Hadley Farm Plan
University of Massachusetts at Amherst

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Executive Summary

The consolidation of a multi-species agricultural teaching complex, including the potential relocation of a dairy herd from the University’s South Deerfield facility, and the possible relocation of the Farm Shop Complex from Grinnell Arena and the Stucco Barn to the Hadley Farm site has prompted this sub-area plan to evaluate the needs of the College of Food and Natural Resources and the University.

Recommendations

The following strategic recommendations were developed to support the preferred alternative and guide the future uses and changes at Hadley Farm toward this directed goal.

I. Open Space
   Hadley Farm Equine Center:

   Short Term
   • Any future development within the wetland areas and 100’ buffer zones defined by the wetland study, will comply with wetland regulations.
   • The primary recharge area for the Town of Hadley lies in the southern half of the site and the secondary recharge area lies in the northern half of the site; any new development or new uses in these areas will comply with aquifer restrictions.
   • To the extent possible, cooperate with the Conservation Commission to protect identified rare bird species on the site and support species habitat management through adjusted mowing schedules.
   • Maintain the UMass owned land (approx. 7 acres on the northeast corner of the site) for additional pasture/grazing land by yearly mowing.
   • Maintain the track in its current condition for equestrian training and events.
   • Maintain the current drainage system including proper maintenance for drainage systems.

   Long Term
   • As a graduate research and educational project, develop an NRCS (Natural Resources Conservation Service) plan for managing agricultural land, drainage and waste management in conjunction with a Conservation Commission suggested farm plan.
• Bring in topsoil, as it becomes available from new construction sites, to sod the track for the purposes of minimizing maintenance and preventing erosion.
• Preserve open spaces consistent with traditional farm management uses as a separate category designated in the UMass Master plan as “preserved agricultural open space”

South Deerfield Property
• Preserve open spaces consistent with traditional farm management uses as a separate category designated in the UMass Masterplan as “preserved agricultural open space”

II. Vehicular Access and Circulation:

Short Term:
Hadley Farm Equine Center
• Maintain existing circulation routes and vehicular patterns.
• Expand the existing parking to accommodate a minimum of 10-15 spaces, including handicapped spaces, for the conference center.
• Maintain a single entry to the farm with a secure access system.
• Continue the shuttle service from the main campus to the farm in the near term.
• Provide bus service to Hadley Farm as part of expanded PVTA service to University Business Park as soon as it becomes feasible.

Long Term:
• Provide bus service to Hadley Farm and the future Agricultural Education Center Turf and Ornamental Horticulture Education Center as part of expanded PVTA service as soon as it becomes feasible.

III. Current Building Use:

Short Term:
Hadley Farm Equine Center
• Relocate the resident manager and convert the Conference Center to an (Alumni Center) executive meeting space and overnight accommodation, making modifications as needed for ADA compliance.
• Continue the academic use of the Hadley Farm for the equine, livestock and dairy programs, utilizing the S. Deerfield facility to house animals to be transported to the Hadley Farm for study purposes.
• Continue to locate the mounted police in the east barn.
• Complete renovations to the existing barns, including foundation improvements to all three barns and ventilation and roof repairs to the main horse barn. Phase II includes roof repairs to the livestock (west) barn and mounted police (east) barn.
• Continue the use of the student lounge, riding arena and run-in sheds.

Farm Shop Complex
• The preferred option is to co-locate the farm shop complex and a new Animal Education facility. In the event the farm complex must be relocated before a new site can be acquired, the preferred interim location is to the Tilson farm, with marginal reinvestment.

Long Term:
Hadley Farm Equine Center:
• Re-use the livestock barn on the Hadley Farm for expanded equine research.

South Deerfield Property
• Continue the use of the S. Deerfield facility as a research facility.
• Identify the repairs which need to be made to the S. Deerfield facility.

IV. Land Use and New Facilities

Short Term:
Hadley Farm Equine Center
• Maintain an equine facility with 60 horses at the Hadley Farm.

Agricultural Education Center/ Farm Shop Complex
• Acquire approximately 60 acres of tillable land and 5-6 acres for the Farm Shop Complex in close proximity to the Hadley Farm Equine Center for the Agricultural Education Center including the livestock/ dairy program.
• Provide 5-6 Acres for the Farm Shop Complex adjacent to the Agricultural Education Center
• Establish a program that approximates “normal” farm management with a diverse multi-species population of farm animals (a detailed program is provided herein).

Turf and Ornamental Horticulture Education Center
• Acquire 20 acres of land to relocate the Turf and Landscape Education Center in close proximity to the Agriculture Education Center as described in the plan

Preferred Alternative:
*Short Term:*
• Purchase the 32 ac and 5 ac Waskiewicz parcels (Amherst - APR) to accommodate the Agricultural Education Center, Farm Shop Complex and Turf and Ornamental Horticulture Program

• Purchase the 34 ac Waskiewicz parcel in Hadley

• Purchase the 20 A Andrews Parcel as part of the AEC requirement

• Total 96 Acres

South Deerfield Property
• Lease the 20 Acre parcel at the corner of River Road and Route 116 for agricultural purposes.

• Maintain all other parcels as indicated herein

*Long Term:*
Hadley Farm Equine Center
• Construct a new dressage ring in close proximity to the main horse barn.

