7
A.3. Description of Academic Program Being Affected	9
A.4. Relationship to the Facilities Master Plan	11
A.5. Relationship to the Institutional Strategic Plan	13
A.6. Guiding Principles	14
B. Justification	
B.1. Existing Conditions	15
B.1.1. Current Program Enrollment	15
B.1.2. Assessment of Space Functionality	15
B.1.3. Current Space Utilization	17
B.1.3.1. Current Building Areas	21
B.1.4. Facilities Condition	23
B.1.4.1. Existing Program Space Condition	23
B.1.4.2. Facilities Condition Index	26
B.1.5. Specific Health/Life Safety Deficiencies	30
B.2. Changes and Projections	
B.2.1. Enrollment Projections by Program or Department	30
B.2.2. New or Modified Academic Programs/Instructional Methodology	30
B.2.3. Changes to Class Sizes	32
B.2.4. Trends and Peer Institution Comparison	32
B.3. Total Space Requirements	35
B.3.1. Planned Program Space Utilization	35
B.3.1.1. Room Areas Needed by Function	35
B.3.2. Total ASF and GSF Needed/Space Tabulation	36
B.3.3. Alternatives Analysis	44
C. Implementation and Design Criteria	
C.1. Spatial Relationships	46
C.1.1. Stacking/Blocking Diagrams	46
C.2. Site Improvements and Requirements	52
C.2.1. Site Requirements	52
C.2.2. Site Context	55
C.2.3. Site Plan	58
C.3. Design Requirements	59
C.3.1. Civil Engineering Summary	59
C.3.2. Architectural Design Summary	61
C.3.3. Building Systems Summary	66

C.3.3.1.	Structural Engineering Summary	66
C.3.3.2.	Mechanical Engineering Summary	71
C.3.3.3.	Electrical Engineering Summary	74
C.3.3.4.	Information Technology Summary	79
C.3.3.5.	Sustainable Design Summary	81
C.3.3.6.	Health, Life Safety, and Code Issues	83
C.3.4.	Construction	84
C.3.5.	Review Processes	87
C.4.	Project Schedule	87
C.5.	Cost Estimates and Financial Analysis	88
C.5.1.	Cost Estimates	88
C.5.2.	Financing Explanation/Funding Sources	92
D.	Appendices	
D.1.	Site Plan and Location Maps	92
D.1.1.	Campus Location Map	92
D.1.2.	Building Massing	93
D.1.3.	Infrastructure Plan	96
D.2.	Architectural Program	96
D.2.1.	Space Requirements	96
D.2.2.	Spatial Relationships	118
D.3.	Code Analysis	119
D.4.	Third Party Review	123

## **A. Overview**

### **A.1 Executive summary**

Fort Lewis College (FLC) presents this program plan for a renovation and addition to Whalen Gymnasium. The rationale and driver for this project is to create a single facility to serve as home for the two departments at FLC that share commonality in their emphasis on organized physical activity as a basis for study, competition, research, and exploration.

Currently, Whalen Gymnasium, first constructed in 1971, is the home for the Athletic Department, and it also includes space for the offices of the Exercise Science Department. The Athletic Department also occupies some office spaces in the Aquatic Center, while Exercise Science includes the adjacent building, Skyhawk Hall. Whalen Gymnasium, containing 47,426 total square feet, is inadequate. The Weight Room and Training Room were added to Whalen Gymnasium in 1983. An Athletic Facilities Improvements project was completed in 2002, including structural improvements for the main gym area, added cooling, ventilation improvements, new gym lighting and a new wood athletic floor, and addition of weights and training room space.

The 2006 Exercise Science/Athletic Facilities Expansion and Renovation Program Plan proposed a completed facility with space needs of 111,111 gross square feet (GSF). Because the existing facility, its finishes and systems have declined in the 10 years since that earlier plan, and because program capabilities of Athletics and Exercise Science have evolved and expanded, current space needs are projected for a larger facility with a total of 121,251 GSF.

Space needs are also targeted towards the future, in order to enable and accommodate programs that better allow Fort Lewis College to reach and serve the community of Durango and the Southwest. This includes establishing FLC as a center for high altitude study, to impact a broad region for which Durango is a geographical and economic center.

It is critical that Fort Lewis College reinforce its ability to attract and retain students and faculty. Current facilities are a barrier to this goal, including inadequate space for training and locker room facilities, activities such as dance and yoga, and academic spaces programmed and designed for the specialized equipment, research, testing, and the pedagogical requirements of the two departments. New academic spaces—laboratory classrooms and space for group collaborative and individual study and tutoring—are essential for these programs to continue to grow and attract eager students and highly qualified faculty and staff. Placing these, and other, spaces within a single facility will allow FLC to take advantage of commonalities and shared facilities to achieve space efficiencies and to reinforce the academic mission of the two departments and the College as a whole.

Fort Lewis College has a total enrollment (Fall 2015) of 3,544 undergraduates (FTE). Although overall college enrollment is likely to remain below 5,000 FTE, there is growth projected for the Exercise Science program. Currently, this growth is impeded by the limitations in the available program spaces.

This program plan proposes new additions of approximately 68,758 gross square feet (GSF) to be built to the south, east, and northeast of the existing Whalen Gymnasium as well as renovation of the existing 47,426 GSF and renovation and reuse of the 5,067 GSF Skyhawk Hall. This is proposed to be accomplished as two stand-alone projects following an initial design phase. The additions will be two and three stories where feasible in order to make optimal use of campus open space resources. The locations of additions are proposed to achieve several planning goals, including:

- Taking advantage of opportunities for shared space between the two departments;
- Creating outdoor program areas as extensions of programs;
- Defining a new identity and entrance for the facility to reinforce the role of Whalen Gymnasium on the Fort Lewis Campus;
- Minimizing impacts on campus utility infrastructure;
- Re-thinking Athletic Facilities to address Title IX and ADA Accessibility issues that are inherent in the layout of the existing building; and
- Reinforcing both internal and external service and circulation connections, including taking advantage of primary views where possible.

Development of this new project will also allow Fort Lewis College to provide appropriate academic spaces for the learning and teaching models necessary to align with the 2014 implementation by the College to a 3-credit curriculum and new Liberal Arts Core learning outcomes. Meeting the space needs prompted by this opportunity will serve the campus as a whole, as well as the individual programs to be located in the facility.

Because of the project complexity, diversity of departmental space needs, and the requirement to maintain continuous operation of both programs, including varsity athletics, the project is divided into two components, each of which will individually address the functional space requirements of each department.

The first project, the Exercise Science Whalen Gymnasium Renovation and Expansion South, will comprise two-phases. The first phase, totaling **\$3,206,625** dollars, includes staged design and professional services associated with both projects through a design development level of documentation, and completion of construction documents of the Exercise Science expansion and renovation portion of the project. The second phase includes the construction of this south expansion and a partial renovation totaling 51,843gsf, with a total project cost of **\$25,543,601** dollars. This project addresses the programmed space needs for Exercise Science, common spaces and shared program space with Athletics, associated site and site utility improvements. The Project 1 Total Budget Requests is **\$28,750,226** dollars.

The second project, the Athletics Whalen Gymnasium Renovation and Expansion North will comprise two-phases. The first phase, totaling **\$1,883,512** dollars, includes completion of the construction documents for this project. The second funding phase includes new construction of a north expansion and renovation of the remaining majority of Whalen Gym totaling 64,341gsf, with a total project cost of **\$26,874,948** dollars. The Project 2 Total Budget Requests is **\$28,758,460** dollars.

Proposed funding includes a combination of Capital Construction State of Colorado funding, and funds raised by Fort Lewis College, with a projected split of 90% State and 10% College funding for the first project, and a projected split of 80% State and 20% College funding for the second project. The completion of both projects will create the functional synergy between Exercise Science and Athletics discussed throughout the planning process and this program plan.

## **A.2 Program plan process**

The needs of campus athletics and academic programs that draw upon Fort Lewis College's unique position in the unique setting of Durango as a center of outdoor and high altitude activity, have been a topic of discussion and planning for nearly twenty years. This resulted initially in the program plan of 1989 (approved in 1999). The "Master Plan Programming Issues" document of October 14, 2004, created as part of the 2004 Master Plan, included two issues relating to these programs, Whalen Gymnasium and the need for a revised and updated Program Plan. These issues were:

- I-10 *There is a need for additional outdoor and recreational and sports fields to support ALL programs, such as academic programs, intramurals, athletics, recreation, health and fitness. Location and type of fields should fit within the new master plan concept.*
- I-11 *It is important to continue with gymnasium expansion.*

The same "Initial Action Steps" was identified for both of these highest campus priority issues:

The Exercise Science and Athletics Program Plan, Phase II, III, and IV will remain a priority for the campus. The Program Plan was approved in 1999. An updated Program Plan will be required before the State will approve funding.

Having set this priority and established an action plan, Fort Lewis College began the process for the updated Program Plan. The Exercise Science/Athletics Facilities Expansion & Renovation Program Plan was completed on July 27, 2006. It was approved by CCHE on October 13, 2006.

After the State did not fund the project described in this program plan, new facility issues were identified, and program needs had altered significantly since the 2006 plan. FLC issued an RFP for program planning services on October 22, 2015. After reviewing the qualifications of several teams submitting responses to the RFP, the steering committee interviewed three firms and selected that architect and programming team led by Davis Partnership Architect with Cornelius DuBois, FAIA.

The development of the new program plan began with a kick-off meeting held on January 12 and 13, 2016. This began an intense and interactive process of fact-finding, data-gathering, analysis, and exploration of program and site alternatives. In addition to meetings with the steering committee, the program plan team met with students, the two programs affected by the program plan, and Facilities Services. Additional program planning workshops and steering committee meetings were held on January 27-28, February 10-11, February 23-24, March 22-23, and April 7. A two-and one-half hour Student Workshop was held in the evening of January 27<sup>th</sup>. A broad range of workshop techniques were used to encourage input and to define program priorities.

The Program Plan Steering Committee comprised representatives of Administration, Facilities Services, Athletics and Exercise Science. The architect's team included the programming consultant, civil/structural engineer/ mechanical/electrical/plumbing engineer, and the cost estimating consultant. Architectural and Landscape Architecture study and input was provided by Davis Partnership Architects.

During the first Steering Committee workshop and following the kick-off meeting, the team reviewed a preliminary space needs matrix. Available site areas were studied to understand the potential for a building addition or additions to Whalen Gymnasium. Alternates were developed and presented after the kick-off workshop, and these were studied until three alternatives were selected and, finally, a preferred option. The preferred option is illustrated in the program plan, including the blocking and stacking of physical space, and the location on the site agreed upon by the Steering Committee.

This program plan is organized in accordance with the Colorado Department of Higher Education (DHE) "Facility Program Planning Guidelines for Higher Education Capital Construction Projects," of April 5, 2007 and the Colorado Commission on Higher Education (CCHE) Guidelines for "Facilities Program Planning," adopted November 5, 2009. Space utilization is based on the "Department of Higher Education Space Utilization Planning Guidelines," April 5, 2007.

To provide more specific reference for higher education recreational facilities and to serve as a resource for peer institution comparison, the programming team also relied on several independent sources, including:

- CEFPI (Council of Education Facility Planners International): Space Planning for Institutions of Higher Education, 2006;
- AAHPERD (American Alliance for Health, Physical Education, Recreation, and Dance: "Facility Planning for Physical Education, Recreation and Athletics (1993); and
- ACSM (American College of Sports Medicine: "Health Fitness Facility Standards and Guidelines, Fourth Edition."

An independent architectural firm/programmer was identified by the college to conduct a third-party review of this document.



### **A.3 Description of Academic Program Being Affected**

There are two programs at Fort Lewis College affected by this program plan: Athletics and Exercise Science. These programs (listed below in order of inclusion in Fort Lewis College) are linked by their emphasis on participation in and academic pursuits related to physical activity.

#### **ATHLETICS**

Fort Lewis College is a Division II institution that is affiliated with the NCAA. The Skyhawks are a member of the Rocky Mountain Athletic Conference (RMAC), which sponsors 15 institutions (10 in Colorado, one in Nebraska, one in New Mexico, one in Utah, and two in South Dakota). Intercollegiate athletics began at FLC in 1929. Fort Lewis College became a senior school in 1962 and began competing against other 4-year colleges in 1963. Women's intercollegiate athletics were added in 1969. The Mission Statement and Goals and Objectives of the Department of Athletics are as follows:

#### **Skyhawk Mission Statement**

*The Fort Lewis College Department of Athletics provides tailored programs for student-athlete development. We attract and graduate high-quality student athletes by creating an atmosphere of high expectations and success that is a source of pride for Fort Lewis College and the community.*

#### **Skyhawk Goals and Objectives**

*1. Fort Lewis College student-athletes will be better prepared for increased academic achievement and lifelong success.*

- *Focus on reviewing and enhancing NCAA Division II, Rocky Mountain Athletic Conference (RMAC), Fort Lewis College and sport program academic standards when it occurs.*

*2. Fort Lewis College student-athletes will be enriched by a collegiate athletics experience that features a safe and well-balanced environment, equitable treatment and a commitment to sportsmanship.*

- *Encourage student-athlete involvement in governance and means to ensure enhanced sportsmanship and equitable treatment of student-athletes, regardless of gender and race.*

*3. Fort Lewis College student-athletes will have access to a quality, positive and rewarding athletic experience.*

- *Supply our sport programs and student-athletes with an adequate level of funding.*

As the Mission and Goals and Objectives indicate, high academic standards and opportunity for academic achievement are a critical aspect of the programs of the Department of Athletics. Athletics complement and enhance the academic core of the college experience

Current varsity sports currently include:

- Basketball (Men's and Women's)
- Cross-country (Men's and Women's)
- Football (Men's)
- Golf (Men's and Women's)
- Lacrosse (Women's)
- Soccer (Men's and Women's)
- Softball (Women's)
- Track and Field (Women's)
- Volleyball (Women's)

In addition, the College includes a championship Cycling team, including separate cycling disciplines of: BMX; Cyclocross; Mountain Biking; Road; and Track. Fort Lewis College also offers a wide range of Club Sports and Intramural Sports. Students participating in varsity athletics must meet the rigorous academic requirements set by the NCAA.

## EXERCISE SCIENCE

Exercise Science is a department within the School of Arts and Sciences. Previously, as the Physical Education Department, it was approved and incorporated as Exercise Science into Fort Lewis College in the 1989-1990 Academic Year. The departmental mission and learning outcomes of the program are stated below (material excerpted from the program's website, <https://www.fortlewis.edu/exercisescience/>):

### **Departmental Missions**

*The Exercise Science department aims to meet the needs of our graduates to function more efficiently as professionals in our discipline and to compare more favorably in today's job market by providing students with a variety of opportunities to develop a scientific knowledge base, engage in practical experiences, and learn, develop and master social and leadership skills. Students acquiring this knowledge will be prepared to pursue unlimited opportunities through occupations such as teaching, coaching, administration, personal training, physical therapy, as well as other recreational, wellness, and fitness careers. The department also endeavors to provide the students of Fort Lewis College with opportunities to learn and experience the components of healthy living, life-long activities, and sport competition. Exercise Science faculty model, as well as teach, commitment, critical thinking, life-long learning, and physical activity.*

### **Learning Outcomes**

- *Apply best practices when solving problems of real-world scenarios.*
- *Analyze the scholarly research in the field.*

- *Communicate effectively (orally and in written form) the issues and concerns of the field.*
- *Evaluate the process of research design including problem identification, control of threats to scientific validity, experimental design, sampling procedures, and thesis development.*

Within Exercise Science are three options, each of which is focused on specific realms of graduate study or career opportunity.

- Exercise Physiology
- Exercise Specialist
- Sports Administration

There are also two minors offered: Exercise Science and Coaching. Each of the major and minor options has specific requirements for learning and study that drive program requirements for specialized spaces such as laboratory classrooms, including equipment and collaborative learning configurations. These are explored in subsequent sections of the program plan.

#### **A.4 Relationship to the Facilities Master Plan**

A process is underway to revise the Facilities Master Plan for Fort Lewis College. The last complete plan was the 2005 Fort Lewis College Facilities Master Plan (<https://www.fortlewis.edu/master-plan/>). The Master Plan update is projected to be complete in the fall of 2016, and thus was not available to the program planning team during the preparation of this document. The team has made reference to the 2005 master plan, including the Illustrative Plan, the Building Phasing Plan, and the Landscape Concepts and Character document.

The Illustrative Plan lists important principles intended to guide and shape development of the campus:

*Original inhabitants to area were the Ancestral Pueblo cultures dating back to 8th century. Urban design concepts from these early inhabitants are incorporated into the campus master plan. Buildings are oriented inward, focusing on relationships between buildings and programs, in lieu of outward or external references.*

*The campus alignment is meant to support a natural solar path. The sensitivity to natural light patterns govern the pedestrian spine, building locations, and open spaces.*

The 2005 Facilities Master Plan included the Goals & Objectives document of October 10, 2005. Of particular note of relevance to the planning for the addition to and renovation of Whalen Gymnasium are the following:

##### General Issues

- Increase student retention and recruitment by providing amenities outside their academic lives. Give them an exciting and vibrant atmosphere to mature within.

- Increase faculty retention and recruitment by providing amenities that balance the high cost of living in the Durango community.
- Minimize the environmental impact of Fort Lewis College and promote a greater awareness of the physical environment.
- Sustainable strategies shall be incorporated to reduce energy consumption, reduce maintenance, operating and capital costs, and to help increase student comfort, performance and employee productivity. Use the appropriate US Green Building Council Leadership in Energy and Environmental Design (LEED) program as design guidance for physical improvements.

#### Image/Identity

- Assure that the campus continues to be an inviting place for both first time and daily visitors.
- Improve the presence of the College within the Durango community.
- Strive for a collegiate atmosphere that is indicative of a high quality liberal arts college.
- Endeavor to be a leader in higher education as it relates to sustainability.
- Honor the southwest region through appropriate physical development guidelines.
- Improve way finding and signage.
- Compliment the collegiate atmosphere with a Southwestern vernacular that is both respectful and culturally sensitive.
- Continue to provide a sense of place through the recognition of the uniqueness of the Campus's geographical location.

#### Open Space and the Landscape

- Maintain a good relationship of open space to development space. The campus plateau is limited. Increase density in strategic areas to preserve comfortable open spaces in the education core.
- Provide gathering spaces for smaller groups of persons to promote interaction and contemplation amongst students and faculty.
- Maintain open vistas and view planes. Frame each view and bring attention to internal, as well as external points of interest.

#### Building/Architecture

- New buildings, and existing building modifications, will be adaptable and flexible so that change can occur relatively easily.
- New instructional spaces will include multi-purpose areas that support various uses and programs for use at the same time. Spaces must promote interaction amongst programs, and allow as much inter-disciplinary teaching and collaboration as possible.
- Embrace technology. Equip spaces that can operate effectively. Meet and exceed the expectations of our students.

## **A.5 Relationship to the Institutional Strategic Plan**

The current Strategic Plan includes the Action Items for Strategic Plan Goals for Fort Lewis College 2012-2016. These include the following Vision, Mission, and Core Values:

**VISION:** We strive to be the finest public liberal arts college in the western United States.

**MISSION:** Fort Lewis College offers accessible, high quality, baccalaureate liberal arts education to a diverse student population, preparing citizens for the common good in an increasingly complex world.

**CORE VALUES:** Student success is at the center of all college endeavors. The college is dedicated to the highest quality liberal arts education that develops the whole person for success in life and work.

- Academic freedom is the foundation for learning and advancement of knowledge.
- Diversity is a source of renewal and vitality. The college is committed to developing capacities for living together in a democracy, the hallmark of which is individual, social, and cultural diversity. The college is further dedicated to our historical mission to educate the nation's Native Americans.
- Informed and engaged citizens are essential to the creation of a civil and sustainable society.
- Service to Southwest Colorado and the Four Corners area, including access to the college, is a public trust.
- Connected knowing, independent learning, and collaborative learning are basic to being well educated.
- Evaluation of all functions is necessary for improvement and continual renewal

These statements, which can be found at <https://www.fortlewis.edu/Portals/148/Fort-Lewis-College-Strategic-Plan-2012-2016.pdf> serve as a touchstone for the development of this program plan.

## A.6 Guiding Principles

The Program Plan Steering Committee adopted several guiding principles. These should inform the ultimate design process for the building and provide a metric by which this process and outcome for Whalen Gymnasium can be evaluated, and they are intended to be complementary to the 2005 Goals and Objectives of the FLC Physical Master Plan. They include:

- a. Whalen Gymnasium must support the mission of facilitating knowledge through the integration of allied and compatible academic programs with athletic pursuits.
- b. Whalen Gymnasium will support future university recruitment and retention goals by providing an exceptional student and faculty resource and an academic, athletic, and community center for the FLC campus.
- c. Planning and programming will reflect good stewardship of college resources and be mindful of future campus needs for growth and development.
- d. Whalen Gymnasium must be a welcoming resource for the Durango community.
- e. The facility should offer students, athletes, and faculty, exceptional resources for learning, with spaces to accommodate group and solo study, a variety of laboratory classrooms tailored to unique program needs.
- f. The building design will make wise use of the existing facilities while addressing building and system deficiencies and re-thinking the relationship of Whalen Gymnasium to the Fort Lewis College campus.
- g. Aesthetics matter! The building should honor the southwest region and the campus vernacular in an expression that is respectful, forward-thinking, and culturally sensitive.
- h. The planned building will incorporate the requirements of the State of Colorado's High Performance Buildings Program, including the goal of LEED Gold status, high energy efficiency, as well as operational efficiency and maintainability.
- i. The building should be designed for longevity, to remain an asset to the FLC campus as it matures and grows.
- j. The building interior must have a high degree of spatial and technological flexibility to adapt to functional and programmatic changes.
- k. Whalen Gymnasium will foster active community engagement in a rich environment of academic and athletic excellence that supports exploration and discovery.

**B. Justification**

**B.1 Existing Conditions**

**B.1.1 Current Program Enrollment**

Enrollment at Fort Lewis College was 3,544 FTE for the Fall Semester 2015, with a total of all undergraduates served (headcount) of 3,704. There was a graduate enrollment of 13. 2014 enrollment was 3,751. Enrollment has remained fairly steady for the past five years, with a high in 2013 in 4, 034 and minor fluctuations year-to-year. Enrollment is projected to remain generally level for the next five years.

Enrollment by majors is as follows for Exercise Science. These figures combine the three major options (Exercise Physiology, Exercise Specialist, and Sports Administration)

<b>Enrollment By Major</b>	<b>Exercise Science</b>
Fall 2011	193
Winter 2012	193
Fall 2012	232
Winter 2013	212
Fall 2013	235
Spring 2014	222
Fall 2014	258
Spring 2015	235
Fall 2015	261
Spring 2016	247

Exercise Science enrollment tends to be higher in the Fall than in the Spring semester. Enrollment has increased by 21.2% when measured by Fall enrollments and 18.9% when measured by Winter/Spring enrollment. The greatest increases in enrollment have been in the Exercise Sci-Physiology Option.

**B.1.2 Assessment of Space Functionality**

**Athletics**

Inadequate and poorly functioning spaces in an aging gymnasium building have compromised the ability of Fort Lewis College to support student athletes, to attract and retain faculty and staff, and to compete at a consistent level with its peer institutions in the RMAC. The functional inadequacies span nearly all spaces: activity spaces such as the three-court gymnasium; training space; locker rooms; classrooms; offices and administrative space; and welcoming spaces for the college community, the public, boosters and other supporters, and visiting teams and officials. The three-court gymnasium is over-scheduled, with nearly every available time slot filled with either Athletics or Exercise Science functions, leaving no room for growth. The difficult schedule also means that students often have no option but to attend for early morning or late

evening practice or other activities. This cuts into study and sleep time, with the attendant negative impact on student experience.

The gymnasium inadequacies are just one aspect of the inability of Fort Lewis College to be competitive with its peer RMAC schools. Another facet of this condition is the Athletic Training Room and Strength Training facilities. These spaces are less than one-half of the space that would be required for a competitive facility, based on the number of students served. This inadequacy also impacts the program in other ways, as the capacity for effective rehabilitation services is also compromised. Competing facilities offer training facilities with excellent finishes, views, good acoustics, and proper lighting.

The college made important advances in addressing Title IX and gender equity issues since the preparation of the 2006 program plan. More locker room facilities were equalized, and specific areas, such as women's soccer, were improved. Nevertheless, inadequacies still exist, hampering current operations and standing as an obstacle to the ability of the department to add additional women's varsity sports in the future. Women's lockers are also remote from the playing fields and training facilities, requiring female athletes to access these spaces through the main lobby on the west side of the gymnasium. The men's lockers, while renovated to improve facilities for varsity football and soccer, are laid out in an awkward configuration, requiring athletes to access through the football locker room to other locker facilities.

There are no visiting team lockers, a serious deficiency when compared to other RMAC institutions, nor are there adequate lockers for faculty and officials. As discussed below, the locker inadequacies also affect the Exercise Science program.

This program plan proposes a new and expanded locker room approach, to bring the facilities up to RMAC standards, to address the remaining gender equity issues, and to set the stage for further program growth in the future.

A college gymnasium is a key destination—and should be a showpiece—for prospective students and their parents. Students, and not only prospective student athletes, are keenly interested in the training, strength, and locker facilities offered by a college. They also tend to be knowledgeable about competing colleges and universities and what they offer. In nearly every aspect, the athletic facility offerings of Fort Lewis College come up short. The physical deficiencies are of such significance that they are not likely to be counteracted by the commitment and quality of the coaches and staff. Frankly, many prospective students discover that their home high school facilities are of higher quality. This creates a deterrent to recruiting of students and faculty and present a challenge to retention as well.

Athletics is one of the few programs on campus able to generate revenue. The ability to do this and to support the college accordingly is compromised when facilities are outdated and inadequate. Ticketing and concession facilities are small and poorly positioned, and the main lobby space is too small for public access for spectator sports or other activities reserved for the gymnasium, such as Commencement exercises.



## **Exercise Science**

The Exercise Science Department is currently split between Skyhawk Hall and Whalen Gymnasium. Whalen Gymnasium includes several departmental offices, which are too small for proper use and remotely located from the main departmental spaces.

While Skyhawk Hall houses the basic program functions of Exercise Science (while the administrative offices are in the south end of Whalen Gymnasium), most spaces are inadequate for their current function or to accommodate any growth. These include the specialized spaces required for the Human Performance Laboratory, including the Biomechanics area, which should be designed as a separate space. The building has no capacity to accommodate much-needed new spaces such as a Dance/Yoga studio or an Auxiliary Gym. These spaces—both of which require ceiling clearances significantly higher than would be possible in Skyhawk Hall—would be more advantageously placed either in the existing Whalen Gymnasium or an addition to that building.

The current layout of Skyhawk Hall does not allow for the creation of any sense of entry or department identity, primarily because the circulation path between the two entry points is a wide corridor with no function spaces opening to it. This, and the fact that the administrative offices must be accommodated in a separate building, prevents the department from having a proper lobby and reception area with contiguous spaces such as study and resource areas.

Since the classrooms proposed for the Exercise Science department will be properly categorized as specialized laboratory classrooms, they require storage of equipment that is specific to departmental use. To accommodate this equipment, this program plan proposes that each pair of classrooms (one Human Performance Laboratory and three Laboratory Classrooms) share a laboratory closet of 150 ASF, with a door connecting to each classroom.

Exercise Science also makes use of and must have access to the activity spaces in Whalen Gymnasium. These are over-programmed: competition for time slots means that some activities cannot be planned and others must be scheduled very early and late in the day. The over-use of the gym itself also means that warm-up activities frequently take place in the main lobby and circulation area, creating a potentially unsafe condition. Locker space available to Exercise Science is inadequate and poorly located, and the current circulation pathways through the locker area creates confusion and potential conflicting use, compromising the ability of the program to provide adequately for its students. Exercise Science faculty and students also require access to the training room, which is significantly inadequate even for Athletics alone.

### **B.1.3 Current Space Utilization**

Fort Lewis College undertook a study of classroom utilization, which is documented in the May 2014 “Fort Lewis College Academic and Instructional Space Utilization Assessment” report prepared by Rickes Associates, Inc. The data in the Rickes report provides valuable background to understanding classroom utilization specific to the classrooms currently in use by the two departments included in this program plan and how this might affect planning for the future.

A total of four classrooms (and one laboratory classroom) are found today in the two buildings occupied by Athletics and Exercise Science (excluding the Aquatic Center). Utilization is reviewed below for each of these buildings and separately for each classroom, against the CCHE goals of 67% for Average Hour Utilization and 67% for Average Seat Occupancy. The Average ASF per student is expected to vary per classroom type, with 22 ASF/student the standard for a typical classroom.

The classrooms under study that are specific to the two departments fall into three CCHE Assignable Space Categories. These are, as listed on page 2 of the Utilization Assessment report:

CCHE Code	CCHE Category	Description
100	Classroom	<i>Rooms used by classes which do not require special-purpose equipment for student use. Included in this category are rooms generally referred to as lecture rooms, seminar rooms, lecture-demonstration rooms, and general-purpose classrooms.</i>
220	Special Class Laboratory	<i>A room used by informally (or irregularly) scheduled classes which requires special-purpose equipment for student participation, experimentation, observation, or practice in a field of study. Typically, this category includes such rooms as language laboratories, group music practice rooms, group studios, computer rooms, etc.</i>
250	Non-class Laboratory	<i>A room used for laboratory applications, research, and/or training in research methodology which requires special-purpose equipment for staff and/or student experimentation or observation. Includes rooms generally referred to as research laboratories and research-laboratory offices.</i>

Classroom Utilization by Building and by individual classroom is reviewed below:

**Skyhawk Hall:** Skyhawk Hall contains two classrooms, both of which have between 21 to 30 seats. The average utilization for these classrooms is shown below:

<u>Skyhawk Hall</u>	<i>Daytime Hr. Utilization</i>	<i>Seat Occupancy</i>	<i>ASF/seat</i>	<i>Total ASF</i>
	63%	76%	16.3	980

The data for the Skyhawk Hall typical classrooms (Rooms 150 and 170) indicates relatively high utilization and occupancy, with a low ASF/seat average. These classes have been used exclusively for classes and offered by the Exercise Science program. Skyhawk 160 is a small laboratory classroom with an adjoining storage closet and Skyhawk 140, a larger room of

1,530 square feet, equipped as the Human Performance Laboratory but also scheduled for dance, yoga, and similar activities in the portion of the room which is not filled with equipment. Not all of these uses fall within the Exercise Science program. The Rickes study indicates this room holds 80 seats, although the room cannot actually be configured as a typical classroom. The activities actually assigned to this space would require significantly more square feet per student. Since completion of the Utilization Report, FLC has scheduled some non-Exercise Science classes in the Skyhawk Hall classrooms. Because utilization and occupancy were already at or near target goal levels, this creates conflicts and has been an impediment to the program’s ability to add or plan for future classes.

In the Space Needs listed below (Section B.3.1.1), a separate Dance/Yoga Studio of 1,750 square feet is proposed, allocating 35 stations at 50 ASF/station, which is an appropriate space assignment for both dance and yoga.

This program plan proposes (in addition to the Dance Studio) three teaching laboratory classrooms (CCHE Space Category Code 220), allocating 25 stations at 32 ASF/station. Classes in these rooms require activities, configurations, and equipment space that drives the higher ASF/station.

**Whalen Gymnasium:** Whalen contains a single classroom in the category of between 41 and 50 seat Utilization is as follows:

<i>Whalen Gymnasium</i>	<i>Daytime Hr. Utilization</i>	<i>Seat Occupancy</i>	<i>ASF/seat</i>	<i>Total ASF</i>
	41%	28%	19.7	986

The current Whalen Gymnasium classroom is somewhat of an anomaly. It’s low utilization and occupancy is likely due to several factors, including the fact that it is a stand-alone, a single classroom in a large building. It is also intended as a meeting room for Athletics (team and coach meetings), the schedule for which may conflict at times with regularly scheduled uses. To address this and other program issues, this current program plan proposes to eliminate this classroom and replace it with several additional spaces. This would include three 32-station classrooms, programmed at 20 ASF/station, to function for academic use. The team meeting functions, which cannot be fully accommodated in the current space, would be met with a new Team Meeting room comprising a large space to accommodate 120 occupants at 20 ASF/station—sufficient for meetings of the entire football team. The room would be subdividable, with movable partitions, into three smaller spaces, each of which would accommodate 40 stations. These smaller spaces would also be equipped to operate as classrooms.

**Right-sizing of classrooms:** The Academic and Instructional Space Utilization Assessment discusses the concept of “right-sizing” of classroom space, which is defined (on page 12 of that report) as “the adjustment of the number of seats in a classroom to achieve guideline ASF per seat for that room’s area. The study notes some misalignment in campus classrooms and recommends right-sizing, where feasible, to achieve an average planning guideline of 22 ASF per seat. This current program plan for Whalen Academic and Athletic Complex proposes standard classrooms at 22 ASF/station in order to right-size the classrooms used by the three departments. Classrooms with specialized space needs, categorized as Special

Laboratory Classrooms, are programmed with higher ASF/station, typically 30 or 32 ASF, depending on the use anticipated.

The space Utilization Report calculates an “optimal need (page 12) for 55 campus classrooms comprising 51,060 ASF, in contrast to the 44,478 ASF of classroom space (defined in the report as “Analysis ASF” vs. 50,301 of “Inventory ASF”) noted on campus during Fall 2013, indicating a potential deficiency of 6,582 ASF of Classroom CCHE Category 100 space. The classrooms covered currently by the departments included in this program plan comprise 3,496 ASF and 190 seats, using the figures from the Utilization Study. This indicates a below-standard average allocation of 18.4 ASF/station.

The space tabulation in Section B.3.1.1 totals 7,080 ASF, with 261 stations, for an average of 27.13 ASF/station, which is a blending of the smaller typical classrooms at 20 or 22 ASF and the specialized laboratory classrooms proposed for Exercise Science at 32 ASF/station. This does not take into account the Team Meeting Room or the Human Performance Laboratory.

**Classroom Scheduling:** Among the recommendations in the “Decisions and Policy” portion of the Utilization Report (page 29) is the point “Reduce the concept of ‘owned space’ and silos of instruction. Re-classify space as general (excluding specialized instruction spaces such as laboratory and studio space). As noted above, a number of the classroom spaces proposed in this plan are several that do fall into the category of specialized laboratory classrooms –somewhat of an “in-between” category, neither typical classroom nor a fully equipped laboratory (for science, for example). To address this somewhat, this plan proposes that pairs of such classrooms be provided with laboratory-type closets, with one closet between and connecting to two classrooms. This provision of storage space not present today may allow for more scheduling of rooms as general classrooms.

