



**RECREATIONAL  
FACILITIES  
MASTER PLAN**



**WORCESTER  
POLYTECHNIC  
INSTITUTE**

WORCESTER, MASSACHUSETTS  
FEBRUARY 2005



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CONTRIBUTORS



# 1 PURPOSE AND PROCESS OVERVIEW

The purpose of the Worcester Polytechnic Institute Recreational Facilities Master Plan (RFPM) is to provide a design and planning framework for WPI to implement the Department of Physical Education, Recreation and Athletics mission over the next 5 to 10 years. The Master Plan defines site and building improvements and identifies new athletic and recreation facilities within the existing campus fabric. The recommendation and phased implementation of the plan is consistent with campus goals and provides a set of guidelines that will serve to improve and strengthen the campus physical environment and support the quality of life at WPI.

The planning process for the Master Plan began in September 2004 with the Department of Physical Education, Recreation and Athletics and the Recreational Space Master Planning Committee (RSMPC). Over a five-month period the Master Plan was developed through a series of workshops and group discussions. This document was generated through a planning process that included students, faculty, coaches, staff and university administrators and included the following activities:

- Data Collection
- Campus Analysis
- Site Analysis
- Existing Facilities Evaluation (including buildings and fields)

- Space Program Development
- Design Concept Development and Documentation

The Design Team, in conjunction with members of the Recreational Space Master Planning Committee developed the following goals and objectives for the Recreational Facilities Master Plan. These goals and objectives were used as key decision-making criteria to determine the final report recommendations.

## **Strengthen the Campus**

The Recreational Facilities Master Plan should integrate future growth plans for physical education, recreation and athletics with the “Design Principles” established by the 2002 Campus Master Plan. The location of the new Recreation Center should be highly visible on campus and have its own identity while being physically connected to existing programs in Harrington Auditorium.

## **Enhance the Collegiate Experience**

Extracurricular activities play a vital role in the WPI’s approach to education, a reflection of the Institute’s belief that a significant share of learning occurs outside the classroom or lab. The Recreational Facilities Master Plan should provide programs and opportunities to enhance and support this goal.

## **Improve Physical Education, Recreation and Athletic Programs**

The Recreational Facilities Master Plan should address and meet the future programmatic needs of the Department of Physical Education, Recreation and Athletics to be competitive with peer institutions; to be safe and comfortable for student-athlete participants; to improve the spectator experience; and to provide improved and expanded programs to meet growing student recreational demand and trends in support of a healthy lifestyle.

Today, with changing demands in physical education, recreation and athletics the existing needs and future needs of the Institute cannot be adequately met in Alumni Gymnasium, Harrington Auditorium, Alumni Field and several natural turf fields as they are now configured. The present shortfall in adequate space can only worsen as WPI attempts to meet its projected enrollment growth and program improvements at the Division III level over the next 5 – 10 years. The Recreational Facilities Master Plan is the first step in meeting the challenges before the Institute. Meeting these challenges and accomplishing these goals will greatly assist the University with improving the quality of student life; attracting and retaining students; encouraging greater student, faculty and staff participation in life fitness and wellness programs; and improve programs and facilities for women.





## DATA COLLECTION

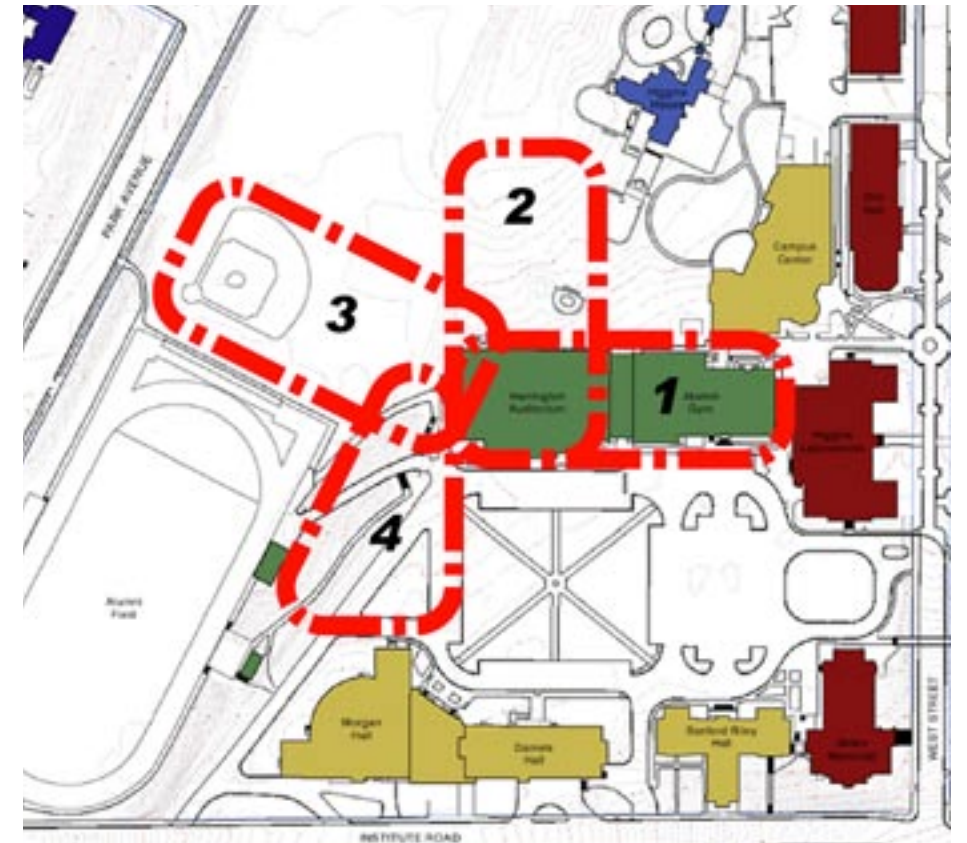
During the course of the Recreational Facilities Master Plan, the Design Team collected data that described the condition of existing buildings, athletic and recreation fields, vehicular and pedestrian circulation and landscape features as well as program and scheduling information for varsity athletics, intramurals, physical education and recreation. The data included campus plans; building plans, sections and elevations; soils reports; the recently completed 2002 Campus Master Plan; program schedules, WPI Sports and Recreation Survey; Sasaki Associates' 2004 Sports Survey of NCAA Member Institutions with enrollments under 5000 and surveys of peer institutions. Tours of the campus; proposed building sites; Alumni Gymnasium and Harrington Auditorium; Alumni Stadium and natural turf fields were conducted with facilities personnel, members of the RSMPC and the Design Team to gain a more in-depth understanding of the goals and objectives of the master plan and to gain additional insight into the need for new and renovated facilities. A photographic inventory was compiled of the tours and used as reference material throughout the master planning process.



## CAMPUS ANALYSIS

The purpose of this task was to familiarize the Design Team with the campus. In the future, WPI's campus will be distinguished by a greatly improved and well-defined physical education, recreation and athletics sports complex bounded by Park Avenue, the Quadrangle, Harrington Auditorium and the Higgins Gardens. This recreation and athletics sports complex will play a prominent role within the existing campus fabric, contribute to its overall campus image and strengthen its relationship to the surrounding Worcester community.

As part of the Recreational Facilities Master Plan an analysis of the organization and design features of the WPI campus (specifically the sports complex) was implemented to determine the organizing principles and planning concepts for future growth of Physical Education, Recreation and Athletic programs in support of the goals and objectives of the 2002 Campus Master Plan. The goals of this analysis were: the compatibility with the architectural character of the campus, the utilization of campus topography to accommodate large buildings, the strengthening of pedestrian connections from the Academic "Hilltop" to Alumni Field, the preservation of landscape and open space features, and the enhancement of views to and from buildings, fields and open space.

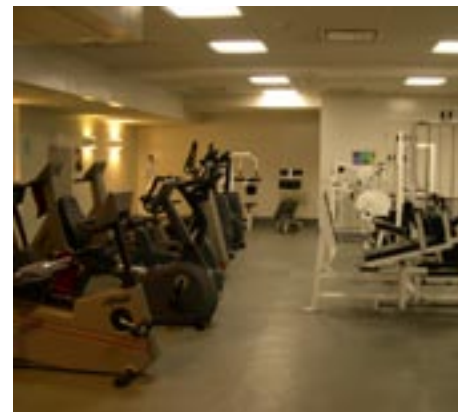
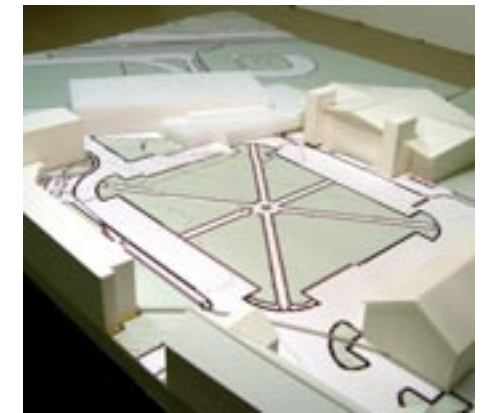
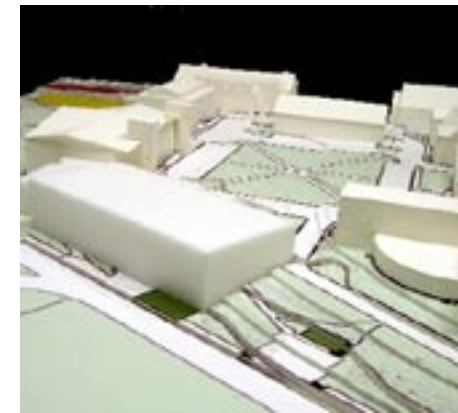
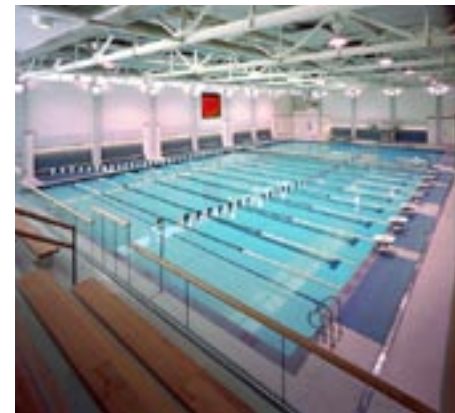