Agricultural Education Center/ Farm Shop Complex
• After acquisition, construct the appropriate buildings to support the AEC or renovate any existing farm structures.

South Deerfield Property
• Maintain the South Deerfield Property, with the exception of 20 acres to be leased to local farmers, to provide feed for the AEC and house the Animal Surgery and research component.
Background

As a land grant institution, the University of Massachusetts’ legacy is grounded in its agricultural past. Along with advances in biotechnology and polymer research, these agricultural ties remain strong. This is evidenced today when, juxtaposed against a backdrop of the Campus’ soaring concrete skyscrapers, a congregation of horses can be found grazing in the mist of the early morning.

One of the finest horse facilities in the country, the Hadley Farm is a 130-acre animal science complex for the College of Food and Natural Resources. Located at the extreme southwest corner of Campus, and separated from it by Route 116, the Farm lies entirely within the Town of Hadley. Its rural farmland setting provides both a physical and psychological departure from the typical Campus atmosphere. The existence of such a facility to augment classroom instruction in animal husbandry and management is imperative, and its close proximity to the core campus makes Hadley Farm a valuable asset for the College and University community as a whole.

No changes were proposed for Hadley Farm in the 1993 Campus Physical Master Plan. However, the intended consolidation of a multi-species agricultural teaching complex at the Farm, including the potential relocation of a dairy herd from the University’s South Deerfield facility, has highlighted the urgency for a sub-area plan for Hadley Farm.

This master plan is the first such document that addresses all the interests and concerns regarding the Farm and its future. Concurrently, it provides a framework for future development and diversification that is consistent with a common vision for the Farm. A master plan provides a context which can ensure that changes in use and incremental development occur not as haphazard additions, but as complimentary components of a defined and directed goal.
History

The history of the Hadley Farm dates back to the mid-1980s, when the Young Meadow Farm, a private project, was being developed. That farm was intended to serve as a premier horse farm and racing facility, and three horse barns, a manor house, and a racetrack and timing house were built as components of the plan. Financial difficulties and a lack of access to sanitary sewer utilities, however, eventually led to financial problems which resulted in the sale of the property to the University of Massachusetts Foundation.

With its proximity and views of the campus, the farm was acquired by the UMass Foundation, its current owner, in 1992. A non-profit corporation, the Foundation was organized in 1950 for the furtherance and benefit of the University. A lease agreement with a purchase option between the Foundation and the University was formalized in 1995 for the use of what is now known as the Hadley Farm.

The Department of Veterinary and Animal Sciences’ Equine Studies program was moved to the new property from its location at Tilson Farm, and some adaptations were made at Hadley, including the conversion of one horse barn to accommodate small livestock and the construction of an indoor riding arena.

The facility continues to house the equine and small livestock programs (sheep, goats, pigs, beef cattle). It is also home to the University Mounted Police and the Equestrian Team. The Manor House is used for both offices and resident-managers’ apartment. Additionally, Hadley Farm serves as host to a number of University conferences, equestrian shows, and farm-related events.

This plan seeks to balance intensity of uses with the capacity of the land to accommodate those uses while addressing the context of Hadley Farm in its academic, local, and regional terms. Vital to this process is an assessment of the influences and constraints that affect the Farm and its future.
Existing Uses

Academic Use

The Hadley Farm’s primary function is to be an educational horse facility, but the Farm accommodates a number of other uses. The Department of Veterinary and Animal Sciences currently has 60 horses which are bred and trained by students as part of the Equine Studies Program course of study. The Department offers six courses in riding, including riding instruction, which are very popular. In the Fall of 1996, for example, 150 students enrolled in the riding program alone, and riding instruction occurs exclusively at the Hadley Farm. Additionally, up to 250 students participate in other Animal Science courses whose lab sections meet at the Farm. Student use extends beyond traditional academic courses, as up to 100 students are involved in the preparation and presentation of the Spring Livestock Show. The Riding Arena, with its classroom, is the center of instruction for equine courses as well as classes in small livestock and farm management. Additionally, a limited amount of research, which is compatible with public and academic conditions, takes place at Hadley Farm. The mission of the Farm has been that of a teaching facility, and academic use remains a priority in the future of the facility.

Mounted Police

The University Mounted Police currently house five horses at the Farm, with no plans for significant expansion in the future. In addition, they maintain an office area within the building. The majority of the East Barn remains vacant, although it is occasionally used to isolate incoming horses or house small livestock. It is necessary for the Police to transport their horses to the core Campus using a trailer or transport vehicle. Despite their separation from the core campus, however, the Mounted Police connection with Hadley Farm is a logical one, enabling them to share in the support services and expertise of equine program personnel. The facilities are also appropriate for many of the police horse training exercises which are undertaken.