**Non-classroom spaces used for academic purposes:** In addition to the classroom types covered in the Utilization Report, Exercise Science and Athletics use non-classroom space for academic purposes. The Gymnasium space is used by Exercise Science for all PE ACT classes, and the Adapted Exercise Laboratory and the Techniques of Coaching class are also scheduled there. Pending availability, Exercise Science also holds laboratory exercises for exercise physiology and biomechanics in the Gym. This, and other classroom use, contributes to the scheduling challenges for the three-court space and results in this space being devoted to academic use from 8:00 a.m. to 2:30 p.m. on weekdays. Construction of an auxiliary gym space, as proposed in the space needs identified in Section B.3.1.1, will relieve some of the scheduling pressure on the gym spaces. It will not remove or reduce academic use from the gymnasium spaces, since that is a core program function for both Exercise Science and Athletics.

The space needs also identify and propose several study areas for the renovated and expanded Whalen Academic and Athletic Center. These academic spaces fall into the CCHE category 230 Individual Study Laboratory. A total of 161 study seats, in four spaces including a 100-seat shared study area near the main building entrance, is planned. This number of seats is critical, in part because the extended (both early and late) hours for which student athletes must use the indoor and outdoor athletic facilities, often mean that these students must take advantage of study opportunities when they can.

Finally, it should be noted that Fort Lewis College is continuing to review and consider the implications of the Utilization Report. See Section B.2.3 for additional mention of that report.

### **B.1.3.1 Current Building Areas**

Current building areas are from Fort Lewis College Facilities records. Please refer to Section B.3.2 Total ASF and GSF Needed/Space Tabulation for program area requirements. Because program driven requirements have been examined and projected from a fresh vision and analysis of need, current building areas are presented in this section separately for reference and as relevant to discussion of existing space conditions and utilization.

**FORT LEWIS COLLEGE**

**Whalen Gymnasium Program Plan**

**Existing Room and Building Areas**

20-Apr-16

Room/Space	Number	Floor	Unassigned (circulation) Area (gsf)
Circulation	101	1	2,498
Concessions	102	1	137
Tickets	103	1	44
Airlock Entry Northwest	104	1	139
Laundry	105	1	154
Equipment Room Storage	106-A	1	104
Women's Toilets	107	1	253
Custodial	108	1	13
Faculty Office	110	1	375
Office Equipment Checkout	110-A	1	168
Equipment Room Receiving	110-B	1	168
Corridor North End	111	1	704
Hallway in Men's Locker Room	112	1	249
Football Locker Room	113A	1	532
Men's Showers	114	1	208
Men's Toilets	115	1	151
Men's Locker Room	116	1	1,584
Men's Soccer Locker Room	116A	1	549
Men's Faculty Toilets	117	1	71
Men's Faculty Showers	118	1	36
Men's Faculty Locker Room	119	1	348
Classroom	120	1	344
Office Exercise Sci Faculty	121	1	66
Circulation	121A	1	35
Corridor From Men's Locker Room	122	1	179
Athletic Storage	122A	1	231
Gymnasium	123	1	18,967
Hallway by Room 125, 126	124	1	229
Boiler Room	125	1	463
Women's Video Room	126	1	509
Drying Area	127	1	139
Women's Showers	128	1	201
Women's Locker Room	129	1	1,211
Corridor to Women's Locker Room	129A	1	136
Team Locker Room	129B	1	254
Women's Toilets	130	1	162
Women's Faculty toilets	131	1	89
Women's Faculty Showers	132	1	47
Women's Faculty Locker Room	133	1	160
Office Exercise Science Faculty	134	1	76
Storage	135	1	18
Faculty Office	136	1	78
Faculty Office	137	1	139
Faculty Office	138	1	81
Faculty Office	139	1	79
Faculty Office	140	1	95

Faculty Office	141	1	95
Hallway Exercise Science	142	1	70
Office Exercise Science Faculty	143	1	81
Office Faculty Secretary	144	1	284
Office Exercise Science Faculty	145	1	117
Men's Toilets	147	1	253
Custodial	149	1	142
Office Exercise Science Faculty	149A	1	134
Airlock Entry Southwest	150	1	139
Vending Area	152	1	137
Weight Room	160	1	2,181
Training Room	170	1	879
Storage Training Supplies	171	1	50
Office Trainer	172	1	76
Office Exercise Science Faculty	174	1	46
Whirlpool Room	175	1	66
Classroom	190	1	986
Training Room Examination	191	1	156
Athletic Storage	201	2	254
Electrical Equipment	202	2	303
Athletic Storage	205	2	88
Chiller Room	206	2	352
Fan Room	207	2	1,075
Fan Room	208	2	1,078
Athletic Storage	209	2	268
Women's Restroom	210	2	344
Custodial	215	2	55
Men's Restroom	220	2	344
Fan Room	230	2	114
Boiler Room	231	2	78
Press Box	303	3	305
Stair A	A		208
Stair B	B		217
Stair C	C		77
Stair D	D		189
Structural Area	7040		3,712

**Subtotal, 1st Floor - Assignable** **38,645**  
**Unassigned (Circulation & Structural Area)** **8,781**

**Total GSF** **47,426**

## **B.1.4 Facilities Condition**

### **B.1.4.1 Existing Program Space Condition**

#### **Whalen Gymnasium**

The existing Whalen Gymnasium is a two-story building originally construction in 1971. A weight room addition was provided in 1983, and in 1990, another adjacent addition was built for a training room, classroom and public toilet rooms. Renovations on a series of interior and exterior building systems and components were completed in 2003, including re-alignment of spaces within the men's locker rooms area. While many building elements and systems are

severely stressed, the effect of the renovations and additions has been such that the building is a candidate for renovation and addition, as proposed in this program plan.

Current building condition deficiencies fall into several primary categories:

**Building envelope:** The roof is an EPDM membrane over tapered insulation, which is due for replacement. The new membrane should provide for 60 lb. snow loading, which is now the standard for the FLC campus. The membrane was compromised in several locations during work on the interior of the gymnasium, causing leaks, and this will require replacement of the rigid insulation in what is estimated to be 10%-15% of roof area. Windows still in place from the original 1971 construction are single glazed (in particular, the high windows over the gymnasium space), and these should be replaced with insulated glazing units with high performance, low-e coated glass. Caulking and sealant on the exterior, particularly on the original building envelope, should be updated and repaired. Original portions of the exterior walls are uninsulated.

**Mechanical systems:** During a 2002 renovation, some of the air handlers serving the building were replaced (units 5, 6, 7, 8, and 9). The other air handlers are well past their life expectancy and are due for replacement now. The single boiler is at risk of breakdown and should be replaced. The future facility could have a dual boiler setup, with a replacement boiler serving the existing space. The chiller in the building was installed in 2002, and it serves the HVAC units that were replaced at the same time. The air handling systems for the building are limited to one zone/air handling unit, which compromises the flexibility of the system to serve the many different spaces in the gymnasium.

**Gas:** Gas service to the building has had some leaks, and this should be repaired or replaced.

**Plumbing:** Much of the plumbing infrastructure for the building is old, but sound. Plumbing fixtures and valves (shower valves, etc.) are in critical need of replacement. The existing gymnasium is fully sprinklered, but there are spaces within the gymnasium building that are not sprinklered. Earlier approval by the DFPD at the time was based on the college's plan to eventually install fire protection throughout the entire building.

**Electrical systems - Power and Data:** A new transformer was installed in 2002, and main electrical gear was replaced in 2009 as part of the renovations of that period. There is essentially no excess capacity in the electrical panels within the building. New construction will require new service and panels, and renovation of existing spaces is likely to prompt re-thinking of electrical service and panel configuration throughout the building.

The building is served by a transformer (2002) on the east side of the southeast corner of the building, which connects to the campus high voltage loop system. If this is to be relocated, a new section of the loop will have to be constructed so that the campus can be served at all times with the exception of a switchover to new service.

The location of electrical equipment and panels within the building has led to conditions where panels are sometimes blocked. The south electrical room is placed in a stairwell (not acceptable under current standards), where it is often blocked.



**Fire and Life Safety Systems:** Whalen Gymnasium is only partially fire sprinklered, and this should be re-examined in light of a code study for the entire building and proposed addition and current campus policy. The fire alarm panel is obsolete and should be replaced. IN the future, the building could be served with a single panel or with a dual panel system with one panel for existing space and one for new additions.

**Electrical Systems – Lighting:** the three-court gymnasium was provided with new lighting in 2003. Much of the lighting and lamping of the building has been, or is in the process of being addressed as part of a 2011 performance contract to upgrade the campus.

**Accessibility:** Items such as drinking fountains and some toilet accessories will need to be updated to conform with A.D.A. guidelines. Otherwise, the interior of Whalen Gymnasium appears to include accessible routes and other features in conformance. Pedestrian routes around the building, especially at the access drive to the north of the Gymnasium, are too steep. As this route is used by many pedestrians, it should be regraded to conform with the A.D.A. Additionally the west walk between the Gym and Aquatics Center has a non-conforming cross-slope along with many grading and drainage deficiencies that require correction.

**Finishes:** Finishes throughout the building are aging and in need of replacement. The wood floor in the gymnasium does not have a good vapor barrier beneath the wood assembly, although the floor was replaced 12 years ago. Groundwater beneath the building wells up periodically under an area at the center of the gymnasium, causing the flooring to swell and presenting a potential hazard to those using the gym spaces.

**Acoustical:** Acoustical conditions in the weight room are unacceptable.

**Hazardous Materials:** An Asbestos Abatement Report was developed for Whalen Gymnasium in February 1999. Following the report, asbestos-containing materials, including duct insulation and some ceiling materials, were abated. During construction of the 2002-2003 addition and renovation, some additional asbestos was located. These instances were encapsulated and left in place. Prior to any future construction, a new hazardous materials survey and subsequent abatement will be required.

### **Skyhawk Hall**

Skyhawk Hall is a one-story building constructed in 1999. It is currently in use by the Exercise Science Department, which also maintains some offices in Whalen Gymnasium. The finishes in the building are in good condition, as is the building envelope. The functional limitations of the building discussed above in Section B.1.2 and the result of the layout of space within the building and not primarily because of the space condition.

This program plan recommends re-use of Skyhawk Hall for functions identified as space needs. Reassignment of space to this building will entail new partitions and finishes, some adjustment to interior circulation, and adaptation of building mechanical and electrical systems to the plan layout ultimately chosen.

## Aquatic Center

The Aquatic Center is currently home to Athletic Department offices, and it serves this function reasonably well. This program plan proposes to continue this use, but the area currently assigned to Athletics would serve for a number of coaches and assistant coaches offices. This would require renovation of office areas and replacement of some finishes in circulation areas and corridors. Because the current space would essentially be retained for the same or similar uses, the square footage of these Athletic offices is not accounted for in the program space tabulation.

### **B.1.4.2 Facilities Condition Index**

A Facilities Condition Index (FCI) was completed in June of 2004 for Gymnasium A (the original 1971 gymnasium) and separately for Gymnasium B (1983 Weight and Classrooms addition). The FCI for the original gymnasium is indicated at 74.75, with an estimated cost to address all deficiencies in the building of \$3,038,724. The FCI for the Weight & Classrooms addition is indicated as 59.94, with an estimated cost to address all deficiencies at \$1,060,241. The state of Colorado defines the FCI of a building as:

$$(1 - (\text{Total Deficiencies} / \text{Replacement Cost})) \times 100 = \text{FCI}.$$

Typically, an FCI of less than 30% is an indication that the building warrants replacement with a new building. The Whalen Gymnasium FCI's of 74.75 and 59.94 respectively, while indicative of a building with significant deficiencies, in particular with building system categories such as heating, cooling/ventilation, and plumbing, also confirms that this existing building could be a candidate for a comprehensive renovation and addition.

In addition to Whalen Gymnasium, the departments utilize space in other buildings. Exercise Science occupies 5,067 square feet of Skyhawk Hall, which, with an FCI of 85.88, is in good condition. The FCI for Skyhawk Hall indicates an estimated cost to address all deficiencies of \$238,101.

Please refer to the Facility Condition Index tables for Whalen Gymnasium on the following two pages, followed by the FCI for Skyhawk Hall.



Building Name: Gymnasium A - Original  
 Agency Building Number 2  
 Construction Date 1971

Date of Audit May-13  
 Revised Jan 2014  
 Risk Management Bldg # 1267  
 Building Type Gymnasium A

Building Summary			
Occupancy Type:	<u>Classrooms,Assembly,Office</u>	Replacement S/GSF:	<u>\$200</u>
Usage:	<u>Multiple</u>	Construction Costs	<u>\$8,094,800</u>
Occupancy (Code):	<u>A2-1, A-3, B</u>	Surrounding Site Work	<u>\$500,000</u>
Const. Classification:	<u>Type II, 1 hr</u>	% Professional Svcs.:	<u>15%</u>
Material:	<u>Masonry, Steel</u>	Equipment:/Frnshgs:	<u>15%</u>
Year Constructed:	<u>1971</u>	% Miscellaneous:	<u>10%</u>
Number of Stories	<u>1 w/ part 2nd story</u>	Replacement Cost:	<u>\$12,032,720</u>
Gross Sq. Ft.:	<u>40,474</u>	S/GSF:	<u>\$297</u>

Building Evaluation				
System Category	Total Rating	Component Multiplier	Component Deficiency	Renewal Cost
Foundation	14%	9.4%	0.0135	\$162,270
Columns and Exterior Walls	18%	7.6%	0.0133	\$159,825
Floors	13%	13.9%	0.0173	\$208,467
Roof/gutters	16%	22.1%	0.0343	\$413,097
Ceiling	20%	0.7%	0.0014	\$17,327
Interior Walls and Partitions	13%	7.0%	0.0088	\$105,587
Windows	20%	3.0%	0.0060	\$72,678
Doors	27%	1.9%	0.0050	\$60,003
Heating	51%	5.6%	0.0289	\$347,161
Cooling/Ventilation	38%	6.9%	0.0261	\$314,126
Plumbing	65%	9.2%	0.0596	\$717,210
Electric	30%	8.6%	0.0257	\$309,361
Conveying	0%	0.0%	0.0000	\$0
Safety	30%	4.2%	0.0126	\$151,612
Total Project Cost:		1.00	0.2525	\$3,038,724
* AE/OP				
Component Deficiency Total				
Facilities Condition Index (FCI) = 100 - (deficiency total x 100)				74.75

AE/OP component multiplier x sum of component deficiency x building replacement cost





Building Name: Skyhawk Hall  
 Agency Building Number 50  
 Construction Date 1999

Date of Audit Apr-16  
 Risk Management Bldg # 1311  
 Building Type \_\_\_\_\_

Building Summary			
Occupancy Type:	<u>Classrooms, Labs</u>	Replacement \$/GSF:	<u>\$190</u>
Usage:	<u>Mixed</u>	Construction Costs	<u>\$962,730</u>
Occupancy (Code):	<u>A-3, B</u>	Surrounding Site Work	<u>\$200,000</u>
Const. Classification:	<u>Type V, 1 hr</u>	% Professional Svcs.:	<u>15%</u>
Material:	<u>Wood, Metal</u>	Equipment/Frnshgs:	<u>20%</u>
Year Constructed:	<u>1999</u>	% Miscellaneous:	<u>10%</u>
Number of Stories	<u>1</u>	Replacement Cost:	<u>\$1,685,959</u>
Gross Sq. Ft.:	<u>5,067</u>	\$/GSF:	<u>\$333</u>

Building Evaluation				
System Category	Total Rating	Component Multiplier	Component Deficiency	Renewal Cost
Foundation	6%	4.9%	0.0028	\$4,721
Columns and Exterior Walls	20%	12.8%	0.0256	\$43,161
Floors	11%	4.8%	0.0055	\$9,249
Roof/gutters	4%	6.6%	0.0029	\$4,945
Ceiling	11%	5.1%	0.0058	\$9,827
Interior Walls and Partitions	6%	10.3%	0.0059	\$9,923
Windows	4%	4.1%	0.0016	\$2,765
Doors	11%	4.1%	0.0046	\$7,680
Heating	15%	9.3%	0.0140	\$23,519
Cooling/Ventilation	16%	11.4%	0.0177	\$29,898
Plumbing	9%	7.8%	0.0069	\$11,689
Electric	29%	13.1%	0.0381	\$64,250
Conveying	0%	0.0%	0.0000	\$0
Safety	17%	5.7%	0.0098	\$16,474
Total Project Cost:		1.00	0.1412	\$238,101
* AE/OP				
Component Deficiency Total				

Facilities Condition Index (FCI) = 100 - (deficiency total x 100)

85.88

AE/OP component multiplier x sum of component deficiency x building replacement cost

### **B.1.5 Specific Health/Life Safety Deficiencies**

There are no major health or life safety issues relevant to this proposal.

## **B.2 Changes and Projections**

### **B.2.1 Enrollment Projections by Program or Department**

Refer to Section B.1.1.1 Current Program Enrollment.

An overall growth rate of 15% in enrollment in Exercise Science is projected, resulting in an additional 46-50 additional students each year for the next five years. Within the department, enrollment in some majors will exceed that for others. Exercise Physiology, currently about 122 majors, is growing at about 20% per year, and Sport Administration, with about 43 majors, is growing at 20%-25% per year. The Exercise Specialist major is experiencing flat growth at approximately 80 majors. The department also includes about 55 students in the Coaching minor and 10 students in the Exercise Science minor, both of which can be expected to grow in parallel to overall department growth.

Currently, enrollment growth for Exercise Science (Athletics does not have enrollment, *per se*) is restrained by the lack of adequate facilities, in particular, classroom laboratory and specialized program spaces.

### **B.2.2 New or Modified Academic Programs/Instructional Methodology**

In 2014 Fort Lewis College Board of Trustees required all non-lab courses to move to standard a 3 credit curriculum. This requirement and the adoption of new Liberal Arts Core learning outcomes presented the College with an extraordinary opportunity to effect transformative changes throughout the academic schedule, curriculum, and pedagogy. The credit conversion process was chance for academic departments to engage in intentional program and course redesign that focused on the principles of 21st century learning, what students will learn, how this learning aligns with program and college learning outcomes, and how student learning is assessed.

The principles of integrated curriculum redesign state that successfully converting a 4 credit course to a 3 credit course is not as simple as cutting course topics, assignments, and evaluations from one course and adding these to new courses to meet course program credit requirements. Intentional curriculum redesign is a fundamental rethinking of courses that make up the major as well as how students interact with course content, one another and the instructor. Additional advantages of an intentional approach to program and course redesign includes enhanced quality, improved retention, expanded access and increased institutional capacity.

Through the curriculum redesign process, Exercise Science undertook an intense examination of its curriculum and redesigned their academic program offerings for the 2016-2017 academic year. The new curriculum reflects the active and collaborative learning

approaches, experiential learning pedagogy, and high impact practices (e.g. collaborative assignments and projects, culminating capstone courses and projects) inherent in each of these disciplines.

In 2016 Exercise Science will be offering three majors (Exercise Physiology, Exercise Specialist and Sports Administration) and two minors (Exercise Science and Coaching). To adequately prepare graduates for these academic programs the Exercise Science department redesigned several existing 4 credit courses to become 3-hour lecture courses with stand-alone labs which meet for 2 hours/week. Additionally, other courses will be offered in a flipped learning format where students will view lectures online prior to coming to class and then participate in labs, developing and demonstrating practical skills. This new curriculum requires general classrooms that support active, problem-based, team-based, technology-enhanced learning, as well as, specialized teaching labs that simulate professional settings where students can develop and practice their skills.

The existing classrooms in Whalen Gymnasium and Skyhawk Hall are not equipped to meet the instructional and pedagogical needs for Exercise Science students. These classrooms were designed for an outdated model of teaching which was lecture-based and faculty-centered. None of these classrooms incorporates furniture or environmental updates to support team-based, experiential or active learning pedagogies. Additionally, the classrooms in both buildings lack the technology needed to support the use of digital content, virtual experiences and simulations.

In order to better support student success there is also a need for informal learning spaces. Currently there is no space for students to work collaboratively on team-based projects/research or independent scholarly work. Classrooms which are booked during the day are scheduled in the evening for athletic team study halls. The one lab for exercise science does not allow for adequate time for student practice and research.

This program plan proposes several types of academic spaces for a new Whalen Academic and Athletic Center to address the current impediments to fully achieving the pedagogical goals of Fort Lewis College, including the challenges and opportunities inherent in the transition to a 3 credit curriculum. These proposed spaces include new specialized laboratory classrooms with the proper digital technology and space requirements that are “right-sized” to accommodate optimum class sizes and, where appropriate, flexible configurations to allow for multiple learning configurations. These laboratory classroom spaces are also proposed to enable the use of specialized equipment and outdoor gear, including in the training settings required by Exercise Science.

Academic spaces proposed in this plan also include informal learning spaces, assigned both within individual departments and in a common study area to be in shared building space. These study areas are intended to be flexible to foster collaborative grouping as well as independent study.

### **B.2.3 Changes to Class Sizes**

The May 2014 Draft of the “Fort Lewis College Academic and Instructional Space Utilization Assessment” report prepared by Rickes Associates, Inc. was developed as an analysis of classroom utilization for FLC. This study noted that there are only seven classrooms on campus that seat more than 70 students and that these classrooms typically are scheduled less than 50 percent of the time and have low seat occupancy. Most classrooms are smaller (between 20 and 50 seats) and have higher utilization and seat occupancy. The report makes recommendations for “right-sizing” of classrooms and makes other recommendations for the use and assigning of classrooms.

The conclusions of the space utilization report also include a recommendation to “Reduce the concept of ‘owned space’ and silos of instruction. Re-classify space as general (excluding specialized instructional spaces such as laboratory and studio space).”

The classroom needs identified in this program plan fall generally in the category of specialize laboratory classroom space because of unique instructional needs and space requirements for equipment and gear in these spaces.

The college is in the process of reviewing the classroom utilization report. However, this review will be impacted by the new schedule to be implemented in the 2016-2017 year, when the college will return to three credits. FLC will need time to evaluate and analyze the credit change before addressing class sizes.

### **B.2.4 Trends and Peer Institution Comparison**

The proposed Whalen Gymnasium expansion and renovation will address many of the guiding principles put forth in the previous section of this Program Plan. Chief among them is the following:

*Whalen Gymnasium will support future university recruitment and retention goals by providing an exceptional student and faculty resource and an academic, athletic, and community center for the FLC campus.*

We’ve underscored a key phrase in the above guiding principle because it highlights one of the most tangible metrics within which Fort Lewis College will need to compete with peer institutions for recruiting and retaining students. Several peer institutions in Colorado have undertaken recent facility improvements, expansions and additions which enhance their ability to deliver programs in an up-to-date facility:

- **Western State Colorado University:**

In the fall of 2015, Western State Colorado University began offering a Master of Science in Exercise & Sport Science with a specific focus in High Altitude Exercise Physiology. Research is conducted within the new High Altitude Performance Laboratory, (2014) and surrounding mountains.



Paul Wright Gymnasium has undergone multiple renovations and additions since originally constructed in 1951, keeping pace with program demands.

- 1960 - Swimming pool was added
- 1965 - Wrestling room was added
- 1998 - Major 40,000 SF renovation; new 2,500 SF weight room
- 2005 - New bleachers spectator installed
- 2008 - New gym floor and retractable goals

The recently completed \$32 million Mountaineer Field House, (2014) features a six-lane, 200-meter track within a 65,000 square-foot field house. Also included in the Field House are new offices and meeting rooms for the Mountaineer Football team. These state-of-the-art offices and meeting rooms accommodate other Athletic Department offices, including the Western track and field and cross country coaching offices are located on the northern side of the Field House.

▪ **Colorado Mesa University:**

Recent construction and on-going improvements and expansion of the Maverick Center complex have elevated their athletics programs and recreation amenities.

The Maverick Center (2010) houses classroom and laboratories for health sciences and kinesiology programs, intercollegiate athletic facilities, and campus recreation facilities.

The Maverick Pavilion, (2009) is a 45-foot tall 13,000 square-foot structure, and includes heating and air conditioning for seasonal weather. It is located south of the football/softball fields and is venue to several indoor sport activities during inclement weather. A 2014 addition added 16,000 square feet to the existing structure, including a basketball court, a 36-foot climbing wall, a cycling center and a golf simulator. This facility is currently undergoing an expansion that will add one additional indoor court.

The Monfort Family Human Performance Lab, is an integrative multi-use laboratory that features state-of-the art equipment and provides advanced physiological and biomechanical performance and wellness testing for students, faculty, staff and community members

▪ **Colorado School of Mines:**

The recently completed Harold M. and Patricia M. Korell Athletics Center will support student athletes through new and improved training facilities. It ensures that all sports facilities at Mines reflect their student-athletes' own commitment to excellence. These new, outstanding facilities continue to attract and support some of the most talented student-athletes in the nation.

▪ **Adams State University:**

Within the past six years new, expanded and renovated facilities at Adams State University - Plachy Hall renovations, Rex Field improvements, and the new High

Altitude Events Center – dynamically improved their Athletics facilities and program capabilities.

Unique to this Program Plan is the integration of the Exercise Science academic department alongside Athletics. Natural synergistic benefits between these two departments have been largely unrealized due to the lack of adequate space within Whalen Gymnasium. Conspicuously, the greater portion of the academic and lab functions within Exercise Science take place in a separate ‘temporary’ structure. Faculty and administrative offices are housed within Whalen Gymnasium further diminishing the efficacy of academic program delivery and support. In summary, current facility conditions do little to promulgate a message that student success in Athletic and Exercise Science pursuits is supported.

Current or perspective students wishing to obtain an Exercise Science degree or participate in athletic programs are presented with a facility that is inadequately sized for the demand. Although admirably maintained the lack of modern locker room amenities and reasonably direct access to them, over-scheduled gymnasium space, and the absence of fundamental accessibility all serve to reveal an outdated, yet over-burdened facility.

Significant improvements that would serve to breathe new life into to the Whalen Gymnasium as a unique and vital athletic/academic environment proposed by this Program Plan can be summarized in the following:

- An aesthetic atmosphere that communicates campus and community values, and that contributes to a productive learning environment by engaging users visually and encouraging minds to soar and explore.
- A celebratory and welcoming atmosphere vs. a formal, institutional aesthetic. This encourages participation, experimentation, and a sense of ownership – a ‘home-base’ rather than a building in which one attends classes or trains.
- A broad variety of zones and seating arrangements ranging from quiet spaces to highly collaborative areas to support different learning needs.
- Flexible environments that can readily adapt over time, given the rapid and unpredictable pace of change in the digital age.
- Support for the increasing role that technology plays in creativity and learning.
- Ample outlets and charging stations to support increased reliance on digital devices.
- Clear, consistent, friendly, and effective signage to promote wayfinding.
- Computing arrangements that promote group collaboration vs. just one-on-one relationships with technology.
- 24/7 information commons spaces.
- Collaborative learning spaces, including classrooms and other academic spaces to support student achievement.
- Indoor/outdoor spaces to connect users of the facility to the FLC campus and its surroundings.

None of these essential features of modern athletic/academic facility are present in the current Whalen Gymnasium, nor can they be accommodated without a significant renovation of existing spaces coupled with a major expansion.

## **B.3 Total Space Requirements**

The total space requirements for the Whalen Gymnasium were arrived at through discussions of the Steering Committee, input from students from open house sessions and questionnaires, review of national standards and peer institution facilities, and consideration of current and projected student requirements and utilization, and those for comparable academic programs.

### **B.3.1 Planned Program Space Utilization**

As the space tabulation in section B.3.2 indicates, different efficiency factors have been applied to different space categories in order to reflect the likely space characteristics for these areas. These factors are also applied in order to be consistent with the Department of Higher Education Space Utilization Guidelines of April 5, 2007. Exercise Science and Service and Support Spaces have been calculated using a factor of 68%, which is within the upper end of the range of 58%-68% called for in the Space Utilization Guidelines for similar uses. Common Areas, which are likely to include aggregations of larger spaces, is applied at 75%. Finally, the Athletics spaces have been applied at 85%, which is consistent with the upper end indicated by the Guidelines and which is also consistent with the current space use of Whalen Gymnasium.

The 2006 Program Plan applied similar efficiency factors using a slightly different calculation methodology.

#### **B.3.1.1 Room Areas Needed by Function**

Refer to Appendix Section D.3.1 Space Requirements for a description of program spaces, including room diagrams and a narrative of function and specific requirements for each space. The following section, B.3.2 Total ASF and GSF Needed/Space Tabulation, comprises a list of program spaces defined by assignable square feet (ASF) per station, number of stations, quantity of rooms, total ASF, and general room dimensions. Rooms have been grouped into three general categories (Common Areas, Program Areas, and Administration & Support Spaces), with each category broken into two or more sub-groups. The program Areas category is divided into Athletics and Exercise Science.

**B.3.2 Total ASF and GSF Needed/Space Tabulation**

**FORT LEWIS COLLEGE  
WHALEN GYMNASIUM  
Space Program Tabulation  
4/30/2016**

<b>Gross Building Area</b>				<b>121,251</b>	<b>GSF</b>
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gross area includes corridors, wall thickness, stairways, elevator shafts, main mechanical and electrical rooms, mechanical shafts, and other non-assigned spaces.

**Net Building Area 95,727 ASF Efficiency**

<b>Common Areas and Shared Program Space</b>	<b>15,825</b>	<b>ASF</b>	<b>0.75</b>	<b>45,506</b>	<b>GSF</b>
<b>Athletics</b>	<b>58,997</b>	<b>ASF</b>	<b>0.85</b>	<b>45,002</b>	<b>GSF</b>
<b>Exercise Science</b>	<b>12,290</b>	<b>ASF</b>	<b>0.68</b>	<b>18,074</b>	<b>GSF</b>
<b>Service &amp; Support Spaces</b>	<b>8,615</b>	<b>ASF</b>	<b>0.68</b>	<b>12,669</b>	<b>GSF</b>

Common Areas							36570 ASF		
Room Name	ASF/Station (if applicable)	# of Stations	Clear Dim. (face of wall)	Quantity of Rooms		Clear Area (face of wall)		Assignable Area	
<b>Common/Entry Areas</b>						<b>subtotal</b>		<b>36570</b>	
Main Entry Vestibule	150	1	10.0' x 15.0'	2	x	150	=	300	
Main Entry Lobby (Prefunction)	7	300	30.0' x 70.0'	1	x	2100	=	2100	
Study Lounge	20	40	20.0' x 40.0'	1	x	800	=	800	
Vending Alcove	65	1	5.0' x 13.0'	1	x	65	=	65	
Access Control/Recept.	120	1	10.0' x 12.0'	1	x	120	=	120	
Reception Wkrm.	100	1	10.0' x 10.0'	1	x	100	=	100	
Tickets	100	1	10.0' x 10.0'	1	x	100	=	100	
Bicycle Storage	320	1	16.0' x 20.0'	1	x	320	=	320	
Concessions	320	1	16.0' x 20.0'	1	x	320	=	320	
Booster Sales/Stor.	240	1	12.0' x 20.0'	1	x	240	=	240	
Quiet Study	22	80	40.0' x 54.0'	1	x	1760	=	1760	
Auxiliary Gym	7,980	1	70.0" x 114.0'	1	x	7980	=	7980	
Auxiliary Gym. Stor.	600	1	20.0' x 30.0'	2	x	600	=	1200	
Laundry	320	1	16.0' x 20.0'	1	x	320	=	320	
Lactation Room	100	1	10.0' x 10.0'	1	x	100	=	100	
Main Gymnasium	18,945	1	118.4" x 160.0"	1	x	18945	=	18945	
Main Gym. Storage	1,800	1	25.0' x 72.0'	1	x	1800	=	1800	

						<b>Athletics</b>		<b>58997 ASF</b>	
<b>Room Name</b>	<b>ASF/Station (if applicable)</b>	<b># of Stations</b>	<b>Clear Dim. (face of wall)</b>	<b>Quantity of Rooms</b>		<b>Clear Area (face of wall)</b>	<b>Assignable Area</b>		
<b>Office</b>						<b>subtotal</b>		<b>3422 ASF</b>	
<b>Athletics Director</b>	150	1	10.0' x 15.0'	<b>1</b>	x	150	=	150	
<b>Director - Athletics Advancement</b>	150	1	10.0' x 15.0'	<b>1</b>	x	150	=	150	
<b>Director - Sports Information</b>	150	1	10.0' x 15.0'	<b>1</b>	x	150	=	150	
<b>Director - Facility Game Operations</b>	150	1	10.0' x 15.0'	<b>1</b>	x	150	=	150	
<b>Associate Director</b>	150	1	10.0' x 15.0'	<b>1</b>	x	150	=	150	
<b>Assistant Director - Business Operations</b>	150	1	10.0' x 15.0'	<b>1</b>	x	150	=	150	
<b>Head Coaches</b>	120	1	10.0' x 12.0'	<b>4</b>	x	120	=	480	
<b>Assistant Coaches</b>	100	1	10.0' x 10.0'	<b>8</b>	x	100	=	800	
<b>Admin. Ass't &amp; Files</b>	120	1	10.0' x 12.0'	<b>1</b>	x	120	=	120	
<b>Student Interns</b>	30	4	10.0' x 12.0'	<b>1</b>	x	120	=	120	
<b>Student Workers</b>	30	2	6.0' x 10.0'	<b>1</b>	x	60	=	60	
<b>Reception</b>	20	8	10.0' x 16.0'	<b>1</b>	x	160	=	160	
<b>Work Room/Mail</b>	150	1	10.0' x 15.0'	<b>1</b>	x	150	=	150	
<b>Office Storage</b>	120	1	10.0' x 12.0'	<b>1</b>	x	120	=	120	
<b>Coffee Bar</b>	40	1	5.0 x 8.0'	<b>1</b>	x	40	=	40	
<b>Printer/Copy</b>	120	1	10.0' x 12.0'	<b>1</b>	x	120	=	120	
<b>Conference</b>	22	16	16.0' x 22.0'	<b>1</b>	x	352	=	352	
<b>Strength Training</b>						<b>subtotal</b>		<b>8220 ASF</b>	
<b>Strength Training</b>	4,500	1	45.0' x 100.0'	<b>1</b>	x	4500	=	4500	
<b>Free Weights</b>	2,200	1	44.0' x 50.0'	<b>1</b>	x	2200	=	2200	
<b>Cardio Area</b>	500	1	20.0' x 25.0'	<b>1</b>	x	500	=	500	
<b>Plyometrics Area</b>	400	1	20.0' x 20.0'	<b>1</b>	x	400	=	400	