## SITE SELECTION

A key goal of the Master Plan was the siting of new buildings, playing fields, parking, pedestrian and vehicular circulation and campus open space adjacent and connecting to the existing program spaces located in Alumni Gymnasium and Harrington Auditorium. In support of the goals to potentially re-use or renovate existing spaces in Alumni and Harrington as well as strengthen pedestrian connections to Alumni Stadium and the natural turf fields adjacent to Higgins Gardens, four sites were selected for investigation and evaluation. The four sites were:

1. Alumni Gymnasium / Harrington Auditorium and Higgins Gardens
2. Harrington Auditorium and Higgins Gardens
3. Harrington Auditorium and Baseball Field
4. Harrington Auditorium and hillside bounded by Alumni Stadium and the Quadrangle





## EXISTING CONDITIONS ANALYSIS

The Design Team formed a sub – team of architects and engineers experienced in the evaluation of existing facilities to facilitate the task of documenting the existing conditions in Alumni Gymnasium, Harrington Auditorium and all outdoor fields and performance venues. Building on previous experience in this type of evaluation, the team used a laptop computer based data recording procedure. Evaluations by each consultant (mechanical, electrical, structural and architectural) for their specific area of expertise were conducted in the same format to provide a uniform presentation of the conditions of each building. Conclusions and recommendations are presented in Chapter 2 of this report.

## PROGRAM DEVELOPMENT & CONFIRMATION

WPI conducted a Sports and Recreation Survey with the WPI community including undergraduate and graduate students, faculty, staff and alumni. The purpose of the survey was to gather valuable data to inform the design process and to help identify the recreational and fitness facility needs on campus.

There were 975 responses; they indicated strong support for improved fitness and recreation facilities. The respondents were universally in favor of improving the size and quality of the pool, increasing the availability of lockers and facilities, and improving the appearance of the recreation facilities. 92% thought that better facilities would have an impact on attracting more people to WPI with 40% stating the impact would be significant.

## CONCEPT DEVELOPMENT

Upon approval of the program and the completion of the Campus and Existing Conditions Analysis the Design Team prepared preliminary adjacency and stacking diagrams for eight design concepts incorporating all space program and outdoor field requirements. The block diagrams indicated in general terms key activity areas, shared spaces, re-use of existing facilities in Alumni Gymnasium and Harrington Auditorium, circulation patterns, parking and connections to campus and the community. The Design Team and Planning Committee using the goals outlined in Chapter One as “measuring sticks” for success determined which concepts should be developed further. Four design concepts were recommended for further investigation. These concepts were located on Site 2 and Site 4. Following a detailed evaluation of the four schemes the Planning Committee recommended Site 4 as the preferred site for the new Recreation Center.



## 2 EXISTING CONDITIONS

WPI's athletic and recreation programs are currently accommodated in two buildings – Alumni Gym and Harrington Auditorium. Alumni Gym was built in 1916 to accommodate the athletic needs of a men's university of less than 500 students. In the 1950's, an addition (the connector building) was added to provide a bowling alley, pistol range, locker rooms and offices. Harrington Auditorium was built in 1968 to provide a multi-purpose auditorium for social events and an expanding athletic program.

The student body has grown to a population of over 3,500 undergraduate and graduate students and 220 full-time faculty members. The existing facilities no longer meet the physical education, recreational and athletic needs of the larger WPI community. The admission of women in the late 1960's and an increased awareness of physical fitness have also created a greater demand for improved and expanded facilities.

Alumni Gym has changed very little since its construction 89 years ago. Alumni Gym includes a pool, gym, running track, offices, laundry and the fitness and weight center. The building has many deficiencies that will need to be addressed if the building is to be renovated for athletic, recreation or academic use.

- Space – The pool, gym and running track are significantly smaller than

required to meet the NCAA minimum requirements or user demand. Alumni Gym cannot be modified to accommodate these spaces.

- Structural Systems – The structural system for Alumni Gym is in good shape and includes masonry bearing walls, post and timber framing of the floor slabs and steel trusses supporting a wood roof deck.
- MEP Systems – The mechanical, electrical and plumbing systems are outdated, nearing the end of their useful life. The fire protection system is non-existent.
- Location – The connection of Alumni Gym to Harrington Auditorium is through a maze of corridors and a change in level. The construction of new recreation facilities west or north of Harrington Auditorium will physically isolate these spaces even more from Alumni Gym.
- Code - The building does not meet today's code requirements for egress, handicap access, fire protection, earthquake resistance and public toilet facilities.
- Historic Status – Alumni Gym is on the register for historic buildings. The building cannot be demolished and the exterior of the building cannot be modified without the approval of the Historic Commission.

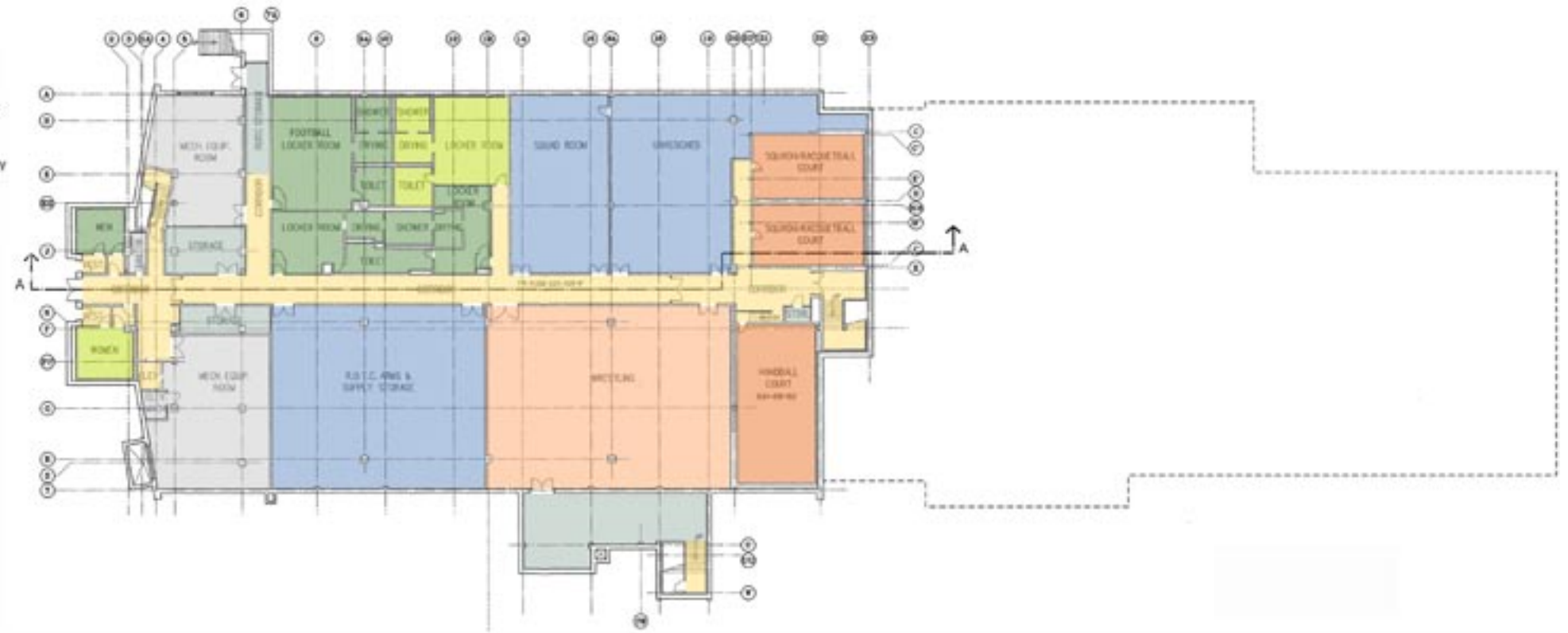
Based on the above concerns, the Design Team recommends that the program in Alumni Gym be relocated and Alumni Gym be renovated

for academic or another use.

Harrington Auditorium is 37 years old and in reasonably good condition. In addition to the multi-purpose auditorium / performance gym Harrington also includes two squash courts, a handball court, conference room, training and rehabilitation, wrestling room, lockers and ROTC facilities.

- Space – The lockers and squash courts at the basement level are undersized to meet the needs of WPI's recreation and athletic program and minimum standards.
- Structural Systems – The structural system is in good shape consisting of a concrete and steel framed system with long-span steel girders supporting the roof over the multipurpose auditorium / performance gym.
- MEP Systems – The HVAC systems are well maintained and include eleven heating and ventilating supply units that appear to be at or near the end of their useful life. The facility is not air-conditioned and there is no automatic sprinkler system. The Simplex fire alarm system was recently upgraded.
- Code – Code issues include ADA compliant elevator size and access and the presence of asbestos in floor tiles and steel truss fireproofing.





