

# Harvard, Massachusetts

# Master Plan

November 2002



*Prepared for:*

Harvard Master Plan Steering Committee & Harvard Planning Board

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# Harvard, Massachusetts Master Plan

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## Master Plan

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# Harvard, Massachusetts

# Master Plan

November 2002

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*Executive Summary*



Harvard Master Plan Steering Committee & Harvard Planning Board

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## Harvard's Vision

In twenty years, the Town of Harvard will be a town with:

### **A Sense of Community**

—Active participation of citizens in the town's civic life combined with small town celebrations and traditions will forge a strong sense of community.

—Harvard will be home to all ages and a broad range of household sizes and incomes.

—The cooperation of highly motivated staff, caring Town personnel and actively involved parents will contribute to schools that provide both a nurturing environment and high quality education.



### **A Sense of Place**

—The Town Center will serve as the social, governmental and cultural heart of the community, with other thriving village centers further strengthening Harvard's economic and community base.

—Harvard will support working orchards and farms and preserve its landscape of woodlands and fields, rural roadways and scenic vistas, and will connect these features and the Town and village centers with walking trails.

—The town will have clean air and an ample supply of clean water.

### **A Sustainable Future**

—Diversified commercial and residential bases will enable the town to realize its vision and provide the flexibility to adjust to changes in the economy.

—Close cooperation with neighboring towns and organizations involved in regional planning and resource protection will provide opportunities for realizing an expanded vision.

# Harvard's Master Plan Goals

## **Town Character Preservation**

Maintain a balanced mix of village centers; agricultural, forested and open space lands; and small neighborhoods.

Maintain the rural characteristics of the Town by:

Insuring no net loss of trees or stone walls and no net gain of asphalt width on existing scenic roadways.

Preserving and/or enhancing view sheds.

Preserving historic structures and landscapes.

Ensure a vibrant town center by maintaining a balance of residential, commercial, municipal and institutional uses.

Provide for a balance of non-vehicular and vehicular use on public roadways.

## **Housing**

Increase housing options, particularly the number and types of moderately priced senior and handicapped-accessible units.

Provide an environment to significantly increase the retention of young and senior citizens.

## **Agriculture**

Increase the options for economic viability of agricultural enterprises.

Identify and protect significant Chapter 61 lands.

## **Economic Strategies**

Broaden the sources of Town revenue.

Balance the costs and delivery of services with the available sources of revenue.

## **Natural Resources & the Environment**

Protect groundwater, recharge areas and wetlands to ensure a safe and adequate water supply.

Identify and protect wildlife habitats and other natural assets, such as Bare Hill Pond.

Preserve air quality and control noise, light and other environmental pollution.

## **Implementation**

Integrate the Master Plan into the operations of the town, Town Meeting and the Municipal boards and offices.

# A New Plan for Harvard

## Visions from the Past

### *Planning for Harvard: Comprehensive Plan (1969)*

Had Charles W. Eliot II composed a millennium vision statement when he wrote the town's first master plan in 1969, he would have imagined a place similar to today's Harvard. "Visioning" was not in vogue in the 1960s, but there is no doubt that Eliot had a vision for Harvard. During his 20-month engagement with the Harvard Planning Board, he saw many possibilities for what planners now call sustainable development: clean water, single-family homes mixed with smaller housing units, compact villages surrounded by large, connected tracts of open space, and a planned business district that required no new roads. Eliot's vision did not include losing 1,400 acres of forest to new development, yet he predicted that Harvard would absorb more homes than were actually built after 1970. When his firm conducted an inventory of Harvard neighborhoods in 1968, there were only 14 houses scattered across a 356-acre area west of Upper Bowers Brook. If he were alive now, Eliot would not be surprised to learn that the same area has 68 more homes. However, he might see the conversion of 190 acres of land to 68 house lots as evidence of flawed zoning. In Eliot's vision of Harvard, the 68 single-family homes (or more) were probably inevitable, but not at the expense of open space.

The renowned landscape architect was not opposed to development. In fact, Eliot cared deeply about historic preservation, housing quality and neighborhood design, and while he advocated for publicly controlled conservation areas, he also saw development as a possible opportunity to save land. Accordingly, Eliot recommended Planned Unit Development (PUD) zoning so that some of Harvard's new neighborhoods could replicate the form and atmosphere of its historic villages: dignified homes nestled together, unified by a common area and surrounded by open space. He believed in such techniques as PUD because in Eliot's mind, buildings, land and natural features ought to work harmoniously toward the goal of a balanced community. Eliot recognized that Harvard's poorly drained soils would make village development a difficult pursuit, but he saw potential in several places. He respected Harvard's preference for large-lot zoning and supported it – to a point. Eliot thought Harvard should consider more varied, land-based regulations, "down-zoning" (smaller lots) in some areas and "up-zoning" (larger lots) in others. If his ideas had taken hold in Harvard, a number of subdivision plans filed in the last 30 years would have been designed differently, and half of the 190 acres that became large house lots might be contiguous, protected open space today.

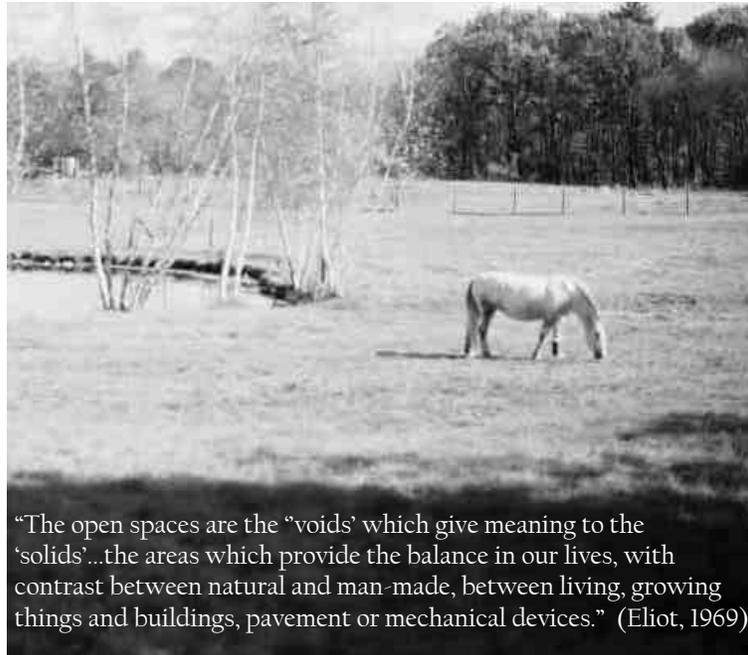
The problems to be faced are [not] all related to "growth," but reflect the original or basic, physical characteristics of the area, the history of the community, and the investments and commitments already made for its development. We build on foundations already established -- but sometimes have to rebuild or reinforce the foundations, and change the superstructure for new or changed uses. Planning must therefore be directed toward the correction of past mistakes or present trends, and toward the prevention of future errors and seizure of opportunities for desirable change.

Charles Eliot, *Planning for Harvard* (1969)

Though Harvard residents never warmed to the principles of PUD, they responded quite differently to Eliot's thoughts on public open space. In 1968, Harvard owned less than 300 acres of land and most of it was used for municipal services and school buildings. By the time Eliot finished the *Planning for Harvard: Comprehensive Plan*, town meeting had voted to purchase 94 acres of conservation land and

four years later, the Harvard Conservation Trust (HCT) was born. Since the early 1970s, the Harvard Conservation Commission and HCT have acquired or obtained restrictions on more than 2,000 acres of open space. Their combined holdings, along with land owned by the state and the U.S. Fish and Wildlife Service, mean that 21% of Harvard's land area will never be developed. Harvard's 1969 *Comprehensive Plan* helped to inspire these investments and they are consistent with Eliot's vision.

Eliot would probably be struck by the town's very short supply of affordable housing, but it is difficult to know what he anticipated. Ironically, the state legislature enacted Chapter 40B the same year that Eliot finished Harvard's master plan. The interests, motives and principles that formed the impetus for Chapter 40B have been forgotten in three decades of angry debate about low-income housing in Massachusetts. Very few people realize that Chapter 40B is a misnomer for "comprehensive permit law." Chapter 40B is actually the state's regional planning law. In 1969, at the end of a decade when policymakers worried about the state of the nation's cities, tools like comprehensive permits became part of a larger effort to restore urban areas by reducing the unequal distribution of wealth in metropolitan regions. Legislators who amended Chapter 40B by adding Sections 20-22 – which they dubbed the "Anti-Snob Zoning Act" – were informed by the prevailing wisdom of their day. Conversant in urban economics and a strong supporter of regional planning, Eliot agreed with the law's objectives but he was troubled by the rubric of "anti-snob zoning." He believed that large-lot zoning serves a purpose, and that a town like Harvard would be best served by using such promising techniques as PUD to change the mix and cost of homes, thereby gaining control over its housing destiny.



"The open spaces are the 'voids' which give meaning to the 'solids'...the areas which provide the balance in our lives, with contrast between natural and man-made, between living, growing things and buildings, pavement or mechanical devices." (Eliot, 1969)

**Harvard's Pastoral Landscape.**

Harvard differs from Eliot's expectations in a few other ways. Though he understood why residents wanted to keep local services in the Town Center, Eliot questioned whether Harvard would be able to accommodate a more intensive school complex there. He suggested additional land purchases in the Town Center so that Harvard would have enough area to qualify for school construction grants as elementary and high school expansions became necessary. Since he imagined Harvard with more village nodes and a bustling business district north of Route 2, Eliot also encouraged the town to purchase land on or near Ayer Road and hold it in reserve for a future school site. As for Ayer Road itself, Eliot saw many opportunities to strengthen Harvard's tax base, including a hotel and shopping center just north of the Route 2 interchange. He also saw problems in Harvard's C District zoning, namely that it promised a commercial strip replete with scattered, uncoordinated business and industrial development. Eliot's vision of Ayer Road called for a controlled mix of intensive and light business development interspersed with variable-density housing. As one who valued Harvard's independent streak, Eliot thought the town should take matters into its own hands and create a local non-profit development corporation to implement the master plan for Ayer Road instead of waiting for private developers to make a move. Harvard adopted his proposal to downzone a section of the C District, but the larger vision – and the principles it embraced – never materialized.

*Harvard Town Plan (1988)*

Twenty years later, the Town Plan Committee and Michael Oman of Connery Associates worked for 18 months to update the *Comprehensive Plan*. Much like Eliot's work with the Planning Board, Oman's task was to help the Town Plan Committee articulate a set of coherent rural development principles to guide Harvard's future. Oman, the Town Plan Committee and about 40 subcommittee members did a considerable amount of work that culminated in the *Harvard Town Plan*. At least two aspects of the *Harvard Town Plan* are striking in comparison to the *Comprehensive Plan*: first, what it reveals about the extent to which Harvard had grown since the late 1960s, and second, the similarity of its recommendations to those made by Eliot. Though the two plans differ in several ways, records maintained by the Town Plan Committee show that the *Comprehensive Plan* had accurately foreseen a number of potential problems in Harvard – problems Eliot tried to avert in proposals that were implemented only in part, or not at all. Thus, it fell to the Committee and Oman to identify solutions that might be more palatable in the climate of the late 1980s.

As the Planning Board had done in the 1968, the Town Plan Committee surveyed Harvard households about a variety of issues and relied on the results as a measure of public opinion. The results of the 1968 and 1985 surveys suggest that despite the passage of time, residents shared very similar values and beliefs about the town. They cherished Harvard's clean natural resources, rural atmosphere and farms, and generally they took a dim view of apartments and industrial development. However, the *Harvard Town Plan* hints at deep differences of opinion about affordable housing, business development, or "change" of any kind.

Not surprisingly, the greatest opposition to change came from Harvard's newest residents: people who, for the most part, had paid dearly to buy a home in town at the peak of a growth wave. Though most of the survey respondents offered the same perspective on Harvard's desirability, regardless of how many years they had lived in town, longer-term residents were more inclined to favor such community attributes as a "broad socio-economic mix" and "managed" rather than "no" growth. Divisions like these are so common in small towns that usually they would seem

*On the "C" District*

This kind of strip zoning is also detrimental to the safety and efficiency of the main traffic artery because the numerous scattered entrances and exits, parking stops, etc., which are created to serve business developments, interfere with the free and safe movement of through traffic. (Eliot, 1969)

Harvard's commercial district and the town's expectations for its ultimate development are clearly in a state of limbo...If the zoning is not changed, the town will certainly experience...a fundamental change in the town's character, alteration of the future development path of the town, increased traffic... (Town Plan Committee, 1988)

*On Housing & Village Development*

The returns from the Questionnaire in answer to the question, "What is right about Harvard?" repeatedly referred to the Common and its surroundings as a physical expression of neighborliness, and as a "way of life" that should be safeguarded and emulated. Perhaps the existence in that area of a greater number of two, three and four-family dwellings than in all the rest of Harvard is significant...the fact suggests that new growth in Harvard might be guided and organized in new "villages" or groupings of mixed dwelling types around a common or surrounded by common land." (Eliot, 1969)

Notwithstanding the findings of the 1969 Eliot Plan, Harvard's growth since then has neither been guided toward areas identified as more appropriate nor away from those areas rated moderate or severe. Overall lot sizes have increased, but no provision has been made for greater density in the areas identified in the Eliot Plan as being appropriate for greater development... [Harvard] must articulate a vision of the type of development that is realistic and develop regulations, incentives and restrictions that will guide growth in a manner consistent with this vision. (Town Plan Committee, 1988)

insignificant, but Harvard's people never had a chance to work through the tensions that come with a period of intensive growth. Two years after the *Harvard Town Plan's* adoption by the Planning Board, the U.S. Army confirmed its intent to close Fort Devens.

The Town Plan Committee adopted goals that largely reiterated the first master plan but took a different stance on the C District. In contrast to the village shopping center and hotel that Eliot had in mind, the Town Plan Committee envisioned a sharply reduced scale of development on Ayer Road and devoted several pages of the *Harvard Town Plan* to a subcommittee's analysis of retail and office space needs for a town of Harvard's estimated future population (10,000). The subcommittee argued that 650,000 ft<sup>2</sup> of commercial development would be adequate to meet local needs for goods, services and jobs. Accordingly, they proposed several measures to curtail the C District's growth potential, including a major reduction in the amount of development that could occur on each parcel and district-wide, and rezoning some of the land for residential use. Reminiscent of what happened in the late 1960s, residents accepted a few of the Town Plan Committee's ideas for the C District but stopped short of addressing the larger, more important points – development performance standards, better site plan review criteria, design review and village center zoning. Possibly, town meeting thought the proposals went too far. However, by enacting land use controls on a piecemeal basis, residents have unwittingly contributed to the worsened state of affairs on Ayer Road.

The *Harvard Town Plan* made seven assertions:

- Development regulations should account for the carrying capacity of land and natural resources.
- Residential development should provide more types of housing than single-family homes.
- Three major assets in Harvard warrant extraordinary protection: groundwater, the Town Center and the Bare Hill Pond watershed.
- Open space protection is central to the quality of Harvard's natural resources, the maintenance of its rural character, and the continuation of agriculture.
- If developed to its full potential, the C District would be incompatible with Harvard's town character and municipal capacity.
- Streets should be maintained for safety, but there should be no widening or significant alterations to the "country road" quality of Harvard's rural areas.
- Managing growth requires adequate administration, timely communication, and collaborative efforts by government and the private sector.

These conclusions formed the basis for 29 specific proposals. Eight were fully or partially implemented. Other than acquiring open space, Harvard has found it very difficult to act in its own growth management interests.

## Visions from the Present

The current Master Plan Steering Committee's vision statement and goals were also inspired by public commentary. A "Phase I" master plan visioning process (Spring 2001) supplied opportunities for residents to describe what they want Harvard to be, to explore the town's assets and confront the conditions that threaten its future. The transcript of their words is compelling, not only for the strong community-centered values it reflects but also for what it reveals about historic obstacles to master plan implementation in Harvard. For example:



Bare Hill Pond (2002)

- Harvard needs better information on natural resource limitations in order to (1) support an effective public education program, (2) identify "land use patterns considered sustainable," and (3) "develop a management plan and strategy for Bare Hill Pond."
- A safe and adequate water supply is a critical priority for Harvard, one that requires a "town-wide perspective...to protect water quality and quantity regionally as well as locally." Toward that end, the town should "closely analyze all wetland projects and increase the size of buffer zones to wetlands where necessary to protect against fragmentation, critical habitat loss, and water quality impacts."
- Make effective use of existing studies – notably, *Harvard's Rural Landscapes* (1997) – and incorporate the *Open Space Plan* into the Master Plan. Harvard needs to "...define different types and values of open space that direct preservation efforts," and "preserve Fruitlands and vistas to the west."
- The two village centers and commercial area are assets for building a sense of community. Harvard needs to "create mixed-use village centers [with] services, amenities, and gathering places," "direct development toward a village pattern" and "create a village atmosphere in the commercial district" with "strong design guidelines and site standards to support town character."
- Save the orchards by providing "[zoning] flexibility...to help with the viability of agricultural operations," "legal and monetary incentives," APR's or "a local Farmers Market for the regional market area."
- Manage growth impacts such as traffic and infrastructure demands by helping "boards and commissions prepare well-founded and supportable decisions on development" and "prepare the town [to respond] to a Chapter 40B project."
- Participate in regional decision-making through such means as a "town strategy for responses to Devens based on Harvard's goals," identification of "potential benefits and negatives associated with Devens," and public education "before any long-term commitments."

All of these statements express reasonable expectations for Harvard. Moreover, except for the inclusion of Devens on today's list of issues, all of these statements echo the yearnings of previous Harvard master plans. Curiously, the town's approach to land use regulation, public policy and self-governance remain inconsistent with or unable to fulfill its stated preferences. Though zoning is essential to growth management, it cannot be relied upon as an exclusive means of master plan

implementation. If town officials and residents want better information so they can defend their environmental assets or make sound permitting decisions, they must invest in the human resources required to obtain, analyze, report and manage that information. If they want to safeguard Harvard from a large, unwanted Chapter 40B development, they have to initiate ways to create a base of qualifying low-income units, as the town of Lincoln did. If they want productive agriculture, they must come to terms with the economic realities of farming and remove barriers to *profitable* farms. If they want to control traffic, they must take the kinds of pro-active steps that Harvard pursued with Cisco Systems, but they must also recognize ways that Harvard has caused many of its own traffic problems and be willing to address them.

During Phase II of the master plan process, residents had more opportunities to say what they want for their town. At one session, participants reiterated their desire for a vibrant, walkable Town Center, a new village district on Ayer Road, and residential alternatives to meet both affordability and senior housing needs, identifying possible opportunity areas on town maps. At another session, anxiety over the disposition of Devens made it very difficult for participants to talk about Harvard's future. The people of Harvard have good reasons to be anxious about Devens. However, allowing Devens to dwarf issues that existed in Residential Harvard long before the base closed is tantamount to submitting the town's destiny to MassDevelopment. Disputes over the fate of Devens have so polarized Harvard that at times, the town seems paralyzed by its own ambivalence. It would be very unfortunate if Harvard acquiesced again to a path of well-intended but fragmented policies. The town may not have absolute control over what happens to one-fifth of its land area today, but it has considerable untapped power to control what happens over the remaining 80 percent.



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"C" District, Ayer Road (2001)

In the absence of policies to realize goals of recurring importance to Harvard, private landowners, developers, homebuilders and town boards have had no choice but to comply with rules that foreclose opportunities to engage in protective land development. Meanwhile, Harvard has spent substantial sums of public money to buy open space, relying entirely on the labor of citizen volunteers to carry out conservation land projects that are often complicated and time-consuming. As new homes spread incrementally and randomly across Harvard's land, they fracture what had been undisturbed, contiguous open space, replace it with domain that is inhospitable to wildlife, and alter the rural landscape. It is little wonder that residents sense such urgency to buy open space. Unless the Harvard Conservation Trust (*also* citizen volunteers) can work out an alternative, public spending is the only technique in Harvard's open space and growth management toolbox. The Master Plan Update rests on a single assertion: the toolbox needs more resources.

# The Toolbox for Harvard

## *An Integrated Approach to Implementing the Master Plan*

### **Comprehensive Development Policy**

Harvard wants a sense of community and place, and a sustainable future. These are appropriate and attainable goals, but they require creative approaches to land use and an undivided will to achieve them. Though Harvard is one of the state's most beautiful and well-preserved communities, a number of factors place the town's customs, rural features and high quality of life at risk. An obvious internal factor is the stress that new development has placed on Harvard's fields and forests, its fiscal condition and the scenic character of its roads. Another internal factor involves the challenge of traffic management on long, rural byways that must meet the dual – and often contrary – functions of through roads and neighborhood streets. Often, the town seems to have difficulty resolving policy conflicts that stem, in part, from different perceptions of what it means to live in Harvard. In addition, as Harvard develops and its home prices climb far beyond the reach of most people, the community that could once rely on volunteers for a variety of civic functions is destined to confront two problems: a diminishing pool of residents with time for voluntary public service, and the eventuality that town government's payroll will grow. Harvard longs to retain its working farms and orchards, yet few residents realize that 40-50 years ago, the town had 1,500 more acres of agricultural land than exists today. Finally, Harvard's commitment to conservancy is evident in a nearly peerless record of accomplishments to protect land and water resources, but ironically, its zoning regulations exacerbate the loss of open space.

External factors also underlie many of the tensions that exist in Harvard today. Chief among them: Devens. During the Master Plan process, residents questioned whether Harvard should be trying to update its Master Plan given all of the uncertainties associated with Devens. Indeed, Devens is so much on the minds of local officials and townspeople that it acts as a barrier to useful dialogue about the state of "Residential Harvard." However, other external factors affect Harvard and they raise equally if not more important planning concerns. For example, the Cisco Systems development in Boxborough stands as a potential traffic threat, but the more compelling point about Cisco Systems is what it symbolizes for Harvard's region. Along with the redevelopment of Devens, Cisco Systems foreshadows profound change in the developed character of many small towns on the outermost edge of I-495, including Harvard. Changing and contradictory state policies also affect Harvard's future. Title V's recognition of new and emerging wastewater technology, the contested terrain of Chapter 40B, and the implications of state aid formulas for the "new Harvard" – that is, Harvard minus 7,500 military personnel and family members who counted as town residents a decade ago – create conditions that Harvard must contend with in the near-term, regardless of Devens. Moreover, like their counterparts across the Commonwealth, Harvard town officials have to sort through ways to manage growth despite serious weaknesses and omissions in the state zoning law.

### **Integration Concepts**

The proposals and recommendations of the Master Plan seek to translate Harvard's community vision and goals into a coherent, planned course of action. The Master Plan elements are unified by their consistency with these five concepts:

- Realizing Harvard's vision does not require pitting one master plan goal against another. Building a stronger economic base and providing for a mix of homes should respect and protect the town's

critical natural resources, open space and historic built assets. Regulations designed for sustainability enlist development as a partner in protecting public interests.

- Harvard's landscapes differ by location, form, shape, features and historic period. Zoning and other policies should support and respect these differences. A homogenous approach to zoning all but guarantees a homogenous outcome.
- Village centers, such as the Town Center, support life and community. Mixed-use and compact in design, with common open space and places to walk or socialize, villages help to direct development toward established areas and away from agricultural land and forests.
- Harvard does not want to establish an industrial base or promote the development of large commercial areas. Strategies to manage the town's fiscal future must be tailored to complement all of the major goals of the Master Plan, including: altering the mix of housing, allowing for more economic use of land in designated village areas, acquiring open space, and minimizing new road construction.
- Responsibility for Master Plan implementation rests with many town officials and departments, not only the Planning Board. A permanent master plan implementation committee with representation from key town boards and other citizen volunteers, equipped with adequate staff support, is essential for carrying out the Master Plan, monitoring outcomes, and setting in motion steps that will need to be taken for future master plan updates.

## Land Use Element

The Land Use Plan is the centerpiece of the Master Plan. It reasserts a number of key findings and recommendations in Harvard's previous master plan reports and supplements them with proposals that account for new information and different conditions.

### Guiding Concepts

- Land use regulations should clearly express what the town wants, and to be effective, they must be fair and applied consistently by permit granting authorities. Toward these ends, boards with jurisdiction over development need compatible policies and a shared understanding of the Master Plan.
- Development – within Residential Harvard and at Devens – must be engaged as the town's ally in protecting environmental, scenic and cultural resources.
- Agriculture brings economic, cultural, scenic and fiscal benefits to Harvard. Every effort should be made to preserve the town's farms and orchards.
- Single-family residences, farm homes, summer cottages and estates have played an important role in defining Harvard's visual and social character. Policies to encourage a broader mix of residential land uses and provide for affordable housing should emphasize design compatibility with Harvard's established architectural and landscape traditions.
- Villages are essential to Harvard's rural ambiance and to building a sense of community among residents. Policies to preserve, enhance and develop village areas should encourage housing choice, the provision of goods and services, and safe, convenient access to community institutions. Harvard's established villages have unique settlement patterns, built assets and open space resources. Land use regulations must be tailored to respect the elements of place in each village.

- New development on land that currently generates more revenue than community service costs should provide a comparable or greater fiscal benefit, when compatible with other goals of the master plan.

The continued relevance of past plans and new proposals to address Harvard’s community vision and goals call for a reassessment of current land use policies. Table A compares the allocation of land to Harvard’s existing zoning districts to the recommended allocation of land to zoning districts in the Land Use Plan. The Land Use Plan makes no change to the geography of Harvard’s existing zoning districts. Rather, it promotes the strategic application of overlay districts to achieve development and preservation objectives in areas that warrant additional measures. It also promotes changes to the regulations that apply in existing zoning districts, as described below. The Land Use Policy Map is a conceptual representation of the existing and proposed zoning districts.

**Table A: Existing Conditions and Proposed Land Use Plan**

| Existing Conditions               |           | Land Use Plan                                       |           |
|-----------------------------------|-----------|---|-----------|
| <u>Zoning</u>                     |           | <u>Zoning</u>                                       |           |
| A-R                               | 13,376.15 | Agricultural-Residential                            | 13,376.15 |
| B                                 | 3.76      | B District  | 3.76      |
| C                                 | 442.86    | C District  | 338.43    |
| Watershed Protection-Flood Plain  | 244.60    | <u>Overlay Districts</u>                            |           |
| Watershed Protection-Flood Hazard | 1,641.25  | Community Commercial District                       | 104.32    |
|                                   |           | Town Center Overlay District                        | 468.19    |
| Other Jurisdictions <sup>1</sup>  | 3,526.49  | Still River Village Overlay District                | 213.05    |
|                                   |           | Residential Compatibility Overlay District          | 1,462.77  |
| Total                             | 17,349.25 | Agricultural & Historic Landscapes Overlay District | 5,107.69  |
|                                   |           | Bare Hill Pond Watershed Protection District        | 1,821.64  |
|                                   |           | Groundwater Protection Overlay District             | 1,579.80  |

1. Devens, Oxbow National Wildlife Refuge.

## Natural & Cultural Resources Element

Harvard residents benefit immeasurably from living in a community with many natural features and built assets. The town's location on the Nashua River, its beautifully preserved views to Mount Wachusett and Mount Monadnock to the west and north, and eastward to the Boston skyline all contribute to the special sense of Harvard. Bare Hill Pond, the most significant natural feature in Harvard Center, inspires pride throughout the community. Residents also value Bowers Brook and a myriad of smaller streams that traverse the town, for these wetland and water resources provide critical wildlife habitat and hold the key to Harvard's present and future biodiversity.

Owing to four decades of work by local volunteers and investments by state and federal agencies, Harvard residents have numerous opportunities to explore the environmental resources in their town because there is a considerable amount of protected open space. In the absence of effective open space zoning, however, Harvard taxpayers have spent a considerable amount of money to defend their land, wetland and water resources from the adverse consequences of growth. As a result, establishing a connected system of open space and trails has been very hard – even though Harvard has one of the strongest open space protection records in Massachusetts.

Surely residents also value the widespread evidence of their town's history in *and* outside of Harvard's two local historic districts, yet the record of Phase I public meetings is silent on that matter of historic preservation. In fact, Harvard's heritage is expressed not only by its historic landscapes, but also its built assets. The town has done well at preserving the architectural integrity of Shaker Village and Harvard Center, and the Historical Commission has clearly tried to articulate a number of unmet preservation needs. However, Harvard needs to adopt the same culture of stewardship toward historic preservation that it has applied to open space protection. There are enough "lessons learned" from the losses experienced by towns close to Boston to make a persuasive case for regulatory and other interventions *now*.

### Guiding Concepts

- Bare Hill Pond is a critical environmental resource that demands a comprehensive approach to management, regulation and enforcement.
- Historically significant residential, institutional, agricultural and accessory buildings, along with their associated settings, are major contributors to Harvard's rural character and they are at risk. Every effort should be made to identify and protect them.
- Wetlands and water resource protection requires coordinated regulations and permitting policies, public education and a commitment to open space acquisition. It is also essential that Harvard diligently monitor MassDevelopment and proposals before the Devens Enterprise Commission (DEC) because the only large, abundant aquifers in Harvard are under the DEC's jurisdiction. Regardless of whether Harvard wants to reclaim its land at Devens, the town has a major stake in the quality of the aquifer system that runs along the eastern boundary of Devens.
- More than two-thirds of Harvard's land area is listed in the Massachusetts Scenic Landscape Inventory. Preserving Harvard's rural landscape and the rural characteristics of town roads requires sensitive regulations, open space acquisitions, and clear policy directives concerning maintenance and improvements to public ways.
- The recommendations in *Planning for Harvard's Rural Landscape: Case Studies in Historic Conservation* (1997) are vital to Harvard's future and they are incorporated by reference in the Master Plan.

## Housing Element

### Guiding Concepts

- Housing is Harvard’s dominant form of development. Regulations, policies and initiatives that affect housing will have a greater influence than any other land use over the town’s future character and fiscal well-being, the quality of its environmental resources and the amount of traffic on local roads.
- Harvard values its tradition as a community of families. As such, single-family homes will continue to be the town’s primary residential land use.
- Harvard shares the civic and legal obligation of all communities to assure that at least 10% of its homes are affordable to low- and moderate-income households. Every effort should be made to increase the town’s supply of affordable housing at a pace that Harvard can sustain. Harvard should not rely on comprehensive permits alone to meet the 10% standard under Chapter 40B.
- A broader mix of housing types and rental opportunities will be essential to achieving Harvard’s “sense of community” vision. Accordingly, Harvard also should strive to produce homes affordable to middle-income households, and housing units that appeal to the elderly and young citizens.
- Residential development that attracts non-family households is important to the town’s long-term fiscal stability and the affordability of property taxes to all residents.



## Open Space & Recreation Element

### Guiding Concepts

- Government, landowners and developers *share* responsibility for protecting open space.
- The incremental spread of suburban residential development on rural roads presents a serious threat to Harvard’s open space – its agricultural landscapes, open fields and large, uninterrupted tracts of forest.
- Open space acquisitions should be targeted to achieve maximum public benefit: protecting wetlands, surface and groundwater resources, connecting existing open space, preserving scenic views and agricultural land, enhancing common space in or near village areas, and protecting historically significant properties.
- The acquisition or acceptance of gifts of land for recreation areas should be planned to serve population centers and to complement plans for future development of public facilities and schools.
- Harvard has a direct stake in protecting open space at Devens, regardless of whether the town decides to reclaim its land.
- Where feasible, all conservation and recreation areas should be accessible to persons with disabilities.

## Economic Development Element

### Guiding Concepts

- Providing residents with opportunities to purchase goods and service and work locally is important for the local economy, for building a sense of community, providing public amenities, increasing tax revenue and reducing the amount of auto-dependent growth in Harvard.
- Harvard’s established areas are the most appropriate locations for economic development, new and revitalized.
- The vitality and attractiveness of business districts are enhanced by mixed-use development that includes housing.
- The ability to work at or near home is central to a sustainable economic development plan. Flexible work-at-home regulations and opportunities for local entrepreneurs to “move up” to village commercial space will benefit Harvard families and the local economy.
- Agriculture is and should remain a vibrant part of Harvard’s economy. Preserving farms is a way to provide jobs, protect open space and enhance local property values.

## Community Facilities & Services Element

### Guiding Concepts

- The Town Center is Harvard’s most important community facility. Plans for future development must respect the Town Center’s finite capacity so that its land, buildings, circulation system and natural resources are not overwhelmed by a disproportional or an intensity of use that cannot be sustained.
- Schools should be located in or near mixed-use areas that are both convenient and safe for pedestrian and bicycle access, particularly in small towns that rely on school facilities for community meeting space and outdoor play areas.
- Harvard’s municipal buildings are dignified, historic structures that befit the character of the town. Their continued use for civic purposes is consistent with the vision for Harvard Center, and the Master Plan should encourage strategies to achieve that end.
- A community that is home to all ages and a broad range of household sizes and incomes must provide services to meet the needs of a diverse population. Harvard must have adequate capacity – volunteers, personnel, space and funding — to manage and deliver town and school services.
- Opportunities for regional collaboration in such areas as purchasing, public works, public safety and public health services, planning, and resource protection should be explored whenever possible.



Hildreth House

## Circulation & Traffic Element

### Guiding Concepts

- Harvard's vision of sustainability calls for realistic, safe and accessible opportunities for non-vehicular travel in and between its villages, community service and commercial areas. Land use regulations to encourage village development must be complemented by public and private investment to build, maintain and promote a reasonable system of pedestrian facilities within village centers, and by public investment in facilities to connect village centers.
- Directing growth toward established areas will help to reduce overall traffic and encourage residents to park, walk to and patronize a variety of shops and services. However, Harvard's residential development is already widely dispersed throughout the town. Reducing the number of trips generated by low-density development will help, but it is not enough to alter in a substantial way either the speed or volume of traffic on Harvard's rural roads.
- Resident and non-local drivers have a shared responsibility for traffic safety in Harvard. Street classification policies, traffic calming techniques, public education and consistent police enforcement are available techniques for making Harvard roads safe for vehicular and non-vehicular users. The town needs to identify acceptable ways to control traffic and achieve resident buy-in.
- A pro-active, assertive role in regional transportation planning and major development review is very important. Establishing and maintaining credibility with other communities and regional organizations will be important for Harvard's ability to advocate for traffic management improvements that respect the town's character.

## Action Plan Summary<sup>2</sup>

### Part I: Town-Wide Needs

#### Policy & Administrative Framework: Appoint Master Plan Coordinating Committee

|                  |           |                        |                     |
|------------------|-----------|------------------------|---------------------|
| <u>Timeline:</u> | 2003-2012 | <u>Estimated Cost:</u> | None                |
| <u>Priority:</u> | 1         | <u>Responsibility:</u> | BOS, P <sup>3</sup> |

Action: Establish a Master Plan Coordinating Committee to implement the Master Plan.

#### Conservation Cluster (Open Space Zoning) Bylaw

|                  |           |                        |                   |
|------------------|-----------|------------------------|-------------------|
| <u>Timeline:</u> | 2003-2004 | <u>Estimated Cost:</u> | \$15,000-\$20,000 |
| <u>Priority:</u> | 1         | <u>Responsibility:</u> | MPCC, PB          |

Action: Amend the Zoning Bylaw to establish a new, workable Conservation Cluster bylaw.

#### Backlot Development Bylaw

|                  |           |                        |          |
|------------------|-----------|------------------------|----------|
| <u>Timeline:</u> | 2003-2004 | <u>Estimated Cost:</u> | \$3,500  |
| <u>Priority:</u> | 1         | <u>Responsibility:</u> | MPCC, PB |

Action: Amend the Zoning Bylaw to provide special design, buffer and setback standards for construction on lots created through the “Approval Not Required” process.

#### Historic Preservation

##### Zoning

|                  |           |                        |                        |
|------------------|-----------|------------------------|------------------------|
| <u>Timeline:</u> | 2003-2004 | <u>Estimated Cost:</u> | Master Plan Appendix H |
| <u>Priority:</u> | 1         | <u>Responsibility:</u> | MPCC, PB, HCC          |

Actions: amend the Zoning Bylaw by adding the following new provisions:

- Demolition delay bylaw
- Special development regulations for historic preservation

2. A complete description and rationale for each action appear in Chapter 5 of the Master Plan.
3. Acronymns: BOS, Board of Selectmen; PB, Planning Board; MPCC, Master Plan Coordinating Committee; HHC, Harvard Historical Commission; HHP, Harvard Housing Partnership; HLT, Harvard Library Trustees; TSAC, Traffic Safety Advisory Committee; CC, Conservation Commission; HCT, Harvard Conservation Trust; OSPC, Open Space and Recreation Plan Committee; TCPC, Town Center Planning Committee; BOA, Board of Assessors.

Planning & Policy Tools

|                  |           |                        |                            |
|------------------|-----------|------------------------|----------------------------|
| <u>Timeline:</u> | 2004-2009 | <u>Estimated Cost:</u> | \$15,000-\$20,000 per year |
| <u>Priority:</u> | 1         | <u>Responsibility:</u> | HCC                        |

Actions: pursue three additional strategies to protect historically significant properties:

- Nominations for listing on the National Register of Historic Places, focusing first on properties already identified as eligible but for which nominations have not yet been made.
- Additional historic property inventories in order to qualify more buildings or districts for National Register listing and also to pave the way for establishing additional local historic districts.
- Preservation restrictions from property owners who want to protect their historic homes or outbuildings.

Non-Zoning Regulatory Tools

|                  |           |                        |          |
|------------------|-----------|------------------------|----------|
| <u>Timeline:</u> | 2006-2011 | <u>Estimated Cost:</u> | \$10,000 |
| <u>Priority:</u> | 1         | <u>Responsibility:</u> | BOS, HCC |

Actions: establish more local historic districts -- the most powerful historic preservation tool in Massachusetts.

**Agricultural-Retail Business**

|                  |      |                        |          |
|------------------|------|------------------------|----------|
| <u>Timeline:</u> | 2003 | <u>Estimated Cost:</u> | None     |
| <u>Priority:</u> | 2    | <u>Responsibility:</u> | MPCC, PB |

Actions: Amend the Zoning Bylaw to define “Agricultural-Retail Business” and create corresponding regulations that allow farm stands to diversify their product lines, extend their operating season and increase profitability.

**Open Space & Recreation Plan**

|                  |            |                        |                            |
|------------------|------------|------------------------|----------------------------|
| <u>Timeline:</u> | 2003, 2008 | <u>Estimated Cost:</u> | \$6,000-\$7,500 per update |
| <u>Priority:</u> | 1          | <u>Responsibility:</u> | CC, OSPC                   |

Actions: Complete update of expired Open Space and Recreation Plan and maintain timely future updates.

**Conservation Fund & Land Acquisition Policy**

|                  |        |                        |              |
|------------------|--------|------------------------|--------------|
| <u>Timeline:</u> | Annual | <u>Estimated Cost:</u> | \$100,000/FY |
| <u>Priority:</u> | 1      | <u>Responsibility:</u> | CC           |

Actions: Make annual appropriation to the Conservation Fund.

**Housing Choice**

Agricultural-Residential District Zoning Amendments

|                  |           |                        |                        |
|------------------|-----------|------------------------|------------------------|
| <u>Timeline:</u> | 2003-2004 | <u>Estimated Cost:</u> | Master Plan Appendix H |
| <u>Priority:</u> | 1         | <u>Responsibility:</u> | MPCC, PB               |

Actions: Amend the Zoning Bylaw to:

- Include clear, fair and predictable special permit regulations for converting existing residences to multiple-residence buildings, subject to design review and site plan approval by the Planning Board.
- Require affordable units in conversions to three or more units.
- Facilitate the creation of one accessory apartment in a single-family home by special permit from the Planning Board.

**Affordable Housing Strategy**

|                  |           |                        |                   |
|------------------|-----------|------------------------|-------------------|
| <u>Timeline:</u> | 2004-2005 | <u>Estimated Cost:</u> | \$20,000-\$25,000 |
| <u>Priority:</u> | 1         | <u>Responsibility:</u> | BOS, HHP, PB      |

Actions: Create a comprehensive affordable housing strategy, taking into account opportunities to create Chapter 40B units under new state regulations.

**Wetlands and Water Resource Protection**

Groundwater Protection Overlay District

|                  |           |                        |                        |
|------------------|-----------|------------------------|------------------------|
| <u>Timeline:</u> | 2004-2005 | <u>Estimated Cost:</u> | Master Plan Appendix H |
| <u>Priority:</u> | 1         | <u>Responsibility:</u> | PB                     |

Actions: Amend the Zoning Bylaw to regulate “Zone II” areas around DEP-regulated water supplies.

Wetlands Protection and Flood Plain Overlay Districts

|                  |           |                        |                 |
|------------------|-----------|------------------------|-----------------|
| <u>Timeline:</u> | 2004-2005 | <u>Estimated Cost:</u> | \$2,500-\$3,500 |
| <u>Priority:</u> | 2         | <u>Responsibility:</u> | MPCC, CC, BOH   |

Actions: Amend the Zoning Bylaw to provide clear definitions of regulated wetland and water resource areas, update the town’s regulations and improve the representation of the Wetlands and Watershed Protection District on the Zoning Map.

**Community-Based Transportation Program**

|                  |           |                        |                    |
|------------------|-----------|------------------------|--------------------|
| <u>Timeline:</u> | 2004-2005 | <u>Estimated Cost:</u> | \$6,000 (planning) |
| <u>Priority:</u> | 1         | <u>Responsibility:</u> | BOS, TSSC          |

Actions: Establish a comprehensive Community-Based Transportation Program, as follows:

- Designate a coordinating group, such as the Traffic Safety Study Committee, to spearhead and guide a town-wide traffic planning and implementation process.
- Establish a street classification system to set priorities, facilitate a consistent, coherent system of roadway treatments, e.g., signage, pavement striping, and pavement maintenance policies.
- Identify and classify traffic safety problems that exist on Harvard’s roadways, and exploring the causes. This requires not only traffic data, but also field evaluations – ideally on foot – of roadway design and traffic activity under different conditions.
- Explore traffic management and traffic calming measures that may be effective to reduce traffic speeds on Harvard roads. It is important for residents to understand that traffic calming devices affect local *and* through traffic.

**Town Buildings Maintenance, Accessibility & Capital Improvements Plan**

|                  |      |                        |                   |
|------------------|------|------------------------|-------------------|
| <u>Timeline:</u> | 2005 | <u>Estimated Cost:</u> | \$40,000-\$50,000 |
| <u>Priority:</u> | 1    | <u>Responsibility:</u> | MPCC, BOS         |

Actions: Appoint a standing Town Buildings Committee and commission a municipal buildings study.

**Information and Administration Resources**

Town Planner

|                  |      |                        |                      |
|------------------|------|------------------------|----------------------|
| <u>Timeline:</u> | 2005 | <u>Estimated Cost:</u> | \$49,000-\$54,000/yr |
| <u>Priority:</u> | 1    | <u>Responsibility:</u> | PB                   |

Actions: Establish and fund a full-time Town Planner position.

Geographic Information System

|                  |           |                        |                             |
|------------------|-----------|------------------------|-----------------------------|
| <u>Timeline:</u> | 2010-2012 | <u>Estimated Cost:</u> | Subject to scope of project |
| <u>Priority:</u> | 2         | <u>Responsibility:</u> | MPCC, PB, BOA               |

Actions: Complete a GIS installation at Town Hall, for use by the assessor, planning, conservation, board of health and other town departments.

Town Government Study

|                  |      |                        |          |
|------------------|------|------------------------|----------|
| <u>Timeline:</u> | 2010 | <u>Estimated Cost:</u> | \$10,000 |
| <u>Priority:</u> | 2    | <u>Responsibility:</u> | BOS      |

Action: Establish a town government study committee to consider:

- A formal consolidation of all traditional public works functions – highway, parks, cemeteries, water, solid waste disposal, engineering, and management of wastewater treatment facilities – under a single Department of Public Works that would report to the Board of Selectmen.
- The creation of a Bare Hill Pond Watershed Commission with broad policy, regulatory and permitting jurisdiction over Bare Hill Pond and watershed land located in Harvard.
- A consolidation of public safety functions – police, ambulance and fire.
- Board of Selectmen/Town Manager/Town Meeting form of government.

**Part II: Strategy Area Needs**

**Strategy Area: Ayer Road-North of Route 2**

Community Commercial District

|                  |           |                        |          |
|------------------|-----------|------------------------|----------|
| <u>Timeline:</u> | 2003-2004 | <u>Estimated Cost:</u> | \$25,000 |
| <u>Priority:</u> | 1         | <u>Responsibility:</u> | MPCC, PB |

Action: Amend the Zoning Bylaw to create a “Community Commercial District” over all or a substantial portion of the existing “C” District.

C District Amendments

|                  |           |                        |          |
|------------------|-----------|------------------------|----------|
| <u>Timeline:</u> | 2005-2006 | <u>Estimated Cost:</u> | \$10,000 |
| <u>Priority:</u> | 1         | <u>Responsibility:</u> | MPCC, PB |

Action: Amend the Zoning Bylaw to strengthen the use, dimensional and site plan regulations for the remainder of the C District.

Residential Compatibility Overlay District

|                  |      |                        |                        |
|------------------|------|------------------------|------------------------|
| <u>Timeline:</u> | 2006 | <u>Estimated Cost:</u> | Master Plan Appendix H |
| <u>Priority:</u> | 1    | <u>Responsibility:</u> | MPCC, PB               |

Action: Amend the Zoning Bylaw to create a Residential Compatibility Overlay (RCO) District, the purpose of which is to encourage higher-density residential uses near goods and services in the community. The bylaw should provide for elderly housing and assisted living facilities, mixed residential development with single-family and common-wall housing units, and mandatory inclusion of affordable homes.

Non-Profit Development Corporation

|                  |      |                        |                        |
|------------------|------|------------------------|------------------------|
| <u>Timeline:</u> | 2006 | <u>Estimated Cost:</u> | Master Plan Appendix H |
| <u>Priority:</u> | 1    | <u>Responsibility:</u> | MPCC                   |

Action: establish a local non-profit development corporation to assist the town with public works and economic development initiatives on Ayer Road north of Route 2.

Ayer Road Corridor Study

|                  |      |                        |                   |
|------------------|------|------------------------|-------------------|
| <u>Timeline:</u> | 2008 | <u>Estimated Cost:</u> | \$50,000-\$60,000 |
| <u>Priority:</u> | 1    | <u>Responsibility:</u> | MPCC, BOS         |

Action: Initiate a corridor study for the entire length of North Ayer Road, from the Harvard/Ayer town line to the Route 2 interchange.

**Strategy Area: Harvard Center**

Town Center Public Realm Plan

|                  |           |                        |            |
|------------------|-----------|------------------------|------------|
| <u>Timeline:</u> | 2005-2006 | <u>Estimated Cost:</u> | \$20,000   |
| <u>Priority:</u> | 1         | <u>Responsibility:</u> | MPCC, TCPC |

Action: fund and complete a district improvements plan for parking, pedestrian walkways, public amenities and open space: a Town Center public realm plan.

Town Center Overlay District

|                  |           |                        |                |
|------------------|-----------|------------------------|----------------|
| <u>Timeline:</u> | 2005-2006 | <u>Estimated Cost:</u> | \$6,500        |
| <u>Priority:</u> | 1         | <u>Responsibility:</u> | MPCC, PB, TCPC |

Action: Amend the Zoning Bylaw to create a Town Center Overlay District, emphasizing a balanced mix of land uses.

Wastewater Feasibility Study

|                  |           |                        |                   |
|------------------|-----------|------------------------|-------------------|
| <u>Timeline:</u> | 2007-2009 | <u>Estimated Cost:</u> | \$25,000-\$30,000 |
| <u>Priority:</u> | 1         | <u>Responsibility:</u> | BOS, TCPC         |

Action: Fund a feasibility study to provide adequate wastewater disposal capacity in the Town Center.

Residential Compatibility Overlay District

|                  |      |                        |                 |
|------------------|------|------------------------|-----------------|
| <u>Timeline:</u> | 2006 | <u>Estimated Cost:</u> | \$5,000-\$7,500 |
| <u>Priority:</u> | 1    | <u>Responsibility:</u> | MPCC, PB        |

See discussion at Ayer Road Strategy Area. Action: Same.

Harvard Library Reuse Plan

|                  |      |                        |                    |
|------------------|------|------------------------|--------------------|
| <u>Timeline:</u> | 2007 | <u>Estimated Cost:</u> | \$35,000-\$40,000  |
| <u>Priority:</u> | 2    | <u>Responsibility:</u> | MPCC, HLT, HHC, PB |

Action: Fund a feasibility study for the reuse and disposition of Harvard Library.

**Strategy Area: Still River Village**

Still River Village Overlay District

|                  |           |                        |          |
|------------------|-----------|------------------------|----------|
| <u>Timeline:</u> | 2008-2009 | <u>Estimated Cost:</u> | \$5,000  |
| <u>Priority:</u> | 1         | <u>Responsibility:</u> | MPCC, PB |

Action: Amend the Zoning Bylaw to create an overlay zoning district that guides new development and changes to existing development to respect the unique form of Still River Village.

Historic Preservation

|                  |           |                        |          |
|------------------|-----------|------------------------|----------|
| <u>Timeline:</u> | 2005-2006 | <u>Estimated Cost:</u> | \$15,000 |
| <u>Priority:</u> | 1         |                        |          |

Action: Implement “Historic Preservation” actions as they pertain to Still River area, especially (1) a local historic district or (2) a neighborhood conservation district.

**Strategy Area: Bare Hill Pond Watershed**

|                  |           |                        |         |
|------------------|-----------|------------------------|---------|
| <u>Timeline:</u> | 2004-2005 | <u>Estimated Cost:</u> | \$4,500 |
| <u>Priority:</u> | 1         |                        |         |

Action: Amend the Zoning Bylaw by establishing a Bare Hill Pond Watershed District to lower the threshold for uses requiring a special permit, provide an explicit list of prohibited activities, and set appropriate development performance standards and site plan requirements.

**Strategy Areas: Prospect Hill-Still River, Oak Hill**

Agricultural & Historic Landscapes District

|                  |           |                        |              |
|------------------|-----------|------------------------|--------------|
| <u>Timeline:</u> | 2005-2008 | <u>Estimated Cost:</u> | \$12,000     |
| <u>Priority:</u> | 1         | <u>Responsibility:</u> | MPCC, PB, CC |

Actions: (1) Amend the Zoning Bylaw to establish Agricultural & Historic Landscape Districts over the Prospect Hill-Still River and Oak Hill sections of Harvard in order to preserve open, rural landscapes, scenic view corridors, institutional and farming land uses, and historic roadways. (2) Designate Prospect Hill Road, Still River Road, Massachusetts Avenue, Littleton County Road, Oak Hill Road and Pinnacle Road as high-priority scenic ways and adopting higher performance standards for clearing, grading, protection of trees and stone walls, and construction activity that alters views from the road. (3) Target open space and historic preservation resources in these two planning areas.

**Strategy Area: Devens**

Salerno Circle Review

|                  |           |                        |                   |
|------------------|-----------|------------------------|-------------------|
| <u>Timeline:</u> | 2004-2005 | <u>Estimated Cost:</u> | \$45,000-\$50,000 |
| <u>Priority:</u> | 2         |                        |                   |

Action: Seek assistance from MassDevelopment to carry out a visioning process and technical review of opportunities and constraints for the use and development of land at Salerno Circle.

Open Space, Pedestrian and Bicycle Access

|                             |                        |                        |         |
|-----------------------------|------------------------|------------------------|---------|
| <u>Timelines:</u>           | 2005-2006<br>2009-2011 | <u>Estimated Cost:</u> | \$8,500 |
| <u>Implementation Tier:</u> | 1                      |                        |         |

Actions: (1) Remove the chain-link fencing and gates that presently exist at Harvard Depot Road and Old Mill Road, and replace them with attractive wooden posts, signs and kiosks such as those found at the trail entrances to many conservation areas, thereby encouraging people to walk through and enjoy the open space at Devens. (2) Complete conceptual design plans for a bicycle path to connect Harvard Center, Ayer Road and Devens, in 2009-2011. (Budget for action #2 is not included in “estimated cost,” above.)



## Major Recommendations

-  Improve-enhance open space access
-  Strengthen scenic corridor policies
-  Provide goods, services and employment
-  Protect Bare Hill Watershed
-  Encourage Mix of Residential Uses
-  Protect Agricultural-Historic Resources



**Ayer Road**  
 Develop mixed-use village center  
 Encourage variety of housing  
 Protect open space "by design"  
 Preserve agricultural uses  
 Conduct corridor study  
 Protect water supplies

**Town Center**  
 Encourage balanced mix of uses  
 Address common wastewater needs  
 Promote pedestrian, bicycle access  
 Protect/reuse historic buildings

**Oak Hill-Agricultural Area**  
 Encourage farmland preservation  
 Promote planned residential development  
 Strengthen scenic corridor controls  
 Protect accessory & agricultural outbuildings  
 Calm traffic

**Prospect Hill-Still River**  
 Protect scenic views, open space  
 Preserve historic properties  
 Promote planned residential development  
 Strengthen scenic corridor controls  
 Recognize wetland, wildlife interests

Community Opportunities Group, Inc.

Harvard Master Plan (2002)

# Land Use Policy Map



Map by J. A. Barrett 10-02

Data Sources: MassGIS, ENSR, Harvard Assessor's Office, Berg-Dempsey, PLANNING FOR HARVARD'S RURAL LANDSCAPE (1997), Harvard Open Space Committee, OPEN SPACE & RECREATION PLAN (1996).



# IMAGINING HARVARD

## Community Vision

In twenty years, the Town of Harvard will be a town with:

### *A Sense of Community*

Active participation of citizens in the town's civic life combined with small town celebrations and traditions will forge a strong sense of community.

Harvard will be home to all ages and a broad range of household sizes and incomes.

The cooperation of highly motivated staff, caring Town personnel and actively involved parents will contribute to schools that provide both a nurturing environment and high quality education.



Harvard, Fall 2001.

### *A Sense of Place*

The Town Center will serve as the social, governmental and cultural heart of the community, with other thriving village centers further strengthening Harvard's economic and community base.

Harvard will support working orchards and farms and preserve its landscape of woodlands and fields, rural roadways and scenic vistas, and will connect these features and the Town and village centers with walking trails.

The town will have clean air and an ample supply of clean water.

### *A Sustainable Future*

Diverse commercial and residential bases will enable the town to realize its vision and provide the flexibility to adjust to changes in the economy.

Close cooperation with neighboring towns and organizations involved in regional planning and resource protection will provide opportunities for realizing an expanded vision.

## Master Plan Goals

### *Town Character Preservation*

- Maintain a balanced mix of village centers; agricultural, forested and open space lands; and small neighborhoods.
- Maintain the rural characteristics of the Town by:
  - Insuring no net loss of trees or stone walls and no net gain of asphalt width on existing scenic roadways.
  - Preserving and/or enhancing view sheds.
  - Preserving historic structures and landscapes.
- Ensure a vibrant town center by maintaining a balance of residential, commercial, municipal and institutional uses.
- Provide for a balance of non-vehicular and vehicular use on public roadways.



**The view from Fruitlands.**

### *Housing*

- Increase housing options, particularly the number and types of moderately priced senior and handicapped-accessible units.
- Provide an environment to significantly increase the retention of young and senior citizens.

### *Agriculture*

- Increase the options for economic viability of agricultural enterprises.
- Identify and protect significant Chapter 61 lands.

### *Economic Strategies*

- Broaden the sources of Town revenue.
- Balance the costs and delivery of services with the available sources of revenue.

### *Natural Resources & the Environment*

- Protect groundwater, recharge areas and wetlands to ensure a safe and adequate water supply.
- Identify and protect wildlife habitats and other natural assets, such as Bare Hill Pond.
- Preserve air quality and control noise, light and other environmental pollution.

### *Implementation*

Integrate the Master Plan into the operations of the town, Town Meeting and the Municipal boards and offices.

# A PLAN FOR HARVARD

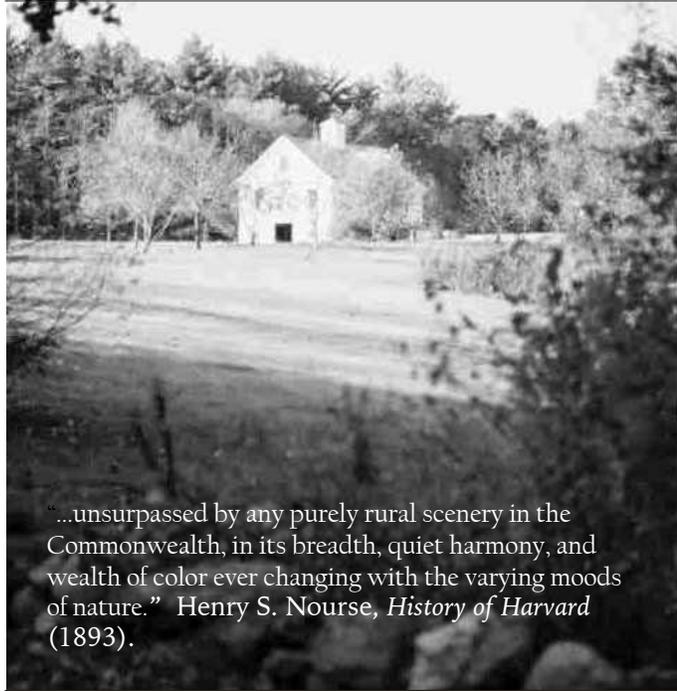
## Introduction

Harvard casts an indelible impression of nature, heritage and place. Known to many for its productive orchards and its history of communal settlements by social and religious visionaries, Harvard is peerless for its small-town charm, scenic vistas and large tracts of open space, all of which matter deeply to residents new and old. A tour from Prospect Hill south to Still River Village, from the Town Center east along Massachusetts Avenue, or north on Old Littleton Road as it ascends and traverses Oak Hill, is enough to convince even a cynic that Harvard's dignified beauty puts the town in a class of its own.

Harvard is a predominantly residential community of 5,230 people.<sup>1</sup> Though its population is small, Harvard ranks in the upper third of Massachusetts municipalities for total land area. Its population density of 227 persons per mi<sup>2</sup>

makes Harvard similar to a number of towns along and west of the Connecticut River Valley, yet in built character, it differs from them in significant ways. Just as Harvard's villages provide a record of the town's history, the new homes that line its outlying roadways attest to a late-20th century development phase that was sparked largely by regional transportation improvements and economic growth. Located on the outer edge of the I-495 corridor and crossed by Route 2 (see Fig. 1-A), Harvard is in one of the most rapidly growing areas of the state. While closer to Worcester (22 miles) than to Boston (31 miles), the town is oriented toward the economy of Eastern Massachusetts and its development has been influenced by trends in that part of the Commonwealth. Nearby towns such as Boxborough, Bolton and Groton have also absorbed a considerable amount of new growth in the past 10-15 years.

Harvard's vistas and unblemished hillsides explain why most of the town is included in the Massachusetts Scenic Landscape Inventory. The hills of Harvard offer views in all directions, including the Boston skyline and the mountains of Central Massachusetts and Southern New Hampshire. Furthermore, the town's entire western boundary is defined by the Nashua River, which lies in plain view across the valley from Prospect Hill. In Harvard, a significant portion of the Nashua River watershed is protected by the Oxbow National Wildlife Refuge, a large conservation area owned by the U.S. Fisheries and Wildlife Service. Thanks to concerted efforts by local and regional authorities, 12,884 acres of the Central Nashua River watershed in Harvard, Bolton, Lancaster and



...unsurpassed by any purely rural scenery in the Commonwealth, in its breadth, quiet harmony, and wealth of color ever changing with the varying moods of nature." Henry S. Nourse, *History of Harvard* (1893).

Harvard, Massachusetts.

1. Census 2000, Summary File 1, Worcester County Census Tract 7142 (Harvard).

Leominster have been designated as an Area of Critical Environmental Concern (ACEC). Such resources as Bare Hill Pond, the Town Center, Fruitlands, Prospect Hill and Still River, the Shaker Village and Oak Hill provide Harvard with identifiable landmarks and they form the basis for many of the recommendations and strategies outlined in the Master Plan.

The town's natural features are complimented by historic and modern homes of the highest quality and value. Spacious, tastefully designed residences surrounded by well-kept yards and fine gardens convey an air of formality that befits Harvard's prestige. A recurring feature of Harvard's built environment is the fence. Stone walls and traditional wooden fences supply visual continuity between the town's villages, farms and new neighborhoods, and they underscore the value that residents place on privacy. Harvard also has an enviable roster of historically significant institutions, both public and private. In addition to the renowned Fruitlands, buildings such as Town Hall and Harvard Public Library, (Old) Bromfield School, the town's several churches, a small religious community in Still River Village, and the Shaker Village in northern Harvard all point to a community that has much to be proud of -- and much to protect.

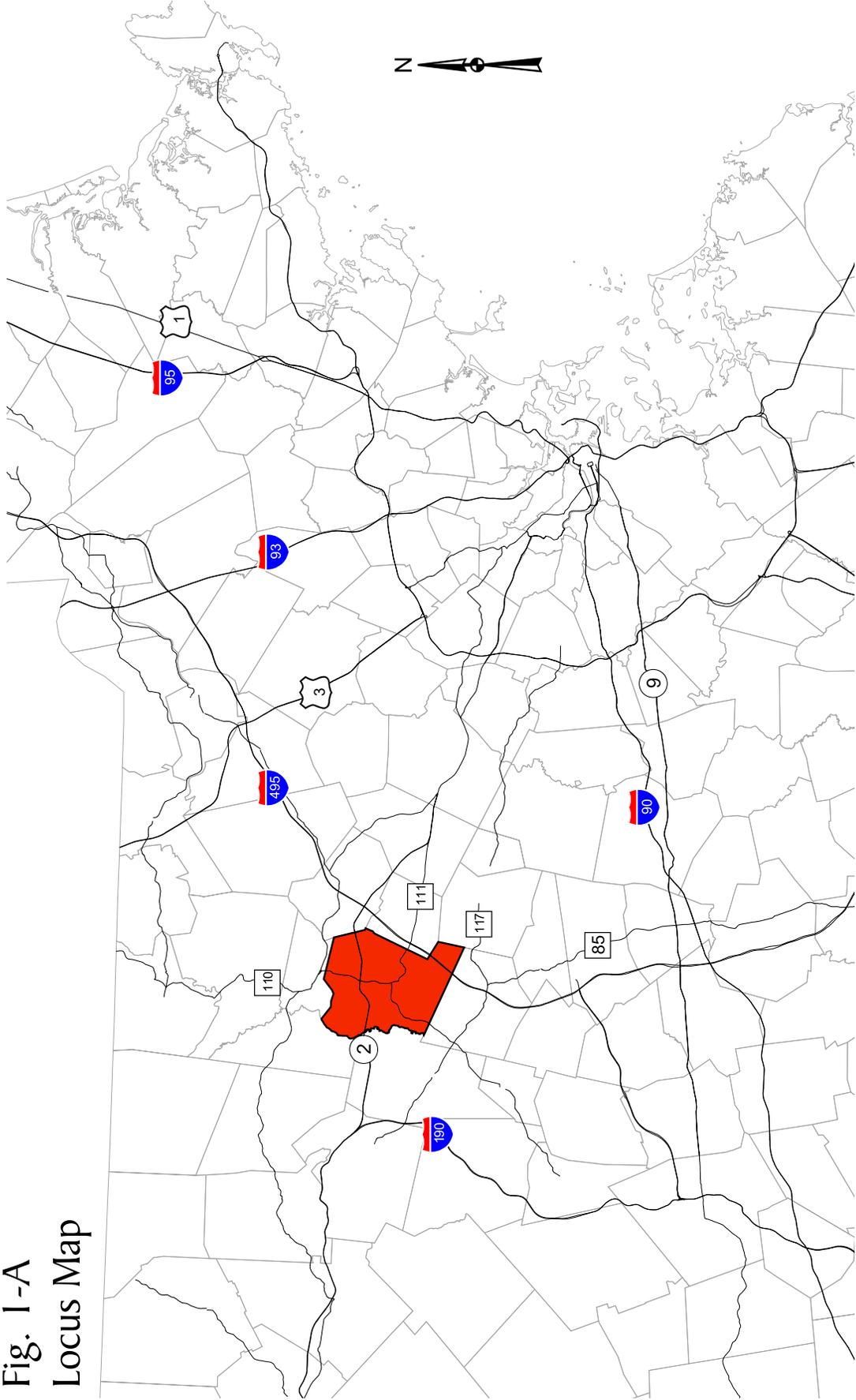
Harvard's distinguishing feature is open space, particularly orchards. Though the number of active farms declined in Harvard during the last half of the 20th century, the town still has vital commercial orchards and a number of small, leisure or "home" farms. Today, nearly 1,400 acres of agricultural land are controlled by Chapter 61-A agreements. Harvard's farms and orchards, together with several large tracts of land in forest management, local conservation holdings and property owned by state and federal agencies, mean that open space constitutes about 40% of the town. The mix and arrangement of wetlands, meadows, pasture and crops, forests, open water and stunning hillsides make some areas of Harvard seem almost timeless.