Strength Training (continued)									
<b>Strength Machines</b>	500	1	20.0' x 25.0'	<b>1</b>	x	500	=	500	
<b>Strength Training Coach</b>	120	1	10.0' x 12.0'	<b>1</b>	x	120	=	120	
<b>Academic/Study Use</b>						<b>subtotal</b>		<b>4990</b>	
<b>Recruiting/Booster</b>	25	80	40.0' x 50.0'	<b>1</b>	x	2000	=	2000	
<b>Recruiting/Storage</b>	200	1	10.0' x 20.0'	<b>1</b>	x	200	=	200	
<b>Warming Kitchen</b>	150	1	10.0" x 15.0"	<b>1</b>	x	150	=	150	
<b>Teaching Lab</b>	20	32	20.0' x 32.0'	<b>3</b>	x	640	=	1920	
<b>Teaching Lab Storage</b>	400	1	16.0' x 25.0'	<b>1</b>	x	400	=	400	
<b>Study Lounge</b>	20	16	16.0' x 20.0'	<b>1</b>	x	320	=	320	
<b>Gymnasium &amp; Gymnasium Support</b>						<b>subtotal</b>		<b>1450</b>	
<b>Main Gymnasium</b>								0	
See Common spaces									
<b>Main Gym. Storage</b>								0	
See Common spaces									
<b>Practice/Auxiliary Gym</b>								0	
See Common spaces									
<b>Gen. Athletics Stor.</b>	1,200	1	25.0' x 48.0'	<b>1</b>	x	1200	=	1200	
<b>Outdoor Storage</b>	250	1	12.5' x 20.0'	<b>1</b>	x	250	=	250	
<b>Locker Rooms &amp; Locker Room Support</b>						<b>subtotal</b>		<b>15550</b>	
<b>Varsity - Male</b>	30	188	70.5' x 80.0'	<b>1</b>	x	5640	=	5640	
<b>Varsity - Female</b>	30	93	46.5' x 60.0'	<b>1</b>	x	2790	=	2790	
<b>Team Meeting</b>	20	120	48.0' x 50.0'	<b>1</b>	x	2400	=	2400	
<b>Faculty/Officials (Male)</b>	30	15	15.0' x 30.0'	<b>1</b>	x	450	=	450	
<b>Faculty/Officials (Female)</b>	30	15	15.0' x 30.0'	<b>1</b>	x	450	=	450	
<b>Equipment Room</b>	1000	1	25.0' x 40.0'	<b>1</b>	x	1000	=	1000	
<b>Equipment Mgr.</b>	120	1	10.0' x 12.0'	<b>1</b>	x	120	=	120	

Locker Rooms & Locker Room Support (continued)								
<b>Visiting Lockers - Male</b>	30	30	30.0' x 30.0'	<b>1</b>	x	900	=	900
<b>Visiting Lockers - Female</b> (track, softball, golf, cc) (also visiting football)	30	60	30.0' x 30.0'	<b>1</b>	x	1800	=	1800
<b>Sports Medicine</b>						<b>subtotal</b>		<b>4620</b>
<b>Athletic Trainer</b>	150	1	10.0' x 15.0'	<b>1</b>	x	150	=	150
<b>Dir., Training Prog.</b>	150	1	10.0' x 15.0'	<b>1</b>	x	150	=	150
<b>A. T. Staff Offices</b>	120	1	10.0' x 12.0'	<b>4</b>	x	120	=	480
<b>Student Worker</b>	30	1	5.0' x 6.0'	<b>1</b>	x	30	=	30
<b>Dept. File Storage</b>	120	1	10.0' x 12.0'	<b>1</b>	x	120	=	120
<b>Gen. Exam Area/ Triage</b>	80	12	30.0' x 32.0'	<b>1</b>	x	960	=	960
<b>Physician Exam Rm.</b>	120	1	10.0' x 12.0'	<b>1</b>	x	120	=	120
<b>Rehabilitation</b>	50	20	40.0' x 50.0'	<b>1</b>	x	1000	=	1000
<b>Hydrotherapy</b>	80	1	8.0' x 10.0'	<b>3</b>	x	80	=	240
<b>Staff Lockers</b>	140	1	10.0' x 14.0'	<b>1</b>	x	140	=	140
<b>Triage</b>	140	1	10.0' x 14.0'	<b>1</b>	x	140	=	140
<b>Taping Area</b>	250	1	10.0' x 25.0'	<b>1</b>	x	250	=	250
<b>Conference</b>	30	8	12.0' x 20.0'	<b>1</b>	x	240	=	240
<b>Dry Storage</b>	200	1	10.0' x 20.0'	<b>1</b>	x	200	=	200
<b>Wet/Gator Storage</b>	400	1	16.0' x 25.0'	<b>1</b>	x	400	=	400



							<b>Exercise Science</b>		<b>12290 ASF</b>	
	ASF/Station (if applicable)	# of Stations	Clear Dim. (face of wall)	Quantity of Rooms		Clear Area (face of wall)		Assignable Area		
<b>Teaching Laboratories &amp; Activities</b>							<b>subtotal</b>		<b>8380 ASF</b>	
<b>Human Perf. Lab</b>	50	30	30.0' x 50.0'	<b>1</b>	x	1500	=	1500		
<b>Teaching Lab</b>	32	25	25.0' x 32.0'	<b>3</b>	x	800	=	2400		
<b>Laboratory Supp't</b>	150	1	7.5' x 20.0'	<b>2</b>	x	150	=	300		
<b>Consult Room</b>	60	2	10.0' x 12.0'	<b>1</b>	x	120	=	120		
<b>Biomechanics (run-out)</b>	600	1	10.0' x 60.0"	<b>1</b>	x	600	=	600		
<b>Biomechanics</b>	400	1	16.0' x 25.0'	<b>1</b>	x	400	=	400		
<b>Dance/Yoga Studio</b>	50	35	35.0' x 50.0'	<b>1</b>	x	1750	=	1750		
<b>Dance/Yoga Cubbies</b>	5	30	5.0' x 30.0'	<b>1</b>	x	150	=	150		
<b>Auxiliary Gym</b> (See Common spaces)										
<b>Hub (study/test)</b>	22	20	20.0' x 22.0'	<b>1</b>	x	440	=	440		
<b>Lab Conf./Video</b>	40	4	10.0' x 16.0'	<b>1</b>	x	160	=	160		
<b>Unisex Changing/ Shower</b>	120	1	8.0' x 15.0'	<b>1</b>	x	120	=	120		
<b>Prep Room</b>	120	1	10.0' x 12.0'	<b>1</b>	x	120	=	120		
<b>Staff Lockers/Showers</b>	160	1	10.0' x 16.0'	<b>2</b>	x	160	=	320		
<b>Student Lockers/Showers</b> (included in Athletics)										
Exercise Science	<b>Office &amp; Administration</b>					<b>subtotal</b>		<b>3910 ASF</b>		
<b>Department Head</b>	150	1	10.0' x 15.0'	<b>1</b>	x	150	=	150		
<b>Faculty</b>	120	1	10.0' x 12.0'	<b>11</b>	x	120	=	1320		
<b>Adjunct Faculty</b>	100	1	10.0' x 10.0'	<b>8</b>	x	100	=	800		
<b>Professional Advisor</b>	120	1	10.0' x 12.0'	<b>1</b>	x	120	=	120		
<b>Admin. Assistant</b>	120	1	10.0' x 12.0'	<b>1</b>	x	120	=	120		

Exercise Science		Office & Administration (Continued)						
<b>Student Workers</b>	30	2	6.0' x 10.0'	<b>1</b>	x	60	=	60
<b>Reception</b>	22	10	11.0' x 20.0'	<b>1</b>	x	220	=	220
<b>Conference/ Multi-purpose</b>	20	16	16.0' x 20.0'	<b>1</b>	x	320	=	320
<b>Dept. Resource</b>	120	1	10.0' x 12.0'	<b>1</b>	x	120	=	120
<b>Work/Mail/Copy</b>	200	1	10.0' x 20.0'	<b>1</b>	x	200	=	200
<b>Secure Records</b>	120	1	10.0' x 12.0'	<b>1</b>	x	120	=	120
<b>Coffee Bar</b>	40	1	5.0' x 8.0'	<b>1</b>	x	40	=	40
<b>Suite Restrooms</b>	160	1	10.0' x 16.0'	<b>2</b>	x	160	=	320

Service & Support Spaces							8615 ASF	
Room Name	ASF/Station (if applicable)	# of Stations	Clear Dim. (face of wall)	Quantity of Rooms		Clear Area (face of wall)	Assignable Area	
<b>Support Spaces</b>						<b>subtotal</b>	<b>575</b>	
Gender Neutral Restroom	75	1	7.5' x 10.0'	1	x	75	=	75
Restrooms	250	1	12.5' x 20.0'	2	x	250	=	500
<b>Building Services</b>						<b>subtotal</b>	<b>8040</b>	
Boiler Room	600	1	20.0'x30.0'	1	x	600	=	600
Water/Fire Entry	145	1	10.0'x14.5'	1	x	145	=	145
Electrical Service	1,200	1	30.0'x40.0'	1	x	1200	=	1200
Mechanical/HVAC	5,000	1	50.0' x 100.0'	1	x	5000	=	5000
Electrical Rooms	45	1	3.0'x15.0'	4	x	45	=	180
IT Room	65	1	5.0' x 13.0'	6	x	65	=	390
Sound Control	50	1	5.0' x 10.0'	1	x	50	=	50
Trash/Recycle	120	1	10.0' x 12.0'	1	x	120	=	120
Receiving	160	1	10.0' x 16.0'	1	x	160	=	160
Janitor/Utility Closet	65	1	5.0' x 13.0'	3	x	65	=	195

### B.3.3 Alternatives Analysis

Alternatives were explored in depth as part of the development of this program plan. Options considered by the program plan team to meet program requirements included cutting back programs and services, maintaining status quo, and improving utilization of existing space. Each of these options is summarized below:

#### *Option A: Cut Back Programs*

Space deficiencies have reached a point where critical programs necessary to the mission of both Athletics and Exercise Science.

- **Exercise Science:**  
Deficiencies in gymnasium space and teaching labs along with remotely located classrooms and Bio-mechanics lab represent a palpable disadvantage to the operation and growth of Fort Lewis College's Exercise Science program. Cutting back program would likely result in the elimination of one of three major areas of focused study – Exercise Physiology, Exercise Specialist, or Sports Administration –or the elimination of minor study in either Exercise Science or Coaching. While the reduction of program offerings would not reduce the need for any particular type of existing space, it would serve to alleviate some over-scheduling issues. The reduction of program offerings in exercise science would logically reduce student participation within the Exercise Science program and potentially reduce the need for faculty positions. In the long-term, this approach would serve to erode the reputation of the program, and thus, the morale among faculty and staff which is antithetical to one of the guiding principles of the institution – to attract and retain students.
- **Athletics:**  
Similar to Exercise Science, the Athletics department shares a deficit in allocated space from which to deliver successful Athletic programs. Cutting back in an Athletic program means reducing the number of varsity sports. While this approach would decrease the demand for dedicated locker rooms, the need for expanded training facilities and support areas would not be diminished. Selective elimination of varsity sports would result in fewer students having access to a balanced collegiate experience offering the benefit of increased academic performance, and a decrease in coaching staff. Prospective students wishing to participate in varsity sport programs no longer offered would be inclined to choose and competing institution.

#### *Option B: Status Quo*

The inadequacy of existing space, especially in areas such as locker rooms, training rooms, and learning environments within both Whalen Gymnasium and Skyhawk Hall cannot offer the envisioned interrelated academic/athletic programs that benefit synergistically from co-location. Likewise, the lack of contemporary amenities such as adequately furnished, technology-rich learning environments, and spaces for group interaction and socialization send a clear signal to perspective students signaling a low level of commitment to their success as students and athletes. As more peer institutions in the State continue to expand and revitalize their Athletic and Exercise Science facilities, recruitment and retention of faculty and staff for these programs would suffer if the *status quo* is maintained. The critical deficiencies in the afore-

mentioned amenities as well as over-scheduled functional resources would not be addressed. Building systems and finishes would continue to deteriorate, ultimately leading to greater repair and replacement costs. Costs to heat, cool, and maintain the building will increase. These predicted outcomes would be compounded by aging and inefficient systems in a poorly insulated envelope unable to meet today's standards for energy efficiency and conservation.

In addition to these impacts of maintaining the building without change, critical issues will remain, including as the safety concerns with the sloping access drive/walkway at the north side of the building that presents annual challenges each winter, and the ADA accessibility deficiencies throughout the building.

#### *Option C: Improved Utilization of Existing Space*

The existing Whalen Gymnasium program is organized around a central three-court gymnasium space. The nature of the gymnasium as a large, high-volume, space with specialized floor finishes dictates that approximately 50% of the existing buildings' efficiency fundamentally cannot be improved upon. Remaining areas accommodate a portion of the Exercise Science program, (administrative offices and women's locker room) at the south end, and a portion of Athletics, (locker rooms and strength training and sports medicine) at the north. Locker rooms are already almost too efficient with access multiple locker rooms and common shower and toilet room fixtures gained by traveling through the Football locker room. Given limited space and already tight configuration of spaces, gains in efficiency to be potentially realized through reconfiguration of these areas are dubious. Additionally, the main entry hall on the west side of the gymnasium is too small to comfortably accommodate spectators and participant ingress and egress; any re-purposing of this area of the building would exacerbate the already tight circulation condition.

#### *Option D: Demolition and Replacement of Whalen Gymnasium*

Demolition and replacement of Whalen Gymnasium, while affording the opportunity to develop a comprehensive design to include all three programs, would make poor use of the college's resources, resulting in significantly higher construction costs than would be incurred with a strategy of renovation and addition.

#### *Option E: Major Renovation and Addition*

The program plan team's review of the existing building indicated that, although many building systems and infrastructure are severely deficient, the existing structure is sound and adaptable to major re-organization associated with carefully planned adjacent external expansion. Based on the functional and programmatic needs as documented herewith, the recommended option entails additions to Whalen Gymnasium along with a major renovation. A conceptual level option is described in Section C.

## **C. Implementation and Design Criteria**

### **C.1 Spatial Relationships**

#### **C.1.1 Stacking/Blocking Diagrams**

The following diagrams illustrate the general proposed sizes and relationships of program spaces within the building. These are conceptual in nature and are not intended to represent a schematic or final design.



Whalen Academic & Athletic Complex: Level 1 Blocking Plan

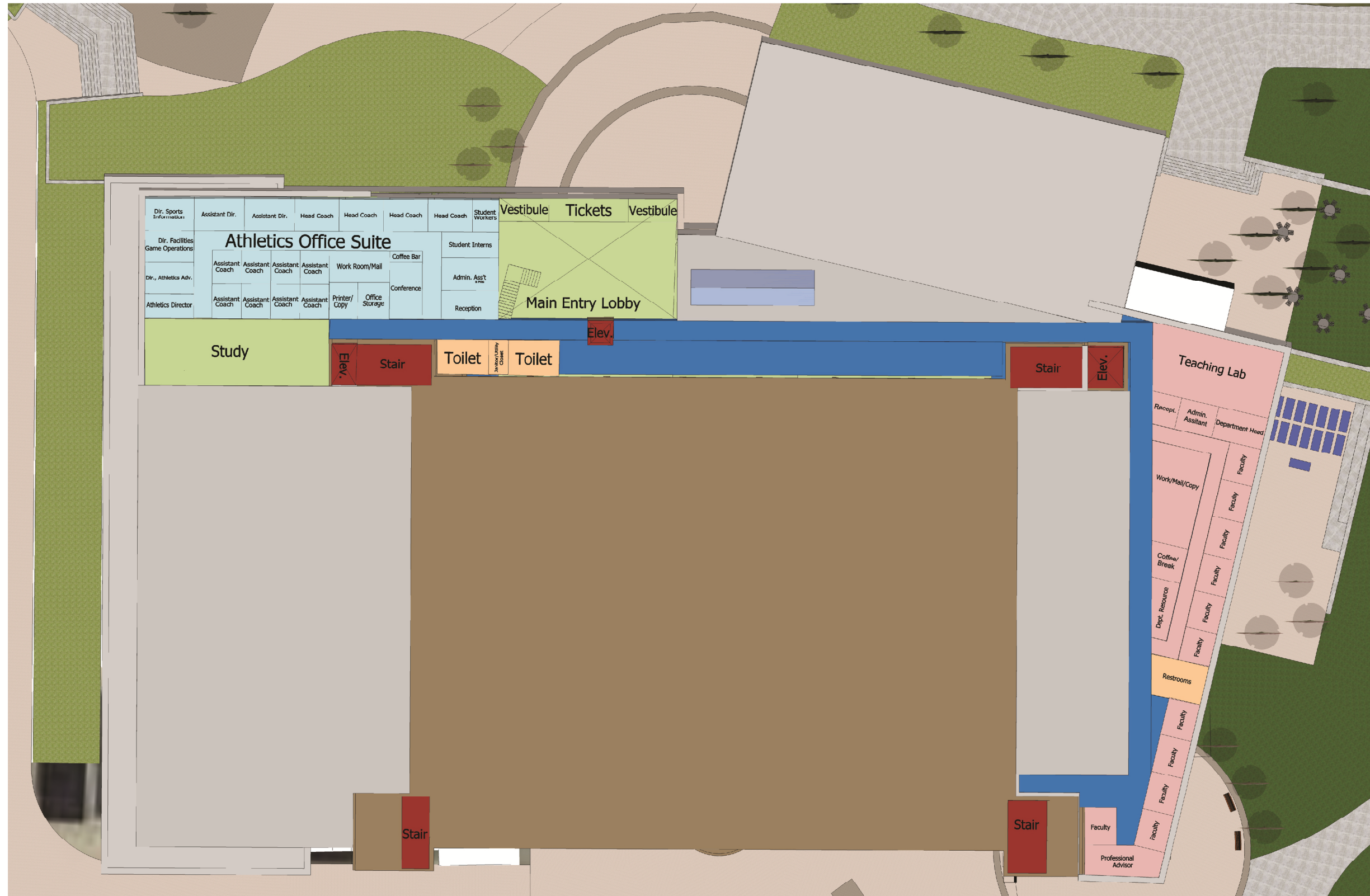




Whalen Academic & Athletic Complex: Level 2 Blocking Plan







Whalen Academic & Athletic Complex: Level 3 Blocking Plan

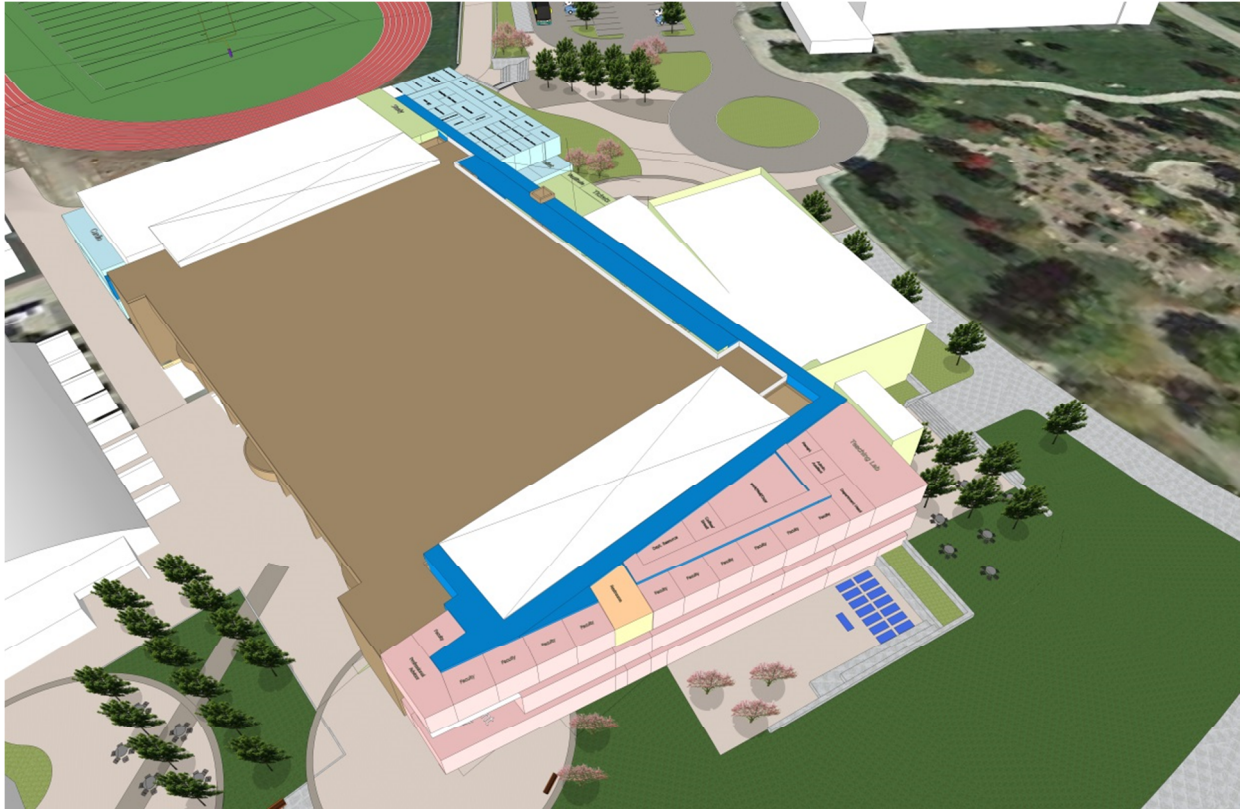




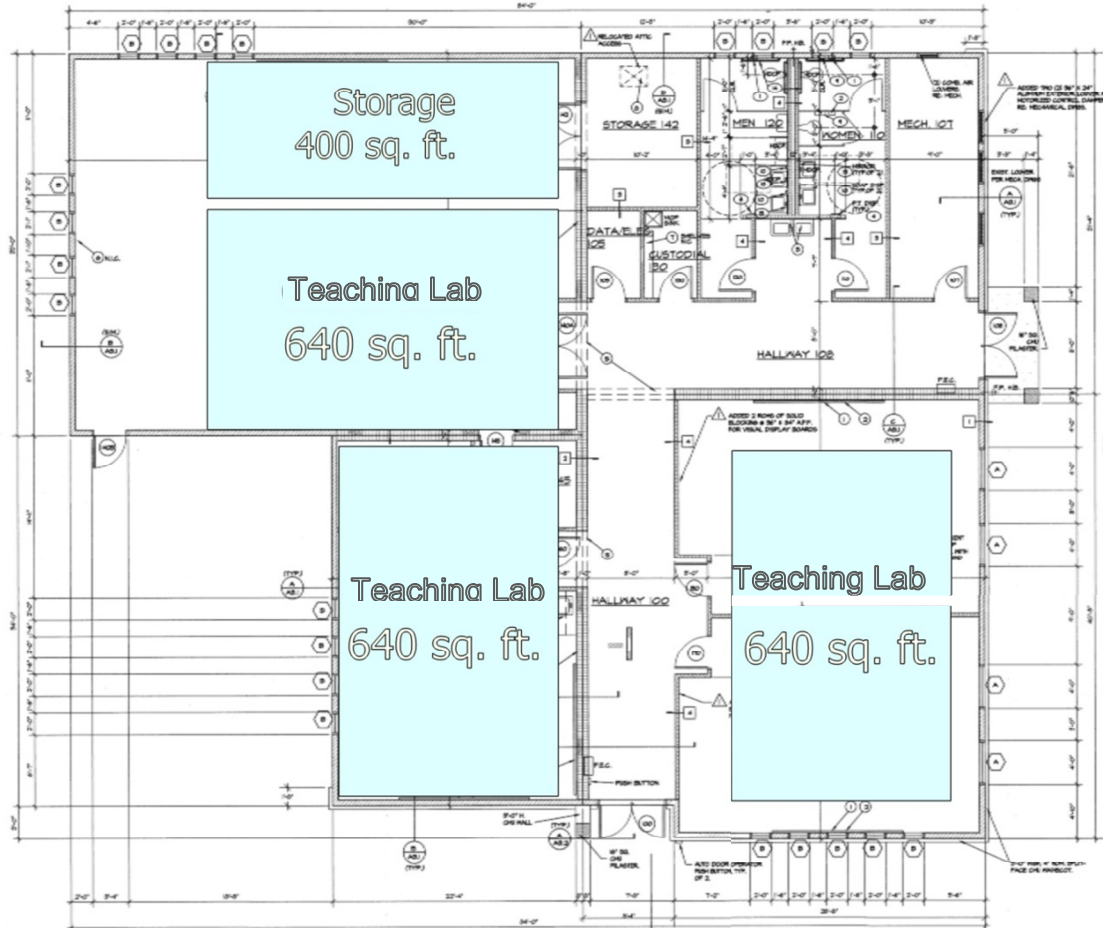
**Whalen Academic & Athletic Complex: Level 1 Blocking Perspective**



**Whalen Academic & Athletic Complex: Level 2 Blocking Perspective**



**Whalen Academic & Athletic Complex: Level 3 Blocking Perspective**



## Skyhawk Hall Renovation: Existing conditions showing programmed Athletic Classroom Needs

### C.2 Site Improvements and Requirements

#### C.2.1 Site Requirements

Whalen Gym is a campus and community event center for indoor sporting events, dominated by basketball and volleyball, but also for major campus events such as convocation and graduation. It is the symbolic beginning-and-end of students on-campus academic life.

Public parking, handicap parking, and a visitor drop-off are provided northeast of the Gym along Skyhawk Avenue. However, the gym's public entrances are hidden from view on the opposite, west side of the gym. The current Gym lobby, restroom facilities, and support functions are significantly under-sized to support the crowds associated with graduation,

convocation, and basketball. Ticketing and Concessions currently operate from folding tables in an already undersized hallway-lobby.

To access the gym entrance in its current location, visiting athlete team buses, emergency and service vehicles, equipment vans and trucks are required to drive down pedestrian walks from the Skyhawk Avenue to the main east-west pedestrian spine, and then travel west to the Student Life entrance, and then north to the Gym entrance. Departing buses and emergency vehicles back out into the main pedestrian walk for the reverse return to Skyhawk Avenue.

ADA accessible routes exist on the east side of the gym along Skyhawk Avenue and on the south side along the main campus pedestrian spine. However, the condition of the asphalt and concrete paving of the pedestrian spine is deteriorating and the College is planning to reconstruct and realign that main east-west pedestrian path in the near future, as a separate project. The concrete walk along the west side of the Gym has a non-ADA compliant cross-slope, and the walk along the north side of the gym is steep, icy and hazardous in poor weather.

The College, students and community would be better served to have the main gym entry and lobby reoriented on the east side of the main gym, where there is more room for enlarged facilities, significantly improved public access, immediate adjacency to handicap parking, an ADA accessible route, a relocated public transit bus-station nearby, and direct emergency vehicle access. The main gym floor will be approximately 10-feet below this lobby entry elevation, requiring a generous stair down to the gym floor, and an elevator for ADA access.

The Gym currently does not have a service entrance, loading dock, or supply storage. Trash from public events and daily operations are carted daily across campus for pick-up. Restocking of building custodial supplies and event tables and chairs happens daily on an as-needed basis.

Emergency vehicle access is not currently provided between the Skyhawk Avenue and the lower football field, or the elevated soccer and softball fields. A new fire-lane, emergency and service vehicle access path that is configured as a pedestrian 'super-sidewalk' is proposed along the north side of the Gym to connect the elevated parking lots and lower level football field. New Gym service, maintenance, storage, and loading dock facilities are proposed on the northeast corner of the Gym addition, accessible from this new path.

Today, storm water collects in front of the east entry to Skyhawk Hall. The existing storm water main along the west side of the gym is undersized, too shallow to properly slope to the main line south of the Gym, and needs to be replaced as part of this project.

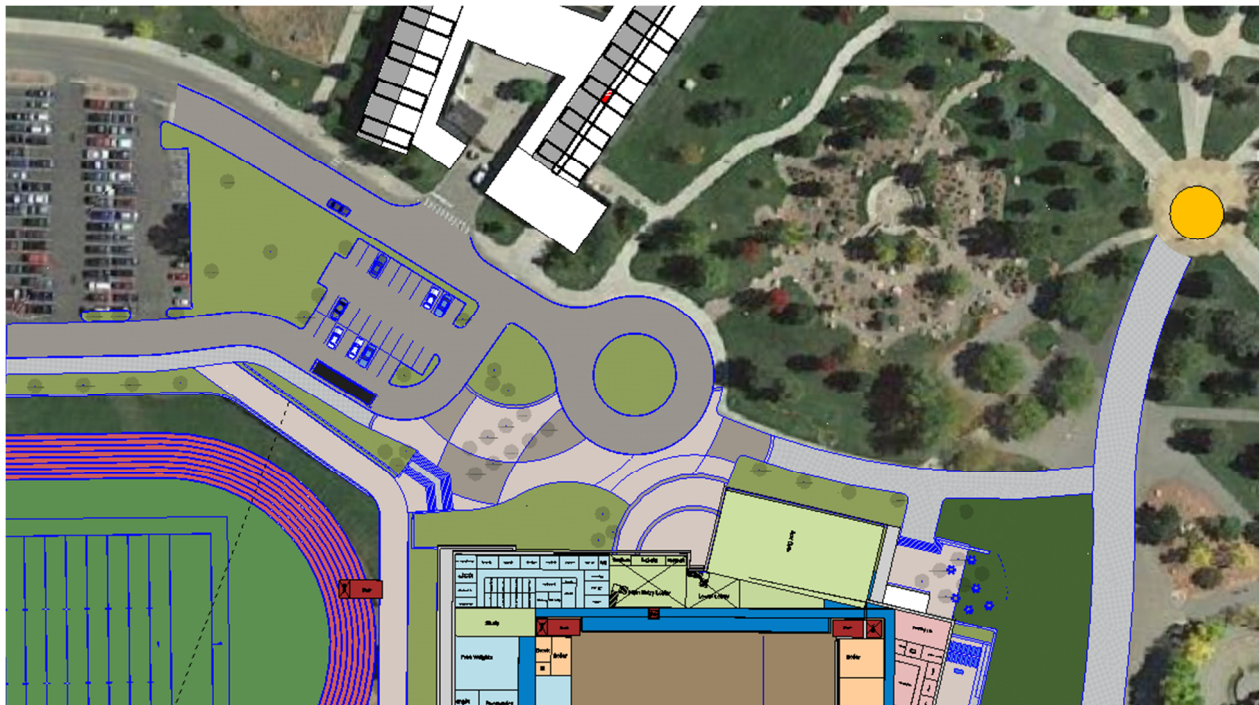
Construction of the proposed south addition for Exercise Science and the connecting auxiliary gym will require significant earthwork excavation and removal of spoils off-site.

The current gym entry, student life entry and aquatics entry all front a pleasantly scaled pedestrian space that is rarely used because of the lack of seating and social space; lack of variety of landscaping surface and plant materials; lack protection from wind and exposure to

sun. An active student gathering and social space could easily be created by creating an inviting social micro-climate.

Project 1 will include modification and improvements to the Art Lot, an existing parking lot located northeast of the gym provides permit, metered, accessible, and motorcycle parking for both the athletic and art complex. Today this parking lot consists of (4) accessible spaces, (5) motorcycle spaces, (12) metered spaces, and (45) permit spaces. As the main community entry to the gym is reoriented from the west to east sides of the building, this parking lot should be reconfigured to increase accessible parking to provide at least (4) additional accessible spaces to meet the gym’s public occupancy requirement of (8) accessible parking spots. When Project 1 and Project 2 are complete, the total parking requirement is 375-parking spaces. Existing parking quantities will be maintained as the current parking lots that continue north along Skyhawk Avenue and Rim Drive have capacity to meet this requirement.

The College is relocating the public bus stop to the Skyhawk Avenue circle round-a-bout on the east side of the gym. As the main gym entry is reoriented to the east, drop-off zones passenger vehicles and busses carrying visiting team athletes will require modification of the circle geometry, curb and gutter, roadway paving and modification of the Art Lot.



**East Main Entry Plaza, Skyhawk Ave, Art Parking Lot**

## C.2.2 Site Context

The 247-acre campus of Fort Lewis College is located at 1000 Rim Drive in Durango, Colorado, and at an elevation of 6,872 feet. The campus overlooks the Animas River Valley and downtown Durango. Access to campus by car is from the south is via College Drive, Geoglein Gulch Road from the north, or a steep and winding 8<sup>th</sup> Avenue that climbs the mesa hillside directly from downtown. Public bus transportation serves also the campus with a single bus stop. For the adventurous pedestrians and bikers, several mountainous hiking and bike trails climb up the sides of the mesa connecting the campus to town.

The campus is organized around the principle of a central green quadrangle, complete with bell tower, amphitheater and memorial peace garden. Two central pedestrian sidewalks, one east-west path and one north-south path, channel the majority of the student pedestrian traffic across campus.

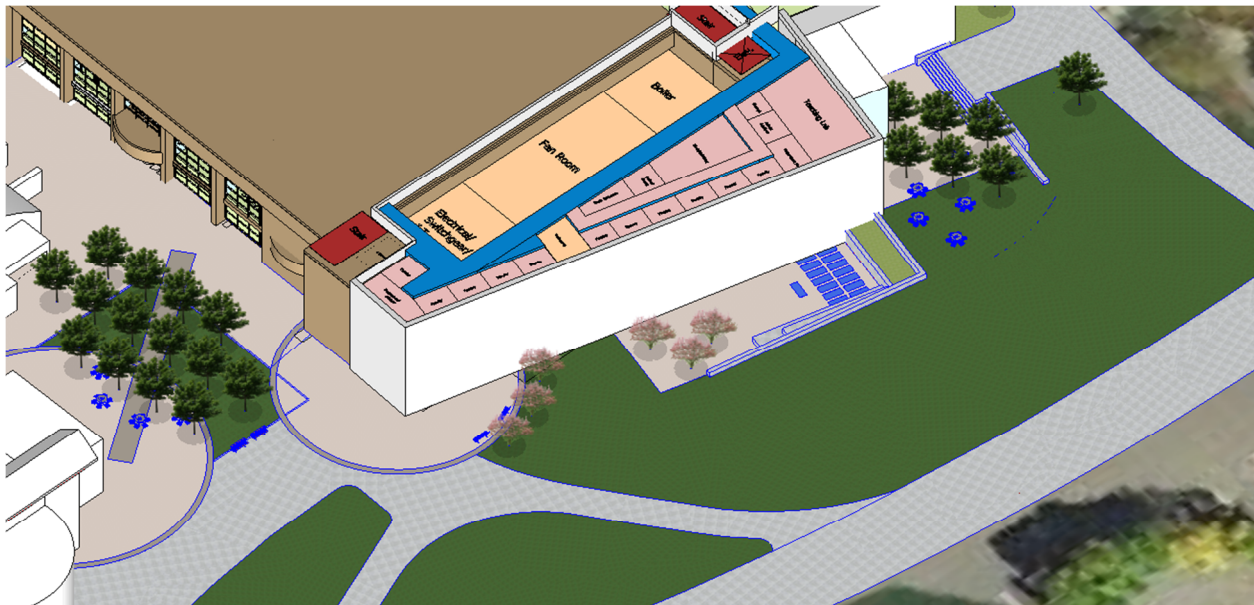
Whalen Gymnasium borders the north side of Hesperus Park and fronts the main east-west pedestrian path with a massive, scale-less, windowless, masonry wall that is partially tempered with a large earthen mound of dirt. The main entry to the gym is largely concealed from public view on the east side of the gym, opposite the main entries to the Student Life and Aquatics Center.