Events at the Farm

Extracurricular and non-curricular activities at the Farm can be divided into two general categories: those occurring at the Manor House and those taking place at the Riding Arena and outdoor showcase areas.
Hadley Farm
Existing Uses

North Run-In-Shed
• Covered Animal Shelter

Lawrence Riding Arena
• Indoor Arena
• Classroom Space
• Riding Instruction
• Equestrian Events/Shows

Main Horse Barn
• 60 Horse Stalls
• Breeding Area
• Office Space

West Barn
• Small Livestock
• Attached Outdoor Pens

East Barn
• Mounted Police Office
• Police Horse Stalls
• Equipment Storage
• Animal isolation

Conference Center
• Student Apartments
• Small Conference Room
• Office Space

Student Lounge
• Converted Timing House

South Run-In Shed
• Covered Horse Shelter
A small banquet room, accommodating up to 80 persons, in the lower level of the Manor House is utilized by the University’s Conference Services on a fairly frequent basis. Both University-related and private functions are held, on average, once a week.

Parking for such events is usually clustered about the Manor House and entrance road and causes conflicts for catering trucks, which often make several trips during the course of a conference. The single entrance to the banquet room from the rear makes the facility less than ideal for such uses, although the Hadley Farm location offers a welcomed departure from the Campus proper.

The lack of coordination, and even notification, between Conference Services and farm interests has often been a source of conflict. The close proximity of conferences and resident-manager living quarters within the Manor House has contributed to this conflict.

Most of the events at the Riding Arena are more relevant to the Farm and are usually horse related. During the school year, the Arena is used weekly and attracts crowds varying from 25 up to 200 to a variety of events. Major events through the year include two equestrian competitions, as part of the Equestrian Team’s schedule, and the Spring Livestock Classic, organized by the Veterinary and Animal Sciences Department. Important components of the equine training and riding academic program are the events which showcase students’ skills in riding, dressage, and jumping. Such events can attract over 200 spectators. The facility is also used for such non-University activities as a 4H Rabbit Show and Pony Club, and on limited occasions, rented out to private organizations.

The gravel parking area is utilized and sufficient for most activities at the Riding Arena. During more popular events, a few times each year, overflow parking is accommodated on the track.
Community Land Use

- Open/Agriculture
- University
- Residential
- Commercial
- Civic
Community Land Use and Zoning

Land uses in the vicinity of the Farm vary widely. From freeways to country roads, skyscrapers to farmhouses, and subdivisions to open fields, Hadley Farm rests in a diversified context. While most adjacent parcels are privately held, the publicly owned university makes a strong presence.

The only privately owned parcel that directly abuts the Farm is a field to the north. The University’s stadium lies across Route 116 to the east. There are five houses directly across North Maple Street near the Farm’s entrance, with the remainder of the land to the west as open meadows. A productive field, which has been used for strawberries, and barn lies across Plainville Road to the southwest. Two more houses and open meadows are directly across Rocky Hill Road to the south.

The Farm falls entirely within the Town of Hadley’s Agricultural-Residential zoning district. Permitted uses in this zone include all typical residential uses as well as farm and nursery operations and their accessory uses. A riding stable is permitted only with approval of the Town’s Zoning Board of Appeals.

The southern portion of the site lies within an aquifer protection overlay district, calling for more stringent land use restrictions. The Town’s Zoning By-laws, however, are explicit in exempting agricultural uses from these controls.

Structures

The barns at Young Meadow Farm were constructed rather poorly, without regard for long term stability. In fact, only six years after construction, rotting posts began to draw attention to these inadequacies. A study of the three barns was prepared by Bednarski/Stein Architects, Inc., of Greenfield, for the UMass Foundation in May of 1991, as an assessment after the purchase. This report identified three major issues: rot in the exterior posts, roof sheathing support which is inadequate for snow load, and mildew which developed due to poor ventilation. The study provided short and long term recommendations which have been adopted in the lease agreement.
Zoning

AR  Agricultural/Residential

Ind  Industrial

- Aquifer Protection
- Flood Overlay District

Source: Town of Hadley Official Zoning Map
Parcel Ownership

PUBLIC
- University
- State (Non-University)
- Civic

PRIVATE
- UMass Foundation
- Private Institutional
- Trust
- Other Private
Wetland Restrictions

- within 100' of wetlands
- within 200' of streams/rivers
There are currently eight structures at Hadley farm, including two animal run-in-sheds. Each of the Farm’s three barns have evident structural problems. This is primarily a result of rotting post bases on the buildings’ exteriors and is most pronounced in the West Barn. Furthermore, one entrance to the Main Horse Barn is rendered useless due to significant overhead beam rot. Plans are being made by the University’s Facilities Planning Division to repair roof, foundation, and ventilation systems in the three barns beginning in the summer of 1997.

Soils and Wetlands

The most significant constraint on the development of this site is its wetlands. Wetlands are some of the world’s richest ecological areas, and contribute to the diverse conditions at the Farm. A detailed wetland delineation, performed in the fall of 1996, identified a significant amount of the site in wetland conditions. Development within a 100’ wetland buffer requires municipal review and approval to insure that these resources are protected. A similar procedure applies to areas within 200’ of a river or perennial stream, such as the Mill River or stream traversing the northern section of the Farm. Furthermore, the Town of Hadley maintains a no-build policy within 35’ of wetlands.

Areas away from wetlands also present problems for any type of intensive development. Despite sloping terrain, even upland areas of the site remain very wet. The 1993 Physical Master Plan identified all the soils on the site as having severe limitations for development, due to their high water table. This is evidenced in part by the Farm’s fence posts, which need constant replacement due to frost heaving and decay.