Harvard has so much going for it that some may wonder why the town needs a master plan at all. Most of the town's 1,637 homeowners are affluent, highly educated people who seem willing to pay one of the state's highest tax bills in exchange for the best of community and school services. They cherish what Harvard offers: the excellence of its schools, the pristine quality, abundance and diversity of its environmental resources, and the social customs of living in a small town. More than 82% of Harvard's households are families -- a percentage far exceeding that of the state as a whole -- and nearly 45% of the town's families have children under 18. It makes sense that Harvard has one of the

### Fences & Gateways



Fig. 1-A  
Locus Map





Commonwealth's highest achieving public school systems. It also makes sense that Harvard attracts unusually qualified, caring volunteers to local government service, and that residents see themselves as stakeholders in major decisions which affect their community. There is something to be said for living in a town with the state's eighth highest median household income: beyond the sheer privilege of living in Harvard, the town has resources and uses them wisely.

Harvard's desirability also contributes to public policy conflicts, however. Sometimes it is difficult for residents of communities like Harvard to see that the kind of development they prefer comes with environmental and social costs. A succession of large house lots along rural roadways, each with a private driveway, lawns and an immaculately landscaped yard, contributes not only to Harvard's aura but also to the fragmentation of open space and the reduction of critical wildlife habitat. Despite the size of Harvard's open space inventory, only half of what the town calls "open space" is permanently protected. Considering Harvard's unprotected open space and its vacant or underutilized residential land, there is still plenty of room to grow.

Under current zoning regulations, Harvard could accommodate another 2,600-2,700 housing units on land that has yet to be developed. The commercial district on Ayer Road has untapped capacity for another 1.1-1.2 million ft<sup>2</sup> of new business growth. If future development mirrors recent trends, Harvard at build-out will be a very different town. It may remain low-density and affluent, but the qualities that distinguish Harvard today will have been sacrificed for an unimaginative approach to controlled growth. Harvard wants to be a small town and preserve its unique attributes. Though Harvard's land use policies are clearly geared toward "small," they are not at all mindful of place. To realize the vision and goals of the Master Plan, Harvard needs policies that harmonize development with the character of the land.

Under our "American" culture the powers of the town and public agencies to control the direction and timing of community growth are severely limited. We Americans, having "conquered the wilderness" and profited mightily from the constant increase in land values over three centuries, have strong views about private property rights and the "right to do with our own whatever we please." It has been said that "Americans have a 'Divine Right' to speculate in land."

Charles Eliot, *Planning for Harvard*, II-38, 1969.

### Harvard's Planning History

Fourteen years ago, Harvard revisited and updated its first master plan, written by well-known landscape architect Charles W. Eliot in 1969. Eliot knew Harvard quite well. He had worked with the Planning Board during the late 1950s, moderating a panel discussion on Harvard's future only a few years after the town adopted its first zoning bylaw (1951). By the time Eliot finished his master plan report in 1969, Harvard's population had increased by 60% in one decade because of housing starts prompted by a sequence of regional highway improvements: Route 2 (1950) and I-495 (1965). The 423 homes that were built in Harvard between 1950-1970 came at the expense of some 1,800 acres of land, mainly farms.

Eliot played an instrumental role in helping Harvard launch what would become one of the strongest records of conservancy of any town in the Commonwealth. He promoted a town-wide greenbelt plan and encouraged Harvard to buy open space. Ever since the 1960s, Harvard has been acquiring conservation land and development rights, on its own or in conjunction with the Harvard Conservation Trust, organized in 1973. However, many of Eliot's other master plan proposals were never implemented or they were carried out only in part. Perhaps Harvard residents did not believe the town would continue to grow and change as rapidly as Eliot predicted, or they hoped that by acquiring large parcels, they could reduce the amount of new development enough to keep the town substantially as it was: small, private, and pastoral.

Though Harvard's population growth rate eventually stabilized, the development impacts that occurred after 1969 were pervasive, qualitative and increasingly costly to the town. Between 1970-1985, Harvard's housing stock increased by 81%, from 855 to 1,554 homes (Fig. 1-B), this time at the expense of forests. It fell to a new generation of town officials, aided by a different planning firm, to dissect what had happened in Harvard since Eliot's day and to propose growth management ideas that residents might be willing to accept. With few exceptions, the Town Plan Committee and Connery Associates recommended a slate of actions similar to those outlined in the original master plan. Some of the recommendations were implemented; most were not.

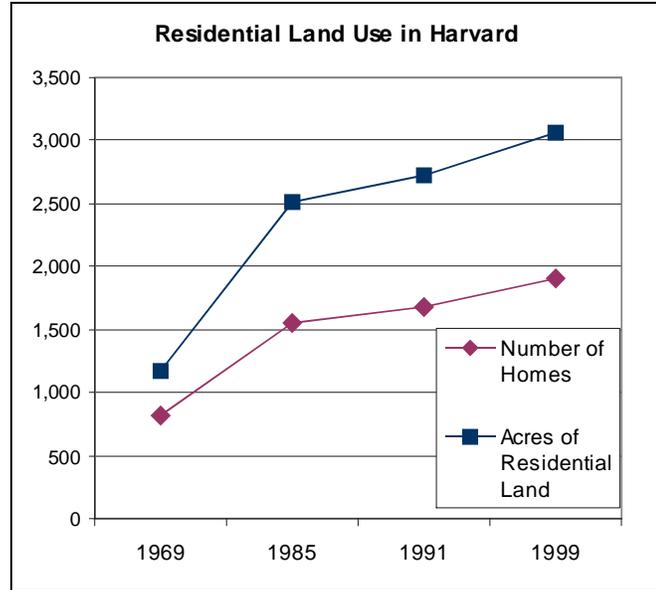


Fig. 1-B. Note: residential acres do not include farms.

Harvard changed considerably between 1969-1988 and so did Massachusetts planning practice. In the intervening years, the state legislature adopted a new zoning act (1975) and several court decisions had a profound impact on land use regulation. Fiscal impact studies also became increasingly popular. In the late 1970s, Harvard and 314 other communities participated in a statewide growth policy project that sought to encourage regional planning and rejuvenate urban and rural centers, yet by 1988, there was no longer an Office of State Planning to direct (or fund) the recommendations of that study. Environmental, affordable housing and public finance laws that were barely on the horizon in Eliot's day had become routine -- and often thorny -- issues for most communities. Connery Associates and other planners working on master plans in the mid-1980s found themselves sorting through a mosaic of statutes, regulations and policies that left many communities confused and worried about an eclipse of local control.

Possibly, Harvard residents were too distraught about growth to take actions that they considered risky, or perhaps they simply disagreed with the Town Plan Committee's proposals. The town had changed so much in such a short period of time: 40 years earlier, Harvard had only 370 homes and slightly more than 1,000 residents, and 50 years before the Planning Board adopted the *Harvard Town Plan*, there were more small businesses scattered around town than most residents could imagine, let alone remember, in 1988 -- including a slaughterhouse. Harvard *had been* a farming town not so long ago, but at the end of the 1980s, it was an emerging suburb with vestiges of its agricultural past. It still had successful commercial orchards and a number of small leisure or home farms, yet its development pattern and economic base were irrevocably changed by transportation, technology, land market conditions and obviously, by zoning, during the last half of the 20th century. Only a few years after the Town Plan Committee finished the second master plan, Harvard's last dairy farm closed. So did Fort Devens.

### The Devens Factor

Neither Eliot in *Planning for Harvard* nor Connery Associates in the *Town Plan* had much to say about the large section of Harvard that lies west of the railroad, a section known historically as Shabikin and later, as Fort Devens. That both of Harvard's previous master plans include very few references to Fort Devens makes sense, to a point. In 1917, the U.S. Army acquired land from 112 property owners in Harvard, Ayer, Shirley and Lancaster to build one of the 16 military training camps that were established during World War I. Most of the land lies inside Harvard's corporate limits, yet

during its 80-year lifespan, Fort Devens was commonly described by outsiders as an Army post located in Ayer. Since the federal government had jurisdiction over the base, Harvard and its master plan consultants paid relatively little attention to the future of Fort Devens, concentrating instead on what the town could rightfully control: land use and development *east* of the railroad.

Though Fort Devens became a permanent installation in 1931, the base was periodically activated and de-activated until the Vietnam era began. Over a period of about 15 years, beginning in the late 1950s, the Army built a considerable amount of housing for military families at Fort Devens. Woodlands adjacent to Shirley and Harvard were cleared to make way for new neighborhoods of four-, six- and eight-unit buildings, access roads and playgrounds. The base that had been out of sight and largely out of mind for several decades would develop a new identity by 1965. Tensions between residents of surrounding communities and residents of military neighborhoods began to escalate, including occasional conflicts over the use of Mirror Lake, historically known as Hell Pond. In the 1970s, the Army created an Army Community Relations Committee to address these problems, yet within a decade, rumors that Fort Devens would close became more frequent and widespread.



Fort Devens Reception Center, Winter 1965.

In 1991, the Army confirmed its intent to close Fort Devens. A complicated, expensive and contentious disposition process ensued, culminating in an event that many residents who lived in Harvard at the time recall today with bitterness: the “Super Town Meeting” of December 1994. After Harvard, Ayer, Shirley and Lancaster voters agreed to endorse the *Devens Reuse Plan*, state government acquired the Army base and began to redevelop it as a large employment compound. Responsibility for making Devens an economic success story lies with MassDevelopment, a quasi-public state agency that differs operationally and culturally from the small towns with a direct stake in the land.

For a number of reasons, Harvard has found it very difficult to contend with the transformation of Devens to an industrial center. First, the redevelopment process has moved at a much faster pace than anyone expected when the *Devens Reuse Plan* was written several years ago. As a result, the impacts of new and different land uses at Devens are a fact of daily life in Harvard today, particularly for neighborhoods along Ayer Road north of Route 2. Second, since MassDevelopment is a public corporation operating under a mandate from the legislature, it has an interest in developing Devens quickly, visibly, and to the maximum extent allowed under the *Devens Reuse Plan*. Often, MassDevelopment’s interests and Harvard’s seem completely antithetical.

Third, Harvard residents are divided over the future of Devens, which means that the town does not speak with one voice in conveying what it wants from MassDevelopment. Finally, MassDevelopment’s operating style is closed and insular while Harvard (like the vast majority of small towns) is accustomed to an open, public process for making decisions that affect the community. Differences in style, constituencies and institutional interests make it almost impossible for MassDevelopment and Harvard to see eye-to-eye about priorities at Devens -- priorities that affect one-fifth of Harvard’s total land area and its only substantial aquifers.

Devens is important to Harvard, but it is not the town’s only challenge and in some ways it is not the most important one. A number of needs are more compelling today than when they were identified by Eliot in 1969, by Connery Associates in 1988, and more recently, by Shary Berg and Claire Woodford Dempsey, co-authors of a study commissioned by the Harvard Historical Commission, *Planning for Harvard’s Rural Landscape: Case Studies in Historic Conservation* (1997). The vision and goals

of the 2002 Master Plan show, in both implicit and obvious ways, that Harvard residents *also* recognize many of the same needs.

## Major Findings of the Master Plan

### Planning and Zoning<sup>1</sup>

- Harvard's land is not homogenous, yet the Zoning Bylaw prescribes a uniform development outcome for 97% of the town. The Town Center, Prospect Hill and Massachusetts Avenue are not at all alike, but if fully developed according to Harvard's land use regulations, they would be indistinguishable.
- Present land use policies neither encourage nor allow the kinds of development that many town officials and residents say they want in their community. Despite its noble aims, the Zoning Bylaw sponsors development outcomes that differ from the goals of the Master Plan.
- Five years ago, the Harvard Historical Commission sponsored an important study, *Planning for Harvard's Rural Landscape*. The authors of that project argue persuasively that four factors play an instrumental role in defining Harvard's rural identity:
  - Traditional settlement patterns with village centers surrounded by farms.
  - The endurance of active agriculture.
  - The view from the road.
  - Historic resources.

Harvard's current land use regulations do not acknowledge, reward or protect these character-defining features. Harvard needs creative zoning incentives to use land efficiently, preserve open space, encourage agriculture and protect scenic views. Most new development in Harvard consists of single-family homes on Approval Not Required or "Form A" lots along existing streets. The incremental extension of housing into rural areas intrudes on the roadside



Still River Village



View from the road in Harvard.

1. These and other findings are discussed in Chapter 3 of the Master Plan.

views that are so central to Harvard's character, and increases locally generated traffic on town roads.

- The Town Center is Harvard's most significant community facility. Its historic buildings, the Town Common, the convergence of key roadways and the presence of major community facilities all contribute to the Town Center's distinctive sense of place. Residents identify strongly with the Harvard Center, yet the area is zoned for development that is not at all like what exists today. In fact, Harvard's regulations run counter to the basic principles of village center design. To maintain and enhance the Town Center's vitality, Harvard needs zoning that encourages use and reuse flexibility for its historic buildings, allows for infill development and sets appropriate performance standards for new land uses.
- Under its current regulatory framework, Harvard cannot recreate or reinforce its historic development pattern. Though the master plan goals call for "a balanced mix of village centers, agricultural, forested and open lands, and small neighborhoods," Harvard's land use policies do not recognize *any* villages, high-priority open space or unique neighborhood areas. If the town were to develop in strict conformance with the zoning bylaw, virtually all of Harvard would be comprised of single-family homes on 1.5-acre lots. Not only would Harvard have lost its farmland and forests, but it also would have sacrificed the form, function and ambience of its historic villages.
- Harvard does not have public sewer service, so all of the town's homes and businesses are served individually by on-site wastewater disposal systems. The town seems to have relied on the prevalence of poor soil conditions to manage growth for many years. Homes built during the past decade occupy lots with an average area of more than four acres. Advanced wastewater technology and the flexibility afforded by current Title V regulations will eventually facilitate the conversion of difficult-to-develop land. It is very important for Harvard's land use regulations to convey what residents want rather than leaving the town's future development to chance opportunities created by new technology.

### Open Space and Resource Protection

- Harvard aspires to be a community that retains its sense of place. Historic built resources are as influential as open space in defining Harvard's character, yet the town has no community-wide preservation strategy or regulations to protect its historically significant buildings from demolition or inappropriate alteration. Its two local historic districts, while very important in the areas to which they apply, are not adequate to protect all – or even a significant majority – of Harvard's cultural assets.
- Since water resource protection has always been important to Harvard, the community vision statement's desire for an ample supply of clean water is not at all surprising. However, some essential water quality tools are noticeably absent from the town's repertoire of land use, public health and safety regulations. For example, Harvard has not enacted groundwater protection zoning to control activity in recharge areas for its own public wells or DEP-regulated commercial water supplies. Despite recommendations of past planning studies, Harvard has yet to establish a watershed protection district for its most significant water body, Bare Hill Pond, and the town does not mandate periodic maintenance of septic systems. In addition, Harvard has only indirect control over land use and development choices that affect its largest and highest-yield aquifers, which are located at Devens.
- The master plan vision statement also calls for clean air, yet ironically, the town's growth policies encourage auto-dependent development. Despite Harvard's rural image, many of its roads are dangerous for walking, horseback riding and bicycling, mainly because of traffic speeds. The

emerging pattern of suburban development, broadly distributed throughout Harvard, necessitates driving to and from most parts of the community, and to out-of-town locations for basic goods and services.

- Harvard has acquired a considerable amount of open space in the past 40 years. Its own efforts, coupled with those of state and federal agencies, mean that 21% of the town's land is permanently protected from development. Harvard has worked very hard to create a linked system of open space throughout the town, but the system is incomplete. While Harvard is recognized as a leader in open space acquisition statewide, the town has none of the regulatory tools that so many communities have used successfully to save and connect large tracts of open space. As a result, Harvard depends almost entirely on public spending to achieve its conservation land goals. Instead of encouraging development that protects open space, Harvard unwittingly encourages development that breaches forests, fields and wildlife habitat.
- The Harvard Conservation Commission needs a predictable source of funds to buy priority land as it becomes available. A program of consistent, annual appropriations to the Conservation Fund is a basic open space protection tool. It should be supplemented, not replaced, by Community Preservation Act (CPA) revenue and occasional open space bond authorizations.

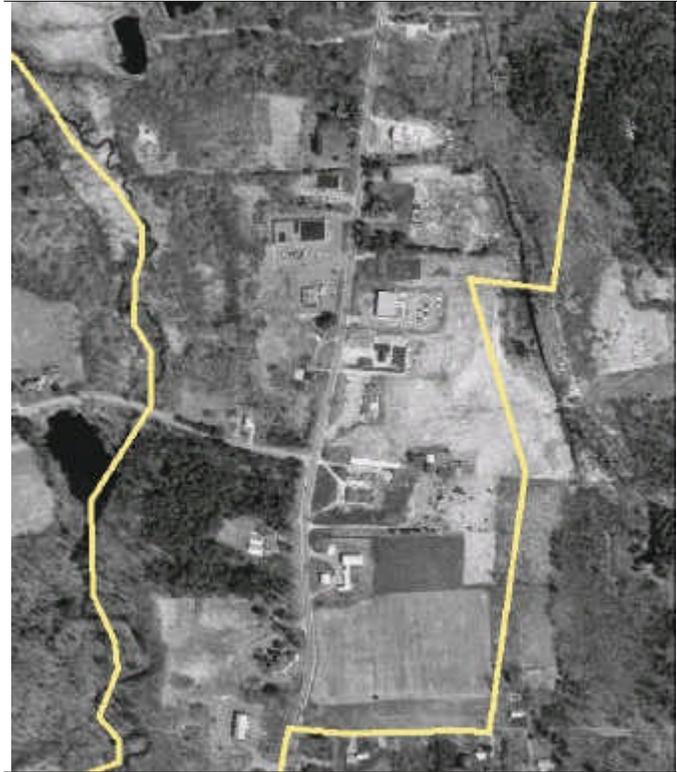
## Housing

- The master plan vision anticipates that in 20 years, Harvard's sense of community will be shaped by social and economic inclusiveness, i.e., "home to a broad range of household sizes and incomes." However, while Harvard wants to keep senior and young citizens in town, the zoning bylaw provides no mechanisms to develop housing suitable for or affordable to either of these population groups.
- The cost of homes in Harvard is a significant barrier to the vision statement's definition of "sense of community." Today, Harvard's median single-family home sale price of \$525,000 is affordable to a household with annual earnings of about \$169,000. However, the median household income in the Boston metropolitan area is only \$55,235 and in Harvard, it is \$107,934. Clearly, homes in Harvard exceed the buying power of most people. Under conventional mortgage lending criteria, a household earning the median income of \$107,934 faces a housing affordability gap of nearly \$212,000.
- By promoting single-family homes and prohibiting or making infeasible other types of residential land use, Harvard attracts development that creates a large demand for town and school services. As a result, Harvard homeowners pay very high residential tax bills and property taxes aggravate the town's affordability gap.
- The number of renter-occupied units in Harvard declined slightly during the past decade, from 185 to 171 units. Foxglove Apartments, an age-restricted comprehensive permit development of 24 units, is the only source of new rental housing in Harvard. The zoning bylaw regulates multi-family land use, but the zoning map does not designate any areas for multi-family development. While conversions of single-family to multi-family homes are allowed, the town's unusually large land area requirement makes residential conversions impractical. In the absence of offering realistic ways to create rental units, Harvard effectively invites comprehensive permits under Chapter 40B.
- Harvard has 41 units of housing affordable to lower-income people, or 2.2% of all year-round homes in town, not including Devens. To achieve the Chapter 40B minimum of 10% low-income housing, Harvard needs at least 143 more affordable homes. A proposed comprehensive permit development on Littleton County Road may help to meet some of Harvard's low-income housing

responsibilities, but Harvard needs a coherent housing strategy, adequate development and management capacity, and mechanisms to encourage scattered site low- and moderate-income housing at a scale that Harvard can absorb.

### Local Economy

- Harvard has a very small base of businesses and employment opportunities. The town's 178 establishments employ about 1,039 people, a third of whom work for local, state or federal agencies and another third for service businesses. Except for government jobs, most of Harvard's employment is centered in the C District on Ayer Road, a rural highway characterized by very low-density, strip commercial development. The limited number of jobs in Harvard translates into an unusually low jobs-to-housing unit ratio of .54. Not surprisingly, the vast majority of adult workers in Harvard commute elsewhere to work each day, and residents must also travel to nearby towns for many of the goods and services they need. A small commercial base may enhance the town's image as a residential community, but it also contributes to the limited mix of businesses on Ayer Road and to the auto-dependent nature of Harvard's land use pattern.



Existing low-density commercial development on Ayer Road. Yellow line indicates boundaries of the C District.

- Harvard's vision calls for a "sustainable future" with a diverse tax base and the flexibility to adapt to changing economic conditions. Today, the taxable value of all non-residential land in Harvard is equal to 3.63% of the town's total assessed valuation, down from 5-5.5% a decade ago. Significantly, the assessed value of all farms, forests and recreation areas under Chapter 61, 61-A and 61-B agreements is 4.86% of Harvard's total assessed valuation. In FY 2002, commercial and industrial property generated only \$352,650 in real estate taxes – slightly more than one-third of Harvard's total appropriation for public safety services and slightly less than the entire culture and recreation budget.

Harvard's unusually low property tax revenue from commercial land use does not reflect inaccurate assessments. Rather, it reflects a combination of the town's small allocation of land for economic development, the particular types and limited mix of businesses that Harvard attracts, and restrictions placed on the amount of development that can occur on business-zoned land. To improve the quality and value of its commercial base, Harvard needs to overhaul its zoning regulations, strengthen its site plan standards, adopt a design review bylaw and promote businesses that can meet the community's needs for goods and services. The town cannot rely on development at Devens as a means to improve the local tax base because Harvard may never regain jurisdiction over its land.

- Harvard is concerned about the impacts of future growth on municipal and school service costs, but the town lacks policies, regulations and programs to promote community economic development. As a result, Harvard's economic base is very small and the burden of property taxes falls almost exclusively on homeowners. Its average single-family tax bill ranks 34<sup>th</sup> in the Commonwealth. In the past ten years, the average tax bill in Harvard increased by 54% -- not including debt service for the expansion of Bromfield School or the authorized-but-not-issued debt for relocating the library to Old Bromfield.
- Farms and orchards are an important part of Harvard's local economy, yet Harvard -- like most towns -- has traditionally viewed agriculture as an open space concern, not an economic one. Though New England agriculture has gradually shifted toward retail sales in order to survive, Harvard's zoning prohibits retail activity in a residential zone and nearly all land in Harvard is contained within a single residential zoning district. The town has unwittingly created obstacles to profitable farming and as a result, its economic development, open space and rural character objectives are at odds.

### Traffic & Circulation

- Harvard's road network plays a critical role in conveying and reinforcing the town's rural character. The town needs protective pavement management policies, strong scenic road controls and improved site plan standards to assure that its roads are both aesthetically pleasing and safe for all modes of travel.
- Although through traffic appears to be increasing on some of Harvard's roadways, speed more than volume is a major concern and it is caused by non-local *and* local drivers. Harvard residents need to "take back" their streets, but a change in the way people view and treat roads in residential neighborhoods must begin *inside* Harvard or the town will not be able to influence the way outsiders drive through the community. Harvard needs a community-based traffic management plan.
- Ayer Road north of Route 2 is a major opportunity area for Harvard. It has the potential to support an attractive village with commercial and residential development of high-quality design, and a far superior utilization of land for parking, walkways and landscaping. Under existing conditions, however, Ayer Road is dangerous for pedestrians and drivers alike. Traffic incidents occur more frequently in the C District along Ayer Road than in any other section of Harvard. Without new approaches to zoning, a workable site plan review bylaw and a corridor plan, it will not be possible for Harvard to establish a vital, safe village business area in this location.

## Major Recommendations of the Master Plan

### Master Plan Implementation

Harvard needs basic resources to implement the Master Plan, increase its capacity to carry out future planning initiatives and support the work of existing town boards and committees. Toward these ends, the town should:

- Establish a permanent Master Plan Implementation Committee to act as the coordinating body for implementing the 10-year action plan.
- Establish and make a continuous funding commitment to the position of town planner or director of planning and development.
- Carry out a complete Geographic Information System (GIS) installation at Town Hall, integrating the operations of the assessor's office, planning, conservation and health departments, inspectional services and public works.

### Development Policy Plan

The Master Plan's central recommendations are illustrated on Map 1-1, the proposed Development Policy Plan. The major components of the Development Policy Plan are outlined below and explained in greater detail in Chapter 5 of the Master Plan report.

### *Zoning*

Harvard's environmental resources, historic development pattern and agricultural landscapes should be recognized and reinforced by appropriate zoning regulations. The town needs to adopt more flexible development controls in the Agricultural-Residential District and by creating overlay zoning districts, Harvard should institute special development regulations that are tailored to the use, density and design needs of five critical areas:

- Town Center
- Prospect Hill and Still River Village
- Bare Hill Pond Watershed
- Oak Hill
- Ayer Road north of Route 2.

To achieve its Master Plan goals, Harvard should amend the Zoning Bylaw to address several needs on a community-wide basis. Specifically, the town should provide for:

- An improved site plan review process for all zoning districts, including design review for all commercial uses and some residential uses.
- Stronger scenic road controls.

- Historic preservation requirements, including a demolition delay bylaw and special incentives that make preservation economically feasible, e.g.:
  - Greater intensity of use, e.g., single-family conversions to three- or four-family residences in a district that otherwise limits residential development to single-family detached homes.
  - Mix of uses, e.g., the flexibility to convert a historic building to a mix of offices, specialty retail or a small restaurant combined with residential units in a district that otherwise limits land use to a single class (residential or commercial).
  - The “last resort” relocation of a building slated for demolition to another lot with an existing residence, or to a non-conforming lot, for use and occupancy as a residential or non-residential unit.
- Clear representation of wetlands and watershed areas on the Zoning Map, consolidation and strengthening of existing wetland, watershed and flood plain regulations, and groundwater protection regulations for public water supplies and private water supplies for commercial and community use.
- A menu of open space zoning tools so that town boards, land owners and developers can respond sensitively to a variety of conditions:
  - An effective cluster bylaw that saves open space, promotes efficient use of land and encourages a variety of housing options.
  - Special regulations to encourage common driveways and flexible siting of new homes in order to protect open space on Approval Not Required (ANR) lots.
  - Incentives to develop land for uses that typically preserve large amounts of open space, e.g., assisted living and elderly congregate housing facilities.

Harvard has many opportunities to provide housing choice, i.e., to diversify its housing stock and increase the supply of homes affordable to lower- and middle-income households. Toward these ends, the town should:

- Develop, adopt and implement a coherent, realistic affordable housing strategy. Harvard must make a commitment to developing homes that satisfy the requirements of Chapter 40B.
- Adopt clear, fair and predictable regulations for single-family to multi-family conversions and for creating accessory apartments in single-family homes.
- Create special overlay zoning districts to encourage elderly, multi-family and mixed-use residential development in and adjacent to established community service areas, e.g., the Town Center and the C District on Ayer Road.
- Employ a combination of incentives and mandates to include affordable housing units in new residential and mixed-use development.

#### *Other Regulations, Policies and Programs*

To complement the Master Plan’s recommended zoning changes, Harvard needs to:

- Maintain timely updates of its Open Space and Recreation Plan and make a consistent, annual commitment of resources to the Conservation Fund.

- Prioritize lands of conservation interest by the type of strategy best suited to each parcel. Although some properties ought to be acquired because of their location, natural resources or significance to wildlife, others may be ideal candidates for a combination of preservation and development. Working with landowners is key -- but Harvard must have the right zoning in place to facilitate development that can simultaneously save open space.
- Allocate Community Preservation Act (CPA) revenue equitably to each of the three purposes recognized by the statute: open space, historic preservation, and affordable housing.
- Nominate additional properties for listing on the National Register of Historic Places.
- Establish more local historic districts or alternatively, neighborhood conservation districts.
- Pursue preservation restrictions to protect historic buildings just as the town currently pursues conservation restrictions to protect open space.
- Develop and implement a Community-Based Transportation Plan to address traffic speeds and driving behavior on Harvard's major, secondary and rural roadways.
- Adopt a street classification plan and use it to guide road maintenance, repair and reconstruction projects, along with traffic management policies.

## Critical Planning Areas

### *Town Center*

Harvard's community vision anticipates a balanced mix of land uses in the Town Center and a place that retains its historic village form. Toward these ends, Harvard should:

- Amend the Zoning Bylaw to provide for:
  - A Town Center Overlay District that encourages a mix of residential, institutional and business uses, with appropriate site plan and design controls to assure compatibility between new uses and the existing character of the area.
  - A Residential Compatibility Overlay District to encourage a greater mix of housing around the Town Center.
- Develop and implement a public realm plan for the Town Center in order to encourage pedestrian and bicycle access, assure attractive, safe parking, and provide adequate public amenities.
- Fund a permanent solution to the Town Center's wastewater disposal needs so that existing and future land uses retain their value and can adapt to changing market conditions.
- Conduct a feasibility study for the disposition and reuse of Harvard Public Library and other publicly owned historic buildings that contribute significantly to the Town Center's sense of place but may be obsolete or inadequate for their present use.

### *Still River Village*

The Master Plan vision statement calls for the preservation and enhancement of established village areas, the protection of open space and a retained sense of place as the town continues to grow. The Still River section of Harvard is critical to achieving these ends. Accordingly, Harvard should:

- Amend the Zoning Bylaw to provide for:
  - A Still River Village Overlay District with site plan and design regulations that relate appropriately to the developed form and scenic resources of this historic village area.
  - A limited mix of non-residential uses.
  - Historic preservation incentives.
- Establish a local historic district or a neighborhood conservation district for Still River Village.

#### *Bare Hill Pond Watershed*

Harvard needs to amend the Zoning Bylaw to establish a Bare Hill Pond Watershed Overlay Protection District, with special regulations to address:

- A lower threshold for uses requiring a special permit and an explicit list of prohibited activities
- Minimum lot size
- Drainage design
- Erosion and sedimentation controls
- Impervious coverage
- Special site plan standards for large-scale, exempt land uses, e.g., institutional, municipal and school uses.

In addition, the town should:

- Adopt regulations for mandatory septic system maintenance throughout the watershed.
- Consider establishing a Bare Hill Pond Commission with policy, regulatory and permitting jurisdiction over all land within the watershed in Harvard.

#### *Agricultural and Historic Landscape Areas*

The Master Plan classifies the Prospect Hill-Still River and Oak Hill sections of Harvard as Agricultural & Historic Landscape Districts -- areas with open, rural landscapes, scenic view corridors, institutional and farming land uses, and historic roadways. The strategies for these locations include zoning and non-zoning techniques:

- Amend the zoning bylaw to provide special cluster incentives and design regulations, a provision for planned residential development, and preservation standards for accessory and agricultural outbuildings, including non-residential uses.
- Designate Prospect Hill Road, Still River Road, Massachusetts Avenue, Littleton County Road, Oak Hill Road and Pinnacle Road as high-priority scenic ways.
- Adopt higher performance standards for clearing, grading, protection of trees and stone walls, and construction activity that alters views from the road.
- Target open space and historic preservation resources in these two planning areas.

- Establish an Agricultural Incentives Committee to consider forming Agricultural Incentive Districts in Harvard, thereby increasing the amount of Chapter 61-61A land and institutionalizing a local government liaison with the town's farm and orchard owners.

### *Ayer Road*

Ayer Road north of Route 2 has the potential to be a thriving village with homes, shops, services and community facilities. The town's zoning does not encourage these outcomes and in many ways, it frustrates them. Harvard should amend the Zoning Bylaw and Zoning Map in order to:

- Establish a Community Commercial Overlay District that encourages mixed-use village development in a portion of the existing C District.
- Revise the existing C District regulations to address access, site plan and design issues identified during the Master Plan process.
- Establish a Residential Compatibility Overlay District to increase the diversity and affordability of housing, provide incentives for elderly housing and assisted living facilities, and promote open space-cluster options on vacant land adjacent to Ayer Road.

The town also needs to address vehicular traffic incidents, speeding, and the volume of truck traffic on Ayer Road. Accordingly, Harvard needs to:

- Fund and conduct a corridor study for Ayer Road north of Route 2, focusing on traffic controls, intersection improvements, traffic calming techniques and pedestrian and bicycle access to make the roadway safe for local and non-local traffic.
- Work with MassDevelopment to redirect trucks through Devens and away from Ayer Road.
- Install gateway signage that doubles as a welcome/traffic enforcement warning system.
- Target Area Road for the use of mobile speed alerts.
- Support the Harvard Police Department's efforts to enforce traffic laws on Ayer Road, including funds for adequate policing.

Harvard needs to understand that directing development on Ayer Road will require strategies beyond zoning, in part because the C District already has a number of established businesses. Without effective incentives to make reinvestment a feasible option for existing commercial property owners, it will be difficult for Harvard to secure improvements in this area. For capacity to plan, finance and carry out desired development and redevelopment activity on North Ayer Road, Harvard should establish a non-profit development corporation to:

- Carry out development activities on Ayer Road, working at the town's direction.
- Obtain and invest public funds in development, redevelopment and infrastructure improvements.

Finally, Harvard should identify and secure open space and land for outdoor recreation areas, community and neighborhood facilities along or near Ayer Road.

## Devens

The Master Plan makes two recommendations concerning Devens:

- In conjunction with MassDevelopment, Harvard should co-sponsor a review of opportunities and constraints for the use and development of land at Salerno Circle. Some town officials have expressed an interest in using the land for a future school site while representatives of MassDevelopment see Salerno Circle as a desirable area for corporate offices. Given Salerno Circle's proximity to the border between Harvard and Devens, its eventual redevelopment will have a direct, visible impact on nearby neighborhoods. Harvard should accept MassDevelopment's offer to finance a concept plan and feasibility study for this area.
- Begin to plan for a formal system of open space, pedestrian and bicycle connections between Harvard and Devens. The Board of Selectmen should work with Mass Development and the residents of Old Mill Road and Depot Road to replace the existing chain-link fence and gates with attractive wooden posts, signs and kiosks such as those found at the trail entrances to many conservation areas.

# HARVARD TRENDS

## Introduction

Harvard is remarkable for the endurance of several character-defining traits that make it special to those who live or work in the community. Its mix and arrangement of historic villages set against the backdrop of agricultural landscapes, its scenic views and rural byways framed by stonewalls and mature trees, and the controlling influence of rivers, streams, water bodies and wetlands on the town's development all affect how Harvard perceives itself and how it is perceived by outsiders. Protecting these qualities has dominated the town's policy agenda for a very long time.

What Harvard is today owes largely to sustained local initiative. Traditions of independence, self-determination and creativity are as integral to the town's character as the apple orchards and fields that residents cherish. Harvard's financial and psychological investment in its identity runs deep. Very few communities can lay claim to the kinds of natural and built assets that abound in Harvard, and fewer still approximate its reputation for excellent schools. In short, Harvard has much to be proud of – and conversely, much to lose. One of several policy decisions that will have a major impact on Harvard is the fate of Devens. During its transformation from military base to industrial compound, Devens has adopted an undeniably suburban feel: wide roads, granite curbs, low-rise buildings with large parking lots, drainage ponds, street lights and uniform signage. In terms of land use and visual character, Devens and Residential Harvard are quite different – though not wholly incompatible.

## Land Use

Harvard's 27 mi<sup>2</sup> area contains some of the state's most breathtaking views. Although primarily forested, Harvard is known for its signature farms and pastoral landscapes – land uses that give the town its distinctly open, rural feel. Until 50 years ago, the limited road network in North-Central Massachusetts effectively shielded Harvard from new growth. The town gained homes and people at a modest rate, but save for the development and periodic expansion of Fort Devens, Harvard absorbed little change in land use. Between 1950-1970, however, the completion of two major highway projects – Route 2 and I-495 – triggered Harvard's modern growth era. The civilian population increased by nearly 50% per decade, making Harvard one of Worcester County's fastest growing towns at the time.<sup>1</sup> Coincidentally, the Cold War and Vietnam prompted the Army to build more housing, training and service facilities at Fort Devens. By 1970, Harvard's official population of 13,426 included more than 10,400 military personnel and families.

Statewide, housing starts fluctuated significantly between 1970-1985, but not in Harvard. Despite the large amount of land that converted to residential use, however, Harvard's population growth rate declined. It was apparent to authors of the last master plan (1988) that by the mid-1980s, new house lots in Harvard were consistently exceeding the town's minimum area requirement of 1.5 acres. This trend is illustrated in Fig. 2-A, which tracks land consumption per unit for homes built in Harvard

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1. Massachusetts Institute for Social and Economic Research (MISER), "Population of Massachusetts Cities, Towns and Counties: Census Population Counts and Current Estimates, 1930-1998," (June 1999). For local population estimates, i.e., not including residents of Fort Devens, see ENSR, *Looking Beyond Devens: Planning for the Future in the Nashua River Watershed Area* (March 2001).

between 1980-2001. In fact, the 249 single-family homes built *since* 1988 occupy an average of 4.1 acres per dwelling unit.<sup>2</sup> Several factors explain this condition: zoning, the lack of public water and sewer service, the wishes of Harvard's upper-end homebuyer market, and a higher incidence of soil, wetland and slope constraints in the maturing stages of community development.

Table 2-1 provides a cumulative record of land use changes that have taken place in Harvard since the early 1950s. Together, the data shed light on important themes in Harvard's recent development history:

- During the last half of the 20<sup>th</sup> century, development consumed about 1,873 acres of forest and 1,621 acres of farmland and open space.
- In 1951, agricultural land and other open space constituted 21% of the town's total area – roughly equal to the amount of Harvard land inside Fort Devens. Forests covered 62% of the town. In short, approximately 82% of the town was undeveloped.
- By 1999, agricultural and open space uses had dwindled to 13% of the town's total area, and forests, to 51%.
- Residential development occupied 5% of the town in 1951. By 1999, 17.6% of Harvard was residentially developed and the town had witnessed a fourfold increase in its civil population.
- Fort Devens accounted for 6% of all developed acres in Harvard as of 1951 – that is, more acres were used for military facilities and housing at Fort Devens than for housing alone throughout the rest of Harvard. The amount of land used for housing and other facilities at Fort Devens increased by 25%, but most of the expansion occurred between 1951-1971.<sup>3</sup> In 1999, development at Devens, the successor to Fort Devens, represented 7.2% of the town.
- By the close of the century, transportation uses – namely highways – covered 28 times more land than at mid-century.
- Very little multi-family, commercial or industrial development occurred in Residential Harvard between 1951-1999.

Map 2-A illustrates Harvard's land use pattern today and highlights areas that have been developed since the mid-1950s.

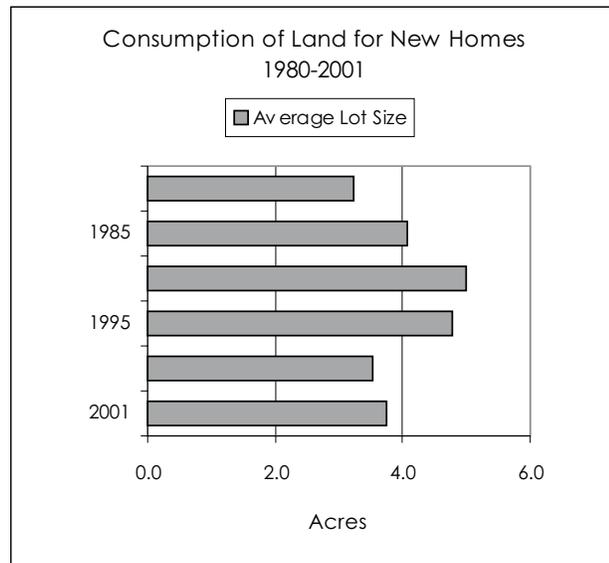


Fig. 2-A: Change in Average Lot Size, 1980-2001

2. *Ibid*; see also, Connery Associates, *Harvard Town Plan* (1988), p. 5-4, and Census 2000, STF-1: Harvard.
3. These data do not reflect the changing composition of Devens under the Base Reuse Plan.

Table 2-1: Land Use Change, 1951-1999

| Description                  | Acres in Use |           |           |           | Acres of Change |           |           |           |           |
|------------------------------|--------------|-----------|-----------|-----------|-----------------|-----------|-----------|-----------|-----------|
|                              | 1951         | 1971      | 1985      | 1991      | 1999            | 1951-1971 | 1971-1985 | 1985-1991 | 1991-1999 |
| Farmland                     | 3,528.36     | 2,076.18  | 2,071.93  | 2,070.79  | 1,906.58        | -1,452    | -4        | -1        | -164      |
| Forest                       | 10,761.04    | 10,284.06 | 9,489.40  | 9,119.80  | 8,894.90        | -477      | -795      | -370      | -225      |
| Wetlands                     | 773.02       | 764.83    | 764.83    | 764.83    | 764.83          | -8        | 0         | 0         | 0         |
| Open Land                    | 1,029.35     | 356.05    | 232.15    | 219.50    | 260.96          | -673      | -124      | -13       | 41        |
| Parks and Recreation         | 8.13         | 198.56    | 199.90    | 334.00    | 336.88          | 190       | 1         | 134       | 3         |
| Multi-Family                 | 0.06         | 0.06      | 0.06      | 0.06      | 16.29           | 0         | 0         | 0         | 16        |
| Moderate-Density Residential | 84.54        | 260.63    | 260.63    | 260.63    | 260.63          | 176       | 0         | 0         | 0         |
| Low-Density Residential      | 96.64        | 1,351.76  | 2,248.32  | 2,469.64  | 2,780.23        | 1,255     | 897       | 221       | 311       |
| Public-Institutional         | 745.04       | 1,229.09  | 1,227.85  | 1,236.21  | 1,244.83        | 484       | -1        | 8         | 9         |
| Commercial                   | 8.90         | 24.07     | 45.29     | 47.57     | 55.67           | 15        | 21        | 2         | 8         |
| Industrial                   | 0.08         | 3.62      | 3.77      | 21.09     | 19.52           | 4         | 0         | 17        | -2        |
| Transportation               | 9.12         | 258.62    | 262.76    | 262.76    | 262.76          | 249       | 4         | 0         | 0         |
| Waste Disposal               | 0.00         | 10.37     | 10.37     | 10.37     | 10.37           | 10        | 0         | 0         | 0         |
| Water                        | 304.97       | 531.36    | 532.00    | 532.00    | 534.83          | 226       | 1         | 0         | 3         |
|                              | 17,349.25    | 17,349.25 | 17,349.25 | 17,349.25 | 17,429.25       |           |           |           |           |

Sources: MassGIS, Connery Associates, *Harvard Town Plan (1988)*.

## Roadways and Physical Form

Land use in Harvard is framed by a radial arrangement of streets that extend from the Town Center toward neighboring Ayer, Littleton, Boxborough, Stow and Bolton, and secondary roads that form a rural beltway through the town's outlying hills. This long-established system, consisting of 64.82 miles of roads, has several implications for Harvard's development. Its most obvious function is as a conduit for local and cross-town traffic. In Harvard, however, roads play an integral part in shaping and reinforcing the town's visual image. With an eye toward preventing the gradual suburbanization of Harvard's roadsides, the town has placed nearly all of its local streets under the protective cover of the Massachusetts Scenic Road Act. Most roads in Harvard are relatively narrow, lined with trees, stonewalls, farm fences, open fields, and increasingly, with homes. As these rural byways form corridors through the countryside, they generally conform to the contours of the land and provide access to important view sheds that Harvard wants to preserve. The winding, steeply sloped nature of many Harvard roads makes them ill-suited for substantial traffic volumes or speed. Concerns about traffic recently led Harvard to join Littleton in a suit to block expansion of the Cisco Systems project in Boxborough.



View from the road: Harvard's rural landscape.

Harvard's roads also act as an engine in the overall development pattern of the town. If views from the road are among the defining ingredients of "rural" in Harvard,<sup>4</sup> it is also true that the view is increasingly residential. A significant feature of Harvard's residential growth is the prevalence of so-called "Approval Not Required" or "ANR" lots on existing public ways. An ANR lot is what its name implies: a lot that does not require approval by the town because it has enough area and street frontage to meet the minimum requirements of zoning. The town's authority over ANR plans is limited to a certification required by law. During the 1990s, the Planning Board received only one conventional subdivision plan, yet each year, an average of 11 ANR plans were filed.<sup>5</sup> Along with a corresponding lack of subdivision activity, ANR lots are striking aspects of Harvard's development history. Local zoning regulations encourage a pattern of residential development that has caused an otherwise modest amount of new growth to intrude visibly on Harvard's rural character.

## Harvard's Villages

The Town Center, Still River and the Shaker Village reflect distinct cultural moments in Harvard's history and reinforce the town's rural identity. A classic town common and several community institutions make the Town Center a focal point for the civic, social and political life of the town. Nearly everyone in Harvard uses the Town Center: taxpayers, school children, town officials, senior

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4. Shary Page Berg and Claire Woodford Dempsey, *Planning for Harvard's Rural Landscape: Case Studies in Historic Conservation* (June 1997), 7.

5. Harvard Planning Department, October 2001.

citizens, churchgoers, library and general store patrons, and members of local clubs and organizations. The Town Center also serves as a point of access to Bare Hill Pond. Although composed of several land uses, the Town Center is primarily a residential and institutional district with limited business activity. Town Hall, the library, the Harvard public schools, churches and recreation facilities attract residents to the Town Center and create demands for parking. By design, the Town Center also accommodates a great deal of through traffic each day because Harvard's arterial roadways converge there.

Still River village lies west of the Town Center on Still River Road, extending south from Prospect Hill for about one mile. It differs from the Town Center in built character, form and function, owing to the placement and linear arrangement of Still River's historic homes and institutions, farms and forests, and roadside views of the Nashua River Valley. Although an identifiable village that once included small shops and services in its mix of land uses, Still River today is residential, pastoral and scenic, and until quite recently it was home to Harvard's last surviving dairy farm.<sup>6</sup>

The Shaker Village, located along Shaker and South Shaker Roads in northern Harvard, is a local historic district (1972) and a National Register District (1989).

### **Agriculture and Open Space**

Harvard benefits immeasurably from its orchards, farms and steep hills with views in all directions: to Mount Monadnock, Mount Wachusett, and Boston. Forests dominate Harvard's mix of land uses, but the town's sense of place is shaped indelibly by its open land, unmatched vistas and agricultural scenery. Harvard's connection to farms is both cultural and economic, and it is a recurring theme in previous town plans. Since 1990, the town has lost about 100 acres of agricultural land to development and the last of its dairy farms closed.<sup>7</sup> Harvard's remaining farmland is about 52% of the acreage in agricultural use as of 1950.

Though very important, agriculture is not the only feature of Harvard's open space system. Forests and outdoor recreation areas, public and private, constitute a significant amount of the Harvard's total area. Compared to most communities, Harvard has an impressive preservation record: 11% of its total area is owned or controlled by the Conservation Commission, and nearly 23% is permanently restricted through other means.<sup>8</sup> Harvard lost more farm and forestland after 1988, but conservation holdings and land protected by permanent restrictions have increased significantly.

Harvard has pursued a thoughtful approach to open space for many years, following recommendations laid out in the *Comprehensive Plan* (1969) and developed further in the first *Open Space and Recreation Plan* (1979). The town envisions a greenbelt of key holdings and conservation corridors from the Shaker Village through the Town Center, around Bare Hill Pond, south to Bolton Flats Wildlife Management Area, east to the Delaney Wildlife Management Area, and northward along the eastern edge of town, guided by the terrain of Oak Hill. Toward these ends, Harvard has acquired a considerable amount of conservation land and lobbied for parallel actions by other jurisdictions and private organizations. A culture of stewardship toward farms, wetlands and wildlife

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6. Berg and Dempsey, *Planning for Harvard's Rural Landscape*, 3, 9.
  7. See MassGIS (e.g., Table 1); Berg-Dempsey, *Harvard's Rural Landscape*, and Town of Harvard *Annual Town Report* (2000), 1. In an event that post-dates these sources, the Watts Farm was acquired by the Trust for Public Lands and conveyed to the U.S. Fish and Wildlife Service for expansion of the Oxbow National Wildlife Refuge.
  8. "Total area" refers to Harvard's corporate limits, or 17,349 acres, including Devens.

habitat, areas of historical significance, and scenic vistas has culminated in a logically organized, diverse open space framework that Harvard’s people cherish.

Table 1-2 summarizes the amounts and types of open space, recreation areas and land used for general public purposes in Harvard today, along with private lands of conservation interest. The farmland (Chapter 61-A) reported in Table 2-2 does not include Harvard’s small “home farms,” i.e., non-commercial farm parcels of less than five acres, or large properties with vestiges of agricultural use: barns and other outbuildings, fields and farm fences.

**Table 2-2: Open Space by Level of Protection**

| Classification                  | Acres    | Classification           | Acres    |
|---------------------------------|----------|--------------------------|----------|
| Protected Land                  |          | Unrestricted Land        |          |
| Harvard Conservation Commission | 1,855.45 | Non-Profit Organizations | 346.43   |
| APR/Conservation Restrictions   | 289.92   | Municipal                | 219.32   |
| Federal, State                  | 1,008.45 | Devens                   |          |
| Temporarily Protected Land      |          | Open Space in Harvard    | 821.39   |
| Chapter 61                      | 1,369.75 |                          |          |
| Chapter 61A                     | 1,496.64 |                          |          |
| Chapter 61B                     | 170.63   |                          |          |
| Total Acres                     |          |                          | 7,577.99 |

Sources: Town of Harvard *Open Space & Recreation Plan*, “Inventory of Lands of Conservation Interest” (Draft, 2001 update); VHB, et al. *Devens Reuse Plan* (1994).

### Institutional Uses

Institutional uses may be public or private and their impacts vary tremendously: churches and retreats, schools, town halls, libraries, museums and cultural production facilities, nursing homes and hospitals, and military bases, prisons or airports. Until recently, Harvard’s largest institutional use was Fort Devens, where a complex of training, housing, administrative, transportation and other uses occupied about 60% of the military’s land in Harvard. The balance consisted of forests, open space and recreation areas. Owing to the evolving re-birth of Fort Devens as a regional employment center, it is no longer accurate to characterize the developed areas of Devens as institutional, though institutional uses remain: the Harvard Teen Center at the former American Red Cross station, public agencies occupying other Fort Devens buildings, the U.S. Army’s Reserve Enclave, and a federal prison medical compound.



Harvard Teen Center; formerly American Red Cross Station, Fort Devens (2001)

In Residential Harvard, the institutional use mix is both historically significant and indicative of Harvard’s rural way of life. The most obvious cluster of institutional uses is the Town Center, where the town hall, schools, library and churches join with a classic New England town common to form the nucleus of public activity in Harvard. A second group of institutional uses exists in Still River, notably, St. Benedict’s Abbey, a small apostolic community, Slaves of the Immaculate Heart of Mary, and Still River Baptist Church, home of the Harvard Historical Society. For its sheer size, its representation of past and present Harvard, and its gateway location north of Still River Village, the Fruitlands Museum on Prospect Hill Road dominates the inventory of institutions in Residential Harvard. In addition, Harvard hosts the Oak Ridge Observatory of the Harvard-Smithsonian Center for Astrophysics, and a Girl Scout camp at Bare Hill Pond. Together, these land uses occupy about 430 acres.<sup>9</sup>

## Residential Development

Housing is the dominant form of development in Harvard and the town’s residential base consists almost exclusively of single-family homes. Data derived from aerial photographs show that residential uses occupy 3,057 acres of land, mainly in the form of low-density, single-family development. Single-family homes constitute 93% of all housing units in Harvard because local zoning and market demand collectively promote them. Since house lots in Harvard typically exceed the zoning bylaw’s minimum area requirements, the amount of land controlled by individual homeowners and assessed for residential purposes is considerably higher than 3,057 acres, however. Aggregate consumption of land for all types of housing in Harvard – single-family and multi-unit buildings – equals a generous 3.05 acres per dwelling unit, or 5,270 acres in total.<sup>10</sup> A profile of the types and distribution of residential land uses in Harvard today, not including Devens, appears in Table 2-3.<sup>11</sup>

**Table 2-3: Residential Land Use in Harvard**

| Residential Use Type   | Acres Assessed | Residential Use Type  | Acres Assessed |
|------------------------|----------------|-----------------------|----------------|
| Detached Single-Family | 4,897.68       | Multi-Family          | 213.53         |
| Multi-Family           | 128.15         | Mixed-Use Residential | 27.29          |
| Apartments (11+ Units) | 3.21           |                       |                |
| Total                  | 5,269.86       |                       |                |

Source: Harvard Assessor’s Office (January 2002).

The trend toward larger house lots correlates with other changes in Harvard’s residential development pattern, notably a reduction in the mix of residential land uses. Compared to many towns, Harvard’s housing is relatively new because much of it was built in response to late-20<sup>th</sup>

9. Harvard Assessor’s Office, FY02 Parcel Data; Harvard Open Space Committee, “Inventory of Lands of Conservation Interest,” *Open Space and Recreation Plan*, unpublished draft (2002).
10. Harvard Assessor’s Office, FY02 Parcel Data (January 2002). Note: 5,270 acres applies to all residential land uses except homes on land under Chapter 61, 61-A and 61-B agreements.
11. Under the Devens Reuse Plan, a maximum of 282 housing units may be created during the redevelopment process. Of these 282 units, 243 are or will be located in Harvard and 39 in Ayer. A “Phase I” housing initiative of 102 units is currently underway at Devens. Seventy-one of the Phase I homes are in Harvard (58 market units, 13 affordable units).

century demand for homes. Local records and historic data from the Census Bureau show that as residential development accelerated in Harvard after World War II, the town's housing mix gradually declined. The erosion of Harvard's housing diversity is illustrated in Fig. 2-B, which represents residential land parcels by the type of housing they support, grouped by period of construction. Figure 2-B shows that parcel sizes are smaller among housing units built before 1939. After 1940, the development of single-family homes far surpassed all other forms of housing in Harvard. By the 1970s, Harvard's development pipeline consisted almost exclusively of single-family house lots and naturally, the average size of a residentially developed parcel also increased. Housing has consumed successively greater amounts of land for about 50 years, as evidenced by growth in average parcel size from 2.4 acres for homes built before 1939 to 3.30 acres for homes built after 1970.

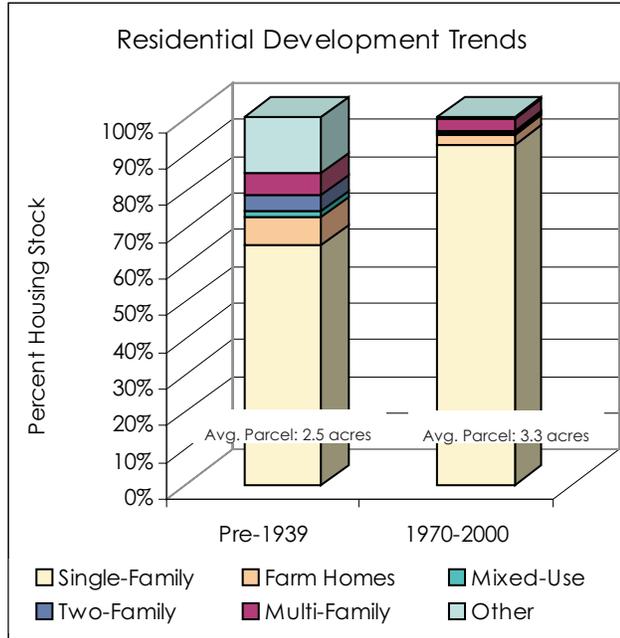


Fig. 2-B: Change in Harvard's Residential Base

### Commercial and Industrial Development

Harvard's only commercial district is located on Ayer Road north of Route 2. It consists of approximately 440 acres, less than half of which are commercially or industrially developed. The remaining "C" District land is used for residential and agricultural purposes. Much like residential land use in Harvard, commercial development is both low-density and very low in use intensity - that is, the amount of built space in relation to parcel size (floor-to-area ratio, or "FAR") is quite low: on average, .114. The mix of businesses operating in Harvard's commercial areas is also quite narrow; professional offices and service establishments constitute most of today's development inventory. Although Harvard has a small amount of industrial development, there is no longer an industrial zone. Together, commercial and industrial improvements occupy about 76 acres, but 245+ acres are assessed as developed commercial and industrial land.<sup>12</sup> This is explained not only by the prevalence of small



Ayer Road Commercial District.

12. See also Table 2.1, land use data.

commercial and industrial buildings on large lots, but also by the comparatively large amount of “industrial” land used by utility companies for right-of-way, relay and substation purposes in Harvard. Table 2-4 presents a categorical inventory of commercial and industrial development in Harvard today (excluding Devens).

**Table 2-4: Commercial-Industrial Land Use in Harvard**

| Commercial Land Use              | Acres Assessed | Industrial Land Use  | Acres Assessed |
|----------------------------------|----------------|----------------------|----------------|
| Mixed-Use, Primarily Commercial  | 32.56          | Manufacturing        | 12.95          |
| Storage/Warehouse                | 28.15          | Research/Development | 8.89           |
| Retail Trade                     | 33.61          | Utilities            | <u>63.15</u>   |
| Automotive/Fuel Service          | 4.95           |                      |                |
| Professional/Medical Offices     | 55.08          |                      |                |
| For-Profit Public Services/Other | 4.67           |                      |                |
| Indoor Recreation                | <u>1.6</u>     |                      |                |
| Total                            | 160.62         | Total                | 84.99          |

Source: Harvard Assessor’s Office (January 2002).

### Zoning<sup>13</sup>

Harvard regulates development through zoning, subdivision control, a number of local bylaws including wetlands protection, local historic districts and scenic roads, and septic system regulations that supplement Title V. The zoning bylaw governs land use in eight districts, including:

- Agricultural-Residential (AR)
- Business (B)
- Commercial (C)
- Multiple Residence (MR)
- Watershed Protection & Floodplain (W)
- Watershed Protection & Flood Hazard (WFH)
- Nashua River Watershed Greenspace Buffer District (WG)
- Wireless Communication Tower Overlay District (WCTOD)

Map 2-B shows that nearly all land in Harvard is located in the A-R District (see also, Table 2-5). The AR district is a traditional zone that provides for single-family homes, agricultural uses and a limited number of institutional uses are allowed as of right, while conversion of older homes to

13. See Appendix A: Terry S. Szold, “A Zoning Diagnostic for Harvard” (17 October 2001).

two-family or multi-family buildings, conversion of seasonal to year-round residences, in-law apartments, and golf courses are classified as special permit uses. The AR zone’s basic lot area requirement is 1.5 acres, but under a hierarchy of dimensional rules, the minimum lot size may increase to 4.5 acres depending on the type of lot or project. A second residential district, MR, has no associated boundaries on the zoning map. MR district regulations provide for multi-family buildings of up to eight units, subject to certain design standards and the “basic lot” AR density of one unit per 1.5 acres.

Given the amount of residentially zoned land in Harvard, special regulations that apply to development in the AR district are particularly important. In addition to a sophisticated system of dimensional and density controls, the Harvard zoning bylaw includes development techniques to preserve rural imagery or discourage needless construction impacts: common driveways, a “mini-subdivision” provision that allows design flexibility in the development of backland acreage in exchange for larger lots, and residential cluster development – which Harvard calls “Cluster Development for Open Space Conservation,” or CDOS. The CDOS provision of Harvard’s zoning has never been used. By special permit, qualifying tracts with 20+ acres of land may be developed under design guidelines that allow smaller lots and setbacks in exchange for permanently protected open space. The bylaw does not provide a density bonus to encourage CDOS as an alternative to conventional subdivisions. To receive a CDOS special permit, developers must also obtain approval conventional subdivision plan from the Planning Board.