The recently constructed Student Life building is located on west side of Whalen Gym, along with the historic Aquatic Center and Skyhawk Hall to the northwest. Built in 1999 as a temporary classroom building, Skyhawk Hall is current home of the Exercise Science department. To the north of Whalen Gym is the Ray Dennison Memorial Field, home to the College football team and track & field programs. Dramatic views of the La Plata mountain range lie north of the Gym. Skyhawk Avenue on the east side of Whalen Gym provides emergency, service, and vehicle access to athletic complex and adjoining campus buildings and parking lots. The public transit bus stop for the campus will soon be relocated to the Skyhawk Avenue circle, opposite the east side of the Gym.

The topography of the Whalen Gym and Skyhawk Hall area is varied and rolling. Storm water drainage generally flows northwest to southeast from the northwest elevated soccer and softball fields under the Aquatics Center and Whalen Gym building structures. A surface water low-spot currently exists outside the east entry to Skyhawk Hall, creating slippery mess in poor weather. Grade climbs about 15-feet from west-to-east across the north side of the gym from Skyhawk Hall to the elevated Skyhawk Avenue creating a very icy and slippery pedestrian route from October to March. Finish grade across the east side of the gym slopes gently from north to south, approximately 10-feet above finished floor of the gym. Several exit stairs provided emergency egress from the gym floor level along the east side of the gym. A large, grassy mound dominates the south gym frontage. An invitingly pedestrian scaled courtyard, exists between the Gym and the Student Life and Aquatics entrances, but there is largely empty of students due to the lack of seating and social space. The hardscape concrete fire-lane between the Aquatics Center and Whalen Gym is the main path for students to access the football stadium, and for student athletes to access playing fields. However this path is not ADA

accessible due to the cross-slope and largely serves as a drainage path and snow storage zone from the barrel roofed Aquatics Center.

Today's landscaping around the Gym is dominated by broad turf-grass lawns, a small handful of large, mature evergreen and deciduous trees. An exceptionally large and beloved deciduous tree is located off the southwest corner of Whalen Gym and is to be preserved. Campus landscaping is currently dominated by traditional irrigated turf-grass, deciduous and evergreen landscaping, formal shrub and planting beds. The College has been selectively introducing more native, low-water, plant materials.



### **South Addition for Exercise Science Expansion with outdoor entry plazas**

#### **Whalen Academic & Athletic Precinct Planning**

This Program Plan information gathering process included input and participation from administrative steering committees, department leadership and facility, students, and broad-based workshops with building users and stake-holder groups. Through this process of identifying space needs, students indicated that in their opinion the number-one functional space need was an indoor, artificial-turf, recreation and athletic practice space. Participants from Student Life shared that they too were exploring this space need as a future capital improvement.

Participants from the Athletic department also shared that they were exploring reconstruction and expansion of the existing 6-lane dirt running track at the Ray Dennison Memorial Field to a synthetic surface 8-lane, NCAA competition-sized, 400 meter track, while



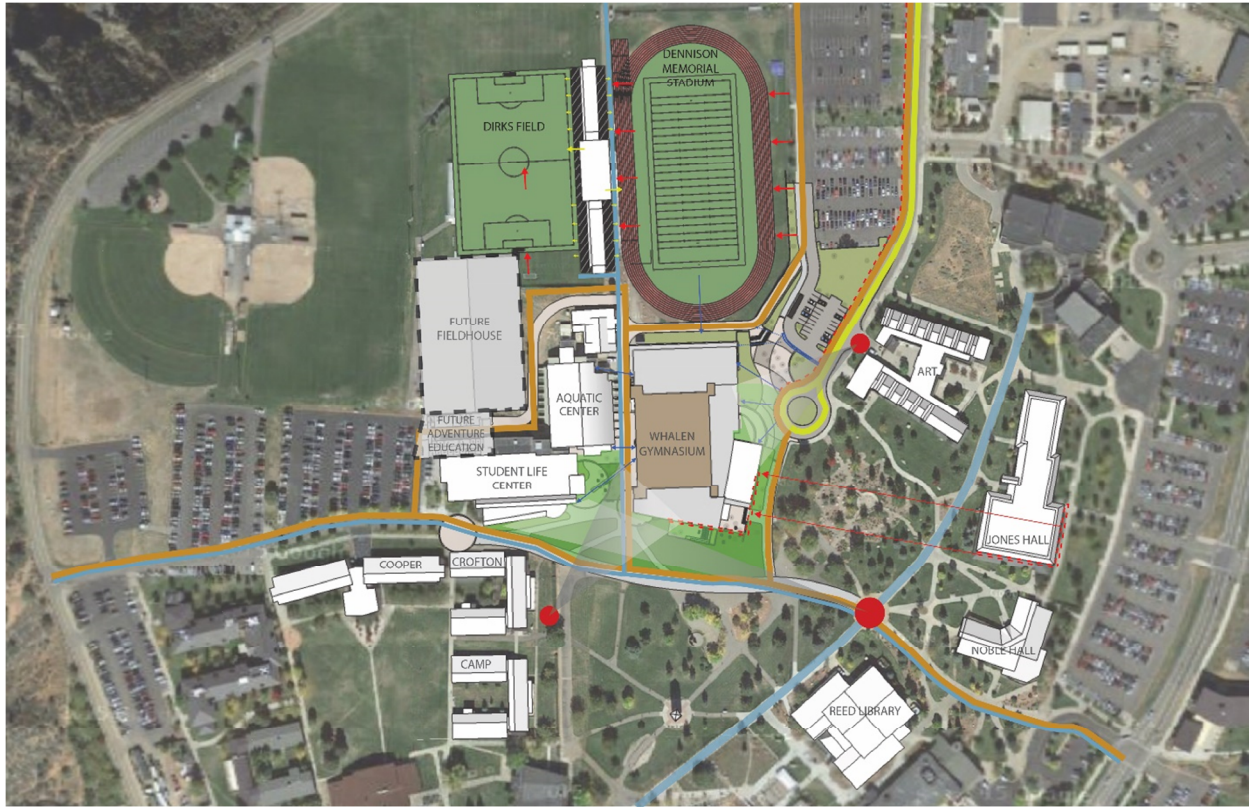
participants representing Physical Plant discussed the significant drainage and turf maintenance issues associated with current football field.

It became clear to the program plan steering committee that a precinct master plan of the athletic and student life complex was required to better understand the potential synergies and relationships between potential facility expansion plans.

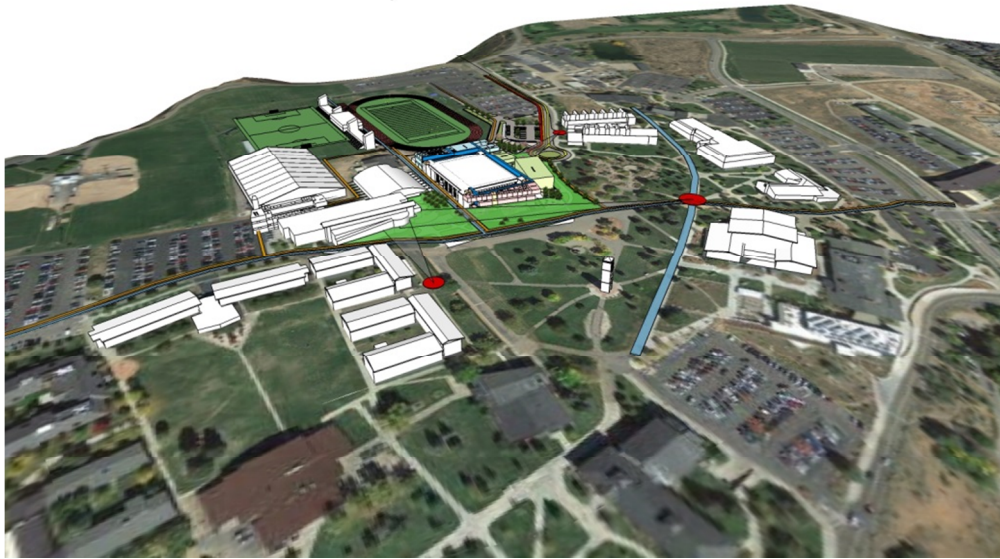
This precinct master planning effort identified several issues impacting the Whalen Gym Program Plan:

- Any expansion of the Gym to the north would have a significant visual and physical impact on the end bowl of the football stadium.
- A north addition would have to step back in height away from the track to avoid casting shadows on an expanded track.
- An expanded track would require shifting the centerline of the football field and reconstructing the bleacher seating and press-box to avoid unmaintainable grades and retaining walls along north and east parking lots.
- An expanded track creates the potential to use the end zones beyond the football field for other track & field events, currently located on an elevated grade between the football field and east parking lots.
- Reconstruction of the football seating and press box could have a double-sided orientation to support both football/track & field and soccer events at Dirks Field.
- A future indoor, artificial turf recreation and athletic practice field had limited orientations, and the preferred orientation connecting to the existing Student Life building would require shifting the existing Dirks Field soccer surface to the north.
- A fire-lane for emergency vehicles would be required along the north side of the Gym, Aquatics Center and Student Life building, connecting Skyhawk Avenue on the west with W Campus Court on the west. This would provide emergency access to the elevated softball and soccer fields, while creating an opportunity for service vehicles and loading docks along the rear of these buildings.
- Student Life's recreational Outdoor Pursuits and the College's Adventure Education academic program have operational and equipment synergies if they can be co-located in a future building site, ideally located at the northwest end of Student Life with access to W. Campus Court.

### C.2.3 Site Plan



**Site Analysis Plan and Precinct Planning**



**Site Analysis Plan and Precinct Perspective**

## **C.3 Design Requirements**

### **C.3.1 Civil Engineering Summary**

#### **Storm Drainage**

The College has been making improvements and upgrades to storm water drainage infrastructure in this portion of campus over the last decade, including new surface drainage area inlets around the perimeter of Whalen Gym. However, the existing storm water main located between Whalen Gym and the Student Life and Aquatics Center is undersized, poorly sloped and outdated and requires replacement and upsizing to meet storm water drainage needs.

A broad engineering review and analysis of the existing campus storm water infrastructure is recommended for the Athletics complex to determine current capacities and deficiencies as the College anticipates future improvements to football, soccer, track & field facilities, Student Life facility expansions, and a possible indoor artificial turf structure.

Roof drainage from new construction is to be generally routed to the east and south sides of the gym where site area allows for the potential of water quality and detention structures. Based on preliminary calculations, two 12-inch PVC pipes will be adequate to convey roof drainage to any required water quality/detention structures on the east or south sides of the gym. Two-way cleanouts will be used at the roof drain connections to the building.

Any water quality/detention structures are anticipated to have concrete fore-bays to a concrete outlet structure with integrated micro-pool. Pond sides are assumed to be irrigated sod. Pond bottom is 4" – 8" river cobble and large rivers rock boulders with some 5-gallon water tolerant shrubs such as willows and some 1-gallon water tolerant ornamental grasses such as Heavy Metal Switchgrass. Water quality/detention features will be integrated into the landscape design for the project to ensure aesthetics and functionality are maintained.

Additional area inlets will be needed around the building in landscape areas. Area inlets shall be Nyloplast drain basins with Urban Accessories grate covers. Type 16 Curb inlets will be used in the fire lane and the pond outlet structure will be a modified CDOT Type D inlet with wing walls.

Concrete manholes will be used at all bends and junctions that are not located at an inlet.

A new perimeter foundation drain around new construction is anticipated to be required by the geotechnical engineer to remove groundwater or surface water from the foundation perimeter and new below grade building spaces. We anticipate that a 4-inch perforated SDR 35 PVC pipe wrapped in washed gravel and geotextile fabric at a minimum slope of 1.0% will be required.

## **Sanitary Sewer Systems**

The sanitary sewer service on the north side of the Gym will be upgraded with SDR 35 PVC pipe with an anticipated pipe size of 8-inches. Cleanouts will be used at all bends, at a maximum of 100-ft intervals and a two-way grade cleanout will be used at the connection to the building. All sanitary sewer construction shall be in accordance with local authorities having jurisdiction.

## **Water Systems**

A new fire service tap is assumed at this time to be a 6-inch fully restrained DI fire service line. A backflow preventer will be required per fire code interior to the building.

The proposed water service to consist of 8-inch PVC C-900 or C909 with all bends, tees, and connections restrained and protected against thrust. Additional fire hydrants are required and shall be a minimum 6-inch DIP and shall be fully restrained.

It is anticipated that revision to existing irrigation water lines and sprinkler head for existing, enhanced and new landscaping around the gym as required to accommodate new construction and outdoor plazas. The irrigation design shall be completed by the landscape architect/irrigation consultant in the design phase of the project.

## **Other Utilities**

Existing Gas and Electrical services are located on the southwest corner of the existing Gym and will require temporary feeds or relocation early in the construction of the Phase 1 Exercise Science and Auxiliary Gym Addition. Existing Gym facilities are to remain operational during all phases of construction. Refer to the following Mechanical and Electrical narratives for additional information.

Existing telecommunications and information technology services also require relocation and temporary feeds to maintain existing gym operations. Refer to IT narrative for additional scope descriptions.

## **Drives, Walks, Fire Lanes and Plazas**

Existing fire lanes are today designated along Skyhawk Avenue and connecting oversized pedestrian sidewalks on the east, south, and west sides of the Gym. Existing grade changes along the north side of the gym of approximately 15' in elevation over 200ft today prohibit emergency vehicle access, however a new fire lane is proposed along the north side of the gym, extending from the northeast parking lots and connecting to the existing fire lane between the Gym and Aquatics Center. This new fire lane will provide emergency and service vehicle access to the north side of the Gym and to the lower field level of the football stadium.

As the College continues to make improvements and expansion of the athletic and student life complex, this new fire lane will be extended behind the north side of Skyhawk Hall and the north side of Center Life to connect to W. Campus Court and the elevated softball fields.

The proposed fire lane is anticipated to be a concrete, vehicle access controlled pedestrian only sidewalks that is 6-inch thick, 4000psi Portland Cement Concrete.

New pedestrian hardscape plazas are programed for the new northeast public entrance to the Gym and to the south and southwest corners of the Exercise Science addition. Pedestrian only concrete sidewalks and plaza areas not subject to vehicle traffic will be 6-inch thick, 4000psi Portland Cement Concrete, with turned down, reinforced edges.

Standard, detached sidewalks to be standard gray concrete with broom finish.

### **C.3.2 Architectural Design Summary**

The Fort Lewis College campus has a distinctive architectural character incorporating locally quarried sandstone and evoking the native Puebloan building style of native-four corners settlements, and regional landscape inspired color palette.

The Whalen Gym program plan information gathering process included broad-based workshops with building users and stake-holder groups designed to solicit input and consensus-building from administrative steering committees, department leadership and facility, students and student athletes.

Common conclusions from all participating stake-holder when discussing architectural character were as follows:

- New construction should reflect and expand on the unique campus character, personality, and regional materials of the Fort Lewis campus.
- Campus building should look like academic and athletic campus buildings, and not like urban buildings, mountain resorts, or alien space ships.
- Entrances should be welcoming, inviting, transparent, and convey the energy of the programming and activities within the building.
- Building should have a broad, sheltering roof with generous protective overhangs providing shading to windows and protection at entries. Roof structures should be designed to retain snow to mitigate the negative impacts from snow and ice movement.
- Buildings should have a very strong visual and physical connection between inside and outside, maximizing daylight and panoramic views. Building precedents with broad, sweeping vision glass providing a transparency to the activities and programming within were preferred over solid, masonry dominated, and punched-window precedents. Moving from inside to outside should be graceful and seamless.

- Indoor athletic training and conditioning spaces should have a strong visual connection to the outdoor sporting venue to reinforce training and conditioning goals.
- Buildings should be creative, inspiring, and have a unique personality, but remain within the campus context and not be individual, iconic, or controversial statement that detract from the overall campus character.
- Buildings should be environmentally sensitive, energy-conserving, and responsible stewards of its resources and funding.

Exterior building enclosure systems will incorporate the following assemblies:

Concrete grade beams will be coated with a cold-applied emulsified-asphalt dampproofing and a 2” R-10 extruded polystyrene board insulation serving as the protection course and continuous insulation. A perimeter drain is assumed with a molded, three-dimensional drainage panel will also be provided.

Below grade concrete foundation walls at occupied spaces at the Auxiliary Gym, new East Entry lobby, ground floor portions of the Exercise Science addition will include a self-adhering sheet waterproofing such as W.R. Grace’s Bituthene 4000, which is a 60 mil reinforced modified bituminous sheet, or cold fluid-applied waterproofing such as W.R. Grace’s Procor. Seams of the sheet waterproofing will have an additional coating of mastic. The waterproofing will be covered with a continuous nonwoven-geotextile-faced, molded-sheet drainage panel extending to a perimeter drain system. Continuous insulation of 2” R-10 extruded polystyrene board insulation to a depth of 10’ below finished grade will be provided.

Exterior masonry walls will include locally quarried sandstone and brick veneer over cold formed metal framing: The masonry assembly will include mortar, grout, embedded flashings inclusive of stainless steel metal flashing and rubberized-asphalt flexible flashings, adjustable masonry veneer anchors, cellular plastic weep/vents, cavity drainage material, and compressible filler/joint sealant/joint sealant backing at expansion joints. Steel lintels and shelf angles will be galvanized and painted.

The native-sandstone and masonry veneer system will have a 1” minimum air gap and the remainder of the cavity will consist of 2” R-10 extruded polystyrene board insulation or 2” R8.4 mineral wool board insulation such as Thermafiber’s Rainbarrier rainscreen and cavity wall insulation for the code required continuous insulation. This will be over a building wrap weather barrier such as Tyvek Commercial Wrap with Flexwrap and StraightFlash flashings, or for superior performance, a fluid applied membrane air barrier such as Henry’s Air-Block 31 and 33 or BASF’s Enershield-HP with flashings, 5/8” glass-mat gypsum wall sheathing (Dens Glass Gold) with joint treatment to reduce air infiltration, 6” galvanized steel studs 16” o.c., cavity insulation consisting of either unfaced R-19 glass-fiber blanket insulation with a Certainteed “Membrane” vapor retarder which changes permeability depending on the humidity; or, for superior wall performance, 2” R-13 spray polyurethane foam insulation can be provided which will also act as the vapor retarder and better seals the wall from air infiltration. The interior finished surface will be painted 5/8” gypsum board.

Exterior building enclosures shall be detailed to ensure continuity of insulation and vapor retarder at perimeter beams and intersections between the vertical wall plane and horizontal roof planes.

Exterior windows and door assemblies to include aluminum-framed storefront windows based on Kawneer's Trifab 451 T windows which are thermally broken with a 2" wide sightline. Window framing will be finished with 'Kynar' high-performance coating. Windows at offices will incorporate a top hinged, awning type, operable windows, equipped with metal mesh screen. The aluminum-framed door entrances will be heavy-duty use, wide-style entrance doors set in an aluminum frame with 1" insulated glazing.

Exterior glazing assemblies to incorporate one-inch clear insulating glass units provided with a Low-E high performance coating. Tempered and safety glazing will be provided per code. Fire-rated glazing such as TGP's Firelite Plus will be provided at interior fire-rated door and window assemblies. Glazing will comply International Building Code requirements for safety-glazing.

Clerestory height translucent wall panel systems are anticipated in high bay auxiliary gymnasium areas. Exterior translucent walls panel systems such as Kalwall's lightweight structural sandwich panels which are fiberglass reinforced translucent facings bonded to an aluminum/composite are proposed with an I-beam inner structure and filled with clear nanogel to increase the insulating performance.

Roofing Assemblies to consist of a fully-adhered an Ethylene-Propylene-Diene-Monomer EPDM roofing membrane, Type I, 60-mil thick, non-reinforced, uniform, flexible EPDM sheet. Color: Black. Phase 1 construction to include replacement of existing gym roofing membrane.

Additional daylighting will be considered in new construction areas consisting of Kynar painted aluminum-framed skylights with insulated glazing. The glazing will consist of 1/4" tempered outboard lite with low e coating on surface #2 with a laminated inner lite – 3/16" plus 3/16".

Sprayed Fireproofing will consist of standard density cementitious fireproofing with 15pcf average density, 14pcf minimum, impact resistive, 150lbf bond strength. Acceptable products are limited to Monokote by WR Grace and Cafco 300 by Isolatak. UL rated assemblies will be provided for structural steel and metal deck assemblies with cementitious fireproofing.

Interior wall systems and assemblies will include the following components:

- Metal fabrications inclusive of concrete filled metal pan steel stairs and pipe railing assemblies.
- Custom fabricated non-rated and fire rated metal doors and frames, interior light and sidelight frames.
- Wood doors consisting of PC-5 Type, solid particle board core with red oak veneer and hardwood styles.

- Electrically operated overhead coiling doors fabricated of interlocking galvanized metal slats, insulated.
- Gypsum wall board assemblies will consist of non-combustible construction consisting of metal wall framing and 5/8 inch type 'x' gypsum board throughout. Gypsum board shall extend to above ceiling grid to structure. Partitions shall have a Level 4 gypsum board, non-textured wall finish. Sound attenuation batt-insulation should be provided at interior wall partitions of all classrooms, laboratory classrooms, offices, yoga, fitness and training rooms, and conference/meeting room locations.
- One and two-hour rated wall construction will be provided where required by code at corridors, stairs, shafts, mechanical, electrical and elevator equipment rooms.
- Interior ceiling assemblies to include white suspended perforated and fissured acoustical lay-in ceiling tiles in 24"x24" and 24"x48" sizes suspended in a 1" wide exposed steel, double web heavy duty grid. Ceiling assemblies over toilet areas, and wet and dry locker areas to be water resistant gypsum board with non-corrosive hangers. Ceiling assemblies in gymnasiums, weight and fitness areas and locker rooms to be exposed painted structures.

Flooring finishes required for this project will include:

- Resilient sheet rubber flooring will be provided in workrooms, copy rooms, break rooms, kitchens.
- Carpets to be low profile level loop nylon face fiber with rubber backing and direct glue installation at offices, classrooms, meeting rooms, training rooms.
- Entrance Floor mats to consist of recessed 'elephant-hair' carpet squares extending within entry vestibules from wall to wall and 20ft beyond interior vestibule doors.
- Resilient athletic flooring provided in various certified manufacturer synthetic assemblies designed to meet the different performance requirements established for each specific space designated to receive resilient athletic flooring:
  - Weight/Fitness/Training rooms to be provided with resilient athletic flooring, 18 mm thick, 4' wide vulcanized rubber-rolled flooring, PLAE achieve or similar.
  - Yoga Studio to have a wood appearance resilient athletic flooring, Gerflor, Taraflex Sport M Plus.
  - Gymnasiums: Poured seamless urethane-based synthetic sports flooring such as the Robbins classic 90, striped to reflect basketball, volleyball, and indoor soccer, or a floating wood athletic flooring assembly over resilient bio pads.

Toilet Room and Locker Room Finishes to include full-height porcelain wall tile not less than 7/16" thick, surface plain, slip resistant with abrasive admixture in multi-colored patterns, poured epoxy seamless flooring with integral cove base, painted CMU walls and locker base support construction with integral benches.



Specialties and Equipment will include visual display surfaces consisting of coated steel marker and white boards in classrooms, training and conference rooms. Tack boards framed natural cork are required in public circulation areas, classrooms, conference rooms, lounges, workrooms.

Toilet Compartments consisting of Floor-mounted, overhead braced ½” thick solid phenolic partitions, panels, screens, doors. Toilet Accessories to include mirror units, soap dispensers, coat hooks, semi-recessed paper towel dispensers and waste receptacles. Sanitary napkin dispensers and removable napkin waste receptacles will be provided at each women’s water closet or toilet room. Grab bars and special fixtures shall be provided in handicapped stalls. All fixtures to be chrome or stainless steel No. 4 finish.

Signage, to match Owner’s existing, to include Interior panel signage complying with requirements of the ADA and consist of signage that identifies room name and number, door number, staff name when appropriate, accessibility requirements, code requirements, maximum room occupancy, life safety signage.

Lockers to include heavy duty ventilated metal lockers with baked enamel painted finish. Lockers will be provided in an assortment of various size/ arrangement configurations to address the specific use needs of the building. Lockers shall be provided with locking capability, internal convenience hooks, and sloping top.

Fire protection specialties shall include semi-recessed, rounded corner, fire extinguisher cabinets with painted steel and glass doors and multi-purpose, dry type 10 lbs extinguishers. Class: 4A:60B:C, Color: Red.

Gymnasium Equipment to include overhead supported basketball backboard frame with a braced T-shaped, all welded construction w/ forward swinging support and internal height adjustment and backboard electric operator. Additional equipment to include basketball backboards, basketball goals, safety wall padding, volleyball systems with galvanized posts with adjustable collars and floor sleeves, gymnasium equipment control system. An overhead electrically operated, fold up vinyl coated polyester mesh gymnasium divider curtain is required

Residential appliances including provision of residential dishwashers, microwave ovens, and refrigerators is anticipated in administrative break rooms and multi-purpose conference food service support room.

Laundry equipment including commercial grade washers, extractors, and high-temperature dryers are required in athletic laundry room.

Projection Screens to include electrically operated recessed front projection in classrooms and conference and training rooms. Front projection screens shall consist of a mildew resistant matte white viewing surface of seamless construction.

Waste and recycling totes consisting of moveable plastic totes, metal dumpsters for bio-waste and paper waste, and a roll-off trash compaction system are to be provided by the College

(or it's waste management company) in the loading dock trash/recycling area on the 1<sup>st</sup> level adjacent to the loading docks.

Window coverings consisting of 1" horizontal metal "mini-blinds" will be required at all office perimeter window openings. West facing weight, fitness and training, rooms will be provided with electrically operated perforated roller shades.

Hydraulic Freight Elevators to include two 3,500# passenger, and one 4,500# service, 3-stop holeless hydraulic elevators, with handicapped-accessible entrances and cabs, double-sided cab. Clear cab size – 5'-0" x 6'-9" to 5'-8" x 6'-9". All elevator cabs door openings are to accommodate sports wheelchairs which require a 48" wide clear width opening. Elevator doors and frames shall be stainless steel, and elevator doors shall have chip guard edges.

### **C.3.3 Building Systems Summary**

#### **C.3.3.1 Structural Design Summary**

Structural systems and assemblies are described based on the following phases of work to include:

##### **Phase I**

- A new Auxiliary Gym on the southeast corner of Whalen Gymnasium.
- A new Main Entry to Whalen on the east side of Level 2.
- A three-level addition on the south side for Exercise Science classrooms, study lounges and faculty offices.
- Circulation corridors around the addition and Gym.
- A new mechanical room infill over the existing south side 'Saddlebag' or low roof.

##### **Phase II**

- A three-level addition to the north side of the existing Gym, which features weight rooms and strength training facilities on level 2, and coaches' offices and team meeting rooms on Level 3.
- Circulation corridors immediately adjacent to the existing Gym.

Structurally, the following alternatives are potentially applicable, with conceptual framing exhibits and column locations enclosed.

##### **Foundations**

Based upon a previous project completed by SA Miro on the Fort Lewis campus, as well as the existing Gym construction documents, shallow spread footings appear to be a viable foundation solution. Site-specific geotechnical work will be needed to confirm this assumption.

### **South ‘Saddlebag’ Wing: Mechanical Room above Low Roof**

In order to minimize disruption of equipment and operations below, an over-framing or platform scheme that leaves the existing roof in place is proposed to support new boilers and electrical switchgear. Steel columns would penetrate the roof at discrete locations, approximately 24-26 feet on center each way. Bay sizes of this range will lower the risk of vibration and sound transmission into the Human Performance Lab spaces proposed for Level 1.

Per the enclosed Framing Concepts, the columns are offset across the corridor from the existing Gym, to allow open circulation and ease construction. Framing is cantilevered across the corridors at each Level.

Enclosed are annotated sections from the original construction drawings, showing how new columns can be supported at the existing exterior foundation walls and interior grade beams.

### **Southeast and South Additions**

The proposed occupancies can be supported with framing that clear spans from the east wall to a column line along the corridor, and cantilevers across the corridor. The potentially varied geometry of the floor plates could lend itself most readily to a steel solution, using W16 composite beams 5-8 feet on center.

### **Auxiliary Gymnasium**

The Auxiliary Gym roof can be framed with 36-inch deep LH-series steel joists, spanning the approximate 66-foot width of the building.

### **North Side Addition**

The Level 2 weight rooms pose a challenge in terms of impact loading, as well as potential sound and vibration transmission into the office and rehabilitation spaces below. Mitigation of this risk is best achieved with bay spacing of 30 feet or less, with relatively heavy structure as compared to that needed for typical education programming.

The conceptual column layout shown on the enclosed Level 1 and 2 Plans could be achieved with either structural steel (composite W18 beams 5 feet on center with 4-1/2” normal weight concrete on 2” deck) or mild-reinforced one-way concrete (20” deep joists, 24-30 inches on center). As shown on the annotated Level 3 Plan, longer spans in a steel option (W24 composite beams, 7-10 feet on center) could accommodate the offices and meeting rooms; the interior column line could be eliminated. An equivalent long-span concrete option is not as economically available.

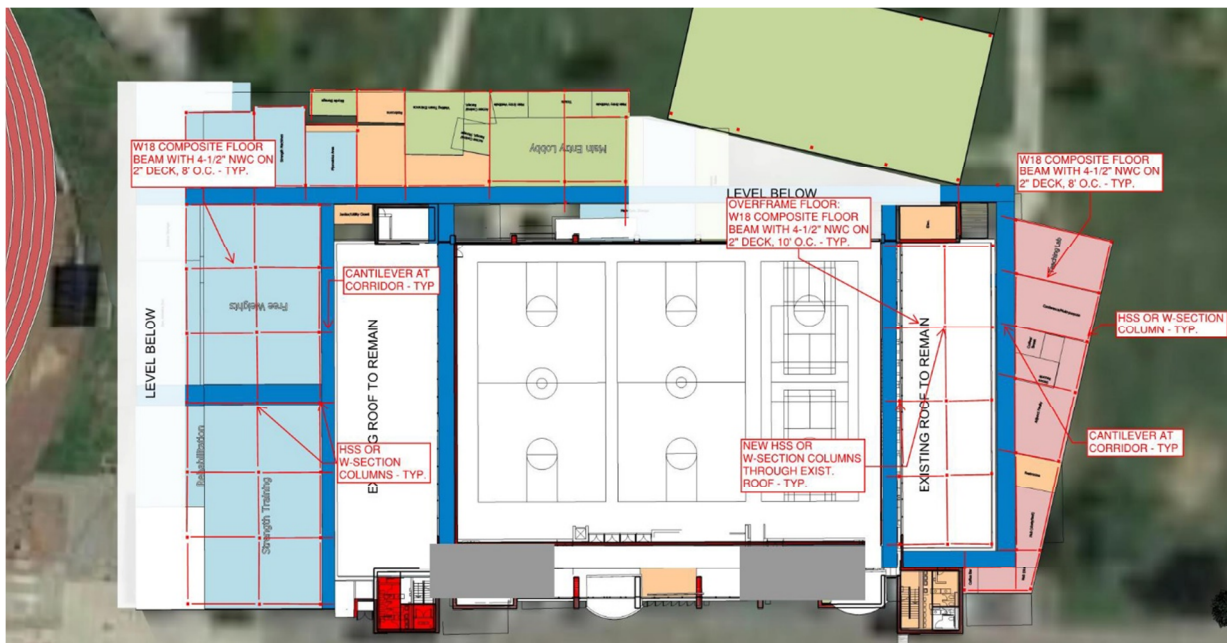
### **Alternate: Removal of existing north wing of Whalen Gym**

Because the Main Gym roof framing spans east-west, removal of the north wing will not impact the existing vertical load-carrying system. Discrete penetrations through the CMU

demising wall between the Main Gym and North wing can be accommodated, provided the majority of existing wall remains for lateral load resistance.



