THE BALL STATE UNIVERSITY

"ATHLETIC UNION"

A Recreational Facility for Ball State University which will also contain the Women's Physical Education Department.

By: Scott Alan Falk
November, 1984
Department of Architecture
College of Architecture and Planning
Ball State University
Muncie, Indiana
To Mom and Dad,

if not for you this would not have been.

Thanks to:

Dr. Jean Arrasmith
Charles Sappenfield
Jack Wells
Jack Wyman
# TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>INTRODUCTION</td>
<td>1</td>
</tr>
<tr>
<td>I. Building Type Analysis</td>
<td>7</td>
</tr>
<tr>
<td>II. Facility Programming</td>
<td>11</td>
</tr>
<tr>
<td>Program Statement</td>
<td>13</td>
</tr>
<tr>
<td>Statement of Funding and Use</td>
<td>17</td>
</tr>
<tr>
<td>Summary of Net Space Requirements</td>
<td>21</td>
</tr>
<tr>
<td>Site Analysis</td>
<td>27</td>
</tr>
<tr>
<td>III. Procedure</td>
<td>35</td>
</tr>
<tr>
<td>Architectural Design Philosophy</td>
<td>37</td>
</tr>
<tr>
<td>Approach and Methodology</td>
<td>38</td>
</tr>
<tr>
<td>IV. Problem Solution</td>
<td>41</td>
</tr>
<tr>
<td>Concepts</td>
<td>43</td>
</tr>
<tr>
<td>The &quot;Athletic Union&quot;</td>
<td>46</td>
</tr>
<tr>
<td>V. Facility Program</td>
<td>70</td>
</tr>
<tr>
<td>BIBLIOGRAPHY</td>
<td>145</td>
</tr>
</tbody>
</table>
INTRODUCTION
The purpose of a thesis year project, is to provide the student with the opportunity to express his or her design philosophies and standards through the in-depth investigative research and production of a major design problem. In order for the student to complete this task successfully, each individual must set forth specific goals that they wish to accomplish. The following are goals that I felt necessary for a meaningful thesis project:

1. To select a project of large enough scale so as to provide sufficient challenges in spatial planning and design.
2. To choose a problem where I would have an actual client with an expressed need, and then fulfill that need to the best of my ability with a viable solution.

With my goals chosen, I began my search for a thesis problem. After consulting with various professors, advisors and students, I chose to design a recreational athletic facility for Ball State University that would also house the Women's Physical Education Department. In choosing to do a facility for the University, it became necessary to make certain assumptions in order to simulate the conditions that would occur by the time this facility was to be built.

My primary assumption was to use "Ball State University's, 1974-1984, Ten Year Master Plan" as if it had been fully implemented. The assumption to use this plan
provided me with the succeeding information. First, that the University plans to build a Women's Physical Education Building freeing Ball Gymnasium for recreational purposes. And secondly, to build a parking garage between University Gymnasium and the Health Center to enable parts of freshman parking areas to be used for outdoor recreational purposes.

A second assumption was to use the newly completed Field and Sports Building in its existing condition. This decision was made on the belief that I could not eliminate or alter this building and have my project seriously considered in any realistic proposal concerning this type of facility.

The final assumption I made concerned the Human Performance and Bio-Mechanics Laboratories. This decision was to provide a combined facility for the laboratories, separate from the proposed facility. The reason for this separation was to limit the size of my thesis to a level that could be adequately dealt with in the time allotted.

In separating these laboratories from my facility, I felt it still necessary to provide them with a site close to an existing athletic facility. The location I chose was the empty lot at the northeast corner of the McKinley Avenue and Petty Road intersection.

With goals decided and assumptions made, it became necessary to establish objectives concerning the problem faced. These objectives were established through 4
personal interviews and a poll conducted among Ball State's student, faculty and staff. Those objectives were:

1. To provide a design for an intramural athletic facility that would meet the present and future needs of Ball State University.

2. To provide a modern, well equipped home for the Women's Physical Education Department.

3. To provide a feasible program and plan that could be used in future considerations concerning an intramural/physical education facility for Ball State.

Having decided goals, assumptions, and objectives the preparatory phase of my Thesis Project was complete.
BUILDING TYPE ANALYSIS
After investigating the needs of the Ball State community, I traveled to various colleges in the Midwest to analyze their recreational facilities. The University of Illinois, Urbana, Illinois; Bowling Green State University, Bowling Green, Ohio; and Purdue University, West Lafayette, Indiana were included in my building type study.

Of these Universities, the facility at Illinois University had the best interior layout for easy access to the various activities offered. This easy interior access, however, was offset by the lack of a clear entrance into the building and a shortage of facilities for a University of this size.

The Bowling Green University recreational facility had a very clear entrance and a reasonably well chosen location; but, there was not adequate parking available and the plan of the building was very vague.

The "Co-Rec" at Purdue University was by far the most confusing in the interior spatial layout. However, what Purdue lacked in plan organization they more than compensated for with their facility availability. This coupled with their intramural use only and twenty-four hour a day accessibility for specific activities enabled the Purdue University facility to be deemed the most student oriented of the three facilities.

The key lesson that I learned from observation and discussions at each of the Universities, was that it is more important to the students to have plentiful recreational space that is readily available than it is to have a well organized yet
lesser equipped facility. This student input prompted me to the conclusion that the facility programming was as equally important as the designing of the plan and elevations of my facility.
FACILITY PROGRAMMING
Program Statement

The 1980's brought a renewed consciousness towards self-awareness in the United States. This self-actualization in turn brought with it an increased interest in physical fitness.