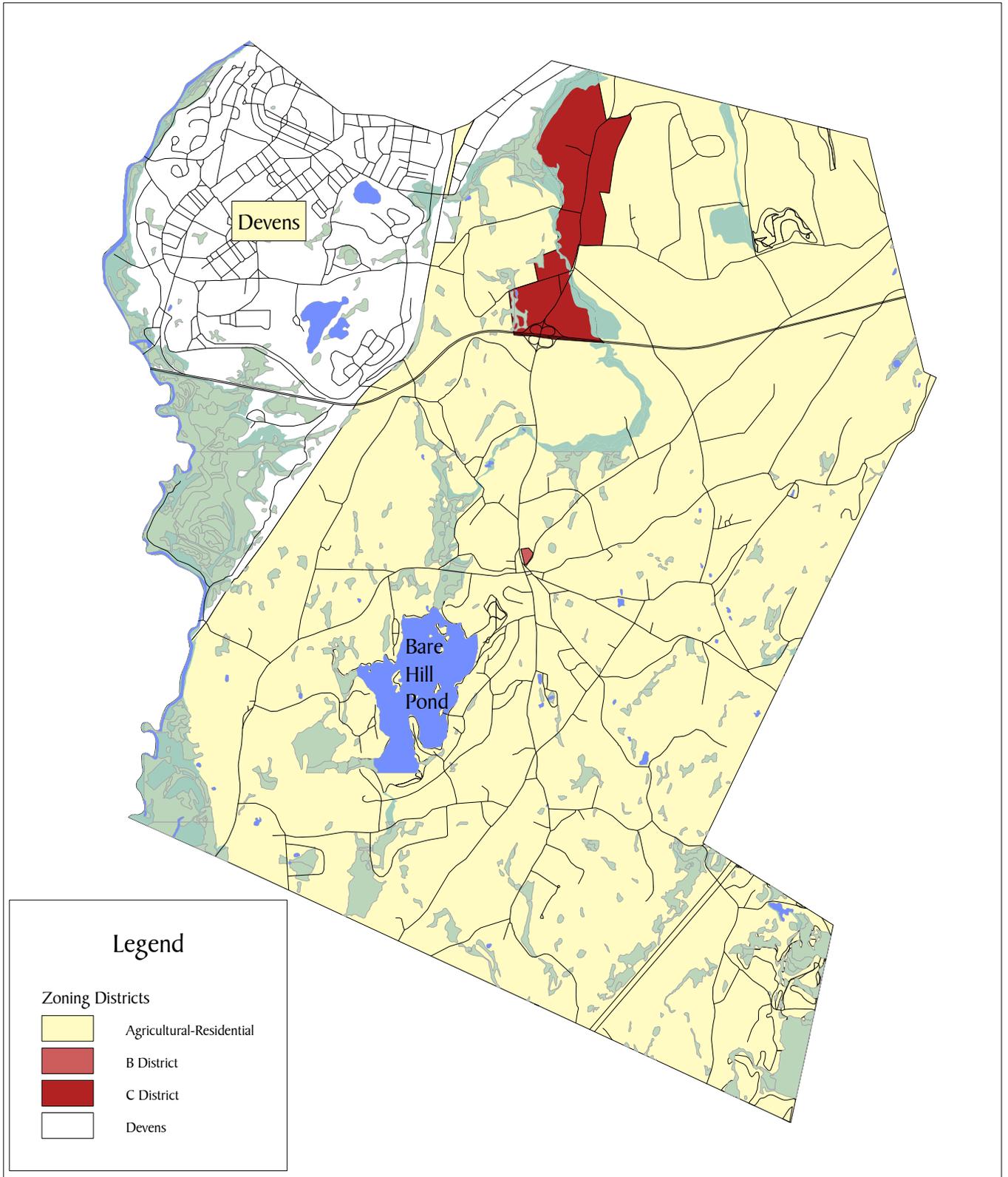
The B district applies to an area of less than four acres adjacent to the Town Center on Littleton Road, but it does not include the Town Center per se. A more substantial business zone, the C district, extends north from Route 2 along Ayer Road. In the C district, small-scale businesses such as professional offices, studios, florist and specialty shops are allowed as of right, while some medium- scale and all large-scale business uses are allowed by special permit. As used in the zoning bylaw, “scale” does not refer explicitly to size but rather, to class of business use. Medium-scale uses include such commercial activities as laundry/dry cleaning outlets, banks and ATM’s, restaurants and retail, while large-scale uses range from commercial greenhouses to auto repair shops and warehouses.

**Table 2-5: Zoning Districts in Harvard**

| Zoning District                         | Area (in Acres) |
|---|-----------------|
| <u>Primary Districts</u>                |                 |
| Agricultural-Residential (A-R)          | 13,376.15       |
| Business (B)                            | 3.76            |
| Commercial (C)                          | 442.86          |
| <u>Mapped Overlay Districts</u>         |                 |
| Watershed Protection-Floodplain (W)     | 244.60          |
| Watershed Protection-Flood Hazard (WFH) | 1,641.25        |
| Acres Subject to Harvard Zoning         | 13,822.77       |
| Acres Subject to Other Jurisdictions    | 3,526.49        |

Source: Montachusett Regional Planning Commission.

All uses in the B and C districts are subject to site plan standards enumerated at Section 7.3 of the zoning bylaw. In Harvard, the Board of Selectmen has authority over site plan review. Harvard also controls non-residential development with a set of dimensional and density rules classified as “Land-Structure Relations” in Section 6.2 of the zoning bylaw. To develop land in the C district, an



Data Source: MassGIS.



# Harvard, Massachusetts Existing Zoning



Map 2-B





applicant must comply with fairly generous setback requirements – 60 to 125 feet, depending on the project – a building height limitation of 35 feet, and an unusually low floor-to-area ratio standard of .10 or 8,000 square feet of built space, whichever is larger. The bylaw does not articulate off-street parking requirements, e.g., the number of parking spaces required for a commercial building, based on its use and size (in square feet).

Of Harvard's remaining zoning districts, two are water resource protection districts – W and WFH – designed to limit construction in wetland, floodplain and flood hazard areas, and a third serves the dual purposes of water and scenic resource protection in a 300-foot buffer zone along the Nashua River, WG. The WFH, WG and Wireless Communication Towers District are overlay districts that supplement the regulations of underlying traditional zones.

## Population & Housing

Housing is among the most powerful determinants of community character. The styles, age, quality and appearance of homes supply physical evidence of growth and change, and they say a great deal about the people who built a town from its earliest days to the present. Just as the interplay of farms and rural byways defines Harvard's visual character, housing defines its social character. A community influences the make-up of its population by adopting policies to control housing growth, and Harvard is no exception. By almost any measure, Harvard is one of the Commonwealth's most affluent towns. Its median household income ranks eighth in the state and not surprisingly, its average single-family home value ranks 20<sup>th</sup>, excluding resort communities on Cape Cod and the Islands. Together, the high cost and single-family composition of homes in Harvard help to explain the demographic characteristics of its townspeople.



Homes in Harvard.

### Population Trends

Tracking Harvard's 20<sup>th</sup> century population trends is made difficult by the establishment of Fort Devens in 1917. Until the Census Bureau separated Residential Harvard from Fort Devens by census tracts that were used for the first time in 1980, the Army's military personnel and Harvard's year-round residents were reported as a combined population for the town as a whole. Based on local and state census data, birth-rate trends, housing age statistics and adjusted reports from the Census Bureau, the author of Harvard's first master plan (1969) constructed a population history that appears in part in Table 2-6, supplemented by actual 1970-2000 population counts for Residential Harvard. After several decades of population decline, Harvard began to grow again just prior to World War II. At mid-century, the population was approximately equal to that of 1870. Table 2-6 shows that during the 1950s, the number of people living in Harvard increased by a record-breaking 40%, only to grow by another 61% in the ensuing decade.

**Table 2-6: Population Change, 1930-2000**

| Year | Local Population | % Change | County Population | % Change |
|------|------------------|----------|-------------------|----------|
| 1930 | 987              |          | 490,737           |          |
| 1940 | 1,119            | 13.4%    | 504,470           | 2.8%     |
| 1950 | 1,315            | 17.5%    | 546,401           | 8.3%     |
| 1960 | 1,840            | 39.9%    | 583,228           | 6.7%     |
| 1970 | 2,962            | 61.0%    | 638,114           | 9.4%     |
| 1980 | 3,744            | 26.4%    | 646,352           | 1.3%     |
| 1990 | 4,662            | 24.5%    | 709,705           | 9.8%     |
| 2000 | 5,230            | 12.2%    | 750,963           | 5.8%     |

Sources: Charles W. Eliot, *Planning for Harvard: Comprehensive General Plan* (1969); Bureau of the Census.

The twenty-year period between 1950-1970 was clearly a watershed moment in the town's development history. Harvard was spliced by two highways, it lost an enormous amount of farmland, and it gained people at a faster rate than in any previous period except for its earliest years as an incorporated town. Since 1970, the rate of population growth in Harvard has dropped sharply even though new-home construction escalated during the 1970s. In both obvious and subtle ways, however, Harvard's people appear to be an increasingly homogenous group. Table 2-7 compares the economic position of persons living in Harvard to that of the regional and statewide population. It shows that Harvard's townspeople are both well off and highly educated. Nearly three-fourths of town's employed residents hold management or professional jobs, up from 67% a decade ago, while only a handful work in traditionally blue-collar and lower-wage jobs. Anecdotal information reinforces the privileged make-up of Harvard's population: the sheer cost of housing in Harvard demands high-paying jobs, and a very low percentage of Harvard's public school students qualify for federal Title I support.<sup>14</sup> However, the town's labor force as a percentage of its total population is quite high compared to many communities, which may indicate that many families rely on two wage earners to afford the cost of living in Harvard.<sup>15</sup>

14. Bureau of the Census, "Small Area Income and Population Estimates, 1997 School District Profiles," (1999). Note: Harvard's Title I eligibility percentages have historically been calculated on population profiles that included Fort Devens residents.

15. Massachusetts Department of Revenue, Municipal Data Bank, "Labor Force and Unemployment Data, 1990-2000" (citing U.S. Bureau of Labor Statistics); MISER, "Population of Massachusetts Cities and Towns, 1990-2000." MISER data were adjusted to reflect the inclusion of Fort Devens residents in the 1990 population counts for Shirley and Harvard.

**Table 2-7: Comparative Economic Indicators**

| Indicators                                 | Harvard   | Worcester County | State     |
|--|-----------|------------------|-----------|
| Median Family Income                       | \$119,352 | \$58,394         | \$61,664  |
| Per Capita Income                          | \$40,867  | \$22,983         | \$25,952  |
| Median Home Value                          | \$368,700 | \$146,000        | \$185,700 |
| % Population w/ Bachelor's Degree+         | 65.1%     | 26.9%            | 33.2%     |
| % Employed in Management/Professional Jobs | 73.9%     | 37.6%            | 41.1%     |

Source: Bureau of the Census, Census 2000 Demographic Profile Tables 1-4.

Harvard men who work full-time earn an average of \$90,937 per year while women in full-time employment earn \$49,318. The 1.84 ratio of male-to-female earnings in Harvard is much higher than state's ratio of 1.34, but Harvard's employed women also earn substantially higher wages than their counterparts across the state: 1.54 times more. In addition, male residents of Harvard earn twice as much per year as men throughout the state or elsewhere in Worcester County. Harvard appears to have a sizeable population of persons working at home, engaged in professional and "e-commerce" fields or small business ventures.<sup>16</sup> According to Census 2000, at least 6.2% of Harvard's residents work in home-based employment, more than twice the rate for the state as a whole, for Worcester County or the Boston metropolitan area.<sup>17</sup> Across the state, the highest percentages of home-based workers are found in upper-income suburbs and resort-area towns.

Key economic indicators such as household and per capita income, home values, educational attainment and occupation place Harvard far above statewide norms. Moreover, the town's estimated equalized valuation per capita is in the top quartile, a fact that will eventually have consequences for Harvard's state aid revenue.<sup>18</sup> The composition and value of its housing stock make Harvard a town of family households and its percentage of households with school-age children substantially exceeds the statewide average. Despite earlier predictions that Harvard's elderly would more than double between 1990-2000,<sup>19</sup> the number of senior citizens (age 65+) living in town today remains small compared to the overall population. The disproportionately low number of seniors and large under-18 population are long-standing features of Harvard's uneven age profile, as shown in Table 2-8.

16. Harvard Town Clerk, "DBA Certificates" (January 2002).
17. Bureau of the Census, Profile of Selected Economic Characteristics, Census 2000 DP-3.
18. Harvard has reportedly been advised that it will be "held harmless" when new EQV per capita figures are released by the Department of Revenue next year – that is, Harvard will not lose its existing levels of municipal or school aid. However, state aid is unlikely to increase at the pace it would have had Harvard not lost its Fort Devens population.
19. Massachusetts Department of Elder Affairs, citing MISER, "Elderly Population Projections for Massachusetts Cities and Towns" 1999, <<http://www.state.ma.us/dea.index/data.htm>> (11 May 2001).

**Table 2-8: Population by Age in Harvard**

| Age   | 1980      |         | 1990      |         | 2000      |         |
|-------|-----------|---------|-----------|---------|-----------|---------|
|       | % Harvard | % State | % Harvard | % State | % Harvard | % State |
| <5    | 5.9%      | 5.6%    | 6.5%      | 6.9%    | 6.5%      | 6.3%    |
| 5-14  | 19.5%     | 14.2%   | 15.6%     | 12.1%   | 19.0%     | 13.6%   |
| 15-19 | 9.5%      | 9.4%    | 7.2%      | 6.8%    | 6.4%      | 6.5%    |
| 20-24 | 4.2%      | 16.2%   | 4.5%      | 8.5%    | 2.0%      | 6.4%    |
| 25-34 | 15.4%     | 16.3%   | 9.5%      | 18.3%   | 5.8%      | 14.6%   |
| 35-54 | 34.1%     | 21.2%   | 41.6%     | 25.2%   | 39.7%     | 30.5%   |
| 55-64 | 5.6%      | 10.6%   | 8.0%      | 8.6%    | 12.2%     | 8.6%    |
| 65+   | 5.6%      | 13.2%   | 7.0%      | 13.6%   | 8.5%      | 13.5%   |

Sources: Bureau of the Census, 1990 Census of Population and Housing, STF-1; Census 2000, STF-1; Connery Associates, *Harvard Town Plan* (1988).

Harvard attracts affluent households because it is a prestigious town. Its scenic beauty, extensive farmland and stately, well-preserved homes lend Harvard a genteel aura, and that aura has market consequences. Since Harvard has excellent schools and a housing stock comprised almost exclusively of single-family homes, it appeals to a particular market of affluent homebuyers: families with children, as suggested by the data in Table 2-9.

**Table 2-9: Characteristics of Harvard Households**

| Item                         | Harvard | State     | Worcester County | PMSA      |
|------------------------------|---------|-----------|------------------|-----------|
| Households                   | 1,809   | 2,443,580 | 283,927          | 1,319,761 |
| Families                     | 1,494   | 1,576,696 | 192,423          | 821,739   |
| Households w/ children <18   | 808     | 748,865   | 95,472           | 385,726   |
| % Households w/ children <18 | 44.7%   | 30.6%     | 33.6%            | 29.2%     |
| Families as % of Households  | 82.6%   | 64.5%     | 67.8%            | 62.3%     |

Source: Bureau of the Census, Census 2000 Demographic Table 1. "PMSA" refers to the Boston Primary Metropolitan Statistical Area.

## Housing Trends

Harvard homes are large, well maintained and valuable. Homeowners make a substantial investment when they buy a home in Harvard, and on average, they pay one of the state's highest single-family tax bills in order to stay in Harvard. Market data show that both new home sales and a steady recycling of the town's established housing base contributed to the price escalation that finally surfaced in assessed values this year. Except for the early 1990s when housing prices plummeted throughout the Northeast, the median single-family home sale price in Harvard rose by about 10% per year between 1990-2000, resulting in a decade-long increase of 54%. Despite the high cost of a home in Harvard, houses for sale move quickly, as evidenced by the town's low vacancy rate of .7%. In addition, large-lot zoning, Title V requirements and private wells translate into high development costs, such that the average "construction-ready" house lot sells for about \$200,000. Between 1990-2000, the Harvard Planning Board signed approximately 120 Form A lot plans and endorsed one six-lot subdivision. The past decade produced residential parcels that average more than four acres in size, reflecting a combination of poor soil conditions and the 4.5-acre rule that applies to

hammerhead and “backland” lots. It also produced homes with an average assessed value of nearly \$600,000.

## Housing Stock

Harvard’s 1,911 housing units are primarily single-family homes supplemented by a sparse base of attached units: two- and three-family residences, condominiums, and apartments in multi-family buildings. About 5% of all homes in Harvard co-exist with non-residential uses on the same property, e.g., businesses and farms. Harvard’s housing stock is also noteworthy for the incidence of multiple homes on one parcel. A tradition barred by present-day zoning in most communities (including Harvard -- except for farms), the location of a primary residence, a carriage house or guest quarters on one property was a fairly common, turn-of-the-century mode of residential land use that endures throughout Harvard today. Table 2-10 tracks the composition and occupancy characteristics of housing in Harvard from 1980-2000.

**Table 2-10: Composition of Housing Stock**

| Residential Use Type        | 1980      | 1990      | 2000 (Est.) |
|-----------------------------|-----------|-----------|-------------|
| Single-Family               | 1,246     | 1,598     | 1,775       |
| Two-Family                  | 55        | 51        | 48          |
| Multi-Family, Mixed-Use     | <u>34</u> | <u>32</u> | <u>88</u>   |
| Total Housing Units         | 1,335     | 1,681     | 1,911       |
| Total Renter-Occupied Units | 194       | 185       | 171         |
| Renter-Occupied as % Total  | 15%       | 12%       | 9%          |
| Number of Seasonal Units    | 118       | 57        | 69          |
| Year-Round Units            | 1,217     | 1,624     | 1,842       |

Sources: U.S. Census Bureau, 1990 Census of Population and Housing, STF-3: Census Tract 7142; Connery Associates, Harvard Town Plan (1988); Harvard Assessor’s Office, FY02 Parcel Database (January 2002).

Homeownership is clearly the norm in Harvard, more now than two decades ago. Harvard has not only absorbed new residential development, but also it has witnessed the conversion of formerly seasonal housing stock to year-round residences. As a result, units that were once available for rental occupancy during the off-season have declined. Today, Harvard has one of the lowest percentages of renter-occupied housing in the state.

Harvard has absorbed a moderate pace of housing growth since the last master plan was written (1988). The rate of growth is less noteworthy than changes in the mix, cost and location of Harvard homes, however. Approximately 249 units have been added to the base that existed in 1988, or 18-21 dwellings per year. Harvard continued to attract single-family homes on basic lots, but the town also took steps to diversify its housing stock and increase its affordability during the past decade. Of the 230 housing units built between 1990-2000, 56 – or 24% – are condominiums and apartments, 32 of which are affordable to low- and moderate-income households. Approved as “friendly” comprehensive permits under Chapter 40B, the Harvard Green Condominiums and Foxglove Apartments introduced a modicum of housing affordability and choice into Harvard’s

homes. In fact, comprehensive permits were key to the feasibility of these developments because neither one meets the density and dimensional requirements of Harvard zoning.<sup>20</sup>

The size and exemplary condition of Harvard homes is an indicator of both their value and the economic position of most residents. Small houses exist in Harvard, but they are relatively rare and seemingly at risk. The “tear-down” activity that plagues many communities close to Boston has yet to become a measurable factor in Harvard, but substantial alterations and expansions are increasingly common. Table 2-11 provides a snapshot of Harvard’s single-family housing inventory and sheds light on the relationship between extraordinarily high land values and the cost of Harvard homes.

**Table 2-11: Single-Family Property Characteristics in Harvard**

| Year Built | Average Lot Size | Average Finished Area | Average Total Value (Land & Buildings) | Ratio of Building Value to Total Value |
|------------|------------------|-----------------------|--|--|
| 1998-2001  | 3.51             | 3,420                 | \$ 583,302                             | 0.570                                  |
| 1995-1997  | 4.84             | 3,191                 | \$ 593,159                             | 0.542                                  |
| 1990-1994  | 4.82             | 3,158                 | \$ 557,043                             | 0.546                                  |
| 1980-1989  | 3.38             | 2,867                 | \$ 498,982                             | 0.526                                  |
| 1970-1979  | 2.82             | 2,326                 | \$ 402,177                             | 0.472                                  |
| 1960-1969  | 2.42             | 1,995                 | \$ 355,837                             | 0.411                                  |
| 1950-1959  | 2.85             | 1,717                 | \$ 333,027                             | 0.326                                  |
| 1940-1949  | 1.90             | 1,667                 | \$ 290,555                             | 0.336                                  |
| 1930-1939  | 2.48             | 1,606                 | \$ 260,196                             | 0.389                                  |
| 1920-1929  | 2.21             | 1,902                 | \$ 325,053                             | 0.367                                  |
| pre-1920   | 3.08             | 2,428                 | \$ 403,786                             | 0.467                                  |

Source: Harvard Assessor’s Office, FY02 Parcel Data File.

### Housing Market

Harvard’s location plays a crucial role in existing and foreseeable development trends. Proximity to I-495, region-wide economic development and transit improvements all suggest that Harvard is poised to grow. Housing starts and job growth throughout the I-495 corridor act as a backdrop to what is happening in Harvard today. Business establishments in communities near Harvard pay some of the highest wages in Massachusetts. In fact, virtually all of the cities and towns along the

20. All of the low- and moderate-income housing in Harvard today post-dates the 1988 master plan. According to the Department of Housing and Community Development (DHCD), which maintains the state’s Chapter 40B subsidized housing inventory, Harvard has 33 Chapter 40B units or 1.53% of the town’s year-round homes. The state inventory appears to omit units that qualify as Chapter 40B housing, however. In addition to the 24 rental units at Foxglove Apartments and eight affordable homeownership units at Harvard Green, the Harvard Conservation Trust owns and manages nine rental units: five at the Harvard Inn and four at the Great Elms, all under long-term affordability restrictions. Some local officials say that affordable housing built in Harvard under the *Devens Reuse Plan* should also be added to the town’s Chapter 40B inventory. The first phase of residential development at Devens is expected to bring 71 new homes to Harvard, including 13 affordable units.

west-northwest arc of I-495 rank in the state's top quartile for average annual wages. The region's prosperity has brought competitive jobs that require a highly skilled and educated workforce. It has also brought an intensity of housing demand that many of these communities are ill-equipped to absorb, pushing the cost of homes far beyond the reach of many long-time residents. Table 2-12 illustrates the rapid escalation in single-family home sale prices that has occurred both in Harvard and across the region since 1990.

**Table 2-12: Change in Single-Family Home Prices, 1990-2001**

|            | Median Sale Price of Single-Family Homes |            |            | % Increase |           |
|------------|--|------------|------------|------------|-----------|
|            | 1990                                     | 2000       | 2001       | 1990-2000  | 2000-2001 |
| Acton      | \$ 225,000                               | \$ 370,000 | \$ 426,450 | 64.4%      | 15.3%     |
| Ayer       | \$ 109,750                               | \$ 170,000 | \$ 221,950 | 54.9%      | 30.6%     |
| Bolton     | \$ 220,250                               | \$ 329,900 | \$ 449,000 | 49.8%      | 36.1%     |
| Boxborough | \$ 230,000                               | \$ 426,450 | \$ 495,000 | 85.4%      | 16.1%     |
| Clinton    | \$ 114,000                               | \$ 137,000 | \$ 165,450 | 20.2%      | 20.8%     |
| Groton     | \$ 165,000                               | \$ 297,000 | \$ 324,900 | 80.0%      | 9.4%      |
| HARVARD    | \$ 266,250                               | \$ 410,500 | \$ 525,000 | 54.2%      | 27.9%     |
| Littleton  | \$ 193,000                               | \$ 260,950 | \$ 287,450 | 35.2%      | 10.2%     |
| Shirley    | \$ 126,250                               | \$ 169,500 | \$ 211,500 | 34.3%      | 24.8%     |
| Stow       | \$ 184,000                               | \$ 315,000 | \$ 330,000 | 71.2%      | 4.8%      |
| Sudbury    | \$ 296,125                               | \$ 497,500 | \$ 537,000 | 68.0%      | 7.9%      |
| Westford   | \$ 190,500                               | \$ 297,500 | \$ 325,900 | 56.2%      | 9.5%      |

Source: Banker & Tradesman, 2001.

In Harvard and other towns affected by westward (suburban) migration and expansion of the state's economic base, single-family home starts dominated the housing pipeline throughout the 1990s.<sup>21</sup> Between 1990-2000, the statewide housing inventory grew 6% and single-family units, 3.6%. However, some towns near Harvard witnessed overall housing unit growth rates of 20-25% and substantially more subdivision activity than housing counts alone would reveal. For example, neighboring Boxborough leads the state for percentage change in single-family *parcels* created during the 1990s: 58%.<sup>22</sup> Harvard's 11% growth in single-family parcels and 12% growth in housing units overall are *below* regional averages, however. Table 2-13 compares housing and population trends in Harvard and several nearby communities.

21. Bureau of the Census, U.S. Department of Housing and Urban Development, *American Housing Survey: Boston PMSA* (1998); Mass. Department of Revenue, Municipal Data Bank, "Parcels by Land Use," 1990-2000 (electronic files).

22. Massachusetts Technology Collaborative, *The I-495 Overview* (1999).

**Table 2-13: Regional Housing and Population Growth, 1990-2000**

|               | Housing Units |           |            | Population |           |            |
|---------------|---------------|-----------|------------|------------|-----------|------------|
|               | 1990          | 2000      | % Increase | 1990       | 2000      | % Increase |
| Acton         | 6,891         | 7,645     | 10.9%      | 17,872     | 20,331    | 13.8%      |
| Ayer          | 2,891         | 3,141     | 8.6%       | 6,229      | 7,110     | 14.1%      |
| Bolton        | 1,097         | 1,472     | 34.2%      | 3,134      | 4,148     | 32.4%      |
| Boxborough    | 1,485         | 1,900     | 27.9%      | 3,343      | 4,868     | 45.6%      |
| Clinton       | 5,635         | 5,817     | 3.2%       | 13,222     | 13,435    | 1.6%       |
| Groton        | 2,774         | 3,339     | 20.4%      | 7,511      | 9,547     | 27.1%      |
| HARVARD       | 1,681         | 1,911     | 13.7%      | 4,662      | 5,230     | 12.2%      |
| Littleton     | 2,691         | 3,018     | 12.2%      | 7,051      | 8,184     | 16.1%      |
| Shirley       | 1,997         | 2,140     | 7.2%       | 5,025      | 5,276     | 5.0%       |
| Stow          | 1,853         | 2,108     | 13.8%      | 5,328      | 5,902     | 10.8%      |
| Sudbury       | 4,875         | 5,582     | 14.5%      | 14,358     | 16,841    | 17.3%      |
| Westford      | 5,530         | 6,877     | 24.4%      | 16,392     | 20,754    | 26.6%      |
| Massachusetts | 2,472,711     | 2,621,989 | 6.0%       | 6,016,425  | 6,349,097 | 5.5%       |

Source: Bureau of the Census.

## Harvard's Economy

Harvard's local economy consists mainly of small businesses, self-employed professionals, non-profit institutions and farms. According to federal statistics, Harvard has 178 establishments with a combined workforce of about 1,040 full- and part-time employees. Town records suggest that many of Harvard's establishments are locally owned businesses, including but not limited to farms and orchards. The fiscal, traffic and environmental impacts of local economic development vary considerably from town to town, owing not only to differences in the total amount of development but also to the composition and structure of the economic base, the location of goods, services and obviously, the number and type of jobs.

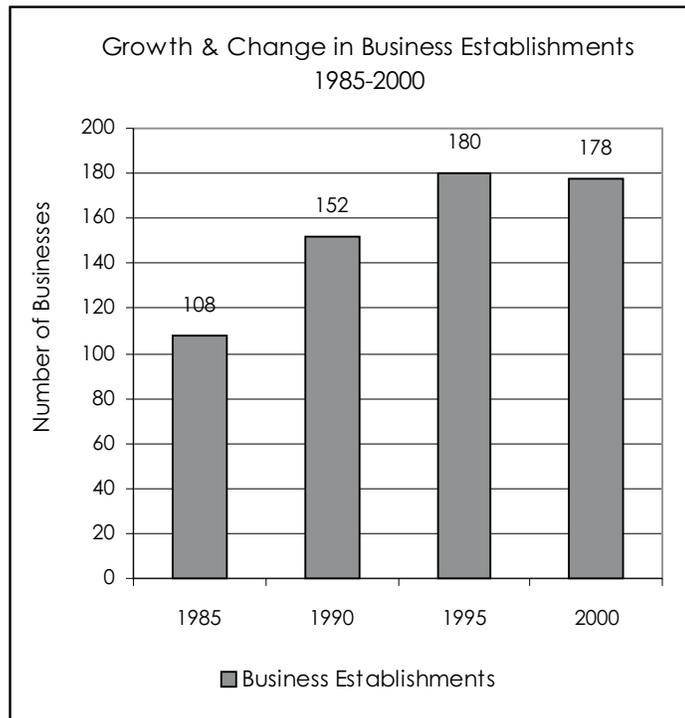


Fig. 2-C: Businesses in Harvard, 1985-2000.

### Business Establishments

Figure 2-C shows that while the size of Harvard's employment base has fluctuated, the number of employers located in town has increased by about 17% since 1990. However, the number of people working for Harvard establishments (Fig.

2-D) increased by only 3.5% in the same period, except for a reported spike in manufacturing jobs between 1991-1996. Significantly, Figures 3-4 capture little if any of the employment at Devens. They also do not capture Harvard's base of self-employed people: those who work at home or in small professional offices about the town. To measure and track local establishments and employees, the U.S. Bureau of Labor Statistics (BLS) relies mainly on reports filed by U.S. companies that are subject to federal or state unemployment compensation laws. BLS periodically releases employment and wage data in municipal, metropolitan area, labor market and state geographic units. A company's geographic location is based on the address it lists for unemployment compensation reporting purposes. Most Devens employers list their place of business as "Devens" or sometimes "Ayer," regardless of whether they are located in Ayer, Harvard or Shirley. As a result, it is difficult for not only the communities but also MassDevelopment to track employment change at Devens in a systematic way.

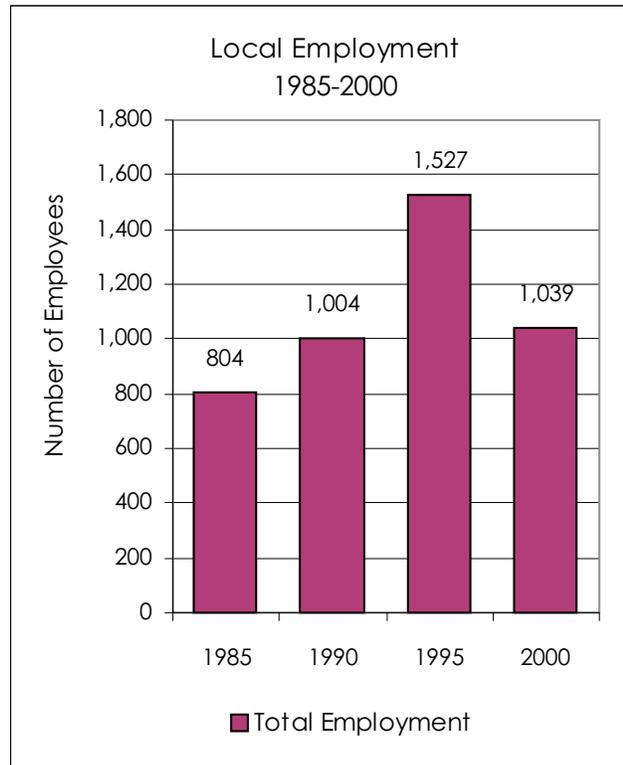


Fig. 2-D: Employment in Harvard, 1985-2000.

### Employment and Wages

Gains or losses in local employment are less meaningful when measured as total change than as change in employment by sector. Harvard's modest growth in establishments and very limited growth in total employment during the 1990s were attended by other important changes in the composition of the local economy. Figure 2-E measures employment by sector as a percentage of total employment since 1985. Against the backdrop of Harvard's slow rate of job growth, job losses have occurred in agriculture and forestry, the construction trades, manufacturing and retail trade. For example, while agricultural jobs constituted a somewhat larger percentage of total employment in 1999 than in 1995, there were far fewer people working for agricultural establishments in 1999 than in 1985. In fact, the number of people holding full- or part-time jobs in agriculture declined by 56% during the 15-year period

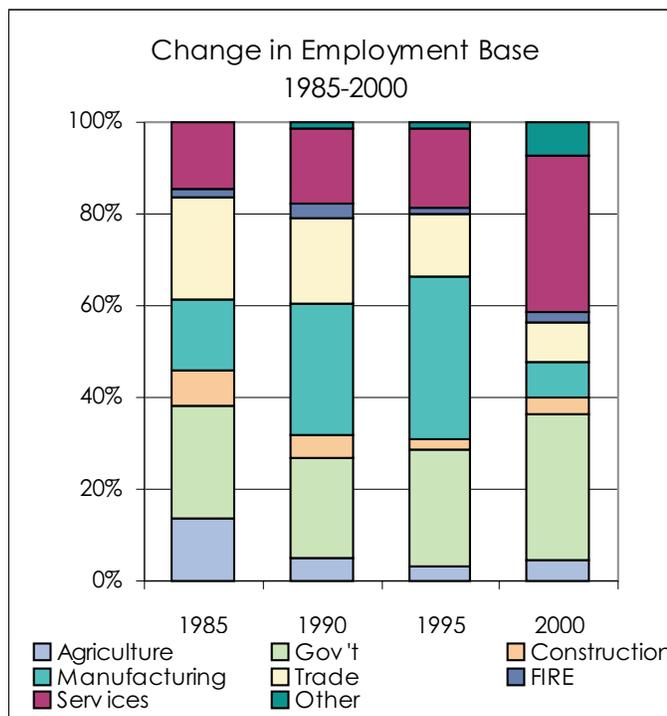


Fig. 2-E: Employment Base Composition.

reflected in Figure 2-E. At the same time, public-sector employment increased by 72%.<sup>22</sup> As of 1999, government jobs constituted 32% of Harvard’s total employment, up from 24% in 1985. The largest gain of all has occurred in service industries employment – i.e., personal service, social service and private household jobs that are typically lower-wage than those found in manufacturing, the construction trades or government.

Despite significant economic growth throughout the region, Harvard has fared poorly as a generator of high-paying jobs and to a large extent, this is by choice. Though Harvard feels the demand for housing caused by economic development along I-495 and at Devens, it receives none of the employment or tax base benefits: from Harvard’s point of view, the traffic and the risk of an unwanted change in town character seemingly outweigh the advantages of tax revenue. The town’s zoning policies effectively bar economic development, but in addition, Harvard has no “construction-ready” land to offer expanding companies – except at Devens. In 1999, the average annual wage paid by Harvard establishments was \$36,055, placing Harvard in the third quartile for wages across the Commonwealth but far below wages paid in many surrounding communities, as suggested by the data in Table 2-14. Harvard’s employment base is small: about 1,050 jobs, one-third of which are in the public sector. The remaining jobs are primarily in services and trade, with nearly 5% in agriculture and agricultural support.<sup>23</sup>

**Table 2-14: Municipalities with Highest-Wage Jobs in Massachusetts (1999)**

| City/Town  | Avg. Annual Wage | City/Town | Avg. Annual Wage |
|------------|------------------|-----------|------------------|
| Hopkinton  | \$80,564         | Maynard   | \$56,679         |
| Monroe     | \$80,378         | Lexington | \$56,148         |
| Westford   | \$70,510         | Bedford   | \$56,015         |
| Wenham     | \$61,039         | Andover   | \$54,911         |
| Stow       | \$59,940         | Waltham   | \$54,762         |
| Boxborough | \$56,712         | Littleton | \$54,569         |

Source: U.S. Bureau of Labor Statistics (2001). Harvard is not included in Table 2-13 because its average annual wage is well below the top 10 municipalities in Massachusetts.

On average, Harvard ranked 75<sup>th</sup> for wage competitiveness statewide throughout the 1990s.<sup>24</sup> Between 1985-2000, the average annual wages paid by Harvard’s employers more than doubled, from \$16,069 in 1985 to \$38,378 in 2000.<sup>25</sup> In some communities across the region, however, wages tripled during the same period. Given the present composition of Harvard’s employment base,

22. In 1997, the Commonwealth changed its reporting methodology for government jobs in order to reflect the actual location of state employees. This change has resulted in seemingly high public-sector employment growth for some communities and losses for others, making pre- and post-1997 comparisons difficult. Harvard is not among the affected communities, however.
23. Massachusetts Department of Employment and Training (DET), citing U.S. Bureau of Labor Statistics LAUS and ES-202 data (2001). These data do not include persons working at home as self-employed professionals or entrepreneurs, or as employees of non-local establishments.
24. Data derived from Mass. DET, ES-202 reports for all communities in the Commonwealth. See also, Massachusetts Technology Collaborative, *I-495 Overview* (1999).

government jobs are most likely the engine that keeps annual wages at or slightly above the third quartile for the state as a whole. This is not because local government workers are paid more generously than in other parts of the state, but because their jobs constitute the plurality of all employment in Harvard. Similarly, the increasing prevalence of service jobs has the effect of depressing aggregate annual wages paid by local establishments.

### **Self-Employment and Home-Based Business Activity**

Local jobs may be limited in number and quality of wages, but many of the town's residents are self-employed and a striking number of them work at home. Indeed, for those who want to live and work in Harvard, it may be easier to start a business at home than to develop one in the Commercial District on Ayer Road: home occupations are allowed as of right as long as they remain inconspicuous. According to local records, about 210 locally owned and operated businesses exist in Harvard today and many of them are conducted in private residences. The actual number of resident-entrepreneurs is probably much higher because often, home-based business owners do not file "doing-business-as" or "DBA" certificates with city or town clerks. If Harvard is at all consistent with national trends, more people work at home today than a decade ago, and they are a significant force in the local economy.

Citizens on the Harvard Town Plan (1988) steering committee recognized the eve of the "work-at-home" movement in their own community. Comparing the local economy of their time to that of the Comprehensive Plan (1969) era, the committee noted that Harvard had begun to experience "a growth in home occupations, in large part due to the 'high-tech' revolution."<sup>26</sup> They anticipated that homes would serve increasingly as work sites, and they had ample evidence to support their claim. In 1990, only two years after the Harvard Town Plan was finished, the Census Bureau reported that 7.4% of Harvard's employed adults worked at home – a statistic that placed Harvard far above regional and statewide norms at the time. Only 2.5% of all employed adults in the Commonwealth, and 2.3% in Worcester County, worked at home in 1990.<sup>27</sup>

Technological advancements occurred so rapidly during the early 1990s that the work-at-home population skyrocketed nationally. As a result, the most recent U.S. Economic Census (1997) produced the first comprehensive work-at-home survey and confirmed the growing popularity of two employment conditions: home-based businesses, and workers using at-home offices instead of commuting to their place of employment: the so-called "tele-commuters." Census 2000 data suggest that Harvard's work-at-home population may have declined slightly since 1990, but the decennial census does not capture part-time home-based business ventures or workers who tele-commute intermittently. Regardless, the percentage of Harvard's labor force that works at home remains well above regional and statewide norms, as shown in Table 2-15.

The limited data that are available to support a profile of Harvard's home-based businesses suggest that local entrepreneurs have much in common with their national counterparts. For example, women appear to constitute about half of Harvard's at-home business owners; nationally, 48% of all home-based businesses are women-owned.<sup>28</sup> Many of Harvard's self-employed people do not work

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26. Connery Associates, *Harvard Town Plan*, 6-1.

27. U.S. Census Bureau, 1990 Census of Population and Housing, STF-3A: State of Massachusetts, Worcester County, and Worcester County Census Tract 7142 (Residential Harvard).

28. U.S. Census Bureau, Bureau of Labor Statistics, 1997 Economic Census, *Work at Home in 1997*, Table 5.

from home, however. Local tax assessment records and the town clerk's DBA file underscore the prevalence of locally owned businesses along Ayer Road and around the Town Center, and at least two firms at Devens are owned by residents of Harvard. Consistent with the office and small-retail composition of Harvard's commercial base, professional, medical and service enterprises dominate the mix of businesses owned by town residents. In addition, a number of artists, writers and construction tradesmen live and work in Harvard. Farming is a unique feature of self-employment in Harvard because it continues to thrive.

**Table 2-15: Working at Home in Harvard**

| Item                               | Harvard | State     | County  | MSA       |
|------------------------------------|---------|-----------|---------|-----------|
| Population                         | 5,230   | 6,349,097 | 750,963 | 3,398,051 |
| Population > 16 yrs.               | 3,807   | 5,010,241 | 578,707 | 2,713,633 |
| Civilian labor force               | 2,872   | 3,312,039 | 383,266 | 1,818,561 |
| Labor force % population > 16 yrs. | 75.4%   | 66.1%     | 66.2%   | 67.0%     |
| Employed civilians > 16            | 2,781   | 3,161,087 | 366,942 | 1,740,975 |
| Working at home                    | 173     | 97,504    | 9,821   | 57,674    |
| % Working at home                  | 6.2%    | 3.1%      | 2.7%    | 3.3%      |
| Self-employed                      | 341     | 201,209   | 21,162  | 110,563   |
| % Self-employed                    | 12.3%   | 6.4%      | 5.8%    | 6.4%      |

Source: Bureau of the Census, Census 2000, Demographic Tables 1-3.

Though some residents work locally, most of the town's labor force commutes to out-of-town employment – as suggested by Harvard's unusually low jobs-to-housing ratio of .55. Distance commuters as a percentage of the labor force are more prevalent in Harvard than in most municipalities. About 23% of all working adults in Harvard commuted to jobs nearby in 1990, compared to 33% of all Worcester County residents and 34% across the Commonwealth. Moreover, 82% of all employed residents (not including the at-home labor force) drove back and forth to work in their own car: 2,030 people. Recently released data from Census 2000 show that Harvard's labor force spends more time commuting to work than the labor force of Worcester County, the Boston metro area or the state as a whole, and the percentage of workers driving alone has increased to 84%.<sup>29</sup> Except for Devens, regional employment growth has occurred almost entirely outside of Harvard's borders, a condition that contributes to the town's auto-dependent character. The average wages paid by local establishments suggest that for many people, the choice to live and work in town does not exist.

### Harvard's Farms and Orchards

Agriculture retains an important place in Harvard's economy, although farming has declined in Harvard as it has throughout New England. Approximately 50 farms and orchards with a combined total of 1,500 acres of agricultural land operate in Harvard today.<sup>30</sup> There are three full-time commercial orchards – Westward Orchard, Carlson's Orchard and the Doe Orchard – along with several orchards and small farms run on a part-time basis by their owners. This division of

29. Bureau of the Census, Profile of Selected Economic Characteristics, DP-2, Census 2000.

30. Not all farms in Harvard are represented in the Chapter 61A statistics cited earlier in this report.

agricultural establishments seems to parallel trends across the Commonwealth, for during the past two decades, the state has seen a significant rise in the number of farmers who list their farm as a part-time occupation.



Harvard's apple orchards.

Like other New England farmers, Harvard orchardists have had to adjust to global competition by shifting a large portion of their income stream to retail sales at farm stands. The owner of one local orchard estimates that income to his establishment is split almost equally between wholesale and retail, but 20 years ago, 80 percent of his orchard's income was derived from wholesale trade and only 20 percent from retail. About 70-80% of the orchard's farm stand customers are non-local patrons, i.e., from outside of Harvard. Reduced demand for apples in winter and spring months makes it very difficult for farm stands to remain profitable during the off-season. The ability to diversify what can be sold at a farm stand is just as important to agricultural retail as it is to any other retail establishment. However, a farm stand qualifies for protection as an agricultural use only if a majority of the products sold are grown on the owner's land. Once the product base shifts toward more non-farm sales, the use becomes "commercial" and is subject to local zoning requirements. Like most conventional zoning bylaws, Harvard's prohibits commercial uses in a residential district.

In an effort to encourage local farming and keep the town's agricultural land in productive use, Harvard's Conservation Commission has negotiated three Agricultural Preservation Restrictions (APR) on 83 acres of farm land, including 48 acres of apple orchards. At least one orchard in town has participated in a state program that provides technical assistance, grants and loans to help Massachusetts farmers stay in business.

## Natural & Cultural Resources

For Harvard, agriculture is an open space, economic development, and cultural resource issue. Harvard's inventory of environmental and built assets is one of its most enviable traits, and farming has played a central role in the history of the town. "Historic and cultural resources" refer to historic buildings and their settings, outbuildings such as barns and sheds, archaeological remnants and features, and areas deemed to be archaeologically sensitive. Landscape features such as extant stonewalls, traces of stone foundations and cemeteries are also an important part of Harvard's history and considered part of its cultural inventory. Scenic vistas and view sheds, agricultural landscapes and largely unaltered historic settlement patterns, such as in Still River Village, combine elements of both Harvard's cultural and natural environments. "Natural resources" include land, surface water, streams and wetlands, aquifers, wildlife habitat and other ecologically sensitive areas. Not surprisingly, natural and cultural resource locations often overlap, such as vestiges of an early settlement adjacent to a river or the cart path that runs parallel to a nearby stream.

A study completed five years ago, *Planning for Harvard's Rural Landscape: Case Studies in Historic Conservation* (1997), identified the Town Center, Still River/Prospect Hill, the Shaker Village, Oak Hill and Bare Hill Pond as "special places" in Harvard. Harvard also has several water resource areas of ecological importance: the Nashua River, the Bowers Brook wetlands system, Black Pond, Horse Meadows, Bennetts Brook, the ponds and associated wetlands west of Salerno Circle at Devens, and the aquifers beneath Devens. These special places and areas of ecological concern are illustrated in

Map 2-C. As Harvard's key public assets, they call for stewardship from the town, Devens, and state and federal agencies that together have a stake in Harvard's land. Appendix B provides descriptive summaries of each resource area.

## Cultural Resources

Understanding the importance of preserving its historic past, Harvard has undertaken three architectural and rural landscape surveys since the early 1970s and listed numerous properties on the National Register of Historic Places. The most recent examination of architectural and historical resources, a two-phase comprehensive survey conducted in 1992-94, was commissioned by the Harvard Historical Commission and funded by a Survey and Planning Grant from the Massachusetts Historical Commission (MHC). The comprehensive survey documentation includes approximately 251 site-specific inventory forms, seven area forms and three archaeology area forms.

Harvard has six historic districts listed on the National Register: Fruitlands Museums Historic District, Harvard Center Historic District, Harvard Common Historic District, Harvard Shaker Village Historic District, the South Stone Barn Foundation and Fort Devens Historic District. Two of the six districts are also local historic districts under M.G.L. c.40C: Harvard Common Historic District and Harvard Shaker Village Historic District.<sup>31</sup> The Fort Devens Historic District, including Vicksburg Square and Roger's Field parade ground, is overseen by the Devens Enterprise Commission (DEC), which has the regulatory authority to review all proposed changes or alterations to existing buildings and any plans for new construction in the district.<sup>32</sup>

Only three properties in Harvard are individually listed on the National Register: the Still River Baptist Church at 213 Still River Road in Still River Village (Harvard Historical Society), the Frederick Fiske and Gretchen Osgood Warren House (the "Fiske Warren" House) at 42 Bolton Road, and Fruitlands Museum at the Fruitlands Museums site, 102 Prospect Hill Road.

### *Harvard Center Historic District*

The Harvard Center Historic District, listed on the National Register in 1977, includes 115 contributing and 20 non-contributing buildings, three contributing sites, four contributing structures, two contributing objects and two non-contributing objects.<sup>33</sup> The National Register district includes the entire local historic district within its boundaries, along with adjacent properties located to the north, south and west.<sup>34</sup> The district includes significantly intact residential, civic and ecclesiastic buildings dating from the 18<sup>th</sup> through the 19<sup>th</sup> centuries. Its architectural richness is illustrated in a wide variety of architectural styles ranging from 18<sup>th</sup>-century Colonial, Federal-style buildings to 20<sup>th</sup>-century Craftsman bungalows.

### *Fruitlands Museums Historic District*

The 130-acre Fruitlands Museums Historic District, located at 102 Prospect Hill Road, includes four separate museums — Fruitlands, the Shaker Museum, the Indian Museum and the Picture Museum

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31. Massachusetts Historical Commission (MHC), *State Register of Historic Places* (2000), 137-138

32. *Devens Reuse Plan* (1994), 36.

33. Harvard Center Historic District National Register of Historic Places Nomination (1995).

34. Note: the local historic district was established in 1975.

— and seven ancillary buildings. Developed by Clara Endicott Sears between 1910 and her death in 1960, Fruitlands stretches west from Prospect Hill Road to the Boston and Maine Railroad right-of-way and the Oxbow National Wildlife Refuge. The centerpiece of the Fruitlands Museums complex is “Fruitlands,” the 19<sup>th</sup>-century home of Amos Bronson Alcott, an early Transcendentalist who established a communal residence of like-minded contemporaries in the 1840s at the house. Fruitlands, listed separately from the Fruitlands Museums Historic District, is both a Massachusetts Historical Landmark and a National Historic Landmark. Landmark status attests to Fruitlands’ historic significance on both a statewide and national level.



View from Fruitlands.

### *Still River Village/Prospect Hill*

The oldest village in Harvard, Still River rests on a ridge overlooking the Nashua River Valley. Predating the town’s incorporation in 1732, Still River is a substantially unaltered collection of buildings dating from the 17<sup>th</sup> to the 20<sup>th</sup> centuries. The approximately 100-acre village area is representative of one of the New England’s oldest historic settlement patterns: a linear string of buildings along what is now Still River Road. Historically, Still River developed along two important transportation routes, Still River Road from the Harvard Common toward Bolton, and Depot Road from Still River to Lancaster.<sup>35</sup> Still River and its surrounding landscapes and agricultural land are significant resources that warrant protection. However, there are no mechanisms in place such as deed restrictions or a local historic district to protect the village’s architectural integrity and rural setting.

### *Shaker Village*

The Shaker Village District, matching the boundaries of the local district, was listed on the National Register in 1989. Included in the district are 15 contributing buildings, 11 sites and 5 structures, and 9 non-contributing buildings. Shaker Village is significant as the location of a utopian religious community that thrived in Harvard from late 18<sup>th</sup> century to the early 20<sup>th</sup> century. The Shakers created an outstanding farming community, remnants of which survive in the Church family and South family architecture, a cemetery, the outdoor dancing ground, waterworks and extensive stone work, all designed and built by the Shakers themselves. The town of Harvard owns Holy Hill of Zion, the Shaker Cemetery, and the Herb Drying Shed.

### *Distinctive landscapes*

Working orchards and farms are part of the intrinsic character of Harvard’s landscape. They are also valued local industries and prominent features in the natural environment. The Massachusetts Scenic Landscape Inventory classifies a number of these orchards as “distinctive.” It also recognizes the

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35. Claire Dempsey, *Comprehensive Inventory of Historic Resources of Harvard*, on file at Harvard Public Library.

views from Prospect Hill to Mount Monadnock, Pack Monadnock and Mount Wachusett as scenic landscapes that merit protection.

## Natural Resources

Few issues ignite a more protective response from Harvard people than water. Harvard's water resources are diverse, plentiful and clean. They include a major river, lakes and ponds, streams, wetlands, vernal pools and aquifers. Except for a very small water supply that serves the Town Center, Harvard does not have a public water or sewer system. Residents rely on private wells for their drinking water and individual on-site septic systems for wastewater disposal. As a result, Harvard must be vigilant about groundwater contamination risks and for many years, the town has taken these concerns seriously. In addition to the obvious public health implications of maintaining clean water, townspeople also value the scenic, wildlife habitat and recreational significance of their wetland and water resources.

### *Nashua River-ACEC*

The Nashua River, a Class B waterway and a state-designated Scenic River, forms Harvard's western boundary. It is a regionally significant resource that flows northward from neighboring Lancaster to Nashua, N.H., where it converges with the Merrimack River.<sup>36</sup> Most of Harvard is contained within the Nashua River's 538-square mile watershed basin. Several of the town's streams and water bodies are tributary to the River, including Bowers Brook and Bare Hill Pond, along with Grove Pond and various brooks that drain the Devens portion of the watershed. Owing to years of political action region-wide, regulatory enforcement and clean-up measures, the Nashua River has progressed from a highly polluted waterway to a clean, usable resource for recreational boating and fishing. Six years ago, DEM designated 12,900 acres in North-Central Massachusetts as the Central Nashua River Valley Area of Critical Environmental Concern (ACEC). The ACEC includes 1,850 acres of Harvard, incorporating the Still River, the Oxbow National Wildlife Refuge and the Bolton Flats Wildlife Management Area.<sup>37</sup> Before DEM brought the Nashua River under the protective arm of the ACEC Program, Harvard voters established a 300-foot buffer zone along the Nashua River, effectively limiting allowable land uses to passive recreation and open space (1994).

### *Bare Hill Pond*

Undeniably, one of Harvard's most important natural features is Bare Hill Pond, a 321-acre water body located southwest of the common. Categorized as a "Great Pond," or a pond larger than 10 acres in its natural state, Bare Hill Pond is a local treasure of environmental and recreational significance to the town. The average depth of Bare Hill Pond is 10 feet, although within the original 200-acre perimeter, its basin descends to an average depth of 13 feet. Approaching the Town Beach, Bare Hill Pond forms an expanse of shallow flats. It is a rich, diverse resource area that supports boating, swimming, bird watching and hiking, and provides a ready-made outdoor science laboratory for high school students.

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36. U.S. Army Corps of Engineers, *Final Environmental Impact Statement: Fort Devens Disposal and Reuse*, Vol. I (May 1995), 4-107.

37. See Town of Harvard, *Open Space and Recreation Plan* (1996) 4-23; Commonwealth of Massachusetts, Department of Environmental Management, "Areas of Critical Environmental Concern: Central Nashua River Valley," <<http://www.state.ma.us/dem/programs/acec/acecs.htm>> (2 January 2002).

Despite the pond's beauty, it is not without risk. Bare Hill Pond is Section 303(d)-listed for Nuisance Aquatic Plants and the suspected cause of its declining water quality is phosphorous.<sup>38</sup> Aquatic weed growth, sedimentation, infestations of the highly invasive water chestnut, and levels of both bacterial and plant nutrients rank among the concerns that Harvard residents have about the quality and health of Bare Hill Pond.<sup>39</sup> Many homes around the pond are former seasonal cottages converted for year-round occupancy. Wastewater discharges and storm water run-off generated by conversions and new development elsewhere in the watershed rank high on the list of suspected nutrient sources.

Other factors have contributed to the proliferation of aquatic plants at Bare Hill Pond, however, including historical ones: the pond's expansion after 1838, which helped to establish shallow areas that favor weed growth, and possibly, erosion from farms that once occupied land nearby. A number of studies have been conducted in order to track water quality at Bare Hill Pond, identify causes of excess nutrient loading and promote solutions. The most recent analysis, carried out by state authorities (1999), calls for a 34% reduction in phosphorous loading to be accomplished by public education, land use controls, Title V and wetlands law enforcement, "best management practices" or BMP's in farming, road maintenance and drainage design throughout the pond's watershed. The report also reinforces recommendations of earlier studies, including weed harvesting and selective dredging.<sup>40</sup> It stopped short of reaching definitive conclusions about the causes of excess nutrient loading at Bare Hill Pond, however, urging instead a non-point source survey to gather additional data.

Harvard has made a considerable investment of time and money in studying, analyzing and problem solving about conditions at Bare Hill Pond. In 1983, voters banned the use of chemicals to combat aquatic weed growth at the pond, choosing instead to purchase and operate a mechanical weed harvester. Since then, Harvard has tried to reduce water chestnut growth at Bare Hill Pond by deploying the harvester and assembling volunteers to pull plants by hand from their canoes. Two years ago, Harvard's Bare Hill Pond Watershed Management Committee explored the feasibility of drawing down the pond in order to combat invasive plants by exposing their roots to winter weather. When environmental permits and construction proved to be cost-prohibitive, the committee abandoned the plan for a pumped drawdown and began to investigate other alternatives.<sup>41</sup>

The Conservation Commission and Harvard Conservation Trust own or control a great deal of land in the watershed, and for many years the Bare Hill Pond Watershed Committee has worked closely with the Board of Health to monitor water quality. The Bare Hill Pond Watershed Committee is also active in the University of Massachusetts "Water Watch Partnership," an organization that provides technical assistance to local volunteers who monitor water quality. For Harvard, managing Bare Hill Pond is a community endeavor that depends almost entirely on the knowledge, motivation and labor of local residents.

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38. Division of Watershed Management, Massachusetts Department of Environmental Protection, *Bare Hill Pond TMDL Report*, MA 81007-1999-001 (July 1999), 7.

39. Town of Harvard, *Open Space and Recreation Plan* (1996), 4-13 to 4-23 *passim*.

40. Bare Hill Pond TMDL Report, 12. See also, Whitman and Howard, Inc., *Diagnostic Feasibility Study of Bare Hill Pond* (1987).

41. Bare Hill Pond Watershed Management Committee, *Harvard Annual Town Report* (2000), 68.

### *Lakes, ponds, streams and wetlands*

An extensive and intricate system of wetland and water resources constitutes about 1,560 acres of Harvard's total area. An additional 260 acres fall within the buffer zone of rivers and perennial streams as defined by the Massachusetts Rivers Protection Act.<sup>42</sup> Streams, ponds, bordering vegetated wetland areas and floodplains act variously as agents of wildlife habitat, aquifer recharge, flood storage and water purification. They also provide enormous scenic value, such as the view from Still River Village to the Nashua River Valley. Harvard's principal wetland-water resource communities are located along the Nashua River, the Delaney/Elizabeth Brook area, Bowers Brook, Bennett's Brook in the vicinity of Shaker Village, a network of streams, forested wetlands and floodplain corridors at Devens, Bowers Spring, Black Pond, and Horse Meadows.

The town's long-standing consciousness of wetland resource areas is evident in several regulatory, policy and civic actions. For example, Harvard is among the first towns in Massachusetts to establish a Conservation Commission (1962). Voters agreed to supplement the Conservation Commission's powers under M.G.L. c.131, Section 40 with a local wetlands bylaw and regulations in 1987. The Harvard Zoning Bylaw provides for wetlands and watershed protection by restricting or prohibiting new construction in designated areas with a combined total of some 1,800 acres. In addition, Harvard's open space plans have urged the town to acquire conservation land that would permanently protect wetlands.

### *Aquifers*

Most of Harvard is underlain by shallow, moderately permeable, low-yield aquifers. Residents draw water from the aquifers through private wells because except for the Town Center area, Harvard has no public water system. Two public wells on Pond Road serve the Town Center's homes, public institutions and small businesses, meeting a combined average demand of 0.02 million gallons per day (mgd).<sup>43</sup> In the absence of a public water supply and distribution system, there is no state-mandated procedure for periodically monitoring drinking water quality, but Harvard has tested a number of private wells throughout the town. Save for isolated instances of naturally occurring arsenic and radon, groundwater quality in Harvard is generally quite good.

An area of approximately 390 acres in northwest Harvard, mainly along the eastern edge of Devens, contains a system of much deeper aquifers with more permeability and much higher transmissivity rates than the shallow aquifers found elsewhere in town. The medium- to high-yield aquifers beneath Devens provide drinking water to the Devens complex and the town of Shirley, and also to the town of Ayer as a backup supply. Harvard has never tapped these relatively abundant, high-quality aquifers despite the fact that they lie mainly within its corporate limits. Except for elevated sodium levels, the groundwater of northwest Harvard reportedly meets or exceeds state and federal drinking water standards. Virtually all of the land above the aquifers falls under the DEC's jurisdiction. The Devens Zoning Bylaw includes special regulations for a comprehensive Water Resources Protection District that incorporates public water supply Zone I-II areas, aquifers that lie outside Zone II boundaries, and other watershed acreage.

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42. Data derived from Geographic Information System (GIS) files obtained from MassGIS, ENSR and Montachusett Regional Planning Commission (MRPC).

43. ENSR, *Communities Connected by Water* (2001), 2-8; Harvard Water Department, *Public Water Supply Annual Statistical Report: 2000*, 2-3.

Maintaining water quality and protecting groundwater have been high priority issues in Harvard for many years. The *Comprehensive Plan* (1960), the *Harvard Town Plan* (1988) and the most recently completed *Open Space and Recreation Plan* (1996) all speak to the environmental management challenges posed by low-density development that is served by on-site, private septic systems. The *Town Plan* cautioned that groundwater contamination from road salt, buried underground storage tanks with aggregate capacity of 180,000 gallons of fuel, fertilizers, pesticides, herbicides, and household chemicals was potentially a serious environmental threat to the community. Town officials report that since 1991, however, approximately 156 underground storage tanks (containing approximately 156,000 gallons of fuel) have been removed. The Massachusetts Department of Environmental Protection (DEP) is currently monitoring three sites with underground storage tanks. With the exception of the Concord Oil site on Depot Road, leakage from fuel and chemical storage tanks has not become a significant issue in Residential Harvard, but over 40 hazardous waste sites at Fort Devens have required costly clean-up by the Army pursuant to base closure and disposition agreements with the Massachusetts Development Finance Agency (MDFA). Other sites have yet to be remediated.<sup>44</sup>

### *Vegetation characteristics*

Scenic landscapes, orchards, wetlands and water bodies contribute immeasurably to Harvard's town character, but no inventory of natural resources would be complete without acknowledging that over half the town's total area is forested. Since 1971, new development in Harvard has consumed eight times more forested land than farms. Much like the town's water resources, its forest habitats are neither homogenous nor insignificant. They range from the riverine forest, such as that found along the Nashua River, to wooded swamps and wet, hillside and upland forests. Several species of oak dominate the mix of deciduous trees in Harvard's forests today, including a small community of swamp white oak in the Nashua River Valley. In addition, American beech, elm and linden trees, red maple, varieties of birch and hickory, and poplars grow on Harvard soil, along with white and pitch pine, and Canadian hemlock.<sup>45</sup> A number of uncommon plants have been inventoried in Harvard, as have species classified as endangered, threatened or of special concern. They are summarized in Appendix C.

## Open Space & Recreation

Harvard's record of achievement in open space protection ranks among the top in the Commonwealth. Few communities equal Harvard for its percentage of permanently protected land or consistent efforts to acquire open space despite rapidly escalating land costs. A number of conditions favorable to preserving the rural, open character of Harvard have helped to advance the goals of past and present open space plans, yet sometimes, the town's own policies unwittingly frustrate the attainment of these goals -- policies such as a large minimum lot requirement and dimensional regulations that discourage compact development.

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44. U.S. Environmental Protection Agency (EPA), Office of Remedial and Emergency Response, "Superfund Case Studies: Fort Devens, MA," < <http://www.epa.gov/superfund/programs/recycle/casestud/devecsi.htm> > (18 November 2001).

45. Town of Harvard, *Open Space Plan* (1996), 4-23 to 4-24, citing D. M. Andrews, *A Flora of Harvard, Massachusetts*, D. Hunt and K. Searcy.

Like most open space plans, Harvard's have traditionally differentiated land protected in perpetuity from undeveloped land that lacks permanent use restrictions. The open space inventory presented in Appendix D reflects the same distinctions. It includes 46% of all land in Harvard, including open space at Devens, and shows that about 21% of the town is permanently protected from development. Since 1995 when Harvard's last *Open Space and Recreation Plan* was written, 545 acres of land have been acquired for conservation purposes or otherwise restricted to open space use.

The *Harvard Town Plan* (1988) challenged residents to aim for an ambitious goal: to double the amount of town-owned conservation land to 20% within ten years. At the time, the Harvard Conservation Commission owned or controlled about 9% of the town's land area, excluding Fort Devens. Naturally, both the *Town Plan* and the 1979 *Open Space Plan* adopted Residential Harvard as their geographic frame of reference. By the time Harvard updated its *Open Space Plan* in 1995, however, the closure of Fort Devens was imminent, the *Devens Reuse Plan* had been approved, and MassDevelopment (formerly Massachusetts Government Land Bank) was within months of assuming responsibility for managing and redeveloping the abandoned Army base. Although the ultimate disposition of Devens remains unclear, to consider open space needs in Harvard today without accounting for resources, assets and liabilities at Devens would be very short-sighted.