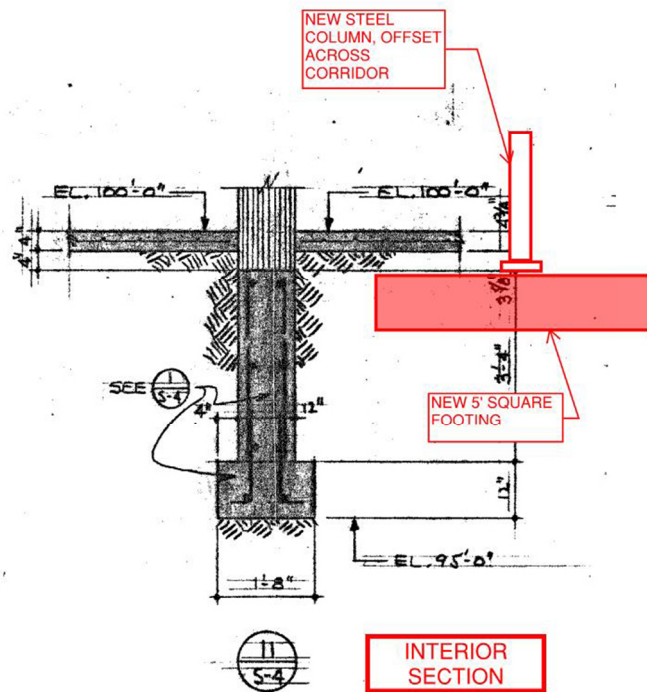
**Structural Diagram: Level 1 Framing Concept**



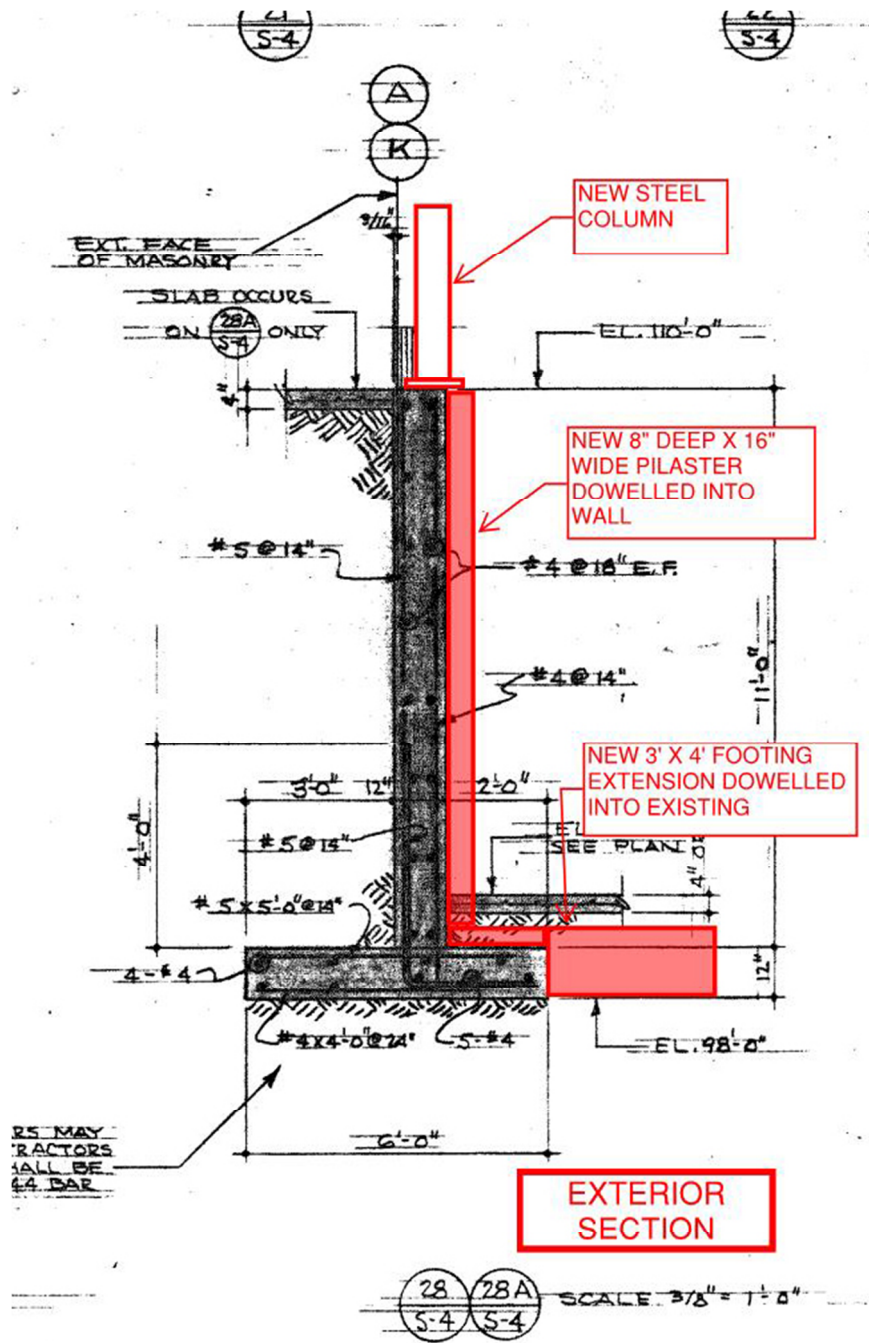
**Structural Diagram: Level 2 Framing Concept**



**Structural Diagram: Level 3 Framing Concept**



**Structural Diagram: Interior Wall Foundation Section**



**Structural Diagram: Exterior Wall Foundation Section**

### **C.3.3.2 Mechanical Engineering Summary**

#### **HEATING, VENTILATING AND AIR-CONDITIONING SYSTEMS**

##### **Existing HVAC Upgrades**

Much of the existing HVAC equipment is old and in need of replacement. Goals for the existing space upgrades and remodel are the following.

- Replace the existing heating water boiler
- Replace any other dated equipment – especially equipment needing repair
- Consolidate some of the existing air handlers (Trane preferred)
- Improve zoning of air handlers. This may include the addition of standard and fan powered VAV boxes
- Improve equipment clearances/serviceability
- Extend chilled water piping into 1986 addition to provide cooling

All new equipment will be selected to be reliable, energy efficient, and meet the requirements of LEED Gold or higher.

During new construction, the addition in the first phase will be located adjacent to and above the existing mechanical room. Measures will be required to minimize the disruption of services provided by the existing mechanical room. This will likely require temporary tie-ins and extension and rerouting of some mechanical infrastructure such as combustion air intakes.

##### **New Construction HVAC**

Each building addition will be phased have its own standalone HVAC system with a dedicated air handling unit (AHU). The AHUs will be sized to meet the needs of all their respective served spaces. A traditional variable-air-volume unit (VAV) with multiple zones controlled with standard and fan-powered VAV boxes will serve this type of application well. All AHUs will be located in mechanical rooms. There will be no rooftop units.

##### **AHUs**

Trane will be the basis of design. These units' fans would operate with VFDs and have packaged controls which would interface with the campus control system. If chilled water coils are employed, then additional chillers will be required. These AHUs would also employ an economizer for meeting cooling loads when the outside air temperature is appropriate.

##### **Heating System**

The heating system for each phase of the building addition will be provided with hot water. The hot water will be generated with 95% efficient, gas fired, condensing boilers located

in the Mechanical Rooms. There will be two boilers and each will be sized for approximately 67% of the total heating load for the building. This provides economical additional backup heating in case one boiler is out of service, without oversizing the boilers. Boilers shall be Aerco, provided with an integral pump cascading control and an acid neutralization kit.

To maximize boiler efficiency, by promoting condensation of water vapor in the combustion gases, low heating water temperatures will be used. Supply heating water temperature will be 140°F and return water will be 100°F. All heating coils will be selected to handle the lower temperatures.

The heating water will be distributed to AHU heating coils, cabinet unit heaters, fan-powered VAV box heating coils and other heating devices. Cabinet unit heaters will be located in stairwells and entrance vestibules.

Two Taco pumps for each addition will be used to distribute heating water. Each pump will be sized for 100% of the flow needs, so there is full back up in case one pump fails. Only one pump will run at a time. The distribution system will be variable flow, with 2-way valves on all terminal units. Pumps will be controlled with variable frequency drives.

The heating water system will be filled with a 30% glycol solution for protecting coils from freezing in cold weather.

### **Restroom Exhaust Systems**

Exhaust fans will be provided for restrooms and locker rooms. A flow rate of 1 CFM per square foot or 75 CFM per fixture, whichever is higher, will be used.

### **Exercise Areas**

New areas of high physical activity will also be heated and cooled from the main AHU with fan-powered VAV boxes for heating and cooling. In addition, large de-stratification fans will be mounted high in each room. The fans will provide air movement for cooling occupants and also move warm air down to floor level for energy conservation during winter operation.

### **HVAC Controls**

New controls will be Andover building control system. The controllers will be networked within the building and connected to the campus network.

Each HVAC system will have a dedicated controller located in close proximity. The controllers will be powered from a dedicated circuit.

The field devices (valves, sensors, and actuators) will comply with the campus standards. This allows simple stocking of replacement parts and simplifies maintenance.



## **Commissioning**

The 2012 IMC and IECC codes require all HVAC systems to be commissioned. This provides assurance that the controls and mechanical system are working as designed. The Commissioning agent will be hired by the college.

## **PLUMBING SYSTEM**

### **Waste, Vent, Domestic Water**

The waste and vent system will be a conventional system using cast iron piping to serve the plumbing fixtures. A gravity flow system can be employed to route the waste to the exterior for connection to the existing waste piping from the building prior to joining the mains in the building vicinity. Separate 4" inch main waste lines should meet the needs for each building addition. Connections could be made to existing sanitary mains on either the east or west side of the existing building.

Domestic water will come from an existing building service if possible. Otherwise, new taps will be added as required. Determination of meeting the domestic water needs of the additions will be calculated using 2012 IPC plumbing fixture water usage tables.

Plumbing fixtures will be low flow where applicable for both new areas and for the existing fixtures to be replaced. All fixtures will meet campus standards.

The domestic hot water needs for the new building additions be generated with high-efficiency, gas-fired, water heaters (Aerco) condensing water heater and large insulated and jacketed storage tanks, similar to the system in the existing mechanical room. Two units will be utilized so there is back up in case one unit fails. There will be a domestic hot water recirculation pump and piping running around the building to keep the lines hot.

### **Storm, Groundwater**

New storm water from roof drains will likely be piped to the east and south sides of the building. Overflow drains will be piped to grade level, near the point where the roof drain is located.

A foundation drainage system will be installed by the Civil Contractor. A groundwater sump and dual pumps will be located in the mechanical room to collect the water and lift it to the site drainage system.

### **Natural Gas**

Natural gas will be utilized for heating the building and for heating domestic water. A 2 PSI gas line will be routed to each building addition. Any new connections will likely be made to the east of the existing building. A sub-meter and pressure reducing station will be required

at the building entrance. The existing 4" service will be investigated to see if it has additional capacity.

## **FIRE PROTECTION SYSTEM**

### **Fire Sprinklers**

The building will be fully sprinkled. It is unknown if new standpipes will be required for the building additions. The system will be a wet pipe system. The sprinkler system will be zoned by floor.

The bulk of the building will be rated Light Hazard. Electrical rooms and mechanical rooms will be Ordinary Hazard Group 1.

The existing 4" service in the mechanical room will be investigated for extra capacity and possible extension into the additions. A 4-6" fire main may need be connected to the building from the campus water supplier's water supply system. Any new entrance would require a double check valve type backflow preventer.

### **C.3.3.3 Electrical Engineering Summary**

#### **Site Utilities**

The campus is currently served by an underground looped system. The 13.2kV feeder supplies a medium voltage transformer located on the southeast side of the building. The existing transformer will need to be replaced with a new 750kVA pad-mounted transformer, to meet the additional load of the new building expansion.

The main electrical and telecommunications duct banks serving the gym are located on the southeast corner of the gym, and extend south. Removal and replacement of these duct banks is included in the first phase of Project 1 from the gym to the south pedestrian walk.

Measures will be taken to minimize the disruption of services when the new utility transformer is installed and the electrical service is switched over. The new transformer will have lugs and space for two sets of primary cables. The new transformer will also contain Envirotemp-FR3 dielectric fluid which has a higher flashpoint and is biodegradable.

The new 480/277V, (3) phase, 1200 amp electrical service will be routed via underground conduits [2(4#500MCM, 2/0G) 4" C] from the new outdoor pad-mounted transformer.

#### **Building Electrical System**

The new electrical service equipment will consist of a 1200 amp, 480/277V main distribution board located in the new main electrical room on the southwest side of the first

level. The 480V, 1200 amp distribution board will power the 480/277V panels in each of the electrical rooms as well as the elevator, large mechanical loads (air handlers) and a 480V, 150 amp panelboard for mechanical loads. The lighting will be fed from the 480/277V panelboard in each electrical closet as will the 480-208/120V transformer that will power the 208/120V panelboards.

Power will be distributed via the main electrical room to approximately four electrical closets. Each electrical closet will be reconfigured slightly to help improve the code required clearances in front of all panelboards and equipment. All existing panels that have exceeded their life expectancy will be replaced. Additional electrical panels will be added in each electrical closet to accommodate the growth in this addition.

Surge Protective Devices (SPD) and equipment will be installed at the main distribution board.

The elevator will require a shunt trip disconnect switch that will be controlled by the fire alarm system to shut down prior to sprinkler flow. Additional requirements for the elevator's fire alarm system components are discussed in the Fire Alarm System paragraph below.

Each IT closet will require a single phase, 208V, 30 amp circuit to power the Owner provided UPS systems.

The gymnasium will need power provisions to support special events, guest speakers, commencement ceremonies, concerts, performances, career fairs and festivals. Since each of these events varies widely as far as power requirements, the power distribution for this space must be very flexible and easily adaptable while also being non-obtrusive.

Private offices will be provided with one receptacle on each wall, with one receptacle circuited separately to a computer circuit with no more than four computers per circuit. Multiple purpose rooms, group fitness rooms, studios, and other large spaces with minimal electrical loads will be provided with one receptacle per wall and a dedicated 20 amp circuit for an instructional podium or fitness instructor control station.

If proper maintenance is performed, the electrical distribution system will adequately serve the facility for 40-50 years. Proper maintenance would include following the manufacturer's recommendations for preventative maintenance, visual inspections, re-torqueing of lugs and bus bolts, periodic current injection testing for circuit breakers 400 amps and higher, and annual infrared scanning of distribution boards, panelboards and dry-type and pad-mounted oil/oil air transformers. Pad-mounted transformers should also be periodically inspected for damage and leaks and should have their oil tested which helps to forewarn of impending issues.

## **Grounding System**

The grounding electrode system for the building will consist of a main ground bus bar

located in the main electrical room with ground conductor sized and bonded per N.E.C. The main ground bus bar will be connected to a “UFER” ground installed in or below the building foundation, ground rods, building steel and the building main incoming cold water pipe. In addition, all secondary electrical and telecommunications rooms shall have an auxiliary ground bus bar installed to enable a clean ground path to equipment within each room. Auxiliary ground bus bars will be interconnected by means of a vertical riser and shall continue on to the building main ground bus bar in the main electrical room.

### **Emergency/Critical Power System**

The Whalen Gym serves as an emergency shelter for the campus and the community under a Memorandum of Understanding with the City of Durango, but today lacks emergency power provisions. This project includes a permanent, 100KW diesel emergency power generator with a belly fuel tank sized to provide operation of emergency lighting and building ventilation for a limited 24-hour duration. For emergency outages exceeding 24-hours, the College intends to provide temporary generators to be located on adjacent concrete pads and to connect to new power distribution panels.

There is no anticipated need for large centralized UPS systems. UPS power, if needed for IT equipment or phone switches, will be provided locally with small packaged systems.

### **Lighting Systems**

#### **General Recommendations:**

Given the energy goal of LEED Gold or better for the project, the interior lighting systems should be designed in coordination with the daylighting strategies for the building. The lighting systems should also be designed to conform to the illumination level standards as set by the College and the Illumination Engineering Society Handbook - Tenth Edition. The gym lighting systems should be flexible to allow for multiple uses, as well as meet the NCAA regulations. These include the provisions for adding color mixing in the form of RGB LED lighting systems and dimming for special events. The gym lighting controls should be zoned to allow for different areas of the gym to be at different lighting levels depending upon the event.

The lighting for the Group Fitness and Weight Rooms spaces should be designed to avoid glare for users that may be looking up. Luminaires with low-brightness lenses or indirect lighting should be used in these areas. In addition, accent lighting and or wall sconces should be considered to add atmosphere for different types of exercise activities.

Given the steady improvements and affordability, the building should utilize LED lighting systems to reduce energy and maintenance cost. The LED systems will also be dimmable to allow for dimming in daylight areas and where lower lighting levels are required like conference and meeting rooms. It is also understood that the gym spaces will be used as multi-purpose spaces making the dimming function offered by LED systems an even greater benefit.

The following minimum standards should be used for evaluating the LED lighting systems.

**LED Luminaire Performance Requirements:**

LED luminaires shall meet the following performance requirements:

- Minimum 50,000 hour life rated using IES LM-80-2008 testing
- Photometric testing using IES LM-79-2008 testing
- 3000K and/or 4000K color temperature with 80+ CRI
- Five to ten year warranty

**LED Luminaire Driver Performance Requirements:**

LED drivers shall meet the following performance requirements:

- Minimum efficiency of 85%
- Total harmonic distortion - 20% or lower
- Power factor of .9 or above
- Dimmable with 0-10 volt control signal
- Five to ten year warranty

See chart below for recommended lighting levels and target power densities for different program areas within the building.

Room/ Area Type	Light Level Avg. Foot-candles	Target Watts/SF	Controls	Notes
Entry Lobby and Lounge Areas	10	.4	Key switching, occupancy sensors, time clock, photocell	1
Locker Areas and Restrooms	10-15	.4	Key switching, time clock, photocell	
Offices	30 (see note 3)	.6	Local multi-level switching or dimming with occupancy sensors	3
Meeting Rooms, Classrooms and Group Fitness	35	.6	Local multi-level switching or dimming with occupancy sensors	
Large Fitness and Weight Training Areas	20	.3	Local key switching, occupancy sensors, time clock, photocell	1
Gyms	10-75 (see note 2)	.8	Local dimming, occupancy sensors, time clock, photocell	1, 2, 5
Utility Spaces	5	.4	Local switching	
Exterior Entries	5	.5	Photocell	
Exterior Pathways	.5	.05	Photocell	
Emergency Egress	1 (.01 min)	N/A	N/A	

Notes:

1. Lighting should be zoned and dimmed via photocell for daylight harvesting wherever possible.
2. Lighting level should be dimmed to achieve energy savings depending upon the class of play, (recreational versus competitive).
3. Light level indicated is for general ambient room lighting. Local task lighting should be provide 50 foot-candles at work surfaces.
4. Lighting level is vertical foot-candles on wall. Lighting should be located to minimize glare for participants and provide good visibility of wall features and textures.

## **Lighting Controls**

The lighting control systems will be very simple and very user friendly, and coordinated with the room functions. The ability to dim LED lighting systems makes it advantageous in multi-purpose rooms where different lighting levels are required and where daylight is present.

Here are two control system options that should be considered:

### **System Option 1:**

For large areas and corridors, provide programmable relay panels with integral 0-10 volt dimming capability for daylight harvesting and multi-function spaces where dimming is required. Relay panels will be networked to allow for system wide programming, and time clock functions. For smaller spaces like offices, storage rooms, conference rooms, and restrooms, local occupancy sensors should be used to control room lighting. These areas will not be connected to the relay panel system.

### **System Option 2:**

Provide addressable web based digital control systems with a combination of luminaire and circuit control modules. Control modules, sensors and switches networked to system gateways and bridges for system zoning and 0-10 volt daylight harvesting dimming control and/or for multi-function spaces where dimming is required.

## **Fire Alarm and Detection System**

The fire alarm detection system will be a fully automatic intelligent reporting addressable type system, to meet the standards and requirements of the College. The new fire alarm system will report alarms back to the existing fire alarm system. Photoelectric or thermal type smoke detection system will be incorporated into the design to comply with UBC, NFPA, NEC and Life Safety codes. Elevator recall and shutdown will be provided through the shaft, lobby and equipment room detectors.

Heat detection devices in the elevator equipment room and shaft will be interlocked with a shunt trip circuit serving the elevator for elevator shutdown prior to sprinkler flow. The elevator will be recalled to designated floors by activation of the smoke detectors prior to emergency shutdown. Monitoring devices will be provided for tamper/flow switches and pre-action systems where required. Alarm notification devices (horns/strobes) will also be

provided throughout the building. Duct smoke detectors will be installed to shut down associated HVAC equipment. A remote graphic fire alarm annunciator panel will be installed near the main entry.

### **C.3.3.4 Information Technology Summary**

Fort Lewis College has been incorporating new technologies into curricula and administrative solutions at an ever increasing rate, redefining basic learning environments, and the assuring provision of requisite learning tools to accomplish our educational mission. As a result, access and efficiency of learning opportunities are expanding as new technologies with educational applications emerge almost daily.

The Fort Lewis College Technology Master Plan 2005-2006 established the principles and values for technology planning that continue to be relevant touchstones to today's campus technology needs. These planning principals support the College mission; Provide needed technology tools; Support collaborative planning and decision-making; Foster a campus-wide learning community; Assure convenient and reliable access for students, faculty and staff; Assure privacy and academic freedom; Support analytical administrative making, and assessment of progress towards realizing these principals.

Technology planning for the Whalen Gym Athletic Complex included the following scope and budget defining elements:

#### **Project 1 – Exercise Science Addition and Renovation**

- Construction of a new telecommunications duct bank extending from the existing manhole to the south and east of the project site to the entrance location at the east addition.
- Refeeding the main IT backbone currently serving Whalen Gym from the Library to a new main distribution feed (MDF) demarcation.
- Temporary service to existing gym operations and departments during construction new feeder service
- Distribution of telecommunications cabling from the MDF to individual floor IDF rooms, and then to service points
- Wireless Access Points (WAPs)

#### **Project 2 – Athletic Addition and Renovation**

- Extension of the IT backbone from the Project 1 MDF
- Distribution of telecommunications cabling from the MDF to individual floor IDF rooms, and then to service points
- Wireless Access Points (WAPs)

Fort Lewis College IT Master Specifications define the following telecommunications component requirements:

- Service Entrance Conduits shall be a minimum of (4) 4” IMC conduits shall be installed from the nearest utility tunnel or telecommunications duct bank on outside of the building and terminate entrance conduits entering ER rooms from below grade to extend 4" above finished floor. Location of entrance conduits shall be within 12” of room corners
- Riser conduits shall only be used when noted on the Construction Documents for special applications only. Riser conduits are not required as a general rule for the riser system. However, when required they will consist of a minimum of (2) 4” conduits shall be installed between the ER room and each TR room.
- Telecommunication Room Cable Tray System shall completely wrap all walls within the room. Cable tray shall extend over all equipment frames. Cable tray shall be a minimum width of 2” high x 12” wide. Cable tray may be sized upwards if fill ratio requirements need to be met based on cable quantities.
- Corridor Cable Tray System shall include wall mounted or suspended aluminum cable tray system and necessary accessories. Coordinate installation of cable tray with other trades to allow a minimum of 12” above, 12” in front, and 12” below of clearance from piping, conduits, ductwork, etc. Allowance must be provided for access to the tray with reasonable room to work. Obstructions to the tray must be minimized and cannot block more than 6 feet of the tray at any point in the run.
- Telecom outlets in new construction telecom outlets consists of one (1) 4-11/16" square by 2-1/8" deep flush mounted box. Each outlet box shall have a EMT conduit stubbed above the drop ceiling or extended into the hallway cable tray. Conduits size is as follows:
  1. For Outlets with 3 or less cables, use a 1” EMT conduit
  2. For Outlets with 3-6 cables, use a 1.25” EMT conduit
  3. For all other sizes, calculate fill ratio at 40% for proper sized conduit



### **C.3.3.5 Sustainable Design Summary**

Sustainability is an integral aspect of the goals for Whalen Gymnasium, and this project must be designed in accordance with the State of Colorado's High Performance Building Program. This includes design to qualify for LEED® Gold certification as a minimum.

Green architecture affects all aspects of a building project and all members of the design, engineering and construction team support the desire by FLC Facilities, Student Government and the student body to limit energy use, create a healthier environment and build responsibly.

Strategies for achieving these sustainability goals include lighting, day-lighting, heating, cooling, waste management, selection of building materials, and limiting waste during construction. These strategies will be further developed, evaluated and articulated in more detail in subsequent design and engineering phases, but are assumed to include the strategies indicated in the target LEED® credit matrix included below, which indicates probable credits required to achieve a minimum LEED® gold rating for Whalen Gymnasium.

This project will fall under the process and credits for LEED v4 for BD+C: New Construction and Major Renovation.



# LEED v4 for BD+C: New Construction and Major Renovation

## Project Checklist

Fort Lewis College - Whalen Gymnasium

Program Plan Checklist, April 20 2016

Y	?	N			
			Credit 1	Integrative Process	1
<b>3</b>	<b>2</b>		<b>Location and Transportation</b>		<b>Possible Points: 16</b>
			Credit 1	LEED for Neighborhood Development Location	16
			Credit 2	Sensitive Land Protection	1
			Credit 3	High Priority Site	2
			Credit 4	Surrounding Density and Diverse Uses	5
<b>2</b>			Credit 5	Access to Quality Transit	5
<b>1</b>			Credit 6	Bicycle Facilities	1
	<b>1</b>		Credit 7	Reduced Parking Footprint	1
	<b>1</b>		Credit 8	Green Vehicles	1
<b>7</b>	<b>1</b>		<b>Sustainable Sites</b>		<b>Possible Points: 10</b>
<b>Y</b>			Prereq 1	Construction Activity Pollution Prevention	Required
<b>1</b>			Credit 1	Site Assessment	1
			Credit 2	Site Development--Protect or Restore Habitat	2
<b>1</b>			Credit 3	Open Space	1
<b>2</b>	<b>1</b>		Credit 4	Rainwater Management	3
<b>2</b>			Credit 5	Heat Island Reduction	2
<b>1</b>			Credit 6	Light Pollution Reduction	1
<b>6</b>	<b>2</b>		<b>Water Efficiency</b>		<b>Possible Points: 11</b>
<b>Y</b>			Prereq 1	Outdoor Water Use Reduction	Required
<b>Y</b>			Prereq 2	Indoor Water Use Reduction	Required
<b>Y</b>			Prereq 3	Building-Level Water Metering	Required
<b>1</b>			Credit 1	Outdoor Water Use Reduction	2
<b>4</b>	<b>2</b>		Credit 2	Indoor Water Use Reduction	6
			Credit 3	Cooling Tower Water Use	2
<b>1</b>			Credit 4	Water Metering	1
<b>20</b>	<b>11</b>		<b>Energy and Atmosphere</b>		<b>Possible Points: 33</b>
<b>Y</b>			Prereq 1	Fundamental Commissioning and Verification	Required
<b>Y</b>			Prereq 2	Minimum Energy Performance	Required
<b>Y</b>			Prereq 3	Building-Level Energy Metering	Required
<b>Y</b>			Prereq 4	Fundamental Refrigerant Management	Required
<b>4</b>	<b>2</b>		Credit 1	Enhanced Commissioning	6
<b>14</b>	<b>4</b>		Credit 2	Optimize Energy Performance	18
<b>1</b>			Credit 3	Advanced Energy Metering	1
	<b>2</b>		Credit 4	Demand Response	2
	<b>1</b>		Credit 5	Renewable Energy Production	3
<b>1</b>			Credit 6	Enhanced Refrigerant Management	1
<b>1</b>	<b>1</b>		Credit 7	Green Power and Carbon Offsets	2

8	2		<b>Materials and Resources</b>	Possible Points:	<b>13</b>
Y			Prereq 1 Storage and Collection of Recyclables		Required
Y			Prereq 2 Construction and Demolition Waste Management Planning		Required
	2		Credit 1 Building Life-Cycle Impact Reduction		5
2			Credit 2 Building Product Disclosure and Optimization - Environmental Product Declarations		2
2			Credit 3 Building Product Disclosure and Optimization - Sourcing of Raw Materials		2
2			Credit 4 Building Product Disclosure and Optimization - Material Ingredients		2
2			Credit 5 Construction and Demolition Waste Management		2
13	3		<b>Indoor Environmental Quality</b>	Possible Points:	<b>16</b>
Y			Prereq 1 Minimum Indoor Air Quality Performance		Required
Y			Prereq 2 Environmental Tobacco Smoke Control		Required
2			Credit 1 Enhanced Indoor Air Quality Strategies		2
3			Credit 2 Low-Emitting Materials		3
1			Credit 3 Construction Indoor Air Quality Management Plan		1
2			Credit 4 Indoor Air Quality Assessment		2
1			Credit 5 Thermal Comfort		1
2			Credit 6 Interior Lighting		2
1	2		Credit 7 Daylight		3
	1		Credit 8 Quality Views		1
1			Credit 9 Acoustic Performance		1
3	1		<b>Innovation</b>	Possible Points:	<b>6</b>
2	1		Credit 1 Innovation		5
1			Credit 2 LEED Accredited Professional		1
	2		<b>Regional Priority</b>	Possible Points:	<b>4</b>
	1		Credit 1 Regional Priority: Specific Credit		1
	1		Credit 2 Regional Priority: Specific Credit		1
			Credit 3 Regional Priority: Specific Credit		1
			Credit 4 Regional Priority: Specific Credit		1
61	23		<b>Total</b>	Possible Points:	<b>110</b>

Certified 40 to 49 points Silver 50 to 59 points Gold 60 to 79 points Platinum 80 to 110

### C.3.3.6 Health, Life Safety, and Code Issues

The following codes were adopted by State Buildings Programs (SBP) and other state agencies as the minimum requirements to be applied to all state-owned buildings and capital construction. The most current standards adopted by the state shall apply to this project.

- The 2012 edition of the International Building Code (IBC)
- The 2012 edition of the International Mechanical Code (IMC)
- The 2012 edition of the International Energy Conservation Code (IECC)
- The 2014 edition of the National Electrical Code (NEC)
- The 2012 edition of the International Plumbing Code (IPC)
- The 2012 edition of the International Fuel Gas Code (IFGC)
- The National Fire Protection Association Standards (NFPA)
- The 2010 edition of the ASME Boiler and Pressure Vessel Code
- The 2011 edition of the National Boiler Inspection Code (NBIC)

The 2012 edition of the Controls and Safety Devices for Automatically Fired Boilers CSD-1

The 2011 edition of the Boiler and Combustion Systems Hazards Code, NFPA 85

The 2013 edition of ASME A17.1 Safety Code for Elevators and Escalators

The 2005 edition of ASME A17.3 Safety code for Existing Elevators and Escalators

The 2005 edition of ASME A18.1 Safety Standard for Platform Lifts and Stairway Chairlifts

The current edition of the Rules and Regulations Governing the Sanitation of Food Service Establishments

The 2009 edition of ICC/ANSI A 117.1, Accessible and Usable Buildings and Facilities

All design and documentation must follow the current codes and regulations adopted by the State Buildings Program (SBP) and in effect at the completion of the Construction Documents. Please refer to the Code Analysis in the appendices, section D.4.

The State Buildings Program reviews the documents for conformance with standards and SBP authorized codes during the design phase.

During the project design phase, the architects and engineers shall prepare a code analysis comparing the requirements of the above codes. Wherever regulations conflict, the more stringent requirement shall be followed. The SBP authorized code consultant will determine which regulation shall apply when conflict requires interpretation.

**Accessibility:** The Approved State Building Codes, Exhibit A, includes the following note 5: It is anticipated that compliance with the federal Americans with disabilities Act Accessibility Guidelines for Buildings and Facilities (ADAAG) and Colorado Revised Statutes Section 9-5-101 will be met by compliance with the 2012 International Building Code and ICC/ANSI A117.1. However, each project may have unique aspects that may require individual attention to these legislated mandates.

### **C.3.4 Construction**

Phased construction, consisting of new and renovated space, is required for both the south facing Project 1 Exercise Science expansion, and the north facing Project 2 Athletics expansion. During all phases of construction, maintaining existing gym access/egress, functionality, operations and life-safety assemblies is required.

Project 1 includes new construction of an expansion for Exercise Science, including teaching laboratories, human performance labs, student study and social space, and departmental offices. This project will also include new construction of space to be shared with Athletics, including a new auxiliary gym, temporary women's locker rooms, student study and lounge space. A new front-door to Whalen Gym will be constructed on the east-facing, public side, and secondary campus entrances will be created on the southeast and southwest building corners.

This project also includes new electrical switchgear rooms, new boiler plant, air distribution mechanical rooms, new exit stair structures, and an elevator. New electrical and mechanical boiler and air distribution spaces to serve the Exercise Science addition are proposed above an existing one-story structure and require an early construction as the existing boiler and switchgear room currently serving the gym, and associated utility services, are also located on the southeast corner of the existing gym, and associated utilities require relocation prior to mass excavation at the southeast building corner.

Following completion of Project 1 new construction, Exercise Science teaching labs currently located in Skyhawk Hall can be relocated, ES department offices located on the south end of Whalen Gym can relocate, and existing women’s locker rooms can also relocate temporarily into new locker rooms that will ultimately serve as visiting team lockers when Project 2 work is complete. The existing space in Whalen Gym adjoining the new Project 1 construction can then be renovated for Human Performance labs also located today in Skyhawk Hall.

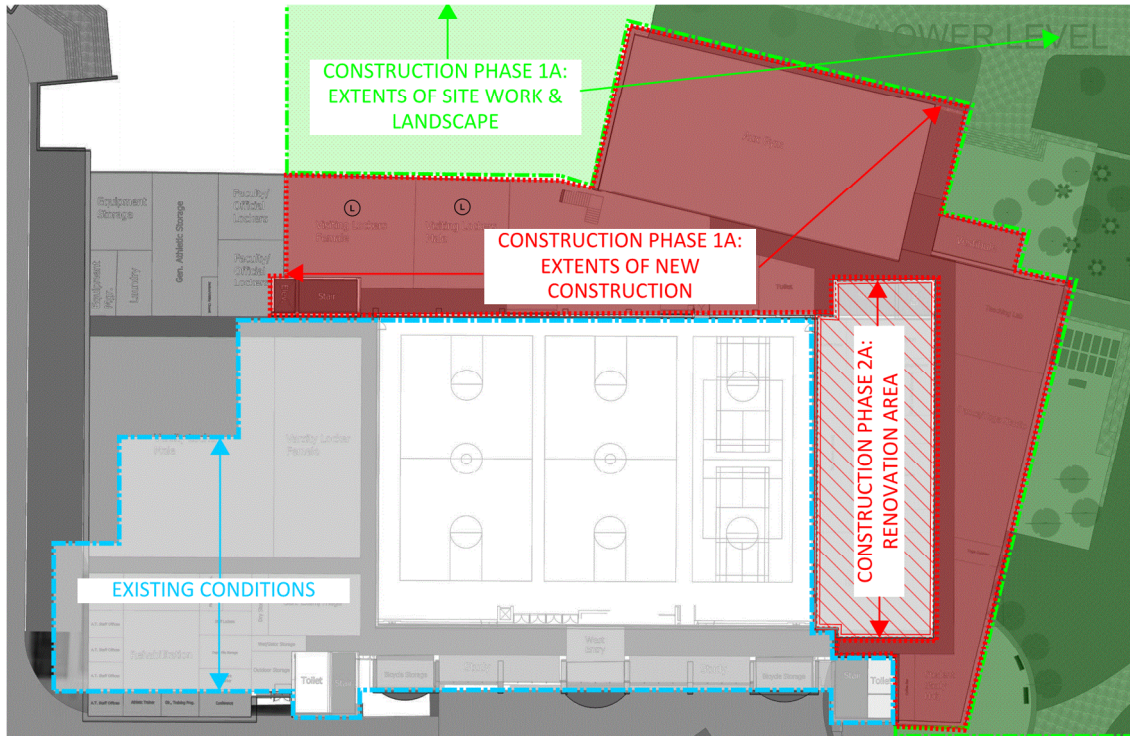
The Project 1 auxiliary gym will act as temporary swing-space during Project 2 construction of the north expansion for Athletics allowing the existing strength training and conditioning programs to be relocated to accommodate the Project 2 new construction.

Project 2 construction will also include new construction followed by renovation construction. New construction will consist of new locker rooms for men’s and women’s sports, weight and fitness conditioning and training rooms, Athletic Therapy program space, team meeting rooms, Athletic departmental offices, student study lounges, loading docks, storage areas. This phase of construction will also have electrical, mechanical and boiler equipment rooms sized to support Project 2 new construction and renovated spaces. Following completion of new construction, existing men’s locker rooms can be relocated allowing for renovation of this space into new women’s locker rooms and the strength training programs can be relocated out of the auxiliary gym.