While this may hinder intensive development, such as buildings, the less intensive pasture uses are an important function of the Farm. Wet soils are less of a constraint to pastures, although such conditions may reduce livestock carrying capacity.

Slopes

Hadley Farm lies on generally level terrain. The knoll on which the Manor House sits is perhaps the most pronounced landform at the Farm. While most of the Farm is under 5% slope, there are no slopes significant enough to constrain development. However, areas filled during construction of the track have created some steep slopes.
Vegetation

The Hadley Farm parcel is almost entirely covered with open pasture lands, maintained by grazing and mowing. Natural woody growth is restricted to the northern portion of the site, along the wet conditions in that area. Tree species include ash, oak, red maple, and poplar. Viburnum, glossy buckthorn, and Tatarian honeysuckle are prevalent shrub species. Ornamental plantings include the pin oaks lining the entrance drive as well as some localized trees and shrub beds throughout.

Visual Quality

As the open fields and fencerows play a major part in the visual character of Hadley Farm, the design, layout, and detail of the structures visually unite the facility in a recognizable aesthetic. Architectural detailing of the barns in particular present a positive image that has been an important aspect, in particular to equestrian interests. One noticeable divergence from this established style is the Riding Arena, whose corrugated metal construction and siting contribute little to the Farm’s image.

Views from the site are expansive and include a panorama of the University’s core campus. This is especially evident from the knoll on which the Manor House rests and is reflected in the building’s design and siting. Nevertheless, the visual quality of the Manor House itself, which marks the entrance to the Farm, can be enhanced through landscaping, signage and parking reorganization.

Circulation, Parking, and Transportation

The Farm generates only a negligible amount of traffic on a day-to-day basis, but events and conferences can draw up to 100 vehicles per event. Unlike the core campus, there are no delineated or permitted parking areas. Currently, full time employees at the Farm include two managers and three faculty members. Including students, there are up to 20 part time employees. Faculty and staff utilize the 10-12 spaces adjacent to the Main Horse Barn. Farm service vehicles are parked in this location or behind the Riding Arena, which can accommodate about 15 vehicles. Mounted Police personnel park on the access road to the south of the East Barn, and typically include 1-5 vehicles. Students generally utilize the gravel lot.

During conferences and functions, cars are often parked along the entrance road near the Manor House creating a congested situation for
Circulation

- Entrance
- North Maple Street
- Route 116 (No Access)

Legend:
- Vehicular (Public)
- Primary Vehicular (Service)/Pedestrian
- Secondary Vehicular (Service)
- Parking Areas
the Manor House can draw 30-40 cars which are parked in no organized manner. A gravel parking area is utilized for most other activities, which generally take place in the Riding Arena and at outdoor showcase areas. While this lot accommodates between 60-80 vehicles and is usually sufficient, overflow parking onto the track occurs a few times each year at major events, which can draw up to 200 vehicles to the Farm. The remainder of circulation routes are non-public and are used for daily farm operation and service vehicles.

The Farm’s visibility and accessibility from North Maple Street often attract visitors. It is not uncommon to see children peering through fence rails along North Maple, or families wandering about Farm grounds. This public and open feel of the Farm, however, are contrary to conditions which favor research activities.

There are no specific pedestrian routes, and pedestrian boundaries are determined only by animal fences. A lack of directional signage, both indoors and outdoors, contributes to visitor confusion and conflicts with farm operations.

Hadley Farm is currently not on a bus route serviced by the PVTA. Consequently, the Department operates a van to provide access from the core campus. Other students carpool or bicycle to Farm. The newly developed University Business Park, less than one mile south of the Farm and off North Maple Street, may help to make the addition of a bus route feasible in this area.

Utilities

Hadley Farm has water and sewer service from the Town of Amherst, as Hadley has no such utilities in the area. All buildings at the Farm have access to water, sewer, electricity, and telecommunications. While propane is currently used, access to natural gas is available from Rocky Hill Road. The sewer was extended to the Farm in 1992 with the transfer of ownership. A 4" pvc forced main services the Farm, and capacity is limited by the operations pump rate of 150 gpm.

As mentioned earlier, due to poorly-drained and low-lying soils, on-site septic treatment is not an option. A lack of access to sewer utilities is a major constraint to Farm development.
Sewer Utilities

System
Pump Rate: 150 gal./min
Existing Pasture Use
**Planning Issues**

**Process**

The preparation of a master plan for the Farm began in the March of 1996, motivated by the news that a dairy barn was to be constructed to house an incoming herd of cattle. The consolidation of all the College’s agricultural activities at one facility was pursued to reduce personnel and operations costs. Hadley Farm was also desirable because of its proximity to the core campus.

In April of 1996, early in the planning process, community relations were considered and informal meetings with Hadley town officials, including the Administrative Assistant, the Planning Board, and the Building Inspector. Other early discussions involved the UMass Foundation, Conference/Catering Services, The University Mounted Police, and College of Food and Natural Resources personnel. This included the Dean as well as Department of Veterinary and Animal Sciences faculty and staff.

**Management**

Discussions with Department personnel, as well as a review of topical literature, has yielded a general understanding of farm principles and practices. Obviously, a functional master plan must consider the ideal resources and requirements necessary for an educational farm facility. With nearly 90 acres in pasture, this component of management was examined closely. The reference information, summarized below, helped shape the planning process and the decisions that from it.