With so many new fitness goals being set by ever increasing amounts of students and faculty, there has been an undue amount of stress placed upon the existing facilities at Ball State University. These existing facilities which include Ball Gymnasium, University Gymnasium, Lewellen Aquatic Center and the Field Sports Building, were all designed primarily for either teaching or intercollegiate competition with little consideration given for recreational usage.

This lack of concern for recreational athletics has forced the present facility use programmers to assign a secondary status to individual physical fitness. In addition, the Women's Physical Education Department is currently housed in Ball Gymnasium. This facility, while adequate when first built for all the campus athletic needs, does not presently meet the needs of the department in either office or instructional space. It was this combination of overuse and overcrowding that prompted me to design a recreational facility for Ball State University.

The first step of my design process was to establish what specific facilities the students and staff of the University felt necessary for a well rounded physical
fitness program. With this in mind, I directed a survey during March, 1983 of three-hundred university students, faculty and staff members. This survey was conducted at the Scramble Light (150 polled), LaFollette Complex (100 polled), and University Gymnasium (50 polled). The following questions were presented during the poll:

1. Do you believe there is a need for more indoor recreational facilities at Ball State University?
2. Would you as a student, faculty, or staff member of Ball State University be willing to pay a three dollar fee per quarter to have an intramural sports facility built?
3. What type of recreational activity would you like to have provided in a new recreation center?

Of the three hundred polled, eighty-three percent stated that they felt there was a definite need for additional indoor recreational space and seventy-five percent voiced no objections to helping pay for the facility through a users charge. The most requested activity area was racquetball with forty-two percent expressing a desire for some on-campus courts. While increased weight-lifting facilities was the second most requested area with nineteen percent deeming that area as the most needed.

The second stage of my research was to talk to the various campus officials who would be involved in planning a new campus athletic facility. These officials
included: Maurice Mann of the Office of Campus Planning; James Hinga, Manager of Physical Education and Athletic Facilities; Robert Weis, Chairman of the Men's Physical Education Department; Jean Arrasmith, Chairwoman of the Women's Physical Education Department; and Jack Kovell, Director of Intramural Athletics. From my interviews with these people, I learned of past campus building plans, and the facilities currently proposed. I also received information on user trends and preferred facility locations which proved vital in my site selection process and facility programming.
Statement of Funding and Use

At the present time, the existing athletic facilities on campus lack both adequate scale and design features. The 1974-1984 University Ten Year Master Plan recognized the need for a new Women's Physical Education Department building. The following shows the year built and the square footage available for recreation purposes in each building.

<table>
<thead>
<tr>
<th>Existing Facilities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Building</td>
</tr>
<tr>
<td>Ball Gymnasium</td>
</tr>
<tr>
<td>University Gymnasium</td>
</tr>
<tr>
<td>Lewellen Aquatics Center</td>
</tr>
<tr>
<td>Field Sports Building</td>
</tr>
</tbody>
</table>

In addition, with the advent of growth in recreational interest, these facilities, built primarily as instructional spaces, are forced to double as areas for new leisure activities that were not anticipated at the time of construction. This leads to much consternation as equipment used in teaching is constantly moved and/or mislaid during the multiple overuse of the areas. Construction of the new facility would also allow for the conversion and/or renovation of these older structures to better incorporate new methods of teaching and physical education.
activities.

The funding for this undertaking would be accomplished through the state of Indiana. This is made possible by housing the Women's Physical Education Department, which has many of the same facility needs, in the same building as the recreation center. Operational costs would be supported by several sources, including faculty/staff/student fees and other rental charges.

In a survey that was conducted in March of 1983, 83 percent of the 300 university students and faculty asked, stated that they were in favor of constructing additional indoor recreational facilities. These new facilities are proposed to meet general student and university needs on the following basis:

a. To provide additional space for Women's Physical Education Department classes.

b. To provide additional space for university recreation.

c. To provide space for recreation oriented programs that are organized as clubs, classes or otherwise and are guided by advisors, special teachers or skilled specialists.

d. To provide additional space for intercollegiate teams of any nature, but requiring those teams to use only the unadapted facility, equipment or space provided by the building.

e. To provide space for community groups on the same basis of compensation on a prorated format.
With these priorities, the program is governed in its scope by the following missions:

1. To provide increased teaching station capacity for physical education classes, as well as professional experience in recreational management.

2. To facilitate an increasing student demand for specialized areas of indoor recreation; including tennis, basketball, archery, dance, jogging, handball, golf, the combative arts, and other recreational/instructional activities.

3. To promote a higher level of sports involvement by handicapped students and special education classes through proper adaptive accessories.

4. To improve and expand aquatic facilities in order to accommodate not only swimming and diving, but also water polo, synchronized swimming, scuba, canoeing, and sailboat instruction.