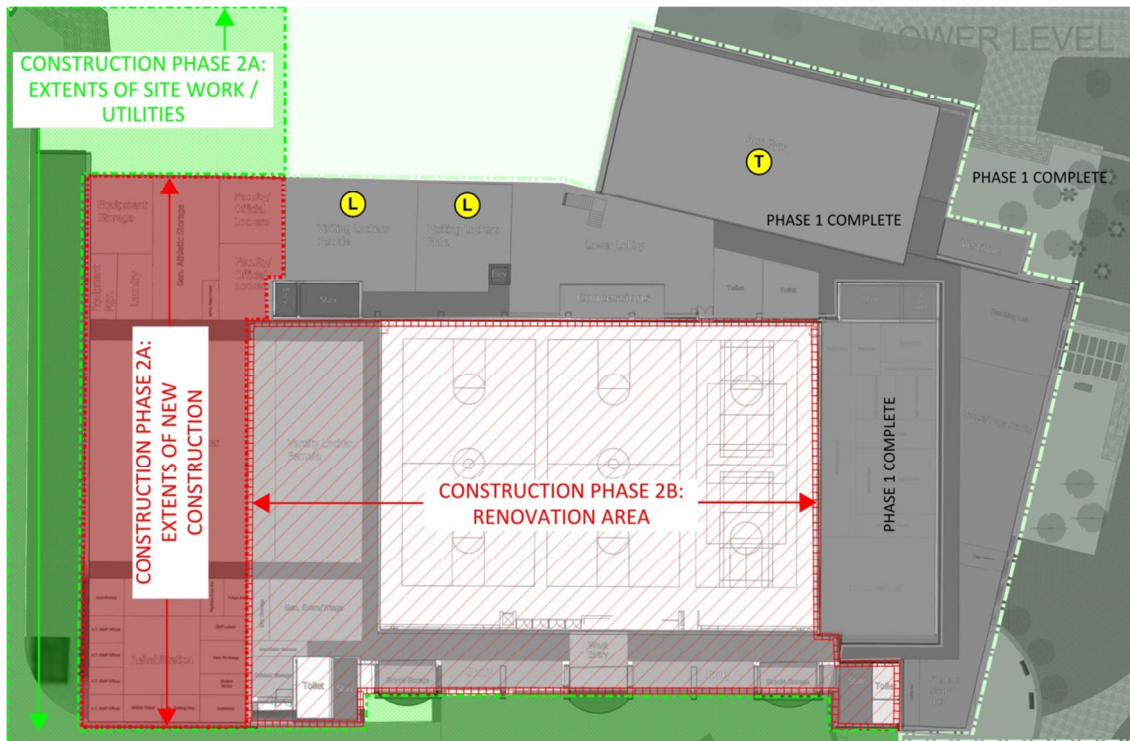
Following completion of Project 2 renovation construction, the women’s lockers can be relocated out of the Project1 visiting team lockers. Project 2 renovation scope also includes minor renovation of Skyhawk Hall to update the existing Exercise Science teaching labs for use by Athletics as new teaching labs.

Construction can be described as follows:

<b>Renovation of the existing Whalen Gym:</b>	<b>47,426gsf</b>
Project 1 Renovation for Exercise Science:	6,800gsf
Project 2 Renovation for Athletics:	40,626gsf
<b>Renovation of Skyhawk Hall:</b>	<b>5,067gsf</b>
<b>New Construction</b>	<b>68,758gsf</b>
Project 1 New Construction for Exercise Science:	45,043gsf
Project 2 New Construction for Athletics:	23,715gsf



**Project 1 Exercise Science Expansion and Renovation phasing diagram**



**Project 2 Athletics Expansion and Renovation phasing diagram**

The project site will be subject to the same rules and requirements for construction applying to the entire Fort Lewis campus. These include the requirements for the Contractor to provide a security fence around the site throughout construction and to coordinate with the College for any restrictions on acoustical/noise levels and times during operating hours on campus.

Some requirements specific to the project and to the site will be included in the construction and bidding documents. These will include designation of parking spaces and drive areas that may be used during construction, and which trees and landscaping are designated for removal and which must be preserved. Fire District requirements for maintaining fire vehicle access around the project site at all times will be designated on the documents.

### **C.3.5 Review Processes**

After internal reviews, the program plan will be approved by the Fort Lewis President’s Cabinet. It will then be forwarded to the Board of Trustees for Fort Lewis College. Following approval, the program plan will be submitted as an FY 2017-2018 Capital Construction Request, along with a Capital Construction Project Request Form CC-C, to CCHE and OSPB for approval and prioritization, with the goal of inclusion in the priority list per the Long Bill in May 2017.

### **C.4 Project Schedule**

Commencement of design and/or construction on the Whalen Gymnasium project is not dependent on any other project. The following schedule, which is also dependent on approvals and funding, is proposed. This schedule takes into account the additional construction duration that will be required to phase the project in order to allow continuous operations of the Athletics and Exercise Science programs currently occupying Whalen Gymnasium.

Whalen Gymnasium Project Schedule:

Program Plan Complete	May 2016
FLC Board of Trustees Approval	June 2016
Submittal to DHE	June 2016
CCHE Approval	July 2016
<u>Funding Available – Project 1</u>	<u>May 2017 (Year 1)</u>
RFQ for Professional Services	May 2017
Project 1 Design & Documentation	July 2017 – May 2018

Funding Available – Project 1 Construction May 2018 (Year 2)

Project 1 - Bidding & Contracting	June 2018 – July 2018
Project 1 – Construction & Renovation	September 2018 – July 2020
Project 1 – Substantial Completion	August 2020

Funding Available - Project 2 Design May 2018 (Year 2)

Project 2 - Design & Documentation	June 2018 – May 2019
------------------------------------	----------------------

Funding Available - Project 2 Construction May 2019 (Year 3)

Project 2 - Bidding & Contracting	June 2019 – July 2019
Project 2 – Construction & Renovation	August 2019 – July 2021
Project 2 – Substantial Completion	August 2021

## **C.5 Cost Estimates and Financial Analysis**

### **C.5.1 Cost Estimates**

An independent construction cost estimate for the Whalen Academic and Athletic Complex was prepared for this program plan by Johan Kemp Estimating: “Fort Lewis College, Whalen Academic and Athletic Complex, Cost Model.” This estimate is the basis for the construction cost portion of the program plan overall cost model included below and was developed around the project specific system narratives included above.

The project construction will be as two components, each with a two-phase new construction and backfill renovation sequence. The first phase of the first project consists of new construction of the south Exercise Science Addition followed by a second phase partial renovation of the south portion of Whalen Gym. The first phase of the second project consists of new construction of the Athletics Addition followed by a second phase renovation of the remaining portions of Whalen Gym and minor renovation of Skyhawk Hall.

The College has divided project funding requests into two components for the Project-1 Exercise Science addition and renovation, and two funding components for Project 2 - Athletics addition and renovation.



The first funding request is for Professional Service fees associated with completing required surveys, geotechnical reports, hazardous materials investigations, building design and technical development to a Design Development level for both Project 1 – the Exercise Science addition and renovation, and Project 2 – the Athletics addition and renovation. Professional Services associated with the completion of construction documents and construction administration for the Exercise Science and Athletic addition projects are included as part of their individual funding requests respectively.

There are a number of challenges and variables in projecting escalation costs from current dollars to the anticipated mid-point of construction for the Project 1 – the Exercise Science addition and renovation in 2019, and for Project 2 – the Athletics addition and renovation in 2020. Western slope economies are not experiencing the same material escalation pressures as the Front Range, but smaller markets such as Durango, remote from the I-70 and I-25 service corridors, experience significantly higher labor costs. Regional general contractors have experienced cost increases ranging from 6% this year, to 10% in 2015 and 8% in 2014. A relevant study recently published by the international estimating firm of Rider, Levett, Bucknall (RLB) is projecting the Construction Bid Price Index change in the Denver market to be between 4.8% to 4.1% per year for the next three years.

For this program plan, an annual escalation rate of 4% per annum has been used as an average for long-term planning purposes. This rate compounded over the three-year time period to the July 2019 mid-point of construction for Project 1 amounts to an 13.6% escalation rate, and a 18.1% escalation rate to the July 2020 mid-point of construction for Project 2.

Other costs associated with Construction Management and Equipment and Furnishings have been developed by the FLC Physical Plant Services department. Please refer to the completed state capital construction budget Form CC-C on the following page for a summary of project costs.

Preliminary operation costs have been determined by the college based on this program plan and will be confirmed during the design phase for the project, when final decisions have been made regarding building design, systems selection, and staffing models.

Cover sheets for Form CC-C Capital Construction Requests for Project 1 and Project 2 are as follows:

CC-C: CAPITAL CONSTRUCTION REQUEST FOR FY 2016-17									
	Agency or Institution:	FORT LEWIS COLLEGE			Signature				
	Project Title	EXERCISE SCIENCE WHALEN GYMNASIUM EXPANSION & RENOVATION, SOUTH (Project 1)			Department or Institution Approval:	Date			
	Project Year(s):	FY 2017 - 20			Signature	Date			
	Agency or Institution Priority Number:	1			CCHE Approval:	Date			
					Signature	Date			
					OSPB Approval:	Date			
					Name and e-mail address of preparer:				
Revision? Yes No									
If yes, last submission date: _____									
		<b>Total Project Costs</b>	<b>Total Prior Year Appropriations</b>	<b>Current Request FY 2017-18</b>	<b>Year 2 Request FY2018-19</b>	<b>Year 3 Request</b>	<b>Year 4 Request</b>	<b>Year 5 Request</b>	
<b>A. Land Acquisition</b>									
(1)	Land/Building Acquisition	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>B. Professional Services</b>									
(1)	Master Plan/PP	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
(2)	Site Surveys,	\$ 16,000	\$ -	\$ 16,000		\$ -	\$ -	\$ -	\$ -
	Geo-Technical Investigation	\$ 14,000		\$ 14,000					
	Asbestos Investigation.	\$ 12,000		\$ 12,000					
(3)	Architectural/Engineering/ Basic Services	\$ 3,634,275	\$ -	\$ 3,014,625	\$ 619,650	\$ -	\$ -	\$ -	\$ -
(4)	Code Review/Inspection	\$ 280,000	\$ -	\$ 50,000	\$ 230,000	\$ -	\$ -	\$ -	\$ -
(5)	Construction Management	\$ 360,000	\$ -	\$ 100,000	\$ 260,000	\$ -	\$ -	\$ -	\$ -
(6)	Advertisements	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
(7a)	Inflation for Professional Services	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
(7b)	Inflation Percentage Applied		0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
(8)	Other (Hazardous Material Abatement)	\$ 50,000	\$ -	\$ -	\$ 50,000	\$ -	\$ -	\$ -	\$ -
(9)	Total Professional Services	\$ 4,366,275	\$ -	\$ 3,206,625	\$ 1,159,650	\$ -	\$ -	\$ -	\$ -
<b>C. Construction or Improvement</b>									
(1)	Infrastructure	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	(a) Service/Utilities	\$ 1,350,000	\$ -	\$ -	\$ 1,350,000	\$ -	\$ -	\$ -	\$ -
	(b) Site Improvements	\$ 607,987	\$ -	\$ -	\$ 607,987	\$ -	\$ -	\$ -	\$ -
(2)	Structure/Systems/ Components								
	(a) New (GSF): 45,043	\$ 15,172,045	\$ -	\$ -	\$ 15,172,045	\$ -	\$ -	\$ -	\$ -
	New \$ 337 /GSF								
	(b) Renovate GSF: 6,800	\$ 1,360,000	\$ -	\$ -	\$ 1,360,000	\$ -	\$ -	\$ -	\$ -
	Renovate \$200/GSF								
(3)	Other (Specify)		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
(4)	High Performance Certification Program	\$ 600,000	\$ -	\$ -	\$ 600,000	\$ -	\$ -	\$ -	\$ -
(5a)	Inflation for Construction	\$ 2,514,644	\$ -	\$ -	\$ 2,514,644	\$ -	\$ -	\$ -	\$ -
(5b)	Inflation Percentage Applied		0.00%	0.00%	13.6%	0.00%	0.00%	0.00%	0.00%
(6)	Total Construction Costs	\$ 21,604,676	\$ -	\$ -	\$ 21,604,676	\$ -	\$ -	\$ -	\$ -
<b>D. Equipment and Furnishings</b>									
(1)	Equipment	\$ 226,503	\$ -	\$ -	\$ 226,503	\$ -	\$ -	\$ -	\$ -
(2)	Furnishings	\$ 222,500	\$ -	\$ -	\$ 222,500	\$ -	\$ -	\$ -	\$ -
(3)	Communications	\$ 100,000	\$ -	\$ -	\$ 100,000	\$ -	\$ -	\$ -	\$ -
(4a)	Inflation on Equipment and Furnishings	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
(4b)	Inflation Percentage Applied		0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
(5)	Total Equipment and Furnishings Cost	\$ 549,003	\$ -	\$ -	\$ 549,003	\$ -	\$ -	\$ -	\$ -
<b>E. Miscellaneous</b>									
(1)	Art in Public Places=1% of State Total Construction Costs (see SB 10-94)	\$ 194,442	\$ -	\$ -	\$ 194,442.09	\$ -	\$ -	\$ -	\$ -
(2)	Depreciation of Capital=1% of Total Construction Cost	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
(3)	Annual Payment for Certificates of Participation	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
(4)	Relocation Costs	\$ 30,000	\$ -	\$ -	\$ 30,000	\$ -	\$ -	\$ -	\$ -
(5)	Other Costs [specify]	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
(6)	Other Costs [specify]	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
(7)	Other Costs [specify]	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
(8)	Other Costs [specify]	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
(9)	Total Misc. Costs	\$ 224,442	\$ -	\$ -	\$ 224,442	\$ -	\$ -	\$ -	\$ -
F.	Total Project Costs	\$ 26,744,396	\$ -	\$ 3,206,625	\$ 23,537,771	\$ -	\$ -	\$ -	\$ -
<b>G. Project Contingency</b>									
(1)	7.5% for combined Addition / Renovation	\$ 2,005,830	\$ -	\$ -	\$ 2,005,829.73	\$ -	\$ -	\$ -	\$ -
(2)	10% for Renovation	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
(3)	Total Contingency	\$ 2,005,830	\$ -	\$ -	\$ 2,005,830	\$ -	\$ -	\$ -	\$ -
H.	Total Budget Request [F+G(3)]	\$ 28,750,226	\$ -	\$ 3,206,625	\$ 25,543,601	\$ -	\$ -	\$ -	\$ -
<b>I. Source of Funds</b>									
	CCF	\$ 25,875,204	\$ -	\$ 2,885,963	\$ 22,989,241	\$ -	\$ -	\$ -	\$ -
	CF	\$ 2,875,023	\$ -	\$ 320,663	\$ 2,554,360	\$ -	\$ -	\$ -	\$ -
	RF	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	FF	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

CC-C: CAPITAL CONSTRUCTION REQUEST FOR FY 2016-17									
Agency or Institution:		FORT LEWIS COLLEGE			Signature		Date		
Project Title:		WHALEN GYMNASIUM - EXPANSION AND RENOVATION FOR ATHLETICS, NORTH			Department or Institution Approval:		Date		
Project Year(s):		FY 2018 - 20			Signature		Date		
Agency or Institution Priority Number:		2			Signature		Date		
					Name and e-mail address of preparer:				
Revision?	Yes	No	Total Project Costs	Total Prior Year Appropriations	Current Request FY 2017-18	Year 2 Request FY2018-2019	Year 3 Request FY2019-20	Year 4 Request	Year 5 Request
If yes, last submission date: _____									
<b>A. Land Acquisition</b>									
(1)	Land/Building Acquisition		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>B. Professional Services</b>									
(1)	Master Plan/PP		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
(2)	Site Surveys		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Geo-Technical Investigations								
	Asbestos Investigation								
(3)	Architectural/Engineering/Basic Services		\$ 1,733,512	\$ -	\$ -	\$ 1,733,512	\$ -	\$ -	\$ -
(4)	Code Review/Inspection		\$ 300,000	\$ -	\$ -	\$ 50,000	\$ 250,000	\$ -	\$ -
	Testing				\$ -	\$ 25,000			
	Inspections				\$ -	\$ 50,000			
(5)	Construction Management		\$ 350,000	\$ -	\$ -	\$ 50,000	\$ 300,000	\$ -	\$ -
(6)	Advertisements		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
(7a)	Inflation for Professional Services		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
(7b)	Inflation Percentage Applied			0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
(8)	Other (Hazardous Material Abatement)		\$ 50,000	\$ -	\$ -	\$ 50,000	\$ -	\$ -	\$ -
(9)	Total Professional Services		\$ 2,508,512	\$ -	\$ -	\$ 1,883,512	\$ 625,000	\$ -	\$ -
<b>C. Construction or Improvement</b>									
(1)	Infrastructure		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	(a) Service/Utilities		\$ 960,000	\$ -	\$ -	\$ -	\$ 960,000	\$ -	\$ -
	(b) Site Improvements		\$ 708,515	\$ -	\$ -	\$ -	\$ 708,515	\$ -	\$ -
(2)	Structure/Systems/Components								
	(a) New (GSF): 23,715		\$ 11,564,722	\$ -	\$ -	\$ -	\$ 11,564,722	\$ -	\$ -
	New \$488 /GSF								
	(b) Renovate GSF: (40,626 + 5,067)		\$ 6,281,905	\$ -	\$ -	\$ -	\$ 6,281,905	\$ -	\$ -
	Renovate \$137/GSF								
(3)	Other (Specify)		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
(4)	High Performance Certification Program		\$ 600,000	\$ -	\$ -	\$ -	\$ 600,000	\$ -	\$ -
(5a)	Inflation for Construction		\$ 3,532,241	\$ -	\$ -	0	\$ 3,532,241	\$ -	\$ -
(5b)	Inflation Percentage Applied			0.00%	0.00%	0.00%	18.10%	0.00%	0.00%
(6)	Total Construction Costs		\$ 23,047,383	\$ -	\$ -	\$ -	\$ 23,047,383	\$ -	\$ -
<b>D. Equipment and Furnishings</b>									
(1)	Equipment		\$ 334,282	\$ -	\$ -	\$ -	\$ 334,282	\$ -	\$ -
(2)	Furnishings		\$ 432,500	\$ -	\$ -	\$ -	\$ 432,500	\$ -	\$ -
(3)	Communications		\$ 200,000	\$ -	\$ -	\$ -	\$ 200,000	\$ -	\$ -
(4a)	Inflation on Equipment and Furnishings		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
(4b)	Inflation Percentage Applied			0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
(5)	Total Equipment and Furnishings Cost		\$ 966,782	\$ -	\$ -	\$ -	\$ 966,782	\$ -	\$ -
<b>E. Miscellaneous</b>									
(1)	Art in Public Places=1% of State Total Construction Costs (see SB 10-94)		\$ 184,379	\$ -	\$ -	\$ -	\$ 184,379.06	\$ -	\$ -
(2)	Depreciation of Capital=1% of Total Construction Cost		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
(3)	Annual Payment for Certificates of Participation		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
(4)	Relocation Costs		\$ 45,000	\$ -	\$ -	\$ -	\$ 45,000	\$ -	\$ -
(5)	Other Costs (specify)		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
(6)	Other Costs (specify)		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
(7)	Other Costs (specify)		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
(8)	Other Costs (specify)		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
(9)	Total Misc. Costs		\$ 229,379	\$ -	\$ -	\$ -	\$ 229,379	\$ -	\$ -
(F)	Total Project Costs		\$ 26,752,056	\$ -	\$ -	\$ 1,883,512	\$ 24,868,544	\$ -	\$ -
<b>G. Project Contingency</b>									
(1)	7.5% for combined Addition / Renovation		\$ 2,006,404	\$ -	\$ -	\$ -	\$ 2,006,404	\$ -	\$ -
(2)	10% for Renovation		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
(3)	Total Contingency		\$ 2,006,404	\$ -	\$ -	\$ -	\$ 2,006,404	\$ -	\$ -
(H)	Total Budget Request [F+G(3)]		\$ 28,758,460	\$ -	\$ -	\$ 1,883,512	\$ 26,874,948	\$ -	\$ -
<b>I. Source of Funds</b>									
	CCF		\$ 23,006,768	\$ -	\$ -	\$ 1,506,810	\$ 21,499,958	\$ -	\$ -
	CF		\$ 5,751,692	\$ -	\$ -	\$ 376,702	\$ 5,374,990	\$ -	\$ -
	RF		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	FF		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

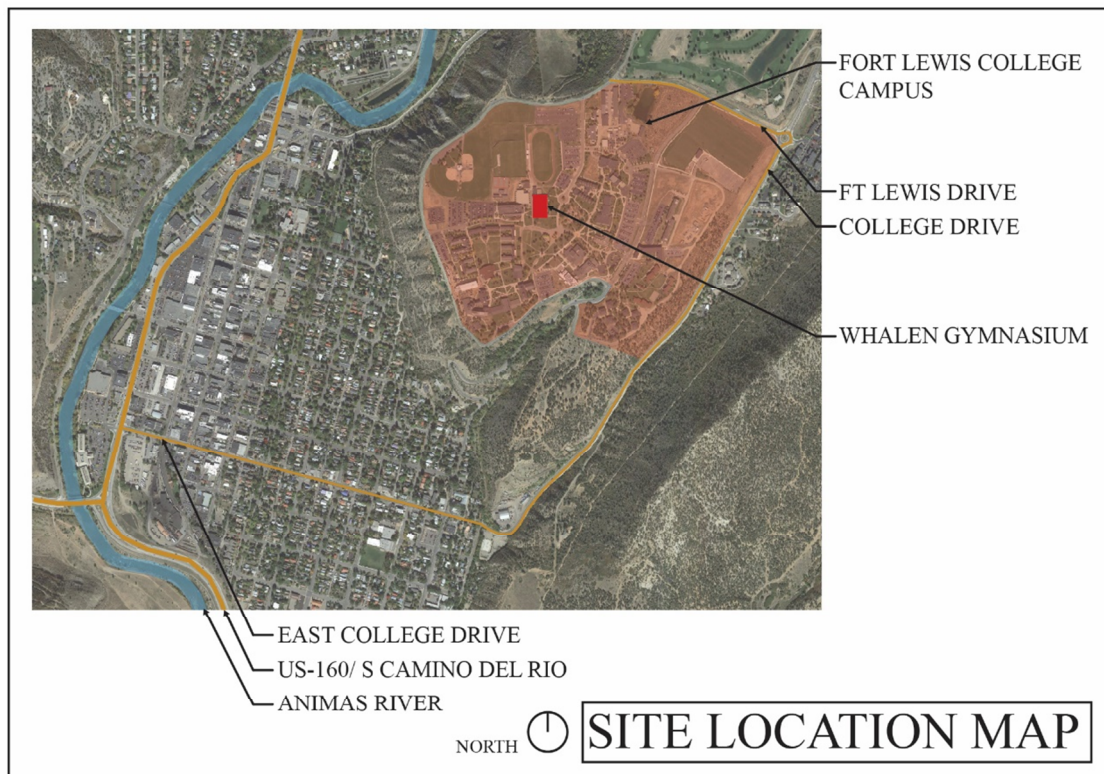
## C.5.2 Financing Explanation/Funding Sources

Proposed funding includes a combination of State of Colorado Capital Construction funding, and funds raised by Fort Lewis College, with a projected split of 90% State and 10% College funding for the first project, and a projected split of 80% State and 20% College funding for the second project..

## D. Appendices

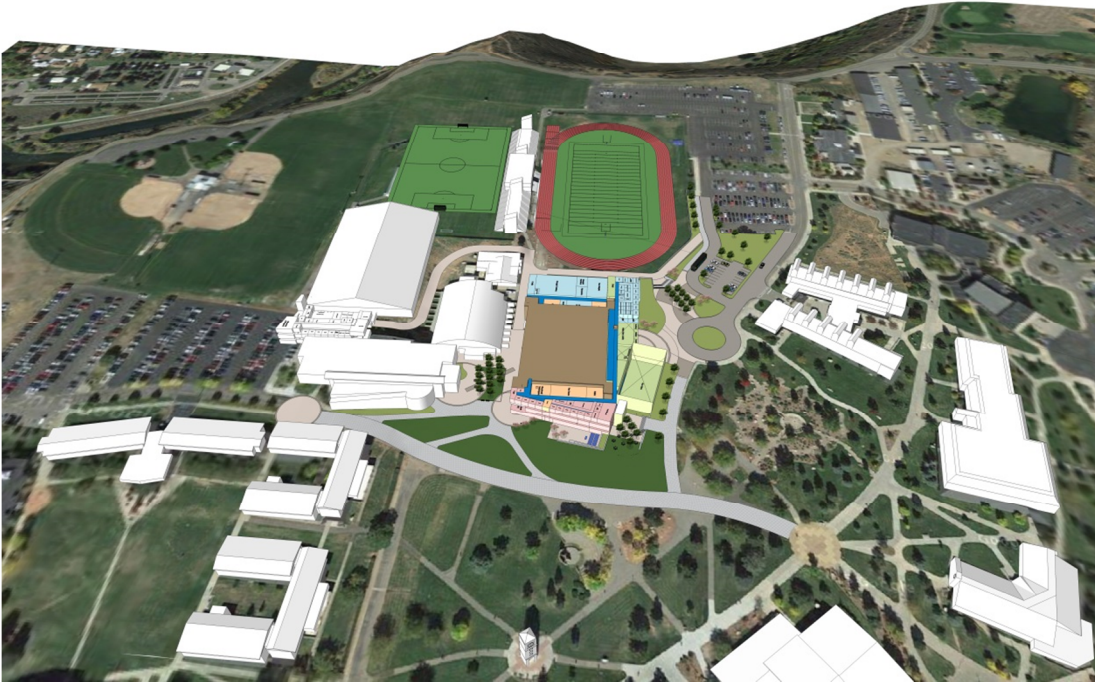
### D.1 Site Plan and Location Maps

#### D.1.1 Campus Location Map



**Campus and Site Location Map: Durango, Colorado**

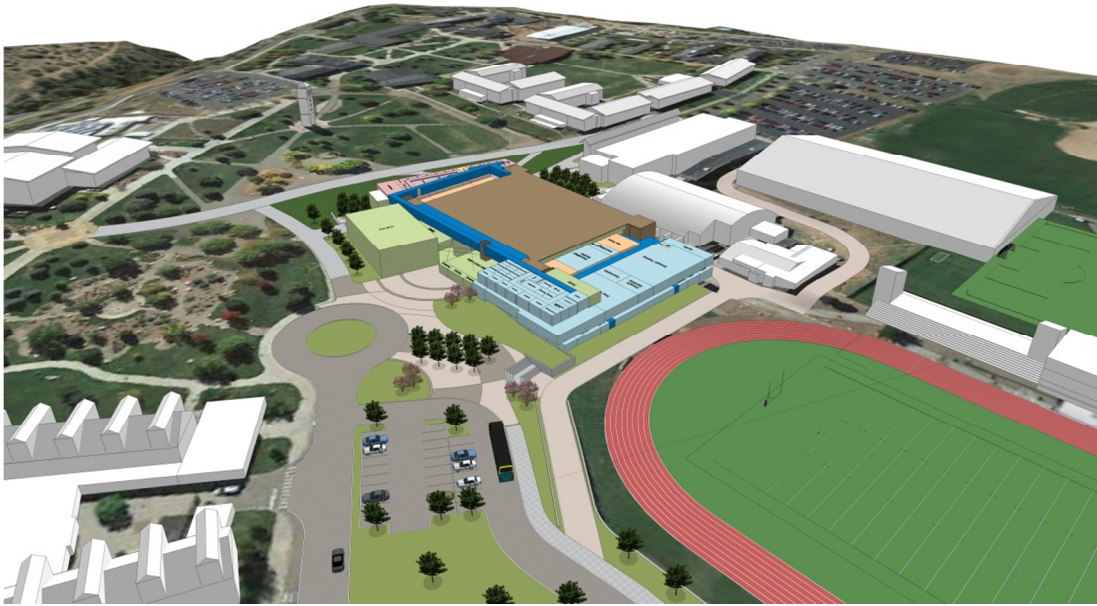
## D.1.2 Building Massing



**Building Massing Study: Whalen Academic & Athletic Precinct planning**



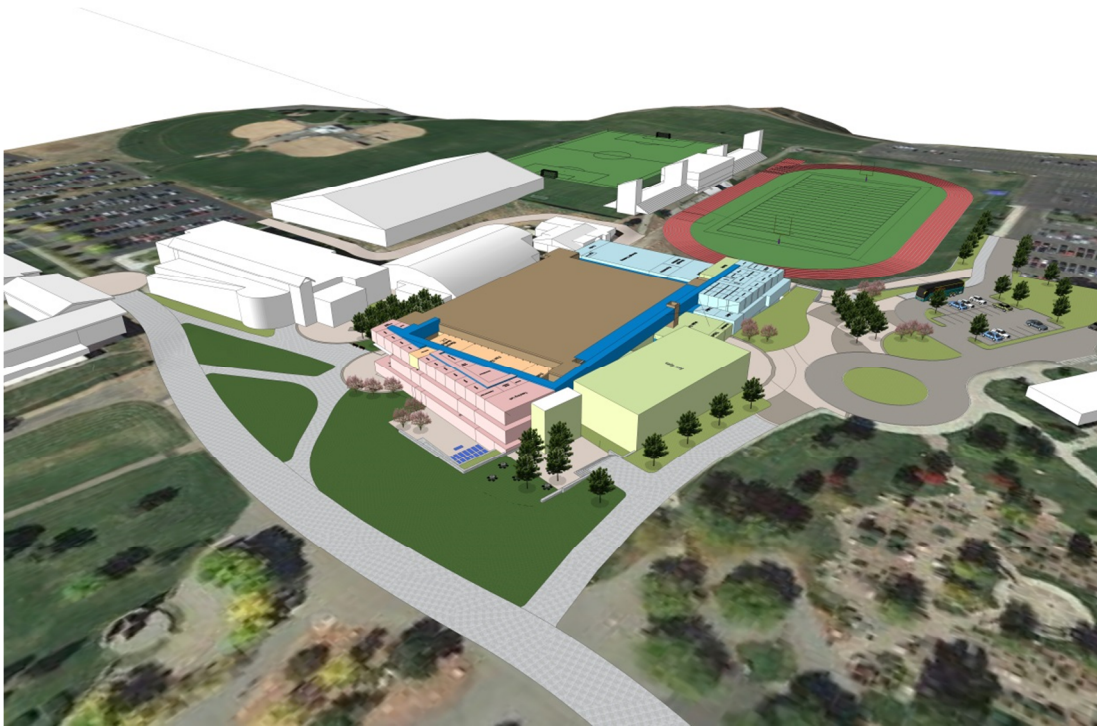
**Building Massing Study: Approach from Academic Corridor**



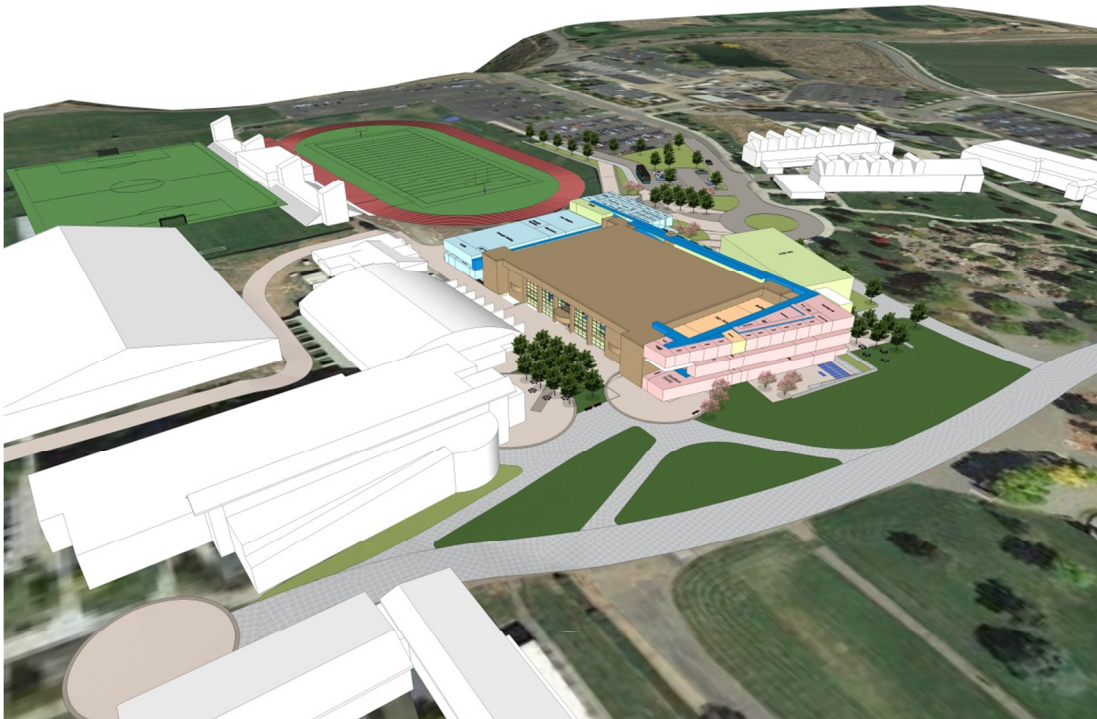
**Building Massing Study: Northeast Site Perspective**



**Building Massing Study: Northwest Site Perspective**



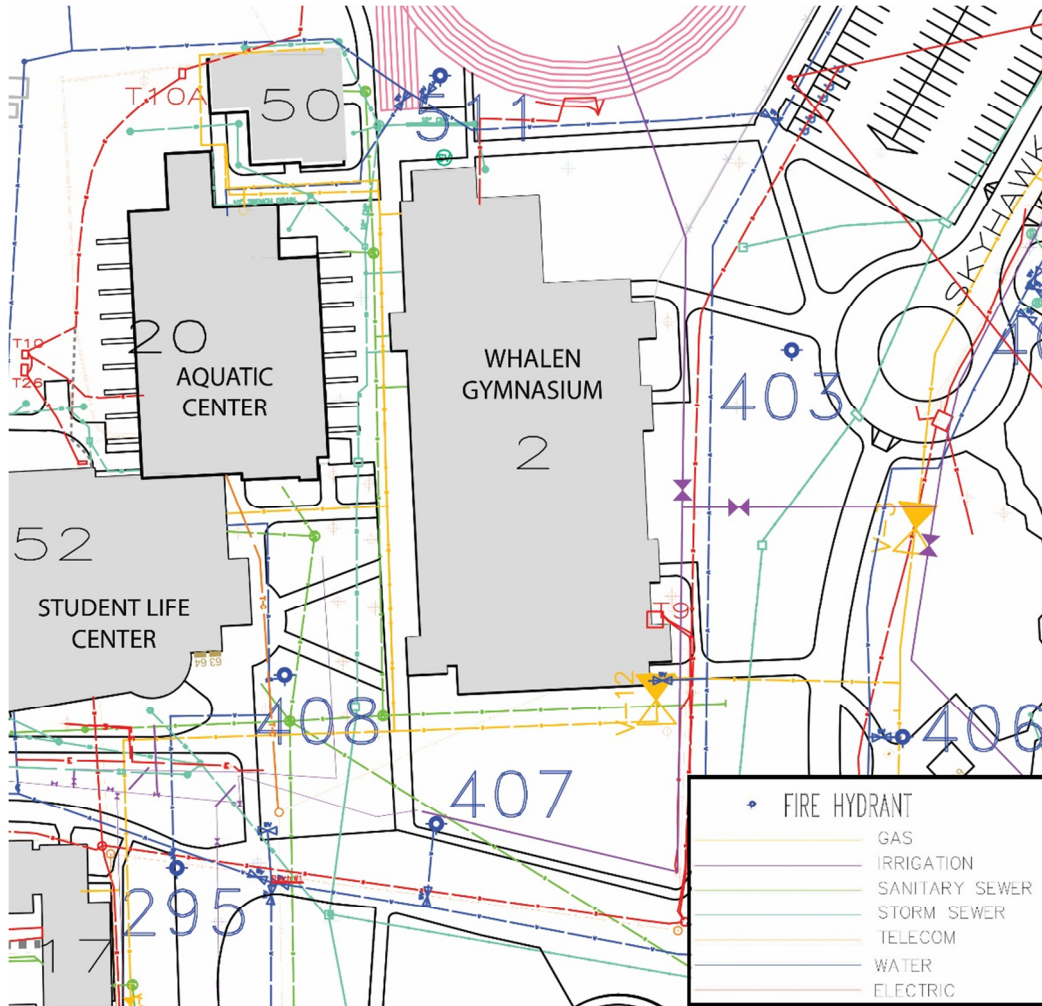
**Building Massing Study: Southeast Site Perspective**



**Building Massing Study: Southwest Site Perspective**

### D.1.3

### Infrastructure Plan

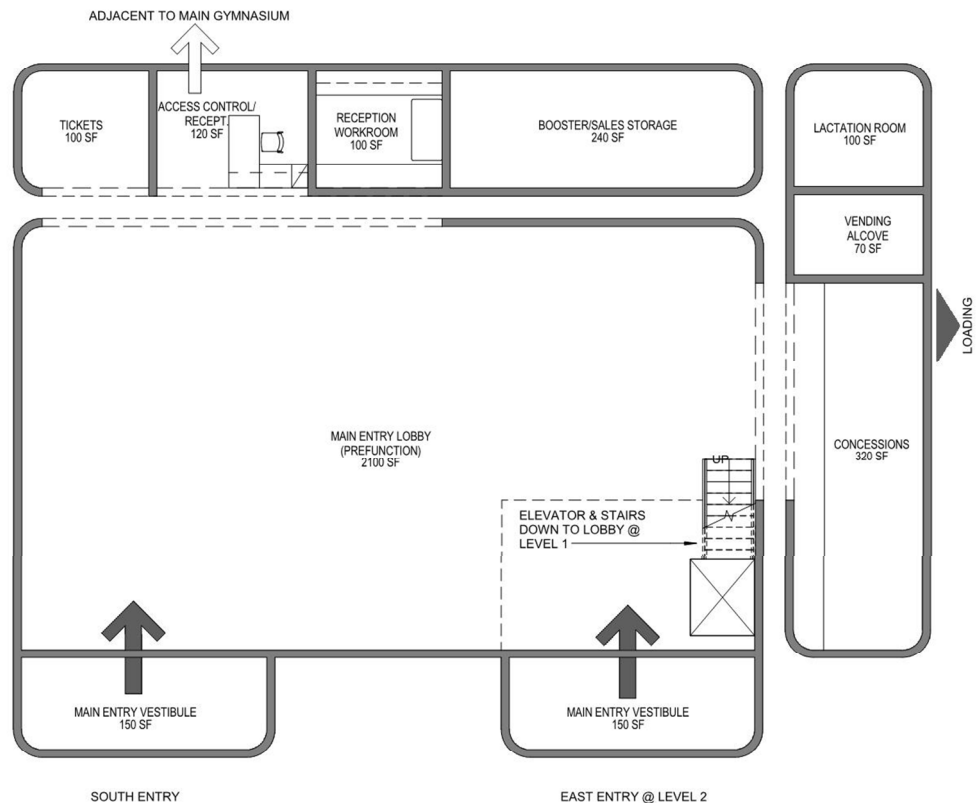


## D.2 Architectural Program

### D.2.1 Space Requirements

The following 21 diagrams represent key spaces or groups of spaces included in the Whalen Academic Athletic Complex. They list general room requirements and proportions, where appropriate. Actual design of these spaces will be a part of Schematic Design after the project is funded and the design phase has begun.