Good pastures can provide most of the needed nutrients for adult livestock. Open pastures are also important for animal well-being and exercise, particularly for horses. A generally accepted rule of thumb is the provision of one acre of good, improved pasture per horse or cow. One acre of pasture can support up to six sheep or goats.

It is important not to overstock pastures, as parasite problems become magnified. To further maintain herd health, pasture rotation is recommended. Since horses prefer shorter forage and cattle taller (in which parasite eggs are harbored), it is possible to pasture horses and cows together or use them in a rotation program. Cattle are an effective addition in controlling spot grazing, excessive growth, and grass/legume balance. Cattle can also replace the practice of mowing pastures after horse grazing. In fact, following horses with cattle, and then with sheep, in a pasture rotation is an accepted method of livestock and pasture management.
Of course, attention must be given to allowing plant growth to recover. Generally, 10-20 days of rest is sufficient after intensive grazing. It is possible, though, to allow pastures to become too mature for effective grazing, although permitting plants to make top growth in the fall helps insure adequate spring growth.

There is no manure management plan for the Farm other than to truck it off site every 1-2 weeks. During the fall and winter, when the animals are maintained indoors, 30-50 cubic yards of manure and bedding are produced. This is halved in the summer. It is currently stockpiled at the Dakin Property and Wysocki Farm off North Pleasant Street. Some is subsequently spread and a portion is privately hauled away. Composting of manure at the Farm is undesirable because of wet conditions and aesthetic issues.

**Base Academic Program**

Hadley Farm will continue as an equine facility with the option of expanding research. The Riding Arena will continue as the center of instruction for the equine program, with the run-in-sheds and Student Lounge also continuing their current use. The need for a new dressage area (requiring 100’ x 200’) has been expressed, and this will be considered part of the base academic program.

While the track is not utilized as a track, the wetland conditions surrounding it hamper any efforts to remove it or significantly alter this area. Consequently, the track will remain in place.

**Dairy Cows and the South Deerfield Facility**

The Department of Veterinary and Animal Sciences has managed a dairy herd, including a milking operation, at South Deerfield. At one time, this herd numbered near 200, but plans to consolidate and relocate the milking operation to Hadley Farm has lead to the downsizing of this facility, including a sale of animals in the fall of 1995. Currently, only about 30 cattle remain and no milking takes place. As mentioned, news of this relocation was the impetus for this plan. Since plans for a dairy barn were first considered, financial limitations have combined with the wetland restrictions at Hadley Farm to eliminate their feasibility. As the South Deerfield facility was originally intended for research and surgery, rather than teaching, it can continue this use in conjunction with a teaching herd, relocated or transported to Hadley or elsewhere.
Farm Shop Complex

The support services for the Hadley Farm, as well as the South Deerfield facility, are currently housed in the farm building and Grinnel Arena which are located on Campus across from the Mullins Center. Here, tractors and equipment used for mowing and management of the farms are stored and maintained.

With the Campus having spread around this complex, the types of activities which occur at the Farm Shop are incompatible with those of a core university campus. It is also logical to locate such a facility closer to where its services are utilized, such as at Hadley Farm. However, the daily operations of the Farm Shop relate more to management of a dairy, rather than an equine program. The replacement farm shop complex is estimated to require approximately 2.5 acres.

New Acquisitions

Discussions regarding the relocation of dairy and farm shop activities have highlighted the option of new property acquisition. A parcel of about 50 acres could support the complementary livestock, dairy, and farm shop components. Currently, one such parcel to the south of the Farm, a number of smaller contiguous parcels to the west, and two large contiguous parcels to the north are available in the Route 116 corridor. Assessed values range from $100,000 to $330,000.

Community Relations

In preliminary meetings with town officials, a number of concerns regarding more intensive use of the Hadley Farm have surfaced. Most notably, traffic issues, aquifer concerns, building codes, and tax impacts have been highlighted in community discussions.

Related to community concerns is the image of the Farm itself. The setting and physical aesthetic are valued by the community, both local and University. It is this visual quality that contributes to the Farm’s image as one of the nation’s premier university horse facilities. Maintaining this character is central to the planning process and can only be insured through the implementation of a proactive master plan.

A public meeting in January of 1997 was organized to solicit community input. To facilitate discussion, the two different planning scenarios which follow were presented.
College-Based Scenario

**Base Academic Program**
- Equine Facility with option of expanding research
- Small livestock program (pigs, sheep, goats) continues in West Barn
- Riding Arena, Student Lounge, Run-in-Sheds use continues
- Track remains in place
- New dressage area

**Dairy Program Options**

- **Small dairy herd** (15-20 cows) with small barn
  - At Hadley Farm or on other UMass property
  - Possible need for land acquisition adjacent to Hadley Farm

- **Large dairy herd** (50-60 cows)
  - Accommodated off-site with Farm Shop Complex, on other UMass property or through acquisition of a large parcel in the vicinity (see community graphic)

**Conference Center**
- Continued use
- Maximized use of office space

**Mounted Police**
- Relocated off-site to accommodate space needs for expanding research programs (long term)
Planning Scenarios

Each of planning scenarios accommodates the base academic program, and the Farm remains primarily an equine facility with the option of expanding research. The current uses of the Lawrence Riding Arena, Student Lounge, and Run-in-Sheds continue. The track remains in place, and provisions for a new dressage area are incorporated in each scenario.