## HARRINGTON AUDITORIUM BASEMENT LEVEL

The basement level of Harrington Auditorium was designed to accommodate two squash courts, a handball court, a wrestling practice room, two men’s varsity team locker rooms one women’s varsity locker room and one shared visiting team and ROTC locker room, ROTC program spaces, rest room facilities for the athletic fields, storage, two mechanical equipment rooms and a transformer room.

Locker Rooms - The existing four varsity team locker rooms are too small and poorly ventilated. A total of eight locker rooms are required for the men’s and women’s varsity teams plus two visiting team locker rooms and two official’s locker rooms. The football locker room can utilize two interconnected locker rooms to accommodate 70 players and large equipment.

Squash Courts – The two existing squash courts are 18’-6” wide North American Courts. The competition width was recently increased to the International standard width of 21’-0”. These courts need to be replaced. The courts are also open to the multi-purpose auditorium above resulting in a lack of acoustical separation.

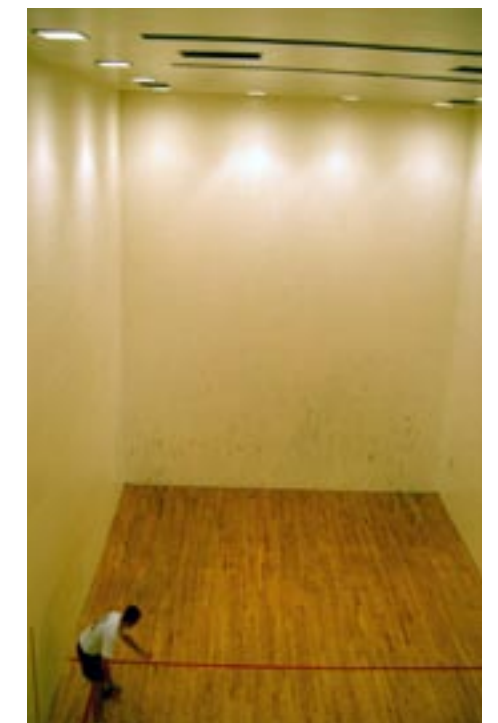
ROTC – The ROTC program occupies a large amount of valuable

space Harrington. Given the pressing need for additional team space, it is recommended that ROTC be relocated to another building.

Equipment Storage – There is no equipment issue room or laundry. These rooms should be relocated to the Harrington Basement for operational convenience and efficiency in support of the recommended design concept.



Football & Wrestling locker room



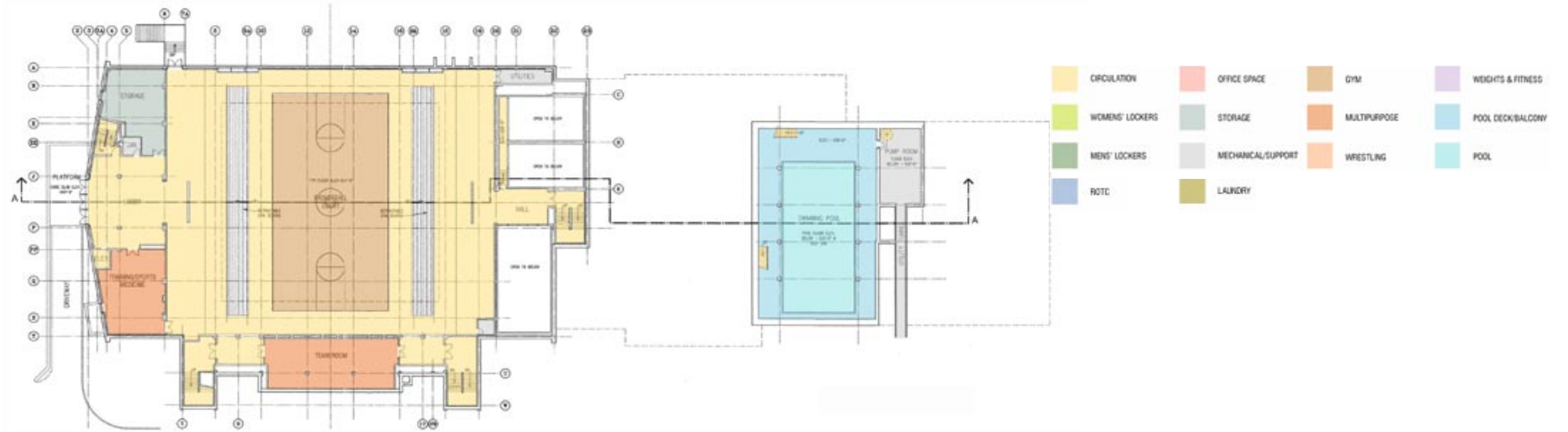
Existing Squash court



Main corridor in Harrington’s basement.



Wrestling practice room



Harrington Auditorium gymnasium court



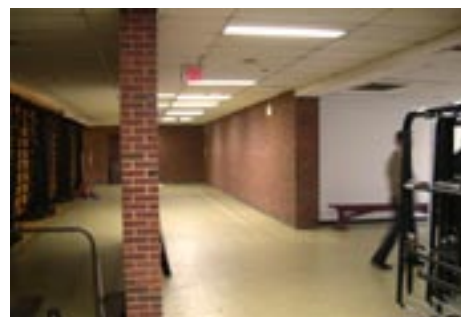
Existing pool

## HARRINGTON COURT LEVEL

The court level of Harrington Auditorium includes the basketball/volleyball court, 3,000 seats, a training room, a concession area, storage and lobby entry from the fields. The court area has an excess of undefined circulation space surrounding it that is used for table tennis and miscellaneous equipment storage that may not be in conformance with current code requirements. The main gym floor is also used for recreation basketball and badminton.

Training Room – The training room is undersized and poorly located. It should be doubled in size and relocated to the Basement Locker Room Level with better access to the fields and locker rooms. The space should include an office, exam room and hydrotherapy area.

Concessions Area – The concessions area is used as a team room when there are no events scheduled in Harrington. The concessions area is hard to get to, difficult to service and provides inadequate queuing space. The vacated training room could become a team room and the concession area upgraded or relocated.



Circulation space at court level



Current team & concessions room

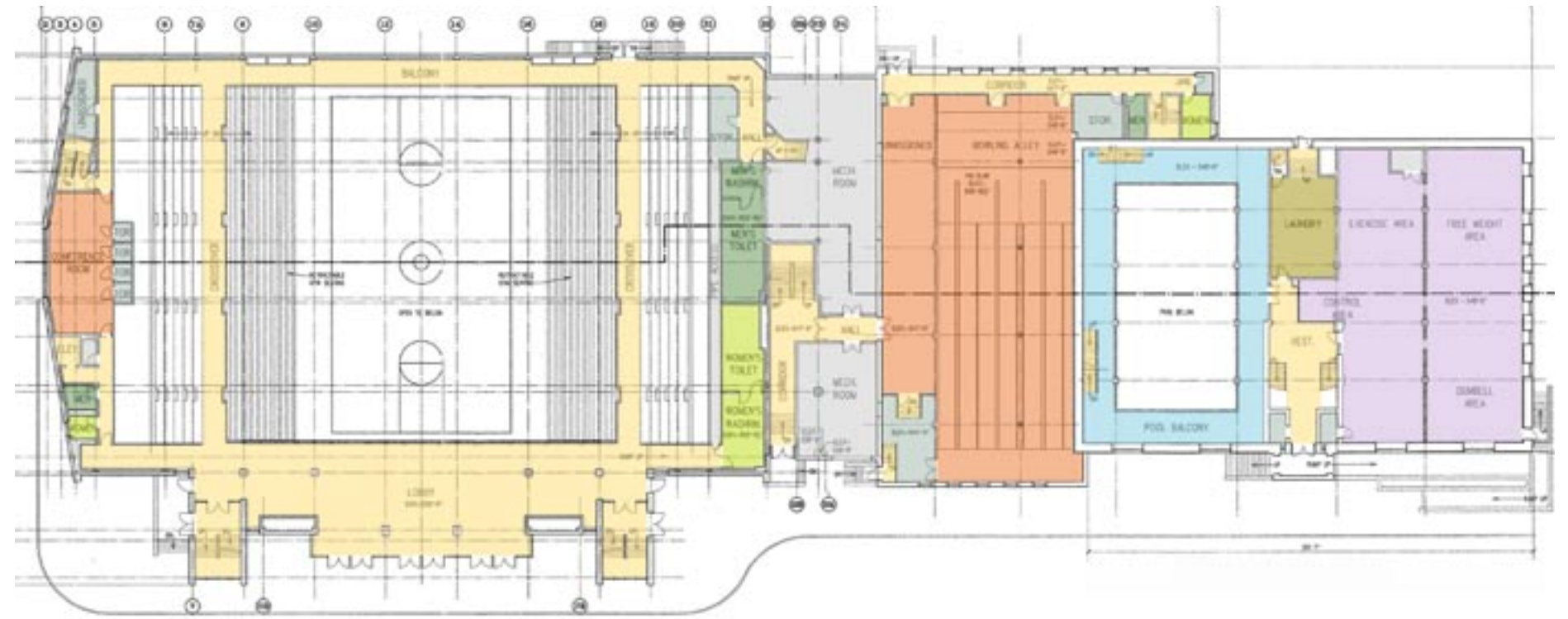
## ALUMNI POOL LEVEL

The basement level of Alumni Gym houses a vintage pool, a pump room and a tunnel connection to Harrington for power and steam.