5. To provide an appropriate managerial area for both coordination and control of usage.

6. To provide a cohesive, connecting unit between the existing facilities which brings together, as a whole, the rest of the athletic buildings, while still expressing its own integrity.
Summary of Net Space Requirements

<table>
<thead>
<tr>
<th>Area</th>
<th>Description</th>
<th>Net Square Feet</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>I. Aquatic Area</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.</td>
<td>50 meter pool and deck</td>
<td>30,000</td>
</tr>
<tr>
<td>2.</td>
<td>Diving pool (5, 3, and 1 m. platform, 1 and 3 m. springboards)</td>
<td>6,000</td>
</tr>
<tr>
<td>3.</td>
<td>Storage</td>
<td>300</td>
</tr>
<tr>
<td>4.</td>
<td>Filters and recirculation (Supplied by Lewellen)</td>
<td>N/A</td>
</tr>
<tr>
<td><strong>II. Dance Areas</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.</td>
<td>Folk dance</td>
<td>2,800</td>
</tr>
<tr>
<td>2.</td>
<td>Square dance</td>
<td>2,800</td>
</tr>
<tr>
<td>3.</td>
<td>Barefoot studio</td>
<td>3,750</td>
</tr>
<tr>
<td>4.</td>
<td>Auxiliary studio</td>
<td>800</td>
</tr>
<tr>
<td><strong>III. Multi-purpose Areas</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.</td>
<td>Large gymnasium with seating (1 BB, 2 BB, 4 VB, 6 Bad.)</td>
<td>15,000</td>
</tr>
<tr>
<td>2.</td>
<td>Small gymnasium (2 BB, 4 VB, 6 Bad., 3 T)</td>
<td>14,000</td>
</tr>
<tr>
<td>3.</td>
<td>Auxiliary gymnasium (low ceiling) (Dance, elem. ed., fencing, conditioning)</td>
<td>3,150</td>
</tr>
</tbody>
</table>
### IV. Specialized Recreational Areas

<table>
<thead>
<tr>
<th></th>
<th>Specialized Recreational Areas</th>
<th>Net Square Feet</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Racquetball/handball courts (6) x 800 s.f.</td>
<td>4,800</td>
</tr>
<tr>
<td>2.</td>
<td>Squash courts (6) x 640 s.f.</td>
<td>3,840</td>
</tr>
<tr>
<td>3.</td>
<td>Combatives (boxing, wrestling, judo, karate)</td>
<td>3,600</td>
</tr>
<tr>
<td>4.</td>
<td>Weight room</td>
<td>2,800</td>
</tr>
<tr>
<td>5.</td>
<td>Archery/rifle/golf range</td>
<td>8,800</td>
</tr>
</tbody>
</table>

### V. Locker Areas

<table>
<thead>
<tr>
<th></th>
<th>Locker Areas</th>
<th>Net Square Feet</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Cage area</td>
<td>3,000</td>
</tr>
<tr>
<td>2.</td>
<td>Training room</td>
<td>2,000</td>
</tr>
<tr>
<td>3.</td>
<td>Locker space</td>
<td>5,000</td>
</tr>
<tr>
<td>4.</td>
<td>Showers each at 300 s.f.</td>
<td>600</td>
</tr>
<tr>
<td>5.</td>
<td>Lavatories</td>
<td>600</td>
</tr>
<tr>
<td>6.</td>
<td>Sauna and whirlpool</td>
<td>400</td>
</tr>
</tbody>
</table>

### VI. Classrooms

<table>
<thead>
<tr>
<th></th>
<th>Classrooms</th>
<th>Net Square Feet</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Large (40 students) 3 x 800 s.f.</td>
<td>2,400</td>
</tr>
<tr>
<td>2.</td>
<td>Small (15 students) 2 x 300 s.f.</td>
<td>600</td>
</tr>
<tr>
<td>3.</td>
<td>First-aid combo room</td>
<td>900</td>
</tr>
</tbody>
</table>
VII. Administrative/Service Areas

1. Aquatics office 120
2. Intramural office 300
3. Chairperson of Women's Physical Education Department office 150
4. General offices Women's Physical Education Department 5,600
5. Building supervisors office 120
6. Equipment storage and checkout 2,800
7. Supply shop and storage 2,000
8. Public restrooms 500
9. Faculty lockers 1,000

VIII. Lounge and Table Games

To provide seating and the following games: Billiards, pool, ping-pong, checkers, chess. As Required
Site Analysis

The selection of a building site was a crucial decision in the design of my athletic facility. Mr. Mann of the Office of Campus Planning provided me with a list of five possible sites under consideration for a recreational building. These sites included:

1. West of the intramural fields on Bethal Road.
2. Northeast corner of the McKinley Avenue-Petty Road Intersection.
3. LaFollette Field.
4. West end of Freshman Parking lot.
5. The field between the Teacher's College and the Mathematics Building.

Of these sites, I eliminated the intramural fields and the west end of the Freshman Parking lot as being too far from the center of campus.

The distance from the campus population in both cases would have made walking to the building improbable and thereby cut down on the usage of the facility by a large portion of students. The land at the northeast corner of the McKinley Avenue-Petty Road intersection was previously removed from consideration because I had used that land in my assumptions as the location for a combined Human Performance/Bio-Mechanics Laboratories. Also, building at this site would have demanded a three to four
story facility that was deemed undesirable by the departments involved.

The decision to use LaFollette Field as my site, instead of the field between the Teacher's College and the Mathematics Building, arose from the belief that LaFollette Field offered greater opportunities than the other site. In addition to being closer to University Gymnasium, Lewellen Pool and the Field Sports Building - LaFollette Field provided closer and more extensive adjacent land for the use of outdoor recreation.

In choosing LaFollette Field as the site for my facility, I was presented with three totally different edge conditions: to the south, the stark northern walls of the Field and Sports Building, University Gymnasium and Lewellen Pool; to the west McKinley Avenue, the LaFollette and Johnson Dormitory complexes and the myriad of people using them; and to the north and east, the more natural setting of Cardinal Creek.