I. The College-Based Scenario

Based on the Department of Veterinary and Animal Science’s and the College of Food and Natural Resources’ vision for the Hadley Farm, the college-based scenario seeks to maximize the instructional and research opportunities at the Farm by expanding on the base academic program. Public interaction is limited, and events are restricted to those that are college-related.

Research Expansion

• Under this scenario, research is expanded to the East Barn. As a long term solution the Mounted Police, which occupy a portion of this barn, are relocated off-site to accommodate research needs.

Manor House Changes

• The only change at the Manor House under this scenario involves the maximization of office space for college-related activity.

Dairy Program Options

• Small Dairy Herd
  A small number of dairy cattle (15-20) are relocated to Hadley Farm or to other University property. A small barn is included with this option. If located at Hadley Farm, the need for acquisition of land adjacent to the Farm will be explored.

• Large Dairy Herd
  As Hadley Farm cannot accommodate a full dairy operation, a large dairy herd (50-60 cows) is located off-site on other University property or on an acquired parcel in the vicinity of Hadley Farm. The Farm Shop Complex is co-located with this option.
University-Based Scenario

Base Academic Program
- Equine Facility with option of expanding research
- Small livestock program (pigs, sheep, goats) continues in West Barn
- Riding Arena, Student Lounge, Run-in-Sheds use continues
- Track remains in place
- New dressage area

Interpretive Trail
- Wetland trail/boardwalk with parking area

Riding Arena
- Maximized activity/event schedule

Farm Shop Complex
- Off-site or at Hadley Farm

Resident-Manager Facility
- New residence for on-site farm manager

Conference Center
- Executive meeting space
- University guests' overnight accommodation
- Farm managers relocated to new residence

Self-Guided Tours
- Throughout the facility
- Signage, educational plaques
II. University-Based Scenario

While also accommodating the base academic program, this scenario seeks to maximize public interaction and outreach, as well as the generation of revenue.

Manor House Changes
• Addressing needs beyond those of the College, the Manor House is used as meeting space and overnight accommodations for the University’s President and his guests during visits to the Amherst campus as well as for executive meeting space. The current resident-managers are relocated to a new residential unit.

Resident-Manager Facility
• A new residence is provided on-site to house the Farm’s resident-managers. A central location and access to utilities place the residence near the current barn cluster at the center of the Farm.

Increased Events
• In keeping with the public orientation of this scenario, the event schedule at the Riding Arena is maximized. This may enable the Farm to generate revenue.

Farm Shop Complex
• While it is preferable to locate this elsewhere, acquisition and financial restrictions may dictate the Farm Shop Complex’s sitting at Hadley Farm. This facility will be located outside the aquifer protection district.

Wetland Trail
• An interpretive wetland trail and boardwalk, together with a small parking area off North Maple Street, are located in the northern portion of the Farm. The accessibility and visibility of this wetland area are assets for public education.

Self-Guided Tours
• Signage and educational plaques lead visitors throughout the facility’s animal management and natural areas.
Preferred Alternative

Base Academic Program
- Equine Facility with option of expanding research
- Riding Arena, Student Lounge, Run-in-Sheds use continues
- Track remains in place
- Continued use of the South Deerfield facility for research

New Facilities
- Dairy/livestock facility and Farm Shop Complex are co-located off-site (Site to be determined)

Conference Center
- Executive meeting space and overnight accommodation
- Relocation of farm manager residence
- Landscaping and renovation, including ADA compliance

Parking
- Reorganize access and parking at Conference Center for 10-15 cars

Entrance
- Single entry with security system

Expanded Pastures
- Maintain 7 ac. northeast parcel for optional pasture expansion

New Dressage Area
- Continued use by Mounted Police
- Space for expanded equine program

East Barn
- Continued use by Mounted Police
- Space for expanded equine program

Wildlife Habitat
- Coordinate mowing schedules to protect rare bird habitat

West Barn
- Re-use for equine research

Farm Manager
- Potential on-site location for residence

Natural Gas Line
III. Preferred Alternative

Following the presentation of the College-Based and University-Based Scenarios, a third scenario was developed. This preferred alternative was synthesized from the two in subsequent meetings with the College of Food and Natural Resources.

Executive Conference Center

- The Manor House is converted to executive meeting space and overnight accommodations for the University’s President and his guests during visits to the Amherst campus, as well as for executive meeting space. The current resident-managers are relocated to a new residential unit, and the building is renovated for its new use and for compliance with the Americans with Disabilities Act (ADA).

- A reorganization of the existing parking situation, including a new lot for 10-15 cars, landscaping, and signage will improve the image of the Executive Conference Center. A single, secure entrance to the Farm is maintained.

Resident-Manager Facility

- A new residence is provided on-site to house the Farm’s resident-managers. A central location, access to utilities, and wetland limitations place the residence at the gravel lot. A gas line is extended from Rocky Hill Road, and the Farm is converted from propane to natural gas.