Pool – The pool is approximately 10 yards x 21 yards with 4-lanes. This is not a regulation size and lacks the flexibility and depth to accommodate diving, team and recreation swimming. The minimum regulation size for a pool is 25 yards x 25 meters with 8 lanes. Currently only one swimming team (men's or women's) can practice at one time. This leaves only a limited time for recreation swimming for the rest of the WPI community. The existing pool also lacks the depth required for diving, so the diving team must use off site facilities.

The stairs at the pool deck provide access to the balcony viewing area and to the men's pool locker rooms. There are no locker rooms at the pool level and the deck space is too small for teams and equipment. Renovations to bring the pool up to standard are not possible in the existing building and a new pool is recommended.





## HARRINGTON ENTRY LEVEL

The entry level of Harrington includes the main lobby off the Quad, a trophy wall, a concourse for spectator seating, storage, public toilets and a conference room.

Main Lobby – The main lobby space is adequate to handle the large events including athletic competitions, concerts, graduation and other special events. The experience of entering the main lobby could be improved by updating the materials, trophy wall display and lighting.

Elevator – The existing elevator is poorly located and undersized. The corridor serving the elevator is too narrow for wheel-chair access and should be modified.

Connector Building – The connector building between Harrington and Alumni includes a bowling alley, batting cage, video arcade and mechanical rooms.

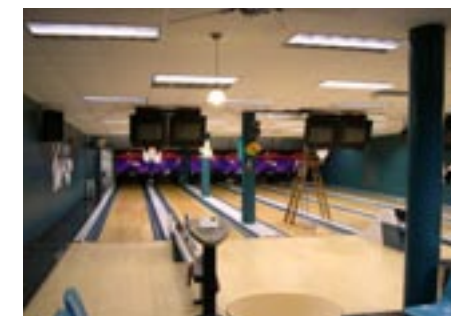
## ALUMNI BASEMENT LEVEL

The basement level of Alumni houses the fitness and weight rooms, the laundry and a pool balcony.

Fitness Room – The size of the fitness room is 2,000 sf and should be increased to accommodate the current and future needs of the WPI community. The space shares a common area with the weight room and is separated by a glass partition. The lack of adequate space results in conflicts with athletes and recreational users. Because the space is in the basement there is no natural light or elevator access.

Weight Room – The weight room is approximately 2,000 sf and should be increased to meet the needs of the athletes. Ideally the weight room should be located near the locker rooms and therapy area in Harrington Auditorium.

Laundry – The laundry equipment is outdated and poorly located. Some of the dryers are original to the building. The laundry should be relocated close to the equipment storage and locker rooms in Harrington Auditorium.



Bowling alley within the connector



Laundry room



Existing weight room



Existing fitness facility



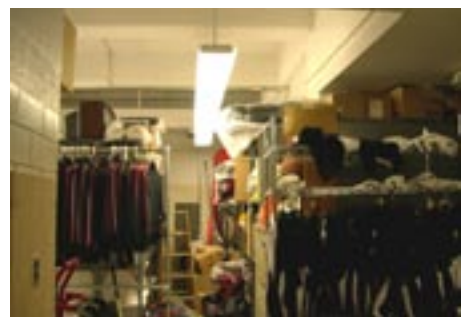
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<span style="display:inline-block; width:15px; height:15px; background-color:lightgreen;"></span> WOMENS' LOCKERS	<span style="display:inline-block; width:15px; height:15px; background-color:grey;"></span> STORAGE	<span style="display:inline-block; width:15px; height:15px; background-color:orange;"></span> MULTIPURPOSE	<span style="display:inline-block; width:15px; height:15px; background-color:lightblue;"></span> POOL DECK/BALCONY
<span style="display:inline-block; width:15px; height:15px; background-color:darkgreen;"></span> MENS' LOCKERS	<span style="display:inline-block; width:15px; height:15px; background-color:lightgrey;"></span> MECHANICAL/SUPPORT	<span style="display:inline-block; width:15px; height:15px; background-color:lightorange;"></span> WRESTLING	<span style="display:inline-block; width:15px; height:15px; background-color:cyan;"></span> POOL
<span style="display:inline-block; width:15px; height:15px; background-color:blue;"></span> ROTC	<span style="display:inline-block; width:15px; height:15px; background-color:olive;"></span> LAUNDRY		



Main corridor in Alumni



Existing locker rooms



Equipment Room within Alumni

## HARRINGTON BALCONY

The balcony level in Harrington includes a concourse for spectator seating, a mezzanine and a press box. The mezzanine is also used by the track team as a straight-away for running and sprinting.

MEP / Code Issues – There have been only minor changes to Harrington Auditorium since its construction in 1968 including new lights to the basketball court. Asbestos fireproofing was applied to the ceiling trusses and may need to be mitigated or removed. The building also does not have a fire protection system.

## ALUMNI ENTRY LEVEL

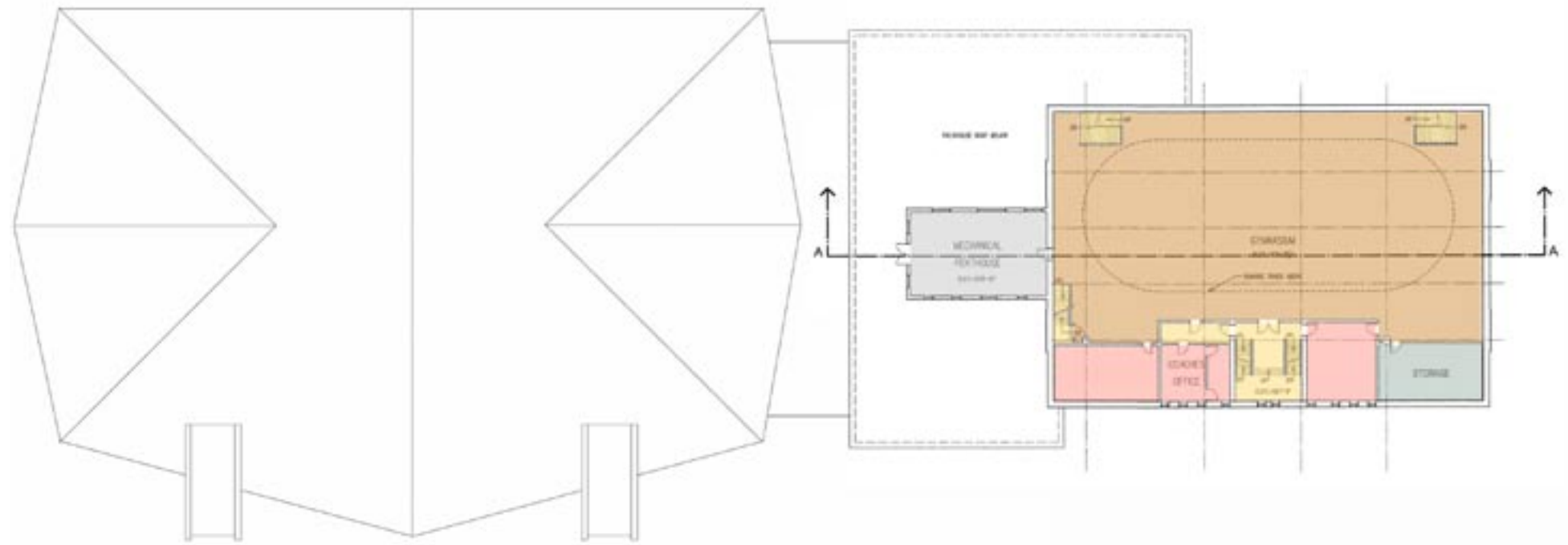
The Alumni Gym's entry level and connector house the Department of Physical Education, Recreation and Athletics' administrative spaces, coaches offices, general locker and equipment rooms.

Administration Offices – The administrative offices are located in Alumni Gym and the connector building. The layout is inefficient, undersized and remote from the facilities in Harrington. They are noisy due to inadequate acoustical separation from the gym above. There is no air-conditioning, elevator or public toilets. If possible, the offices should be combined and relocated closer to the team locker rooms and performance venues.

Equipment Storage – The equipment issue and storage room is undersized and poorly located. It should be relocated closer to the locker rooms, fitness area and laundry for convenience and efficiency of operation.

General Locker Rooms – The general locker rooms are located in the connector and serve the pool, fitness areas and recreational spaces. They are poorly located, undersized (particularly the women's), have inadequate ventilation and thermal control, and have poor access to the spaces they serve.





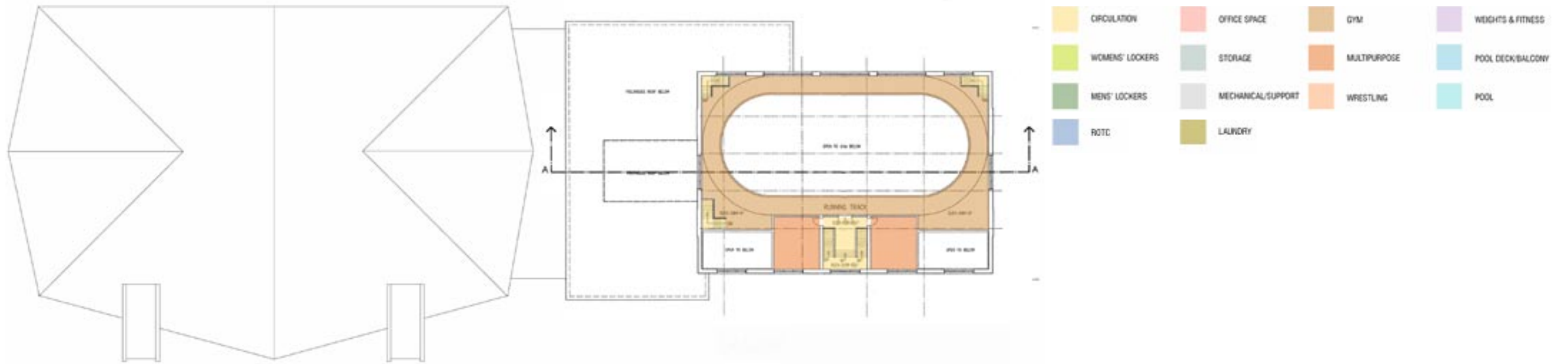
## ALUMNI GYM COURT LEVEL

The court level of Alumni houses the gymnasium including one full court and four half courts, a mechanical room and support spaces that are used for offices. Alumni Gym is also the performance location for wrestling events.