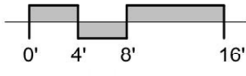
**COMMON AREAS - ENTRY & LOBBY**  
**3350 ASF**

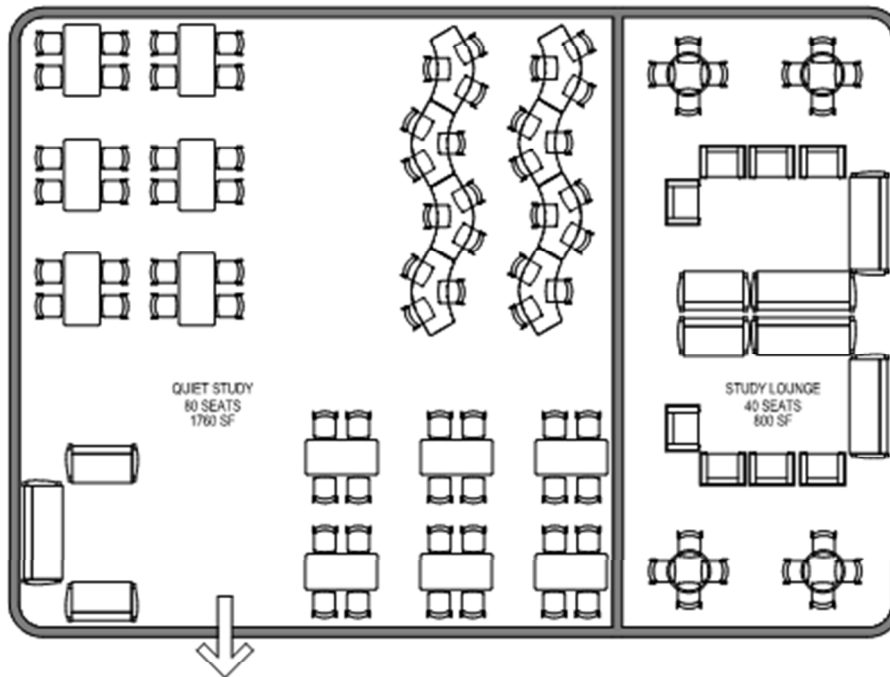
**ENTRY & LOBBY INTENT:** The entry lobby serves as the transitional space between the outdoors and the auxiliary gym. This space will be primarily used for access, ticket sales, and concessions.

The access control is an important feature of this space because access needs to be re-granted for patrons who decide to visit the concessions stand during the span of an event.

**Finishes:** Flooring to be porcelain tile.

- Secure access
- Entry vestibule VAV/HVAC Considerations
- Dedicated kitchen appliance for concessions space
- Floor drains/sinks in concessions space
- Private zone for lactation room
- Acoustical Materials
- Open shelving in storage
- Overhead rolling grille at concessions



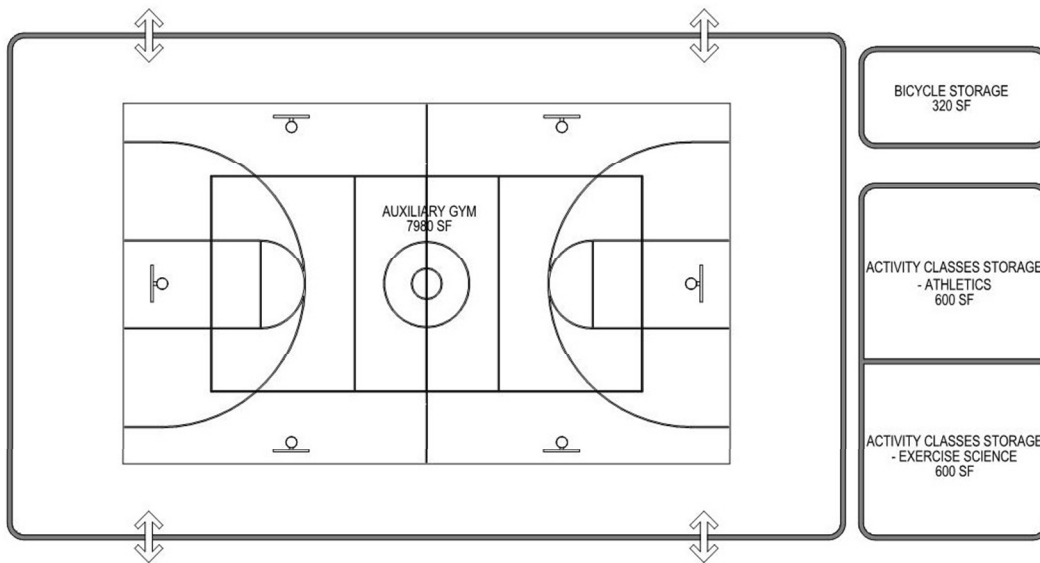


**COMMON QUIET STUDY AND STUDY LOUNGE AREAS - 2560 ASF**

**STUDY & LOUNGE INTENT:** Study spaces in the common areas present the students with both a formal and an informal place to study. The Quiet Study is intended to be primarily table and chair stations, providing adequate work surfaces for many users at one time. Users of the space will be students who prefer individual study, without the feeling of isolation.

The Study Lounge is the informal response to the quiet study area. With primarily lounge seating, students are encouraged to be more relaxed in their study efforts. The flexible seating facilitates group learning and group activity. Organizing the Quiet Study and Study Lounge to be adjacent to each other, presents the user with the choice of where they will learn most efficiently.

- Hard work surfaces
- Variety of choices of seating
- Flexible furniture for unique arrangements as needed by function
- Power/Data at perimeter walls and below study tables
- Localize power/data for larger spaces
- Acoustical isolation (STC 55 or greater) between spaces
- Configurable, modular furniture



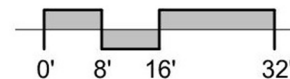
**COMMON AREAS - AUXILIARY GYM**  
**9660 ASF**

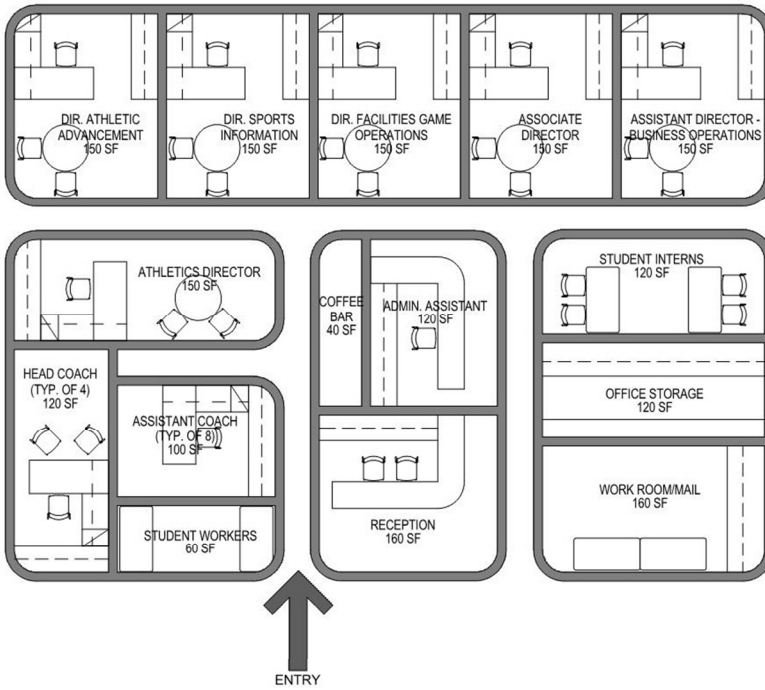
**AUXILIARY GYM INTENT:** The auxiliary gym will host practices for the collegiate teams as well as intramural activities for the students. It will also house both the Athletics and Exercise Science activity classes, with storage for both directly adjacent. The teaching climbing wall is neighboring the auxiliary gym, with the potential to become integrated. Day-lighting and day-light harvesting are highly desirable. Exterior clerestory windows or translucent panel impact resistant wall systems, translucent glass skylights. All projections and devices shall be caged.

**Finishes:** Multipurpose poured urethane based synthetic sports flooring with rubber base. Flooring to be striped for multiple sports. Wall finishes to be highly durable and impact resistant consisting of painted concrete block CMU construction. 30% of upper walls to have 1" acoustical wall panel. Ceilings to be painted exposed structure, acoustical structural deck, min 25'-0" high to bottom of structure. Structural floor slab recessed for impact floor system for climbing wall. Wall finishes to be painted impact resistant drywall where not concealed by climbing and bouldering wall systems. Ceilings should be min 3' above climbing wall maximum height.

**Specialties:** Wall mounted electronic scoreboard. Retracting basketball hoops with glass backboards. Wall padding in overrun areas. Climbing Wall Specialties - provide additional hand-holds and route setting materials. Provide overhead supported auto-belay systems. Provide bench height storage cubbies for user personal belongings, storage, shoe changing. Day lockers to be provided for securing personal belongings.

**Technology:** Music system/Public Address System including ceiling mounted speakers and iPod/MP3 docking station. Wall mounted mass notification LED text display, clock.





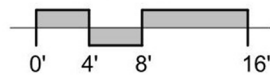
**ATHLETICS - OFFICES**  
**2960 ASF**

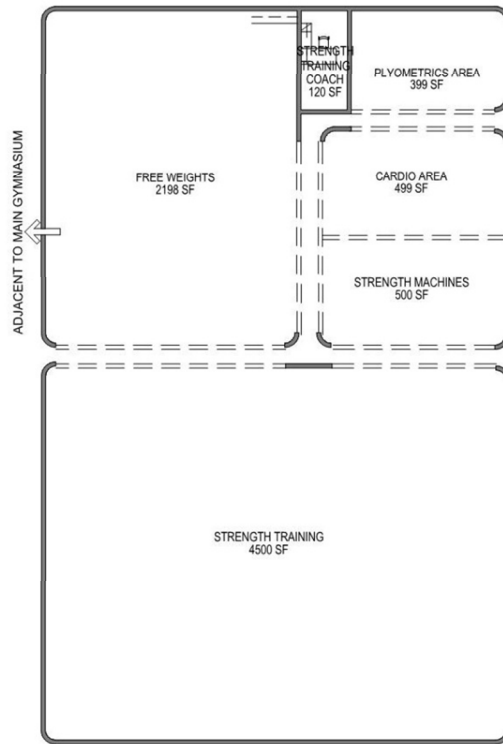
**ATHLETICS OFFICES INTENT:** Instructional support space for recreation programming, administrative organizational and supervision support space. Entry control, supervision of public and group activity areas.

**Finishes:** Carpeted floors with rubber base, painted gypsum board walls suspended acoustical ceiling tile at 8'-0" aff min.

**Exterior windows, views, and day-lighting and day light harvesting** are highly desirable. Windows to be provided with mini-blind wall coverings.

- **Furnishings and Equipment:** Office furnishing per college standards and conventions





**ATHLETICS - STRENGTH TRAINING**  
**8220 ASF**

**STRENGTH TRAINING INTENT:** This program component is expected to have a high participation rate and density of use. Strength and Conditioning areas can be rearranged and reconfigured, with new types of equipment added to keep pace with user demand and industry trends. Unique FLC campus patterns and preferences that emerge will also drive the types and density of equipment offered to the student population. Instructional programming may consist of small group training and personal training. Areas for stretching can be included as part of functional training or dispersed through the strength and conditioning area.

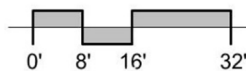
**Finishes:** Resilient, rubber athletic flooring with rubber base. Wall finishes to be painted concrete CMU below 8'-0" in non-mirrored areas. Painted gypsum board to be provided behind mirrors and above CMU walls to structure. Incorporating painted CMU, painted concrete or resilient surfaces to 8'-10' aff construction in functional training areas is beneficial in supporting impact exercises such as medicine ball tossing. Ceilings to be painted exposed structure, structural deck, min 12'-0" to 14'-0" clearances to bottom of structure.

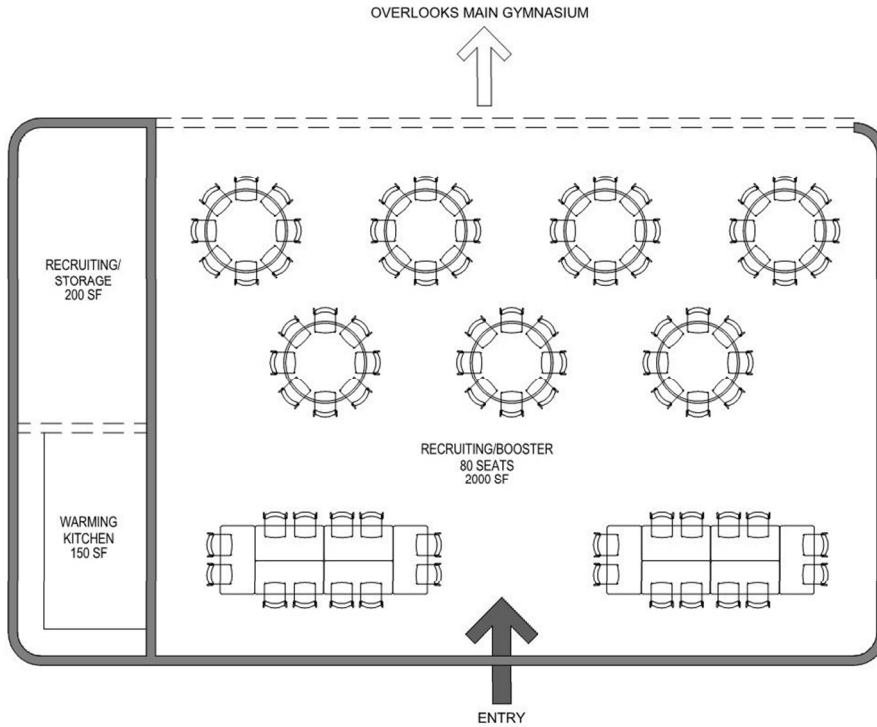
**Furnishings and Equipment:** Continuous mirrors to extend from 18" above finished floor to 8'-0". Provide floor/wall anchors to accommodate heavy battle ropes. Blocking and structure at functional training areas to support chin-up bars and suspension training. Exterior windows, views, and day-lighting and day light harvesting are highly desirable.

**Technology:** Public address system, music system, CATV flat screens. Provide recessed floor boxes with dedicated power circuits and telecommunicate data and CATV connections at each cardio equipment station.

**Equipment List:**

- 18 Power Racks w/Platform (2 ½FT between each)
- 2 Sets of Dumbbells 5-120lbs (5lb increments w/ 7.5, 10, 12.5, 15 & 17.5)
- 10 Benches for dumbbells only
- 12 Stationary bikes
- 6 Treadmills
- 3 Stair steppers
- 2 Leg press machines
- 1 Chest press machine
- 1 Back row machine
- 2 Leg curl/knee extension machines
- 3 Lat. pull down machines
- 4 Hyper/extension machines (glute/ham)
- 4 Neck machines
- 6 Plyo boxes
- 1 Kettle Bell Rack
- 1 Med ball rack
- 2 Jump cable platforms
- \*3 Lane Track Alongside/30YD turf separated by glass





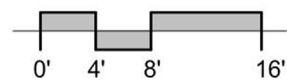
**ATHLETICS - RECRUITING/BOOSTER**  
**2350 ASF**

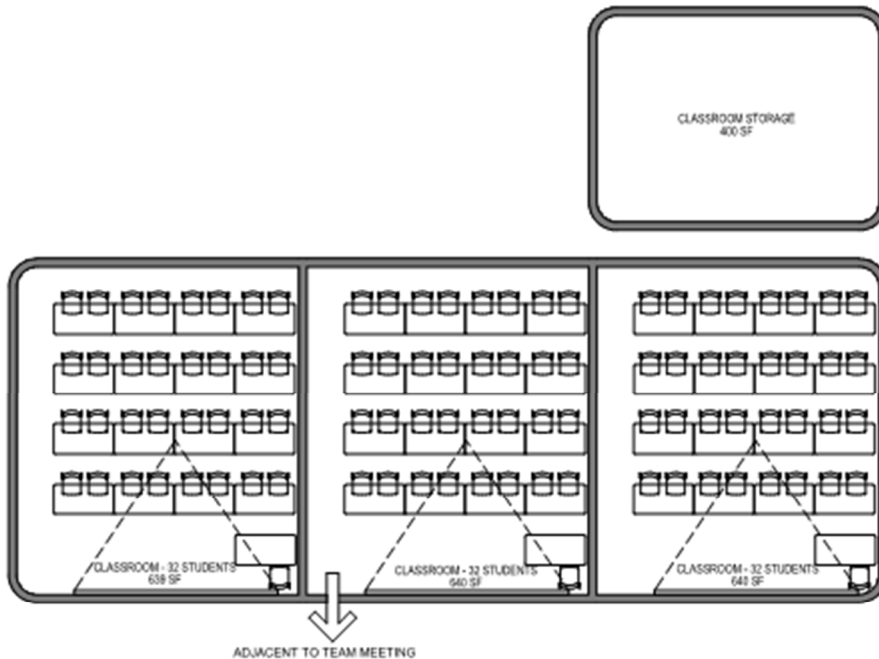
**RECRUITING/BOOSTER INTENT:** The Recruiting/Booster office will house the Skyhawk Athletic Association. This space will facilitate the Skyhawk Athletic Association's purpose of providing scholarships and program support for deserving student-athletes.

**Finishes:** Flooring to consist of carpet, wood base. Wall finishes consisting of painted drywall. 30% of walls to have 1" acoustical wall panel. Ceilings to be 10'-0" high, with 2x2 acoustical ceiling tile. Exterior windows and daylighting are highly desirable. Electrically operated perforated window coverings with 1-3% light transmission provided at all exterior windows.

**Technology:** Ceiling mounted video/data projector, ceiling mounted electrically operated projection screen.

- Overlooking the Main Gymnasium
- Flexible furniture for unique arrangements as needed by function
- Projection/Display capabilities
- Integrated sound controls
- Dedicated VAV/HVAC zone
- Acoustic considerations





**SKYHAWK HALL RENOVATION**

**ATHLETICS - CLASSROOMS & STUDY**  
**2320 ASF**

**CLASSROOMS & STUDY INTENT:** Classrooms are a constant fixture in academic settings. These classrooms are similar to the traditional classroom model, but with updated equipment and AV/IT requirements. In the configuration presented above, these classrooms are to be used for lecture, presentations, etc. but flexible, moveable furniture offer additional functions for the space. Each classroom is to have its own designated storage space for unused classroom chairs, tables, and other storage necessities.

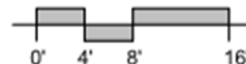
**Finishes:** Flooring to consist of carpet, rubber base. Wall finishes consisting of painted drywall. Ceilings to be 10'-0" high, to support recreation programming flexibility, with 2x4 acoustical tile.

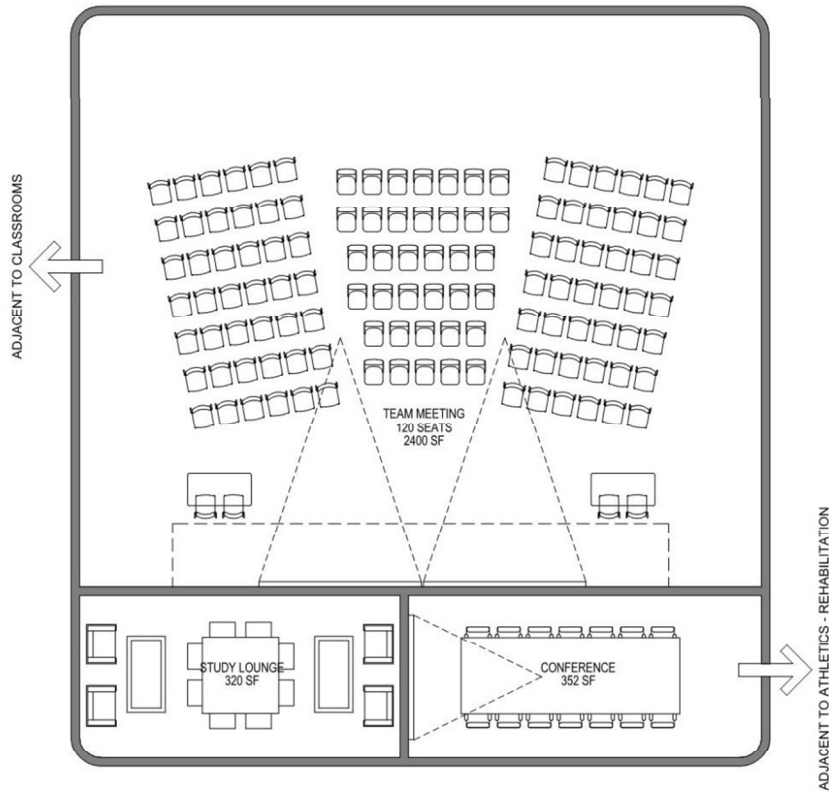
**Exterior windows and day-lighting** are highly desirable. Mini-blind window coverings provided at all exterior windows. Each classroom to have supply closet with adjustable shelving for storage of program specific materials.

**Technology:** Ceiling mounted video/data projector, ceiling mounted electrically operated projection screen. Inclusion of a sound system with ceiling mounted speakers and iPod/MP3 docking station allows diverse programming.

The Classroom function is a dedicated space for presentation, group lecture, discussion etc. and shall have equipment similar to that described below.

- Flexible furniture for unique arrangements as needed by function
- Smartboards
- Whiteboard paint/wall
- Lighting controls
- Integrated audio
- Media per campus standards
- Storage w/ fixed shelving





**ATHLETICS - TEAM MEETING**  
**3072 ASF**

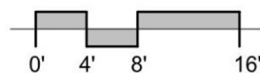
**TEAM MEETING INTENT:** Three program pieces make up the team rooms. The need for whole team assembly is fulfilled in the large Team Meeting room, which requires flexible seating. This space may be utilized as a lecture hall, when not used by the Athletic Department as it may serve as a team activity space.

The conference room fulfills the need for smaller team gatherings and coaches to plan, coordinate, and make team decisions. It is important for the conference room to have a way to game plan, and review film on screen to facilitate discussion. While the conference room is intended for formal gathering, the study lounge is to be used for informal gathering and team activity.

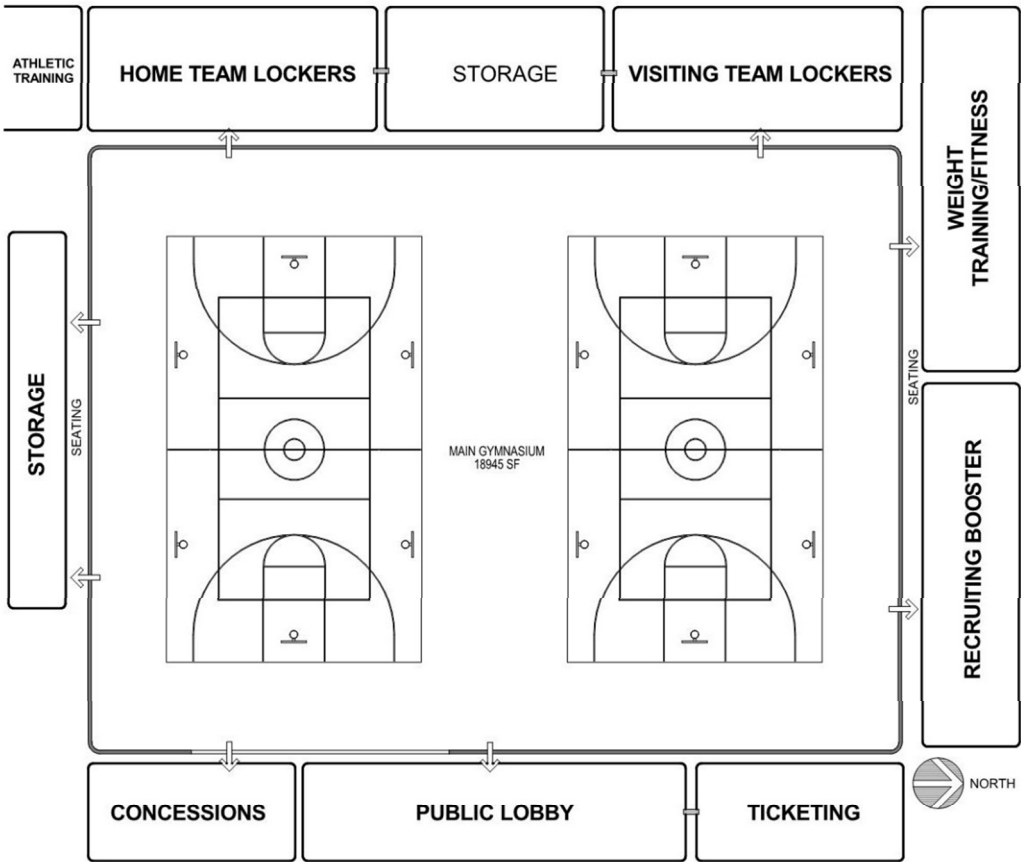
**Finishes:** Flooring to consist of carpet, wood base. Wall finishes consisting of painted drywall. 30% of walls to have 1" acoustical wall panel. Ceilings to be 10'-0" high, with 2x2 acoustical ceiling tile. Exterior windows and day-lighting are highly desirable. Electrically operated perforated window coverings with 1-3% light transmission provided at all exterior windows.

**Technology:** Ceiling mounted video/data projector, ceiling mounted electrically operated projection screen.

- Flexible furniture for unique arrangements as needed by function
- Projection/Display capabilities
- Integrated sound controls
- Dedicated VAV/HVAC zone
- Acoustic considerations
- Adjacent to classrooms
- Adjacent to rehabilitation







**ATHLETICS - MAIN GYMNASIUM**  
**18945 ASF**

**MAIN GYMNASIUM INTENT:** Structured for competitive indoor sports, instructional programming, club sports, and intramural uses.

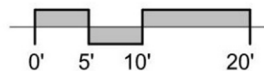
Programming includes basketball, volleyball, indoor-soccer, badminton, floor-hockey, special events, activities, and general assembly events. Wall projections and offsets shall be minimized to support use of room by indoor soccer and field hockey. All projections and devices shall be caged.

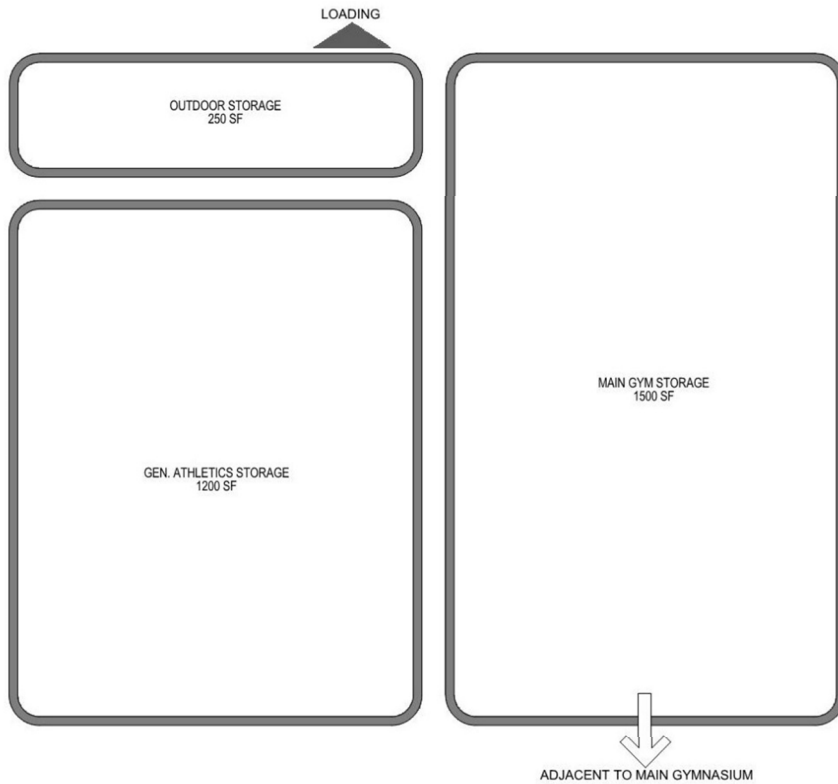
**Finishes:** Multipurpose poured urethane based synthetic sports flooring with rubber base. Flooring to be striped for multiple sports. Wall finishes to be highly durable and impact resistant consisting of painted concrete block CMU construction. Corners of gym to be rounded for indoor soccer and floor hockey use. 30% of upper walls to have 1" acoustical wall panel. Ceilings to be painted exposed structure, acoustical structural deck, min 25'-0" high to bottom of structure.

Day-lighting and day-light harvesting are highly desirable. Exterior clerestory windows or translucent panel impact resistant wall systems, translucent glass skylights.

**Specialties:** Retracting basketball hoops with glass backboards. Court inserts for volleyball and badminton standards. Wall padding in overrun areas. Rough-in for ceiling mounted video/data projection and wall mounted projection screen.

**Technology:** Two wall mounted electronic scoreboards with wireless controllers for each court. Public address system, music system, wall mounted mass notification LED text display.