Farm Shop Complex and New Dairy Facility

- These two planning components are co-located, along with the small livestock program, to an acquired property off-site but close to Campus. Approximately 50 acres within the Route 116 corridor are required.

East Barn

- The East Barn continues to be utilized by the Mounted Police. Excess space can accommodate an expanding equine program.

West Barn

- The small livestock program currently housed in this barn is co-located off site with the Dairy/Farm Shop Facility. This barn is renovated and re-used to accommodate equine research.

Mowing

- Mowing schedules are coordinated to protect rare bird habitat inside the track. The 7-acre parcel to the northeast is maintained for potential pasture expansion.
Proposed Animal Education Center
Hadley Farm Equine Center,
Agricultural Education Center,
Turf and Ornamental Horticulture Education Center

The following strategic recommendations were developed to support the preferred alternative and guide the future uses and changes at Hadley Farm toward this directed goal.

I. **Open Space**
   
   **Hadley Farm Equine Center:**

   **Short Term**
   
   - Any future development within the wetland areas and 100’ buffer zones defined by the wetland study, will comply with wetland regulations.
   
   - The primary recharge area for the Town of Hadley lies in the southern half of the site and the secondary recharge area lies in the northern half of the site; any new development or new uses in these areas will comply with aquifer restrictions.
   
   - To the extent possible, cooperate with the Conservation Commission to protect identified rare bird species on the site and support species habitat management through adjusted mowing schedules.
   
   - Maintain the UMass owned land (approx. 7 acres on the northeast corner of the site) for additional pasture/grazing land by yearly mowing.
   
   - Maintain the track in its current condition for equestrian training and events.
   
   - Maintain the current drainage system including proper maintenance for drainage systems.

   **Long Term**
   
   - As a graduate research and educational project, develop an NRCS (Natural Resources Conservation Service) plan for managing agricultural land, drainage and waste management in conjunction with a Conservation Commission suggested farm plan.
• Bring in topsoil, as it becomes available from new construction sites, to sod the track for the purposes of minimizing maintenance and preventing erosion.

• Preserve open spaces consistent with traditional farm management uses as a separate category designated in the UMass Masterplan as “preserved agricultural open space”

South Deerfield Property
• Preserve open spaces consistent with traditional farm management uses as a separate category designated in the UMass Masterplan as “preserved agricultural open space”

II. Vehicular Access and Circulation:

Short Term:
Hadley Farm Equine Center
• Maintain existing circulation routes and vehicular patterns.

• Expand the existing parking to accommodate a minimum of 10-15 spaces, including handicapped spaces, for the conference center.

• Maintain a single entry to the farm with a secure access system.

• Continue the shuttle service from the main campus to the farm in the near term.

• Provide bus service to Hadley Farm as part of expanded PVTA service to University Business Park as soon as it becomes feasible.

Long Term:
• Provide bus service to Hadley Farm and the future Agricultural Education Center Turf and Ornamental Horticulture Education Center as part of expanded PVTA service as soon as it becomes feasible.

III. Current Building Use:

Short Term:
Hadley Farm Equine Center
• Relocate the resident manager and convert the Conference Center to an (Alumni Center) executive meeting space and overnight accommodation, making modifications as needed for ADA compliance.
• Continue the academic use of the Hadley Farm for the equine, livestock and dairy programs, utilizing the S. Deerfield facility to house animals to be transported to the HF for study purposes.

• Continue to locate the mounted police in the east barn.

• Complete renovations to the existing barns, including foundation improvements to all three barns and ventilation and roof repairs to the main horse barn. Phase II includes roof repairs to the livestock (west) barn and mounted police (east) barn.

• Continue the use of the student lounge, riding arena and run-in sheds.

Farm Shop Complex

• The preferred option is to co-locate the farm shop complex and a new Animal Education facility. In the event the farm complex must be relocated before a new site can be acquired, the preferred interim location is to the Tillson farm, with marginal reinvestment.

Long Term:
Hadley Farm Equine Center:
• Re-use the livestock barn on the Hadley Farm for expanded equine research.

South Deerfield Property
• Continue the use of the S. Deerfield facility as a research facility.

• Identify the repairs which need to be made to the S. Deerfield facility.

IV. Land Use and New Facilities

Short Term:
Hadley Farm Equine Center
• Maintain an equine facility with 60 horses at the Hadley Farm.

Agricultural Education Center/ Farm Shop Complex
• Acquire approximately 60 acres of tillable land and 5-6 acres for the Farm Shop Complex in close proximity to the Hadley Farm Equine Center for the Agricultural Education Center including the livestock/ dairy program.
• Establish a program that approximates “normal” farm management with a diverse multi-species population of farm animals:

Dairy: 30 adult cattle/ 25 replacement animals
Beef Cattle: 10-15 breeding animals
          10-15 replacement animals
Swine: 15-20 sows
Sheep: 40-60 ewes
Goats: 15-20 does
Poultry: small breeding flocks of specific lines

**Structures/Barns:**
Dairy Cattle: 6,160 s.f. including milk room and demonstration area
Beef Cattle: 3,600 s.f. (100 s.f./animal) Open fronted shed with covered feed bunk. Shute and gate system for handling animals
Swine: 3,600 s.f., including breeding, farrowing and nursery space
Sheep/Goats: 3,600 s.f., three sided structure with open front.
Poultry: 3,600 s.f. for breeding, incubator, selection room, caged layer room and growing rooms.

sub-total 20,560 s.f.