The jutting barren facades of the Field and Sports Building, University Gymnasium and Lewellen Pool combine to enclose the empty land between them in a vivid contrast to the flat openness of LaFollette Field. Furthermore, this southern site edge presents a complex problem concerning the design of "leftover space". The only benefit the site receives from this edge is that these void solid walls keep to focus attention to other areas of the site that are much more pleasant.

The thousands of people using McKinley Avenue each day help to establish the western site edge. This public edge established the major pedestrian and vehicular
access at both the northwestern and southwestern corners of the site. Special consideration had to be placed on the development of an entry plaza to attract and accommodate this mass of people to my facility. A plaza of this type is also needed to meet the spatial requirements demanded by the layout and the towering height of LaFollette Complex. Additionally, sight and breeze corridors are established by LaFollette Complex at the site's northwest and southwest corners by its nearness to the wooded picnic area and Lewellen Pool.

Cardinal Creek when joined with the wooded picnic area and the game fields to north and east provides LaFollette Field with its third and most restful site edge. (The picnic area and the game fields were established through the adaptation of "Ball State University 1974-1984 Ten Year Master Plan". The "Ten Year Plan" locates a 600 car parking garage south of the game fields. This structure when built, will eliminate the need for the former parking lots and thereby free those lots for outdoor recreational usage).

Running from the southeast corner to the northwest corner of the site, the creek, picnic area and fields combine to provide an expansive open area with excellent views. Pedestrian access across Cardinal Creek does not create a problem as there are three existing bridges from my site to the game fields and two more relatively close.

Additional considerations for locating my facility in LaFollette Field, included the ambition to establish a centralized location for all the Universities athletic
activities except varsity football, baseball and track. This site also provided an easy access to the existing pump and filtration system of Lewellen Pool. This close and easy access to an existing system that was built to service an additional fifty meter pool, would prove economically beneficial if a swimming pool was to be planned for in my facility.
Average Rainfall- 57.5"
Max. Rainfall 24 hrs- 4"
Average Snowfall- 0"- 18"
Frost Depth- 20"
Average Temperature- 51 D.
Average Temp. July- 74 D.
Average Temp. Jan.- 28 D.
Relative Humidity- 60-80%

Major Vehicular Traffic
Major Pedestrian Traffic
Drainage

('Gas, Water, & H.V.A.C. available in McKinley Avenue Service Tunnel)
PROCEDURE
Architectural Design Philosophy

Before I can describe the procedure I used to design my Thesis Project, I feel it is necessary to state my philosophy towards Architecture.

I value the functional aspect of Architecture. I am committed to the ideal of providing a design that functions perfectly, yet is aesthetically pleasing to the eye. What this means is that while I appreciate pure function (or engineering) it is my aim to go the one step further to Architecture. For while pure function (or engineering) is a part of Architecture, not all engineering is to the level of Architecture.

However, one aspect of Architectural design that I feel is often neglected by other Architects is that of feasibility. Too often, the designer proposes a grandiose plan that is impossible for the client to use because it violates either the spatial or financial limitations of the project. I am not saying that the Architect should not produce new and innovative concepts and designs, however, I do believe that there are limits of scale and magnitude to almost every problem. In conclusion, design is easy, getting it to work and into use is what is so hard.
Approach and Methodology

The approach I engaged in the design of my Thesis Project was to divide the work between the three quarters my thesis would span. By dividing my long-term goal into three short-term goals, I felt I could complete my project as scheduled. By the end of the first quarter, my goal was to have completed the facility programming, presented at least three plan concepts and have spatial relationships worked out through preliminary plans and elevations. During the second quarter, I planned to work on design development with the goal of presenting a final design scheme at the end of the quarter. The third and final quarter would be occupied with design refinement and production of my final presentation drawings, book, and thesis board.

The methodology that I used in designing my project involved numerous meetings with my outside critics and the formulation of their needs into cohesive ideas. Next, I would present those ideas to my outside and studio critics to enlist their help in developing my ideas into solutions that I deemed valuable.

It was through the close association with my outside critics that I was able to achieve my goal of fulfilling the needs of a client. I used the following professors and staff in my facility program research because I believe they would be included on any board concerning a possible Recreational/Women's Physical Education Facility.
Dr. Jean Arrasmith: Chairperson of the Women's Physical Education Department

Mr. James Hinga: Professor of Facility Programming
Former Manager of Facilities (P.E.)

Mr. Jack Kovell: Director of Intramurals

Mr. Morey Mann: Office of Campus Planning

Mr. Robert Weiss: Chairman of the Men's Physical Education Department

Following the completion of my facility program, I reduced my outside critics to Mr. Kovell and Dr. Arrasmith whom I met with monthly and weekly respectfully. It was at this time that my studio critics became the most helpful to me. Professors Charles Sappenfield, Jack Wyman and Jack Wells helped to clear up the many problems that appeared in the course of my thesis design sequence and enabled me to continue in the methodology I had established for myself.
PROBLEM SOLUTION
Concepts

The original concept of the proposed recreation/Physical Education building called for individual activity spaces opening visually onto an interior circulation path. (See Building Concept, p. 44.) This initial concept was then joined to the existing facilities (the Field Sports building, University Gymnasium, and Lewellen Pool) by the extension and usage of two existing circulation paths. The first path is a northerly extension of the tunnel hallway connecting University Gymnasium and the Field Sports Building. The second is a continuation eastward of the Lewellen Pool hallway, roughly following the existing jogging trail up to and along the northern edge of the Field Sports Building. (See Circulation Concept, p. 45.)