Code Issues – There is no fire protection system (sprinklers), fire rated means of egress or elevator access.

Acoustics – The gym is supported on a wood floor and timber construction. There is insufficient acoustical separation from the administration offices on the floor below.





## ALUMNI GYM BALCONY

The balcony level of Alumni Gym includes a running track, a multipurpose room, coaches offices and an erg room with rowing machines.

Running Track – The running track is 1/15 mile and does not have an adequate straightaway for training by the track team or recreational use. The minimum recommended distance of an indoor running track for training is 1/8 mile with 4 lanes.

Additional Spaces – The offices, erg room and multipurpose room are remote from the other facilities and are not accessible for persons with disabilities.





## EXISTING OUTDOOR FACILITIES

The existing outdoor sports and recreation facilities include Alumni Field, the Class of 1893 Field and the A.J. Knight Field and Tennis Courts. The outdoor facilities are conveniently located adjacent to the locker rooms in Harrington Auditorium and the Quad. The tennis courts and a small practice field are located on the west side of Park Avenue. All facilities are heavily used and open to the WPI community during posted hours and may be reserved at other times.

Historically, the outdoor recreation space occupied a much larger portion of the campus. In 1927 there were ten tennis courts adjacent to West Street and Alumni Gym. A multipurpose field occupied the site of the Quad in addition to Alumni Field in its present location. As the campus has grown in size and population, the available open space has decreased resulting in extended periods of use and conflicts in schedule. The introduction of artificial light and synthetic turf fields has resulted in a higher utilization of these valuable assets.



## ALUMNI FIELD

Alumni Field was constructed in 1914 and is used for a number of sports, including field hockey, football and soccer. It is also used for intramurals, physical education and club sports. The field includes the following facilities:

Artificial Turf Field – In 1985, the natural turf field was replaced with an “Omni Turf” surface. In 1997, as part of a major reconstruction project the “Omni Turf” was replaced with an “Astro Turf 12” surface. This surface is now nearing the end of its useful life and will also need to be replaced with “Field Turf” or a similar material representing the evolution of the new generation of artificial turf fields.

Bleachers – The seating capacity of Alumni Field is 2,800 with bleachers on the east and west side of the field. The existing wood and steel framed bleachers date back to the 1930’s. They have deteriorated with time and are in need of replacement.

Press Box – The existing press box is inadequate in size and faces west, which is not optimal during afternoon games. The press box should be replaced with a new east-facing double press box on the west side of the field.



## RUNNING TRACK

The eight-lane, 400 meter running track was resurfaced in 1997. At the same time the field was rebuilt a new track was installed along with improved drainage between the track and field.

Track Surface – The track was recently resurfaced and is in good shape.





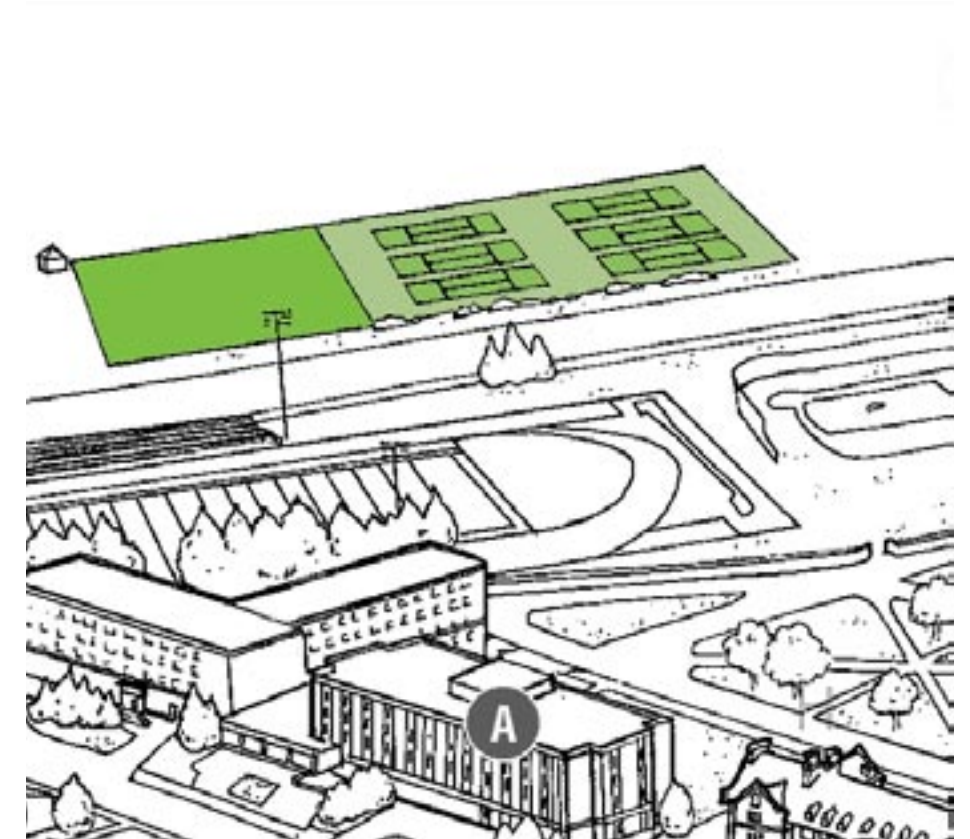
## BASEBALL FIELD

The existing baseball field is a natural turf field located between Alumni Field and the softball field, also adjacent to Harrington Auditorium. The field is also used by the track and field teams for field events and sports teams use the grass field for practice during the fall. The baseball field's dimensions, while passable, are not optimal



## SOFTBALL FIELD

The softball field is located adjacent to the baseball field and is also a natural turf field with dirt infield. The softball field sits adjacent to the church. The area of the softball and baseball outfields is also used as a practice field for soccer and other sports. The basic relationship between the fields is described in the site plan above, right.



## TENNIS COURTS

Adjacent to the playing fields, the tennis courts are used by the men's and women's tennis teams. The six asphalt courts are in good condition and also available for recreation.





### 3 PROGRAM DEVELOPMENT

The role of physical education, recreation and athletics at WPI is evolving as participation in NCAA III programs continue to change and grow. On and off the field, students, faculty and staff demand more recreational and fitness facilities to support expanding programs and life style trends. The existing athletic and recreational facilities no longer support current and future needs of students, faculty and staff. Many peer institutions as well as public and private high schools already have or are planning new facilities that meet and exceed these demands. Attracting high quality students, athletes and faculty is highly competitive. The quality of WPI's facilities can be a deciding factor in prospective student or faculty members' decision to attend.

To meet the challenges of recruitment and retention, enhancing campus life and improving programs the Recreational Space Master Planning Committee and the Design Team gathered information from various sources to inform the development of a space program. Those sources included:

- WPI Sports and Recreation Survey
- Sasaki Associates' 2004 Sports Survey of NCAA Member Institutions with enrollments under 5000
- Workshops with the Recreational Space Master Planning Committee
- Review of existing facilities of similar size and program at other New England colleges and universities
- Review of existing and planned facilities at peer institutions such as RPI, Carnegie Mellon, RIT and MIT

Information gathered from these sources was both statistical and anecdotal based upon observations, past experience, interviews, focus groups and surveys. Important findings that influenced the space program were:

- Peer institutions have built new facilities to meet current and future demands
- More than 75% of similar sized institutions have:
  - o Performance Gymnasium and Recreational Gymnasium with suspended running track
  - o Natatorium meets or exceeds NCAA swimming and diving regulations and standards (only 14% have a 50 meter pool)
  - o Student, Faculty and Staff locker room use has declined in the past five years
- More than 95% of similar sized institutions have reported an increase in student usage of weights, fitness and group exercise programs (65% are planning to expand facilities in the next three years)
- More than 95% of students, faculty and alumni responded that a new Recreation Center would have a positive impact on recruitment and retention
- More than 75% of students, faculty and alumni responded that they would use a new Recreation Center more often and for longer periods of time
- More than 75% of WPI community responded with strong support for:
  - o Improved natatorium (size and quality)
  - o Improved locker room and support facilities that meet the needs

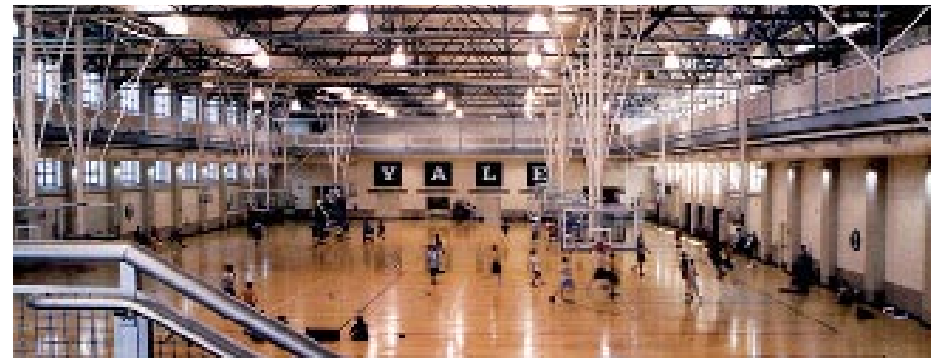
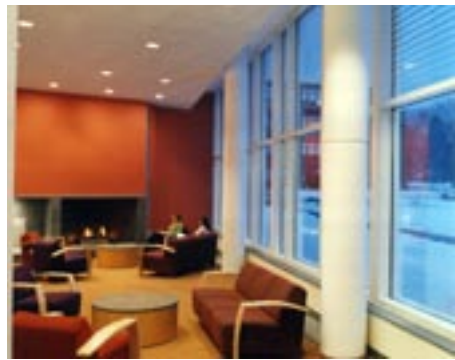
of both male and female users