• Provide 5-6 Acres for the Farm Shop Complex adjacent to the AEC including:

**Structures:**
Farm Shop 3,000 s.f - repair and maintenance of farm equipment
Carpentry 600 s.f - Shop for carpentry work
Storage shed 2,880 s.f. - storage of farm equipment and vehicles
Feed Storage 1,800 for Hay, feed and bedding
Silage 2 Bunker Silos
Manure TBD, final plans for manure handling dependent on site

Fuel storage 2-500 gallon tanks (on-site gasoline and diesel fuel)

sub-total 8,280 s.f.

Turf and Ornamental Horticulture Education Center
• Acquire 20 acres of land to relocate the Turf and Landscape Education Center in close proximity to the Agriculture Education Center including:

Structures:
Classroom/Conference 600 s.f.
Grad. Area 200 s.f. research space
Office 240 s.f. for 3-faculty
Storage 80 s.f.
Services 80 s.f. restroom
Repair/Equipment 1,200 s.f.
Greenhouse 300 s.f.
Utilities: Well and pump irrigation system
sub-total 2,700 s.f

Preferred Alternative:
Short Term:
• Purchase the 32 ac and 5 ac Waskiewicz parcels (Amherst - APR) to accommodate the Agricultural Education Center, Farm Shop Complex and Turf and Ornamental Horticulture Program

• Purchase the 34 ac Waskiewicz parcel in Hadley

• Purchase the 20 A Andrews Parcel as part of the AEC requirement

• Total 96 Acres

South Deerfield Property
• Lease the 20 Acre parcel at the corner of River Road and Route 116 for agricultural purposes.

• Maintain all other parcels as indicated:
Animal Surgery and Research 15 acres
Grazing 60 acres
Feed Crops 85 acres
Research Test Plots 50 acres
(to be evaluated based on T&OH program needs)
Total: 210 acres
Long Term:
Hadley Farm Equine Center
• Construct a new dressage ring in close proximity to the main horse barn.

Agricultural Education Center/Farm Shop Complex
• After acquisition, construct the appropriate buildings to support the AEC or renovate any existing farm structures.

South Deerfield Property
• Maintain the South Deerfield Property, with the exception of 20 acres to be leased to local farmers, to provide feed for the AEC and house the Animal Surgery and research component.
## Appendix 1. Hadley Farm Building Inventory

<table>
<thead>
<tr>
<th>Structure</th>
<th>Footprint</th>
<th>Gross Area</th>
<th>Net Area</th>
<th>Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manor House</td>
<td>3470 s.f.</td>
<td>4600 s.f.</td>
<td>4220 s.f.</td>
<td>Resident-Managers’ Apartment Conferences</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Offices</td>
</tr>
<tr>
<td>Main Horse Barn</td>
<td>19890 s.f.</td>
<td>24090 s.f.</td>
<td>23680 s.f.</td>
<td>Horse Stalls/Breeding Room Offices</td>
</tr>
<tr>
<td>East Barn</td>
<td>8380 s.f.</td>
<td>10790 s.f.</td>
<td>10360 s.f.</td>
<td>Mounted Police Horses/Office Equipment</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Storage Animal Isolation</td>
</tr>
<tr>
<td>West Barn</td>
<td>8380 s.f.</td>
<td>10790 s.f.</td>
<td>10360 s.f.</td>
<td>Small Livestock</td>
</tr>
<tr>
<td>Student Lounge</td>
<td>600 s.f.</td>
<td>600 s.f.</td>
<td>550 s.f.</td>
<td>Meeting Space/Lounge</td>
</tr>
<tr>
<td>Lawrence Arena</td>
<td>26580 s.f.</td>
<td>26580 s.f.</td>
<td>24020 s.f.</td>
<td>Classroom Space</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Riding Events/Shows</td>
</tr>
<tr>
<td>North Run-in-She</td>
<td>5900 s.f.</td>
<td>5900 s.f.</td>
<td>5800 s.f.</td>
<td>Covered Animal Shelter</td>
</tr>
<tr>
<td>South Run-in-She</td>
<td>2800 s.f.</td>
<td>2800 s.f.</td>
<td>2750 s.f.</td>
<td>Covered Animal Shelter</td>
</tr>
</tbody>
</table>
Appendix 2. Aquifer Protection District: Agricultural Use Exemptions

According to the Hadley Zoning By-Laws, Section XII The Aquifer Protection District, the following subsection refers to, and specifically excludes, agricultural practices from the Aquifer Protection District’s prohibitions.

5. Prohibited Uses
   a. Business and industrial uses, not agricultural, which manufacture, process, store, or dispose of hazardous waste in amounts exceeding the minimum threshold amount requiring compliance with Massachusetts Department of Environmental Quality Engineering hazardous waste regulations 310 CMR 30;

   e. Business and industrial uses, not agricultural, which involve the on-site disposal of process wastes from operations;

   f. Disposal of liquid or leachable wastes, except for:
      (2) normal agricultural operations