By joining these three conceptual circulation routes, a triangular circulation path is formed around which the various activity spaces can be organized. In addition, by incorporating extensions of the two existing hallways into the proposed circulation pattern, easy accessibility is provided to all parts of both the proposed and the existing facilities.
Concept:

To have each activity space visually open to the circulation paths, lounges and lobbies, thereby increasing both spectator and physical participation.
Concept:
To take advantage of the existing pedestrian circulation paths of the site.
The Athletic Union

The Athletic Union is an indoor recreational sports facility for Ball State University. This facility is designed to meet the needs of Ball State's intramural and recreational athletic activities and to provide new office and instructional space for the Women's Physical Education Department.

The initial step in the design of the Union was to relocate, restructure or remodel several of the existing athletic facilities on campus. This reorganization was necessary in order to finalize the needs to be met in the design of the Athletic Union.

In this reorganization, Ball Gymnasium shall be abandoned by the Women's Physical Education Department and used as an instructional facility by the Teacher's College in conjunction with the participation program at the Burris Laboratory School. In addition, this facility would be used by Burris for its varsity sports program and it shall also serve as an auxiliary recreation facility for the University when not in use by the Laboratory School.

The second facility to be remodeled and reorganized is University Gymnasium. The remodeling, while needed to finalize the spatial needs of the Athletic Union, is being undertaken primarily to establish University Gymnasium as the indoor varsity sports facility on campus. With all incollegiate games, meets, and matches held in
University Gymnasium, there would never be the need to restrict student access into the Athletic Union.

The initial renovation needed to establish University Gymnasium as the varsity sports building is the creation of a new women's locker room. This new locker room is to be constructed using the eastern two-thirds of the existing combative's room. This locker room would also be used by the visiting intercollegiate teams to provide sufficient locker and shower space that is separate from the home team's locker room. The remaining third of the combative's room is to be converted into a departmental library/study room for use by students of the Men's Physical Education Department.

The second idea in this remodeling, calls for the conversion of the current gymnastics practice room into a permanent gymnastics competition room. The establishment of a permanent gymnastics area is easily accomplished without the loss of any of the existing court space. By turning the basketball courts in the upper gymnasium ninety degrees, sufficient space is freed to allow the wall dividing the basketball and gymnastics areas to be moved twenty feet to the south. This additional space, when added to the gymnastics room, will allow ten rows of folding bleachers to be installed and will also allow the equipment to be spread apart adequately to allow intercollegiate competition to take place. An added advantage of this permanent equipment setup is that it will save the University money by eliminating costly equipment setup for gymnastic meets and will also eliminate the
wear and tear of constantly moving the equipment.

The final decision involving reorganization and relocation of any existing campus facilities deals with the Human Performance and Bio-Mechanics Laboratories. These two laboratories shall be housed together in a new building located on the northeast corner of the McKinley and Neely Avenue intersection. This relocation provides a single research complex that is separate from the two Physical Education Departments yet close enough to use their facilities if required. By locating the building for these Laboratories on this corner, they are given a new prominence on campus that signifies the recognition they are receiving from around the nation for their research. In addition, this relocation frees their former locations in LaFollette Field and Ball Gymnasium for other uses.

After reorganizing the existing facilities as required, two different methods were employed to organize the individual activity areas. The first idea was to use existing equipment or facilities when it would prove to be economically advantageous. While the second method employed activity type grouping and the visual and physical impact conveyed by the massing of the activity groupings.

After deciding to use existing facilities when possible, the exact location of the squash courts, and the approximate locations of the fifty meter pool and diving well were predetermined. The squash courts are to be built using the existing squash service walls on the north wall of University Gymnasium. The placement of the courts in this location shall provide the Men's Physical Education Department 48
with sufficient nearby space to teach not only squash, but also handball and racquetball. The placement of the swimming pool and diving well, in the area between Lewellen Pool, University Gymnasium and the Field Sports Building, was done to take advantage of the Lewellen Pool heating and filtration system. Lewellen's existing filtration system was designed and built to handle an additional fifty meter pool and diving well in this location. By using this existing system, the University will save thousands of dollars in equipment and construction costs. In addition, by locating the pool in this area, it becomes a visual showpiece that the building circulation in this area can focus around.

In organizing the remainder of the Athletic Union, the various activity areas were grouped together according to the functions they serve. These group types include recreation activity spaces, office spaces, classrooms, and facility support areas. These activity groupings were then organized around the proposed circulation pattern, according to the functions each group served and the physical, visual and psychological impact conveyed by their location.

The main entry into the Athletic Union is on the western side of the facility and is emphasized by a wide entry plaza. This plaza opens on McKinley Avenue and by use of landscaping along the street turns the pedestrian traffic from both the south and north into the plaza and towards the Union.

The plaza also acts as a buffer space between the Union and LaFollette Complex. By conceding this area to the spatial demands created by LaFollette's size, the
individual shall not feel towered over by the giant dormitory complex. The design of the plaza uses a stepped plan going into the building. This stepping is a continuation of the floor plan pattern created by the handball courts to the northeast and the offices to the southeast.

On the southern border of the plaza, steps are incorporated into the edge of the paving. These steps are set behind large planters — creating areas where students can sit, gather in small groups or where classes can be held (weather permitting). While the northern edge of the plaza has a one foot concrete embankment and bicycle racks located in the small corners of the plaza.