## Protected Open Space

### *Local initiative*

Harvard began to acquire conservation land long before the town produced its first open space plan. Acquisitions, gifts, tax title takings, land swaps and other means of securing conservation land have been pursued in Harvard since at least 1962. Some of the major conservation holdings in Harvard include:

- Bowers Springs-Bare Hill Wildlife Sanctuary, an 88-acre tract of woodlands, orchard, wetlands and fields, along with an extensive walking trail system. The Sanctuary (44 acres) was given to the town in 1963 while the Bower Springs portion was acquired by Harvard as part of a larger conservation effort carried out with the town of Bolton.
- The Sprague Land, which extends southwest from Bare Hill Pond to access points on West Bare Hill Road and Still River Road. A good example of Harvard's determined effort to connect its conservation sites, the 171-acre Sprague Land consists of two separate acquisitions: the first in 1981, supplemented by 63 acres that Harvard purchased in 1998.
- Prospect Hill, a 61-acre tract given to the town in 1971. The Prospect Hill conservation land provides magnificent views to the mountains near Route 202 in southern New Hampshire. The trail system at Prospect Hill leads to Depot Road, where both the Ryan Land soccer fields and the transfer station are located, and in turn, to Pin Hill, a 15-acre conservation area of geological significance.
- Holy Hill and adjacent conservation parcels, extending from South Shaker Road to Ann Lee Road and Shaker Road. Together, these parcels create a contiguous, 126-acre conservation area of historic and ecological significance. They also form the northernmost end of a conservation belt that runs almost to the Town Center. The belt includes the Kaufmann Land, the Town Forest, the Ohlin Land, the Hermann Orchard.
- Great Elms, a 60-acre tract of conservation land on Stow Road that began as the "Hayes Property" acquisition in 1985. Harvard financed the Hayes Property (originally 133 acres) by creating and selling seven house lots, i.e., as a limited development project. North of Great Elms is a 64-acre conservation area known as the Williams Land, which the Conservation Commission purchased in the 1980s. The Williams and Great Elms conservation areas meet at Murray Lane.

Map 2-D shows that Harvard's conservation holdings are located throughout the community, with no large concentration in any particular area. Individual parcels range in size from less than an acre to up to 69 acres. Today, the Harvard Conservation Commission manages 1,855 acres, 38.5% more land than the 1,339 acres tallied in the last master plan and slightly more than 10% of the town's entire land area. To promote public use and enjoyment of Harvard's sizeable investment in conservation land, the commission's holdings are identified by signage and illustrated in Harvard Trails, a guide published by the Harvard Conservation Trust (HCT). The town does not limit its acquisitions to targeted sites, but Harvard would like to enhance its current conservation land portfolio by protecting more watershed land, acquiring parcels with linkage value and establishing more trail connections. Since a considerable amount of land is under Chapter 61-61A agreements, the town is well positioned to acquire sites that are significant both in their own right and for their linkage value.

Harvard's open space accomplishments have been made possible not only by town meeting's willingness to acquire land, but also by efforts of its local land trust, HCT. Incorporated in 1973, HCT has worked closely with the Conservation Commission and other agencies to protect significant areas and preserve the town's rural character. Since HCT operates independently of local government, it can respond quickly to land acquisition and disposition opportunities. In several instances, HCT has purchased land that it later sold to the town. HCT currently owns more than 100 acres of land in fee and has a controlling interest in other sites through conservation restrictions.

A conservation restriction (CR) is a deed restriction that helps to keep privately owned open space in a natural, open or scenic condition. Similarly, an Agricultural Preservation Restriction (APR) occurs when a government agency or private, non-profit organization acquires an interest in farmland for the purpose of protecting its agricultural use. In Harvard, these types of development restrictions permanently protect several parcels of open space with a combined total of 290 acres. While the town holds most of them, HCT and the New England Forestry Foundation also hold several CR's. Only two CR/APR-protected parcels are designated for public trail use. The remaining ones offer limited access, e.g., apple orchards with pick-your-own service, or no public access.

#### *Open space owned by federal and state agencies*

More than 1,500 acres of conservation land in Harvard are owned by state or federal agencies. State-owned land accounts for 346.45 acres, contained primarily within the Bolton Flats and Delaney Wildlife Management Area. In addition, the U.S. Fish and Wildlife Service owns 1,189 acres known as the Oxbow National Wildlife Refuge. All three areas have regional open space and environmental significance.

- Delaney Wildlife Management Area is comprised of 580 acres in Harvard, Bolton, Stow and Boxborough. It contains extensive wildlife and recreational resources and also serves as a flood control area for the Assabet Brook.
- The Bolton Flats Wildlife Management Area extends from Harvard into Bolton and Lancaster along the Nashua River and is managed by the Department of Fisheries, Wildlife and Environmental Law Enforcement (DFWELE). It consists of agricultural and undeveloped areas.
- Oxbow National Wildlife Refuge consists primarily of woodlands, marsh and oxbows of the Nashua River. Oxbow has been expanded at least twice in the past decade – once when land at Fort Devens was transferred to DFW by the Army while the base closure process was underway, and more recently by the acquisition of Watts Farm at Still River. The Watts Farm project involved a complex collaboration between the town, HCT and the Trust for Public Land. The 110-acre former dairy farm was offered to the town several years ago under the right of first refusal clause of Chapter 61A.

## Temporarily Protected Open Space

Approximately 24% of Harvard's total area remains undeveloped. Of the 4,239 acres of vacant land in Harvard today, nearly 70% qualify as "temporarily protected open space," or land protected from development under a revocable arrangement set forth in state laws that encourage the preservation of forestry, agricultural and recreation land, or M.G.L. c. 61, 61-A and 61-B respectively. These laws provide tax incentives that encourage eligible property owners to maintain their land as open space. (The remaining vacant land is both privately owned and unprotected by any means, although about 52% of it has development limitations, e.g., wetlands, steep slopes or poorly drained soils.)

Harvard's inventory of Chapter 61, 61-A and 61-B land is impressive compared to many communities. It includes 1,370 acres under Chapter 61 agreements, 1,386 acres under Chapter 61-A agreements and 171 acres under Chapter 61-B agreements with the town's board of assessors. In exchange for a differential property tax assessment, owners grant a right of first refusal to the town if they decide to sell their property for development. While it is significant that nearly 17% of Harvard's total area remains in farming and forest use, the town has lost some open space to development since the last master plan was written. In 1988, 23% of all land in Harvard was under Chapter 61 or 61-A agreements, nearly 4,000 acres. The town has acquired more land since then, and some of what now qualifies as permanently protected land was once temporarily protected by Chapter 61. The combined increase in conservation land and parcels protected by CR's or APR's translates into a 680-acre gain in permanently protected open space, but the loss of forest and farmland is 1,221 acres – mainly forests. These statistics underscore that protection by means of Chapter 61 agreements is temporary, and it cannot be relied upon to save a community's special places from development.

## Unrestricted Open Space

### *Institutional holdings*

Some of Harvard's most striking open space features are completely unprotected. This means they could be sold and developed at any time, although in nearly all cases the unrestricted open space in Harvard seems very low-risk for change. About 346 acres of significant institutional land have some degree of development potential because there are no deed restrictions in place to protect them. Among them:

- Fruitlands Museum, a private, non-profit museum with four buildings and several outdoor sites. Fruitlands Museum occupies more than 200 acres of land, most of which is wooded. Its panoramic views over the Nashua River Valley are a critical scenic and environmental resource.
- Approximately 40 acres of magnificent land in Still River, owned by the Saint Benedict Center and the Slaves of the Immaculate Heart of Mary.
- Harvard University's Oak Hill Observatory, a 37-acre site on Pinnacle Road.
- Camp properties owned by the Boy Scouts and the Worcester Girl Scout Council, totaling 61 acres adjacent to Bare Hill Pond.

### *Municipal holdings*

Town, school and other municipal holdings have not increased significantly since the last master plan was written. About two years ago, Harvard acquired land for the new Public Safety Building that is under construction on Ayer Road, and previously the town also accepted gifts of land on Stow and Lancaster County Roads. For the most part, the inventory of non-conservation land consists of public greenspace, active recreation areas and school or community facilities with a combined total

of 224 acres of land. Approximately 41% of Harvard’s municipal and school property is located in or immediately adjacent to the Town Center. Major sites include:

- School buildings and associated land on Fairbanks Street and Massachusetts Avenue: 58 acres.
- Seventy-eight acres managed by the Park and Recreation Department, mainly for active recreation facilities – e.g., playing fields and the Town Beach.
- A collection of small holdings in Harvard Center, e.g., the Hildreth House and associated grounds (about seven acres), the four-acre Town Commons, the Public Library and the Center Cemetery.

### Outdoor Recreation

A number of recreational resources for youth, and a more limited set of opportunities for adults and seniors, are available in Harvard.<sup>46</sup> Much like the public-private collaboration that has helped to protect Harvard’s open space, outdoor recreation activities are made possible by a partnership between town government and a local non-profit organization. The Park & Recreation Commission oversees recreation facility management and, assisted by a full-time groundskeeper, holds primary responsibility for maintaining outdoor fields and trails. The recreation facilities managed by the Park & Recreation Commission are summarized in Table 2-16. The Harvard Athletic Association (HAA), a non-profit group, was founded 20 years ago to organize and operate recreational programs, mainly for youth. Today, the HAA plays a large role in Harvard recreation and has primary responsibility for coordinating and managing the community’s sports leagues.

**Table 2-16: Outdoor Recreation Areas**

| Facility/Location           | Facility<br>Acres<br>(Approx.) | Number & Type of Facilities   |
|-----------------------------|--------------------------------|---|
| Depot Road Playing Fields   | 6                              | 2 soccer fields, 2 Little League fields   |
| Ann Less Road Playing Field | 2                              | 1 soccer field, 1 neighborhood softball field   |
| Harvard Public Schools      | 8                              | 2 softball fields, 1 baseball field, 3 soccer fields, 4 tennis courts, basketball court, fitness course |
| Town Commons                | 3                              | Used for community gatherings & events  |
| Hildreth House              | 7                              | Used for small gatherings & events  |
| Town Beach                  | 11                             | Boat ramp, canoe racks, moorings, picnic tables, swimming area, beach house with changing rooms         |

Source: Harvard *Open Space & Recreation Plan* (1995). Table omits facilities that are presently being developed on Lancaster County Road. “Town Beach” at 11 acres refers specifically to the beach and associated recreation facilities.

46. Steven Frost, Harvard Athletic Association, and Jim Lee, Harvard Park and Recreation Commission, interviewed by Rahul J. Young, 8-11 February 2002.

### *Youth soccer*

Soccer is Harvard's most popular youth athletic activity, followed by baseball and softball and basketball. The HAA currently organizes a number of youth soccer leagues in town. Approximately 600 youth participate in these leagues annually, making soccer by far the largest sport in Harvard. Available field space is being used to and beyond capacity throughout the soccer season. Two new fields are currently in development: the Charlie Waite Field and the Harvard Park/McCurdy Field, both off Lancaster County Road. Once completed, they are expected to meet the near-term needs of the town's soccer program. Harvard's Park and Recreation Department is currently raising funds to develop the McCurdy Field with a multi-purpose track and a soccer field, playground, and walking and cross-country trails.

### *Youth basketball*

Approximately 200 youth participate in the basketball leagues organized by the HAA. There are two gyms available for basketball use in Harvard, one in the elementary school and one in the high school. An outdoor basketball court at Bromfield School will be destroyed as part of the school renovations/expansion project. Significant demand exists for youth basketball practice time that is not being met due to the shortage of courts. In addition, the existing courts have very limited capacity for spectator seating. Basketball facilities are also available at Devens, and HAA leagues occasionally use them. However, since access to Devens is limited and inconvenient, this option is rarely used. Harvard has no plans to build more court facilities to meet the player and spectator demand because of land and budget constraints.

### *Youth baseball/softball*

Approximately 250 youth participate in baseball and softball leagues organized by the HAA. The town's fields are used to maximum capacity during baseball season, but they seem adequate to meet current demand. The Park & Recreation Commission has tentatively penciled in two pieces of land owned by the town on Depot Road as future baseball field space if league demand increases.

### *Tennis*

Although local residents have expressed interest in an organized tennis program, HAA reports that it has not been able to create one because of the deteriorating condition of the existing public tennis courts. The courts next to Bromfield School are marginally usable. Replacement courts were included in the original scope of work for the Bromfield School expansion project, but the town had to eliminate them from the construction contract award because there was not enough money to pay for all of the additional items that Harvard hoped to accomplish. If the project comes in under budget, Harvard may try to build new tennis courts with the remaining funds.

### *Bare Hill Pond*

The 321-acre Bare Hill Pond is visible from Town Center and provides many recreational opportunities for youth and adults. The Pond is actively used for recreation year-round, with its peak activity occurring during the summer months. The Town Beach property includes 18 acres of land along Pond Road, much of it wooded or wetlands. Amenities include a bicycle path connecting the beach to the playing fields, a boat launching ramp, canoe racks, boat moorings, picnic tables, a playground, a roped-off swimming area, and a public building with changing rooms. Youth swimming programs are run by the town in the summer, and are also available to adults by appointment. There are sailing and canoeing opportunities on Bare Hill Pond as well.

The playground at the Town Beach consists of two infant and child swings, a volleyball net, a horse shoe pit, and a play structure with a slide, pole and rope ladder. There is also a basketball backboard

and hoop, but no paved area. The playground receives only seasonal use because it is relatively isolated, and there is no fencing to separate the play area from the pond.

### *Adult and senior recreation*

Adults in Harvard have access to a more limited repertoire of recreation programs. There is an adult basketball league, organized through HAA, with about 30 participants in the winter. There are also informal pickup softball games on spring and summer weekends, as well as pickup ultimate frisbee games year-round. The HAA has a Road Race Committee that organizes running events in town. In addition, the Harvard Public Schools offer an extensive Adult Education program. Evening courses ranging from foreign languages to the arts, along with recreation activities and trips to regional cultural and tourism facilities, are offered throughout the school year at Harvard Elementary School and the Bromfield School.

### *Trails*

Harvard has an extensive network of public trails, some on publicly owned land and others traversing on private land, some with easements and others with informal trail crossings. In 1973, the Harvard Conservation Trust published a trail guide entitled Harvard Trails, now in its sixth edition. These trails are on Harvard's conservation lands and are used by hikers, cross-country skiers, the Harvard Snowmobile Club and horseback riders. Some of these trails represent collaboration with adjoining communities. The Bowers Spring-Bare Hill Wildlife Sanctuary, a joint project with neighboring Bolton, provides trails that cross town boundaries.

### *Bicycle paths*

Harvard does not have designated bikeways, but the Park & Recreation Commission has had preliminary discussions about creating an open access bicycle path through town, potentially providing access into Devens. If the project moves forward, it would attempt to tie into a regional bicycle path network that connects to the state of New Hampshire.

### *Ice skating*

In addition to Harvard's ponds, the outdoor basketball court at Bromfield School doubles as an ice-skating rink in the winter. Residents enjoy skating here in part for safety reasons, but also because the court's outdoor lighting makes it possible for adults and families to skate at night.

### *Activities at the Town Common*

The Town Common is used throughout the year for community events and as an informal gathering place. It is also a favorite spot for winter sledding. Harvard's Park & Recreation Commission coordinates the annual Apple Blossom Festival, the Three Apples Storytelling Festival, parades on Memorial Day and the Fourth of July, a Christmas tree lighting ceremony and a sled rally – all events that take place at the Town Common.

### *Devens*

Devens has a number of recreation facilities, yet lack of direct roadway access makes them of limited use to Harvard residents. The facilities include:

- Rogers Field, the 44-acre training green by Vicksburg Square.

- Willard Park on Sherman Avenue by the Verbeck Gate, with one multi-use field, three softball fields.
- Devens Tennis Courts on Queenstown Road: four tennis courts, two handball courts and one outdoor basketball court.
- The Sports Arena on Grant Avenue, including an 18,000 ft<sup>2</sup> gymnasium.
- Mirror Lake (Hell Pond): swimming, canoes and kayaks (no motorized craft).
- Red Tail Golf Course, an 18-hole golf course facility that opened this year.

The Harvard Teen Center occupies the former American Red Cross station that served Fort Devens military personnel. The Teen Center holds regular hours on Friday and Saturday evenings and is run primarily by volunteers.

## Community Facilities & Services

Harvard's inventory of community facilities consists of several historically significant town buildings, a modern school complex, a small complement of public works structures, a new public safety building and two fire stations, a small public water system, and parks and cemeteries. The most significant community facility in Harvard is the Town Center, which hosts nearly all town buildings and services and supplies the setting for large public events. Map 2-E illustrates the Town Center's multi-purpose character and identifies the public and private institutions located there today.

Although local government in Harvard has a small corps of full- and part-time employees, the organization is quite large because it involves scores of volunteers. Owing to both tradition and necessity, many town services and functions depend on community-minded residents: elected and appointed officials, call firefighters and emergency medical technicians, and citizens who run the recycling center, coach youth sports, volunteer in the schools or at the senior center, clear the weeds from Bare Hill Pond, and organize public celebrations and parades. The breadth of citizen participation is both remarkable and a valued aspect of living in Harvard.

### Town Buildings

#### *Town Hall*

All local government administrative offices are located in Harvard's historic Town Hall, a distinguished building that overlooks the Town Common. The Town Hall currently houses 10 full-time employees, along with emergency dispatchers and police department personnel who work in the Police Station at the rear of the building. The services most frequently used by residents are situated on the first floor, e.g., the Town Clerk, Tax Collector and Assessor, along with a central mailroom, copy center, storage area and employee restrooms. The Town Administrator, staff of the Planning, Health and Appeals Boards and the Conservation Commission, the Selectmen's Office and meeting room are located upstairs. At present staffing levels, Town Hall departments appear to have adequate space for their day-to-day operations. However, a shortage of meeting space means that often, town committees must rely on the Hildreth House, the Library's Hapgood Room or the schools to conduct public business. Town staff report that Harvard may convert the Police Station (approximately 906 ft<sup>2</sup>) to two meeting rooms when the police and dispatchers relocate to the new Public Safety Building later this year, though no formal plans exist to accomplish that end. The building is partially accessible to persons with disabilities.

### *Public Works*

The Department of Public Works (DPW) performs a number of functions in Harvard. DPW workers maintain the town's roads, recreation fields, cemeteries, buildings and grounds, manage the transfer station, and operate the small public water system that serves Town Center residents. While carrying out its responsibilities, the DPW regularly uses several municipal buildings: the Highway Department Barn, the Highway Department Pole Shed, the Salt Shed, the Transfer Station, three water-pumping stations, and the Bellevue Cemetery and Main Cemetery Tool Houses.

The DPW is the largest of all town departments in Harvard. It employs 13 full-time, two part-time and three to five seasonal workers. Two of its full-time employees, the Director and Office Manager, work primarily out of the DPW office at the Highway Department Barn on Depot Road while the rest of the employees are field personnel. The DPW's office space consists of one small room in the Highway Barn, which was built in 1930 and renovated in the early 1980s. The DPW Director reports that providing a separate room for the Office Manager's work area and file storage would benefit his department, but currently there are no plans to address this need. The Highway Barn is generally adequate for DPW operations. The highway and cemetery tool sheds are also adequate for their intended purposes, but the tool shed at Bellevue Cemetery lacks restrooms for employees and visitors. The DPW Director reports that Harvard's two cemeteries have sufficient capacity to meet the town's need for cemetery space in the foreseeable future. The Salt Shed serves as a storage area for salt and sand. During inclement winter weather, the Highway Department applies a 4:1 sand-to-salt mixture on Harvard roadways to increase driving safety. The shed has storage capacity for 245 tons of salt, or seven 35-ton "loads." One load of salt is necessary to salt the town's roadways, but a more severe 4-8 inch snowstorm can require two full loads of salt.

The Transfer Station on Depot Road was built in 1983-84 to meet Harvard's long-term solid waste disposal needs. It replaced the town's former landfill, which ceased operations in the fall of 1984. The Transfer Station consists of a number of trash storage bins, as well as material balers, recycling bins, and an equipment control room in which one person runs the compactor and disposal operation. Harvard solid waste facilities are adequate for its present and anticipated future population: at 966 tons of compactor capacity per six-hour period of operations, the Transfer Station will be able to meet Harvard's needs indefinitely. The DPW Director reports that in the near future, though, the town will need additional recycling baler machinery and a suitable roof to protect the equipment from snow and rain.

The physical capacity of the Transfer Station is far less problematic than the cost to operate it. The Transfer Station is open to Harvard residents who purchase a sticker at Town Hall. Revenue from sticker sales becomes part of the town's general fund and helps to defray the cost of staff and hauling charges. In Harvard, sticker revenue has consistently fallen short of the amount appropriated by town meeting each year to run the Transfer Station. As a result, the facility is not self-supporting. This year, the Board of Selectmen doubled the fee for a Transfer Station sticker to \$180. Fee-setting techniques, including the increasingly popular "Pay-As-You-Throw" programs, along with enforcement of sticker regulations and recycling, are the methods commonly used by communities that seek to reduce their solid waste costs. Some communities do not provide any solid waste services, an arrangement that effectively forces residents to contract with a private trash collection company. Although Harvard staffs the compactor and disposal operation at the Transfer Station, community volunteers man the recycling facilities. The town finds it difficult to secure enough volunteers for this purpose, however. Periodically, the town also sponsors hazardous waste clean-up days.

### *Public Safety*

Four structures house Harvard's essential public safety functions: the Central and Still River Fire Stations, the Police Station at the rear of Town Hall, and the Ambulance Building. By the end of

2002, the Police and Ambulance Departments will be moving into a new Public Safety Building north of Town Hall on Ayer Road.

The Central Fire Station, located behind Town Hall, holds the Chief's office, a dispatch room, a small kitchenette, a meeting room, a bunk room and three bays for fire trucks. The station on Still River Road holds bays for two or three trucks, but it has no other rooms. The lack of adequate storage space is acutely obvious at the Central Fire Station, where firefighters' gear and other equipment are piled in any available space, including the bunkroom showers. The Ambulance Building is slated to become a storage facility for the Fire Department after the Ambulance Department moves to the new Public Safety Building. Harvard's Fire Department consists of one full-time employee, the Fire Chief, an administrative assistant who works two half-days each week, and a roster of 23 "call" volunteers: persons not employed by the Fire Department, but who respond on an as-needed basis and are paid for their service.

### *Hildreth House*

The Hildreth House, c. 1902, was built as a private residence and is now owned by the town. Set on a knoll above Town Hall, the two-story Hildreth House retains the interior layout and the ambience of a single-family home. During the day, it serves as Harvard's Council on Aging (COA) headquarters. The COA runs programs for senior citizens about ten days per month, but relocates to a local church to offer athletic programs for 20-30 participants because the Hildreth House does not have enough space for these types of activities. The COA's one part-time staff member has an office on the second floor of the building. Harvard's elderly population consists of about 770 people. At any given time, 5-30 seniors participate in COA activities. Hildreth House is not fully accessible to persons with disabilities. The town recently received a grant to bring the first-floor restroom into compliance with the Americans with Disabilities Act.

At night, the Hildreth House provides meeting space for a number of town committees. Town staff estimate that on average, Hildreth House is occupied 80-90% of the week. Committees use available space on both floors of the building to conduct meetings.

### *Library*

The Harvard Public Library (1887) is one of the Town Center's signature buildings. It was expanded in 1904 by the addition of the Hapgood Room, and nearly 20 years ago the library was renovated and made partially accessible to persons with disabilities. Located at the corner of Fairbanks Street and Old Littleton Road, Harvard's library occupies a small parcel of land immediately adjacent to two private homes. As a result, there is no room for future expansion. The library provides resources for children and adults and has a fine local history room in the basement level of the building. Efficient use of space and careful management of print and other collections have made it possible for Harvard to maintain a high-quality library. However, the building is congested and lacks adequate parking.

In 1999, town meeting agreed to fund design plans for the conversion of Old Bromfield to a new, larger library facility. Having been placed on the waiting list last year for construction funds from the State Board of Library Commissioners, Harvard expects to borrow its \$2.6 million share of the Old Bromfield library project when the \$2.5 million state grant becomes available. Since the state's waiting list includes 36 communities and Harvard ranks 34 on the list, the project is unlikely to move forward soon.

### *Harvard Public Schools*

Harvard residents take enormous pride in their schools. Indeed, a high-quality school system ranks among the top reasons that people move to Harvard, so it comes as no surprise that 40% of the town's households have school-age children. Over half of Harvard's annual operating budget goes

toward education costs, and the vast majority of its debt service is attributable to school construction and renovation projects. Still, Harvard's per pupil education cost falls slightly below the average for the state as a whole.

Harvard operates a local K-12 school system, an arrangement that is somewhat unusual for a small town. Across the Commonwealth, 58% of all towns with populations below 7,500 have entered into regional school district agreements with one or more neighboring communities. The Harvard Public Schools employ approximately 83 teachers and provide regular and special education programs in two facilities: the elementary school for grades K-6, and a combined middle school-high school known as Bromfield School. In addition, Old Bromfield – the oldest of Harvard's school buildings, owned by a non-profit trust, houses several of the school department's art classrooms. Finally, the school department's administrative offices and adult education program are located in the Bromfield House. Together, the buildings and related facilities that make up the Harvard Public Schools occupy a 59-acre, campus-style setting in the southern end of Harvard Center.



Old Bromfield.

Harvard adopted the *Harvard Town Plan* on the eve of a major school construction project 14 years ago. At the time, Harvard Elementary School consisted of two buildings for grades K-4, the Bromfield School, a combined middle school and high school, and Old Bromfield. Groundbreaking for the expansion, renovations and modernization of both the elementary and middle-high school buildings and the construction of a new auditorium, authorized by town meeting the previous year, took place in the fall of 1988. Ironically, Harvard moved forward with another major school building project just as the present master plan process began in 2001. An addition to the Bromfield School, currently under construction, will culminate in a middle-high school complex large enough to house grades 6-12 and relieve pressure on Harvard Elementary School, which will then become a K-5 facility. The elementary school's present enrollment of 640 exceeds its operating capacity of 580 students. When the sixth grade transfers to Bromfield School in the fall of 2003, however, Harvard Elementary School is expected to have surplus space. The renovated Bromfield School will *also* have surplus space, for according to recent 10-year projections, grade 6-12 enrollments will remain comfortably below the building's 756-student planned operating capacity.

While these projections show that school capacity will remain adequate for the next decade given current trends, a number of variables could lead to accelerated growth of the school population. These include the potential of a large Chapter 40B project, increased residential development pressure from the growing number of workers at Devens, Cisco, and other I-495 office parks, and children living at Devens itself, where the first phase of the 282 housing units authorized by the *Devens Reuse Plan* is nearing completion. In order to meet requirements of the *Devens Reuse Plan* that it pay all education costs, MassDevelopment currently contracts with the town of Shirley to educate children living at Devens. Although Devens residents living in the town of Harvard pay fees to MassDevelopment in lieu of property taxes to the town of Harvard, these new homeowners legally reside in Harvard and may want their children in the Harvard Public Schools. Capacity at the Harvard Elementary School may be further pushed should the state require full-day kindergarten, not currently offered in Harvard. The Harvard Elementary School also has non-capacity related facility issues, most notably traffic safety and air quality concerns, which are particularly acute in the fifty-year-old kindergarten wing.

To ensure that the next phase of school building-whenver it is needed-occurs in an educationally sound and fiscally prudent manner, the School Committee established last year a special study

committee, the School Growth Task Force, to recommend a range of options for meeting school growth needs at key population breakpoints up to a total K-12 population of 2,000. While previous school facility study committees argued strongly for keeping all of the schools in Town Center, the desirability of more intensive school uses in the Town Center has become a question in Harvard. The Town Center Planning Committee appointed by the Board of Selectman has said that Harvard should avoid further expansion of school facilities in Town Center, largely to assure balance between residential, commercial, and institutional uses. In addition, Harvard Elementary School is already larger than most elementary schools in the Commonwealth. It is not clear that the current elementary school site can support a larger building, and state regulations that determine eligibility for school construction reimbursement have changed considerably since Harvard embarked on its last elementary school project in the late 1980s.

### *Public Water Supply*

Harvard operates a small public water system in the Town Center. It relies on a low-yield water supply comprised of two adjacent wells on Pond Road with a combined pumping capacity of 45 gallons per minute (gpm), and a rarely-used emergency supply on Bolton Road. The system serves about 75 properties, primarily single-family homes, although residential water use accounts for less than half of the water pumped from Harvard's wells each year. The largest single water customer in the Town Center is the School Department, which uses nearly 20-21% of the water drawn from town wells, while local businesses, municipal facilities and churches consume another 12-15%. According to town records, 15% of the town's public water is classified as "unaccounted for," which means it cannot be attributed to customer demand. In most communities, "unaccounted for" water indicates leaks in the distribution system, but it is also a measure of water used for firefighting purposes, hydrant flushing, or testing and calibrating meter gauges at the well. The Massachusetts Department of Environmental Protection (DEP) requires a corrective action plan when small water suppliers like Harvard cannot account for more than 15% of the total volume of water they withdraw from ground and surface water sources. Harvard last conducted a leak detection survey of its distribution system in 1996.

The present Town Center water system began as a very small, privately owned distribution system that Harvard acquired in 1942. The primary well site on Pond Road was developed during the 1950s. Approximately 20 years ago, Harvard borrowed \$3 million from the Farmers Home Administration to improve distribution lines, build a small storage tank and install iron treatment equipment. Today, water mains extend from a point just north of Hildreth House down Ayer Road and Massachusetts Avenue to the emergency water supply and storage tank on Bolton Road, around the Town Common, along Still River Road to Saint Theresa's, and to homes on Fairbanks Street as well as Littleton, Old Littleton, Oak Hill, and Pond Roads within the Town Center. The town's plan to extend water to the new Public Safety Building means that a limited number of residences between Town Hall and Depot Road will also be eligible to connect to the system.

There is no public water service outside the Town Center and it appears that Harvard has never favored establishing a town-wide system. Harvard would find it difficult to develop a municipal water system today. First, the cost of installing water mains in many areas of town may be prohibitive because the roads are steep and sparsely settled. Second, Harvard's only high-yield aquifers consist of a small, isolated pocket in the southeast corner of town and at Devens. A significant aquifer system extends along the boundary between Residential Harvard and Devens, from Hell Pond north into Ayer, surrounded by a much larger, moderate-yield aquifer zone with varying yields of 100-300 gpm.

## Circulation & Traffic

### Harvard's Road Network

#### *Primary highways*

Two major highways, Route 2 and Interstate Route 495, serve Harvard and the surrounding region. In Harvard, the more prominent highway is Route 2, which runs in an east-west direction across the entire northern section of town and provides interchange access at Routes 110/111 (Ayer Road). A second interchange on the western edge of town connects with the main access road (Jackson Road) into Devens. Route 2 is a four-lane, limited access, divided highway with cloverleaf interchanges controlled by stop signs. It provides a major connection for Harvard, west toward the Leominster-Fitchburg area and east toward I-495/Route 128 and the Greater Boston area. East of the Ayer Road interchange, Route 2 carries approximately 40,000 to 45,000 vehicles per day.<sup>47</sup> Interstate Route 495 crosses Harvard's southeastern corner. Although there are no I-495 interchanges inside Harvard, there is one along Route 111 just east of the town line in Boxborough. The half-cloverleaf interchange at I-495/Route 111 has just undergone a major upgrade, with additional travel lanes and signalization, as a result of the Cisco Systems development in Boxborough. I-495 supplies regional access to all points in eastern Massachusetts and the Massachusetts Turnpike. In the vicinity of the Route 111 interchange, I-495 carries an average of 70,000 to 80,000 vehicles per day.

#### *Major roads*

Three major roadways carry the majority of local and through traffic in Harvard and provide critical connections to the region's highway network. They include Route 110 from Bolton north into Harvard Center, Route 111 east from Harvard Center out to I-495, and Routes 110-111 north from Harvard Center to the Route 2 rotary in Ayer. These roads are about 26 to 30 feet wide, with appropriate pavement striping that includes double yellow centerlines and edge lines, and as a rule, they lack the steep grades that characterize so many of Harvard's rural byways. In some locations, these major routes are made up of bypasses of older roads such as Woodchuck Hill Road, Fairbanks Street, and Old Post Road.

As suggested by Map 2-F, the Town Center is clearly the focal point of local traffic flows. Several routes converge at or near the center of town including (clockwise from the north) Ayer Road, Littleton Road, Old Littleton Road, Oak Hill Road, Fairbanks Street/Massachusetts Avenue, Stow Road, Bolton Road, Pond Road/Warren Avenue/West Bare Hill Road, Still River Road, and Depot Road. All of these roadways form spokes of a wheel, with Harvard Center at the hub. The busiest, Ayer Road, carries an estimated 7,000 vehicles per day. Still River Road carries approximately 3,600 vehicles per day while Massachusetts Avenue (Route 111) carries approximately 4,000 vehicles per day. All of the town's other roadways appear to carry less than 1,000 vehicles per day.

Outside of Harvard Center, traffic is not concentrated along any single corridor except Ayer Road through the commercial district north of Route 2. Here, Ayer Road absorbs a high volume of non-local trips associated with local businesses and traffic oriented toward Route 2A and the eastern portion of Devens. While the easterly part of Route 111 generally parallels Route 2 and Route 117, it carries a significantly lower volume of traffic even during commuter periods.

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47. Unless otherwise noted, MassHighway is the source of traffic data.

Several other roadways or combinations thereof provide links within Harvard and between Harvard and adjacent towns. Their rural character and the low-density land uses that surround them argue for standards of shoulder maintenance, signage, and striping that differ from what is appropriate for the town's more traveled roadways. Though wide enough to accommodate pedestrians, bicyclists, and equestrians, many of the roads that intersect or converge with the more prominent "spokes of the wheel" lack sidewalks or bike paths, and in many places their shoulders are constrained. Travel speeds along these secondary roads also deter their use by non-vehicular travelers. A noteworthy feature of the secondary roads between Harvard and adjacent towns is that in most cases, there are no distinctly different or contrasting land uses at the town line. Municipal borders are undistinguishable except for a change in roadway surface or striping, or the presence of a corporate boundary sign. The transition between Harvard and Boxborough, dominated by a highway interchange and corporate parks, is an obvious exception.

### *Other roadways*

A number of minor roads provide connections through portions of Harvard, including Prospect Hill Road/Old Shirley Road, Oak Hill/Woodchuck Hill Road, West Bare Hill Road, Bolton Road, and Littleton County Road. Many of these roads have intermittent pavement markings and limited signage. Most carry daily traffic volumes of less than 1,000 vehicles, and some less than 500 vehicles per day. They channel traffic that is primarily local, i.e., from points within Harvard and by people who live along them. As a group, these roads do not provide a "most convenient" route for longer distance trips through town.

The lack of conventional subdivisions is a unique feature of Harvard's road system. Unlike many neighboring towns, Harvard does not have large subdivisions with interconnecting street grids or several access points along one street. The town's development history, the physical constraints of soil, wetlands and water features, and the rules and regulations of the local boards help to explain the limited number of conventional subdivisions and the neighborhood street patterns they produce. Rather, it seems that most residents of Harvard live along through roads. This means that virtually every street in town serves two purposes: direct access to homes and travel routes for members of the community at large.

### **Traffic Patterns**

Field observations during the morning and evening commute periods revealed no steady flows along any of the major streets in town except Ayer Road, which clearly carries a significant volume between Harvard Center and Route 2. Though Route 117 in Bolton carries more than 20,000 vehicles per day, Route 111 and Route 110 in Harvard carry less than 6,000 vehicles per day. While non-local commuters clearly drive through Harvard (using virtually any of the possible routes), they are not typical of commute-to-work patterns in the region. However, these patterns may be affected to some degree by two conditions: additional development at Devens, and peak-hour congestion along the I-495 corridor. Harvard already sees an increase in commuter flows when accidents or other unusual traffic activity occur on I-495 or Route 2, but these are exceptions to normal traffic patterns. If highway congestion becomes more common and predictable, regional drivers may choose to seek out alternative routes through towns such as Harvard.

Although Harvard absorbs a certain amount of non-local traffic, the town does not lie along a major commuter route. Route 111 parallels Route 117 and Route 2 in a generally east/west direction, but Devens and the Nashua River prevent it from continuing west, which limits its usefulness as an alternate route through Harvard. The Nashua River forms a watershed divide of traffic and regional orientation. Generally, Eastern Massachusetts includes communities along and slightly west of the I-495 corridor. Beyond Westborough and adjacent towns, however, there is a slightly stronger traffic orientation toward Worcester and Central Massachusetts. In this part of the state, the divide roughly coincides with the Nashua River. While Harvard's spoked roadway pattern provides paths of travel in virtually every direction into adjacent towns, the Nashua River on the west, Route 2 across the north,

and I-495 to the east all represent distinct barriers to through traffic. Arguably there are breaks, but the barriers generally limit the choices available to non-local commuters. This is not always the case in communities with higher-density development and a more extensive network of interconnected streets.

## **Traffic Controls**

Traffic controls in Harvard are noteworthy in several ways. First, there are numerous speed limit signs posted along both major and minor roadways. The speed limits on many roadways are relatively high, yet in some locations they are unusually low. At times, the posted speed limit changes in a way that is not consistent with the roadway layout or traffic conditions, suggesting that speed limit signs may have been placed in response to citizen complaints. Second, there are numerous awkward roadway alignments that require better warning signage. Specifically, there are both vertical and horizontal curves that need warning signs ahead of them, as well as “Stop Ahead” or “Intersection Ahead” signs in some locations. Most of the signs along Harvard’s roads are in good condition, but some need to be replaced.

Like signage, roadway striping is an important traffic control measure. In general, it appears that roadway striping in Harvard includes appropriate centerline and edge lines. However, stop lines and other pavement striping would be beneficial in some areas. While a proliferation of signage and striping may detract from the “country” character of Harvard’s roads, in many cases it is essential to maintaining safe traffic conditions. The current pattern of signage and striping in Harvard is, at times, inconsistent between one roadway and the next. Roadway signage and striping provide very important cues to drivers as to what is expected of them. Consistent practices are critical for the town’s most heavily traveled roads and at critical traffic locations. Minimum signage and striping are acceptable on minor roads that carry very low volumes of traffic because for the most part, the traffic consists of local drivers who know what lies ahead.

## **Public Transportation**

Harvard does not have a centralized commercial area that acts as a magnet for work and other trips, which makes a local transit system quite impractical. Developing a branch to a regional transit system is also impractical because the density of users is low, and to reach a central location would involve a vehicle trip to begin with. Ayer Road near Route 2 appears to be the only area with potential for a branch service. The combination of higher-density and multi-family development, more concentrated commercial activity and direct highway access may be attractive to an ex-bus system that uses this route. For similar reasons, carpool or shuttle service to the commuter rail station in Fitchburg, Ayer, Action or Littleton may be feasible from a location on Ayer Road.

## **Critical Traffic Locations**

“Critical traffic locations” include roads and intersections that require special attention to traffic operations or design, usually because of zoning or traffic characteristics. Harvard has four critical traffic locations. The most obvious is the intersection of Routes 110-111 in Harvard Center. A second critical traffic location is the area around the intersection, including the police and fire stations, the town hall, library, and public schools, and a third is the Route 2 interchange. The Commercial District on Ayer Road is Harvard’s fourth critical traffic location, and for several reasons it is also the most important.

### *Route 111-110 Intersection*

The intersection of Routes 110-111 in the Town Center carries a high percentage of local and through traffic because of its location at the hub of Harvard’s roadway network. It is controlled by stop signs on the northbound and southbound approaches on Route 111, with reinforcement from flashing red indicators for north-south traffic and flashing yellow indicators for east-west traffic.

During peak-period observations in the field, traffic flowed smoothly through this intersection and maintained a good level of service. The only noticeable delays occurred on the southbound approach along Ayer Road, where some queues appeared to extend almost to the town hall beyond the end of Fairbank Street. The northbound approach on Massachusetts Avenue did not appear to have any significant queuing. The Route 110-111 intersection has an excellent layout, with flat, straight approaches on all four legs and no sight line obstructions. These are very important safety features because even a driver well back in a queue can see what is happening at the intersection and along the adjacent approach legs.

The stop sign on the Ayer Road approach is set well back from the east-west approach. This tends to increase the amount of time required for the first vehicle to pull out once the driver decides to advance, leading to slightly longer delays than necessary. Another factor that affects capacity at the intersection is that traffic along Route 110 slows down on approach, seemingly in response to the change in surrounding land uses. Often, drivers exiting Ayer Road *could have* pulled out, but they did not judge the slowing of another vehicle enough to recognize an adequate gap in traffic. In addition, the westbound leg (Oak Hill Road) is confusing because the approach is a short section between Fairbank Street and the intersection. Traffic on Oak Hill Road may be accelerating, but since the acceleration is not always obvious to drivers waiting on Route 111, they do not use available gaps in the intersection's east-west traffic flow. As a result, the overall capacity of the Route 110-111 intersection is lower than it might be otherwise. However, Harvard may prefer these additional delays because they slow the pace of activity in the Town Center.

### *Town Center*

Harvard is one of the few communities in the region that still retains all of its municipal and school facilities in the center of town. Having these facilities close to each other is beneficial because it encourages a sense of community and residents can walk between uses. The same concentration also has drawbacks, usually related to access design and parking. Schools, libraries, and police and fire services typically have special access needs. For example, school bus access, pick-up and drop-off patterns, and parking for athletic or other events all need to be addressed in the access design for schools. During the morning commute hour when there is a modest amount of traffic along Route 111, buses also enter and exit the school driveways while parents park and drop off children on both sides of Route 111 or at the back of the school. All of this activity occurring at the same time reduces public safety, primarily because both Fairbank Street and Massachusetts Avenue are through roads. The roadways layout in this area is flat and straight past the school, which enhances traffic safety, but the amount of commute-hour activity in the Town Center also diverts through traffic from Route 111 onto local streets such as Oak Hill Road and Woodchuck Hill Road for those bound for Route 111 east.

The clustering of municipal facilities should facilitate walking between them, provided the supply of parking is adequate and conveniently located. In Harvard Center, parking areas are not quite close enough to encourage regular sharing. For example, parking at the schools is inconvenient for library patrons or visitors to the town hall. Similarly, parking at one school to visit the other is inconvenient unless parking overflows from one site to the other, in which case there is an incentive to park and walk. Parking at the library itself is generally confined to the on-street spaces along Fairbank Street. The layout of Fairbank Street, Ayer Road, Oak Hill Road, and the short connector between Massachusetts Avenue and Fairbank Street all create a relatively uncontrolled condition with limited signage and striping to control traffic flows. Like other features of the Town Center, this layout contributes to village's character but it also represents a modest compromise of safety.

### *Route 2 interchange*

The Route 2 interchange is Harvard's only direct connection to the regional highway network. It is a traditional cloverleaf with stop signs controlling access onto Ayer Road and yield signs controlling

access onto Route 2. The ramps have relatively tight radii, low posted speeds and short acceleration and deceleration lanes. Limited signage and understated traffic controls, including treatment of curbs and the median, give the Route 2 interchange a minimalist character. Nonetheless, it operates as a full cloverleaf and provides full access to Route 2.

Unlike many highway interchanges, Harvard's does not offer services or "highway-oasis" businesses such as restaurants, gas stations, and convenience stores. As a result, the apparently low percentage of non-regular users is unsurprising. This contributes to safer traffic conditions because for the most part, drivers using the Route 2 interchange are generally familiar with its operations, traffic patterns, and controls. Absent a major traffic generator on Ayer Road, the interchange can probably continue to operate without significant improvements in the future, e.g., full acceleration lanes, signalization, or both.

#### *Ayer Road business district*

Harvard's most critical traffic location is on Ayer Road north of Route 2. Its importance stems not from a particular feature or condition, but rather, from the number and types of activities that occur here. For example, there are numerous left turns (both on to and off of Ayer Road) and a relatively high volume of through traffic between Route 2 and Ayer. This is evidence throughout the day, but especially at peak times. There are many intersecting roadways and driveways where the shoulders are clearly used to bypass left turns off of Ayer Road. The rural nature of Ayer Road and the lack of specific congestion points or signals north or south of the commercial district contribute to delays for traffic exiting driveways and side streets. Typically, traffic signals and other congestion points create gaps in traffic that can be used safely by drivers entering a main road from its side streets. On Ayer Road, however, there appear to be no features, either north or south, that create such gaps.

The lack of left-turn access in and out of commercial properties on Ayer Road requires solutions that may be undesirable to many residents of Harvard: providing additional capacity and/or increasing average travel speeds. For example, creating a left-turn lane allows through traffic to move at a higher speed. In addition, it eliminates the few gaps that do occur downstream when a left-turn vehicle waits to make its move. Another unfortunate feature of the commercial district on Ayer Road is its lack of clear driveway design guidelines. Several businesses have curbed driveways while others are more rural, with dirt aprons. In addition, driveway locations are not predictable for traffic on Ayer Road and this detracts from overall safety, particularly between Old Mill Road and the Route 2 interchange. Redesigning this section of Ayer Road is a major traffic & circulation need in Harvard.



Ayer Road business district.



## Devens

No issue is more difficult for Harvard residents than the fate of their town's northwest corner. Known historically as the Shabikin section of Harvard and for most of the 20<sup>th</sup> century as Fort Devens, a substantial portion of Harvard is now called the Devens Regional Enterprise Zone — or simply, “Devens.” Though it lies within the corporate limits of Harvard, Ayer and Shirley, Devens is governed by Chapter 498 of the Acts of 1993, a special act of the legislature that gives MassDevelopment (formerly Massachusetts Development Finance Agency, or MDFA) broad powers to own, manage and redevelop Fort Devens on behalf of the Commonwealth.<sup>48</sup> The Act also established the Devens Enterprise Commission (DEC), which administers development bylaws and regulations in the Enterprise Zone much like a local planning board. Composed of gubernatorial appointees and local delegates, the DEC's job is to review projects for consistency with the *Devens Reuse Plan* (see Fig. 2-F). A separate inter-local entity, the Joint Boards of Selectmen (JBOS), represents the towns with a direct stake in the land at Fort Devens: Harvard, Ayer, Shirley and Lancaster. JBOS monitors development at Devens and works with MassDevelopment to address problems and mutual needs. In its formal role as agent for the four communities, JBOS was party to approving the Devens Bylaws in November 1994, just before the “Super Town Meeting” mandated by Chapter 498.



Devens -- then and now.



The Super Town Meeting on December 7, 1994, supplied Harvard, Shirley and Ayer voters with a mechanism to accept or reject the *Devens Reuse Plan*. Their assent led to a series of legal, financial and institutional arrangements that culminated in MassDevelopment's purchase of Devens in May 1996. Since then, a special division of MassDevelopment, the Devens Commerce Center (DCC), has been responsible for managing, marketing and developing the property. About 60% of the Devens Regional Enterprise Zone is inside the town of Harvard. The town exerts its authority over land in the Enterprise Zone through the *Devens Reuse Plan*, which MassDevelopment cannot change without town meeting approval or a new act of the legislature.

48. At the time of the Act's passage, MassDevelopment was known as the Massachusetts Government Land Bank.





Limitations on Harvard's jurisdiction over the land have existed in one form or another since the Army began to acquire property in 1917. By the time Fort Devens closed in 1995, approximately 2,700 acres of Harvard land lay inside the base. Devens contains important built and natural features, including an enviably rich system of aquifers. Some Harvard residents want to reclaim jurisdiction over all or a portion of the site, others think Devens should incorporate as a separate municipality or indefinitely retain its status as a special district of the state, and many others are unsure about the right course. Devens looms large in the town's future, yet it remains among the least predictable of all factors operating in Harvard today.

### Devens Reuse Plan

Pursuant to federal and state laws, the Army was required to prepare an Environmental Impact Statement (EIS) on the closure of Fort Devens and the disposition of its 9,300 acres. Concurrent deliberations between MassDevelopment and the JBOS, including numerous public meetings, resulted in the *Devens Reuse Plan*, which incorporates four goals:<sup>49</sup>

- Development that balances environmental, economic and social needs — i.e., sustainable development — while maintaining and enhancing the natural resource base.
- Land use and employment diversity.
- Successful redevelopment that demonstrates (a) the interdependence of economic development and environmental protection and (b) a balance of public and private interests.
- Balance among local, regional and state interests.

By the time other federal agencies laid claim to property at Fort Devens, the land available for redevelopment was about 2,900 acres, the majority of it in Harvard.<sup>50</sup> The Army retained ownership of about 5,160 acres: all of the South Post in Lancaster and a small portion of the Main Post. Table 2-17 summarizes the uses intended for Devens land in Harvard.

To provide maximum redevelopment flexibility while assuring outcomes that comply with the Massachusetts Environmental Policy Act (MEPA) certificate for Devens, MassDevelopment may site projects on appropriately zoned land, subject to DEC approval, as long as aggregate development activity does not exceed four controlling parameters: a maximum of 8.5 million square feet of built space, 3.0 million gallons per day (mgd) of water consumption/wastewater discharge, 282 housing units, and 50,580 trips per day (average).<sup>51</sup> This performance-based approach, while advantageous to the development process, makes it difficult to forecast how much of Harvard's land will actually be reused. However, for reasons of land use efficiency and cost, MassDevelopment wants to target its unused "development credits," or remaining development rights under the MEPA certificate, in the core of the Devens property: mainly, in Harvard.

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49. Vanasse Hangen Brustlin, Inc., for Massachusetts Government Land Bank and JBOS, *Devens Reuse Plan* (November 1994), 4.
  50. The base disposition plan involved transferring a portion of Harvard's Fort Devens land to the U.S. Fish and Wildlife Service (FWS) for expansion of the Oxbow National Wildlife Refuge. Some of the "open space" acreage listed in Table 1-5 is land conveyed to FWS for this purpose.
  51. MassDevelopment, *Five-Year Review Report*, March 2001, <<http://www.devenscen.com>> (12 December 2001).

**Table 2-17: Devens Reuse Plan for Land in Harvard**

| Land Use                                    | Designated Acres |
|---|------------------|
| Business/Community Services                 | 27.63            |
| Gateway                                     | 42.72            |
| Housing                                     | 180.77           |
| Innovation and Technology Business          | 432.66           |
| Innovation and Technology Center            | 89.99            |
| Open Space & Recreation                     | 821.39           |
| Rail, Industrial and Trade Businesses       | 215.75           |
| Special Use District                        | 230.39           |
| Transitional Use: U.S. Army Reserve Enclave | 130.22           |
| Transitional Use: Federal Bureau of Prisons | 159.80           |
| Undesignated land, e.g., roads              | <u>364.54</u>    |
| Total                                       | 2,695.86         |

Source: ENSR, “devensreuse.xls,” electronic data file produced in conjunction with *Looking Beyond Devens*, 2001.

### Status of Redevelopment

When Harvard, Ayer and Shirley voters approved the *Devens Reuse Plan* in November 1994, the recession that brought real estate activity to a halt in the early 1990s had begun to lift. Equipped with streamlined permitting, financial incentives and an economic development mission consistent with state policies, MassDevelopment seemed poised to transform Fort Devens into a regional commercial-industrial complex. Chapter 498 gave the *Devens Reuse Plan* a 40-year life span because most people assumed that redeveloping a 4,700-acre Army base with extensive contamination problems would take decades. By the time a legally mandated five-year review process began in 2000, however, Devens had already reached about half of its authorized development potential.<sup>52</sup>

The communities with land at Devens had concerns about the base’s future and the considerable power granted to MassDevelopment, but Harvard was – and it remains – uniquely affected. First, most of the land at Devens belongs to Harvard yet ironically, only Harvard lacks direct access into Devens. In addition, Ayer, Shirley and Fort Devens were linked economically, but Harvard had very few if any ties to the base or its people. A striking feature of Harvard’s 20<sup>th</sup> century public records is their near-silence about Fort Devens. Public school affiliations and gateway points brought soldiers and military families in contact with Ayer and Shirley far more than with Harvard. When the base finally closed in 1995, the economic impacts were felt far more in Ayer and Shirley than in Harvard.

On the state’s behalf, MassDevelopment obtained control of Devens in May 1996. In reality, MassDevelopment did not acquire 4,700 contiguous acres of land because during the base closure environmental review process, other federal agencies laid claim to property the Army was leaving

52. William Burke and Victor Normand, Devens Commerce Center, interview by Judith A. Barrett and Rahul J. Young, Community Opportunities Group, Inc., 14 January 2002.

behind. Moreover, Chapter 498 established a “checks-and-balances” arrangement that circumscribes MassDevelopment’s powers by placing regulatory and development permitting jurisdiction in the hands of the DEC. By the date of conveyance, the *Devens Reuse Plan* was in effect, the state had issued conditional environmental permits, and a multi-year, phased program of hazardous waste clean-up by the Army was underway. For Harvard, neither the *Reuse Plan* nor the caps placed on Devens build-out by environmental authorities made the prospects of a large industrial compound very palatable. For MassDevelopment, however, the constraints placed on development at Devens became significant obstacles as the project went forward. The *Devens Reuse Plan*, the building, water and traffic caps established by the Executive Office of Environmental Affairs (EOEA), the Joint Boards of Selectmen (JBOS), scores of hazardous waste sites, and the sovereign status of federal agencies scattered about the property converged to make MassDevelopment’s job complicated and costly.

It is little wonder that Harvard and MassDevelopment see both the present and future of Devens in quite different terms. In the absence of an unequivocal wish by local authorities and residents to reclaim jurisdiction over the land, MassDevelopment has been working to establish Devens as a community that can, if required, stand on its own. The agency acts as both developer and property manager at Devens and it is also a regulated public utility. Alone or through purchase-of-service contracts with other organizations, MassDevelopment provides water, sewer, electric, telecommunications, public works, fire and police services to the entire compound. Devens consists of 46 miles of roads and 330 acres of improved grounds. It also consists of large open space areas, unspoiled woodlands and scenic landscape features. While the view from the road inside Devens is unmistakably that of a suburban commerce and industrial park, the “off-road” and peripheral areas bear Harvard’s signature beauty. Nowhere is this more obvious than at Salerno Circle in the southeastern corner of the Main Post – located in one of the “Special Use Districts” in the *Devens Reuse Plan*.

Table 2-18 shows that of the 8.5 million sq. ft. of development envisioned for Devens, nearly 3 million sq. ft. of new facilities have been built to date. Since some businesses at Devens negotiated for allowances to expand in the future, actual committed build-out – including existing and reserve space – exceeds 4 million sq. ft., or 48% of the total that MassDevelopment may pursue. Together with active prospects and reuse of existing buildings, MassDevelopment estimates that Devens has achieved nearly 64% of its authorized build-out under the *Devens Reuse Plan*. The 8.5 million sq. ft. maximum may never be attained, even under the strongest of economic conditions, because caps on water consumption, traffic volumes and housing units *also* govern the development potential of Devens. The effect of multiple caps is that reaching one may reduce another, i.e., if aggregate traffic generation reaches 60,000 vehicle trips per day before 8.5 million sq. ft. of space have been developed, then Devens will have reached its development capacity. These types of “performance” conditions or qualitative controls seek to mitigate the environmental impacts of major development. At the same time, they make it all but impossible to forecast the physical build-out of Devens – or how much development will actually occupy land in Harvard. Assuming full build-out, i.e., 8.5 million sq. ft., Harvard’s land at Devens could host as much as 5 million sq. ft. of industrial, office and retail space.<sup>53</sup>

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53. It is important to point out, however, that the Devens Zoning Bylaw provides for more development than the 8.5 million sq. ft. authorized by the *Devens Reuse Plan*. The Zoning Bylaw provides for a development blueprint that could reach 8 million sq. ft. in Harvard alone. Neither the 5 million sq. ft. under the *Reuse Plan* nor the 8 million sq. ft. per zoning includes residential land uses. Housing is subject to a different set of development caps.

**Table 2-18: Status of Development at Devens (2001)**

| Type of Development                | Building Space (SF) | Percent of Build-out |
|------------------------------------|---------------------|----------------------|
| Maximum Authorized Build-Out       | 8,500,000           |                      |
| <u>Existing Conditions</u>         |                     |                      |
| Reuse of Former Military Buildings | 817,112             | 9.61%                |
| New Construction                   | 2,733,960           | 32.16%               |
| Current Prospects                  | 457,338             | 5.38%                |
| Potential Expansions               | <u>1,392,800</u>    | <u>16.39%</u>        |
| Actual and Expected Development    | 5,401,210           | 63.54%               |
| Uncommitted Build-out Capacity     | 3,098,790           | 36.46%               |

Source: MassDevelopment, *Five-Year Review* (March 2001 Rev.)

Several aspects of the *Devens Reuse Plan* that directly affect Harvard seem destined to materialize:

- Up to 1,380 acres of open space and recreation land, including a conservation restriction around Hell Pond and the new golf course. Of the 1,380 acres of designated open space, 800 acres were transferred by the Army to the U.S. Fish and Wildlife Service before MassDevelopment obtained title to the Devens property. About 60% of the land classified as “open space” in the Devens Reuse Plan is in Harvard. However, not all of the open space is protected and in many cases it appears to have been appropriated for buffer or drainage areas by companies locating in the park.
- 42 acres of gateway improvements around Jackson Gate, all within Harvard.
- Several institutional uses controlled by the federal government – military, prison and social services. The Federal Prison Hospital and about 40% of the land earmarked for use by the Army Reserve are located in Harvard.
- The Devens Industrial Park – zoned for Rail, Industrial and Trade Related Uses – is substantially built. Mainly because of its ready access to transportation facilities, the Industrial Park was the first section of Devens to develop in earnest after MassDevelopment acquired the base in 1996. About half of the park lies in Harvard, the other half in Ayer. Available data show that MassDevelopment anticipates another 965,000 square feet of development in the Industrial Park and along Barnum Road.
- Jackson and Robbins Pond Technology Parks (95% in Harvard) are largely committed but not fully occupied. Both parks have been targeted for R&D and high-tech firms.

### Sources of Tension

Harvard has been very concerned about development activity at Devens, particularly in the Industrial Park. Traffic, the kinds of businesses that have located in the park, adverse environmental impacts and the visual image of Barnum Road are recurring sources of tension between townspeople and MassDevelopment. From the outset of the Devens project, MassDevelopment focused its recruitment efforts on companies that would find the Industrial Park a suitable place to operate:

trucking, warehouse and other businesses needing access to transportation facilities. As a result, the earliest impacts of development at Devens were felt directly by residents who live near the Industrial Park, and those impacts have formed a lasting, negative impression of the entire site. Harvard's recent opposition to a proposed sludge plant reinforced the town's concerns about both the quality and environmental consequences of development choices that are being made at Devens. That local residents successfully blocked the plant exacerbated tensions with MassDevelopment and the Devens Enterprise Commission. Circumstances like these make it difficult for many people in Harvard to recognize some of the assets that Devens offers – whether to Harvard, neighboring towns or to Devens as an entity in its own right.



Trucking facility on Barnum Road, Devens.

The uncertain fate of Salerno Circle also disturbs Harvard. While town officials have expressed interest in using the land for community or school purposes, MassDevelopment sees it as a potentially valuable site for a high-end corporate complex. In addition, though the *Devens Reuse Plan* and Devens Zoning Bylaw cannot be changed without the consent of town meetings in Harvard, Ayer and Shirley, MassDevelopment has signaled the possibility that it may bypass the *Reuse Plan's* 282-unit housing cap by using Chapter 40B to develop more homes at Devens, notably in the “downtown Devens” district. Significantly, the *Devens Reuse Plan* does not provide for residential development in the area slated to become “downtown Devens” i.e., the Business and Community Services zone.

On a larger scale, Harvard worries that some of the businesses located at Devens – in or outside of the Industrial Park – may be marginal operations or generators of few or low-paying jobs. MassDevelopment reports that approximately 2,700 jobs have been created at Devens since the redevelopment process commenced in 1996.<sup>54</sup> Under the best of conditions, a successful commerce and industrial park could benefit Harvard as a generator of tax revenue. However, the project may also bring fiscal and environmental liabilities of a magnitude that Harvard would be ill-equipped to absorb.

A year ago, Harvard commissioned a study of the potential fiscal impacts of re-assuming jurisdiction over the town's land at Devens.<sup>1055</sup> The study's conclusions underscore why it is difficult for Harvard to make practical choices about the fate of Devens. Under optimum conditions – the endurance of a strong economy, greater emphasis on development that triggers lower service costs and higher revenues, and substantial subsidy from the state to pay for the estimated \$24 million in transition costs involved in transferring the property from MassDevelopment to Harvard – the land could generate \$1 million in surplus revenue per year *or* cause a \$1 million deficit.

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54. Victor Normand, MassDevelopment, interview by Judith A. Barrett, 11 March 2002.

55. MMA Consulting Group, Inc., for Devens Financial-Legal Committee, June 2001.

## Five-Year Review

The five-year review process mandated by Chapter 498 has also resulted in conflicting ideas about the status and future of Devens. MassDevelopment, the DEC and the JBOS conducted separate reviews and not surprisingly, their findings do not agree. Consultants retained by the JBOS recently released a draft of the final five-year review report, which has sparked controversy in Harvard. Among their recommendations:

- Harvard, Ayer and Shirley should signal a desire to reclaim jurisdiction over their land at Devens and invite MassDevelopment to begin a disposition and governance study process that was originally to have occurred by 2033.
- Each town needs a liaison between the JBOS and DEC to monitor permits and approvals so the communities can effectively exercise their right to request reconsideration.
- The JBOS needs to develop rapport with the DEC and should become more involved in regulatory, permitting and business recruitment policies at Devens.
- Harvard, Ayer and Shirley need a voice in shaping decisions about the planned development of “Downtown Devens.”
- The JBOS needs to activate committees contemplated by the *Devens Reuse Plan* but never formally appointed. Although an open space committee was established several years ago, the towns have had no mechanism to participate in transportation planning and housing decisions made by MassDevelopment.

## OPPORTUNITIES & CHALLENGES

### Master Plan Vision & Goals

Harvard's master plan update is guided by a vision statement and goals that the Master Plan Steering Committee wrote after the town finished its "Phase I" public participation process (Spring 2001). The vision and goals relate logically to concerns that Harvard people have about their town today, the quality of life they value, and the kind of community they want Harvard to be in the future. The community vision and goals appear below, followed by an analysis of opportunities and challenges for achieving them in light of the development trends and issues described in Chapter 2.



Harvard's open space.

### Harvard's Community Vision

In twenty years, Harvard will be a town with:

#### *A Sense of Community*

- Active participation of citizens in the town's civic life combined with small town celebrations and traditions will forge a strong sense of community.
- Harvard will be home to all ages and a broad range of household sizes and incomes.
- The cooperation of highly motivated staff, caring Town personnel and actively involved parents will contribute to schools that provide both a nurturing environment and high quality education.

#### *A Sense of Place*

- The Town Center will serve as the social, governmental and cultural heart of the community, with other thriving village centers further strengthening Harvard's economic and community base.
- Harvard will support working orchards and farms and preserve its landscape of woodlands and fields, rural roadways and scenic vistas, and will connect these features and the Town and village centers with walking trails.
- The town will have clean air and an ample supply of clean water.

#### *A Sustainable Future*

- Diverse commercial and residential bases will enable the town to realize its vision and provide the flexibility to adjust to changes in the economy.

## Master Plan Goals

### *Town Character Preservation*

- Maintain a balanced mix of village centers; agricultural, forested and open space lands; and small neighborhoods.
- Maintain the rural characteristics of the Town by:
  - Insuring no net loss of trees or stone walls and no net gain of asphalt width on existing scenic roadways.
  - Preserving and/or enhancing view sheds.
  - Preserving historic structures and landscapes.
- Ensure a vibrant town center by maintaining a balance of residential, commercial, municipal and institutional uses.

Provide for a balance of non-vehicular and vehicular use on public roadways.

### *Housing*

- Increase housing options, particularly the number and types of moderately priced senior and handicapped-accessible units.
- Provide an environment to increase significantly the retention of young and senior citizens.

### *Agriculture*

- Increase the options for economic viability of agricultural enterprises.
- Identify and protect significant Chapter 61 lands.

### *Economic Strategies*

- Broaden the sources of Town revenue.
- Balance the costs and delivery of services with the available sources of revenue.