- o Improved and expanded weights, fitness and group exercise facilities
- o Squash and racquetball courts that meet current standards
- o Improved and longer indoor running/jogging track
- o Improved and increased number of outdoor playing fields for recreation, intramurals and club sports

The data indicates that institutions with enrollments under 5000 have a strong history of providing flexible spaces that can accommodate many uses and users. Trends show that students at these schools participate in physical activity in greater numbers, and across a wider range of activities, with personal fitness and intramural group sports being the most popular at larger institutions. Like WPI, many schools have evolved from single-gender to coeducational institutions, and are correcting the deficit of locker room space to support this change.

The following space program has been developed with these trends and information as a guide and has been organized into the following categories:

- Public Spaces
- Activity Spaces
- Training and Rehabilitation
- Administrative and Coaches Offices
- Support Spaces
- Outdoor Fields and Support Facilities



## PUBLIC SPACES

Proposed Program	Area SF	Notes
Lobby	1,000	
Hall of Fame / Trophy Display	500	
Reception Desk	150	
Vending	100	
Lounge	500	
Concessions	200	
Concessions Storage	200	
<b>Public Spaces ASF</b>	<b>2,650</b>	

## ACTIVITY SPACES

Proposed Program	Area SF	Notes
4 Court Gymnasium	26,000	
Suspended Running Track	6,000	Located in gymnasium
Gymnasium Storage	500	
Fitness Center	8,000	
Fitness Center Storage	200	
Free Weights	4,000	
Free Weights Storage	200	
Group Exercise / Multipurpose	3,600	1@ 1,200, 1@ 2,400 + partition
Group Exercise Storage	200	
Classroom	1,200	2 @ 600
Climbing Wall	600	
Racquetball Courts	1,600	2 courts
Squash Courts	1,250	2 courts
Wrestling Practice Room	5,000	2 mats
Wrestling Storage	200	
Natorium	12,000	25 yd.. x 37.5 meters
Natorium Storage	500	
Pump Room	500	
Natorium Spectator Seating	1,500	250 spectators
Meet Management / Lifeguard	200	
<b>Activity Zone ASF</b>	<b>73,250</b>	

## TRAINING & REHABILITATION

Proposed Program	Area SF	Notes
Office	300	2 @ 150 sf
Exam Room	150	
Secure Storage	100	
Bulk Storage	100	
Taping / Treatment / Rehabilitation	1,200	outside access
Hydrotherapy	200	2 small, 2 big
Ice Machine	30	2 ice machines
Rest room	50	
<b>Training Zone ASF</b>	<b>2,130</b>	





## ADMINISTRATION / COACHES

Proposed Program	Area SF	Notes
Reception / Secretarial	200	
Athletic Director	200	
Athletic Director Assistants	450	3 @ 150
Offices	2,900	18 @ 150, 1 @ 200
Workroom	1,050	1 @ 600 , 1 @ 450
Video editing room	200	
Storage	100	
Secure Storage	100	
Rest rooms	100	
<b>Administration / Coaches Zone ASF</b>	<b>5,300</b>	

## SUPPORT SPACES

Proposed Program	Area SF	Notes
Men's Varsity Locker Room	2,400	3 @ 400, 1 @ 1200
Men's Showers / Toilets	800	
Women's Varsity Locker Room	1,600	4 @ 400 SF
Women's Showers / Toilets	800	
Men's Coaches Locker Room	600	
Women's Coaches Locker Room	600	
Visiting Locker / Shower Room 1	800	
Visiting Locker / Shower Room 2	800	
Officials Locker / Shower Room 1	200	
Officials Locker / Shower Room 2	200	
Men's General Locker Room	1000	
Women's General Locker Room	1000	
Equipment Issue Room	300	
Equipment Storage Room	1,200	
Equipment Manager's Office	150	
Building Workshop / Storage	400	
Laundry	350	
Night Programming Manager	150	near control desk
<b>Support Zone ASF</b>	<b>13,350</b>	

## AREA SUMMARY

Proposed Program	Area SF	Notes
Public Spaces ASF	2,650	
Activity Zone ASF	73,250	
Training Zone ASF	2,130	
Administration / Coaches Zone ASF	5,300	
Support Zone ASF	13,350	
<b>Total Assignable Square Footage</b>	<b>96,680</b>	
<b>Total Gross Square Footage</b>	<b>148,738</b>	(assumes 65% efficiency)

## OUTDOOR PROGRAM

Proposed Program	Quantity	Notes
Parking Garage	500 Cars	
Baseball Field	1	Salisbury Estates
Softball Field	1	Above Parking
Multipurpose Field	1	Above Parking
Replacing of Synthetic Turf Field	1	Alumni Field
Spectator Seating	2	2000 Seats
Press Box	1	
Field Storage, Concessions & Support	5,500 SF	





## 4 CONCEPT DESIGN

The central organizing idea of the WPI Recreational Facilities Master Plan is the arrangement of pedestrian circulation, which links all of the major building and site program requirements. The new Recreation Center, parking garage and athletic and recreation playing fields, set in strategic locations, provide significant architectural and campus open space opportunities. Access to physical education, recreation and athletic facilities is provided through a strong network of pedestrian paths north of Alumni Gym and Harrington Auditorium, via the Quadrangle to Alumni Field, from carefully positioned vehicular access and drop-off, and from the proposed 500 car parking garage below the new practice & softball fields.

The WPI Recreational Facilities Master Plan key components are illustrated (opposite) and summarized as follows:

1. Alumni Field Renovation and Expansion
2. Parking Garage and Multipurpose Playing Fields
3. Recreation Center
4. Harrington Auditorium and Courtyard
5. Salisbury Estates

The key attributes of the recommended concept design are:

1. Utilization of the existing hillside between Alumni Field and the Quadrangle to dimension and apparent mass and scale of the natatorium and gymnasium
2. Highly visible and prominent location on campus with views and access from the Quadrangle, Residential Life, Alumni Field, the proposed Parking Garage and Park Avenue.
3. Preservation of the Higgins Gardens and Woodlands north of Harrington Auditorium
4. Minimal disruption to existing programs in Alumni Gymnasium and Harrington Auditorium
5. Accommodation of future expansion

Together the interconnected physical education, recreation and athletic buildings, play fields and campus open spaces are intended to unite the entire campus, providing students, faculty, staff and the local community an attractive atmosphere in which to compete, recreate, relax, interact and engage in campus life activities.





## SITE PLAN - PARKING LEVEL

The site design and location of the parking facilities evolved during the concept design phase and meetings with the Recreation Space Master Planning Committee. The plan locates approximately 500 cars on the site of the existing baseball and softball fields for a net gain of nearly 300 spaces. Parking is accessed from Salisbury Street and provides spaces for students, faculty and staff. The proposed garage also provides parking for special occasions including athletic events, concerts, graduation, Homecoming and alumni reunions. The parking would be covered with a concrete deck and playing field above. The benefits of this plan include the following:

- The parking is removed from the Quad to allow the redevelopment of the Quad with a landscaped quadrangle and new admissions building as envisioned in the Campus Master Plan.
- The parking is hidden from view and protected from the weather.
- The southern end of the parking structure adjacent to Alumni Field is available for concessions, field storage and public rest rooms.
- The cost of construction of the garage on-grade is significantly less than an underground garage.
- The single-level garage has less of a visual impact on the campus and natural environment than a multi-level above ground facility.