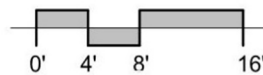
**ATHLETICS - MAIN GYMNASIUM STORAGE**  
**2950 ASF**

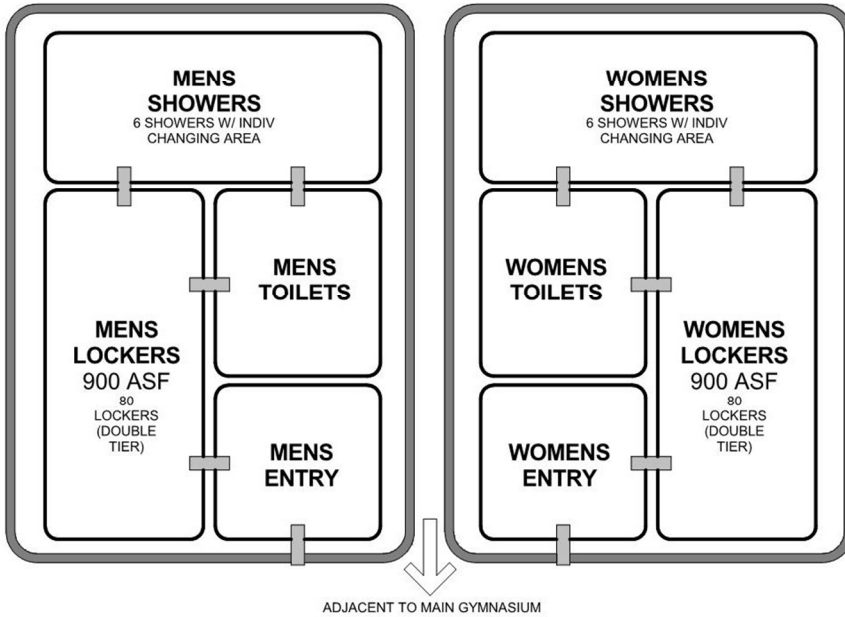
**MAIN GYMNASIUM STORAGE INTENT:** Located directly adjacent to the Main Gymnasium, the storage space is integral to the success of the athletics area. These storage spaces will directly support the Main Gymnasium, storing removable volleyball/badminton nets, additional seating, mobile storage carts, etc.

Ceilings to be open to structure in all storage areas to maximize usable height of space.

**Finishes:** Sealed concrete in wet areas and storage areas. Carpet in staff office area. Wall finishes to be painted concrete block for durability in wet areas, storage areas and painted drywall in office areas. Ceilings to be painted exposed structure, min 10'-0" high

**Furnishings and Equipment:** Adjustable storage racks and shelves. Workbenches with storage cabinets.





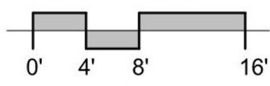
-LOCKER ROOMS TOTAL OF 1200 SF EACH  
 -(4) LOCKER ROOMS TOTAL - LAYOUT TYP. OF HOME AND AWAY LOCKER ROOMS

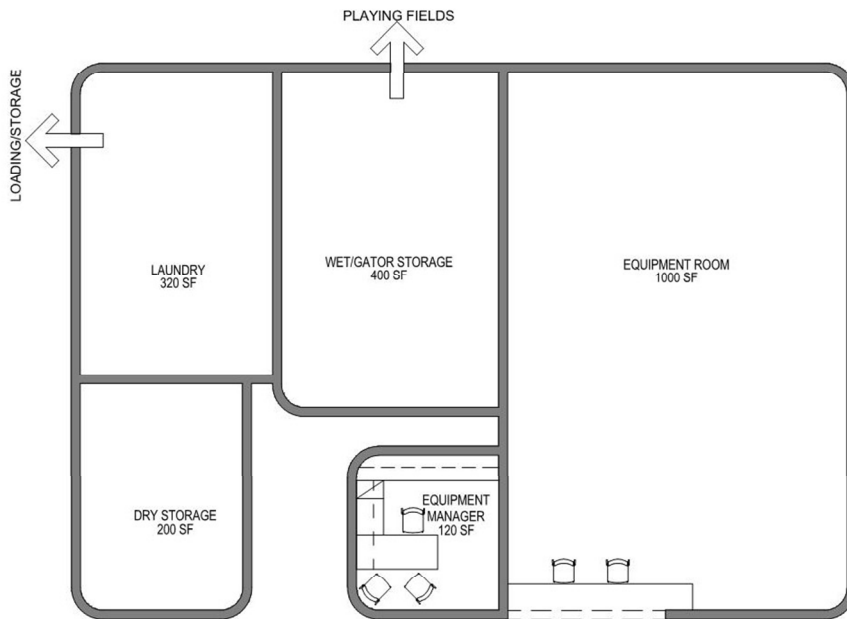
**ATHLETICS - LOCKERS**  
**4800 ASF**

LOCKERS INTENT: Support of individual recreation users, intramural sports, and recreation center programming.

Finishes: Poured, seamless, epoxy flooring with integral cove. Wall finishes to be largely painted concrete block with full height porcelain wall tile in wet areas, plumbing walls, shower areas. Ceilings to be painted exposed structure, min 10'-0" high in locker areas. Provide moisture resistant hard-lid ceilings in all wet areas.

Specialties: Toilet accessories, Mirrors, shower curtains with rods. Electric hand dryers and electric hair dryers. Vented metal lockers and fixed wood benches.





**ATHLETICS - EQUIPMENT**  
**2120 ASF**

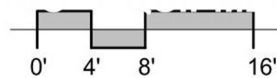
EQUIPMENT INTENT: Support of formal and informal athletic programs and classes. This storage area will support equipment rental, education, training, and organized group activities.

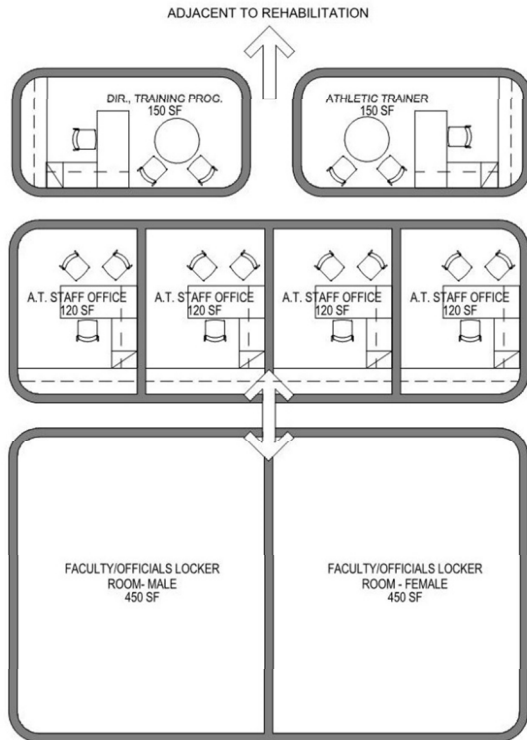
The equipment storage area includes dedicated storage areas for both wet and dry storage requirements, secure space, large item bulk storage, wet areas for wash down of equipment. Staff area includes the athletics equipment manager office.

Ceilings to be open to structure in all storage areas to maximize usable height of space.

Finishes: Sealed concrete in wet areas and storage areas. Carpet in staff office area. Wall finishes to be painted concrete block for durability in wet areas, storage areas and painted drywall in office areas. Ceilings to be painted exposed structure, min 10'-0" high

Furnishings and Equipment: Adjustable storage racks and shelves. Workbenches with storage cabinets.





**ATHLETICS - ATHLETIC TRAINING ROOM/FACULTY/OFFICIALS LOCKERS**  
**1680 ASF**

ATHLETIC TRAINING ROOM INTENT: Scheduled use for student meetings and student clubs, with incidental meeting room use by other college users as availability permits.

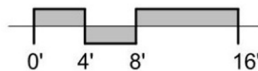
Finishes: Flooring to consist of carpet, base, chair rail. Wall finishes consisting of painted drywall. Ceilings to be 10'-0" high, with 2x4 acoustical ceiling tile.

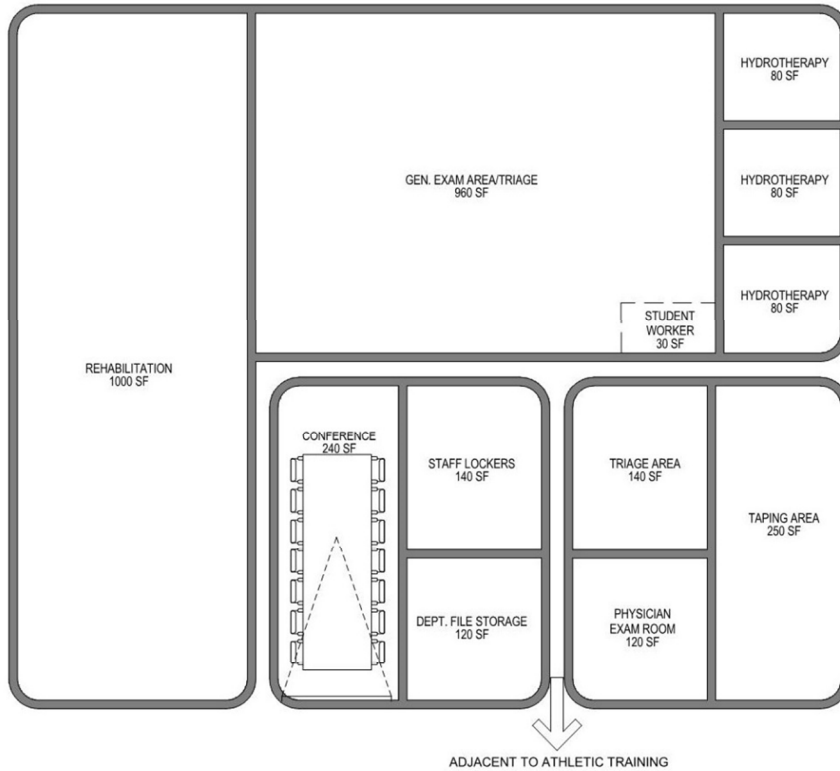
Exterior windows and day-lighting are highly desirable. Mini-blind window coverings provided at all exterior windows.

Specialties: 4x6 white marker board, 4x4 cork tack board.

Furnishings and Equipment: Furnishing to include movable tables and chairs. Battery operated wall clock.

Technology: Ceiling mounted video/data projector, ceiling mounted electrically operated projection screen. Inclusion of a sound system with ceiling mounted speakers and iPod/MP3 docking station allows diverse recreational programming.





**ATHLETICS - ATHLETIC REHABILITATION**  
**3240 ASF**

**ATHLETIC REHABILITATION INTENT:** This space will not only be concerned with treatment of student athletes, but will also focus on the prevention of injuries.

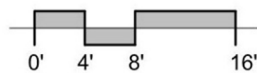
**Finishes:** Wall finishes consisting of painted drywall. Ceilings to be 10'-0" high, with 2x4 acoustical ceiling tile.

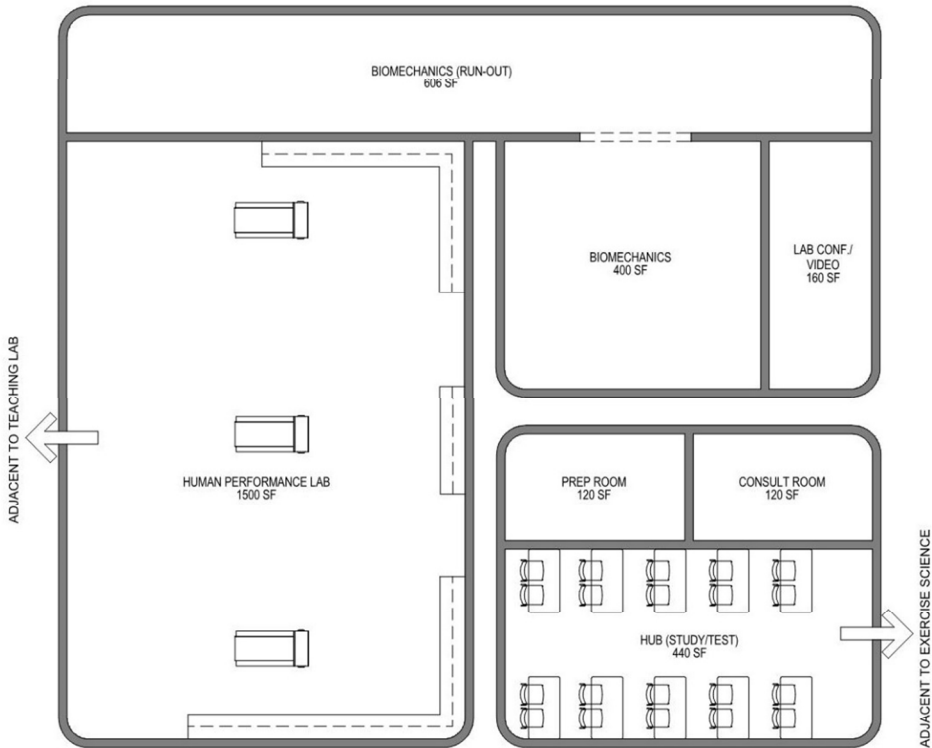
**Exterior windows and day-lighting** are highly desirable. Mini-blind window coverings provided at all exterior windows.

**Specialties:** 4x6 white marker board, 4x4 cork tack board.

**Furnishings and Equipment:** Furnishing to include movable tables and chairs. Battery operated wall clock.

**Technology:** Ceiling mounted video/data projector, ceiling mounted electrically operated projection screen. Inclusion of a sound system with ceiling mounted speakers and iPod/MP3 docking station allows diverse recreational programming.





**EXERCISE SCIENCE - HUMAN PERFORMANCE LAB**  
**3340 ASF**

**HUMAN PERFORMANCE LAB INTENT:** The Human Performance Lab will be a space to further study and understand the human body.

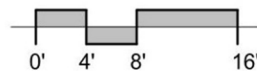
**Finishes:** Wall finishes consisting of painted drywall. Ceilings to be 10'-0" high, with 2x4 acoustical ceiling tile.

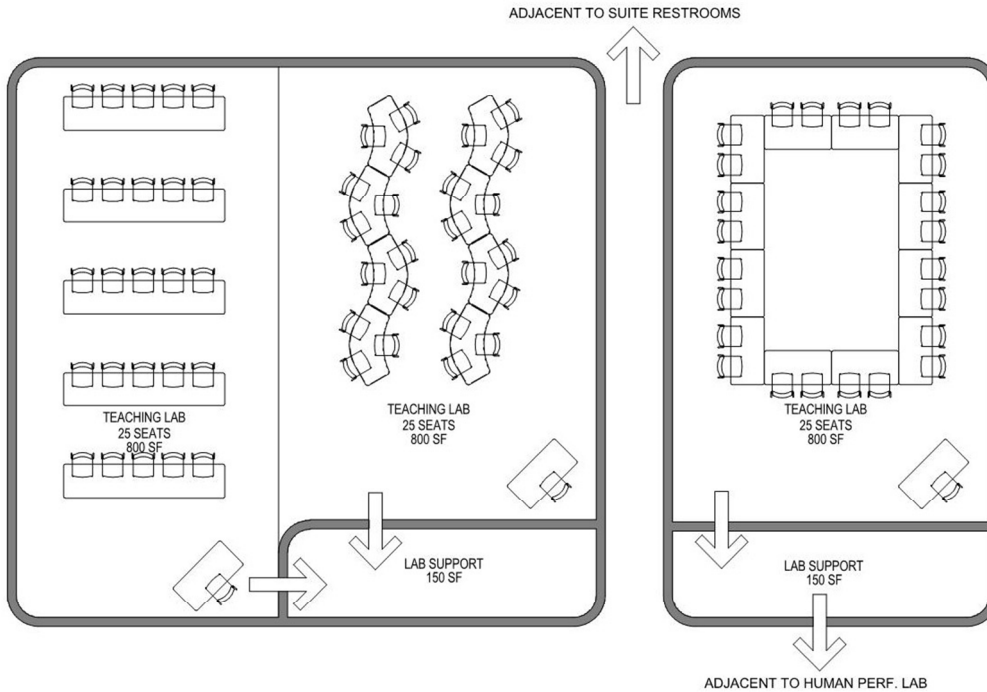
**Exterior windows and day-lighting** are highly desirable. Mini-blind window coverings provided at all exterior windows.

**Specialties:** 4x6 white marker board, 4x4 cork tack board.

**Furnishings and Equipment:** Furnishing to include movable tables and chairs. Battery operated wall clock.

- **Technology:** Ceiling mounted video/data projector, ceiling mounted electrically operated projection screen. Inclusion of a sound system with ceiling mounted speakers and iPod/MP3 docking station allows diverse recreational programming.





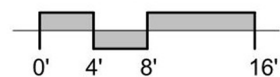
**EXERCISE SCIENCE - TEACHING LABS**  
**2700 ASF**

**TEACHING LABS INTENT:** The teaching lab is designed to enhance the teaching and training of the more clinical/applied aspects of exercise physiology. While a typical classroom can achieve much of what is required for this space, teaching labs offer a more cohesive response to the requirements of the space. The labs are to be used to enhance the learning experience in the applied aspects of exercise/sport physiology, human performance, and fitness field testing. These spaces are to be flexible enough for small lectures, presentations, and demonstrations.

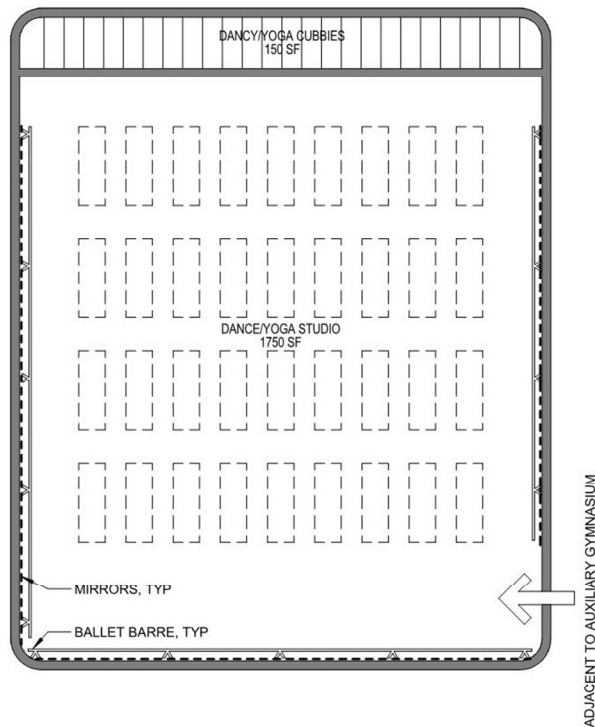
**Finishes:** Flooring to consist of carpet, rubber base. Wall finishes consisting of painted drywall. Ceilings to be 10'-0" high, to support recreation programming flexibility, with 2x4 acoustical tile.

**Technology:** Ceiling mounted video/data projector, ceiling mounted electrically operated projection screen. Inclusion of a sound system with ceiling mounted speakers and iPod/MP3 docking station allows diverse recreational programming.

- Flexible furniture for unique arrangements as needed by function
- Smartboards
- Whiteboard paint/wall
- Lighting controls
- Integrated audio







**EXERCISE SCIENCE - DANCE/YOGA**  
**1750 ASF**

**DANCE/YOGA INTENT:** Academic programs to be accommodated include both Dance and Yoga. Otherwise, programming will be structured for drop-in use. Studio is intended to fit 36 students using individual yoga mats.

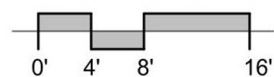
Programming to offer group fitness programming consisting of yoga, mat-Pilates, spinning, general group fitness formats, TRX-type activities, small group training. Studio design to be as flexible as possible and will accommodate multiple formats of exercise classes in both large and smaller studios.

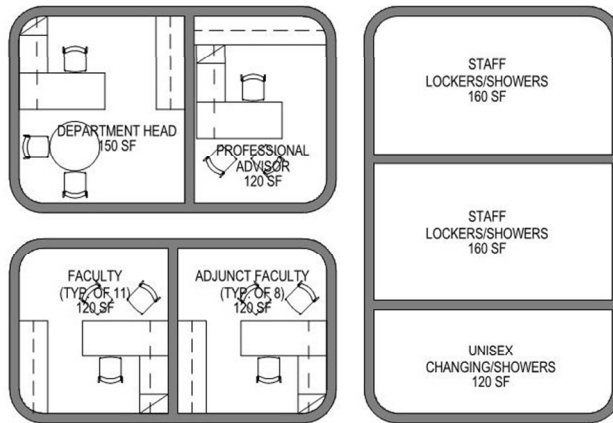
Separate storage and sound system controls for Academic and Recreation/Fitness staff is required so that academic classes are not negatively impacted by items broken, etc., by Rec/Fit participants.

**Finishes:** Floating, resilient wood floor system with vented rubber base. Wall finishes to be painted drywall. Ceilings to be painted exposed structure, min 10'-0" high. Mirrors to be provided on two adjacent walls from 18" above finish floor to 8'. Exterior windows, views, and day-lighting and day light harvesting are highly desirable. Windows to be provided with mini-blind wall coverings.

**Specialties:** Provide ballet bar along majority of walls. Majority of walls are also to be mirrored.

**Technology:** Music system/Public Address System including ceiling mounted speakers and iPod/MP3 docking station. Bench height storage cubbies for user personal belongings should be structured to support stretching.





**EXERCISE SCIENCE - FACULTY**  
**2990 ASF**

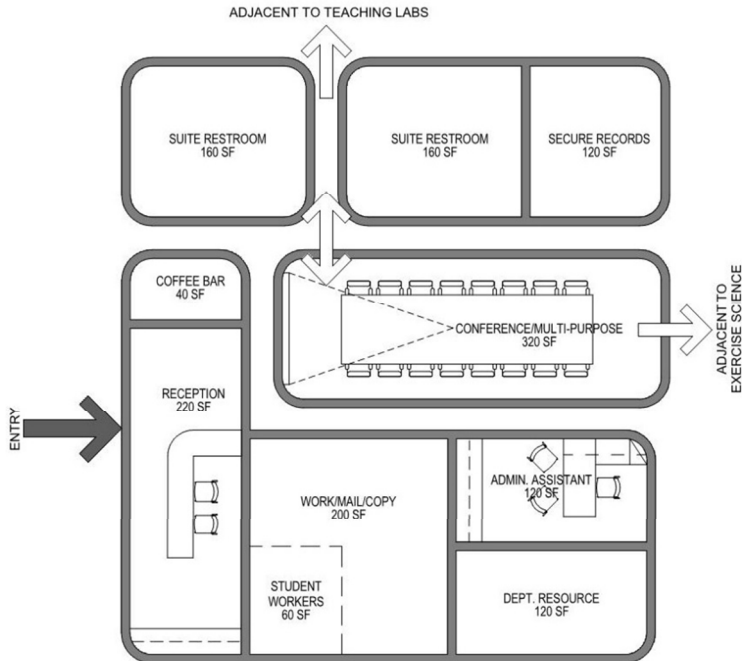
EXERCISE SCIENCE FACULTY INTENT: Instructional support space for exercise science programming, administrative organizational and supervision support space.

Finishes: Carpeted floors with rubber base, painted gypsum board walls suspended acoustical ceiling tile at 8'-0" aff min.

Exterior windows, views, and day-lighting and day light harvesting are highly desirable. Windows to be provided with mini-blind wall coverings.

- Furnishings: Office furnishing per college standards and conventions.





**EXERCISE SCIENCE - RECEPTION/ENTRY**  
**1520 ASF**

**EXERCISE SCIENCE RECEPTION/ENTRY INTENT:** The Reception/Entry for the Exercise Science area serves as both the entry to the building, as well as the administrative support necessary for the Exercise Science programming.

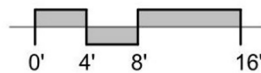
**Finishes:** Carpeted floors with rubber base, painted gypsum board walls, suspended acoustical ceiling tile at 8'-0" aff min.

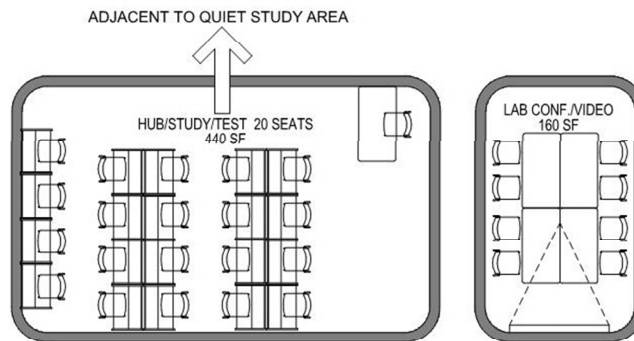
**Exterior windows, views, and day-lighting and day light harvesting** are highly desirable. Windows to be provided with mini-blind wall coverings.

**Furnishings and Equipment:** Office furnishing per college standards and conventions.

**Technology:** Ceiling mounted video/data projector, ceiling mounted electrically operated projection screen.

- Secure access
- Entry vestibule VAV/HVAC Considerations
- Flexible furniture for unique arrangements as needed by function
- Smartboards
- Whiteboard paint/wall
- Lighting controls





**EXERCISE SCIENCE - HUB/STUDY/TESTING**  
**600 ASF**

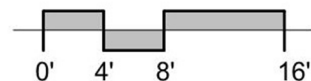
**HUB/STUDY/TESTING INTENT:** The Lab Conference/Video area is intended for small group gatherings. These spaces are used to support the study areas that is located directly adjacent to. The Hub/Study/Test portion of the program is a separate space that is focused on the individual for use of study and examination.

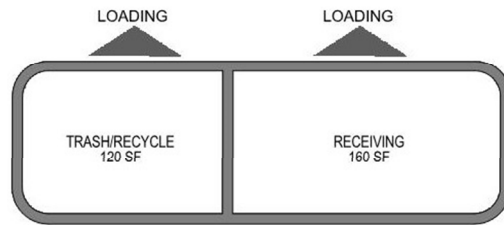
**Finishes:** Flooring to consist of carpet, rubber base. Wall finishes consisting of painted drywall. Ceilings to be 10'-0" high, to support recreation programming flexibility, with 2x4 acoustical tile.

Exterior windows and day-lighting are highly desirable. Mini-blind window coverings provided at all exterior windows.

The Classroom function is a dedicated space for presentation, group lecture, discussion etc. and shall have equipment similar to that described below.

- Flexible furniture for unique arrangements as needed by function
- Smartboards
- Whiteboard paint/wall
- Lighting controls
- Integrated audio



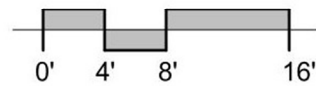


**SERVICE & SUPPORT - RECEIVING/STAGING**  
**280 ASF**

RECEIVING/STAGING INTENT: This space is the main point of entry and exit for support for the building. It is important to consider this space in preliminary planning due to the necessity of truck access.

This space will require:

- Direct Access to the Exterior
- Garage Doors



## D.2.2 Spatial Relationships

AFFINITY MATRIX : FLC Whalen Academic & Athletic Complex		Entry & Lobby	Study & Lounge	Concessions/Sales	Auxiliary Gym	Athletics Office	Strength Training	Recruiting/Booster	Classrooms & Study	Main Gymnasium	Male Varsity Lockers	Female Varsity Lockers	Male Fa./Officials	Female Fac. Officials	Equipment	Male Visiting Lockers	Female Visiting Lockers	Athletic Training Room	Human Performance Lab	Teaching Labs	Biomechanics	Dance/Yoga	Hub/Study/Test	ES Office & Admin.	Receiving/Staging
Entry & Lobby																									
Study & Lounge	3																								
Concessions/Sales	3	2																							
Auxiliary Gym	2	1	1																						
Athletics Offices	2	1	1	2																					
Strength Training	1	0	1	0	0																				
Recruiting/Booster	3	0	0	0	0	0																			
Classrooms & Study	2	2	1	1	3	1	0																		
Main Gymnasium	3	1	3	3	3	2	3	1																	
Male Varsity Lockers	2	0	0	3	1	3	0	0	3																
Female Varsity Lockers	2	0	0	3	1	3	0	0	3	1															
Male Fac./Officials	2	0	0	2	0	0	-3	0	3	0	0														
Female Fac./Officials	2	0	0	2	0	0	-3	0	3	1	1	0													
Equipment	0	0	0	0	2	2	0	0	2	3	3	1	1												
Male Visiting Lockers	0	0	0	0	0	0	0	0	1	1	1	1	1	1	-1										
Female Visiting Lockers	0	0	0	0	0	0	0	0	1	1	1	1	1	-1	0										
Athletic Training Room	0	0	0	0	0	0	0	0	1	3	3	2	2	0	0	0									
Human Performance Lab	1	-1	-1	-2	0	0	0	0	0	0	0	0	0	0	0	0	1	2							
Teaching Labs	1	1	-1	-3	0	0	0	0	0	0	0	0	0	0	0	0	1	1	3						
Biomechanics	1	0	-1	-3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	3					
Dance/Yoga	2	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0				
Hub/Study/Testing	2	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	2	1			
ES Office & Admin.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	3	2	2	3		
Receiving/Staging	0	0	0	0	0	0	0	0	0	-2	-1	-3	-2	0	0	-3	-2	-3	-3	-2	3	2	0		

### LEGEND

Should be adjacent to (3 - directly adjacent; 2 - nearby, 1 - on same floor)

Neutral Relationship (0 - adjacency does not matter)

Should not be adjacent to or near (-3 - very remote; -2 - remote; -1 - somewhat remote)

## D.3 Code Analysis

The code analysis contained herein has been prepared for the Fort Lewis College Whalen Academic and Athletic Complex Renovation/Addition Program Plan as prepared by Davis Partnership Architects and Kin DuBois, FAIA, dated June 30, 2016. The information will detail the renovation of the existing structure as well as an addition of expanded program requirements.

The renovation encompasses the existing gymnasium comprising approximately 75,000 GSF as originally constructed in 1973 with subsequent minor additions over the years. The planned addition will include an academic wing, entry, and athletic expansion of approximately 50,000 GSF, bring the building total to 125,000 GSF. Included with the expansion and renovation will be the modification and installation of a fire suppression system in accordance with NFPA 13. Specific elements of the program and accessibility will be addressed under the International Existing Building Code.

Refer to section C.3.3.6 for the adopted codes by the State Buildings Programs of the Office of the State Architect at the time of this issuance. Exact building code requirements may vary in subsequent years of review.

### **Building Classification:** (Renovation / Addition)

#### **Occupancy Classification:**

- **Section 303.4:** Assembly Group A-3; w/o fixed seating, Exercise, Lockers
- **Section 303.5:** Assembly Group A-4; Arenas
- **Section 304.1:** Business Group B
  - Education occupancies for students over 12<sup>th</sup> grade
  - Laboratories: testing and research
- **Section 311.2:** Storage Group S-2; Noncombustible Materials

#### **General Building Heights and Areas:**

- **Table 504:** Type IIA equipped with *an approved automatic sprinkler system* in accordance with Section 504.3 and 903.3.1.1; thus,
  - Maximum building height of 85 feet per section 504.3
  - Allowable stories of 4 under A-4 Occupancy
  - Allowable stories of 6 under B Occupancy

Allowable area as calculated per Section 506

Assumptions:

506.2.4 Mixed Occupancy, multistory buildings:

Equation 5-3

$$A_a = [A_t + (NS \times I_f)]$$

$$A_t = 46,500 \text{ per Table 506.2}$$

$$NS = 15,500 \text{ per Table 506.2}$$

$$I_f = 3.2 \text{ per Equation 5-5}$$

$$A_a = [46,500 + (15,500 \times 3.2)]$$

$$= [46,500 + (49,600)]$$

$$= 95,100 \text{ sf per floor}$$

Maximum single floor area: 81,500 GSF

$$I_f = [F/P - 0.25]W/30$$

F = Building Perimeter public way/open space over 20'

P = Perimeter of entire building

W = Width per Equation 5-4

$$I_f = [1285/1285 - 0.25]128/30$$

$$= [1-0.25]4.266$$

$$= [0.75]4.266$$

$$= 3.2$$

$$W = (L_1 \times w_1 + L_2 \times w_2 \dots)/F$$

$$W = (335 \times 50 + 280 \times 300 + 450 \times 160 + 220 \times 90)/1285$$

$$= (16,700 + 56,000 + 72,000 + 19,800)/1285$$

$$= (164,500)/1285$$

$$= 128$$

- **Table 508.4:** Required separation of occupancies per table are as follows:
  - A occupancy with B occupancy: 1 hour
  - A occupancy to S-1 occupancy: 1 hour
  - Remaining occupancies separations: Non-rated



**Types of Construction:**

- Table 601:** Type IIA fully-sprinklered building, fire-resistance rating  
 Primary Structural Frame: 1hr  
 Bearing Walls: 1hr Exterior  
                                   1hr Interior  
 Nonbearing Exterior: See 602 below  
 Nonbearing Interior: 0hr  
 Floor Construction & secondary: 1hr  
 Roof Construction & secondary: 1hr<sup>c</sup>  
   <sup>c</sup> Heavy timber allowed where 1hr rating or less is required

**Occupant Loads:**

Classification	Use	Square Footage	Occupant Load Factor	Occupant Load
A-4	Gymnasium w/ spectator seating	18,000 GSF	Per 1004.4	1760
A-3	Unconcentrated	5,852 GSF	15 net sf / occupant	390
A-3	Gymnasium w/o spectator seating	10,000 SF	50 gross sf / occupant	200
A-3	Exercise / Locker	34,000 GSF	50 gross sf / occupant	680
B	Educational Classroom	6,000 GSF	20 net sf / occupant	300
B	Business	11,800 SF	100 gross sf / occupant	118
S	Accessory Storage, mechanical equipment	10,075 SF	300 gross sf / occupant	34
<b>Totals</b>		<b>95,727 SF</b>		<b>3482</b>

**Number of Exits**

Two exits required for 50 or more occupants in A and B occupancies and for 29 or more occupants in S Occupancies. Exits shall be separated by 1/3 minimum the diagonal distance of the space in sprinklered spaces equipped with an automatic sprinkler system per Section 903.3.1.1.

### Required Toilet Fixture Counts

Occ.	No. Males	No. Females	Total Occ.	Water Closets		Lavatories		Water Coolers	Service Sinks
				Male	Female	Male	Female		
A-4	880	880	1760	12	22	5	6	2	1
A-3	635	635	1270	5	10	4	4	3	1
B	209	209	418	5	5	4	4	4	1
S-2	17	17	34	1	1	1	1	1	1
<b>Totals:</b>	<b>1741</b>	<b>1741</b>	<b>3482</b>	<b>23</b>	<b>38</b>	<b>14</b>	<b>15</b>	<b>10</b>	<b>4</b>

## **D.5 Third Party Review**

The Third Party Review conducted by Spencer Architecture Studio is being submitted directly to CCHE by the College under separate cover.



Fort Lewis College  
Whalen Academic & Athletic Complex  
Program Plan

May 24, 2016

Presented By:  
Catherine Gore, Facility Planner  
Mark Gutt, Construction Manager  
Davis Partnership, P.C. Architects  
Cornelius DuBois, FAIA