### *Natural Resources & the Environment*

- Protect groundwater, recharge areas and wetlands to ensure a safe and adequate water supply.
- Identify and protect wildlife habitats and other natural assets, such as Bare Hill Pond.
- Preserve air quality and control noise, light and other environmental pollution.

### *Implementation*

- Integrate the Master Plan into the operations of the town, Town Meeting and the Municipal boards and offices.

## Land Use

Harvard's present land use pattern is a physical representation of many factors: its natural features and built assets, local history, regional setting, zoning and other public policies, and the multiplicity of interests that have a stake in Harvard land. For example, natural features such as soils, topography and water resources have dictated both the location and arrangement of roads and the intensity of land use. In addition, local, state and federal policies have determined the types of development that exist in Harvard today. Many of the orchards, farms and large tracts of open space that define Harvard's rural character benefit from property tax laws that encourage forestry, agriculture and outdoor recreation. Similarly, the low-density character and broad distribution of single-family homes throughout Harvard reflect local zoning and the town's limited infrastructure. State and federal transportation policies caused the town to be spliced by two major highways. Finally, the closure, disposition and reuse of Fort Devens, including 2,700 acres of land inside Harvard, represent choices made at all levels of government, though the three small towns that stand to gain or lose the most have had little direct say in what happens to their land.

Communities rely on zoning to control land use by regulating the amount and location of development. In effect, zoning is a tool for managing conflict: it is intended to balance private property rights with the public's interest in an orderly process of growth and change. As the primary agent of land use policy in cities and towns today, zoning is a critical part of master plan implementation. To understand how zoning may aid or frustrate the achievement of community goals, alone and in conjunction with other forces, master plans typically begin with a land use analysis: a description and critique of a town's current land use scheme, development trends, and the visual, operational and economic ingredients of its "character." A land use analysis also considers how a community's development pattern might change in the future, given historic trends and existing conditions, natural barriers to development, and zoning.

The land use inventory and trends analysis in Chapter 2 suggest several ways that growth in Harvard differs from or is incompatible with the goals of the master plan. The following section explores aspects of the Harvard Zoning Bylaw that contribute to these inconsistencies.<sup>1</sup>

### Zoning in Harvard

Coming to terms with the land use outcomes that are programmed by zoning is very important. A zoning bylaw that promotes changes which conflict with master plan goals may be based on a different vision of the community. Sometimes, it is based on no particular vision at all, or it contains provisions that aim for a particular result, yet have caused or will cause unwanted consequences. Harvard's present zoning bylaw appears to have evolved as a tool for *quantitative* more than *qualitative* development control. Though the master plan goals do not anticipate major changes in the town's historic desire to limit new growth, they express qualitative desires that the zoning bylaw is poorly suited to fulfill.

#### *Agricultural-Residential District*

Since the Agricultural-Residential (AR) District contains most of Harvard's land area, it is the town's principal device to regulate land use. When paired with the dimensional requirements of the Zoning Bylaw, the AR District is not designed to produce outcomes consistent with the community vision or goals. For example, the regulations that govern development in Harvard's AR District act as a barrier

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1. See also, Appendix A: Terry S. Szold for Harvard Master Plan Steering Committee, 17 October 2001.

to open space protection because they do not encourage cluster development. In addition, the regulations do not offer realistic incentives to achieve a greater diversity of homes in Harvard. Cluster and open space-subdivision design are obvious ways to accomplish that end, but accessory apartments and the conversion of single-family to multiple-residence buildings supply other avenues to develop small housing units without detracting from the single-family character of a community's housing stock. Harvard allows multiple residence conversions on a limited basis, but the land area requirements are unusually high and unlikely to be realized.

By placing 97% of its land in the AR District, Harvard set a development policy that treats all sections of town as though they are uniform. The widespread application of the AR District may reflect Harvard's long-standing disdain for differentiating neighborhoods, but it clearly reflects a preference for single-family development on large lots – and judging from the Zoning Bylaw's complex dimensional regulations, house lots that exceed the minimum 1.5-acre requirement are encouraged. The AR District works to limit overall growth and undoubtedly, that was Harvard's intent when town meeting adopted the bylaw many years ago. However, Harvard has varied landscapes, special natural and built features and significant views, none of which are recognized by regulations that apply to development the AR District. Its historic land use pattern was hardly homogenous, as evidenced by distinct differences in the developed form and architectural styles of Harvard's three villages, the prior existence of shops and saw mills scattered about town, the broad distribution of farms and orchards, and the enduring presence of many institutional uses. Today's land use pattern is more regimented, but nearly half of Harvard's housing units have been built since the town adopted zoning. The variety that does exist in more recently established neighborhoods is less an expression of the Zoning Bylaw than of Title V regulations.

If Harvard wants to achieve and maintain a balanced distribution of land uses, residents will need to reconsider the merits of a zoning policy that promotes one type of development. The solution is not to abandon the AR District because it serves a very important purpose in Harvard. Rather, adopting more flexible regulations for the AR District and applying overlay districts to special places and sensitive areas will help Harvard limit growth and also meet its goals for preservation, diversity and sustainability.

### *Village development*

Another way that Harvard's zoning deviates from the goals of the master plan is its omission of incentives for village preservation and development. The town's three villages – the Town Center, Still River Village, and the Shaker Village – are special places in the minds of Harvard residents, yet each one pre-dates zoning and could not be replicated under present land use regulations. The lack of regulatory flexibility in Harvard raises particular concerns for the Still River area, where a considerable amount of vacant, developable land still exists. Moreover, the bylaw promotes very low-density, strip commercial development on Ayer Road north of Route 2, an outcome that is wholly antithetical to the town's master plan goals. If any section of Harvard reveals the negative (though unintended) impacts of ambiguous, overly complex and prescriptive zoning requirements, it is the Commercial (C) District.

To develop a town with a balanced distribution of land uses, attractive and walkable villages, and an economic base that generates tax revenue, Harvard must be open to zoning that encourages quality design and compact form. Issues ranging from dimensional controls to site plan regulations and design review will be essential to meeting the village development goals of the master plan. Advancements in wastewater technology will reduce some of the development barriers that have historically existed in Harvard. However, existing Title V regulations permit wastewater solutions that are denied by the Zoning Bylaw's prohibition against shared septic systems. In its present condition, the C District is a missed opportunity in Harvard. It needs both superior zoning regulations and a coordinated approach to Title V if Harvard expects to revitalize what already exists, attract new investment on Ayer Road and foster a village service area that benefits everyone in Harvard, particularly the surrounding neighborhoods.

### *Preservation of rural character*

Harvard's community vision statement foresees a place that retains its rural character. The master plan goals shed light on what "rural character" means in Harvard: tree-lined roads, stone walls, farms and open space, villages, small neighborhoods and clean natural resources. These quality-of-life outcomes are not served by zoning policies that emphasize amount of development over form, aesthetics and safety. Performance standards, site plan approval and design review are basic features of zoning bylaws that inspire creative development, and they cannot be applied on a "one-size-fits-all" basis. Regulations that preserve and enhance the vitality of Harvard Center will not work to direct investments in mixed-use development along Ayer Road. Similarly, zoning that encourages village form and rewards open space protection in the Still River area is unlikely to be effective at arresting the homogenous pattern of large-lot development along Harvard's other rural byways. Zoning that limits the disposition choice for farms to dividing the land into large single-family house lots cannot possibly aid in the preservation of agriculture. Unless Harvard takes responsibility for its own auto-dependent growth policies, residents will continue to protest traffic that stems as much (if not more) from spread-out residential development as from non-local commuters.

Historic buildings – whether officially recognized or not yet catalogued – play a major role in defining Harvard's rural character. While many of the town's historically significant homes are quite large, Harvard retains a limited inventory of small, older single-family homes and two-family homes from the turn of the century. It also has a number of significant properties with more than one residence, e.g., a main house with a guest cottage, a carriage house or servants' quarters. The establishment of local historic districts has helped to protect the appearance of noteworthy buildings in Harvard Center and the Shaker Village, but historic buildings exist throughout town. Such techniques as demolition delay, controls to prevent "mansionization," and incentives to make historic preservation economically feasible are noticeably absent from Harvard's Zoning Bylaw.

### *Protection of natural resources*

Harvard appears to have done quite well at protecting the purity, abundance and diversity of its natural resources. Zoning has played a role in this endeavor, but a less effective role than it could play. For example, the Zoning Bylaw helps to protect water quality by imposing a fairly generous minimum lot size on land throughout Harvard.<sup>2</sup> It also addresses water quality and scenic views through special overlay districts: the Watershed Protection and Floodplain District (W), Watershed Protection and Flood Hazard District (WFH), and the Watershed Greenspace Buffer District.<sup>3</sup> Unfortunately, the W and WFH Districts are not clearly delineated on the Zoning Map. The lack of an accurate wetlands inventory and maps puts town boards, landowners, developers and homebuilders at a disadvantage. Applicants should always justify their proposals with wetland delineations made in the field, but protecting wetlands on a site-by-site basis is *not* planning.

In addition, the Zoning Bylaw does not offer incentives to protect wildlife habitat. A workable cluster bylaw and possibly Harvard's "mini-subdivision" regulations, though modified, could help to shelter wildlife corridors from direct and indirect development impacts. Large-lot zoning may give the illusion of open space, but it is not at all effective for protecting native plant and animal

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2. The same large-lot zoning may also result in a high volume of water consumption per capita, as is the case in most communities, but since Harvard has no public water system it is impossible to measure the relationship between development types and water use.
  3. Currently limited to a 300-foot buffer zone along the Nashua River.

communities, let alone species listed as rare, endangered or threatened. In Harvard, natural resource protection has been aided mainly by non-zoning techniques: open space acquisition, administration and enforcement of wetlands protection laws and septic system regulations, and the widespread use of differential tax assessments to preserve large tracts of forest and farmland.

### **Housing affordability**

The development blueprint cast by Harvard's Zoning Bylaw makes no room for affordable housing, elderly housing, or housing for persons with disabilities. The lack of Multiple-Residence Districts on the Zoning Map, the endurance of rigid and unworkable rules for two- or multi-family conversions, and records assembled for the housing element of the *Harvard Town Plan* (1988) all suggest that residents have found it very difficult to address both the diversity and cost of housing in Harvard. But for two "friendly" comprehensive permits during the 1990s and the Harvard Conservation Trust's decision to rehabilitate nine apartments and make them affordable to lower-income tenants, Harvard would have no Chapter 40B housing units today.

Harvard needs to take a more assertive approach to affordable housing development and the comprehensive permit is a readily available tool for that purpose. However, the town could also adopt zoning regulations to build low-income, middle-income and elderly housing – all of which are conspicuously missing from Harvard's housing inventory. The master plan goals call for homes attractive and affordable to young adults and elders, and the community vision statement anticipates a place that is home to a broad range of incomes. Without a major overhaul of the Zoning Bylaw, Harvard cannot reach its housing goals or become the kind of community that is implied by the vision statement. The supply of affordable housing may increase as a result of future Chapter 40B developments, but if Harvard relies solely on Chapter 40B to provide affordable housing, the town's income mix will hardly be "broad." Rather, it will be restricted to two groups: lower-income households in Chapter 40B units, and affluent households in high-end market units.

### **Future Development Potential**

An important task for any master plan is to illuminate a community's future under build-out conditions, i.e., development under the blueprint of local zoning. It is equally important, however, to anticipate *probable* build-out conditions: what a community is apt to be like in the future, given its unique history, growth trends, land and economic characteristics. Although zoning is the chief tool that cities and towns use to influence development within their borders, it is not the only factor that determines the rate, location, timing or outcomes of new growth. Moreover, a community's established areas change. When the market renders old buildings obsolete or the cost of a diminishing land supply makes redevelopment economically attractive, what exists today may serve other purposes tomorrow. Nowhere in Harvard is the uncertainty of pre-existing conditions more obvious than at Devens.

Nearly three years ago, the Montachusett Regional Planning Commission (MRPC) prepared a build-out study of Harvard for the Executive Office of Environmental Affairs (EOEA). The study was part of a statewide initiative that culminated in build-out projections for all cities and towns in the Commonwealth. MRPC drew the following conclusions about Harvard's future development potential:

- Harvard has enough developable land to support 3,203 additional housing units.
- At build-out, Harvard will be home to an additional 9,300 people, including 2,300 school students.
- The C District on Ayer Road has room for 11.8 million square feet of new commercial development.

Regional planning agencies throughout the state used the same methodology to produce build-out studies for EOEAs.<sup>4</sup> In general, “developable land area” means the sum of vacant, unrestricted land, whether publicly or privately owned, plus excess land on “underdeveloped” parcels, i.e., the portion of a developed parcel that exceeds minimum zoning requirements, minus natural constraints such as wetlands, open water, and excessively steep slopes. MRPC used Geographic Information System (GIS) technology to identify vacant and underdeveloped land based on data derived from aerial photographs and recent development activity in Harvard. Developable land as defined by the state’s methodology was assigned to zoning districts so that the amount of new residential and business development could be estimated. The total of all developable land in each district was reduced by a factor for site development, e.g., roads, and the remainder – or net developable land – was divided by the district’s minimum lot size. In Harvard’s case, the build-out forecast assumes that all net developable land in the A-R District could be parcelized into 1.5-acre lots.

Without access to digitized assessor’s maps, it is difficult to test assumptions about the development potential of excess land on improved parcels. The master plan build-out analysis had access to both digitized assessor’s maps (ENSR, 2001) and all of the data from the state’s build-out study. As a result, the master plan estimate of Harvard’s future development potential differs from the state’s estimate because MRPC did not have a GIS data set of Harvard’s parcel maps. The outcomes include a somewhat lower residential projection and a significantly lower commercial build-out projection. Table 3-1 summarizes the master plan build-out analysis.

*Comparison of master plan and MRPC build-out estimates*

- Unlike MRPC’s build-out analysis, the master plan’s assumes no multi-family unit production in Harvard. Although the current zoning bylaw regulates multi-family land use, Harvard’s zoning map does not delineate the boundaries of a multi-family residential district. As a result, no land can be assigned to the MR district and development under its regulations cannot be tested. The bylaw does provide for conversion of existing buildings, but the lot area requirement is so large that for a given property, it is more economic to divide the land into single-family house lots than to restrict the number of attainable units under Harvard’s conversion rules. The master plan build-out estimate of 2,564 lots and 2,564 new units assumes that all new dwelling units will be single-family residences.<sup>5</sup>
- The new population estimate — that is, the population generated by future development — is lower than MRPC’s, in part because the projected housing unit count is lower. In addition, the master plan uses Harvard’s current (Census 2000) average household size of 2.86 as a population multiplier while MRPC applied the most readily available estimate from the Census Bureau (1998), or 2.93 persons/household, to both single- and multi-family units. Both estimates carry the same risk that Charles Eliot acknowledged when he included a build-out population estimate of 28,000 in Harvard’s first master plan: today’s household characteristics may not be useful indicators of tomorrow’s households.

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4. See Appendix E for description of state and master plan build-out methodologies.
  5. The number of units may increase under scenarios that include accessory apartments. However, Harvard allows accessory apartments by special permit, not as of right. It is not possible for a build-out study to forecast development outcomes that are subject to local discretion. Trends studies *can* support such forecasting, but in Harvard, a trends study would also adopt single-family home assumptions. The only new multi-family development that has occurred recently in Harvard came by way of comprehensive permits.

**Table 3-1: Harvard's Estimated Future Development Potential**

|   | Potential New<br>Development | Existing<br>Development | Build-Out   |
|---|------------------------------|-------------------------|-------------|
| Developable Land Area (sq. ft.)           | 278,131,911                  |                         |             |
| Residential                               | 266,021,711                  | 133,169,170             | 399,190,881 |
| Commercial                                | 12,110,200                   | 3,275,152               | 15,385,352  |
| Developable Land Area (acres)             | 6,385                        | 3,132                   | 9,517       |
| Total Residential Lots                    | 2,564                        | 1,730                   | 4,294       |
| Total Residential Dwelling Units          | 2,564                        | 1,911                   | 4,475       |
| Residents                                 | 7,333                        | 5,230                   | 12,563      |
| Population <18                            | 1,769                        | 1,588                   | 3,357       |
| Comm./Ind. Buildable Floor Area (sq. ft.) | 1,295,791                    | 253,449                 | 1,646,233   |
| Comm./Ind. Water Use (GPD)                | 97,184                       | 19,009                  | 123,467     |
| Residential Water Use (GPD)               | 549,983                      | 392,250                 | 942,233     |
| Municipal Solid Waste (tons)              | 3,762                        | 2,683                   | 6,445       |
| Non-Recycled Solid Waste (tons)           | 2,675                        | 1,908                   | 4,583       |
| Roads (miles)                             | 58.27                        | 64.82                   | 123.09      |

### Considerations

- The under-18 population multiplier of .69 is derived from local and Census 2000 data and should be interpreted as a working average, not a constant. It is important to emphasize that “under-18 population” is *not* a forecast of K-12 enrollments. First, it includes pre-school children and second, some of Harvard’s school-age children will attend private school or receive their education in an out-of-district placement, as they do today. However, the *estimated* school impact is 78.5-80% of the total under-18 population generated by new development, or about 1,390 students in grades K-12.
- These projections apply only to Residential Harvard; they do *not* include development at Devens.
- Harvard’s commercial development potential, located mainly in the C District, is significantly lower in the master plan study than in MRPC’s, but very similar to projections made by Connery Associates in 1988. The 11.8 million square feet of commercial space estimated by MRPC appears to stem from a formula error.

- Consistent with EOEAs build-out methodology, the master plan assumes water consumption at 75 gallons per day (GPD) per person for residential land uses, and 75 gallons per day per 1,000 square feet of commercial space. However, the master plan analysis has adjusted commercial water consumption to reflect the revised estimate of development capacity in the C District.<sup>6</sup>

Map 3-A identifies areas of Harvard where underutilized and vacant, developable land appear capable of supporting future development.

### **Fiscal Implications of New Development in Harvard**

Land use has environmental, economic, community character and fiscal implications for every city and town. Since local governments depend on the property tax as their principal source of revenue, an important task for any master plan is to evaluate the costs and revenue associated with development under current land use policies. By calling for a broader commercial tax base to achieve a sustainable future, Harvard's community vision statement explicitly recognizes the connection between zoning and municipal finance. A Cost of Community Services (COCS) study conducted for the Master Plan Update shows that in Harvard today:<sup>7</sup>

- Residential land uses cost slightly more for municipal and school services than they generate in revenue: \$1.06 for each \$1 in revenue. Like all communities, Harvard relies on other sources of revenue to pay for resident services, e.g., state aid and local receipts. Considering property taxes *alone*, residential land uses cost about \$1.71 per dollar of revenue. A high cost-revenue gap is not uncommon among demographically similar towns that also have no tax base diversity.
- Commercial development is a low cost generator. It is also a low *revenue* generator because Harvard's non-residential base is small and the use intensity of its commercial and industrial land is very low. For every dollar of revenue that Harvard collects from commercial and industrial development, the town spends about 28 cents on local government services. However, the total amount of non-residential development revenue is only \$402,000 -- enough to cover about 38% of the town's annual public works budget or 47% of its entire public safety budget.
- Open space (mainly Chapter 61, 61-A and 61-B properties) along with other vacant land and large "estate-lot" residences also provides more revenue than it generates in costs. For every revenue dollar collected from properties that the COCS model classifies as open space, Harvard spends about 54 cents on local government services.
- Commercial development and open space land uses provide surplus revenue even when the cost-to-revenue ratio accounts only for property taxes. They do not generate enough tax revenue to offset Harvard's residential gap.

Cost-revenue ratios such as those listed above represent an *estimate* of the fiscal impacts of land use. In Harvard, near-term demand for new or expanded school buildings, soccer fields and public safety services will most likely stress the residential \$1.06 cost-revenue ratio -- that is, the gap between the costs created by residential development and the revenue it generates will increase. State aid will not increase at the rate to which Harvard is accustomed, however, because until last year, the formulas

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6. See also ENSR, *Devens Area Regional Plan*, 3-5.

7. Table 3.6 summarizes all results of the COCS analysis.

used to set education aid included the population that lived at Fort Devens when the 1990 federal census was taken. This means that as residential development continues in Harvard, growth in school costs will be absorbed to a greater degree by local taxpayers than has been the case in the past. An analysis of government spending per capita by demographically similar towns shows that while Harvard spends slightly above the median for the group as a whole, its current expenditures for public safety and health and welfare services are substantially below the norm. It spends more for public works, culture, town administration and debt service, and is at the mid-point for education costs per capita.

*Composition and structure of Harvard’s tax base*

To a greater degree than most cities and towns in Massachusetts, Harvard relies on property taxes to finance municipal and school services. Across the Commonwealth, real and personal property taxes constitute an average of 50% of all local government revenue. The remaining 50% comes from a combination of state aid, local receipts (e.g., water charges and motor vehicle excise taxes) and sources such as free (uncommitted) cash. In Harvard, property taxes contribute more than 60% of the town’s revenue, as shown in Table 3-2.<sup>8</sup>

**Table 3-2: Harvard’s Sources of Local Government Revenue (FY 2001)**

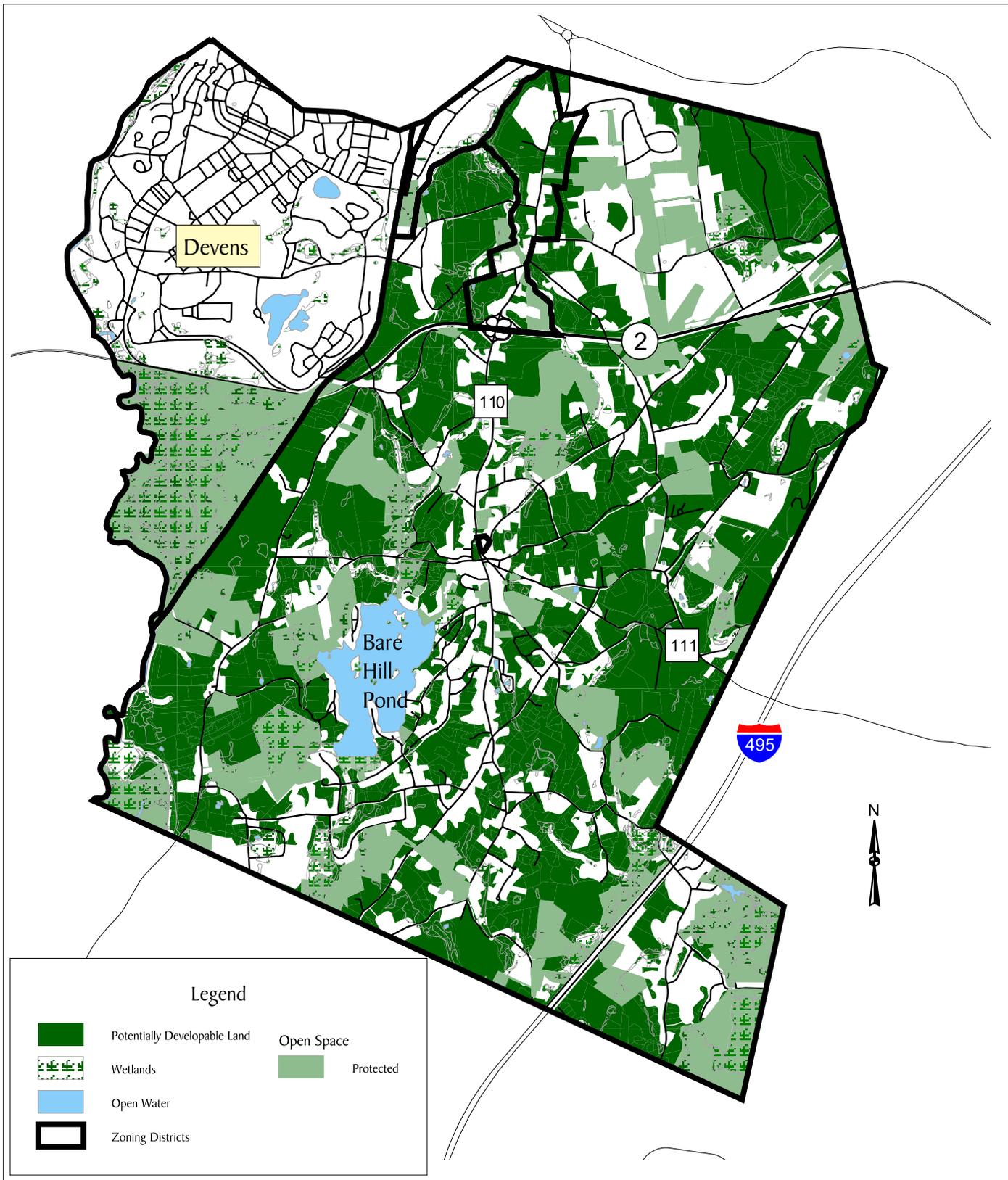
| Tax Levy |           | State Aid |           | Local Receipts |           | Other Sources |         | Total         |
|----------|-----------|-----------|-----------|----------------|-----------|---------------|---------|---------------|
| \$       | 9,193,388 | \$        | 4,290,806 | \$             | 1,152,000 | \$            | 397,951 | \$ 15,034,145 |
|          | 61.15%    |           | 28.54%    |                | 7.66%     |               | 2.65%   | 100%          |

Sources: Mass. Department of Revenue, 2001; Town of Harvard Schedule A Report, FY 2001.

The tax levy as a percentage of Harvard’s annual revenue has varied somewhat over time. During the 1990s, the tax levy supplied an average of 59.5% of all annual revenue; in the previous decade, it averaged 48.6%. A reversal occurred in state aid, which declined from a ten-year average of 33.29% in the 1980s to 27.96% in the 1990s. Whether these changes represent a long-term trend is not clear. The noteworthy difference between Harvard and other towns is not what it receives in state aid, however. Rather, it is the low proportion of revenue from local receipts and other non-tax sources, a condition that seems attributable to Harvard’s lack of public water and sewer service.

Traditional tax assessment data such as those reported by the Massachusetts Department of Revenue (Table 3-3) describe a community’s base of real and personal property in general terms. They reveal little about the structure and characteristics of the base, however: attributes that affect not only the supply and amounts of tax revenue, but also demands for local government services. In addition, assessors categorize land use under a tri-part classification system that recognizes residential, commercial and industrial uses, existing or potential. Thus, “residential property” in Table 3-3 includes all land with existing homes, vacant land zoned for residential use, and all land under Chapter 61, 61A and 61B agreements. “Commercial” and “industrial” property consists of developed and vacant commercial and industrial land. As indicators of Harvard’s present and future sources of

8. All data in this section of the master plan are based on Harvard’s FY01 experience, including acres of land use. FY01 was selected as the base fiscal year in order to capture the most recent record of actual expenditures and revenue. Data used for comparative purposes, i.e., to explore statewide and regional trends, reflect the most recent information available from the Massachusetts Department of Revenue (DOE) – FY00.



Data Source: MassGIS.



# Harvard, Massachusetts

## Potentially Developable Land

Map 3-A



Community Opportunities Group, Inc.  
Boston, Massachusetts



demand for community services and its means of financing the costs of government, the data in Table 3-3 tell an incomplete story.

**Table 3-3: Distribution of Assessed Values in Harvard (FY 2001)**

| Assessed Value Component | Assessment  | % of Total | Real Property Assessments Only (FY01) | % of Total |
|--------------------------|-------------|------------|---------------------------------------|------------|
| Residential Property     | 582,793,400 | 94.8       | 582,793,400                           | 96.1       |
| Commercial Property      | 21,130,200  | 3.4        | 21,130,200                            | 3.5        |
| Industrial Property      | 2,685,400   | 0.4        | 2,685,400                             | 0.4        |
| Personal Property        | 7,922,300   | 1.3        |                                       |            |
| Total                    | 614,531,300 |            | 606,609,000                           |            |

Source: Mass. Department of Revenue (2001).

Identifying more explicit relationships between cost and revenue generation is important for town planning, although land use choices should *never* be made solely on the basis of fiscal predictions. While fiscal impact studies explore the cost-and-revenue dimensions of land use, a community's political culture has a direct bearing on costs just as population demographics and the structure of the local economy have a direct bearing on revenues. Land use provides a consistent basis for measuring costs, but government does not serve housing units or commercial facilities. Rather, it serves *people*.

To fiscal policy analysts, the issue is not limited to how many people a community may be asked to serve in the future, but more importantly, their ages, where they live and work, their household incomes, and what they expect from local government. Each of the land use classes in Table 3.3 tends to generate demands for certain types of service, but within each class the demands vary significantly. For example, residential land uses trigger municipal service costs, but not to the same degree, and they generate different school impacts as well. Housing for the elderly or persons with severe disabilities, and single-room occupancy (SRO) units do not attract school-age children. Among residential land uses, however, housing for the elderly often demands more service from police, fire and ambulance personnel just as single-family homes demand more classrooms and soccer fields. Similar differences exist for commercial land uses: compared to a professional office complex, retail development usually costs more for public safety, namely police. The town finance-land use connection is an intricate one, and it differs across municipalities. As a result, the conclusions of a fiscal impact analysis in one town may have little validity elsewhere.

#### *Cost of Community Services in Harvard*

Whether measured in tax assessment or community planning terms, Harvard's land use pattern is not diverse, but distinctions that exist within it are important for what they suggest about sources of demand for town and school services, now and in the future. From a fiscal impact perspective, i.e., the relationship between the amount of local government revenue generated by various land uses and their associated community service costs, the salient point about Harvard is not aggregate assessed

value of residential property. Rather, it is the relative weight that *residential* (principally single-family), *open space* and *non-residential* land uses have in the overall composition of the tax base. Table 3-4 summarizes Harvard's tax base using a property classification method developed by the American Farmlands Trust.<sup>9</sup>

**Table 3-4: Indicators of Land Use Cost-Revenue Relationships in Harvard**

| Class of Land Use     | Acres         | Assessed Value    |
|-----------------------|---------------|-------------------|
| Residential           | 4,814.36      | 532,551,200       |
| Open Space            | 4,893.63      | 59,376,400        |
| Commercial/Industrial | <u>145.86</u> | <u>16,397,000</u> |
| Total                 | 9,853.85      | 608,324,600       |

Source: Harvard Assessor's Office (October 2001).

The American Farmland Trust model, known as Cost of Community Services, (COCS), is one of several methods that policy analysts use to predict the fiscal consequences of future growth. The COCS method requires a detailed analysis of real property assessment data in order to separate qualifying parcels of taxable open space from other land uses and to measure each use category's share of a town's total assessed value (Table 3-4). Like other fiscal impact models, COCS assumes that the proportional value of a land use is a reasonable indicator of community service costs. Accordingly, the COCS method uses a "fall-back ratio," or the proportion of residential, commercial, industrial and open space assessments in a community, to assign community service costs and certain revenues to each class of land use when more precise data are unavailable. Harvard's fall-back ratios are shown in Table 3-5 and a summary of the COCS study for Harvard, in Table 3-6.

**Table 3-5: Cost of Community Services "Fall-Back" Ratios in Harvard**

| Fall-Back Ratio #1        | Assessed Value        | Proportional Share        |
|---------------------------|-----------------------|---------------------------|
| Land Use                  |                       |                           |
| Residential               | 532,551,200           | 87.54%                    |
| Open Space                | 59,376,400            | 2.70%                     |
| Commercial/Industrial     | <u>16,397,000</u>     | <u>9.76%</u>              |
| Total                     | 608,324,600           | 100.00%                   |
| <u>Fall-Back Ratio #2</u> | <u>Assessed Value</u> | <u>Proportional Share</u> |
| Land Use                  |                       |                           |
| Residential               | 588,062,300           | 96.67%                    |
| Commercial-Industrial     | <u>20,262,300</u>     | <u>3.33%</u>              |
| Total                     | 608,324,600           | 100.00%                   |

Source: Harvard Assessor's Office (October 2001).

9. See Southern New England Forest Consortium and Commonwealth Research Group, Inc., *Cost of Community Services in Southern New England* (September 1995). The definitions used by AFT to classify land as residential, commercial-industrial and open space appear in Appendix F.

**Table 3-6: Cost of Community Services Analysis, Harvard**

|                                     | FY 2001           | Residential       | Commercial-Industrial | Open Space     |
|-------------------------------------|-------------------|-------------------|-----------------------|----------------|
| Fall-Back Ratio 1                   |                   | 87.54%            | 2.70%                 | 9.76%          |
| Fall-Back Ratio 2                   |                   | 96.67%            | 3.33%                 |                |
| <u>Expenditure Category</u>         |                   |                   |                       |                |
| General Government*                 | 816,346           | 714,662           | 22,004                | 79,681         |
| Public Safety                       | 992,806           | 869,141           | 26,760                | 96,904         |
| Public Works                        | 1,181,551         | 1,034,376         | 31,848                | 115,327        |
| Health & Human Services             | 68,160            | 59,670            | 1,837                 | 6,653          |
| Culture & Recreation                | 401,149           | 386,708           | -                     | 14,441         |
| Schools                             | 8,793,971         | 8,477,388         | -                     | 316,583        |
| Debt Service                        |                   | -                 | -                     | -              |
| Municipal                           | 482,144           | 422,088           | 12,996                | 47,060         |
| Schools                             | 1,092,710         | 1,053,372         | -                     | 39,338         |
| Insurance & Benefits                | <u>571,476</u>    | <u>500,293</u>    | <u>15,404</u>         | <u>55,780</u>  |
| Expenditures (All)                  | 14,400,312        | 13,517,696        | 110,849               | 771,767        |
| Other Expenditures                  | <u>212,802</u>    | <u>205,141</u>    | <u>-</u>              | <u>7,661</u>   |
| <b>TOTAL EXPENDITURES</b>           | <b>14,613,114</b> | <b>13,722,837</b> | <b>110,849</b>        | <b>779,428</b> |
| Total Revenues<br>(Local/Non-Local) | 14,902,928        | 13,046,607        | 401,699               | 1,454,622      |
| <b>Cost-Revenue Ratio</b>           |                   | <b>1.05</b>       | <b>0.28</b>           | <b>0.54</b>    |
| Ratio for Tax Levy Alone            |                   | 1.71              | 0.45                  | 0.87           |

## Population & Housing

During Phase I of the master plan update, residents identified several concerns about housing and residential development in Harvard. Their concerns, summarized by the following four points, form the basis for several master plan goals:

- Lack of housing choice for elders and lower-income households.
- The impact of single-family development on Harvard's public schools.
- Escalating residential tax bills.
- The consequences of low-density residential development for Harvard's rural character.

Significantly, citizens and planners who worked on the *Comprehensive Plan* (1969) and the *Harvard Town Plan* (1988) expressed many of the same concerns. For Harvard, the barriers to sustainable housing development may be rooted as much in the town's political culture as in natural limitations to residential growth.

## Housing Development

### *Areas suitable for higher-density and mixed-use development*

Areas suitable for higher-density housing offer unique opportunities for cities and towns to create diverse housing stock and achieve the density that affordable housing development often requires. They also offer ways to check residential sprawl. Soils with moderate to severe limitations for residential development exist throughout Harvard. In the town's original *Comprehensive Plan* (1969), Charles Eliot offered a careful assessment of soil conditions in Harvard and found, not surprisingly, that most of the town is better suited for farming than for homes. However, he also noted several locations where the soils are relatively free of development constraints: Ayer Road north of Mill Road, the area just north of the Ayer Road-Route 2 interchange, a small area in northeast Harvard, land in the vicinity of Lancaster County Road to Old Mill Road and finally, north of Route 2 opposite Depot Road. Environmental and political factors apparently kept Harvard from adopting policies that would either guide development toward areas with favorable soils or away from severely development-constrained areas.

Twenty years later, citizens who worked with Connery Associates on the *Harvard Town Plan* (1988) lamented the town's failure to follow Eliot's recommendations and urged Harvard to designate locations for higher-density housing. They also promoted increasing the standard 1.5-acre lot size in areas with poorly drained soils and steep slopes, along with adopting a cluster bylaw to protect open space. Development constraints and zoning regulations that induce larger lots, e.g., the permissibility of hammerhead and backland lots at 4.5 rather than 1.5 acres, have accomplished some of the objectives residents agreed to when the last master plan was written. However, most of the objectives of the last master plan were never implemented. The lack of public water and sewer service in Harvard, coupled with zoning, have effectively limited new housing growth yet the same conditions have discouraged efficient use of land. The cluster bylaw that Harvard adopted is seemingly unworkable, for it has not attracted clustered housing or resulted in open space protection. Moreover, the town declined to take a "carrying capacity" approach to growth management, a choice that would have involved not only reducing or prohibiting development on sensitive land but also directing development to locations that can support it. As previously noted, the Zoning Bylaw contains regulations for multi-family development, but the Zoning Map does not identify any multi-family districts.

Harvard has many opportunities to cultivate a greater mix of residential use types, encourage higher-density development and promote cluster housing. The areas identified in Harvard's first master plan remain particularly suited for these purposes, though single-family development has consumed a considerable amount of the land that was available in 1969. Advancements in wastewater technology and Title V flexibility that did not exist in 1969 or 1988 will enable Harvard to facilitate a wide range of housing types if the town provides effective zoning incentives. Harvard needs to decide whether to earmark a limited number of areas for higher-density homes, leaving the balance of town to low-density single-family development, or provide zoning incentives in many areas and allow development to occur wherever it is technically feasible.

### *Housing & historic built assets*

In the long run, Harvard's ability to retain its inventory of older homes hinges on preservation economics. Although many historic properties are concentrated in the town's villages, two of which are local historic districts, neither Harvard's history nor its historic built assets are confined to the Town Center, Shaker Village and Still River. These assets include existing homes, carriage houses

and other residential accessory buildings, and agricultural outbuildings located throughout Harvard. When the only land use choice available to landowners, developers and homebuilders is a single-family home and it becomes uneconomic to preserve or reuse an older building for this purpose, the economics of new construction will prevail over preservation, that is, the older building will be demolished and in most cases, a six-month demolition delay bylaw will not change the outcome.

By offering opportunities to redevelop historically significant properties for a use other than single-family homes, e.g., as multi-family residences or live-and-work studios for artists, Harvard may position itself to accomplish two community preservation goals: historic resource protection and housing affordability. Harvard's desire to keep elderly residents in town and provide suitable housing for persons with disabilities also argues for more regulatory flexibility. The ability to convert a five-bedroom home to two or three small housing units, with no increase in the number of bedrooms, no visible change in the building's appearance and no additional land requirements, would offer elderly residents a meaningful choice between staying in Harvard or moving to another community that provides suitable, lower-cost housing. Subject to reasonable site plan and design review standards, residential use conversions can be accomplished with no adverse impacts on the surrounding neighborhood and no additional wastewater generation.

Historic Harvard was a community of mixed housing types, mixed-use village areas and undeniably, of farms. Cultural change, zoning and market forces have produced an ideology about single-family homes that makes it impossible for most towns to save or replicate traditional patterns of development and ways of living. Harvard needs to decide whether to offer more development choices in order to achieve its affordable housing, preservation and fiscal goals. Recent trends suggest that without greater development flexibility, Harvard will not accomplish its housing goals, its tax burden will increase, and its success at preserving the architectural richness of its past will be curtailed.

#### *Substandard and depressed-value housing*

Lower-value buildings, whether small or in poor condition, may provide "market opportunities" to create affordable housing without developing more land. Not surprisingly, Harvard has very few low-value properties because the conditions that discourage investment do not exist here. The image of Harvard homes as large, valuable and well maintained is largely accurate. A majority of Harvard's housing stock was built in the past 30 years, which means that most homes in Harvard are at a very low or no risk of lead paint. Since Harvard homes command top prices in the market and the town's population is generally well-off, the right economic conditions exist to maintain and improve residential properties. If any single factor puts Harvard's housing at risk of diminished value or deterioration, it is Title V.

Some of Harvard's older homes are quite small in comparison to those built since 1970. In addition, some older residences have proven more difficult to maintain. Several years ago, the Harvard Conservation Trust acquired the "Great Elms" property on Stow Road. By making five units at the Great Elms available at below-market rents, the Harvard Conservation Trust effectively created Harvard's first affordable housing. Approximately six years ago, the Trust obtained a grant from the state's HOME Program to remove lead paint from units at the Great Elms and the Town Center's Harvard Inn. The HOME Program requires long-term rent restrictions, annual re-certifications of tenant household income and periodic inspections to ensure that HOME-assisted units continue to meet federal housing quality standards. Recently, the Nashoba Boards of Health cited the Trust for several state housing code violations at the Great Elms. The Trust addressed these deficiencies, but the Great Elms case illustrates how difficult and costly it is to develop and manage safe, sanitary housing at rents affordable to lower-income households. It also points to the possibility that substandard housing in Harvard may be more prevalent than imagined.

The average ratio of building to land value among single-family properties in Harvard is unusually low compared to many communities, .970 – that is, for every dollar of land value, the residential

improvement is worth 97 cents. Clearly, Harvard's low ratio does not indicate a pattern of distressed housing stock. Rather, it is an expression of Harvard's extremely high land values. However, about 45-50 homes in Harvard have very low building to land value ratios and 30 of them also have fair to poor condition ratings, i.e., where a low building value is not driven solely by the small size of the home or a very large tract of land. Most were built 50-60 years ago and they appear to be scattered about the town. It seems appropriate for Harvard to think strategically about the disposition of properties with a low-value building. Left unprotected, homes such as these may be razed and replaced by larger, more expensive residences. Instead, they could be acquired, rehabilitated or possibly enlarged to permit multi-family occupancy, and sold with a long-term affordability covenant to first-time homebuyers or managed as rental housing. If developed properly, they will qualify for inclusion in Harvard's Chapter 40B inventory.

### *Devens*

Devens also provides opportunities for Harvard to provide higher-density housing. The *Devens Reuse Plan* imposes a 282-unit cap on the number of homes that can be built or restored for occupancy at Devens, and 241 of those units are to be located on Harvard soil. The advantages of promoting additional housing at Devens include the construction-readiness of land, the development and financing capacity brought by MassDevelopment, and the sustainability of development that connects places to live and work.

Harvard has not officially determined that it wants to reclaim jurisdiction over Devens land that lies within its corporate limits. If the disposition process for Devens ultimately returns land to Harvard, it makes sense for the town to encourage a variety of housing types there because the infrastructure exists to support flexible or higher-density development. Elderly housing, assisted living facilities, rental, "starter" and family homes, priced to attract a broad range of people, could be desirable for Devens and beneficial to Harvard. However, care must be taken to avoid placing a disproportionate share of Chapter 40B housing at Devens – by MassDevelopment and all of the host communities, but especially Harvard because it lacks direct access to Devens. To include Devens as a possible strategy or solution to Harvard's housing diversity and affordability needs, the town will have to address the physical barriers that exist between these two sections of the community.

### **Affordable Housing**

Though Harvard has taken some steps to provide affordable housing, the town has made very little progress toward meeting the 10% statutory minimum under Chapter 40B. However, the affordable housing challenge for towns like Harvard is more complicated than complying with Chapter 40B. As demonstrated by the housing inventory and trends analysis in Chapter 2, Harvard homes are affordable to neither low-income nor middle-class households. Rather, they are affordable primarily to upper-income households who pay a premium to live in one of the Commonwealth's most prestigious communities. Not everyone who lives in Harvard is affluent, but given the prices that new and older homes command in the market, the town has gradually become less diverse in terms of the types of households it attracts and the relative wealth of its population. Indeed, Harvard's affordable housing needs are complicated. They go beyond what the term "affordable housing" usually connotes, i.e., low-income housing. In fact, "affordable housing" and "low- and moderate-income housing" have different meanings that must be understood in order to discuss Harvard's housing needs coherently.

Chapter 40B provides for comprehensive permits to develop affordable *low- and moderate-income* housing units. For homes to qualify as Chapter 40B units, they must be restricted for occupancy by low-income persons for an extended period of time. Although Chapter 40B units can be developed without a comprehensive permit, in most cases a comprehensive permit is necessary because local zoning makes it uneconomic to create low-cost homes. The usual zoning barrier is density. Under Chapter 40B, affordable housing needs are said to exist when less than 10% of a community's

year-round housing units are low- and moderate-income units. Only 27 communities in Massachusetts meet or exceed the 10% threshold.

A more recent state initiative, Executive Order 418, defines affordable housing as units affordable to homeowners earning up to 150% of median income, and renters earning up to 100% of median income. Unlike Chapter 40B, which addresses housing for low-income people, E.O. 418 focuses on housing for the middle class.<sup>10</sup> Under E.O. 418, affordable housing needs are said to exist when most of a community's new homes cost more than what a household earning 150% of median family income could afford to pay. There is no statutory mechanism like a comprehensive permit to compel the production of middle-class housing, although a Chapter 40B development may include market and below-market housing units. In Harvard, a new home valued at \$375,123 or a new apartment with a monthly rent equal to or less than \$1,855 would qualify as an E.O. 418 housing unit.<sup>11</sup>

Policy analysts look at housing needs and affordability in terms similar to those used by Chapter 40B and E.O. 418, but measuring housing need is more difficult than state formulas suggest. In economically connected areas, the incidence and distribution of housing cost burden across income, age and type-of-household groups are more important

#### What is “affordable housing”?

- “Affordable housing” means housing units for which the occupants pay no more than 30% of their monthly gross income for housing costs: principal, interest, insurance and taxes for homeowners, or rent and utilities by tenants. In short, affordable housing is a cost-to-income standard. A household that pays more than 30% of its monthly gross income on housing costs is considered housing cost burdened.
- “Low- and moderate-income housing” means homes affordable to households with incomes at or below 80% of the median family income for the region in which they live. Each year, the federal government sets housing assistance program income limits against the estimated median family income for all metropolitan and non-metro county areas in the country. “Low and moderate” income usually refers to 80%, and “very low income” to 50%, of median family income. According to current federal guidelines, a family of four with an annual income of \$58,300 or less meets today’s definition of a low- or moderate-income household in Harvard and the surrounding region. These income guidelines are adjusted annually.

10. In a review of “external pressures” to increase the supply of affordable housing in Harvard, authors of the *Harvard Town Plan* identified comprehensive permits under Chapter 40B and a now-forgotten executive order, E.O. 215. Signed by former Governor Edward King, E.O. 215 directed state agencies to withhold grants from communities with zoning and other development controls that “unreasonably restrict new housing growth.” Since E.O. 215 had the potential to constrain executive-branch autonomy in the award of state grants, it was among the first housing policies to be abandoned when former Governor William F. Weld took office in 1991. Moreover, Chapter 40B came under fierce attack by the legislature and local officials at the beginning of Weld’s administration. For several years thereafter, state government de-emphasized affordable housing and aggressively promoted economic development. When the state’s affordable housing shortage was finally recognized as a barrier to economic growth, former Governor A. Paul Cellucci, Jr., attributed the problem to zoning and other local regulations. He called on communities to streamline their development rules and created incentives to do so through E.O. 418.
11. DHCD, “Instructions for Completing EO 418 FY2003 Request for Housing Certification,” Attachment B, 15.

considerations than whether a city or town has achieved the 10% standard under Chapter 40B. Another issue that policy analysts consider is the duration of affordability for homes classified as low- and moderate-income or, in the language of some housing programs, “below-market” housing units. A third issue is whether housing suitable for various population groups is available to meet their needs, e.g., units suitable for elderly or disabled persons. The fit between employment base, wages, labor and housing supply within a given market area also raise critically important economic policy questions. Finally, many of the conditions that drive up the cost of housing correlate with non-sustainable development: growth that wastes land, stresses water resources and creates traffic-dependent communities. The Community Preservation Act (CPA) explicitly recognizes these conditions as threats to the environmental quality and social fabric of cities and towns.

### *Chapter 40B and state housing policy*

Ever since the legislature enacted Chapter 40B in 1969, communities have struggled to reconcile local planning goals with state policy to remove barriers to low- and moderate-income housing development. The law has remained controversial throughout its 32-year history. Its two key provisions are designed to expand the supply and geographic availability of low-income housing throughout the Commonwealth. First, Chapter 40B establishes a streamlined permitting procedure (the so-called comprehensive permit) and empowers Zoning Boards of Appeal to waive zoning requirements that impede the feasibility of a low- and moderate-income housing proposal. Second, developers aggrieved by either the denial of a permit or conditions tied to an approved permit may appeal to the state’s Housing Appeals Committee (HAC) if their project involves a community where low- and moderate-income housing constitutes less than 10% of the total housing stock. Since Chapter 40B does not impose a mandate on communities to sponsor or cause the development of low-income units, subsidized housing is essentially market-driven. This helps to explain the state’s uneven distribution of low- and moderate-income housing, for while 27 cities and towns exceed the 10% threshold, 45 communities have no low-income housing at all. Developers decide where to build and naturally, they build where they believe a marketable project is feasible. That Chapter 40B subordinates local zoning to the state’s interest in housing affordability often angers local officials and neighborhood residents.

Chapter 40B creates opportunities to develop both low-income and below-market housing. It also creates opportunities for town boards and developers to negotiate, to make efficient use of land and diversify a community’s housing stock. As long as 25% of the housing units in a comprehensive permit development are affordable to low- and moderate-income households, the remaining units can be priced to house other income groups. In a homeownership project, however, only the low- and moderate-income units count toward a community’s Chapter 40B inventory. Sometimes this feature of the state’s regulations entices communities to seek a higher percentage of low-income units, yet in other cases communities strive to keep the percentage of low-income units at the minimum because they want mixed-income housing. For a rental development that qualifies under Chapter 40B, *all* of the units are added to a community’s inventory, including those priced at market and below-market levels.

Despite Chapter 40B’s advantages, it still acts as a liability more than an asset in many towns. Last year, DHCD adopted new regulations to address some of the problems identified by local officials, e.g., threats from developers who say they will seek a comprehensive permit if town boards deny their proposal to develop land for some other use. Communities also have more protection today from very large development proposals. As long as they make annual progress toward achieving the 10% standard, they may be able to deny additional comprehensive permits. More recent changes to the state’s Chapter 40B regulations allow accessory apartments, low-income units developed with CPA revenue, and group homes for persons with disabilities to be included in a municipality’s Chapter 40B inventory. The expansion of what “counts” as a low-income housing unit has occurred against the backdrop of fierce attacks on Chapter 40B from suburban officials and their legislators.

### *The importance of local housing policy*

The same regulations that expand the definition of a low-income housing unit also encourage cities and towns to use their comprehensive plans or master plans as a vehicle to create affordable housing. Harvard has benefited from local activism to increase the supply of low-income housing, notably through the efforts of its Housing Partnership Committee and the Harvard Conservation Trust (HCT). However, Harvard does not have any agreed-upon strategies to develop affordable housing, in part because it lacks a coherent and sustainable housing policy.

By using federal funds to rehabilitate older housing units, HCT developed nine units of low-income and below-market rental housing in Harvard. Earlier this year, however, the cost of lead paint compliance at the Great Elms reportedly led HCT members to question whether their organization has the capacity to develop and manage affordable rental housing. Harvard also has a local housing authority, which voters established pursuant to the *Harvard Town Plan* (1988). However, the housing authority never developed any low-income units, in part because public housing funds all but disappeared not long after the authority was created. Harvard's experience with comprehensive permits seems to have been positive so far: small developments that are compatible with the character of the town. Despite noble efforts by HCT and the Housing Partnership Committee, Harvard's Chapter 40B inventory includes only 41 units of low-income housing – or 54, if DHCD includes the affordable units built at Harvard Hills under Phase I of the *Devens Reuse Plan*.

Harvard needs an affordable housing strategy, but it also needs to think about housing policy in broader terms. Some communities believe that if less than 10% of their year-round housing stock consists of low-income units, they do not have enough affordable housing. Communities with subsidized housing that exceeds 10% believe they have too much, or more than their fair share. The widespread perception that 10% defines affordable housing need stems from a misreading of Chapter 40B and regrettably, it leads to local housing plans that some towns will never be able to implement. To put the 10% rule in perspective, 9.16% of the Boston metropolitan area's year-round homes are low- and moderate-income housing units. These 124,140 units (including Harvard's 41) constitute 58% of the state's entire Chapter 40B inventory. Despite the size of the region's low-income housing portfolio, 24% of its homeowners and 37% of its renters are housing cost burdened today.

From the perspective of local governments, reaching 10% is important because doing so protects against unfriendly comprehensive permits. However, focusing on the 10% rule implies that housing needs are limited to low- and moderate-income people. It also assumes that if every community achieved 10%, the Commonwealth's housing needs would be met, yet Census 2000 data show that at least 32% of all households in the Boston metropolitan area alone qualified as low- and moderate-income.

### *Affordability gap*

Harvard's need for housing affordable to low-income persons is evident in recent federal census data, which suggest that at least 205 households (11.3%) in town met the definition of low-income under income limits set by HUD for calendar year (CY) 2000. There are other indicators of need, however. First, nearly 20% of the town's population is over 55 and 16.5% of its households have at least one family member over 65, yet the town provides only 24 units of elderly housing and all of it is restricted to low-income persons. Nearly 340 Harvard residents depend in part on Social Security or other retirement sources of income, and of the town's over-65 population (451 people), more than 30 lived below poverty when the census was taken in April 2000. Twenty-three percent of Harvard's elderly population has a disability. The existing elderly housing inventory is not large enough to provide choice to lower-income elderly residents. In addition, by limiting the elderly housing inventory to low-income units, Harvard offers no choice to seniors whose incomes exceed federal guidelines.

Second, despite the significantly greater incidence of wealth in Harvard than in the state as a whole, the percentage of Harvard homeowners paying more than 30% of their income on housing (21.3%) is very close to the statewide average (22.7%) and slightly exceeds that of Worcester County (21%). Harvard's high incomes do not necessarily mean that residents can afford to live in the town. A household with earnings equal to the Census 2000 median household income for Harvard, or \$107,934, could afford to buy a home priced at about \$309,000. However, the median single-family home sale price in CY 2000 was \$410,500.

Harvard's housing stock consists almost exclusively of large, quite expensive single-family homes. It is not surprising that the town attracts affluent households, many with school-age children. Clearly, however, Harvard lacks housing types that attract and are suitable for a mix of households and people. It also lacks housing affordable to people who work in the community: not only employees of the town and school department, but also of local establishments. Its lure to highly educated, wealthy families with children owes directly to the composition, size and price of its housing stock. Harvard gains from having a population that demands and is willing to pay for one of the state's finest public school systems. People move to Harvard expecting more than educational excellence, however. They expect the town's rural ambience to endure, they want privacy, and they want the social advantages of living in small town. It stands to reason that many Harvard residents want to keep their town small. Zoning, naturally occurring development constraints, the market and Harvard's location have spawned a definition of "small" that favors single-family residences on large house lots. By controlling the absolute number of homes built in Harvard, townspeople have hoped to restrict the population as well.

### **Fiscal Implications**

Harvard's residential growth trends raise important questions about the town's fiscal future. The escalating cost to live in Harvard involves two key barriers: housing prices and real estate taxes. It costs the town about \$8,420 per year to provide municipal and school services to its overall base of single-family homes, and considerably less to serve residents living in other types of housing. This applies to not only elderly persons in a development such as Foxglove Apartments, but also the generally smaller households that live in Harvard's sparse inventory of rental units and condominiums. Undeniably, single-family homes with no school-age children and very high-end homes, with or without children, bring surplus revenue to the town. At the same time, many single-family homes cost the town more than \$8,420 per year because they are the prime generators of education costs.

To the extent that single-family housing remains the home of choice for families, Harvard must consider the implications of perpetuating single-family development for near- and long-term demands on local government expenditures. The town may (and should) sponsor or approve more affordable low-income housing units. Its existing Chapter 40B shortfall is approximately 140 units, and the town should aim to provide at least 5% of its housing base for occupancy by elders who need alternatives to single-family homes. However, if Harvard does not address the larger relationship between housing stock and household composition, the annual cost of real estate taxes will further erode the buying power of moderate- and middle-income families. It will also induce single-family home sales by the childless couples, one-person households, empty-nesters and elderly residents who effectively subsidize the cost of government in Harvard. The "housing gap" in Harvard has two dimensions: cost and diversity. Both are tied inextricably to land use, for Harvard's gradual increase in residential land consumption per capita is an indicator of conditions described elsewhere in the master plan, e.g. larger lot sizes and the changing scale and character of Harvard's built environment. Harvard is a beautiful community, but growth consistent with recent trends is not sustainable on resource consumption, social or fiscal grounds.

## Harvard's Economy

Economic development refers to the business and industrial base of a city or town: establishments that provide jobs, goods and services in the community. Some municipalities see economic development as an asset that brings local employment and tax revenue, yet others see it as a threat to town character. Harvard residents appear to want more opportunities to shop in town, but they are loath to endorse changes that may “commercialize” the town’s appearance or attract unwanted traffic. Viewed in their entirety, the master plan goals argue for an approach to economic development that focuses on two issues: the role that village development can play to strengthen Harvard’s tax base and preserve rural character, and the retention of agriculture as a component of the local economy.

### Ayer Road Commercial District

That Harvard’s employment base is neither large nor composed of high-paying jobs is hardly surprising. The employment profile described in Chapter 2 is consistent with local actions to contain economic growth, for townspeople have historically resisted commercial and industrial development in Harvard. Two years before completion of the *Harvard Town Plan*, town meeting endorsed a citizen petition article to eliminate a 100-acre industrial district along the railroad right-of-way adjacent to Fort Devens.<sup>12</sup> In addition, while preparing the *Town Plan*, Connery Associates found that under then-existing regulations, Harvard could absorb another 3.5 million square feet of non-residential development, mainly in the C District on Ayer Road. The Planning Board quickly sponsored a town meeting article to reduce the zoning bylaw’s floor-to-area ratio (FAR) from .25 to no more than the greater of .10 or 8,000 square feet per lot.<sup>13</sup>

By capping the C District’s development potential, the town effectively limited the value of its commercial land and the diversity and adaptability of its economic base. One consequence of Harvard’s approach to economic development is a low fiscal return from commercial land uses. In FY 2001, the revenue surplus generated by business properties in Harvard was a modest \$247,744. Commercial real estate in Harvard is not under-assessed. Rather, the limited amount of revenue available from commercial land use parallels the limited amount of development allowed by Harvard zoning.

A second, more important consequence is that existing C District regulations essentially freeze the “strip development” character of Ayer Road. Writing down the development potential of land in Harvard’s only commercial zone impedes, and may fully obstruct, the district’s capacity to attract future investment. To the detriment of nearby residential neighborhoods and homes located along Ayer Road, the visual and operational character of Harvard’s C District differs significantly from other parts of town. The very limited complement of businesses located there cannot meet resident needs for goods and services, which means that Harvard not only transfers its own residents’ spending power to nearby communities but also generates considerably greater traffic than necessary or desirable for the kind of community that residents say they want Harvard to be: small, rural, diverse, and sustainable.

The C District could support more business activity in ways that improve traffic flow and public safety while also enhancing the quality of life for those who live on or near Ayer Road. Design standards and development incentives that encourage a village land use pattern – a place that invites people to live, work, shop, walk and invest in their community – seem essential for Harvard’s

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12. Special Town Meeting, January 1986.

13. Annual Town Meeting, March 1987 (Article 72).

well-being, yet the strategies required to accomplish these ends may seem counter-intuitive to a town where zoning policy has traditionally been more protective than directive about development.

A third consequence of curtailing development in the C District is that Harvard offers few employment opportunities to its own residents. Except perhaps for self-employed professionals, most residents could not afford to live in Harvard on the wages paid by local establishments. In addition to a housing affordability gap, Harvard apparently has a wage gap. Table 3-7 presents ratios of local to state weekly wages paid last year by private-sector establishments in Harvard. The ratios show that in Harvard, employees in seven industrial sectors earn weekly wages that exceed the state average (meaning wages that exceed 100%), but wages paid to employees in the remaining 29 sectors fall below the state average. Very low ratios in some categories probably reflect a disproportionate amount of part-time employment.

| Category of Employment                 | Wage Ratio | Category of Employment                 | Wage Ratio |
|--|------------|--|------------|
| Educational Services                   | 303.70     | Wholesale Trade-Nondurable Goods       | 79.50      |
| Private Households                     | 151.61     | Engineering & Management Services      | 74.70      |
| Business Services                      | 136.76     | Museums, Botanical, Zoological Gardens | 74.09      |
| General Building Contractors           | 112.42     | Personal Services                      | 71.35      |
| Communications                         | 107.99     | Insurance Agents, Brokers, & Service   | 70.49      |
| Heavy Construction, Ex. Building       | 105.35     | Local And Interurban Passenger Transit | 69.70      |
| Miscellaneous Manufacturing Industries | 91.09      | Agricultural Services                  | 64.62      |
| Miscellaneous Retail                   | 86.21      | Special Trade Contractors              | 56.55      |
| Health Services                        | 85.69      | Chemicals And Allied Products          | 53.12      |
| Auto Repair, Services, And Parking     | 81.02      | Depository Institutions                | 37.28      |
| Electronic & Other Electric Equipment  | 79.99      | Real Estate                            | 36.07      |
| Amusement & Recreation Services        | 79.65      | Printing And Publishing                | 30.42      |
| Agricultural Production-Crops          | 79.50      | Security And Commodity Brokers         | 29.53      |

Source: Mass. Department of Employment and Training, 2001.

## Agricultural Businesses

### *Putting Harvard's farms in context*

Agriculture is far more prominent in the state's economy than many people realize. In 1998, agricultural cash receipts totaled \$459 million in Massachusetts and the state ranks eighth in the nation for the value of fruit production: more than \$148 million annually. The economic effects of agriculture are impressive when measured by the downstream effects of the products generated on Massachusetts land. Statewide, farmers spend nearly \$212 million on farm "inputs" such as feed, seed, livestock, fertilizer, electricity and fuel. Farming itself employs about 21,583 people in the Commonwealth, only 0.7 percent of the state's total employment, but the state's food processing industry generates about \$2 billion in revenue annually and employs nearly 19,000 workers.<sup>14</sup> Four years ago, agricultural exports from Massachusetts totaled \$300 million and supported 3,600 jobs. In addition, Massachusetts-based agriculture generates \$21 million in income tax revenue, and the entire food industry – farms, food processing, grocery stores, restaurants, and agricultural suppliers – generates \$283 million in income tax revenue. Including farm support services, it is estimated that agriculture generates in excess of \$1 billion annually within the Bay State.

Worcester County farms sold nearly \$58 million worth of agricultural products in 1997, or 13 percent of the state's total. In fact, Worcester County ranks fourth among all counties in the U.S. for the value of direct sales of agricultural products to consumers: nearly \$5 million, or 25 percent of the state's total. For apple production, Worcester County ranks 47<sup>th</sup> among all U.S. counties. There are 1,825 workers employed on 271 farms in Worcester County, and 676 worked on farms 150 days or more during the year.<sup>15</sup> According to the most recent Agricultural Census (1997), the average Worcester County farmer is 56 years old and has operated a farm for 22 years. The principal operators of 178 farms and 10,278 acres in Worcester County are women.<sup>16</sup> Moreover, the County's farm establishments paid more than \$9 million in wages to workers in 1997. In short, agriculture remains a major economic force in Worcester County.