## SITE PLAN – FIELD LEVEL

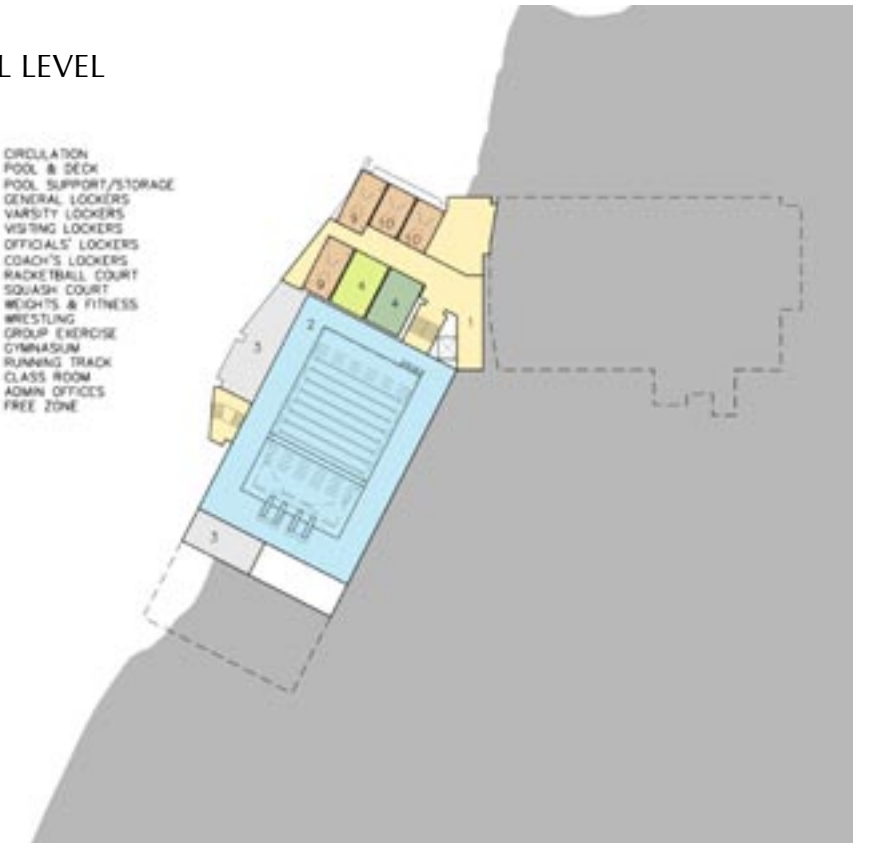
The construction of the parking garage on-grade results in the need to replace the baseball and softball fields. The plan proposes to relocate the baseball field to the Salisbury Estates and replace the softball field with a synthetic turf softball field on the roof of the parking garage combined with a new synthetic turf multipurpose field. Both fields would have lights and fencing. To provide room for the relocated baseball field, the existing Salisbury Estate buildings would be removed and replaced with a parking lot for 100 cars and new housing for 200 to 250 students.

In order to protect as much open space as possible and reduce the cost of the project, the Design Team recommends that the separate field house and natatorium proposed in the Campus Master Plan be combined into a single pool and four court gym building with an upper level running track located on the hill west of the Quad. The concept plan also proposes to abandon Alumni Gym for athletic use and remove the connector building between Harrington Auditorium and Alumni Gym. Alumni Gym would be available for renovation and academic use. The area between the buildings would be developed as circulation and landscape space with views to the Higgins House & Gardens from the Quad. The site plan offers the following advantages:

- The proposed synthetic turf multipurpose field provides additional

## POOL LEVEL

1. CIRCULATION
2. POOL & DECK
3. POOL SUPPORT/STORAGE
4. GENERAL LOCKERS
5. VARSITY LOCKERS
6. VISITING LOCKERS
7. OFFICIALS' LOCKERS
8. COACH'S LOCKERS
9. RACKETBALL COURT
10. SQUASH COURT
11. WEIGHTS & FITNESS
12. WRESTLING
13. GROUP EXERCISE
14. GYMNASIUM
15. RUNNING TRACK
16. CLASS ROOM
17. ADMIN OFFICES
18. FREE ZONE



- field space and extended time for team practice and recreational use.
- The footprint of the building is significantly smaller and less costly than the field house proposed in the Campus Master Plan. It also permits the addition of a new multipurpose field and parking while maintaining the open space and views of the playing fields.
- The combined pool and gym building located on the hill preserves the natural wooded area near the Higgins House.
- The location of the new recreation building offers the opportunity to enclose the Quad with a dramatic new building that will be an attraction to prospective students and visitors. The new facility will also be visible from Park Avenue and provides spectacular views from the building to the playing fields and nighttime views from the Quad and Park Avenue to the activity within the building at night.

## POOL LEVEL PLAN

A full size NCAA compliant pool is proposed. The pool is 25 yards wide x 37 meters long and designed with adjustable bulkheads to accommodate diving at the deep end, 8-10 lanes of swimming in the middle plus a shallow end for recreational use. Men's and women's swimming team and general locker rooms are located at this level. Two International squash courts and two racquetball courts with glass walls for viewing are also located at the pool level. Access to the pool level is via elevator or an open stair with views into the



## LOCKER ROOM LEVEL



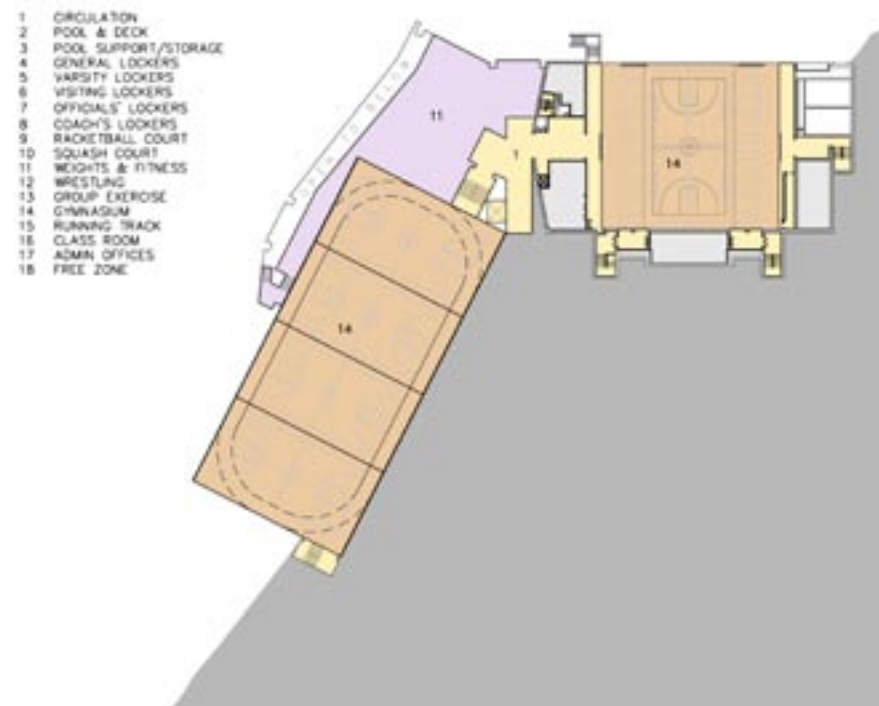
pool. Pool storage, pump room and a mechanical room are also provided. The proposed plan has the following advantages.

- WPI will be able to host swimming events and seek outside users who may wish to rent the facilities in the summer months.
- The pool will be available for the men's and women's swimming teams and recreational use and is large enough to mitigate conflicts in time of use and schedule.
- The locker rooms will be located at this level for direct access to the pool.
- The diving team will be able to practice and compete at WPI.
- The squash and racquetball courts will be regulation size and facilitate practice and competition.

## LOCKER ROOM LEVEL PLAN

The basement level of Harrington would be renovated and ROTC relocated to provide space for the home and visiting team locker rooms, coaches' locker rooms, equipment issue and storage, training and the weight room. The locker room and toilet / shower facilities would be designed as modules that can be interconnected for large team or shared use. The wrestling practice room would remain at this level. The pool viewing area is also located at this level with seating for 200 spectators. The HVAC system would be upgraded or replaced to provide ventilation

## GYM LEVEL



and cooling. The proposed plan has the following advantages:

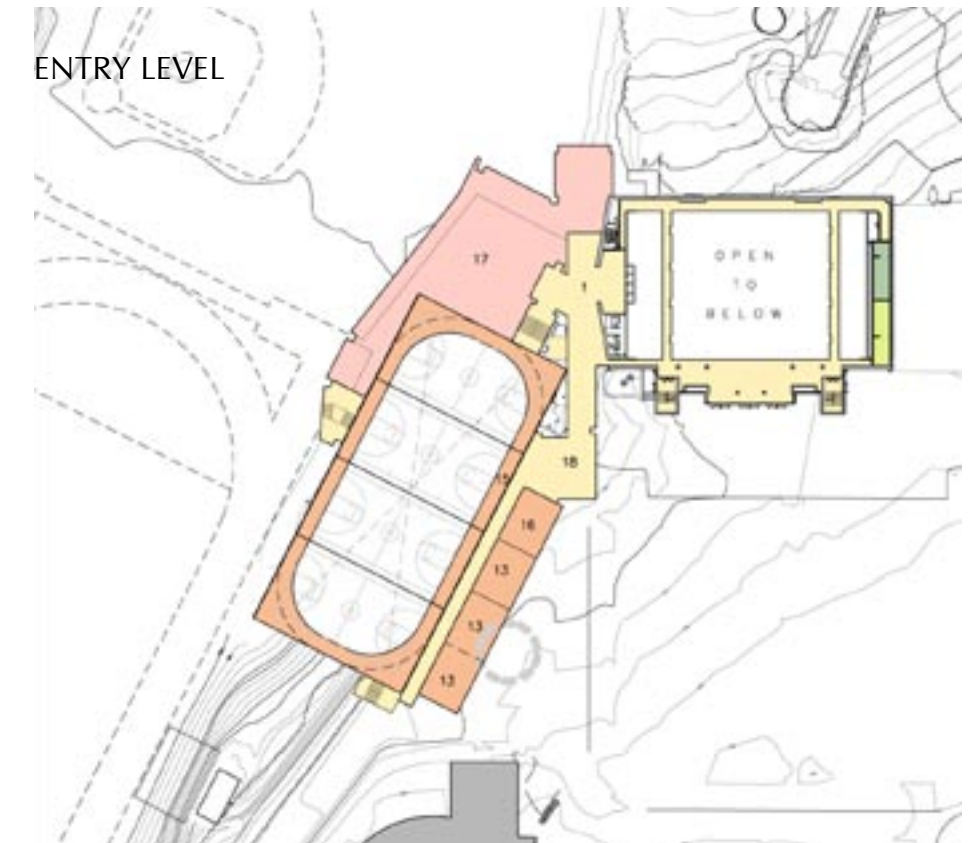
- Direct access to the playing fields from the team locker rooms.
- The coaches and athletes are located on one level and separated from the recreational users of the building.
- Equipment issue and storage are located near the laundry and lockers for convenience and efficient operation.