The plaza entrance itself is emphasized in several ways. The first, is by the narrowing of the plaza as the two paving edges converge on the entrance. The second is created by the Athletic Union's facade. The facade uses a reduction of the individual building components to call out the point of entry. This entry emphasis is created by using the large bulk of the main gymnasium and Lewellen Pool on the extremities and then stepping back the plan and elevation of each spatial block as you approach the entrance. The entry point is also enforced by the roof heights behind the entrance. As each layer steps down from the east, it brings the entrance height to an acceptable human scale.

The visitor to the Union is drawn towards the entrance as the space frame of the roof reaches out over the narrowed plaza. This canopy helps to define the entry even more as it also steps back and down towards the entrance. Located under the
canopy are two pre-cast concrete tables. The first is incorporated into the steps to the south of the entrance while the second is located just north of the entrance. These two tables are to be used by the various campus organizations as information booths when needed.

Upon entry of the Athletic Union, the visitor is directed to the activity area they seek through a variety of methods. The first is a collage of graphic illustrations located on the blank wall east of the entrance. The second is a small group of kiosks located in the lobby entrance. The kiosks will have information brochures, notices, and tack-up space for student usage. The third directional feature will be the Supply Shop located directly north of the entrance. At this shop, the visitor shall be able to purchase small items such as athletic clothes, equipment and receive information on the building itself.

For an accurate description of the Supply Shop and all other activity areas, see the "Facility Program".

Proceeding to the northeast, the visitor walks along the main circulation thrust into the building. This circulation thrust occurs through an area that shall be referred to as the Atrium. Within the Atrium, there are large planters defining the circulation pathway. These planters also provide smaller isolated areas in and around them.

Behind the planters on the left, there is a grouping of six classrooms. The first two classrooms have a fifteen person capacity. The second, fourth, and sixth
classrooms are tiered and can seat forty students. The fifth room is a specialized First-Aid classroom with lockable storage cabinets, roll away desks, chairs, and examination tables.

On the southern side of the Atrium there is a series of six handball courts. Grouped in pairs, each handball court opens onto the Atrium by the use of a full height glass wall. The use of these transparent walls allows the people in the Atrium to have full visual participation of the activities occurring within. The courts are separated from the main circulation of the Atrium by a series of six steps, one up and five down. These steps provide a link to the court level which is sunken and also serve as seating for spectators. Additionally, these steps are sculptured to form a teaching station at the second set of courts.

The visitor next arrives in the main lounge area of the Atrium. Separated from the Union's circulation path by large planters, the lounge area is sunken three feet below the surrounding floor level. Here the student can use any of the pool, billiards, Ping-Pong, or other various game tables dispersed throughout the area. The visitor can also watch the activities occurring within the spaces surrounding the lounge making for an active and varied view.

The ceiling of the Atrium area also offers a varied view. Composed of an exposed space-frame, the framework steps up from a clear height of ten feet at the entrances until it reaches a clear height of twenty-five feet above the circulation path around the Atrium's main lounge. In the Atrium, as in the other lounges and
lobbies, the roofing membrane is used only on the horizontal surfaces while fully operable glazing units are used on the angled surfaces. With the glazing occurring in each direction, individual units can be opened as required to take advantage of any breeze available to naturally ventilate the building. The operation of glazing units shall be through a mechanical system that is controlled by a computer located in the Building Supervisor's office.

The entrance to the large gymnasium is located at the northwest corner of the Atrium lounge. This gymnasium is designed for two basketball courts and shall serve as the primary competition gymnasium for intramurals. Equipped with fold-out spectator bleachers, retractable basketball goals, and flush storage cabinets, this gymnasium can be used for activities ranging from basketball tournaments to indoor soccer games.

Opening onto the Atrium from the north are the Folk and Square Dance studios. Built as a single room, the studios can be separated by a soundproof folding wall and can be used for dance classes, aerobics, judo and other activities requiring large amounts of floor space. In the event that more room is needed, the glass northern walls of the studios can be removed and the adjacent exterior courtyard can be employed as spillover space. An additional feature of this combination studio is the small warming kitchen located in the middle of the south wall. The addition of a kitchen to this space, allows the University to rent the studios to the various on and off campus organizations for catered dances, dinners, and meetings.
Directly east of the main lounge is the Equipment Storage and Dispersal Room. Here the student, staff or faculty member can check out athletic equipment for use in or out of the Athletic Union. The equipment itself will range from game balls, racquets and camping equipment, to the keys to restricted-use facilities such as the Gymnastics Room.

Located above the Equipment Storage and Dispersal Room are the Intramural offices, meeting rooms, and staff lounges. This upper floor uses an open office plan and utilizes any excess space as a student lounge. With its centralized location in the main Atrium, this elevated island of offices is given the ability to visually supervise a majority of the activity spaces in The Athletic Union. Additionally, the second floor lounge and the two sunken seating areas to the north, east and west of the Equipment Room provide the students with quiet areas to sit, gather and study.

Located to the north of the Equipment Storage and Dispersal Room is the Gymnastics Gymnasium. Set-up for supervised individual gymnastics practice, access to the gymnasium shall be controlled through a key check-out system under the control of the Equipment Storage and Dispersal Room. This gymnasium shall be used only for intramural and individual gymnastics practice and shall be equipped with all the necessary equipment.