Over the past 30 years, global and nationwide agricultural competition has caused profound shifts in the revenue base of Massachusetts farms, from wholesale production to a mix that emphasizes local retail sales through farm stands and cooperatives. Massachusetts ranks second nationally in value of average direct market sales per farm, or \$16,000 per farm. Moreover, Massachusetts leads New England for direct sales of farm products to consumers. At \$20 million in direct sales, Massachusetts farmers were responsible for 35 percent of New England's total.<sup>17</sup> Massachusetts ranks seventh nationally in total value of direct sales, following California, Pennsylvania, New York, Michigan, Ohio, and Wisconsin, respectively.

The gradual shift away from wholesale production has led to a renewed emphasis on small, family-owned farms, which often are not large enough to provide a family's sole source of income. More than 80% of Massachusetts farms are family-owned ventures, and over 93% qualify as "small farms" as defined by the U.S. Department of Agriculture (USDA), meaning sales below \$250,000.

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14. Holm, et al., *Agriculture's Hold on the Commonwealth* (University of Massachusetts Donahue Institute, 2000), 1.
15. Massachusetts Department of Food & Agriculture, < profile\_worcester.htm >.
16. USDA, National Agriculture Statistics Service, 1997 Census of Agriculture, County Data, 153.
17. Massachusetts Department of Food & Agriculture, <<http://www.massdfa.org/funding/apr/savingfarmland.htm>>

Seventy-six percent of the state's farms report sales under \$50,000/year. Many Massachusetts farmers now hold full-time, non-farm jobs while continuing to work their farms on the side. Between 1974-1997, the percentage of farm operators for whom farming is not a primary occupation increased from 39-47%. Massachusetts farms are generally small: 73% have less than 99 acres of land, but they are quite productive. At \$6,450 per acre, Massachusetts ranks fourth in the nation for farmland value. The state also ranks fourth for net farm income per acre at \$327.<sup>18</sup>

Agriculture continues to be a significant component of the Commonwealth's overall land area, though it has decreased in the past half-century. In 1945, Massachusetts had more than two million acres of land in agricultural use. Today, however, the state's 6,200 farms occupy a combined total of 600,000 acres of land, which means that Massachusetts has lost an average of 40,000 acres per year since 1945. Across the Commonwealth, farm acreage declined by about 14 percent from 1974-1997. Worcester County lost the most agricultural land during this period.<sup>19</sup> Its present base of 103,400 acres – about 20% of the state's total – is distributed among 984 farms, placing Worcester County ahead of all other counties in Massachusetts for both total amount of farmland and number of active farms. As of 1997, there were 431 orchards in Massachusetts with combined holdings of 6,546 acres. Not surprisingly, Worcester County tops the state: 114 orchards and 2,838 acres.<sup>20</sup>

### *Preserving farms*

Massachusetts farms and orchards face a number of challenges, and Harvard's are no exception. Keeping farms profitable in a more competitive global market is one issue, but it is not the only factor that affects agriculture in New England. The expansion of urban areas requires land, which in turn creates pressure on local farmers to sell or develop their property. In addition, hardships created by crop failure, a decline in sales from changing trends in food consumption, and higher property tax bills conspire against farms, especially small farms.<sup>21</sup> These and other forces make it difficult for individual property owners to retain productive agricultural land.

Farms and orchard owners in Harvard report that at times, the town has resisted attempts to diversify farm store operations with bakery or dining services. The need of farmers to make a living by promoting the retail end of their business often runs counter to the public's disdain for "commercial" development. Although the desire to prevent "commercialization" is hardly unique to Harvard, the town's base of farms, the historic importance of farming to the local economy, and the defining impact of agricultural landscapes on Harvard's identity *are* unique. In many communities, the general public sees agriculture as an open space issue, but to the owners of farmland, agriculture is an economic issue. Local government and farms in Harvard face the same challenges as their counterparts throughout the state: a more competitive global marketplace that makes profitability difficult even under the best of circumstances, and an aging population of farmers with few or no successors to take over for them.

If Harvard wants to preserve its agricultural heritage, local officials and residents must be open to strategies that encourage economically viable farms – above and beyond preserving farmland as open

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18. USDA, National Agriculture Statistics Service, 1997 Census of Agriculture, State Data, 6.
19. Holm, *Agriculture's Hold on the Commonwealth*, 3.
20. USDA, National Agriculture Statistics Service, 1997 Census of Agriculture, County Data, 153.
21. Massachusetts Department of Revenue, "Preserving Massachusetts Farms," *City & Town* Vol. 10, No. 2 (February 1997), 1.

space. Acquiring development rights, as Harvard has already done with Agricultural Preservation Restrictions (APR's), sponsoring farmer's markets and encouraging local farm stores will be essential ingredients of any plan to save the town's farms and orchards.

## Natural and Cultural Resources

Natural and cultural resources contribute indelibly to the meaning of "rural character" in Harvard. Preserving them is intertwined with protective land use policies. Understanding that buildings are not isolated objects but interpreted within their cultural settings, Harvard wants to preserve not only its significant buildings but also their surroundings, or historical context. Contextual settings may include historic landscapes as well as ancillary features such as barns, sheds and stone walls. These historic elements are an important part of the extant fabric of Harvard and warrant protection. In addition, the community recognizes that view sheds, scenic vistas and visual corridors, which may be part of a specific historic or natural setting, are as important as elements of the built environment and also merit protection.

To accomplish its community vision and goals, Harvard needs strategies to address near-term and incipient risks, a commitment of resources to protect irreplaceable assets, and adequate local capacity. Toward these ends, the master plan update focuses on three issues: the Town Center, Bare Hill Pond, and increased protection for Harvard's historically significant properties, notably in Still River Village.

### Town Center

The Town Center, an assemblage of historic buildings surrounding two common areas, is the visual heart of Harvard and one of the town's most significant assets. It is also among Harvard's most challenging preservation issues. Harvard wants to "ensure a vibrant town center by maintaining a balance of residential, commercial, municipal and institutional uses," yet local policies seemingly run counter to this important master plan goal. Wastewater disposal, zoning and parking collectively limit the Town Center's flexibility to adapt to growth and change in Harvard.

Harvard Center properties depend on individual septic systems. Many of them are or may be substandard under current Title V (Massachusetts Environmental Code) regulations. Echoing the sentiments of many residents, the Town Center Septic Committee and the Town Center Planning Committee visualize Harvard Center as "a vibrant, active part of community life," and a "living and dynamic" civic center. By recognizing that Harvard Center is "not a frozen, historical remnant," the Town Center Septic Committee has implicitly identified the community's responsibility and desire to balance contemporary (and future) uses with preserving the center's historic character. When buildings outgrow their current uses and need to be reprogrammed, the choices available to private, public and non-profit institutional property owners will be limited in part by the feasibility of bringing existing septic systems into compliance with Title V and local Board of Health requirements.

The lack of a district-wide wastewater plan affects all of the Town Center and is closely tied to the preservation and reuse of significant historic properties, including the Public Library, the Hildreth House and the Unitarian Universalist and Congregational Churches. For example, Harvard wants to relocate the library to Old Bromfield in the next three to four years. The State Board of Library Commissioners has committed \$2.5 million to renovate Old Bromfield and construct an addition. The town and library trustees have pledged to provide \$3.5 million, the estimated amount necessary to complete the project. Disposition and reuse of the existing library must account for its septic system limitations. A new use that generates the same amount of wastewater (or less) than the library may also be one that meets the town's needs and is appropriate for the building. It is equally possible that a use desired by the town will be rendered infeasible by Title V requirements. However, wastewater disposal should not be the factor that determines how this and other properties in the

Town Center are used or reused. Use regulation is the province of zoning, not of Title V or other codes.

Harvard residents speak of their Town Center as a place with generally understood boundaries and recognized landmarks, e.g., the commons, the library, churches and schools. Although thought of and described as a district, the Town Center has not been *planned* as a district. It lacks not only wastewater disposal capacity, which is key to sustaining a mix of land uses, but also relevant zoning. Its existing businesses, housing mix, and many of its single-family homes are non-conforming under current regulations of the Harvard Zoning Bylaw. Both the *Comprehensive Plan* (1969) and the *Harvard Town Plan* (1988) advised Harvard to revisit zoning in the Town Center — and for that matter, in the “B” District — but the town did not implement these recommendations. The *Harvard Town Plan* acknowledged the reluctance of residents to change the status quo, and possibly they are still reluctant today. However, when residents gathered in 2001 for “Phase I” meetings to discuss Harvard’s future, they spoke of Town Center outcomes that the status quo is more likely to impede than support:

- Make the Town Center pedestrian-oriented.
- Serve local needs for shopping and cultural activities.
- Identify alternative septic options for the Center.
- Decide on potential change in use for all buildings in the Center.
- Address the old Post Office<sup>22</sup>
- Decide the future use(s) of the Library and its impact on other public buildings.
- Address parking, pedestrian and bicycle access in Town Center
- Maintain the tree canopy and develop a landscape plan for the Town Center
- Create a mixed-use village: provide services, amenities and gathering places.

Harvard’s ability to accomplish these objectives will depend on a unified approach to three district-level challenges: wastewater management, land use, and community services. The latter includes schools, municipal buildings, and notably, parking. Since 1988, the Town Center has seen virtually no increase in on- or off-street parking, but in the same period Harvard has grown by approximately 249 homes. Housing and population growth affect the Town Center regardless of where new development occurs. Most residents use the library and Town Hall, and about 40% of Harvard’s households have children in the Harvard Public Schools. Moreover, as population growth continues, the town’s churches will be pressed to serve larger congregations. For churches in the Town Center, two types of space requirements may become very difficult to address in their present locations: building space, which is constrained by septic systems that are already at or near capacity, and parking. Harvard has begun to explore parking and pedestrian access opportunities associated

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22. This property has since been occupied by a dry cleaning shop.

with the expansion of Bromfield School and the library's relocation to Old Bromfield (see Fig. 3-A). A comparable approach to the entire Town Center seems critical.

The Hildreth House, located on a rocky knoll above Town Hall, is part of the "spirit" of the common since the property is not visible from the center today, although it could be. Despite its inclusion in the Harvard Center National Register District, the Hildreth House is not within the boundaries of the local historic district. Historically, the 5.66-acre site was renowned for its landscapes and gardens. Owned by the town and used by the Council on Aging and other municipal groups, the 2-1/2 story, c. 1900 Shingle-style building is fundamentally sound but it needs new heating and electrical systems, general restoration work and landscape preservation. The future use of Hildreth House will depend on the Town's space needs, the condition of the building and grounds, wastewater disposal, and the financial feasibility of restoring/preserving the site. The Finance Committee projects that in FY04, Harvard could appropriate \$150,000 for restoration of the Hildreth House. The town recently received a \$10,000 grant from DEM to develop a Historic Landscape Preservation Master Plan. The Friends of Hildreth House hope to concentrate their near-term efforts on clearing part of the site that obstructs views to the common. Ultimately, the Friends envision the Hildreth House and grounds as an extension of the common with shaded walkways, open vistas and seating areas. The Hildreth House could make an important contribution to the Town Center's visual character and mix of community services. It should be incorporated within a larger plan for the entire area.

The Town Center is critical to Harvard's identity, rural character and sense of community. It is a special place and as such, the Town Center requires special considerations in order to assure its continued vitality. Harvard needs a district plan that integrates land use, architectural and urban design, environmental management and transportation opportunities in the Town Center. Existing policies are not adequate to inspire and sustain a vibrant, mixed-use village. A wastewater collection and disposal system, village center zoning that supports the Town Center's historic development pattern, public realm improvements, and resolution of enduring tensions over future public school sites in Harvard will be necessary elements of a successful plan. Regardless of whether these elements are carried out incrementally, they should be planned comprehensively.

### **Bare Hill Pond**

Water is one of Harvard's most critical growth management issues. The quality and adequacy of groundwater, water consumption, and non-point pollution risks to Harvard's ponds, streams and associated wetlands are inextricably affected by land use decisions. Townspeople worry that Bare Hill Pond is particularly at risk from over-development within the watershed.

Local records suggest that Harvard has worked very hard to protect and maintain the pond. The town has a committed corps of volunteers participating in water quality monitoring and weed control, it has appropriated funds and secured grants to study water quality and identify pollutant sources, and it has adopted zoning bylaws that limit development in critical wetland areas within the watershed. In addition, Harvard's Board of Health and Conservation Commission apply and enforce not only state laws but also local bylaws and regulations. Finally, both the town and the Harvard Conservation Trust have acquired land around Bare Hill Pond. Although Harvard does not have a comprehensive management strategy for Bare Hill Pond, many of the component parts are in place. Harvard's lack of a watershed management plan appears to stem from at least three factors:

- Cost – in terms of data, analysis, planning, and implementation.
- An altogether common problem in very small towns: coordination among various town boards, commissions and other groups that share planning, regulatory and management responsibilities, i.e., there is no single entity with jurisdiction over all activities that affect the pond.
- Weak or conflicting state policies.

Water quality at Bare Hill Pond is affected in part by development that occurs within its 3.5 square mile watershed. Since virtually all of the development is residential or agricultural land use, septic systems, farming and forest management practices need to be examined as collective forces operating across the watershed. The likelihood that existing septic systems are primary sponsors of nutrients reaching the pond seems strong, given available water quality data and the conclusions of past modeling studies (Whitman and Howard, 1987; ENSR, 1998; DEP, 1999). Historical forces have also contributed to making the shallow flats of Bare Hill Pond vulnerable to nuisance aquatic plant growth today. It is important to clarify and prioritize risk conditions so that local policies work compatibly and effectively to reduce phosphorous loading throughout the watershed.

## **Historic Preservation**

Harvard has several historic preservation needs that must be addressed in order to implement the goals of the master plan update. They include protective regulations and policies for Still River Village, maintenance and management of historic resources, and additional district and property nominations to the National Register of Historic Places.

### *Still River Village/Prospect Hill*

Still River Village extends nearly a mile along Still River Road. Surrounded by grassy, open fields, the village has been surveyed but only one building, the Still River Baptist Church (now home of the Harvard Historical Society), is listed on the National Register of Historic Places. At public forums and community meetings held for the master plan update, residents said they want to preserve the historical character of the Still River Village area. Unlike the Town Center, Still River is not protected by a local historic district designation. The lack of protective regulations for Still River Village makes its buildings vulnerable to alterations that may compromise the overall historic integrity of the area. Moreover, Fruitlands will remain vulnerable until permanent protection mechanisms are put in place – by the town, or the town in concert with other organizations.

Public advocacy is critical to preserving the town's architectural and historical character. Possibly, there has been insufficient information or public education about the importance of Harvard's cultural assets. The historic, largely unaltered character of Still River Village is at risk without preservation incentives and a local historic district. Significantly, residents of Still River opposed establishing a local historic district for the village during the 1970s. A concerted effort by Harvard's preservation community to inform and educate residents and officials about the importance of historic resources may avert potential threats to treasures such as Still River Village, and help create safeguards to ensure their protection. At the same time, Harvard's planning community can help to assure that new development respects and enhances the character of the Still River area. A village-center overlay district with appropriate site plan and design controls, a workable provision for residential cluster development, and incentives to preserve historic institutional architecture would help to achieve the town's goals for this unusual section of Harvard.

Harvard has a commendable record of achievement in historic preservation. However, though it may seem unlikely to Harvard residents, the Still River section is highly vulnerable to changes that neither the town nor those living in and around the village would want to occur. It has a considerable amount of vacant land, stunning views, a large number of historically significant properties, and institutional land uses that are not permanently protected.

### *Shaker Village Historic District*

Two resources within the Shaker Village Historic District have been identified as meriting special protection. Recently, the town acquired an herb-drying shed, a stone structure built between 1835-1845, which is located within the main Shaker village on Shaker Road. Largely invisible due to its location, the shed is in extremely poor condition and in danger of collapsing. The Historical Commission plans to hire a consultant to develop a conditions report on the structure when funding

Fig. 3-A: Parking & Pedestrian Plan, New Public Library (Old Bromfield)-School Complex



Courtesy Carol R. Johnson Associates.



is available in 2003. The shed requires temporary stabilization that the Historical Commission may finance with Community Preservation funds. Holy Hill, the historic outdoor worship grounds for the Shakers on South Shaker Road, has also been identified as needing regular maintenance. In addition, the signage marking the Holy Hill site is deteriorated and needs replacement.

### *National Register Nominations*

Harvard's efforts to protect historic resources could be enhanced with additional Survey and Planning Grant funds from the Massachusetts Historical Commission (MHC). Budget constraints have led MHC to limit its Survey and Planning Grant Program to local historical commissions that are designated as a Certified Local Government (CLG). Harvard's Historical Commission, a CLG since 1991, has received three Survey and Planning grants in the past. The grants, which require a local match, may be used to fund building surveys, nominate properties to the National Register, prepare preservation plans and hire administrative staff. In Harvard, Survey and Planning Grants could finance public education about the benefits of protecting vulnerable resources through local historic districts. In addition, several historic areas and individual properties identified in Appendix G have been recommended for listing in the National Register.<sup>23</sup> Survey and Planning grants could fund the nomination process for some or all of these historic assets.

## Open Space & Recreation

The centrality of open space is a recurring theme in Harvard's community vision and master plan goals. "Open space" broadly refers to land with natural resource, wildlife or scenic importance: an area of natural landscape essentially undeveloped, such as ridges, streams, natural shorelines, scenic buffer areas, and agricultural lands. It may also include land withdrawn from a community's tax base to reduce the amount of development that occurs within its borders, to prevent over-development of densely settled areas, or to preserve rural imagery in the wake of suburban change. In Harvard, significant wildlife habitat, environmentally sensitive areas, sweeping vistas, and agricultural landscapes endure today almost entirely because of local initiative. However, the town owns relatively little land for municipal and school buildings, parks, playgrounds and playing fields, and other community facilities. Local expenditures on land acquisition have clearly favored conservancy over other public purposes. Residents value open space as an emblem of their town's rural character and the quality of life that attracts people to Harvard.

Harvard faces a number of open space and recreation challenges as the town continues to grow. Its open space and outdoor recreation concerns differ in several ways, yet there are at least two shared problems: local capacity and funding. Although the uncertain fate of Devens complicates Harvard's ability to plan for the future, many of the town's open space and recreation needs have little to do with Devens. However, Harvard ought to be vigilant about the protection of open space at Devens – especially open space that affects the quality and abundance of natural resources.

### Conservation & Open Space

Harvard's stellar track record in open space protection belies how hard it is for very small towns to defend their natural and cultural assets. The impressive size of Harvard's conservation land inventory is actually a measure of sustained labor by town volunteers, the dedication of local taxpayers, and sophisticated work by the Harvard Conservation Trust (HCT). Except for activists in a handful of

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23. Dempsey, Comprehensive Harvard Historic Survey.

other towns that take open space as seriously as Harvard has since the early 1960s, most outsiders could never appreciate the effort and money that Harvard has invested in protecting farmland, wetlands, wildlife areas and scenic hills.

Despite the value that residents place on open space, Harvard has fared poorly at using non-zoning techniques to protect its vacant land. This is particularly evident in the land use and development trends described in Chapter 2. Even though Harvard has acquired a considerable amount of open space, the town lost more open space *per dwelling unit* to development that occurred between 1971-1991 than between 1951-1971. In addition, though most everyone in Harvard sees open space as a major land use priority, the spirit of conservancy does not always translate into *workers* – that is, people with time, knowledge and resources to strategize, scout for open space projects, build relationships and negotiate with land owners, orchestrate resources, write open space plans and grant applications, network with town officials and residents, and defend acquisition proposals on town meeting floor. To meet the town's natural resource and town character goals, at least three important open space considerations must be addressed:

- Despite Harvard's long-standing commitment to open space protection, it has been difficult for the town to maintain timely updates of its open space and recreation plans. The last plan was written in 1995 and reissued in April 1996. Unless Harvard updates its open space and recreation plans every five years, the town will not qualify for Self-Help Program grants that help to reduce conservation land costs. The problem is not lack of interest. Rather, it is lack of time and personnel to coordinate the planning process, and limited access to mapping expertise.
- Harvard could protect far more open space at no cost to taxpayers by providing effective, reasonable alternatives to standard subdivisions or the more common mode of development, the Approval Not Required (ANR) lot. Harvard may need to offer a modest density incentive to attract open space-cluster development, but the residential growth impacts would be *de minimus* compared to the benefits of permanently protected open space. For example, a density bonus of 10% is fairly common in cluster bylaws that require 50% or more of a site to be preserved as open space. Moreover, by creating incentives to develop small, attached housing units in cluster developments, Harvard may reduce the negative fiscal impacts of new-home construction while gaining more open space. Finally, cluster development regulations can be an invaluable tool for coordinating trail connections between neighboring tracts of conservation land.
- Harvard's adoption of the Community Preservation Act (CPA) reinforces what is evident in the town's land acquisition history and the most recent Open Space & Recreation Plan survey: residents want to save their open space. CPA revenue should be used to supplement, but not to replace, traditional spending on conservation land. It must be remembered that CPA addresses *three* statutory objectives: open space, housing affordability, and historic preservation. If Harvard transfers all or even the majority of its conservation land needs to CPA, the town will either devote fewer resources to open space or devote no resources to affordable housing and historic preservation: areas where serious needs exist and for which Harvard has no other local revenue sources.

## Outdoor Recreation

Places to participate in or observe a variety of leisure and competitive sports are important to people of all ages. Given the number of households with children, the town's large land area and its broadly distributed development pattern, Harvard has a fairly limited supply of active recreation areas. The recreation needs that exist in Harvard today will be exacerbated by new development unless the town has a workable plan to address them. Activity and participation statistics presented in Chapter 2 show that residents value all that Harvard has to offer, yet inadequacies in the location, type, size and

features of Harvard’s recreation inventory were evident to residents who participated in the Phase I master plan process.

*Adequate facilities*

Table 3-8 summarizes a set of industry guidelines for parks and outdoor recreation facilities. The guidelines identify the number and types of facilities that should be available in a given service area, measured by population, geography or both. Though the guidelines are advisory and some pertain more to urban communities than small towns, they provide a starting point for evaluating Harvard’s recreation facilities.

**Table 3-8: National Recreation and Park Association Park Land Standards**

| Facility                | Recommended Area                                       | Units per Population | Service Area    |
|-------------------------|--|----------------------|-----------------|
| Basketball Court        | 7,280 sq ft  | 1 per 5,000          | 1/4 - 1/2 mi    |
| Tennis Court            | 7,200 sq ft (1crt)                                     | 1 per 2,000          | 1/4 - 1/2 mi    |
| Volleyball              | 4,000 sq ft  | 1 per 5,000          | 1/4 - 1/2 mi    |
| Baseball (Youth)        | 1.2 acres min.   | 1 per 5,000          | 1/4 - 1/2 mi    |
| Softball                | 1.5-2 acres  | 1 per 5,000          | 1/4 - 1/2 mi    |
| Multi-Use Court         | 9,840 sq ft  | 1 per 10,000         | 1/4 - 1/2 mi    |
| Trails                  | 1 trail system per region                              |                      |                 |
| Play Lot                | .1-.3 acres  | 1 per 500-2,500      | 1/4 mi          |
| Neighborhood playground | 5-10 acres per facility; 2 acres per 10,000 population | 1 per 1,000-5,000    | 2 mi            |
| Neighborhood park       | 6-8 acres per facility; 2 acres per 1,000 population   | 1 per 1,000-25,000   | 2 mi            |
| Community playfield     | 15-25 acres per facility; 1 acre per 1,000 population  | 1 per 10,000         | Biking distance |
| Major community park    | 25-35 acres; 5 acres per 1,000 population              | 1 per 10,000         | 1-4 mi          |
| Community green space   | Varies; 1 acre per 1,000 population                    | Not established      | Not established |

Source: National Recreation and Park Association. Since most NRPA standards apply to communities with populations >6,000, they must be applied cautiously in towns of Harvard’s size.

Harvard clearly meets several NRPA standards when measured by population served. However, Map 3-B shows that geographic service area guidelines are not met in several parts of Harvard today. Five issues seem particularly compelling:

- Harvard does not have any play lots equipped for pre-school children. Parents of pre-school children must travel to facilities in neighboring towns, e.g., Ayer and Acton.
- The number of public tennis courts in Harvard surpasses NRPA population standards, but the courts are in very poor condition.

- Harvard's established recreation areas are not accessible to persons with disabilities, but the new McCurdy Field on Lancaster County Road has been designed as a barrier-free facility.
- The southeastern and northeastern sections of Harvard have no neighborhood-level parks or play areas.
- Although the Town Commons clearly qualifies as community green space that supports a variety of activities, parking in the Town Center is severely limited. Opportunities to develop additional parking exist, but parking in the Town Center must be planned carefully so that it does not intrude on the historic, open character of the village.

#### *Other recreation needs*

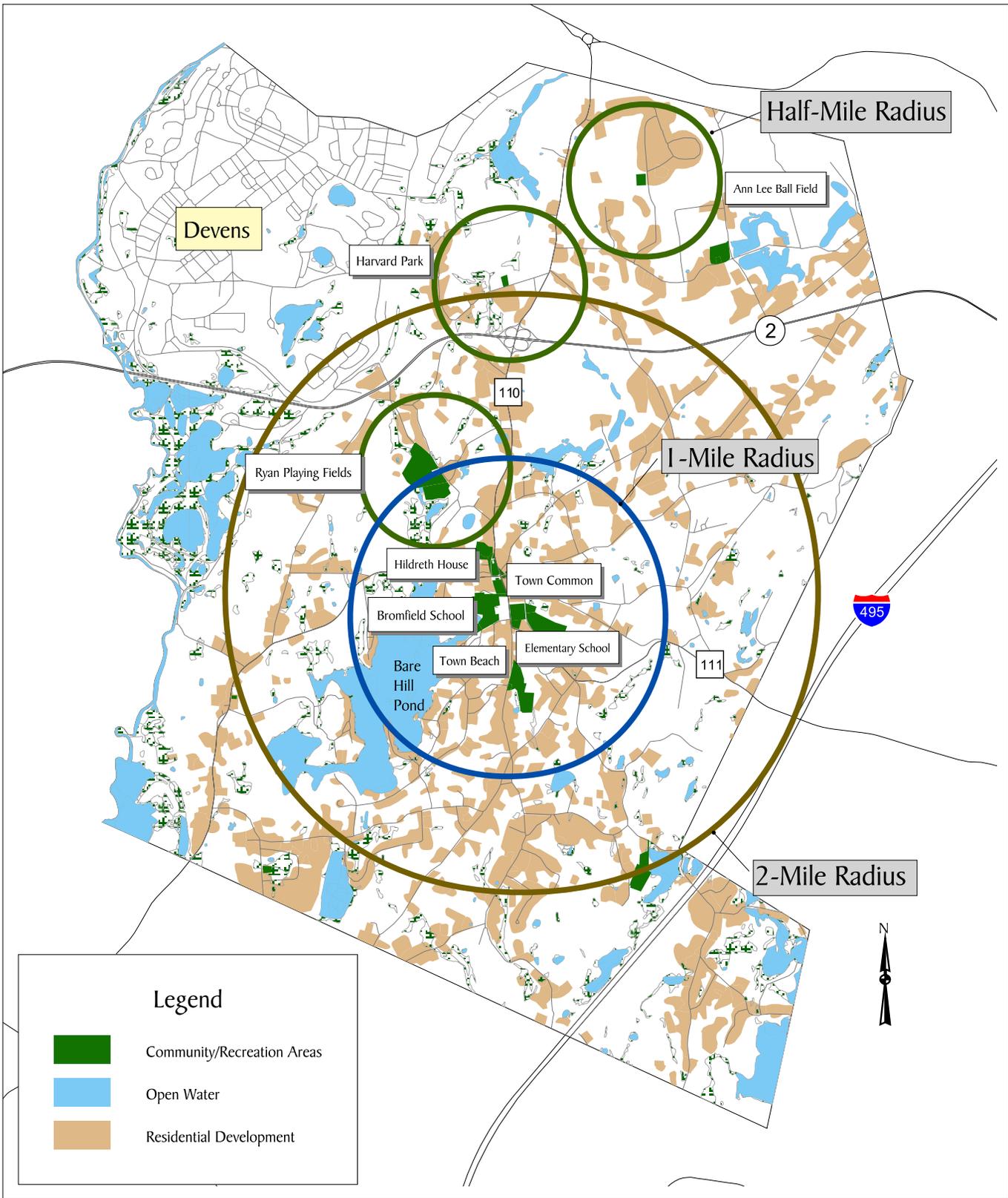
Along with adequate facilities, there are programmatic and policy concerns that affect recreation management in Harvard. For example:

- A recreation shortfall currently exists in the administrative side of recreation. The Harvard Athletic Association (HAA) has generally been able to find enough volunteer coaches and referees. In some cases, students are paid a nominal fee to provide referee services. However, HAA has seen a decrease in administrative volunteers, making it difficult to provide consistent organizational support in the creation and oversight of leagues and in the day-to-day functioning of the organization.<sup>24</sup> The HAA has considered hiring paid administrative support but has not done so because of budget constraints.
- Harvard's Park and Recreation Commission has no budget for extraordinary maintenance and renovations to existing recreational facilities.<sup>25</sup> As a result, maintenance and upkeep responsibilities generally fall to the Public Works Department, which is stretched tightly by other responsibilities throughout town. As a result, fields are not always maintained at an optimum level. Residents have expressed concern about the maintenance and irrigation of some of the town's playing fields, but both the Public Works Department and the HAA are constrained by lack of funds.
- Because land costs are prohibitive and open space is a major priority in Harvard, recreation advocates sometimes find it difficult to locate areas that are suitable for expanded or new facilities. While the construction of two new soccer fields will likely meet foreseeable demands, there is a need for added capacity in basketball gym space, tennis courts and potentially, in baseball and softball fields. Harvard has given primacy to conservation and open space planning over recreation planning for a long period of time. Although the *Town Plan* (1988) foresaw needs for neighborhood-level recreation areas, no land has been acquired or set aside for this purpose. Harvard has moved forward to develop soccer fields on land that the town received as a gift, however.

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24. Steve Frost, President of Harvard Athletic Association, interview by Rahul J. Young, February 8, 2002.

25. Jim Lee, Chairman, Town of Harvard Park and Recreation Commission, interview by Rahul J. Young, February 11, 2002.



Data Sources: MassGIS, Harvard OPEN SPACE & RECREATION PLAN (1996), NRPA Standards.

Map by J. A. Barrett



# Harvard, Massachusetts NRPA Service Areas

Map 3-B



Community Opportunities Group, Inc.  
Boston, Massachusetts



## Community Facilities & Services

Community development affects the responsibilities of local government in several ways. School enrollment growth is the most obvious fiscal impact of new-home construction. In Harvard and many other towns, school budgets absorb more than half of all local operating expenditures. Enrollment growth also triggers increases in non-school spending, such as soaring debt service payments. Local governments experience the impact of population growth on municipal services as well. They process more tax bills, dispose of more solid waste, respond to more fires, traffic accidents and medical emergencies, impound more stray dogs, and inherit more roads to salt, sand, plow and sweep. Public libraries issue more patron cards and overdue notices, circulate more books, tapes and films, and process more inter-library loan requests. The same children who need teachers, textbooks and classroom space also create demands for soccer fields and playgrounds. Behind every contact between residents and the town clerk, school principal, building inspector or police officer lies the invisible yet crucial infrastructure of local government: administration and finance.

A master plan should anticipate the best possible fit between a town's population, size and land use pattern and the location of its public facilities. Like so many issues in Harvard, planning for adequate municipal and school buildings is complicated by the uncertain fate of Devens. However, Harvard will have to address these challenges even if the town declines to reclaim jurisdiction over its land at Devens. In fact, many of the public facility and service needs that exist in Harvard today were evident when the last master plan was written: before the Army announced that it would close Fort Devens.

### Planning for Public Facilities

Harvard does an admirable job at meeting resident expectations today. It has an established set of management and governance traditions that are obviously important to local residents, yet at times, Harvard seems so devoted to the excellence of its schools and the visual image of the town that other important needs are not addressed. Though Harvard benefits from having a decentralized form of government that attracts many qualified volunteers, a highly democratic system like Harvard's can bring consequences that are not always advantageous. For example, without a sizeable base of constituents, it is difficult to persuade residents that if Harvard wants to retain senior citizens, the town must focus not only on housing, but also on elder services and a fully accessible senior center. In addition, it takes considerable time, patience and coordination to agree on and implement policy in a form of government with many boards and commissions. As a result, a critical community resource like Bare Hill Pond lacks a comprehensive watershed management plan – not because Harvard lacks capable, committed town officials but rather, because there are so many of them.

Harvard faces fairly significant constraints in terms of public capital, available land and political will to address its long-term community facility needs. Local residents already tax themselves quite heavily to finance the cost of local government. Throughout the 1990s, town meeting appropriated nearly every dollar that was available under Proposition 2 ½, leaving Harvard with a very low percentage of “excess tax capacity” compared to most towns in Massachusetts. During the past few years, the town gradually rebuilt its cash reserves to pre-recession levels, but regardless of how affluent its mainstream population may be, Harvard is not in the same fiscal condition as several demographically similar communities. Absorbing more debt to construct new buildings or finance major renovations to existing buildings is not the only issue that Harvard has to contend with, however. Very little of Harvard's town-owned land was acquired for general municipal purposes. The town's dedication to protected open space has resulted in an enviable portfolio of conservation land and a strikingly limited amount of “flexible” land, i.e., for schools, a playground or playing fields, or a satellite fire station. If Harvard needs to relocate or expand facilities outside of the Town Center, residents will likely have to purchase land at prevailing market prices. It would behoove Harvard to acquire property for future school site now because the town still has a fairly generous supply of vacant land from which to choose.

The community vision statement describes Harvard's future in terms of a broader tax base, balanced spending, and a community of villages and small neighborhoods that house a diverse population. Whether Harvard should strive to keep current municipal and school services in the Town Center, it is important to recognize that as the town develops, future residents will need access to a range of possibilities for the location of public facilities. Another consideration is that Harvard Center's municipal buildings are historic assets and they need the town's stewardship. Routine maintenance, adequate budgeting for extraordinary repairs and scheduled capital improvements are essential to protecting the integrity of older structures, yet Harvard apparently has no long-range town buildings plan.

Planning for choice, not chance, is responsible and cost-effective management of town resources. To meet the goals of the master plan, the key facilities planning issues that Harvard needs to address include:

- The Town Center is Harvard's most important community facility. Its character-defining significance requires special attention from town and school officials alike. They *must* coordinate their policies and actions in order to protect the Town Center as a resource for everyone who lives in Harvard. The numerous town boards and committees with jurisdiction over activity in the Town Center can be an asset to a comprehensive planning process, but only if they work toward common goals.
- Local governance in Harvard involves many people – community volunteers and paid staff — who work hard to serve the town. Moreover, Harvard is a town that clearly prefers an open, participatory form of government, one that involves many committees. They need adequate, barrier-free space to conduct business. The inaccessibility of Harvard's public and school buildings places the town at risk of a corrective action order from state government, which has adopted policies to curtail public meetings in buildings that do not comply with the Americans with Disabilities Act.
- Harvard's near-term public facility needs have less to do with planning for new facilities than with managing and maintaining the existing portfolio of old, historically significant buildings. The town may benefit from a single oversight committee to address long-term municipal facility needs, i.e., a permanent town buildings committee.
- The Harvard Public Library is expected to move from its present location to Old Bromfield, which will be renovated and enlarged. Several possibilities exist for the present library when the Old Bromfield project goes forward, but there is no use and disposition plan for this important Town Center landmark. It will be important for Harvard to make library reuse decisions soon so there is adequate time to assemble preservation and development resources.

## Circulation & Traffic

A community's transportation network provides strategic links to adjacent towns, which means that local and non-local residents use it every day, regardless of their occupation, socio-economic status, or age. Views of neighborhoods, open space, and other land uses define a town's image and contribute to the sense of community that residents share. A roadway system that provides safe, efficient access for in-town travel and allows others to travel through town without interfering with local traffic flows is generally considered to be a good vehicular traffic network. It includes regional highways that are suitable for through traffic and commercial trips, and local roadways to provide access for residents and employees. The entire network must serve the needs of travelers whether they live within the town, have business within the town, or travel through the town.

Harvard is in a steadily growing region, namely the I-495 corridor, but it is also affected by the redevelopment of Devens. Taken at face value, current traffic volumes could double within the next five to ten years based on the number and size of development projects that are currently proposed or under consideration in surrounding towns and at Devens. For example, the Notice of Project Change (NPC) for Cisco Systems in Boxborough<sup>26</sup> identifies eighteen developments that are underway or planned in Boxborough, Littleton, Acton, Westford, and Maynard. The NPC indicates that along with trips generated by Cisco Systems, traffic volumes at the Route 110/Route 111 intersection in Harvard Center will see an increase of about fifty percent. While the NPC analysis is designed to be conservative and such studies tend to over-estimate traffic growth, the implications are clear: traffic volumes in Harvard will grow in response to internal and external development activity.

### **Non-Local Traffic**

Just as the Route 128 corridor changed significantly in the 1960s and 1970s, the I-495 corridor has grown recently and it will continue to grow. In addition to traffic generated by regional development, the prevalence of family households in Harvard means that a sizeable percentage of the town's daily traffic involves resident trips to the schools, children's activities, and shopping or appointments in business districts outside of town. According to statistics maintained by MassHighway, traffic on I-495 in Harvard's region has grown at a relatively fast pace in recent years: 2.9% per year between 1998-2000. However, since a single highway like I-495 may have several count stations, regional traffic growth recorded on the highway may not reflect a lower rate of growth or traffic volume declines on less travel routes. As a result, state traffic data must be used cautiously, though they do provide value in estimating future traffic conditions.

Cisco Systems in Boxborough and the redevelopment of Devens will be the most likely sources of non-local traffic on Harvard roads in the foreseeable future. Though the traffic generated by these facilities may not be as substantial as Harvard residents fear, the town will experience an increase in traffic volumes – as homeowners living on or adjacent to Ayer Road already know. In terms of Cisco Systems, at least two conditions are apt to dissuade commuters from using Harvard's roadway system on a regular basis. First, improvements at the Route 111/I-495 interchange are designed to induce traffic to use the regional highway network. Enhancing access to I-495 while making no improvements to travel in other directions should encourage Cisco-related trips to use the highway even if their goal is to travel west along Route 117 or Route 2. Accordingly, the environmental impact studies prepared for Cisco Systems assign some of the project's traffic to the west through Harvard Center and a slightly larger percent to Route 2/I-495. Second, commuter route choices are often based on the errands that employees make on their way to or from work, e.g., stopping at a dry cleaner or grocery store. Since Harvard Center and Ayer Road between the center and Route 2 have very few services and retail establishments, the opportunity for convenience-oriented trips between Cisco Systems and the center of town is reduced. A change in the Town Center's mix of land uses could attract these types of non-local commuter trips in the future, but only if the trip is actually "convenient," i.e., with few obstacles en route, ample parking, and no delays upon exit.

Harvard's other significant non-local traffic generator is Devens. Access to Devens often occurs either directly from Route 2 at the Shirley/Devens interchange or through Ayer along the Route 2A corridor. While traffic – particularly large trucks – also use the Harvard exit along Route 2, it seems doubtful that accessing Devens from Harvard will remain convenient once improvements at the Jackson Road/Route 2 interchange are completed.

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26. EOE #6761, June 2001, New England Development Center, Site II, Phase II

## Local Traffic

Harvard's estimated build-out potential represents a significant increase over existing conditions but overall, the town's roadway network has sufficient capacity to accommodate projected traffic growth. However, traffic safety improvements may become necessary under full build-out conditions, such as signalization at the Ayer Road commercial district and Harvard Center. It is important to point out that some locations in Harvard already suffer from minor to modest traffic safety deficiencies. Because most roads in Harvard carry so little traffic today, it may seem that there is no particular urgency for eliminating the hazards; as traffic grows, the urgency will increase. As an alternative to signalization, some intersections may need to be redesigned to improve sight distances or modify the angle of intersecting streets. The goal should be to enhance safety rather than improve capacity.

Traffic growth from full build-out will be associated primarily with activities *in* Harvard. This kind of traffic will be difficult to eliminate because it must either originate or end inside the town. Further, commercial development, be it local or regional, has an impact on the character of traffic. For example, regional access to commercial activities on Ayer Road would be inclined to arrive and depart via Route 2. Conversely, businesses that cater to local customers such as grocery stores or drug stores will attract a very high percentage of trips from within Harvard and neighboring towns, leading to an overall increase in locally generated traffic. Though trips of this variety are often combined with personal errands and trips to and from the schools or other appointments, they generally lead to higher volumes along local streets. Businesses serving local patrons also tend to attract traffic from adjacent towns along local streets as opposed to the highways.

More than most communities, Harvard is concerned about traffic growth associated with economic and residential development, particularly development that occurs around, rather than within, the town. However, the fact that Harvard residents have to travel out of town to obtain goods and services adds to their overall travel times and driving distances. With this in mind, development that encourages internal sources for goods and services will generally reduce the amount of driving that local residents must do. At the same time, it will also increase the number of trips into Harvard from surrounding towns. The Town Center and the commercial district on Ayer Road provide some services today, but the concentration of businesses is not significant enough to create a sense of commercial community. That is, Harvard residents do not all shop at the same stores or visit the same services on a daily basis, as is the case in many towns. A core commercial district that attracts locally oriented, complementary businesses would allow residents to make a single trip to accomplish several purposes and would also reinforce a sense of community in Harvard.

There is strong local support for providing a "walkable" Town Center with commercial, municipal and institutional uses, yet Harvard's zoning regulations discourage this outcome. Setback, landscaping, and parking requirements all tend to push developments apart rather than concentrate them in a village-like setting. In addition, while Harvard identifies with the Town Center as a cluster of community facilities, they are, in fact, relatively spread out. For most people, it is inconvenient to drive to the Town Center, park in one location and visit more than one or two community facilities. In particular, Town Hall and the schools are not close enough to promote walking. In many communities, an effort is made to create and retain a village with clusters of compatible land uses, sidewalk connections, pedestrian amenities and conveniently located parking. However, traditional sidewalks, on-street parking and buildings close to the street would be completely out of place in Harvard's Town Center because it is a rural village. Harvard residents will need to agree on the concept for their Town Center before they can develop a suitable traffic and zoning framework.

# SUSTAINING HARVARD

## Visions from the Past

### *Planning for Harvard: Comprehensive Plan (1969)*

Had Charles W. Eliot II composed a millennium vision statement when he wrote the town's first master plan in 1969, he would have imagined a place similar to today's Harvard. "Visioning" was not in vogue in the 1960s, but there is no doubt that Eliot had a vision for Harvard. During his 20-month engagement with the Harvard Planning Board, he saw many possibilities for what planners now call sustainable development: clean water, single-family homes mixed with smaller housing units, compact villages surrounded by large, connected tracts of open space, and a planned business district that required no new roads. Eliot's vision did not include losing 1,400 acres of forest to new development, yet he predicted that Harvard would absorb more homes than were actually built after 1970. When his firm conducted an inventory of Harvard neighborhoods in 1968, there were only 14 houses scattered across a 356-acre area west of Upper Bowers Brook. If he were alive now, Eliot would not be surprised to learn that the same area has 68 more homes. However, he might see the conversion of 190 acres of land to 68 house lots as evidence of flawed zoning. In Eliot's vision of Harvard, the 68 single-family homes (or more) were probably inevitable, but not at the expense of open space.

The renowned landscape architect was not opposed to development. In fact, Eliot cared deeply about historic preservation, housing quality and neighborhood design, and while he advocated for publicly controlled conservation areas, he also saw development as a possible opportunity to save land. Accordingly, Eliot recommended Planned Unit Development (PUD) zoning so that some of Harvard's new neighborhoods could replicate the form and atmosphere of its historic villages: dignified homes nestled together, unified by a common area and surrounded by open space. He believed in such techniques as PUD because in Eliot's mind, buildings, land and natural features ought to work harmoniously toward the goal of a balanced community. Eliot recognized that Harvard's poorly drained soils would make village development a difficult pursuit, but he saw potential in several places. He respected Harvard's preference for large-lot zoning and supported it – to a point. Eliot thought Harvard should consider more varied, land-based regulations, "down-zoning" (smaller lots) in some areas and "up-zoning" (larger lots) in others. If his ideas had taken hold in Harvard, a number of subdivision plans filed in the last 30 years would have been designed differently, and half of the 190 acres that became large house lots might be contiguous, protected open space today.

The problems to be faced are [not] all related to "growth," but reflect the original or basic, physical characteristics of the area, the history of the community, and the investments and commitments already made for its development. We build on foundations already established -- but sometimes have to rebuild or reinforce the foundations, and change the superstructure for new or changed uses. Planning must therefore be directed toward the correction of past mistakes or present trends, and toward the prevention of future errors and seizure of opportunities for desirable change.

Charles Eliot, *Planning for Harvard* (1969)

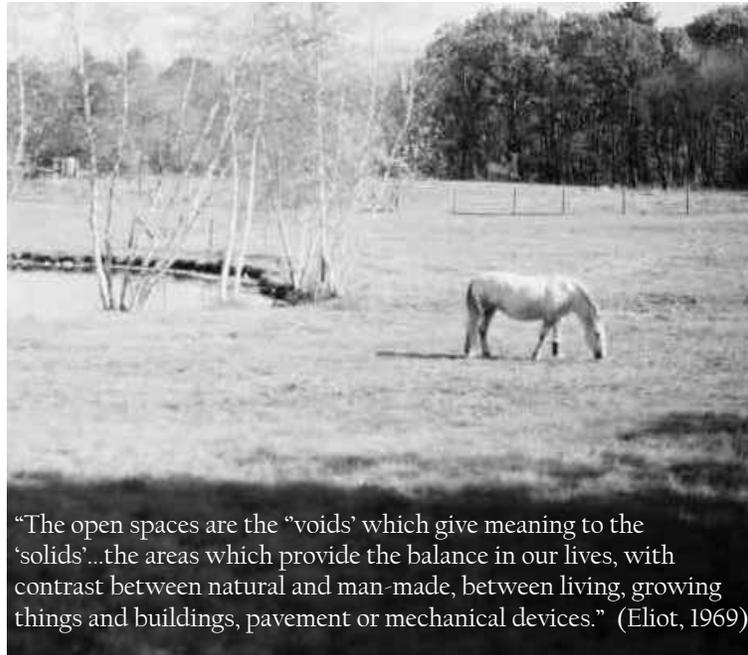
Though Harvard residents never warmed to the principles of PUD, they responded quite differently to Eliot's thoughts on public open space. In 1968, Harvard owned less than 300 acres of land and most of it was used for municipal services and school buildings. By the time Eliot finished the *Planning for Harvard: Comprehensive Plan*, town meeting had voted to purchase 94 acres of conservation land and

four years later, the Harvard Conservation Trust (HCT) was born. Since the early 1970s, the Harvard Conservation Commission and HCT have acquired or obtained restrictions on more than 2,000 acres of open space. Their combined holdings, along with land owned by the state and the U.S. Fish and Wildlife Service, mean that 21% of Harvard's land area will never be developed. Harvard's 1969 *Comprehensive Plan* helped to inspire these investments and they are consistent with Eliot's vision.

Eliot would probably be struck by the town's very short supply of affordable housing, but it is difficult to know what he anticipated. Ironically, the state legislature enacted Chapter 40B the same year that Eliot finished Harvard's master plan. The

interests, motives and principles that formed the impetus for Chapter 40B have been forgotten in three decades of angry debate about low-income housing in Massachusetts. Very few people realize that Chapter 40B is a misnomer for "comprehensive permit law." Chapter 40B is actually the state's regional planning law. In 1969, at the end of a decade when policymakers worried about the state of the nation's cities, tools like comprehensive permits became part of a larger effort to restore urban areas by reducing the unequal distribution of wealth in metropolitan regions. Legislators who amended Chapter 40B by adding Sections 20-22 – which they dubbed the "Anti-Snob Zoning Act" – were informed by the prevailing wisdom of their day. Conversant in urban economics and a strong supporter of regional planning, Eliot agreed with the law's objectives but he was troubled by the rubric of "anti-snob zoning." He believed that large-lot zoning serves a purpose, and that a town like Harvard would be best served by using such promising techniques as PUD to change the mix and cost of homes, thereby gaining control over its housing destiny.

Harvard differs from Eliot's expectations in a few other ways. Though he understood why residents wanted to keep local services in the Town Center, Eliot questioned whether Harvard would be able to accommodate a more intensive school complex there. He suggested additional land purchases in the Town Center so that Harvard would have enough area to qualify for school construction grants as elementary and high school expansions became necessary. Since he imagined Harvard with more village nodes and a bustling business district north of Route 2, Eliot also encouraged the town to purchase land on or near Ayer Road and hold it in reserve for a future school site. As for Ayer Road itself, Eliot saw many opportunities to strengthen Harvard's tax base, including a hotel and shopping center just north of the Route 2 interchange. He also saw problems in Harvard's C District zoning, namely that it promised a commercial strip replete with scattered, uncoordinated business and industrial development. Eliot's vision of Ayer Road called for a controlled mix of intensive and light business development interspersed with variable-density housing. As one who valued Harvard's independent streak, Eliot thought the town should take matters into its own hands and create a local non-profit development corporation to implement the master plan for Ayer Road instead of waiting for private developers to make a move. Harvard adopted his proposal to downzone a section of the C District, but the larger vision – and the principles it embraced – never materialized.



"The open spaces are the 'voids' which give meaning to the 'solids'...the areas which provide the balance in our lives, with contrast between natural and man-made, between living, growing things and buildings, pavement or mechanical devices." (Eliot, 1969)

**Harvard's Pastoral Landscape.**

*Harvard Town Plan (1988)*

Twenty years later, the Town Plan Committee and Michael Oman of Connery Associates worked for 18 months to update the *Comprehensive Plan*. Much like Eliot’s work with the Planning Board, Oman’s task was to help the Town Plan Committee articulate a set of coherent rural development principles to guide Harvard’s future. Oman, the Town Plan Committee and about 40 subcommittee members did a considerable amount of work that culminated in the *Harvard Town Plan*. At least two aspects of the *Harvard Town Plan* are striking in comparison to the *Comprehensive Plan*: first, what it reveals about the extent to which Harvard had grown since the late 1960s, and second, the similarity of its recommendations to those made by Eliot. Though the two plans differ in several ways, records maintained by the Town Plan Committee show that the *Comprehensive Plan* had accurately foreseen a number of potential problems in Harvard – problems Eliot tried to avert in proposals that were implemented only in part, or not at all. Thus, it fell to the Committee and Oman to identify solutions that might be more palatable in the climate of the late 1980s.

As the Planning Board had done in the 1968, the Town Plan Committee surveyed Harvard households about a variety of issues and relied on the results as a measure of public opinion. The results of the 1968 and 1985 surveys suggest that despite the passage of time, residents shared very similar values and beliefs about the town. They cherished Harvard’s clean natural resources, rural atmosphere and farms, and generally they took a dim view of apartments and industrial development. However, the *Harvard Town Plan* hints at deep differences of opinion about affordable housing, business development, or “change” of any kind.

Not surprisingly, the greatest opposition to change came from Harvard’s newest residents: people who, for the most part, had paid dearly to buy a home in town at the peak of a growth wave. Though most of the survey respondents offered the same perspective on Harvard’s desirability, regardless of how many years they had lived in town, longer-term residents were more inclined to favor such community attributes as a “broad socio-economic mix” and “managed” rather than “no” growth. Divisions like these are so common in small towns that usually they would seem

*On the “C” District*

This kind of strip zoning is also detrimental to the safety and efficiency of the main traffic artery because the numerous scattered entrances and exits, parking stops, etc., which are created to serve business developments, interfere with the free and safe movement of through traffic. (Eliot, 1969)

Harvard’s commercial district and the town’s expectations for its ultimate development are clearly in a state of limbo...If the zoning is not changed, the town will certainly experience...a fundamental change in the town’s character, alteration of the future development path of the town, increased traffic... (Town Plan Committee, 1988)

*On Housing & Village Development*

The returns from the Questionnaire in answer to the question, “What is right about Harvard?” repeatedly referred to the Common and its surroundings as a physical expression of neighborliness, and as a “way of life” that should be safeguarded and emulated.

Perhaps the existence in that area of a greater number of two, three and four-family dwellings than in all the rest of Harvard is significant...the fact suggests that new growth in Harvard might be guided and organized in new “villages” or groupings of mixed dwelling types around a common or surrounded by common land.” (Eliot, 1969)

Notwithstanding the findings of the 1969 Eliot Plan, Harvard’s growth since then has neither been guided toward areas identified as more appropriate nor away from those areas rated moderate or severe. Overall lot sizes have increased, but no provision has been made for greater density in the areas identified in the Eliot Plan as being appropriate for greater development...

[Harvard] must articulate a vision of the type of development that is realistic and develop regulations, incentives and restrictions that will guide growth in a manner consistent with this vision. (Town Plan Committee, 1988)

insignificant, but Harvard's people never had a chance to work through the tensions that come with a period of intensive growth. Two years after the *Harvard Town Plan's* adoption by the Planning Board, the U.S. Army confirmed its intent to close Fort Devens.

The Town Plan Committee adopted goals that largely reiterated the first master plan but took a different stance on the C District. In contrast to the village shopping center and hotel that Eliot had in mind, the Town Plan Committee envisioned a sharply reduced scale of development on Ayer Road and devoted several pages of the *Harvard Town Plan* to a subcommittee's analysis of retail and office space needs for a town of Harvard's estimated future population (10,000). The subcommittee argued that 650,000 ft<sup>2</sup> of commercial development would be adequate to meet local needs for goods, services and jobs. Accordingly, they proposed several measures to curtail the C District's growth potential, including a major reduction in the amount of development that could occur on each parcel and district-wide, and rezoning some of the land for residential use. Reminiscent of what happened in the late 1960s, residents accepted a few of the Town Plan Committee's ideas for the C District but stopped short of addressing the larger, more important points – development performance standards, better site plan review criteria, design review and village center zoning. Possibly, town meeting thought the proposals went too far. However, by enacting land use controls on a piecemeal basis, residents have unwittingly contributed to the worsened state of affairs on Ayer Road.

The *Harvard Town Plan* made seven assertions:

- Development regulations should account for the carrying capacity of land and natural resources.
- Residential development should provide more types of housing than single-family homes.
- Three major assets in Harvard warrant extraordinary protection: groundwater, the Town Center and the Bare Hill Pond watershed.
- Open space protection is central to the quality of Harvard's natural resources, the maintenance of its rural character, and the continuation of agriculture.
- If developed to its full potential, the C District would be incompatible with Harvard's town character and municipal capacity.
- Streets should be maintained for safety, but there should be no widening or significant alterations to the "country road" quality of Harvard's rural areas.
- Managing growth requires adequate administration, timely communication, and collaborative efforts by government and the private sector.

These conclusions formed the basis for 29 specific proposals. Eight were fully or partially implemented. Other than acquiring open space, Harvard has found it very difficult to act in its own growth management interests.

## Visions from the Present

The current Master Plan Steering Committee's vision statement and goals were also inspired by public commentary. A "Phase I" master plan visioning process (Spring 2001) supplied opportunities for residents to describe what they want Harvard to be, to explore the town's assets and confront the conditions that threaten its future. The transcript of their words is compelling, not only for the strong community-centered values it reflects but also for what it reveals about historic obstacles to master plan implementation in Harvard. For example:



Bare Hill Pond (2002)

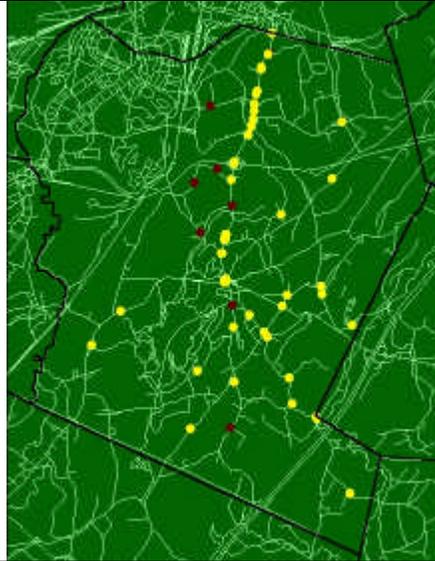
- Harvard needs better information on natural resource limitations in order to (1) support an effective public education program, (2) identify "land use patterns considered sustainable," and (3) "develop a management plan and strategy for Bare Hill Pond."
- A safe and adequate water supply is a critical priority for Harvard, one that requires a "town-wide perspective...to protect water quality and quantity regionally as well as locally." Toward that end, the town should "closely analyze all wetland projects and increase the size of buffer zones to wetlands where necessary to protect against fragmentation, critical habitat loss, and water quality impacts."
- Make effective use of existing studies – notably, *Harvard's Rural Landscapes* (1997) – and incorporate the *Open Space Plan* into the Master Plan. Harvard needs to "...define different types and values of open space that direct preservation efforts," and "preserve Fruitlands and vistas to the west."
- The two village centers and commercial area are assets for building a sense of community. Harvard needs to "create mixed-use village centers [with] services, amenities, and gathering places," "direct development toward a village pattern" and "create a village atmosphere in the commercial district" with "strong design guidelines and site standards to support town character."
- Save the orchards by providing "[zoning] flexibility...to help with the viability of agricultural operations," "legal and monetary incentives," APR's or "a local Farmers Market for the regional market area."
- Manage growth impacts such as traffic and infrastructure demands by helping "boards and commissions prepare well-founded and supportable decisions on development" and "prepare the town [to respond] to a Chapter 40B project."
- Participate in regional decision-making through such means as a "town strategy for responses to Devens based on Harvard's goals," identification of "potential benefits and negatives associated with Devens," and public education "before any long-term commitments."

All of these statements express reasonable expectations for Harvard. Moreover, except for the inclusion of Devens on today's list of issues, all of these statements echo the yearnings of previous Harvard master plans. Curiously, the town's approach to land use regulation, public policy and self-governance remain inconsistent with or unable to fulfill its stated preferences. Though zoning is essential to growth management, it cannot be relied upon as an exclusive means of master plan

implementation. If town officials and residents want better information so they can defend their environmental assets or make sound permitting decisions, they must invest in the human resources required to obtain, analyze, report and manage that information. If they want to safeguard Harvard from a large, unwanted Chapter 40B development, they have to initiate ways to create a base of qualifying low-income units, as the town of Lincoln did. If they want productive agriculture, they must come to terms with the economic realities of farming and remove barriers to *profitable* farms. If they want to control traffic, they must take the kinds of pro-active steps that Harvard pursued with Cisco Systems, but they must also recognize ways that Harvard has caused many of its own traffic problems and be willing to address them.

During Phase II of the master plan process, residents had more opportunities to say what they want for their town. At one session, participants reiterated their desire for a vibrant, walkable Town Center, a new village district on Ayer Road, and residential alternatives to meet both affordability and senior housing needs, identifying possible opportunity areas on town maps. At another session, anxiety over the disposition of Devens made it very difficult for participants to talk about Harvard's future. The people of Harvard have good reasons to be anxious about Devens. However, allowing Devens to dwarf issues that existed in Residential Harvard long before the base closed is tantamount to submitting the town's destiny to MassDevelopment. Disputes over the fate of Devens have so polarized Harvard that at times, the town seems paralyzed by its own ambivalence. It would be very unfortunate if Harvard acquiesced again to a path of well-intended but fragmented policies. The town may not have absolute control over what happens to one-fifth of its land area today, but it has considerable untapped power to control what happens over the remaining 80 percent.

In the absence of policies to realize goals of recurring importance to Harvard, private landowners, developers, homebuilders and town boards have had no choice but to comply with rules that foreclose opportunities to engage in protective land development. Meanwhile, Harvard has spent substantial sums of public money to buy open space, relying entirely on the labor of citizen volunteers to carry out conservation land projects that are often complicated and time-consuming. As new homes spread incrementally and randomly across Harvard's land, they fracture what had been undisturbed, contiguous open space, replace it with domain that is inhospitable to wildlife, and alter the rural landscape. It is little wonder that residents sense such urgency to buy open space. Unless the Harvard Conservation Trust (*also* citizen volunteers) can work out an alternative, public spending is the only technique in Harvard's open space and growth management toolbox. The Master Plan Update rests on a single assertion: the toolbox needs more resources.



Daytime Accidents in Harvard, 2000. (Harvard Police Department)



"C" District, Ayer Road (2001)

## Comprehensive Development Policy

Harvard wants a sense of community and place, and a sustainable future. These are appropriate and attainable goals, but they require creative approaches to land use and an undivided will to achieve them. Though Harvard is one of the state's most beautiful and well-preserved communities, a number of factors place the town's customs, rural features and high quality of life at risk. An obvious internal factor is the stress that new development has placed on Harvard's fields and forests, its fiscal condition and the scenic character of its roads. Another internal factor involves the challenge of traffic management on long, rural byways that must meet the dual – and often contrary – functions of through roads and neighborhood streets. Often, the town seems to have difficulty resolving policy conflicts that stem, in part, from different perceptions of what it means to live in Harvard. In addition, as Harvard develops and its home prices climb far beyond the reach of most people, the community that could once rely on volunteers for a variety of civic functions is destined to confront two problems: a diminishing pool of residents with time for voluntary public service, and the eventuality that town government's payroll will grow. Harvard longs to retain its working farms and orchards, yet few residents realize that 40-50 years ago, the town had 1,500 more acres of agricultural land than exists today. Finally, Harvard's commitment to conservancy is evident in a nearly peerless record of accomplishments to protect land and water resources, but ironically, its zoning regulations exacerbate the loss of open space.

External factors also underlie many of the tensions that exist in Harvard today. Chief among them: Devens. During the Master Plan process, residents questioned whether Harvard should be trying to update its Master Plan given all of the uncertainties associated with Devens. Indeed, Devens is so much on the minds of local officials and townspeople that it acts as a barrier to useful dialogue about the state of "Residential Harvard." However, other external factors affect Harvard and they raise equally if not more important planning concerns. For example, the Cisco Systems development in Boxborough stands as a potential traffic threat, but the more compelling point about Cisco Systems is what it symbolizes for Harvard's region. Along with the redevelopment of Devens, Cisco Systems foreshadows profound change in the developed character of many small towns on the outermost edge of I-495, including Harvard. Changing and contradictory state policies also affect Harvard's future. Title V's recognition of new and emerging wastewater technology, the contested terrain of Chapter 40B, and the implications of state aid formulas for the "new Harvard" – that is, Harvard minus 7,500 military personnel and family members who counted as town residents a decade ago – create conditions that Harvard must contend with in the near-term, regardless of Devens. Moreover, like their counterparts across the Commonwealth, Harvard town officials have to sort through ways to manage growth despite serious weaknesses and omissions in the state zoning law.

### Integration Concepts

The proposals and recommendations of the Master Plan seek to translate Harvard's community vision and goals into a coherent, planned course of action. The Master Plan elements are unified by their consistency with these five concepts:

- Realizing Harvard's vision does not require pitting one master plan goal against another. Building a stronger economic base and providing for a mix of homes should respect and protect the town's critical natural resources, open space and historic built assets. Regulations designed for sustainability enlist development as a partner in protecting public interests.
- Harvard's landscapes differ by location, form, shape, features and historic period. Zoning and other policies should support and respect these differences. A homogenous approach to zoning all but guarantees a homogenous outcome.
- Village centers, such as the Town Center, support life and community. Mixed-use and compact in design, with common open space and places to walk or socialize, villages help to direct development toward established areas and away from agricultural land and forests.