## GYM LEVEL PLAN

The Gym Level plan includes the existing basketball court in Harrington Auditorium and four new courts in the new Recreation Building addition plus an 8,000 sf fitness area. The floor of the new gym would be wood with the option to cover two of the courts with a "Mondo" type sport flooring for indoor field sports. The floor in the fitness area is pulled away from the exterior wall to provide views to the weight room below.

- The fitness area has dramatic views overlooking the playing fields.
- The fitness area has views into the activity in the gym and access to the weight room, locker rooms and main entry via the open stair and elevator.
- The gym floor can be used for indoor practice, jumping and field sports.

## ENTRY LEVEL



## ENTRY LEVEL PLAN

The Entry Level plan is at the same elevation as the entry lobby to Harrington Auditorium. Access to the new Recreation Building is from the Quad where the control desk would be located. The group exercise rooms are located adjacent to the main entry. The athletic and recreation department administrative offices are located at this level. The benefits of this plan include:

- The recreation building is designed to operate independent of Harrington Auditorium during events. The facility can also be operated independent of the team locker rooms.
- From the main lobby, the users of the facility will have views into the gym and running track.
- The athletic and recreation department administrative offices are located at one level with views of the playing fields.
- The group exercise rooms are conveniently located with views to and from the Quad.





## 5 PROJECT IMPLEMENTATION

The WPI Recreational Facilities Master Plan is a long range strategy for the Institute's physical education, recreation and athletics programs with an understanding that implementation of the various components will likely occur over a period of 5 – 10 years. The timing and schedule for the design and construction of specific projects is beyond the scope of this report, however, strategies for phasing the various projects have been studied and recommendations have been outlined in this Chapter.

The phasing effort took many issues into consideration, such as current campus conditions and future growth of a number of physical education, recreation and athletic programs. The Institute prefers that a minimal number of disruptions occur to athletic and recreational programs during construction and minimal rebuilding (lost costs) be considered and accommodated in future phases. The program has been identified by venue, building and phase on the following pages. This is reflected in the following overall concept phasing plan and summary program tables.





### PHASE 1: ALUMNI FIELD

Program Summary:

- Synthetic turf field for athletics, recreation and intramurals
- Spectator seating for 1,500 spectators along Park Avenue
- Press Box along Park Avenue
- Spectator seating for 500 spectators on the east hillside of Alumni Field
- Scoreboard
- Updated field lighting and sound system
- Renovation and/or replacement of the perimeter fence

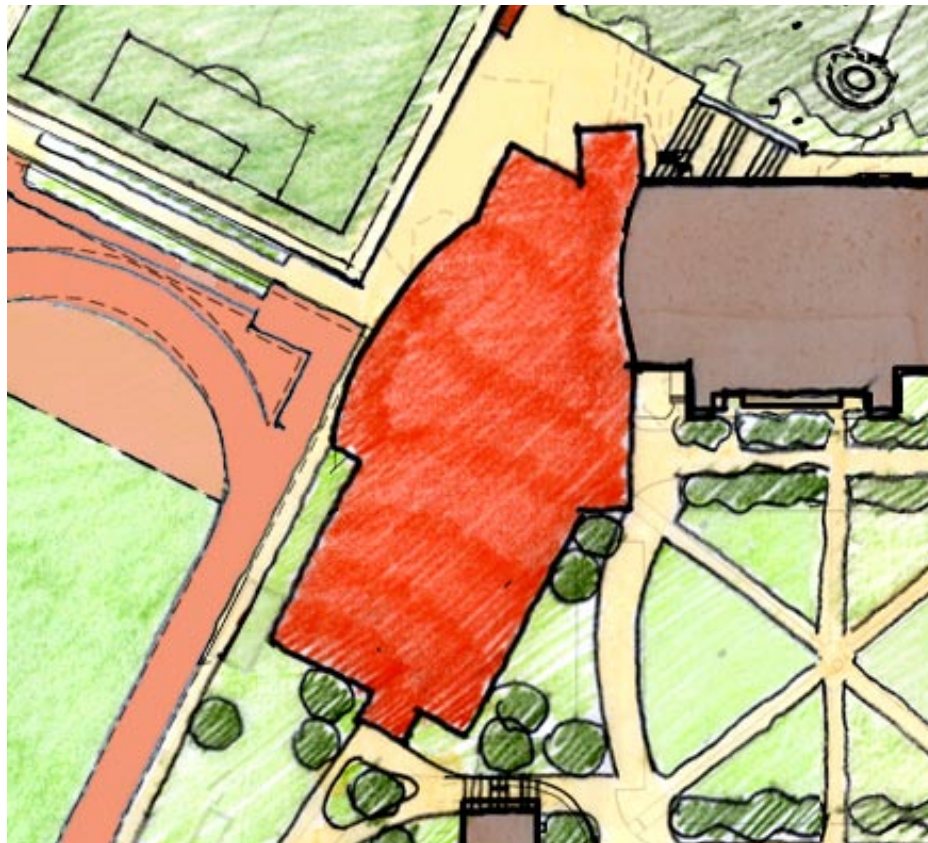


### PHASE 2: PARKING GARAGE & PLAYING FIELDS

Program Summary:

- Ground level parking garage for 500 cars, team buses and service vehicles
- Multipurpose synthetic playing field to accommodate soccer, lacrosse, field hockey, football as well as intramurals, club sports and recreation activities
- Updated field lighting and sound system
- Synthetic turf softball field and support facilities
- Spectator seating for 200 spectators
- New access road from Salisbury Street
- Pedestrian paths and landscaping connecting Alumni Stadium, Harrington Auditorium and the Campus Center
- Field support facilities building (program to include storage, first aid, public rest rooms and concessions)

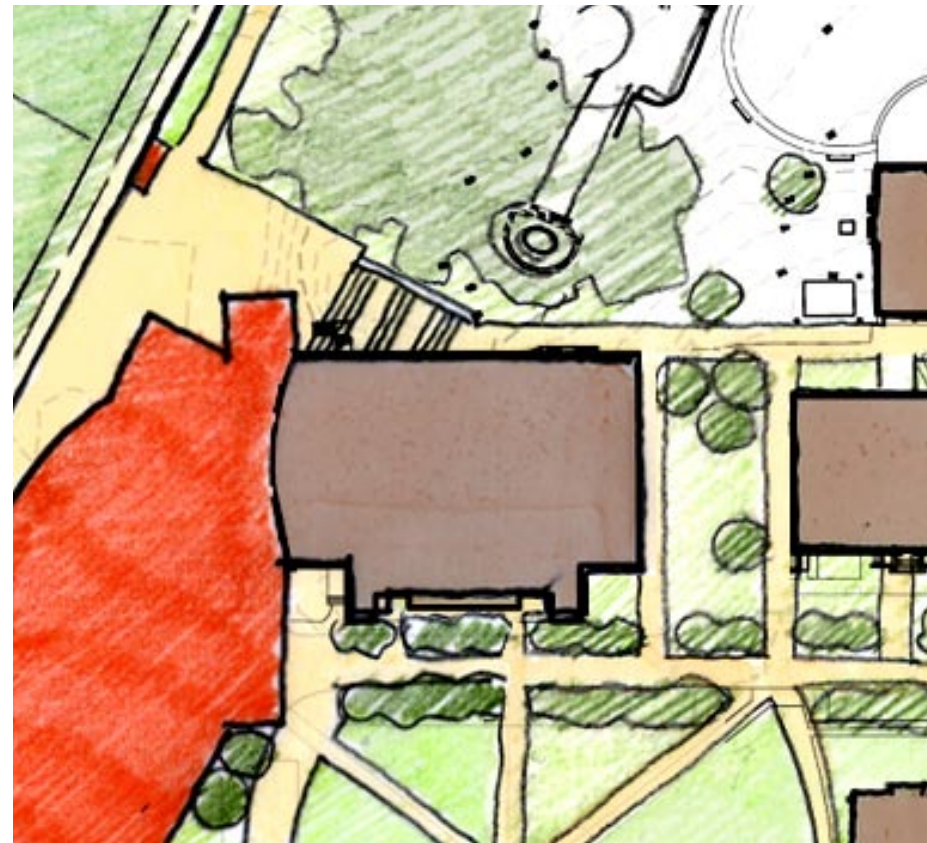




### PHASE 3: RECREATION CENTER

Program Summary:

- Natatorium with 25 yard by 37.5 meter pool and support facilities
- Four court gymnasium with suspended three lane running track
- Weights and Fitness
- Group Exercise Classrooms
- Squash and Racquetball Courts
- Locker, Training and Support Facilities
- Administrative Office Space



### PHASE 4: RENOVATION OF HARRINGTON AUDITORIUM

Program Summary:

- Varsity, Visiting Team and Coaches Locker Rooms
- Renovated performance gymnasium
- Equipment issue and laundry
- Renovated Lobby, Hall of Fame and Concessions
- Upgraded MEP and Life Safety systems
- Demolition of Connector Building between Harrington Auditorium and Alumni Gymnasium
- New landscape courtyard between Harrington Auditorium and Alumni Gymnasium
- New east / west pedestrian walkway north of Harrington Auditorium



### PHASE 5: SALISBURY ESTATES

Program Summary:

- Synthetic turf baseball field with support facilities
- New field lighting and sound system
- Spectator seating for 500 spectators
- Surface parking for 135 – 150 cars
- Student housing to accommodate 200 beds





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