To the east of the Equipment Storage and Dispersal Room are the Barefoot Studio and the Auxiliary Gymnasium. The Barefoot Studio is designed to accommodate ballet
and fencing and is equipped with pull-out bleachers. These bleachers are to be used to seat spectators during small shows and competitions and shall seat 100 - 150 people. Next door, the Auxiliary Gymnasium provides instructional space for elementary education, conditioning, dance, and judo. The Gymnasium is equipped with lowered basketball rims and backboards, for use by handicapped students and elementary education students.

The final room that opens onto the Atrium is the Warm-up Studio. Located at the southeast corner of the Atrium, this studio is to be used for individual and group warm-ups and work outs. The stepped shape of the studio and adjacent Storage Room acts as a funnel that either gathers the people into the corridor from the Field Sports Building or disperses them around the Atrium.

Proceeding south from the Warm-up Studio, the visitor arrives at the Small Gymnasium. The entry to this gymnasium, like every entryway in the Union, is recessed; but here, it is further enforced by the recessed viewing window into the Weight Room across the hall. The interior of the Small Gymnasium is large enough to accommodate two full size basketball courts and a twenty-five foot high rock climbing practice wall. The climbing wall is located east of the entrance on the south wall and can be secured at night behind a moveable partition wall.

Bordering the Small Gymnasium to the southwest is an interior courtyard. From this courtyard, the guest to the Athletic Union can exit the building eastward, go down the stairs to the Locker Rooms or gain access to the Small Gymnasium. Other
rooms directly accessible from this lobby include the northern third of the Women's Athletic offices, the Combative's Room and the Weight Room. Serving as an auxiliary to the main Atrium, this lobby also acts as a gathering or staging area for the rooms surrounding it. The focus of the lobby is the large staircase leading to the locker rooms in the basement. By using a large planter and built-in seating to surround and draw attention to the stairs, a needed major break in the Union's circulation paths is created.

The entrance to the Weight Room is at the north end of the stair lobby. Designed for recreational use only, the room has ample room for both dead weight and nautilus equipment set-ups. This new facility will eliminate the overload of students using the existing weight room in University Gymnasium.

At the east side of the stair lobby is the Combative's Room. Divided into three areas, the room shall be used for boxing, wrestling and karate. The first area in the Combative's Room is the ring room. Centered in the room is a regulation size boxing ring surrounded by individual work-out spaces. The second area is the bag room. This room is equipped with speed and heavy bags and has been walled off to lessen the sound level in the rest of the Combative's Room. The final area is the mat room. The floor in this area is covered by a fully marked wrestling mat that can be rolled and moved if required. Additionally, the walls are padded up to a height of four feet above floor level for the safety of the users.

Returning to the main or plaza entrance lobby, the visitor to the Union can
proceed to the southeast by using either the steps or the handicapped access ramp. The western end of the stairs stops where it butts into the Building Supervisor's office. Located to aid the Supply Shop in entry control, the supervisor's office also contains the control terminal for the computer controlled H.V.A.C. system.

To the southeast of the Supervisor's office is the Exhibition Hall. Here the Women's Physical Education Department can exhibit pictures, trophies and awards of the women's varsity athletic teams in display cases arranged throughout the space. The western wall of the Exhibition Hall is a glass curtain wall. To support the curtain wall, the space-frame roof structure is turned and brought down to the ground. The foundation for the vertical space frame is then hidden behind a bench and in a planter that uses the framework as a trellis. The vines and other plant life will then provide the Exhibition Hall with shading in the summer.

The primary vertical circulation core of the Athletic Union is situated in the middle of the Exhibition Hall. Here access is provided down to the basement Locker Room facilities and up to the Indoor Track. Adjacent and behind the stair and elevator tower are located a total of three secluded seating areas. Each area is surrounded by a planter and is sunken two steps to help enforce the feeling of separation from the surrounding spaces.

The Departmental Library and the Chairwomen's office of the Women's Physical Education Department are located at the northeast corner of the Exhibition Hall. These two spaces act as the beginning of an office complex to be used by the
teachers, coaches and graduate assistants of the Women's Physical Education Department. This complex is situated to act as a break between the activity areas to be used primarily by the Women's Physical Education Department and those to be shared with the Men's Physical Education Department. Each office has at least one full glass wall and the majority are provided with a view into either a lobby, circulation corridor or into the new swimming pool area.

The service core of the Athletic Union is located in the basement of the facility and is accessible by either of the two stairways described earlier in the text. The staircase and elevator from the Exhibition Hall serves the Southwest Basement Lobby which provides access to the Mechanical Room, Training Room and both Locker Rooms. The Northeast Basement Lobby is served by the auxiliary lounge staircase and also provides access to the Locker Rooms and to the Cage Area. Each lobby is provided with seating surrounding a large planter, vending machines and provides the facility users with a location to congregate prior to going to their recreational activity areas.

As for the locker rooms, each is equipped with two restrooms, gang showers, one whirlpool bath and one sauna. The training room, which is accessible from each locker room and the elevator lobby, is furnished with six examination rooms and physical therapy equipment for sports related injuries. The final room is the cage area. Here towels and gym cloths can be checked out and there is also a laundry to clean the soiled items.
The new swimming facility is the next space to be discussed upon the return to ground level. The focus of the new swimming facility is a fifty meter by twenty-five yard swimming pool. The pool has a handicapped accessibility ramp and can be used for swimming competition in either direction. Located in the southeast corner of the swimming area is the diving well. Equipped with one and three meter springboards and a one, a three, and a five meter diving platform, the diving well provides greater opportunities for Ball State’s intercollegiate and intramural divers.