- Harvard does not want to establish an industrial base or promote the development of large commercial areas. Strategies to manage the town's fiscal future must be tailored to complement all of the major goals of the Master Plan, including: altering the mix of housing, allowing for more economic use of land in designated village areas, acquiring open space, and minimizing new road construction.
- Responsibility for Master Plan implementation rests with many town officials and departments, not only the Planning Board. A permanent master plan implementation committee with representation from key town boards and other citizen volunteers, equipped with adequate staff support, is essential for carrying out the Master Plan, monitoring outcomes, and setting in motion steps that will need to be taken for future master plan updates.

## Land Use Element

The Land Use Plan is the centerpiece of the Master Plan. It reasserts a number of key findings and recommendations in Harvard's previous master plan reports and supplements them with proposals that account for new information and different conditions.

### Concepts

The Land Use Element of the Master Plan emphasizes six concepts:

- Land use regulations should clearly express what the town wants, and to be effective, they must be fair and applied consistently by permit granting authorities. Toward these ends, boards with jurisdiction over development need compatible policies and a shared understanding of the Master Plan.
- Development – within Residential Harvard and at Devens – must be engaged as the town's ally in protecting environmental, scenic and cultural resources.
- Agriculture brings economic, cultural, scenic and fiscal benefits to Harvard. Every effort should be made to preserve the town's farms and orchards.
- Single-family residences, farm homes, summer cottages and estates have played an important role in defining Harvard's visual and social character. Policies to encourage a broader mix of residential land uses and provide for affordable housing should emphasize design compatibility with Harvard's established architectural and landscape traditions.
- Villages are essential to Harvard's rural ambiance and to building a sense of community among residents. Policies to preserve, enhance and develop village areas should encourage housing choice, the provision of goods and services, and safe, convenient access to community institutions. Harvard's established villages have unique settlement patterns, built assets and open space resources. Land use regulations must be tailored to respect the elements of place in each village.
- New development on land that currently generates more revenue than community service costs should provide a comparable or greater fiscal benefit, when compatible with other goals of the master plan.

The continued relevance of past plans and new proposals to address Harvard's community vision and goals call for a reassessment of current land use policies. Table 4-1 compares the allocation of land to Harvard's existing zoning districts to the recommended allocation of land to zoning districts in the Land Use Plan. The Land Use Plan makes no change to the geography of Harvard's existing zoning districts. Rather, it promotes the strategic application of overlay districts to achieve development and

preservation objectives in areas that warrant additional measures. It also promotes changes to the regulations that apply in existing zoning districts, as described below. Map 4-A (Land Use Policy Map) is a conceptual representation of the existing and proposed zoning districts.

**Table 4-1: Existing Conditions and Proposed Land Use Plan**

| Existing Conditions               |           | Land Use Plan                                       |           |
|-----------------------------------|-----------|---|-----------|
| <u>Zoning</u>                     |           | <u>Zoning</u>                                       |           |
| A-R                               | 13,376.15 | Agricultural-Residential                            | 13,376.15 |
| B                                 | 3.76      | B District  | 3.76      |
| C                                 | 442.86    | C District  | 338.43    |
| Watershed Protection-Flood Plain  | 244.60    | <u>Overlay Districts</u>                            |           |
| Watershed Protection-Flood Hazard | 1,641.25  | Community Commercial District                       | 104.32    |
|                                   |           | Town Center Overlay District                        | 468.19    |
| Other Jurisdictions <sup>1</sup>  | 3,526.49  | Still River Village Overlay District                | 213.05    |
|                                   |           | Residential Compatibility Overlay District          | 1,462.77  |
| Total                             | 17,349.25 | Agricultural & Historic Landscapes Overlay District | 5,107.69  |
|                                   |           | Bare Hill Pond Watershed Protection District        | 1,821.64  |
|                                   |           | Groundwater Protection Overlay District             | 1,579.80  |

1. Devens, Oxbow National Wildlife Refuge.

## Zoning Recommendations

### *Agricultural-Residential District*

Harvard remains committed to a vision characterized by single-family residences and farms: the intended goals of the Agricultural-Residential District. The Land Use Plan does not anticipate a fundamental change in this policy. Rather, it seeks to reinforce the goals of the A-R District by supplementing the town's basic density, dimensional and use regulations with flexible development incentives. Proposed modifications to the A-R District are described below.

Allow the following uses as of right:

- Single-family (detached) residence
- Agricultural uses, including exempt and "home farm"

Allow the following uses as of right, subject to site plan approval by the Planning Board:

- Special regulations and incentives to set back and cluster single-family homes on Approval Not Required (ANR) lots, serve them with a common driveway and place a conservation restriction over open space visible from the road (also known as "backlot development").
- A newly described "Mini-Subdivision" bylaw that permits a small, flexible plan subdivision to limit clearing, grading and excessive disturbance to land and natural features.

Allow the following uses as of right, subject to design review and site plan approval by the Planning Board:

- Municipal uses
- Educational, institutional and religious uses

Allow the following uses by special permit, subject to design review and site plan approval by the Planning Board:

- Conservation Cluster (to replace existing cluster bylaw), governed by development regulations that incorporate these features:
  - No minimum parcel size
  - Flexible setbacks that consider building size, height and massing
  - Mix of residential use types, such as detached single-family homes and townhouses
  - At least 50% of the site to be permanently protected open space, emphasizing the importance of open space linkages
  - Public access easements to connect open space trails on adjacent conservation land or lands of conservation interest
  - A density bonus to encourage cluster design
  - Reasonable pre-submission requirements so that the application process does not act as a regulatory disincentive

- Additional incentives to include housing affordable to low- and moderate-income households, housing suitable for the elderly or persons with disabilities, or “green” (sustainable) building design
- Conversion of existing single-family residence or accessory building to multiple-residence use, for a maximum of three dwelling units per structure. When a conversion results in more than two dwelling units, at least one must be affordable to low- and moderate-income households.
- One accessory apartment in an owner-occupied single-family residence

#### *B District*

- No change to existing regulations; see also, Town Center Overlay District.

#### *Community Commercial Overlay District*

Replace substantial portions of the existing C District on Ayer Road with a Community Commercial District (CC) that fosters mixed-use development, pedestrian-friendly design, clear site plan and parking requirements. The purposes of the Community Commercial District are to meet the town’s needs for goods and services, provide a pleasant, safe village environment for residents of Ayer Road and surrounding neighborhoods, and enhance property values throughout the area. As such, Harvard’s zoning regulations should encourage an inviting mix of residential and commercial uses and discourage development that is incompatible with or inappropriate for a village business zone. To achieve the goals of the master plan, the regulations must account for the realities of attracting new investment to an area with pre-existing improvements. An effective set of use and dimensional rules will likely include methods such as those listed below.

Allow the following uses as of right:

- Conversion of existing single-family residence to a two-family use with no visible change to the exterior except where required to comply with means of egress regulations of the Massachusetts Building Code.
- One accessory apartment in an owner-occupied single-family residence

Allow the following uses as of right, subject to design review and site plan approval by the Planning Board:

- Conversion of existing structure to an inn or bed-and-breakfast establishment
- Expansion and alteration of existing residence for conversion to multiple-residence use (up to three units) or to a mixed-use (residential and commercial) structure, provided that the commercial use is allowed as of right. When a conversion results in more than two dwelling units, at least one must be affordable to a low- or moderate-income household.
- Licensed pre-school or day care center
- Municipal uses
- Post office

Allow the following types of commercial uses as of right up to an agreed-upon size threshold, subject to design review and site plan approval by the Planning Board:

- Professional, medical and dental offices

- Banks and similar financial institutions
- Personal services establishments, e.g., travel agents, dry cleaning and tailoring shops, barber & beauty shops
- Retail establishments
- Studios and galleries
- Business service establishments, e.g. secretarial services, photocopying services
- Specialty food service establishments, e.g., catering, deli, specialty food market
- Indoor eating establishments
- Farm stands
- Accessory uses

Allow the following uses by special permit only, subject to design review and site plan approval by the Planning Board:

- Commercial uses allowed as of right that exceed the size threshold
- Commercial greenhouse
- Nursing homes, other long-term and convalescent health care facilities
- Small indoor recreation, athletic and entertainment facilities, e.g., fitness center, theatre
- Indoor eating establishments that also provide take-out service
- Accessory uses
- Development that combines multiple-residence and allowed commercial uses, i.e., planned unit development.

Eliminate the existing one septic system-per-lot requirement in order that package treatment plants or communal septic systems may be developed where possible.

Revise the existing floor-to-area ratio (FAR) to enable more intensive use of commercial land where soil conditions permit.

Modify existing site standards as appropriate, taking into account such elements as parking requirements, pedestrian access, landscaping, and open space.

### *C District*

The *Harvard Town Plan* (1988) proposed segmenting the C District so that it could support a variety of non-residential development in a more orderly manner. Though the Town Planning Committee's ideas differed from those of Eliot in the *Comprehensive Plan* (1969), Eliot also conceived of the C District in terms of sub-areas for different classes of commercial and light industrial development. The Master Plan Update reinforces the importance of providing land on Ayer Road to meet the needs of businesses that may not be appropriate for a village business zone but are nonetheless viable local enterprises that need space for their operations. The Land Use Policy map represents a plausible

approach to addressing the needs of these and like businesses while redirecting a majority of the C District toward a mixed-use village.

In areas outside the Community Commercial District, Harvard should modify its C District regulations to be consistent with the vision and goals of the Master Plan. The regulations should account for these considerations:

Allowed uses as of right, subject to design review and site plan approval by the Planning Board:

- Sports-related recreation/entertainment

Allowed uses by special permit, subject to design review and site plan approval by the Planning Board:

- Kennel and/or veterinary services
- Media outlets (including broadcast stations, newspapers, publishing, printing)
- Mortuaries
- Construction/building supplies and sales (plumbing, electrical, carpentry, etc.)
- Landscaping services
- Farm machinery sales and service
- Small engine equipment sales and service
- Auto repair garages/body shops/auto accessory sales and installation
- Accessory storage facilities that are clearly incidental to a permitted principal use

#### *Town Center Overlay District*

During Phase I of the Master Plan process, residents agreed that Harvard should “plan for and manage the Town Center as the center of community spirit and government.” They envisioned the Town Center as a “pedestrian-oriented” place with opportunities to shop and engage in civic, cultural and community activities. To provide a Town Center that fulfills these expectations, Harvard needs compatible zoning and other community development policies that support a diversity of land uses. The A-R District is not designed to achieve these ends. Accordingly, the Land Use Plan calls for a Town Center Overlay District (TCO) that encourages a mix of residential, commercial, municipal and institutional land uses and promotes a scale of development appropriate for Harvard Center. As suggested conceptually on the Land Use Policy Map (4-A), the Town Center Overlay District applies to areas that will retain their A-R and B District identity. This means that requirements associated with each district will apply where the overlay district regulations are silent.

Buildings contained within the Harvard Center Historic District will still be subject to the Historical Commission’s purview, but the Harvard Planning Board will also have design review responsibilities under the proposed Town Center Overlay District. The following outline explains the basic regulatory structure for this zone.

Allow the following uses as of right:

- All uses allowed in the underlying districts

Allow the following uses as of right, subject to site plan approval by the Planning Board:

- Single-family to multiple-residence conversions, up to a maximum of three units, with no change in gross floor area and no visible change to the exterior except where required to comply with the Massachusetts Building Code. When a conversion results in more than two dwelling units, at least one must be affordable to a low- or moderate-income household.
- One accessory apartment in an owner-occupied single-family residence

Allow the following uses as of right, subject to design review and site plan approval by the Planning Board:

- Residential conversions to predominantly residential (>60%) uses mixed with a commercial use allowed as of right
- Municipal uses
- Institutional uses
- The following commercial uses, up to an agreed-upon amount of commercial floor area per building or per retail unit:
  - Specialty retail
  - Personal service establishments
  - Banks or similar financial institutions
  - Professional offices
  - Galleries
  - Live-and-work space for artists
  - Small-scale performance space

Allow the following uses by special permit, subject to design review and site plan approval by the Planning Board:

- Alteration and expansion of existing residential uses for conversion to more intensive residential uses, e.g., single-family to multi-family residence with an increase in overall floor area. When a multiple-residence conversion results in more than two units, the third must be affordable to a low- or moderate-income household.
- Retail establishments other than specialty retail
- Indoor eating establishments
- Preparation and sale of specialty foods
- Commercial uses allowed as of right when they exceed the size threshold for uses as of right.
- Any allowed or exempt use that seeks a waiver from the town's parking regulations in exchange for payment of a fee toward a public parking fund

### *Still River Overlay District*

Though also a recognizable village, Still River's development pattern, historic mix of land uses and open space resources differ from Harvard Center. Zoning regulations to preserve Still River's unique village form, natural and cultural resources and substantial forested areas need to reflect these conditions. The Land Use Plan recommends that Harvard establish a Still River Overlay District (SRO) to encourage residential, institutional and agricultural uses, promote historic preservation, maintain open space and protect scenic views. A limited mix of commercial uses would also be appropriate for Still River Village, especially if carried out in the context of mixed-use development. The following regulations to guide Still River Village's future development appear below, and they would apply to the Still River Overlay District shown on the Land Use Policy Map.

Allow the following uses as of right:

- All uses allowed in the underlying district (A-R)
- Allow the following uses as of right, subject to site plan approval by the Planning Board:

Single-family to multiple-residence conversions, up to a maximum of three units, with no change in gross floor area and no visible change to the exterior except where required to comply with the Massachusetts Building Code. When a multiple-residence conversion results in more than two units, at least one must be affordable to a low- or moderate-income household.

- One accessory apartment in a single-family residence

Allow the following uses as of right, subject to design review and site plan approval by the Planning Board:

- Residential conversions to predominantly residential (>60%) uses mixed with a commercial use allowed as of right
- Municipal uses
- Institutional uses
- The following commercial uses, up to an agreed-upon amount of commercial floor area per building or per retail unit:
  - Professional offices
  - Galleries
  - Live-and-work space for artists
  - Post office

Allow the following uses by special permit, subject to design review and site plan approval by the Planning Board:

- Specialty retail
- Specialty foods
- Indoor eating establishment

Adopt regulations that provide reuse and conversion flexibility for historically significant buildings in order to encourage preservation. The Planning Board may waive the affordable housing requirement for conversions undertaken to prevent the demolition of a historically significant building that is under a six-month demolition delay period.

#### *Residential Compatibility Overlay District (RCO)*

The proposed Residential Compatibility Overlay District (RCO) applies to two areas in Harvard: land in the A-R District around Harvard Center and portions of the Community Commercial District. Its purposes are to encourage a greater diversity of residential uses and age-restricted housing in or adjacent to established developed areas with access to goods and services. Since accessory apartments and multiple-residence conversions are already proposed for the Town Center Overlay District and the Community Commercial District, they are not reiterated in the following outline of RCO development policies.

Allow the following uses by right:

- Uses allowed in the underlying districts

Allow the following uses by special permit, subject to design review and site plan approval by the Planning Board:

- “Over-55” (age-restricted) housing
- Assisted living facilities
- Congregate housing (e.g., shared cooking facilities)
- Planned residential development, controlled mix of single-family, multi-family and townhouse units, on a minimum parcel size of five acres

Special considerations:

- Provide density and design incentives to encourage RCO development
- Require all over-55 and planned residential development submissions to include a minimum of 10% affordable housing units, and negotiate a set-aside of units affordable to middle-income households
- Establish open space, architectural design and site standards to assure the compatibility of assisted living facilities to surrounding land uses.

#### *Agricultural & Historic Landscapes Overlay District (AHLO)*

Allow the following uses by right:

- Agricultural production, normal agricultural practices and agricultural accessory uses
- Farm-related dwelling units
- Backlot development incentives to separate residential from agricultural uses and preserve agricultural views from the road (e.g., specialized setback regulations for new residences on lots that abut an active agricultural use)

Allow the following uses by right, subject to site plan approval by the Planning Board:

- Residential subdivisions requiring approval under the Subdivision Control Law, to be laid out according to “farm-sensitive,” flexible-plan development regulations and site plan standards for development in the HLO district.

Allow the following uses by special permit, subject to design review and site plan approval by the Planning Board:

- Planned residential development for a controlled mix of single-family, multiple-residence and townhouse units on larger parcels (e.g., over 10 acres)
- “Over-55” housing, which may be developed as small single-family homes, townhouses or multiple-residence buildings
- Conference centers
- Indoor eating establishments
- Agricultural-retail business (to be defined by the Zoning Bylaw)

Create special development regulations to respect the significant natural and built features of HLO areas:

- Ridgeline and scenic view shed protection
- Views from the road
- Significant trees and stone walls
- Soils suitable for farming
- Historic farm homes and agricultural outbuildings
- Review for archeological resources
- Preservation of agricultural land, e.g., 50% or more of a proposed site, configured to permit continued farming. Preserved farmland may be retained by the farm owner but shall be protected by means of a permanent conservation restriction conveyed to the town, the Harvard Conservation Trust or another non-profit land trust.

Special considerations:

- Provide density and design incentives to encourage HLO development
- Require all single-family subdivisions of more than 10 lots and all planned residential or age-restricted housing submissions to include a minimum of 10% affordable housing units, and negotiate a set-aside of units affordable to middle-income households

#### *Bare Hill Pond Watershed Overlay District*

Adopt a Bare Hill Pond Watershed Protection Overlay District to assure that Harvard’s zoning regulations effectively address issues such as non-point pollution, nutrient loading, biodiversity, sedimentation, and recharge. Special regulations for development in the watershed should account for best management practices, erosion control, slope restrictions, and a very low maximum

impervious coverage ratio. Companion Board of Health regulations will also be necessary. Alternative wastewater technologies and controlled package treatment facilities may be more beneficial to watershed management than widely dispersed individual septic systems.

#### *Groundwater Protection Overlay District*

Adopt a Groundwater Protection Overlay District to assure that Harvard's zoning protects interim and approved "Zone II" areas of DEP water supplies. DEP has produced a model groundwater protection bylaw that Harvard should adopt and apply to all areas so designated on the Land Use Map. Harvard should give serious consideration to adopting a two-acre minimum lot size in designated "Zone II" areas.

#### *Watershed Protection-Flood Plain and Watershed Protection-Flood Hazard Overlay Districts*

The Master Plan Update recommends no specific changes to the town's W and WFH regulations at this time, though they should be streamlined and updated to be more like the Wetlands Protection District and Flood Plain District bylaws in use by many Massachusetts communities today. For planning, regulatory administration and enforcement purposes, however, the town needs improved wetland maps and a clear representation of regulated areas on the Zoning Map. The Executive Office of Environmental Affairs has updated all of the DEP Wetlands Conservancy Program maps, which are very detailed, and most of the state is also available in 1:5,000 color orthophotos.

Fig. 4-A illustrates the significant differences between previously available wetlands data and the new, higher-resolution images. As an aid to town boards, the building inspector, land owners, developers and the general public, Harvard would be well advised to amend the Zoning Map in two ways: first, to represent regulated wetlands based on GIS data from the DEP Wetlands Conservancy Program, and second, to incorporate by reference the Federal Emergency Management Agency's Flood Insurance Rate Map (FIRM) for the identification of flood hazard areas.

#### *Other Recommended Modifications to the Zoning Bylaw*

- The Zoning Bylaw and Zoning Map need to be made more "user-friendly." Harvard should re-codify and adopt a new format for the Zoning Bylaw, giving special consideration to:
  - Streamlining and clarifying minimum lot size, lot area, width requirements, and provide illustrations.
  - Providing a consolidated Table of Dimensional Regulations and Table of Use Regulations.
  - Updating, strengthening and clarifying existing Site Standards, taking into account aesthetics, reasonable parking requirements for each class of land use, pedestrian access, landscaping, and open space, and traffic safety.
- Assign site plan review responsibilities to the Planning Board, and establish a "mini-site plan review" process for small projects, e.g., multiple-residence conversions, minor alterations to existing commercial buildings.
- Adopt a demolition delay bylaw to protect historic buildings from whole or partial demolition. It should be used in conjunction with other zoning techniques to encourage preservation and, where necessary, to make preservation economically feasible. Harvard should adopt regulations that allow, by special permit from the Planning Board, such strategies as using historic buildings for purposes not otherwise permitted, e.g. an office building in a residential district or a rooming house, or as a last-resort measure, relocating a historic building to a lot that does not conform to current dimensional requirements or that already contains one single-family residence.

- Separate from the Zoning Bylaw all requirements that logically belong to the Board of Health or Conservation Commission.
- Remove zoning barriers to the development flexibility created by Title V.

#### *Other Land Use Recommendations*

The Harvard Planning Board should retain a qualified team, including an engineer and landscape architect, to undertake a comprehensive review of its Rules and Regulations for Subdivision Control. The subdivision regulations should reflect the major goals of the master plan, where possible, giving particular emphasis to road width requirements that complement Harvard's rural character.

## Natural & Cultural Resources Element

Harvard residents benefit immeasurably from living in a community with many natural features and built assets. The town's location on the Nashua River, its beautifully preserved views to Mount Wachusett and Mount Monadnock to the west and north, and eastward to the Boston skyline all contribute to the special sense of Harvard. Bare Hill Pond, the most significant natural feature in Harvard Center, inspires pride throughout the community. Residents also value Bowers Brook and a myriad of smaller streams that traverse the town, for these wetland and water resources provide critical wildlife habitat and hold the key to Harvard's present and future biodiversity.



**Working farm in Harvard (2001).**

Owing to four decades of work by local volunteers and investments by state and federal agencies, Harvard residents have numerous opportunities to explore the environmental resources in their town because there is a considerable amount of protected open space. In the absence of effective open space zoning, however, Harvard taxpayers have spent a considerable amount of money to defend their land, wetland and water resources from the adverse consequences of growth. As a result, establishing a connected system of open space and trails has been very hard – even though Harvard has one of the strongest open space protection records in Massachusetts.

Surely residents also value the widespread evidence of their town's history in *and* outside of Harvard's two local historic districts, yet the record of Phase I public meetings is silent on that matter of historic preservation. In fact, Harvard's heritage is expressed not only by its historic landscapes, but also its built assets. The town has done well at preserving the architectural integrity of Shaker Village and Harvard Center, and the Historical Commission has clearly tried to articulate a number of unmet preservation needs. However, Harvard needs to adopt the same culture of stewardship toward historic preservation that it has applied to open space protection. There are enough "lessons learned" from the losses experienced by towns close to Boston to make a persuasive case for regulatory and other interventions *now*.

## Concepts

The Natural & Cultural Resources Element of the Master Plan emphasizes five concepts:

- Bare Hill Pond is a critical environmental resource that demands a comprehensive approach to management, regulation and enforcement.
- Historically significant residential, institutional, agricultural and accessory buildings, along with their associated settings, are major contributors to Harvard's rural character and they are at risk. Every effort should be made to identify and protect them.
- Wetlands and water resource protection requires coordinated regulations and permitting policies, public education and a commitment to open space acquisition. It is also essential that Harvard diligently monitor MassDevelopment and proposals before the Devens Enterprise Commission (DEC) because the only large, abundant aquifers in Harvard are under the DEC's jurisdiction. Regardless of whether Harvard wants to reclaim its land at Devens, the town has a major stake in the quality of the aquifer system that runs along the eastern boundary of Devens.
- More than two-thirds of Harvard's land area is listed in the Massachusetts Scenic Landscape Inventory. Preserving Harvard's rural landscape and the rural characteristics of town roads requires sensitive regulations, open space acquisitions, and clear policy directives concerning maintenance and improvements to public ways.
- The recommendations in *Planning for Harvard's Rural Landscape: Case Studies in Historic Conservation* (1997) are vital to Harvard's future and they are incorporated by reference in the Master Plan.

## Recommendations

### *Cultural Resources*

The Master Plan promotes a multi-faceted approach to cultural resource protection in Harvard. Recommendations that support Harvard's "sense of place" vision and its town character goals include:

- Adopt the zoning proposals for historic preservation outlined in the Land Use Element: (a) a demolition delay bylaw that subjects permits for complete or partial demolition of historically significant buildings to review by the Harvard Historical Commission and, where appropriate, to a delay for up to six months in order to identify feasible preservation alternatives, (b) flexible rules for use conversions, (c) "last-resort" relocation of a building that cannot be preserved or appropriately altered in its original setting.
- Survey & Planning Grants from the Massachusetts Historical Commission should be sought and used for the following inventories, planning studies and resource protection projects, supplemented by funds from the town:
  - An update of the historic property inventories for Still River.
  - Nomination of Still River Village to the National Register of Historic Places and establishment of a local historic district pursuant to M.G.L. c.40C.
  - An inventory and National Register nominations for parcels with more than one residential structure, i.e., estates and historic seasonal residences
  - Implement the recommendations of previous historic property studies to complete inventories and National Register nominations for individual properties and areas (see Appendix G).

Where appropriate, additional local historic districts should be established, including single-property districts as permitted by M.G.L. c.40C.

- Retain the services of a qualified team to develop feasible preservation & reuse strategies for the Harvard town library, the Bromfield House and other town-owned historic buildings.
- Appropriate funds for design, restoration and rehabilitation costs for the Hildreth House and grounds.
- Recognize the importance of historic buildings to Harvard's visual character and commit Community Preservation Act (CPA) revenue accordingly, e.g., 30% of the revenue received in any three-year period.
- Pursue mechanisms to protect Harvard's most visible historic sites, such as Fruitlands and Saint Benedict's, from inappropriate development.

### *Natural Resources*

Adopt and implement the protective zoning regulations outlined in the Land Use Element:

- Through overlay districts, adopt regulations to protect the Bare Hill Pond Watershed and "Zone II" areas around public and private commercial water supplies.
- Reconsider existing zoning methods for controlling development in wetland and flood plain areas, and provide for a clear representation of these resource areas on the official Zoning Map.

In addition, Harvard should:

- Undertake a comprehensive review of town policies that affect the Bare Hill Pond Watershed, including but not limited to zoning, conservation land acquisition priorities, health and wetland regulations, roadway and drainage maintenance practices, recreational uses of the pond, and methods of nuisance aquatic plant control.
- Consider the appropriateness of establishing a Bare Hill Pond Watershed Commission, if necessary by special act of the legislature, and place all policy, regulatory and management responsibilities under its jurisdiction.
- Implement the *Harvard Town Plan* (1988) recommendation to amend the Board of Health's on-site wastewater disposal regulations and require periodic septic system pumping and maintenance. Routine septic system maintenance will be a critical protection strategy in the Bare Hill Pond Watershed because much of its land is already developed.
- Take affirmative steps to assure that all maintenance, repair, repaving and reconstruction projects on Harvard's public ways are consistent with the Master Plan's resource protection and town character goals. Harvard needs formal written policies to guide roadway maintenance projects performed by the Highway Department.
- Strengthen the existing Scenic Roads bylaw so that it includes specific performance standards, a process for compensatory actions, and a clear integration of Planning Board-Tree Warden roles with respect to the Scenic Roads Act (M.G.L. c.40, Section 15C) and the Massachusetts Shade Tree Act (M.G.L. c.87).
- Encourage and support the Devens Enterprise Commission in its important role as administrator and overseer of the Aquifer Protection Overlay District at Devens.

## Housing Element

### Concepts

The Housing Element of the Master Plan is based on five concepts:

- Housing is Harvard's dominant form of development. Regulations, policies and initiatives that affect housing will have a greater influence than any other land use over the town's future character and fiscal well-being, the quality of its environmental resources and the amount of traffic on local roads.
- Harvard values its tradition as a community of families. As such, single-family homes will continue to be the town's primary residential land use.
- Harvard shares the civic and legal obligation of all communities to assure that at least 10% of its homes are affordable to low- and moderate-income households. Every effort should be made to increase the town's supply of affordable housing at a pace that Harvard can sustain. Harvard should not rely on comprehensive permits alone to meet the 10% standard under Chapter 40B.
- A broader mix of housing types and rental opportunities will be essential to achieving Harvard's "sense of community" vision. Accordingly, Harvard also should strive to produce homes affordable to middle-income households, and housing units that appeal to the elderly and young citizens.
- Residential development that attracts non-family households is important to the town's long-term fiscal stability and the affordability of property taxes to all residents.



### Recommendations

The recommendations of the Housing Element include:

- Adopt and implement the residential development proposals outlined in the Land Use Element: flexible conversion and accessory apartment regulations, mandatory inclusion of affordable units in planned residential development and age-restricted housing.
- Adopt and implement a comprehensive strategy to provide housing affordable to a broad range of incomes. The town should provide adequate resources to its Housing Partnership Committee to accomplish these ends.
- Make effective use of zoning, federal and state financial assistance, Community Preservation Act revenue, comprehensive permits, town-owned land, increased organizational capacity, and opportunities at Devens to increase Harvard's supply of lower-income housing at a sustainable pace for the community. Using the town's successful 1990-2000 experience with comprehensive permits as a baseline, work to assure that at least 15% of all new homes produced each decade will be affordable to low-income households.
- Commit an equitable share of Community Preservation Act revenue to address Harvard's affordable housing needs, e.g., 30% of the revenue received in any three-year period.

- Adopt an aggressive strategy to protect Harvard from adversarial comprehensive permits that are poorly designed, unduly burdensome on town and school services, inconsistent with local housing needs or otherwise incompatible with the goals of the master plan.
- Supplement the Harvard Conservation Trust's affordable housing efforts by establishing a public corporation, chartered by a special act of the legislature and with directors appointed by the Board of Selectmen, to develop below-market and low- and moderate-income housing (see also, Economic Development Element).
- Conduct an inventory of town- and privately-owned land to identify parcels suitable for affordable housing units, including potential tear-downs, and work with organizations that have adequate capacity to use these parcels for affordable housing development.
- For clarity and tone, revise the town's guidelines and policies for review of comprehensive permits by the Zoning Board of Appeals.
- Remove regulatory and permitting barriers to accessory apartments and multiple-residence conversions, subject to restrictions on unit size, exterior alterations, and adherence to reasonable site plan standards.
- Encourage the development of assisted living and other elderly housing alternatives in order to meet the community's elderly housing needs.

## Open Space & Recreation Element

### Concepts

The Open Space & Recreation Element of the Master Plan reflects six concepts:

- Government, landowners and developers *share* responsibility for protecting open space.
- The incremental spread of suburban residential development on rural roads presents a serious threat to Harvard's open space – its agricultural landscapes, open fields and large, uninterrupted tracts of forest.
- Open space acquisitions should be targeted to achieve maximum public benefit: protecting wetlands, surface and groundwater resources, connecting existing open space, preserving scenic views and agricultural land, enhancing common space in or near village areas, and protecting historically significant properties.
- The acquisition or acceptance of gifts of land for recreation areas should be planned to serve population centers and to complement plans for future development of public facilities and schools.
- Harvard has a direct stake in protecting open space at Devens, regardless of whether the town decides to reclaim its land.
- Where feasible, all conservation and recreation areas should be accessible to persons with disabilities.

## Recommendations

Implement the proposals outlined in the Land Use Element:

- Adopt a workable, effective conservation cluster bylaw to include protected open space in new residential development.
- Protect open space along the roadside by encouraging shared driveways and deep setbacks for homes on Approval Not Required (ANR) lots and obtaining a conservation restriction over the preserved frontage.
- Establish a special overlay district with design guidelines and open space requirements particularized for farmland and view shed protection.
- Implement zoning incentives to direct new development toward established areas

In addition, Harvard should:

- Maintain timely updates of the *Open Space and Recreation Plan* – to articulate unambiguous criteria for choosing land to protect, through various means, to assure Harvard’s eligibility for land acquisition grants from the state, and to assure adequate attention to the town’s recreation facility needs. In addition, the *Open Space and Recreation Plan* process will help Harvard engage in accessibility planning for its conservation and recreation areas.
- Target open space acquisitions toward areas of significant concern, e.g., the Bare Hill Pond Watershed, while continuing to work toward the overall greenbelt concept promoted in the *Comprehensive Plan* (1969) and revised by first *Open Space Plan* (1979).
- Consider establishing an Agricultural Incentive Committee to investigate the merits of an Agricultural Incentive District, and through that process, identify lands eligible for Chapter 61 and Chapter 61A status and promote landowner participation.
- Acquire or accept gifts of land for additional outdoor recreation areas and develop adequate, accessible facilities for all age groups. Land acquired for a future school site should be of adequate size to support a neighborhood playground and a pre-school play lot.
- Review current policies and practices for maintenance of Harvard’s outdoor recreation areas, assuring that costs incurred by the town are offset by adequate user fee revenue.
- Maintain the town’s traditional commitment of tax revenue to the Conservation Fund and increase support for open space acquisitions by allocating an equitable share of Community Preservation Act revenue to address Harvard’s open space needs, e.g., 40% of all revenue received in any three-year period.
- Assert leadership in assuring that the *Devens Open Space and Recreation Plan* is implemented and updated.

## Economic Development Element

### Concepts

The Economic Development Element of the Master Plan embraces five concepts:

- Providing residents with opportunities to purchase goods and service and work locally is important for the local economy, for building a sense of community, providing public amenities, increasing tax revenue and reducing the amount of auto-dependent growth in Harvard.
- Harvard's established areas are the most appropriate locations for economic development, new and revitalized.
- The vitality and attractiveness of business districts are enhanced by mixed-use development that includes housing.
- The ability to work at or near home is central to a sustainable economic development plan. Flexible work-at-home regulations and opportunities for local entrepreneurs to "move up" to village commercial space will benefit Harvard families and the local economy.
- Agriculture is and should remain a vibrant part of Harvard's economy. Preserving farms is a way to provide jobs, protect open space and enhance local property values.

### Recommendations

Implement the applicable zoning proposals of the Land Use Element:

- Encourage "agricultural retail business" in order to support the continued profitability of existing farms in Harvard.
- Provide incentives to maintain agriculture by allowing development of land and existing structures in exchange for substantial farmland preservation.
- Promote diversity in Harvard's economic base through a newly described Community Commercial District that replaces a substantial portion of the existing C District.

In addition, Harvard should base its approach to economic development on these considerations:

- Encourage development that provides positive fiscal impacts while assuring that new or expanded commercial growth supports the major goals of the master plan.
- Explore the potential for shared (communal) septic systems and package treatment facilities in the Community Commercial District, or for connecting to sewer facilities at Devens.
- Establish a public corporation, chartered by a special act of the legislature and with directors appointed by the Board of Selectmen, to carry out economic development and housing consistent with the goals for the Community Commercial District on Ayer Road, and redevelopment/preservation of historically significant private and public buildings (see also, Housing Element). Forming a public corporation and charging it with lead responsibility for development on Ayer Road north of Route 2 may be key to Harvard's eligibility for state or federal grants to help finance the cost of installing sewers or a package plant.
- Establish an Agricultural Incentive Committee and charge it with three tasks:
  - Explore the merits of creating Agricultural Incentive Districts in Harvard.

- Act as an agricultural liaison/advocacy arm of town government.
- Plan and oversee events to promote Harvard's farms and orchards, e.g., a farmer's market program.
- Monitor the ongoing development of Devens, working closely with MassDevelopment to assure consistency with the *Devens Reuse Plan* and compatibility with the major goals of this master plan.
- Explore opportunities at Devens to expand and diversify Harvard's economic base.

## Community Facilities & Services Element

### Concepts

The Community Facilities and Services Element of the Master Plan reflects five concepts:

- The Town Center is Harvard's most important community facility. Plans for future development must respect the Town Center's finite capacity so that its land, buildings, circulation system and natural resources are not overwhelmed by a disproportional or an intensity of use that cannot be sustained.
- Schools should be located in or near mixed-use areas that are both convenient and safe for pedestrian and bicycle access, particularly in small towns that rely on school facilities for community meeting space and outdoor play areas.
- Harvard's municipal buildings are dignified, historic structures that befit the character of the town. Their continued use for civic purposes is consistent with the vision for Harvard Center, and the Master Plan should encourage strategies to achieve that end.
- A community that is home to all ages and a broad range of household sizes and incomes must provide services to meet the needs of a diverse population. Harvard must have adequate capacity – volunteers, personnel, space and funding — to manage and deliver town and school services.
- Opportunities for regional collaboration in such areas as purchasing, public works, public safety and public health services, planning, and resource protection should be explored whenever possible.



Hildreth House

## Recommendations

- As Harvard continues to grow, the town should be prepared to find suitable land for a new school outside the Town Center – possibly north of the Town Center on or near Ayer Road, or on Ayer Road north of Route 2 in or adjacent to the C District. Salerno Circle may also provide a future school site if the town wants to reclaim land in that area *and* resolves access constraints to Devens.
- Develop a comprehensive public realm plan for the Town Center, considering open space, parking, circulation, pedestrian amenities and the unique access needs of community institutions. This recommendation should be implemented before or concurrently with the development of zoning for the Town Center Overlay District.
- Make all municipal and school buildings, sidewalks, parks and recreation facilities accessible to persons with disabilities.
- Address the wastewater disposal needs of the Town Center and Still River by appropriating funds for the design, development and construction of package treatment plants, communal septic systems or other options appropriate to each village. Harvard's community vision is unrealistic without a solution to wastewater disposal problems that exist in both villages. The town should explore opportunities to connect as much of the Town Center as possible to the package plant that serves the school complex.
- Establish a permanent Town Buildings Committee and charge it with responsibility to review all municipal facilities and identify and plan for space, location and programmatic needs of all town departments. The Committee's charge should also include developing a major maintenance and capital improvements plan for Harvard's historic public buildings. Appropriate funds as needed for code analysis, structural, mechanical, accessibility and other design services to support the Committee's work.
- Regularly evaluate Harvard's procedures for costing municipal services and adjust fee schedules as required to obtain adequate revenue from local receipts.
- Establish a Town Government Study Committee to review the adequacy of Harvard's existing form and structure of government to meet local needs. In the near future, attention should be given to:
  - A formal consolidation of traditional public works functions under a Department of Public Works
  - Establishing a Department of Planning and Community Development and hiring a full-time planning director to coordinate the responsibilities and personnel of the Planning Board, Board of Appeals, Conservation Commission, Board of Health, and other town committees with policy or advisory roles in development and resource protection.

## Circulation & Traffic Element

### Concepts

The Circulation & Traffic Element of the Master Plan is guided by four concepts:

- Harvard's vision of sustainability calls for realistic, safe and accessible opportunities for non-vehicular travel in and between its villages, community service and commercial areas. Land use regulations to encourage village development must be complemented by public and private investment to build, maintain and promote a reasonable system of pedestrian facilities within village centers, and by public investment in facilities to connect village centers.



Impressions from the road in Harvard.

- Directing growth toward established areas will help to reduce overall traffic and encourage residents to park, walk to and patronize a variety of shops and services. However, Harvard's residential development is already widely dispersed throughout the town. Reducing the number of trips generated by low-density development will help, but it is not enough to alter in a substantial way either the speed or volume of traffic on Harvard's rural roads.
- Resident and non-local drivers have a shared responsibility for traffic safety in Harvard. Street classification policies, traffic calming techniques, public education and consistent police enforcement are available techniques for making Harvard roads safe for vehicular and non-vehicular users. The town needs to identify acceptable ways to control traffic and achieve resident buy-in.
- A pro-active, assertive role in regional transportation planning and major development review is very important. Establishing and maintaining credibility with other communities and regional organizations will be important for Harvard's ability to advocate for traffic management improvements that respect the town's character.

### Recommendations

- Create and authorize a "working group" to coordinate the development of a community-based traffic management program. The recently appointed Traffic Safety Advisory Committee might fill this role. Public participation and support are essential to the success of any traffic management program because residents will be required to accept the same limitations, inconvenience and enforcement consequences as non-local drivers.
- Establish an agreed-upon road classification system that guides priorities for investing in signage, roadway, intersection and traffic management improvements.
- Review posted speed limits for consistency, appropriateness, visibility and effective placement of signs. In many sections of Harvard, speed (more than volume or congestion) appears to be the primary traffic problem that Harvard needs to address.
- Adopt consistent standards for signage and pavement striping for each class of road to communicate roadway conditions and shape appropriate driving behavior.

- Consider traffic-calming strategies for rural roadways, such as but not limited to:
  - The targeted use of pavement striping to narrow travel lanes on roads where traffic speeds are often problematic.
  - Use gateways as effective agents to convey Harvard's seriousness about enforcing traffic laws. Attractive, strategically located "welcome" signs that double as a warning to drivers should be mounted at all entries into Harvard.
  - Placement of mobile "speed alerts" along roads with a high incidence of speeding problems and within 300 feet of gateway signage.
  - Raised intersections at problematic locations, particularly along Bolton Road, Stow Road and Slough Road.
  - Speed tables (similar to long speed bumps) at two or three locations along Prospect Hill and Still River Road, and Littleton County Road.
- Support the Harvard Police Department in its efforts to enforce traffic laws. Though the population of Harvard is small, the town is fairly large and its circulation system is comprised of long, winding roads. Harvard cannot expect to manage traffic effectively without adequate police personnel and equipment.
- Ayer Road north of Route 2 poses a unique set of challenges for Harvard. More appropriate site plan standards and a different approach to zoning for the entire area should help to improve traffic safety through new development, but the issues on Ayer Road are more complicated than zoning alone can address. Moreover, the problems exist today and they are serious enough to warrant immediate attention.
- Harvard needs a corridor study for Ayer Road in order to examine and choose the most effective roadway improvements, intersection controls and traffic calming measures to manage speeds, reduce accidents and discourage truck traffic. A corridor study is also essential for planning pedestrian and bicycle access improvements within the district. A special planning committee comprised of area residents, business property owners, representation from the Harvard Planning Board, Police and Highway Departments, and MassDevelopment should be formed to act as the citizen advisory committee for this effort. A corridor study may be instrumental in helping Harvard obtain competitive standing for implementation funds through the regional Transportation Improvement Program (TIP).
- Harvard needs to begin planning for a bicycle path system that encourages non-vehicular travel between the Town Center, the Community Commercial District and Devens. Though residents of neighborhoods near the closed access routes to Devens are understandably concerned about opening roads for vehicular access, a bicycle and pedestrian access system would facilitate travel between these two sections of Harvard without the impacts of traffic volumes or speed. Toward this end, the town should explore transportation planning opportunities with the Montachusett Regional Planning Commission.







# MAKING A DIFFERENCE

## Implementation Plan

The Master Plan recommendations outlined in Chapter 4 are presented here in the form of an action plan: a detailed road map for implementation. It consists of two sections, including a description and priority ranking for each proposal, roles and responsibilities, estimated costs, approximate timeline, and implementation resources that are or may be available, and a 10-year time chart that summarizes the estimated amount of time required to complete each task. The first section is divided into two parts in order to separate actions with community-wide significance from those tailored to particular sections of Harvard. The 10-year chart appears at the end of the chapter.

### Community-Wide Initiatives

#### 1. Policy & Administrative Framework: Master Plan Coordinating Committee

|                        |           |                        |                      |
|------------------------|-----------|------------------------|----------------------|
| <u>Timeline:</u>       | 2003-2012 | <u>Estimated Cost:</u> | None                 |
| <u>Priority Level:</u> | 1         | <u>Responsibility:</u> | BOS, PB <sup>1</sup> |

#### Summary

The Board of Selectmen and Planning Board should jointly establish a standing Master Plan Coordinating Committee (MPCC) of 7-9 members. As envisioned by the Master Plan, the MPCC is an inter-departmental “work group” to coordinate the efforts of town boards. It should be charged with these four tasks:

- Steer the Master Plan implementation process
- Provide support to other boards and town officials with a role in the implementation plan
- Monitor and evaluate the effectiveness of actions taken
- Prepare the scope of work for a 10-year master plan update.

The committee is not a substitute for boards with primary responsibility for and jurisdiction over Master Plan recommendations, e.g., the Planning Board’s role with respect to zoning. MPCC members should be appointed no later than October 2002, or as soon as practical following the Planning Board’s adoption of the Master Plan. Ideally, the MPCC will include representation from

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1. Acronyms used throughout this chapter refer to the following town boards and committees: BOS, Board of Selectmen; PB, Planning Board; MPCC, Master Plan Coordinating Committee; HHC, Harvard Historical Commission; HHP, Harvard Housing Partnership; HLT, Harvard Library Trustees; TSAC, Traffic Safety Advisory Committee; CC, Conservation Commission; HCT, Harvard Conservation Trust; OSPC, Open Space and Recreation Plan Committee; TCPC, Town Center Planning Committee; BOA, Board of Assessors.

the Board of Selectmen, Planning Board, Conservation Commission, Board of Health, Zoning Board of Appeals, School Committee, Harvard Housing Partnership and Harvard Historical Commission. It should be expanded on an as-needed basis for particular projects, through such means as appointing neighborhood advisory or “sounding board” groups.

Resources

Community volunteers.

Integration

Integrates all elements of the Master Plan.

2. Conservation Cluster (Open Space Zoning) Bylaw

|                        |           |                        |                    |
|------------------------|-----------|------------------------|--------------------|
| <u>Timeline:</u>       | 2003-2004 | <u>Estimated Cost:</u> | \$ 15,000-\$20,000 |
| <u>Priority Level:</u> | 1         | <u>Responsibility:</u> | MPCC, PB           |

Summary

The town needs to retain a qualified consultant to develop the proposed Conservation-Cluster Bylaw. The consultant’s responsibilities should include (a) facilitating community to agree on goals and acceptable parameters for development under the bylaw, (b) preparing draft and final text amendments to the Zoning Bylaw, (c) preparing or arranging for graphic aids to illustrate examples of cluster development that would be appropriate for Harvard (d) attending the Planning Board’s public hearing on the bylaw prior to the 2004 Annual Town Meeting, and (e) preparing any revisions required as a result of public hearing comments. The MPCC should direct the consultant’s work, review and comment on draft zoning amendments and provide policy guidance to the consultant as needed throughout the engagement.

The Master Plan recommends that the Planning Board act as the special permit granting authority and site plan review authority for Harvard’s Conservation Cluster Bylaw.

Resources

Town of Harvard, Executive Order 418 Community Development Plan (CDP) funds.<sup>1</sup>

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1. Non-local resources identified in the implementation plan refer to grants, technical assistance and low-interest loan programs that are currently available to Massachusetts cities and towns. Some of these programs offer assistance annually, others occasionally, and still others are unpredictable because their funding depends on bonds authorized but not issued. In addition, it is a fact of life for local governments that federal and state grant programs change – sometimes significantly – with each new administration. As Harvard proceeds with master plan implementation, it will be important for the town to verify the continued availability of grant funds and seek assistance from the regional planning agency to identify new grant opportunities.

Integration

Integrates Land Use, Open Space, Natural & Cultural Resources and Housing elements and *Planning for Harvard's Rural Landscape*.

3. Back Lot Development Bylaw

|                        |           |                        |          |
|------------------------|-----------|------------------------|----------|
| <u>Timeline:</u>       | 2003-2004 | <u>Estimated Cost:</u> | \$3,500  |
| <u>Priority Level:</u> | 1         | <u>Responsibility:</u> | MPCC, PB |

Summary

Given that most of Harvard's residential development occurs on Approval Not Required (ANR) lots, the town needs special regulatory incentives to protect roadside open space and reduce the fragmentation of wildlife habitat that results from an uncontrolled succession of homes and driveways. Backlot development bylaws are designed to accomplish these ends. These bylaws vary in design, but generally they combine front yard setback regulations that push buildings back from the street with flexible side yard setbacks that encourage clustering, and common driveways to reduce the number of curb cuts – in effect, a mini-cluster superimposed on the ANR process.

Resources

Back Lot development bylaws used by towns of Granby, Amherst and Carlisle have been supplied to the Master Plan Steering Committee. The Harvard Planning Board should commission a back lot development bylaw in conjunction with the Conservation-Cluster Bylaw.

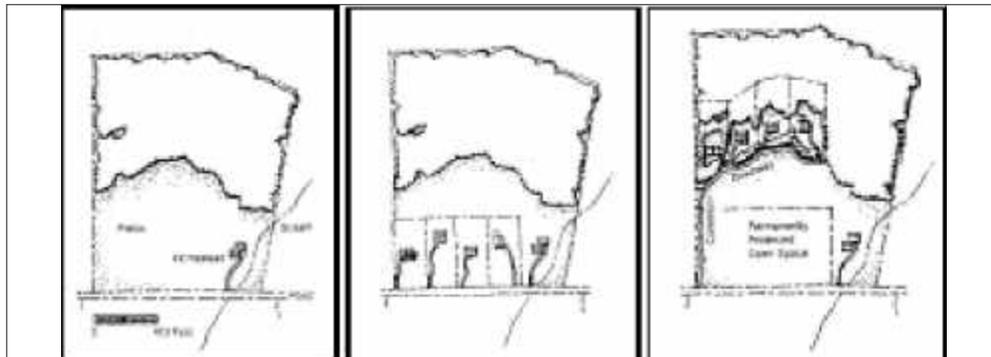


Illustration of Back Lot Development, prepared by Franklin Regional Council of Governments. From left to right: land parcel prior to development, the same parcel divided into conventional Approval Not Required (ANR) lots, and the same parcel divided under Back Lot Development regulations. This tool may be used effectively with two or more ANR lots.

Integration

Integrates Land Use, Open Space, Natural & Cultural Resources and Housing elements and *Planning for Harvard's Rural Landscape*.

4. Historic Preservation

Strengthening Harvard's ability to protect historic structures is a central objective of the Master Plan. Recommended actions include two zoning bylaw amendments, additional historic property surveys, National Register nominations and an increase in the number of local historic districts under M.G.L. c.40C.<sup>1</sup> For purposes of presenting these actions in a format suitable for the implementation plan, they are classified below as zoning, planning and policy tools, and non-zoning regulation. However, it is vitally important to understand that the Master Plan proposals are designed to work *together*, not on a stand-alone basis. Though implementing them in part will achieve some degree of protection for Harvard's inventory of historic properties, the experience of communities with successful preservation programs shows that historic preservation requires several, adequately coordinated techniques and a shared commitment from town officials with related or overlapping jurisdiction.

4-A. Zoning

|                        |           |                        |               |
|------------------------|-----------|------------------------|---------------|
| <u>Timeline:</u>       | 2003-2004 | <u>Estimated Cost:</u> | Appendix H    |
| <u>Priority Level:</u> | 1         | <u>Responsibility:</u> | MPCC, PB, HHC |

Summary

Harvard should amend the Zoning Bylaw by adding the following new provisions:

- Demolition delay bylaw
- Special development regulations for historic preservation

Demolition delay is a device that many Massachusetts communities use to postpone whole or partial demolition of a historically significant building so that town officials and property owners can work together to find a feasible alternative. Most demolition delay bylaws impose a six-month (or longer) stay on the issuance of a demolition permit for buildings defined as "historically significant." Some bylaws define "historically significant" by age, e.g., all buildings over 50 years old, others use a year-of-construction threshold, such as all structures built before 1930, and a few bylaws apply only to buildings on a local historic property inventory maintained by the Historical Commission.<sup>2</sup> Demolition delay bylaws usually involve the following type of review and permitting process:

The resource – a historic building, as defined by the bylaw – is presumed significant unless the review body, usually the Historical Commission, determines otherwise. The Commission's review is triggered by a referral from the building inspector, who must refer demolition permit applications for buildings covered by the bylaw.

1. Historic preservation measures tailored to the needs of specific areas in Harvard are addressed in Section 2 of this chapter.
2. At least one demolition delay bylaw in Massachusetts extends to all buildings regardless of age, but its purposes reach beyond historic preservation.

The Commission conducts an initial review to determine whether a building meets the intent of the bylaw. When the Commission decides that a building is eligible for demolition delay, a public hearing is scheduled – at which time the permit applicant and interested parties may comment on the proposed demolition. If the Commission determines that a historic building qualifies as “preferably preserved,” it may stay the issuance of a demolition permit for the period provided for in the bylaw. When no feasible alternative has been identified by the end of the demolition delay period, the building inspector may issue a demolition permit. However, if the Commission determines that a building does *not* qualify as preferably preserved even though the building’s age triggered a review under the bylaw, the building inspector may issue a demolition permit.

Demolition delay does not prevent an emergency demolition ordered by the building inspector for public safety reasons.

Preservation incentives may be regulatory or financial. The Master Plan focuses on regulatory incentives because they are more likely to succeed in a small town like Harvard. Through zoning, communities may offer a variety of preservation incentives, including but not limited to special permits for:

- Greater intensity of use, e.g., single-family conversions to three- or four-family residences in a district that otherwise limits residential development to single-family detached homes.
- Mix of uses, e.g., the flexibility to convert a historic building to a mix of offices, specialty retail or a small restaurant combined with residential units in a district that otherwise limits land use to a single class (residential or commercial).
- The “last resort” relocation of a building slated for demolition to another lot with an existing residence, or to a non-conforming lot, for use and occupancy as a residential or non-residential unit.

Like demolition delay, special historic preservation incentives apply to an exclusive group of properties defined in the zoning bylaw. The purpose of both bylaws is to save a community’s historic built assets. Demolition delay works best when the delay period is long enough to make preservation more attractive than demolition, which explains the present trend toward 12-month delays. However, unless the post-restoration value of the property offsets the cost of preservation, demolition delay alone will not be very effective. Both techniques – demolition delay and incentives that make preservation feasible – should be adopted in Harvard. They work *together* to address a critical community preservation need. As proposed, the bylaws are designed for ease of administration because Harvard has only a part-time building inspector and no professional planning or community development staff.

Resources

Appendix H contains a draft of the proposed bylaws. In addition, the Massachusetts Historical Commission maintains a library of local plans and regulations that Harvard may wish to explore.

**4-B. Policy and Planning Tools**

|                        |           |                        |                            |
|------------------------|-----------|------------------------|----------------------------|
| <u>Timeline:</u>       | 2004-2009 | <u>Estimated Cost:</u> | \$15,000-\$20,000 per year |
| <u>Priority Level:</u> | 1         | <u>Responsibility:</u> | HCC                        |

## Summary

The Master Plan advocates for several planning and policy actions to complement existing efforts of the Harvard Historical Commission. They include:

- Pursuing nominations for listing on the National Register of Historic Places, focusing first on properties already identified as eligible but for which nominations have not yet been made (see Appendix C).
- Preparing additional historic property inventories in order to qualify more buildings or districts for National Register listing and also to pave the way for establishing additional local historic districts. Where possible, future inventories should focus on multiple-residence parcels that have not already been surveyed, income-producing properties or those with strong potential to be used as income-producing properties in the future, and small homes, accessory structures or outbuildings.
- Obtaining preservation restrictions from property owners who want to protect their historic homes or outbuildings.<sup>3</sup>

The Harvard Historical Commission has made commendable use of the Massachusetts Historical Commission's Survey and Planning Grant Program to pay for various preservation studies. Many communities use Survey and Planning Grants to prepare historic property surveys, National Register nominations, local historic district plans and maps, and historic district design guidelines. As a Certified Local Government (CLG), Harvard is eligible to apply for Survey & Planning Grants each year. Since the program requires a matching-fund commitment from the town, the Harvard Historical Commission needs the community's support for an effective preservation agenda. In turn, the Commission must continue to provide persuasive leadership.

Listing on the National Register does not protect buildings from inappropriate alteration or demolition. However, it is a threshold for eligibility to use special tax incentives (investment tax credits) to finance the cost of historic preservation. It also triggers a heightened review process for properties affected by a federally or state-assisted project.<sup>4</sup> In addition, listing on the National Register automatically qualifies properties for listing on the State Register of Historic Places. Listing on the State Register enables owners of historically significant properties to qualify for phased increases in the assessed value of their homes when they invest in a significant restoration project – if Harvard adopts the enabling legislation for this purpose (Chapter 191, Acts of 1996). When paired with demolition delay and zoning incentives to preserve buildings that are ineligible for investment tax credits, National Register status is a very important preservation tool.

Harvard needs to make an annual commitment of funds to carry out the historic preservation recommendations of the Master Plan. Toward that end, there should be a standing article on each Annual Town Meeting warrant to appropriate funds that the Historical Commission may use to leverage Survey and Planning Grants or to purchase preservation planning services even in the absence of Survey and Planning Grants.

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3. As provided under M.G.L. c.184, Sections 31-33.

4. The federal review process is known as Section 106; the state review, Chapter 254.

Resources

Town of Harvard, MHC Survey & Planning Grants, Community Preservation Act (CPA) Revenue. Harvard should build on its existing *Comprehensive Inventory* (1992) which is on file at the Harvard Public Library.

**4-C. Non-Zoning Regulatory Actions**

|                        |           |                        |          |
|------------------------|-----------|------------------------|----------|
| <u>Timeline:</u>       | 2006-2011 | <u>Estimated Cost:</u> |          |
| <u>Priority Level:</u> | 1         | <u>Responsibility:</u> | BOS, HCC |

Summary

The Master Plan urges Harvard to establish additional local historic districts. Under M.G.L. c.40C, a local historic district consists of *one or more* properties. This feature of the enabling legislation means that communities may place an isolated, historically significant property under the protective umbrella of a local historic district. Since Harvard has developed as a very-low-density town, it has many old, architecturally and culturally significant buildings scattered across the rural landscape. It is more efficient to create multiple-property districts and whenever possible, Harvard should strive to do so. However, a local historic district is the most powerful historic preservation tool in Massachusetts. Harvard should use the statutory flexibility to create single-property districts where multiple-property districts are impractical for geographic or political reasons.

Under M.G.L. c.40C, the Board of Selectmen has the authority to initiate the local historic district process by appointing a study committee. In communities with existing local historic districts, however, the local historic district commission doubles as the study committee. Harvard’s Historical Commission acts as the local historic district commission, which makes it the logical candidate to carry out new local historic district studies. The Commission should determine whether Harvard’s existing surveys forms need to be updated, and use local/state resources to bring obsolete forms up to current standards. An accurate, complete inventory is essential to the study process and to the endorsement required from MHC for a local historic district to be adopted by town meeting. Harvard appears to need updated inventories as well as new inventories for properties and areas not yet surveyed. Accordingly, the Master Plan does not anticipate the creation of new local historic districts until the second half of the ten-year implementation cycle. However, the town should *not* postpone action on other preservation measures recommended by the Master Plan.

Resources

Town of Harvard, MHC Survey and Planning Grants.

Integration

Integrates Land Use, Natural & Cultural Resources, Housing and Economic Development elements and *Planning for Harvard’s Rural Landscape*.

5. Agricultural-Retail Business

|                        |      |                        |          |
|------------------------|------|------------------------|----------|
| <u>Timeline:</u>       | 2003 | <u>Estimated Cost:</u> | None     |
| <u>Priority Level:</u> | 2    | <u>Responsibility:</u> | MPCC, PB |

Summary

The Zoning Bylaw should be amended to include a definition of “Agricultural-Retail Business” (or another phrase chosen by the Planning Board), along with corresponding regulations that allow farm stands to diversify their product lines so they may extend their operating season and increase profitability. Under current law, farm stands are exempt from zoning as an agricultural use when a substantial majority of their sales come from farm products grown or raised on the owner’s property. As a result, farm stands must comply with local zoning bylaws if they sell non-local products or try to diversify by expanding to include a food service operation – i.e., a small restaurant.

To preserve farming as part of Harvard’s economic base, the town should remove regulatory barriers to farm stand operations and simultaneously protect surrounding residential areas from negative impacts of commercial activity. Providing for “agricultural-retail business” as an allowed use by special permit in the Agricultural-Residential District would be consistent with the Zoning Bylaw’s stated purposes for this district and create incentives to retain the town’s working farms.

Though the town may need to retain a planning consultant for this purpose, the Master Plan Coordinating Committee should research actions taken by other towns to provide flexibility for farm stand operations. Harvard is not the first town in Massachusetts to address this issue. Several communities in Franklin, Hampshire and Hampden Counties have worked aggressively to protect their farmland and promote local agriculture. Through the state’s regional planning agency network, Montachusett Regional Planning Commission may be able to assist Harvard in locating appropriate zoning models for agricultural business and provide technical assistance in drafting a proposed bylaw.

Resources

Massachusetts Department of Food & Agriculture, American Farmlands Trust, Montachusett Regional Planning Commission.

Integration

Integrates Land Use, Natural & Cultural Resources, Economic Development elements.

6. Open Space & Recreation Plan

|                        |            |                        |                            |
|------------------------|------------|------------------------|----------------------------|
| <u>Timeline:</u>       | 2003, 2008 | <u>Estimated Cost:</u> | \$6,000-\$7,500 per update |
| <u>Priority Level:</u> | 1          | <u>Responsibility:</u> | CC, OSPC                   |

Summary

Like many small communities with no professional planning or conservation staff, Harvard has found it difficult to maintain timely updates of its *Open Space and Recreation Plan*. Eligibility to apply for Self-Help grants from the Division of Conservation Services (DCS) depends on an approved open space plan that is updated every five years. Regardless of Self-Help grants, however, a community’s

open space plan should guide key open space protection choices: the criteria used to distinguish critical sites, appropriate strategies for different resource areas, acquisition priorities or linkages to achieve a continuous greenbelt.

Assuming the availability of volunteers for tasks they can reasonably be asked to perform, Harvard should anticipate spending \$6,500-\$7,500 for consulting services to update the open space plan. This estimate is based on a scope of planning services to address the following DCS requirements:

- Resource Maps
- Develop a survey for the town to distribute or facilitate one or two citizen discussion meetings to meet the DCS requirement for public participation
- Update population, growth and development sections of “Community Setting” chapter
- Update “Environmental Inventory and Analysis” chapter as applicable
- Update “Inventory of Lands of Conservation Interest” chapter to reflect additions to or losses from the town’s open space inventory
- Revise the Goals and Objectives and Five-Year Action Plan, in consultation with Harvard’s Open Space and Recreation Plan Committee, Conservation Commission, Harvard Conservation Trust, and the Park and Recreation Commission. This process should include a site search and selection process to identify areas appropriate for a community-wide pre-school play lot and a neighborhood playground to serve residents living in the southeastern section of Harvard.

To implement this recommendation, the Conservation Commission should obtain an appropriation to cover the cost of consulting services and procure professional services in accordance with M.G.L. c.30B. The Commission is responsible for reviewing and accepting the open space plan, requesting comments from the regional planning agency and submitting the final report to DCS for approval. The Master Plan implementation schedule calls for two updates: first, to update the existing plan (1995) and second, to prepare another five-year update in FY08. When the MPCC writes a scope of services to update the Master Plan again in 2012, an open space plan update should be included automatically as part of the master plan process.

Since town meeting had already approved the FY03 budget by the time the Master Plan was completed, the Conservation Commission may need to request a reserve fund transfer from the Finance Committee in order to complete an open space plan update during the current fiscal year. Alternatively, funds could be requested at a special town meeting.

#### Resources

Town of Harvard, CPA revenue. At present, there are no state grant programs that cover the cost of preparing an open space and recreation plan.

#### Integration

Integrates Land Use, Natural and Cultural Resources, Open Space and Recreation, Community Facilities and Services elements and *Planning for Harvard’s Rural Landscape*.

7. Conservation Fund & Land Acquisition Policy

|                        |        |                        |              |
|------------------------|--------|------------------------|--------------|
| <u>Timeline:</u>       | Annual | <u>Estimated Cost:</u> | \$100,000/FY |
| <u>Priority Level:</u> | 1      | <u>Responsibility:</u> | CC           |

Summary

Harvard’s most potent resource protection tool is fee ownership of open space. To implement the Master Plan and the town’s open space plan, Harvard needs to make a consistent investment in purchasing and managing conservation land. While central to managing overall growth and encouraging development that protects natural resources, zoning bylaws alone cannot safeguard the environmental and scenic assets that Harvard residents value so highly.