Other important aspects of the pool area include: terraced deck space for 200 sunbathers, permanent spectator seating along the western pool edge, and a removable membrane roof. Access to the pool can be gained by three methods. The first is from the locker rooms in the basement and is controlled by a turnstile and large footbath at the top of the stairs. The second is directly from Lewellen Pool and can be controlled by shutting the door between the two pools. The final access point is at the southwest corner of the pool area. This entrance is for spectators only and is controlled by the new aquatics office located there. The final design feature of the pool is its location. Situated inside of a major circulation loop, the glass curtain wall surrounding it enables the passerby to view the activity occurring within. This visual access also enables the pool users to enjoy a psychologically expanded area.

Located above and around the pool area is a new indoor jogging track. Entrance
to the track can be gained by elevator and stairs in the Exhibition Hall and at the second floor doors at the Southwest corner of University Gymnasium. The jogging track is set-up with fitness stations located around it and open on the inside to the pool area below. The track also cuts through the southwest corner of the Field Sports Building. By cutting through the building here on the second floor, a balcony viewing area is created for both the Field Sports Building and the pool area.

The next area in the Union is the two-tiered lounge east of the diving well. This lounge shall have a concession stand and public restrooms at its north end, and be equipped with cafe style tables and chairs. This lounge in addition to serving the surrounding activity areas shall also be used during varsity athletics as a concessions area.

Along the south wall of the Field Sports Building and east of the concession stand is the Archery, Rifle/Golf range. This range is described fully in the facility program and is also equipped with a soundproof viewing gallery, a secured armory and a specialized attached classroom all of which can be secured when not in use.

To the south of the Archery, Rifle/Golf range are six squash courts built onto the side of University Gymnasium. These courts are designed to use the existing service walls, thereby saving in overall construction costs. Running along the glass fronts of the courts are steps that serve as spectator seating. Each court's
steps is divided from the next by a planter, and this plant seating pattern combines with the action of the courts to create a varied and active space.

The final space of the Athletic Union is the Shipping and Receiving Department. Located at the eastern end of the Archery, Rifle/Golf range, this department will service the Athletic Union, the Field Sports Building, Lewellen Pool and on occasion University Gymnasium. This facility will have a three bay loading dock, one thousand square feet of storage space and a small office.

The exterior profile of the Athletic Union is created by the size of the individual activity spaces occurring within. With the three large gymnasiums acting as cornerstones, each activity area steps back in plan and down in elevation as each unit gets closer to an entrance. The building units are also punctured by viewing enclaves that allow the people outside to view the activities within prompting increased usage by those outside. Also, in order to bring the gymnasium heights down to scale, earth berming is used around them and several of the other large spaces. This berming helps to keep the viewer from feeling towered over when looking into the buildings.

The construction of the Athletic Union is based on a 40' x 40' structural grid pattern and uses a structural steel framing system. This structural system is used throughout the building except for the glass curtain wall as described earlier in the Exhibition Hall. This curtain wall system is also used at the entrance and corridor between University Gymnasium and Lewellen Pool to provide total viewing in
and out at this location.

The roof structure of the Athletic Union is composed of a large space-frame. This framework steps up as it progresses to the areas of the facility where the interior lobbies and courtyards occur. This stepped effect is also used at each of the auxiliary entrances to bring them down to a human scale. Additionally, the overall effect of the broken, stepped roof is accentuated by the use of the horizontal glazing units between levels as explained for the Main Atrium.

The exterior gaming fields and site organization are the final elements to be discussed in the design of the Athletic Union. In the remainder of LaFollette Field, three plans are to be completed. The first, is to reroute the existing jogging trail around the northeastern corner of the Athletic Union. This rerouting shall produce a trail that is exactly one-half mile long. The second plan is to extend the picnic grounds south to the north edge of the Union by planting numerous new trees and upgrading the existing picnic facilities there. The final plan in this area, is to rework the existing golf greens to the east of the picnic grounds to create a better exterior driving and chipping range.

Across Cardinal Creek, four new intramural football fields are located in what was once the eastern half of the Freshman Parking lot. This was made possible by using the proposed parking garage to the south to eliminate the need for the former perimeter parking lot. Winding around the new football fields, is a three-fourths of a mile long jogging trail with fitness stations built along its length.
Additionally, the Johnson Field softball diamonds are to be reorganized to create space for the construction of a new soccer field.

The final feature in the design of the exterior recreational spaces for the Athletic Union is the creation of a quarter mile banked bicycle track. This track shall be located at the west end of the freshman parking lot beside the tennis courts and shall have seating for 2000 spectators. This track and new bicycle trails to be established in cooperation with the city of Muncie shall provide safer riding opportunities for participants in this popular sport.
The Athletic Union

A. The Athletic Union
B. Field Sports Building
C. University Gymnasium
D. Lewellen Aquatic Center
E. Human Performance/Bio-Mechanics Laboratory
F. LaFollette Complex
G. Johnson Complex
H. Parking Garage
   (500 cars)
A. Women's Locker Room
B. Men's Locker Room
C. Cage Area
D. Training Room
E. Mechanical Room

BASEMENT PLAN

Field Sports Building
Open to Below and Above
Lewellen Pool

JOGGING TRAIL PLAN

WALL DETAIL (GYMNASIUM)

WALL DETAIL (JOGGING TRAIL)
FACILITY PROGRAM