Harvard was among the first communities in Massachusetts to adopt the Community Preservation Act. As a result, the town has begun to receive annual revenue from the property tax surcharge authorized by CPA. It will be difficult for the town’s CPA Committee to meet all of the compelling needs that exist in open space protection, historic preservation and affordable housing. In addition, though open space acquisition is an eligible use of both CPA revenue and traditional sources of general fund revenue, Harvard does not have other resources to finance affordable housing development, and only limited resources to invest in historic preservation. The CPA fund can thus be expected to absorb increasing demands to address these two aspects of community preservation.

The Master Plan implementation schedule calls for an annual Conservation Fund appropriation beginning in FY 2004. The Conservation Commission cannot perform the vital function of acquiring conservation land without adequate, predictable resources. The implementation schedule also calls for an open space bond authorization in FY 2008, coinciding with a recommended update of Harvard’s Open Space and Recreation Plan. However, bond issues should be considered a “tier 2” implementation strategy and they should not be used as a substitute for annual outlays for the Conservation Fund.

Resources

Town of Harvard, Division of Conservation Services Self-Help Fund

Integration

Integrates Land Use, Natural & Cultural Resources, Open Space & Recreation elements and *Planning for Harvard’s Rural Landscape*

8. Housing Choice

The Master Plan promotes several actions to diversify Harvard’s housing stock and increase the supply of homes affordable to lower- and middle-income households. These actions address Harvard’s goals for retaining young and senior citizens and for being a socially inclusive community. The proposals outlined below are considered community-wide initiatives because the first applies to development regulations in the Agricultural-Residential District and the second is a strategic plan for housing opportunities throughout Harvard.<sup>5</sup>

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5. Additional proposals to increase housing choice are described in Section 2 of this chapter.

**8-A. Agricultural-Residential District Zoning Amendments**

|                        |           |                        |            |
|------------------------|-----------|------------------------|------------|
| <u>Timeline:</u>       | 2003-2004 | <u>Estimated Cost:</u> | Appendix H |
| <u>Priority Level:</u> | 1         | <u>Responsibility:</u> | MPCC, PB   |

Summary

The Master Plan recommendations include two Zoning Bylaw amendments that will apply throughout the Agricultural-Residential District. They include:

- Clear, fair and predictable special permit regulations for converting existing residences to multiple-residence buildings, subject to design review and site plan approval by the Planning Board. Under this provision, multiple-residence use would be capped at three units, but a conversion resulting in more than two units may be required to place the third unit under an affordable housing deed restriction such as that used by the state’s “Local Initiative Program.”
- Clear, fair and predictable regulations for creating one accessory apartment in a single-family home by special permit from the Planning Board.

Both proposals will help Harvard offer alternatives to single-family homes and simultaneously create opportunities for the town to increase its inventory of Chapter 40B units. Since the proposals apply uniformly to all land in the Agricultural District, they promote a policy of achieving broadly distributed, basic housing choice throughout Harvard. Through the crucial tool of design review, the Planning Board will be able to guide changes in residential use type so they complement the town’s tradition of single-family homes.

Development under these bylaws is also subject to Title V and other local requirements. As a result, conversions and accessory apartments may not be feasible in all locations. However, if the total number of bedrooms does not increase and the existing septic system either complies with Title V or may be brought into compliance at a reasonable cost, Harvard’s other development controls will not act as a barrier to bylaw implementation. Finally, it should be underscored that the proposed zoning amendments are an inherent part of the Master Plan’s strategy to protect historic buildings in Harvard. Along with National Register status to leverage investment tax credit eligibility, flexible residential conversion regulations are an important tool for the economics of preservation.

To implement this recommendation, the Planning Board needs to review the draft zoning amendments (Appendix H), request that they be placed on the 2004 Annual Town Meeting warrant, conduct a public hearing, make any modifications deemed necessary to address citizen comments, and present arguments favoring each amendment on town meeting floor.

Resources

Appendix H contains a draft of the proposed zoning amendments.

Integration

Integrates Land Use, Housing, and Natural & Cultural Resource elements.

**8-B. Affordable Housing Strategy**

|                        |           |                        |                   |
|------------------------|-----------|------------------------|-------------------|
| <u>Timeline:</u>       | 2004-2005 | <u>Estimated Cost:</u> | \$20,000-\$25,000 |
| <u>Priority Level:</u> | 1         | <u>Responsibility:</u> | BOS, HHP, PB      |

Summary

The Harvard Housing Partnership’s recently completed affordable housing needs assessment calls for a town-wide affordable housing strategy. The needs assessment report identifies several possible components of a strategy that may work in Harvard, including but not limited to the use and disposition of surplus town-owned land that may be suitable for development. The Master Plan reinforces Harvard’s need for a coherent, feasible strategy to increase the supply of housing affordable to lower-income persons. Much like historic preservation, affordable housing plans require several techniques because they are so difficult to implement.

Since Harvard lacks in-house planning staff and relies on volunteers, the town should obtain professional consulting services to help the Housing Partnership prepare an Affordable Housing Strategy. The consultant’s work might logically include:

- Identification and field review of town-owned, unrestricted land that may be used for affordable housing development.
- Identification and field review of a targeted list of lower-value, substandard or small residences with redevelopment potential for affordable homeownership or rental units.
- Review of the town’s open space plan to identify future conservation sites that present opportunities for a mix of open space-residential uses, akin to the Hayes Property acquisition (1985).
- Analysis of infill development possibilities in or adjacent to the Town Center, Ayer Road, Still River Village – that is, areas with existing development. (In Harvard, infill development will likely require zoning changes to capitalize on small, currently non-conforming lots or surplus land on existing developed parcels.)
- Assistance with updating and modifying (as appropriate) the Harvard Housing Partnership’s guidelines and the Appeals Board’s comprehensive permit guidelines.
- Assistance with refining the conclusions of the needs assessment in order to set clear housing priorities, e.g., various types of elderly housing, one-bedroom units attractive to young citizens, or family housing.
- Assistance with designing a set-aside fund and related administrative mechanisms so the town can acquire homes and restrict them as permanently affordable rental or homeownership units.
- Map out clear development strategies to connect identified housing resources (land or buildings) with priority needs. This should include recommended zoning amendments, if any.
- If a town-owned site is selected for affordable housing use, the consultant may also be asked to prepare proposal and disposition documents to procure for a developer.

Resources

Town of Harvard, CPA revenue, Massachusetts Community Development Block Grant (CDBG). Resources appropriate for implementing the Affordable Housing Strategy will depend on the approaches it recommends. Appendix G contains two inventories that may be useful for developing the Affordable Housing Strategy: all town-owned, unrestricted land of record in Harvard, and all parcels in the Town Center, Ayer Road and Still River planning areas, by size, use, ownership, existing zoning and relationship to the build-out study.

Integration

Integrates Land Use, Housing, Economic Development elements.

9. Wetlands and Water Resource Protection

The Master Plan proposes two zoning changes to support Harvard’s wetland and water resource protection goals. Both proposals require text amendments to the Zoning Bylaw and corresponding revisions to the Zoning Map.

9-A. Groundwater Protection Overlay District

|                        |           |                        |            |
|------------------------|-----------|------------------------|------------|
| <u>Timeline:</u>       | 2004-2005 | <u>Estimated Cost:</u> | Appendix H |
| <u>Priority Level:</u> | 1         | <u>Responsibility:</u> | PB         |

Summary

Harvard’s zoning bylaw currently has no regulations to protect groundwater recharge areas surrounding public or private commercial water supplies regulated by DEP. Though Harvard is not required to have groundwater protection zoning in place unless it plans to develop a water supply with a yield in excess of 100,000 gallons per day, the town’s stated concern about protecting aquifers is not reflected in its land use policies.

Except for the deep, plentiful aquifers at Devens, which *are* subject to groundwater protection rules under the Devens Zoning Bylaw, there do not appear to be any DEP-approved “Zone II” areas in Harvard.<sup>6</sup> Rather, all of Harvard’s DEP-regulated water supplies have what are known as “Interim Zone II” areas, or a prescribed radius around each well based on its class (see Fig. 5-A). Near the Town Center, the Zone II locations for Harvard’s small public water supplies partially overlap the Bare Hill Pond Watershed. Typically, groundwater protection bylaws establish an overlay district that coincides with the boundaries of DEP-approved and interim Zone II areas. The bylaws do not prohibit development, but in general they accomplish the following:

- Prohibitions against land uses that present known risks of groundwater contamination, e.g., dry cleaning establishments and photo-processing laboratories.
- Performance standards for most other land uses.

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6. A DEP-approved Zone II is established by conducting draw down studies to determine the geographic area from which an operating well draws water.

- An increase in minimum lot size when warranted, e.g., when the underlying district’s minimum lot size is smaller than 1.5 to 2 acres.

Harvard should adopt a groundwater protection bylaw and apply it to all Interim Zone II areas depicted on Fig. 5-A.

Resources

Appendix H contains DEP’s model Groundwater Protection Bylaw. DEP’s model is the standard used by nearly all Massachusetts communities, so Harvard does not need to purchase consulting services to prepare a groundwater protection bylaw. However, the town does need to amend the Zoning Map in order to implement this recommendation. Montachusett Regional Planning Commission (MRPC) has GIS mapping capability that should be explored as a resource for producing a Zoning Map that identifies public water supply “Zone II” areas in Harvard. The cost to prepare an amended Zoning Map should be very low because the required GIS data sets are already available from the state.

**9-B. Wetlands Protection and Flood Plain Overlay Districts**

|                        |           |                        |                 |
|------------------------|-----------|------------------------|-----------------|
| <u>Timeline:</u>       | 2004-2005 | <u>Estimated Cost:</u> | \$2,500-\$3,500 |
| <u>Priority Level:</u> | 2         | <u>Responsibility:</u> | MPCC, CC, BOH   |

Summary

For planning, public education and bylaw administration, Harvard needs maps that clearly depict the wetland, watershed and floodplain areas regulated by the Zoning Bylaw. The existing resource area definitions and district regulations also should be reviewed, clarified, updated and strengthened. Given the recent availability of new, higher-resolution wetland GIS data sets from the state, it will be fairly simple for Harvard to delineate the Wetland and Watershed-Floodplain Overlay Districts on the Zoning Map and other resource maps used for town planning. There are several examples of wetland, watershed and flood plain zoning bylaws in use elsewhere in Massachusetts, by communities that share Harvard’s commitment to natural resource protection. These bylaws may serve as replicable models for Harvard.

To implement this recommendation, the town should retain an environmental planner to review, revise and update the existing W and WFH District regulations and prepare an amended Zoning Map. Alternatively, the town could purchase mapping services from MRPC as recommended for rezoning proposals described elsewhere in this chapter. If MRPC prepares the map, Harvard will need to coordinate the work of its consultant and the regional planning agency so that both products are finished in advance of closing the town meeting warrant.

Resources

Town of Harvard (funds); MassGIS state data library

Integration

Integrates Land Use, Natural and Cultural Resources elements.

10. Community-Based Transportation Program

|                        |           |                        |                    |
|------------------------|-----------|------------------------|--------------------|
| <u>Timeline:</u>       | 2004-2005 | <u>Estimated Cost:</u> | \$6,000 (planning) |
| <u>Priority Level:</u> | 1         | <u>Responsibility:</u> | BOS, TSSC          |

Summary

The implementation plan consolidates several Master Plan recommendations into a single planning and policy development effort, the Community-Based Transportation Program. It includes these steps:

- Designating a coordinating group, such as the Traffic Safety Advisory Committee, to spearhead and guide a town-wide traffic planning and implementation process.
- Establishing a street classification system to set priorities, facilitate a consistent, coherent system of roadway treatments, e.g., signage, pavement striping, and pavement maintenance policies. “Street classification” often refers to conventional vocabulary about the vehicular capacity and function of roads – arterial, collector, local or neighborhood – but a more meaningful way to think about streets is to classify them as spaces for neighborhood building, for compatible use by multiple users, and for use primarily by cars. Harvard residents must agree on a hierarchy of travel needs because they will have to make trade-offs to accomplish their public safety goals.
- Identifying and classifying traffic safety problems that exist on Harvard’s roadways, and exploring the causes. This requires not only traffic data, but also field evaluations – ideally on foot – of roadway design and traffic activity under different conditions. People who live on streets with obvious traffic safety problems must be part of the evaluation and problem-solving process, and their streets should be taken up first.
- Exploring traffic management and traffic calming measures that may be effective to reduce traffic speeds on Harvard roads. It is important for residents to understand that traffic calming devices affect local *and* through traffic. Introducing a traffic calming program in Harvard will be a challenging task because most of the town’s roads serve two purposes: they carry through traffic and supply access to neighborhood residents. Owing to the limited repertoire of studies on traffic calming projects in rural areas, Harvard must be willing to experiment. Strategies to consider include:
  - Narrowing the perceived width of travel lines with edge striping.
  - Raised intersections, textured pavement and “nature strips” at critical traffic locations.
  - Mobile “Speed Alerts” placed near gateway locations and along streets with a high incidence of speeding violations.
  - Gateway welcome/speed warning signage.
  - Consistent, sustained public education.
  - Consistent, strong enforcement by the police department, using police personnel, radar, and neighborhood monitors.

- Reaching consensus about the ingredients of a traffic calming program in Harvard and, given the town’s limited resources, how the program should be implemented.

Through the same community-based transportation planning process, Harvard also needs to identify and prioritize character-defining road features that residents want to protect, *by street*. The effectiveness of a scenic roads bylaw depends on the quality and accuracy of the inventory on which it is based. The information compiled through this effort should be translated into an updated, stronger Scenic Roads Bylaw administered by the Planning Board, and written pavement management policies adopted by the Board of Selectmen.

The implementation plan provides for the use of a facilitator to guide a series of four or five public workshops for the purpose of brainstorming and reaching agreement about a classification system for Harvard’s roadways and a “phase one” traffic calming program. The facilitator should be asked to translate the results of these meetings into a “checklist” guidebook for the town’s use in carrying out actions agreed to by participants at the workshop. It will be critical, however, for an existing town organization – most likely the Traffic Safety Advisory Committee – to coordinate this effort and conduct resident outreach.

Resources

Town of Harvard, Governor’s Highway Safety Bureau

Integration

All elements.

II. Town Buildings Maintenance, Accessibility & Capital Improvements Plan

|                        |      |                        |                   |
|------------------------|------|------------------------|-------------------|
| <u>Timeline:</u>       | 2005 | <u>Estimated Cost:</u> | \$40,000-\$50,000 |
| <u>Priority Level:</u> | 1    | <u>Responsibility:</u> | MPCC, BOS         |

Summary

Harvard has a number of existing and incipient public facility needs that should be addressed very soon. Information that is typically available for use in a master plan does not exist in Harvard and as a result, the Master Plan implementation schedule omits a detailed forecast of facility improvements. However, inquiries with town departments, a review of available records and a field inspection of each major public building reinforce Harvard’s need for a comprehensive municipal buildings study. The reasons include:

- Harvard’s public buildings are old and architecturally significant, and they have a character-defining impact on the Town Center. Though generally in good condition, these buildings must be maintained, repaired and preserved in order to protect them from deterioration and to avoid unplanned, needlessly large capital outlays.
- Though Harvard has invested in maintaining and expanding its school facilities, relatively little has been spent in the past decade on improvements to town buildings. Town Hall was partially renovated after the *Harvard Town Plan* was completed (1988), but several issues raised in the last master plan remain true today. Moreover, the Americans with Disabilities Act (1990) brought new mandates that did not exist when the *Harvard Town Plan* was written. It is very clear that

Harvard's public buildings, parking areas, pedestrian walkways and recreation facilities do not, when viewed in their entirety, comply with ADA.

- Space allocated to various town departments is not always adequate for the functions they serve. This applies to town hall, the public works garage and the Hildreth House.
- The town should appoint a standing Town Buildings Committee and commission a municipal buildings study that addresses the following scope of work:
  - Compilation of data, including data obtained from a field inspection of each municipal facility, to prepare a comprehensive inventory of general conditions, space utilization, and accessory or site features.
  - A code analysis and evaluation of building systems (mechanical, electrical, structural).
  - An analysis of architectural barriers including, at minimum, parking, walkways, building entrance, path of travel, public offices and restrooms, communication systems and alarms.
  - An analysis of existing space shortages and future space needs for each town department.
  - A schedule of routine maintenance, extraordinary maintenance and repairs, and a capital plan for barrier removal and any major modifications needed in each of Harvard's municipal facilities.

The study should result in a plan accepted by the Board of Selectmen on the advice of the Town Buildings Committee. Thereafter, the study's recommendations should be incorporated into Harvard's five-year capital improvements plan (CIP).

It is important to point out that for nearly a decade, the Massachusetts Office of Disability (MOD) has followed a policy that requires municipalities to conduct all public meetings in fully accessible buildings. According to MOD's policy, meetings held in inaccessible buildings must be limited to a maximum of two hours. MOD enforces the policy upon receipt of complaints from citizens. Since the Americans with Disabilities Act (ADA) is a federal civil rights law, it is also enforceable by the U.S. Department of Justice. Harvard needs to assure that its public buildings are made accessible in a manner that protects their historic architectural integrity. The town should make sure that the architect retained for this study is experienced in preservation and architectural barrier removal in Massachusetts public facilities.

#### Resources

Town of Harvard, and Massachusetts Community Development Block Grant (CDBG) for costs associated with accessibility planning and architectural barrier removal. MOD also provides technical assistance upon request.

#### Integration

Integrates Community Facilities and Services, Natural & Cultural Resources elements.

12. Information and Administration Resources

The implementation plan includes three proposals to increase Harvard’s capacity to manage and administer conservation, development and public policy. These proposals include hiring a town planner, investing in Geographic Information System (GIS) technology across town departments, and evaluating the fit between Harvard’s form of government and the unique demands placed on this small town.

**Town Planner**

|                        |      |                        |                      |
|------------------------|------|------------------------|----------------------|
| <u>Timeline:</u>       | 2005 | <u>Estimated Cost:</u> | \$49,000-\$54,000/yr |
| <u>Priority Level:</u> | 1    | <u>Responsibility:</u> | PB                   |

Summary

Harvard is fortunate to have capable administrative staff serving the planning, conservation and health departments. However, it is clear that the boards responsible for setting development policy and reviewing permit applications also need in-house professional support. It is a fact of small-town life that coordinating the review process, assuring regulatory and policy consistency, and analyzing the amount of information required for volunteers to make quality decisions are all very challenging tasks, and Harvard is no exception. The town needs to remain current with planning practice and case law, and without professional representation, Harvard cannot participate in a number of statewide planning initiatives that require daytime personnel. Moreover, many of the concerns that Harvard residents express about development at Devens call for intervention, representation and advocacy by a professional planner. Instead, Harvard has relied on citizens and volunteer town officials to conduct research, attend meetings, write letters and mobilize opposition whenever the Devens Enterprise Commission (DEC) was considering a development project that either conflicted with the *Devens Reuse Plan* or presented serious risks to environmental resources on Harvard’s land.

Harvard should hire a full-time town planner or enter into a contract for consulting town planner services as soon as possible. Owing to the state’s fragile fiscal condition when this master plan update was completed, it is probably not an opportune time for Harvard to increase the Planning Board’s salary budget. The implementation plan anticipates that by FY06, Harvard will be in a position to fund and maintain this position.

It is very important that Harvard *not* expect to fund a town planner’s salary through grants. Except for cities, large suburbs and communities less affluent than Harvard, the general experience among Massachusetts towns is that grants are an unpredictable source of revenue and cannot be depended upon to finance local government salaries. In addition, the time required to develop worthy projects, write competitive grant applications and administer grant funds should be devoted to *planning*.

Resources

Town of Harvard

Integration

All elements.

13. Geographic Information System

|                        |           |                        |                    |
|------------------------|-----------|------------------------|--------------------|
| <u>Timeline:</u>       | 2010-2012 | <u>Estimated Cost:</u> |                    |
| <u>Priority Level:</u> | 2         | <u>Responsibility:</u> | MPCC, PB, BOS, BOA |

Summary

It was evident during the development of this Master Plan Update that Harvard does not have adequate planning information resources. The town cannot expect its volunteer officials or staff to make high-quality decisions without access to the best available information and the tools with which to evaluate it. Though it appears that at least one municipal department has a licensed copy of ArcView™, it is not used consistently. Harvard also does not have an organized GIS library with information that town boards need to make decisions, including digitized assessor’s maps compatible with data sets available from the state.

A complete GIS installation is very expensive and most communities that decide to build GIS capacity do so over a two- or three-year period. Harvard may find that it is more economical to establish an inter-departmental GIS system, train staff and enter into a system maintenance and update contract with a qualified GIS vendor by purchasing services regionally, e.g., with Ayer and Shirley. Among other advantages, a three-town initiative could result in improved access to and interpretation of land use and environmental monitoring data for Devens.

Resources

Town of Harvard. At present, there are no grants available to finance the cost of GIS installations in Massachusetts communities.

Integration

All elements

14. Town Government Study

|                        |      |                        |          |
|------------------------|------|------------------------|----------|
| <u>Timeline:</u>       | 2010 | <u>Estimated Cost:</u> | \$10,000 |
| <u>Priority Level:</u> | 2    | <u>Responsibility:</u> | BOS      |

Summary

The Master Plan recommendations call for a town government study toward the end of the 10-year implementation cycle. All communities should periodically evaluate their form of government, but Harvard has existing and foreseeable challenges caused by a combination of growth, resource protection needs, Devens, and the increasing difficulty of finding residents who are qualified, available and interested in community service. Harvard may find that an expanded review is necessary by 2009-2010, but at minimum, the town should study and consider:

- A formal consolidation of all traditional public works functions – highway, parks, cemeteries, water, solid waste disposal, engineering, and management of wastewater treatment facilities if they are developed in Harvard – under a single Department of Public Works that would report to the Board of Selectmen.

- The creation of a Bare Hill Pond Watershed Commission with broad policy, regulatory and permitting jurisdiction over Bare Hill Pond and watershed land located in Harvard.
- A consolidation of public safety functions – police, ambulance and fire – which may become advisable if Harvard finds that it can no longer manage medical emergency and fire protection services with a predominantly volunteer or on-call workforce.
- Board of Selectmen/Town Manager form of government that retains open town meeting as the local legislative body while centralizing management and budgetary functions with a town manager appointed by the Board of Selectmen.

It is recommended that Harvard appoint a Town Government Study Committee and retain a consultant for a limited scope of services to assist this endeavor.

Resources

Town of Harvard. In the past, state grants have been available to help communities review their form of government and study a specific reorganization or consolidation proposal, e.g., public works consolidation. The program that funded these projects (Municipal Incentive Grants) has not received a renewal authorization from the legislature for at least two years. Harvard should consult with its state representative to determine whether funds will be available in the future.

Integration

All elements.

## Special District Initiatives

The Implementation Plan recognizes several areas of Harvard that require special attention and strategies tailored to unique local conditions. These areas include North Ayer Road, Harvard Center, Still River Village, Bare Hill Pond Watershed, the view corridors of Prospect Hill-Still River and Oak Hill, and Devens. The community-wide measures described in the previous section apply equally to most of these locations, though Devens is an obvious exception.

### 15. Ayer Road -- North of Route 2

The Ayer Road Planning Area is illustrated in Fig. 5-B.

#### 15-A. Community Commercial Overlay District

|                        |           |                        |          |
|------------------------|-----------|------------------------|----------|
| <u>Timeline:</u>       | 2003-2004 | <u>Estimated Cost:</u> | \$25,000 |
| <u>Priority Level:</u> | 1         | <u>Responsibility:</u> | MPCC, PB |

Summary

The town needs to retain a qualified consultant to develop zoning regulations for the proposed Community Commercial Overlay District on Ayer Road. The consultant’s responsibilities should include (a) facilitating community and neighborhood meetings to refine the concepts for this district, (b) preparing draft and final text amendments to the Zoning Bylaw, (c) preparing or arranging for

graphic aids to illustrate plausible examples of development under the proposed regulations, (d) attending the Planning Board’s public hearing on the bylaw amendments prior to the 2004 Annual Town Meeting, and (e) preparing any revisions required as a result of public hearing comments. As project manager for the town, the MPCC should direct the consultant’s work, review and comment on draft zoning amendments, and provide policy guidance to the consultant as needed throughout the engagement. In addition, the MPCC will need to work closely with residents of surrounding neighborhoods and C District property owners to address their concerns and strive for consensus about the proposed rezoning. Possibly, the MPCC should sponsor an ad hoc “Ayer Road Task Force” or a “sounding-board” committee as a vehicle to organize neighborhood participation.

Resources

Town of Harvard, Executive Order 418 CDP Grant Program.

**15-B. “C” District**

|                        |           |                        |          |
|------------------------|-----------|------------------------|----------|
| <u>Timeline:</u>       | 2005-2006 | <u>Estimated Cost:</u> | \$10,000 |
| <u>Priority Level:</u> | 1         | <u>Responsibility:</u> | MPCC, PB |

Summary

The use, dimensional and site plan regulations for the remainder of the C District on North Ayer Road must be reevaluated and amended. Proposals to address a variety of issues in the C District, especially site plan standards, appeared in one form or another in both the 1969 and 1988 master plans. To accommodate commercial land uses that are not appropriate for a village center area, including many that already exist on Ayer Road, Harvard needs to revisit the Zoning Bylaw’s provisions for development in the C District. This endeavor should concentrate on permitted uses, dimensional regulations, architectural design and site standards, notably access and parking.

Much like the Community Commercial District, any efforts to change the zoning on North Ayer Road require active participation from North Ayer Road’s residents and commercial property owners. A task force such as that recommended above would be an appropriate way to retain neighborhood participation through the difficult job of reorganizing the C District and would also pave the way engaging residents to serve on the citizen advisory committee for the corridor study proposed below.

Resources

Town of Harvard

**15-C. Residential Compatibility Overlay District**

|                        |      |                        |            |
|------------------------|------|------------------------|------------|
| <u>Timeline:</u>       | 2006 | <u>Estimated Cost:</u> | Appendix H |
| <u>Priority Level:</u> | 1    | <u>Responsibility:</u> | MPCC, PB   |

Summary

The purposes of the Residential Compatibility Overlay (RCO) District are to direct certain types of higher-density residential uses to areas near goods and services in the community, and to provide for architectural and site design standards that achieve harmony between new development and surrounding residential, agricultural and institutional uses. The residential uses that should be promoted in the RCO District include:

- Elderly housing – age-restricted townhouses, congregate units, and assisted living facilities.
- Planned residential development – a mix of residential uses, such as townhouses, multi-family units and detached single-family homes, clustered to support the village development objectives of the Community Commercial District.
- RCO development regulations need to address such considerations as:
  - Mandatory inclusion of affordable units, e.g., 10% affordable to lower- and middle-income homebuyers or tenants.
  - A flexible public benefits system that allows Harvard, landowners and developers to match benefits with the capacity and features of a given site. For example, dedicated open space is an appropriate public benefit for an undeveloped tract of land but it may be irrelevant to a property with existing developed uses that are to be renovated, expanded and converted for an assisted living facility. In that case, a higher percentage of affordable units or a preservation restriction to protect historic resources would be more appropriate and attainable public benefits.
  - Adequacy of parking, landscaping, buffers, and pedestrian connections to adjoining neighborhoods and commercial areas.

The RCO should be applied as an overlay district along portions of North Ayer Road, shown in Fig. 5-B as approximate locational boundaries.

Resources

Appendix H contains a draft of the proposed Residential Compatibility Overlay District bylaw. The MPCC and Planning Board should review it and use it as a discussion document to bring the RCO to fruition at the appropriate time. Harvard will likely have to absorb the cost of consulting services to refine the draft bylaw. At present, there are no grant sources available to pay for this work. For budgetary purposes, the town should expect to spend \$2,500-\$4,000 to advance the bylaw from draft to final version.

**15-D. Non-Profit Development Corporation**

|                        |      |                        |            |
|------------------------|------|------------------------|------------|
| <u>Timeline:</u>       | 2006 | <u>Estimated Cost:</u> | Appendix H |
| <u>Priority Level:</u> | 1    | <u>Responsibility:</u> | MPCC       |

Summary

For capacity to plan, finance and carry out desired development and redevelopment activity on North Ayer Road, Harvard should establish a non-profit development corporation with “quasi-public” powers. Doing so requires a special act of the legislature. It is very important for Harvard to understand that realizing its goals for Ayer Road will take a long time – largely because the area has no “construction-ready” land, but also because of market conditions. Many communities have used infrastructure improvements and tax incentives to attract business growth, which means that commercial, industrial, and research-development firms in an expansion mode have *many* choices in the I-495 region. Harvard does not want large-scale development on Ayer Road. Rather, it wants small businesses that cater primarily to local people, arranged in village-style clusters with pedestrian amenities. However attractive and appropriate Harvard’s vision of Ayer Road may be, the reality is

that the vision comes with major costs that small-scale development cannot absorb. This means that public resources must be incorporated into the larger strategy for this area.

Harvard should take advantage of a device used by other Massachusetts communities and establish its own “partner” development corporation to focus on two aspects of the Master Plan: first, Ayer Road north of Route 2 and second, mixed-income and elderly housing development to supplement existing efforts of the Harvard Conservation Trust. As proposed, the corporation would essentially be run by the town, though it would also have the independent rights and fiduciary responsibilities of a private, non-profit organization. Harvard needs an agent to help finance aspects of the Master Plan for which private resources are unlikely to be adequate.

Resources

Appendix H contains a draft of the proposed home rule petition.

**15-E. Ayer Road Corridor Study**

|                        |      |                        |                   |
|------------------------|------|------------------------|-------------------|
| <u>Timeline:</u>       | 2008 | <u>Estimated Cost:</u> | \$50,000-\$60,000 |
| <u>Priority Level:</u> | 1    | <u>Responsibility:</u> | MPCC, BOS. TSAC   |

Summary

As residents, business owners and the Harvard Police Department know well, there are a number of traffic safety problems on Ayer Road north of Route 2. These problems include traffic volumes and speed, truck traffic generated by Devens industrial establishments, and conflicts between through traffic, neighborhood traffic and drivers entering or exiting business establishments in the C District. Ayer Road is the most accident-prone roadway in Harvard and it will remain so until a comprehensive program of transportation improvements is planned and implemented. Toward that end, Harvard needs to initiate a corridor study for the entire length of Ayer Road from the Harvard/Ayer town line to the Route 2 interchange. The study should consider a number of roadway design strategies to slow and control traffic movement, separate pedestrian and bicycle users from vehicles, and “choke” traffic in at least two locations, preferably near the Ayer Road intersections with Myrick Lane (northern end of the district) and Lancaster County Road (southern end).

Harvard will need to work closely with Montachusett Regional Planning Commission’s transportation staff and MassHighway (which has jurisdiction over North Ayer Road) to assure that projects recommended by the corridor study are eligible and competitive for inclusion in the region’s Transportation Improvements Plan (TIP). The regional planning agency may be able to help Harvard prepare a scope of services to use when procuring a qualified transportation planning firm to develop the corridor study. Possibly, MRPC can also provide planning and technical assistance services while the study is underway.

Resources

Harvard Highway Department, Police Department and Traffic Safety Advisory Committee; Montachusett Regional Planning Commission. Depending on recommendations contained in the corridor study, resources may include the Town, the regional TIP, the Community Development Action Grant (CDAG) or Public Works for Economic Development (PWED) programs, and developers investing in C District projects. PWED is an unlikely source unless the plan includes improvements that are essential to an economic development project.

Integration

Land Use, Circulation & Traffic, Economic Development elements.

16. Harvard Center

The Harvard Center planning area is shown in Fig. 5-C.

**16-A. Town Center Public Realm Plan**

|                        |           |                        |            |
|------------------------|-----------|------------------------|------------|
| <u>Timeline:</u>       | 2005-2006 | <u>Estimated Cost:</u> | \$20,000   |
| <u>Priority Level:</u> | 1         | <u>Responsibility:</u> | MPCC, TCPC |

Summary

Harvard’s desire for a vibrant, walkable Town Center with a balanced mix of land uses calls for several well- coordinated strategies. To achieve these outcomes, Harvard needs to begin by concentrating resources on a concept plan for parking, pedestrian walkways, public amenities and open space: a Town Center public realm plan. It is very important for the town to reach agreement about issues such as the amount, location and design of parking areas and how to facilitate pedestrian movement throughout the district in conjunction with undertaking a comprehensive rezoning of the Town Center.



**Residential development in the Town Center.**

The concept plan for parking and open space that was prepared for the eventual relocation of Harvard Library to the Bromfield School exemplifies the approach that Harvard should take for the larger Town Center area, i.e., the area represented as the approximate boundaries of the Town Center Overlay District in Fig. 5-C. Through the public realm planning process, Harvard will be able to identify realistic ways for the private sector to participate in developing public improvements in the Town Center, a task that is critical to writing fair development regulations for the overlay district.

The Town Center’s capacity to support additional parking *will* have an impact on how the town regulates land use in this area. Moreover, choices made about parking and pedestrian access must be translated into actions that Harvard is willing to take, including a sustained commitment of public funds. The division of responsibility between developers and local taxpayers for public improvements in the Town Center cannot reasonably be established until Harvard translates its Town Center goals into a tangible improvements plan, including cost estimates.

**16-B. Town Center Overlay District**

|                        |           |                        |                |
|------------------------|-----------|------------------------|----------------|
| <u>Timeline:</u>       | 2005-2006 | <u>Estimated Cost:</u> | \$6,500        |
| <u>Priority Level:</u> | 1         | <u>Responsibility:</u> | MPCC, PB, TCPC |

Summary

The Town Center Overlay District will be Harvard’s key regulatory device for assuring a balanced mix of land uses and keeping the overall amount of development in the Town Center to a level that the area can sustain. Harvard should pair the rezoning study with preparing the public realm plan (above) so that land use, access, circulation and parking issues can be resolved coherently.

Resources

Town of Harvard

**16-C. Wastewater Feasibility Study**

|                        |           |                        |                   |
|------------------------|-----------|------------------------|-------------------|
| <u>Timeline:</u>       | 2007-2009 | <u>Estimated Cost:</u> | \$25,000-\$30,000 |
| <u>Priority Level:</u> | 1         | <u>Responsibility:</u> | BOS, TCPC         |

Summary

Harvard needs to explore a range of options to provide adequate wastewater disposal capacity in the Town Center. The options may include connecting to the school department’s treatment plant, designing and constructing a treatment plant to serve the area designated for inclusion in the Town Center Overlay District, special regulations and financing incentives to encourage shared septic systems, or some combination of these strategies. Harvard has been trying to address problems associated with on-site septic system capacity in the Town Center for many years, largely through the efforts of citizen volunteers. The town clearly needs assistance from a professional engineer to provide the following services:

- An organized, methodical review of existing wastewater disposal conditions in the Town Center.
- An analysis of realistic solutions given the Harvard’s goals for the Town Center, including opportunities and constraints for creating a district wastewater collection, treatment and disposal system, ownership and management responsibilities, the advantages and drawbacks of each solution considered, preliminary cost ranges, and possible methods of financing.
- Recommendations for a preferred solution and its associated implementation plan.

Resources

Town of Harvard; DEP funds or a low-interest loan from the federal Rural Development Administration may also be available for construction, including final engineering design and project management services.

**16-D. Residential Compatibility Overlay District**

|                        |      |                        |          |
|------------------------|------|------------------------|----------|
| <u>Timeline:</u>       | 2006 | <u>Estimated Cost:</u> |          |
| <u>Priority Level:</u> | 1    | <u>Responsibility:</u> | MPCC, PB |

Summary

See discussion under Ayer Road, #1. Adoption of this zoning proposal should occur at the same town meeting that acts on the Town Center Overlay District.

Resources

See Appendix H and discussion under Ayer Road, #1.

**16-E. Harvard Library Reuse Plan**

|                        |      |                        |                    |
|------------------------|------|------------------------|--------------------|
| <u>Timeline:</u>       | 2007 | <u>Estimated Cost:</u> |                    |
| <u>Priority Level:</u> | 2    | <u>Responsibility:</u> | MPCC, HLT, HHC, PB |

Summary

Though Harvard was awarded a state library construction grant to renovate and expand “Old Bromfield” for use as a new library, the town’s waiting list rank is fairly low. It seems unlikely that Harvard will receive funds from the Board of Library Commissioners in the next four to five years due to the length of the program’s waiting list and the limited amount of money that the state can release each year. As a result, a reuse and feasibility study for the existing Harvard Public Library building is not an immediate priority, but it will have to be done within the timeline of this master plan update. Since there are other historic buildings in Harvard Center that will also become available for new uses in the future, e.g., the Hildreth House, the town may find it most economical to commission a study of two or three facilities rather than limit this project to the Harvard Public Library.



Harvard Public Library.

The board of library trustees, the Harvard Historical Commission, the MPCC and the Planning Board, should undertake this project jointly.

Resources

Town of Harvard, CPA revenue, MHC Survey & Planning Grant. Depending on the types of use that Harvard wants to explore, pre-development funds from Massachusetts Housing Partnership or MassDevelopment may also be available.

17. Still River Village

The Still River Village Planning Area is shown in Fig. 5-D.

17-A. Still River Village Overlay District

|                        |           |                        |          |
|------------------------|-----------|------------------------|----------|
| <u>Timeline:</u>       | 2008-2009 | <u>Estimated Cost:</u> | \$5,000  |
| <u>Priority Level:</u> | 1         | <u>Responsibility:</u> | MPCC, PB |

Summary

The Master Plan calls for a special overlay zoning district that can direct new development and changes to existing development toward respect for the unique form of Still River Village. Since Still River’s development history, village form and architectural heritage differ from the Town Center, this area needs contextually relevant zoning regulations and other preservation strategies that work together.



Still River area, Harvard.

Harvard’s past attempts to implement a preservation plan for Still River did not achieve the intended results. According to town officials, residents of the Still River area objected to a proposed local historic district in the early 1970s. Today, the village lacks a local historic district and except for one building, this critically important section of Harvard is not listed on the National Register because the town did not proceed with a nomination. In light of past conflicts between the town and residents of Still River, it would behoove the Master Plan Coordinating Committee to sponsor a village area task force or sounding board group to work as a team on zoning measures to guide development in Still River Village. The same neighborhood group should be mobilized to work on a more complete set of regulations and policies, such as those described below.

Resources

Town of Harvard, MHC Survey and Planning Grants.

17-B. Historic Preservation

|                        |           |                        |           |
|------------------------|-----------|------------------------|-----------|
| <u>Timeline:</u>       | 2005-2006 | <u>Estimated Cost:</u> | \$15,000  |
| <u>Priority Level:</u> | 1         | <u>Responsibility:</u> | MPCC, HHC |

Summary

The Master Plan urges Harvard to re-explore establishing a Still River Village local historic district under M.G.L. c.40C or a neighborhood conservation district by home rule petition (special act of the legislature). The steps required to provide suitable historic preservation controls in the Still River

Village area are the same as those described under “Historic Preservation” in Section 1 of this chapter:

- Update historic property surveys
- Prepare nominations for listing on the National Register of Historic Places
- Prepare bylaw and maps to establish Still River Village local historic district, and present the historic district proposal to town meeting

The process for preparing to establish a local historic district may also be used to create a neighborhood conservation district. If Still River residents remain opposed to a local historic district, they may find a neighborhood conservation district more palatable. Though not as restrictive, neighborhood conservation districts provide a mechanism for design review, qualitative controls over the arrangement and location of open space in new development, and measures to protect the unique character-defining features of a particular site. The extent of review over alterations to existing development depends on how the town chooses to address this issue in the home rule petition.

Given the time and human resources required to carry out a neighborhood-based village planning effort, the implementation plan provides for a four-year policy process for Still River. The process begins with updating the area’s historic property inventories and culminates in town meeting’s adoption of newly conceived regulations for land use, preservation and design review. The same town meeting may be asked to approve a home rule petition to establish a neighborhood conservation district at Still River in lieu of a local historic district. These decisions need to be made with neighborhood involvement – residents, landowners, and those in control of village institutions.

Resources

Town of Harvard, MHC Survey & Planning Grants.

Integration

Integrates Land Use, Natural & Cultural Resources, Housing elements, and *Planning for Harvard’s Rural Landscape*.

**18. Bare Hill Pond Watershed**

The Bare Hill Pond Watershed Planning Area is shown in Fig. 5-E.

|                        |           |                        |                    |
|------------------------|-----------|------------------------|--------------------|
| <u>Timeline:</u>       | 2004-2005 | <u>Estimated Cost:</u> | \$4,500            |
| <u>Priority Level:</u> | 1         | <u>Responsibility:</u> | PB, HCC, BOH, BHPC |

Summary

Harvard’s goals for the protection of Bare Hill Pond are not reflected in the town’s land use regulations. The Master Plan recommends that Harvard create a Bare Hill Pond Watershed Overlay Protection District in the Zoning Bylaw. Special regulations for development in this district should consider and address:

- A lower threshold for uses requiring a special permit and an explicit list of prohibited activities
- Minimum lot size

- Drainage design
- Erosion and sedimentation controls
- Impervious coverage
- Special site plan standards for large-scale, exempt land uses, e.g., institutional, municipal and school uses.



Bare Hill Pond.

To implement this recommendation, Harvard needs to retain a qualified environmental planner to review the town’s existing zoning and write regulations for the new district. The Zoning Map must also be amended to identify the boundaries of the overlay zone. This task could be done by the consulting planner or by Montachusett Regional Planning Commission.

Resources

Town of Harvard

Integration

Integrates Land Use, Natural & Cultural Resource, Open Space & Recreation elements.

19. Agricultural & Historic Landscapes

The Agricultural & Historic Landscape Planning Areas are shown in Fig. 5-F and F-G. Fig. 5-F incorporates an area defined generally as Prospect Hill-Still River, and Fig. 5-G applies to Oak Hill.

**Agricultural & Historic Landscapes District**

|                        |           |                        |              |
|------------------------|-----------|------------------------|--------------|
| <u>Timeline:</u>       | 2005-2008 | <u>Estimated Cost:</u> | \$12,000     |
| <u>Priority Level:</u> | 1         | <u>Responsibility:</u> | MPCC, PB, CC |

Summary

The proposed Agricultural & Historic Landscape Districts are the centerpiece of the Master Plan’s strategy to save special places in Harvard that are defined by their open, rural landscapes, scenic view corridors, institutional and farming land uses, and historic roadways. The strategy includes:

- Establishing an Agricultural & Historic Landscapes Overlay District, as outlined in Chapter 4. Regulations for this district should (a) provide incentives to use the town’s Conservation Cluster and Backlot Development bylaws while also providing added protection to farms adjacent to new homes, (b) incorporate site plan review into the subdivision approval process and encourage a modified form of Harvard’s existing “mini-subdivision” bylaw, (c) recognize planned residential development as a special permitted use in order to set special open space zoning rules for

development of larger parcels, and (d) provide incentives to preserve accessory and agricultural outbuildings, including non-residential uses.

- Designating Prospect Hill Road, Still River Road, Massachusetts Avenue, Littleton County Road, Oak Hill Road and Pinnacle Road as high-priority scenic ways and adopting higher performance standards for clearing, grading, protection of trees and stone walls, and construction activity that alters views from the road. These designations need to be made as part of a larger process of updating and rewriting Harvard's Scenic Roads Bylaw – a task that relates directly to the Community-Based Transportation Plan discussed in Section 1 of this chapter.
- Targeting open space and historic preservation resources in these two planning areas.
- Marshaling Harvard's available development resources – including the Harvard Conservation Trust and the proposed non-profit development corporation – to acquire, as appropriate, preservation restrictions and development rights.
- Establishing an Agricultural Incentives Committee to research the merits of forming Agricultural Incentive Districts, thereby increasing the amount of Chapter 61-61A land in Harvard and institutionalizing a local government liaison with the town's farm and orchard owners.

#### Resources

Town of Harvard, EAP Challenge Grant for Sustainable Development (subject to availability)

#### Integration

All elements, and *Planning for Harvard's Rural Landscape*.

## 20. Devens

The Devens Planning Area is shown on Fig. 5-H.

The implementation plan for the Master Plan Update incorporates two activities related to Devens. Given that a final report on the five-year review of the *Devens Reuse Plan* was recently released, it is premature for town planning efforts in Harvard to forecast appropriate proposals for Devens because the land's ultimate governance has not been decided. In addition, the information required to address many of Harvard's concerns about Devens is either unavailable or incomplete.

A five-year review process overseen by the Joint Boards of Selectmen began prior to the Master Plan update and its purpose, among others, was to address concerns voiced by Harvard, Ayer and Shirley about the implementation status of the *Devens Reuse Plan*. The results of that effort are published in a report entitled, *Tri-Town Five-Year Review of the Devens Reuse Plan*, which lays out a number of thoughtfully conceived recommendations for all three communities. Through its participation on the Joint Boards of Selectmen, Harvard has already begun to act on some of these recommendations.

Harvard has a number of interests at stake in the development, operation and management of Devens, including interests that Harvard often struggles to recognize. The town needs to respond to these interests constructively. They include:

- **Aquifers.** The deep, medium- to high-yield aquifers that lie along the eastern edge of Devens ought to be one of Harvard's highest resource protection priorities. The town should support the DEC in its efforts to enforce the Devens Zoning Bylaw, but more importantly, Harvard *must* hold the DEC and MassDevelopment accountable for protecting groundwater quality in these sensitive aquifer areas.



Hell Pond (Mirror Lake), Devens.

- **Land Use.** The implementation of the *Devens Reuse Plan* is a critical issue for Harvard regardless of how the property is governed in the future. The composition and durability of the economic base, the character of development and the overall quality of the built environment at Devens all affect Harvard directly. Town officials and citizen activists will have to continue monitoring development at Devens. In addition, Harvard should work to implement the *Tri-Town Five-Year Review* recommendations to strengthen the relationship between the JBOS and the DEC.
- **Open Space and Recreational Access.** Harvard has a compelling interest in access to and protection of open space and recreational resources at Devens, including but not limited to Hell Pond (Mirror Lake) and the areas designated as "open space" in the *Devens Reuse Plan*. Many Harvard residents seem to be unaware that the Devens compound is richly endowed with natural and archaeological resources and they are an integral part of Harvard's heritage. Harvard should remain active on the Devens Open Space Committee and strengthen its advocacy for resource protection. In addition, a *Tri-Town Five-Year Review* recommendation seems particularly germane: a Devens road race, sponsored by Harvard, Shirley and Ayer and the Devens Recreation Department. What Harvard residents see while driving through portions of Devens is not representative of the area as a whole.
- **Traffic.** The negative impacts of Devens-generated traffic, mainly trucks, on residents of Ayer Road and adjacent neighborhoods are a serious concern for Harvard. Harvard must take an active role in the Devens Transportation Committee and advocate for transportation management improvements that will reduce the amount of Devens traffic to and from the Ayer Road-Route 2 interchange. It is important to point out that one purpose of the Master Plan's recommendation for a corridor study on North Ayer Road is to identify and plan strategies to mitigate the impacts of this traffic.
- **Salerno Circle.** The disposition of land in the former Salerno Circle housing area is vitally important to Harvard. The site's visibility, beauty and immediate proximity to the border between Harvard and Devens argue for taking an active role in planning appropriate uses for this site.
- **Harvard citizenship.** The new residents of homes at Devens are Harvard citizens, eligible to vote in Harvard elections and at town meetings, and quite possibly they will gain legal standing to send their children to the Harvard Public Schools. Until such time as the long-term disposition of Devens is resolved, Harvard must find ways to include the entire community in decisions that affect all residents. This applies not only to civic, social and cultural activities but also to planning

for the types of housing built at Devens in the future. Harvard should take a strong advocacy role in assuring that new neighborhoods at Devens do not absorb a disproportionate share of Chapter 40B units.

The implementation plan includes two steps that Harvard should take to advance some of these interests, above and beyond the obvious recommendation that Harvard continue to participate in regional planning for the disposition of Devens.

**20-A. Salerno Circle Review**

|                        |           |                        |                   |
|------------------------|-----------|------------------------|-------------------|
| <u>Timeline:</u>       | 2004-2005 | <u>Estimated Cost:</u> | \$45,000-\$55,000 |
| <u>Priority Level:</u> | 2         |                        |                   |

Summary

Harvard needs to work jointly with MassDevelopment on a visioning process and technical review of opportunities and constraints for the use and development of land at Salerno Circle. In meetings with local officials, MassDevelopment has indicated its willingness to fund a preliminary study of this area. However, the scope, general direction and oversight arrangements for the study have not been determined and MassDevelopment has not indicated the amount of funding it will commit to the planning process.

Harvard should take a pro-active role in pursuing MassDevelopment’s offer and propose an open, inclusive planning process that encourages residents to shape decisions about this important location. Accordingly, Harvard needs to negotiate a scope of services that is within MassDevelopment’s budget for a Salerno Circle planning study and request that the town oversee the project. A steering committee should be formed to act as the town’s oversight group.

Resources

Town of Harvard, MassDevelopment

**20-B. Open Space, Pedestrian and Bicycle Access**

|                        |                        |                        |         |
|------------------------|------------------------|------------------------|---------|
| <u>Timelines:</u>      | 2005-2006<br>2009-2011 | <u>Estimated Cost:</u> | \$6,500 |
| <u>Priority Level:</u> | 1                      |                        |         |

Summary

Access to Devens creates considerable anxiety for Harvard residents, especially those living along the two routes that are closed to vehicular traffic: Old Mill Road and Harvard Depot Road. There are physical, political and financial barriers to reopening both roadways, and a transportation study focused on these locations may well find that neither is suitable for through traffic. However, a formal system of open space linkages, pedestrian pathways and a bicycle path between Harvard and Devens would be appropriate and consistent with Harvard’s sustainable development goals. Toward that end, the implementation plan calls for planning and design of a bicycle path to connect Harvard Center, Ayer Road and Devens, in 2009-2011. A bicycle path plan should be initiated when the North Ayer Road corridor study nears completion.

In the interim, the Board of Selectmen should work with residents of the two affected neighborhoods and MassDevelopment to explore removing the chain-link fencing and gates that presently exist.

They should be replaced with attractive wooden posts, signs and kiosks such as those found at the trail entrances to many conservation areas, thereby preventing vehicular traffic and at the same time, encouraging people to walk through and enjoy the hidden open space at Devens. This relatively simple step should not be deferred until the town begins to plan for the development of a bicycle path. The implementation plan anticipates establishing a public open space connection at the end of Harvard Depot Road and Old Mill Road between 2005-2006. Fig. 5-I, a composite recommendations map from the *Tri-Town Five-Year Review*, reinforces the need to establish open space linkages at Harvard's two entrances to Devens.

Resources

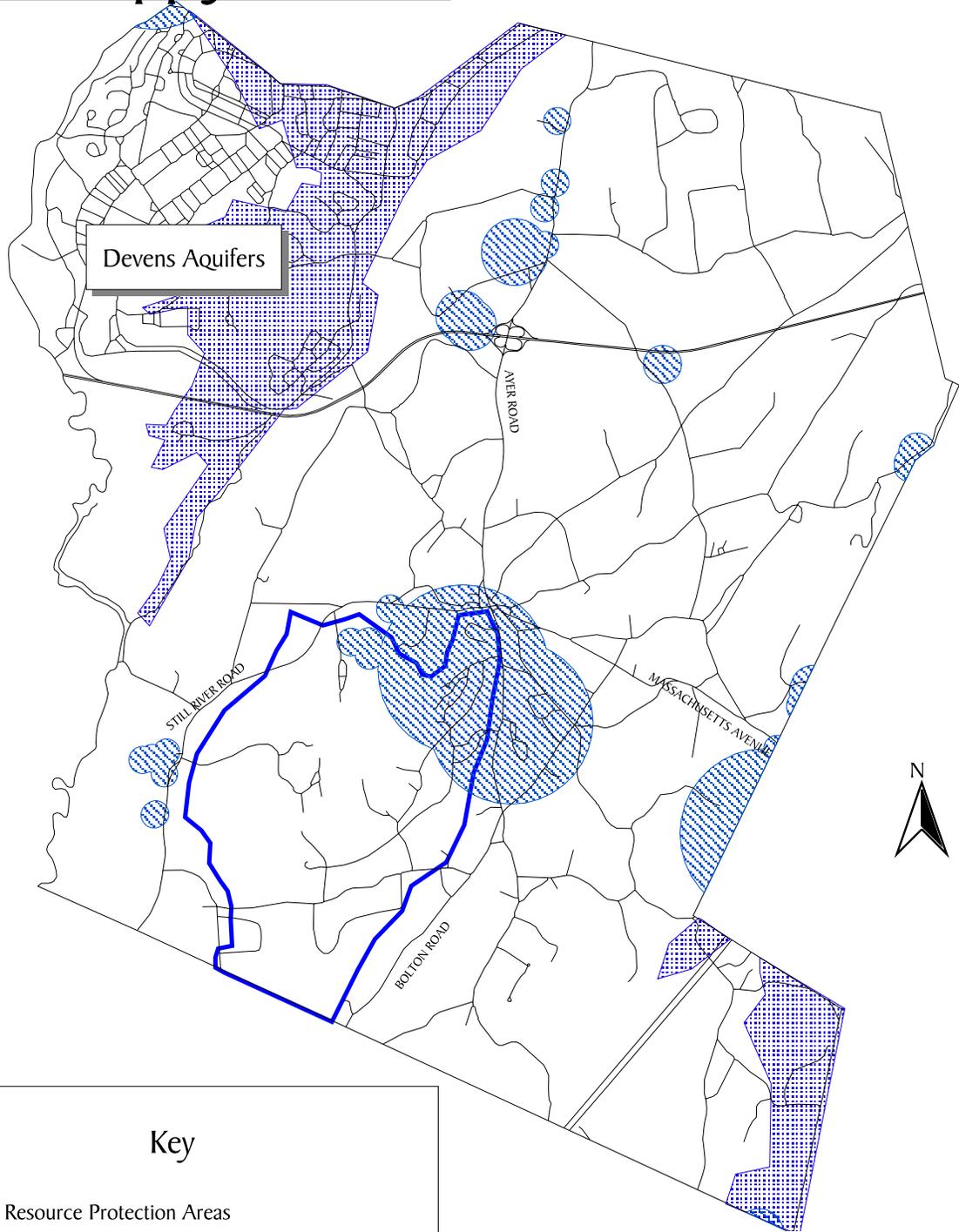
MassDevelopment

Integration

Integrates Land Use, Natural and Cultural Resources, Open Space and Recreation and Circulation and Traffic elements.



# Fig. 5-A Water Supply Areas



**Key**

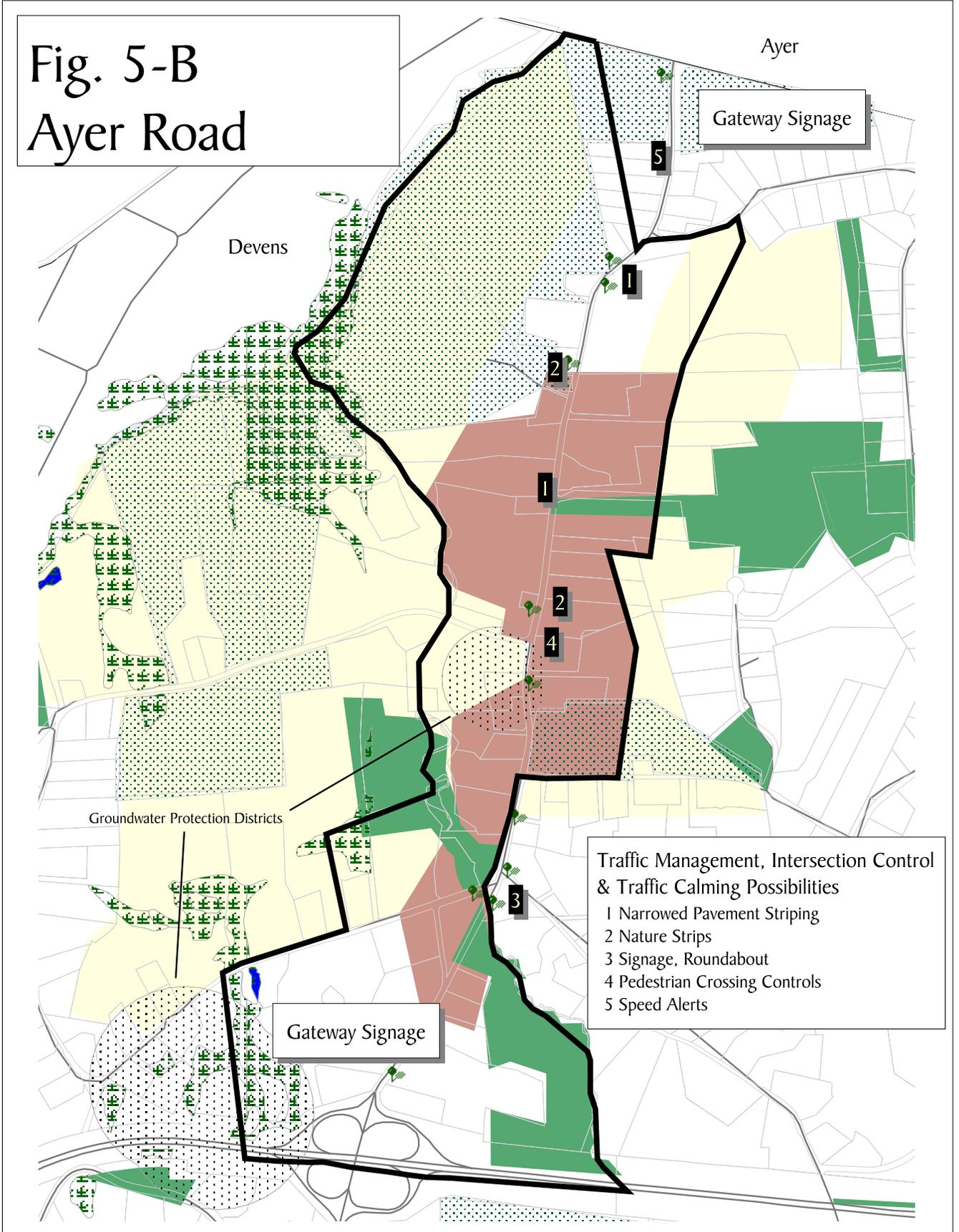
Water Resource Protection Areas

-  Aquifers
-  Bare Hill Pond
-  Approved/Interim Water Supply Recharge Areas





**Fig. 5-B  
Ayer Road**



**Traffic Management, Intersection Control  
& Traffic Calming Possibilities**

- 1 Narrowed Pavement Striping
- 2 Nature Strips
- 3 Signage, Roundabout
- 4 Pedestrian Crossing Controls
- 5 Speed Alerts

0 1000 2000 Feet

**Key**

- |   |                                       |   |  |   |                               |
|---|---------------------------------------|---|--|---|-------------------------------|
|  | Existing C District                   |  | Agricultural Incentive Area                |  | Wetlands                      |
|  | Community Commercial Overlay District |  | Residential Compatibility Overlay District |  | Traffic Management Strategies |

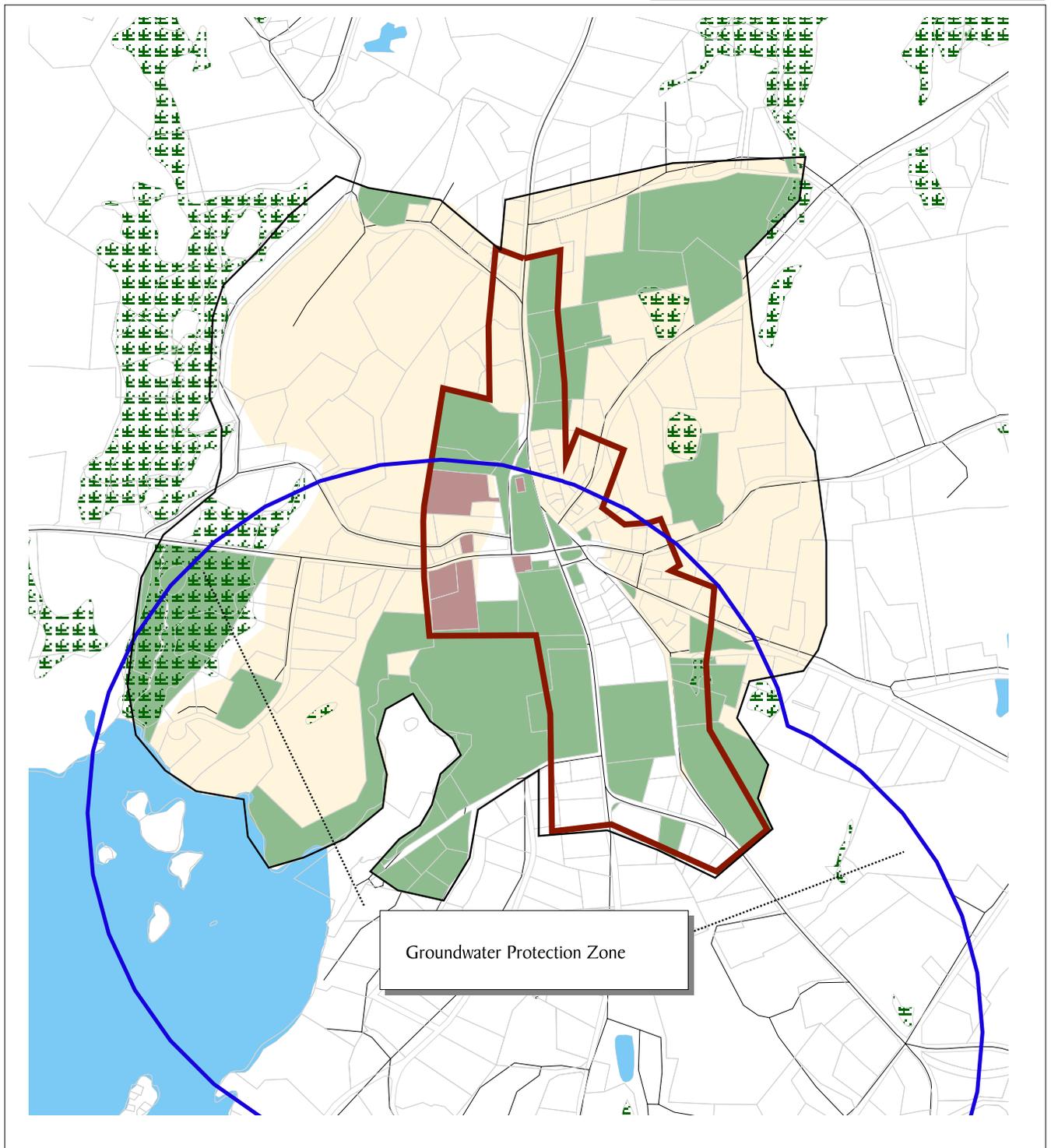




# Fig. 5-C Harvard Center

## Concepts for Harvard Center

- Zoning emphasis on design, site plan review, mixed-use development
- Businesses that support local clientele
- Community services for all residents
- Retain institutional uses
- Encourage housing stock diversity
- Adequate wastewater disposal



0 1000 2000 Feet



Planning Area



Town Center Overlay District



Residential Compatibility Overlay District



Groundwater Protection District

### Key



Institutions



Wetlands

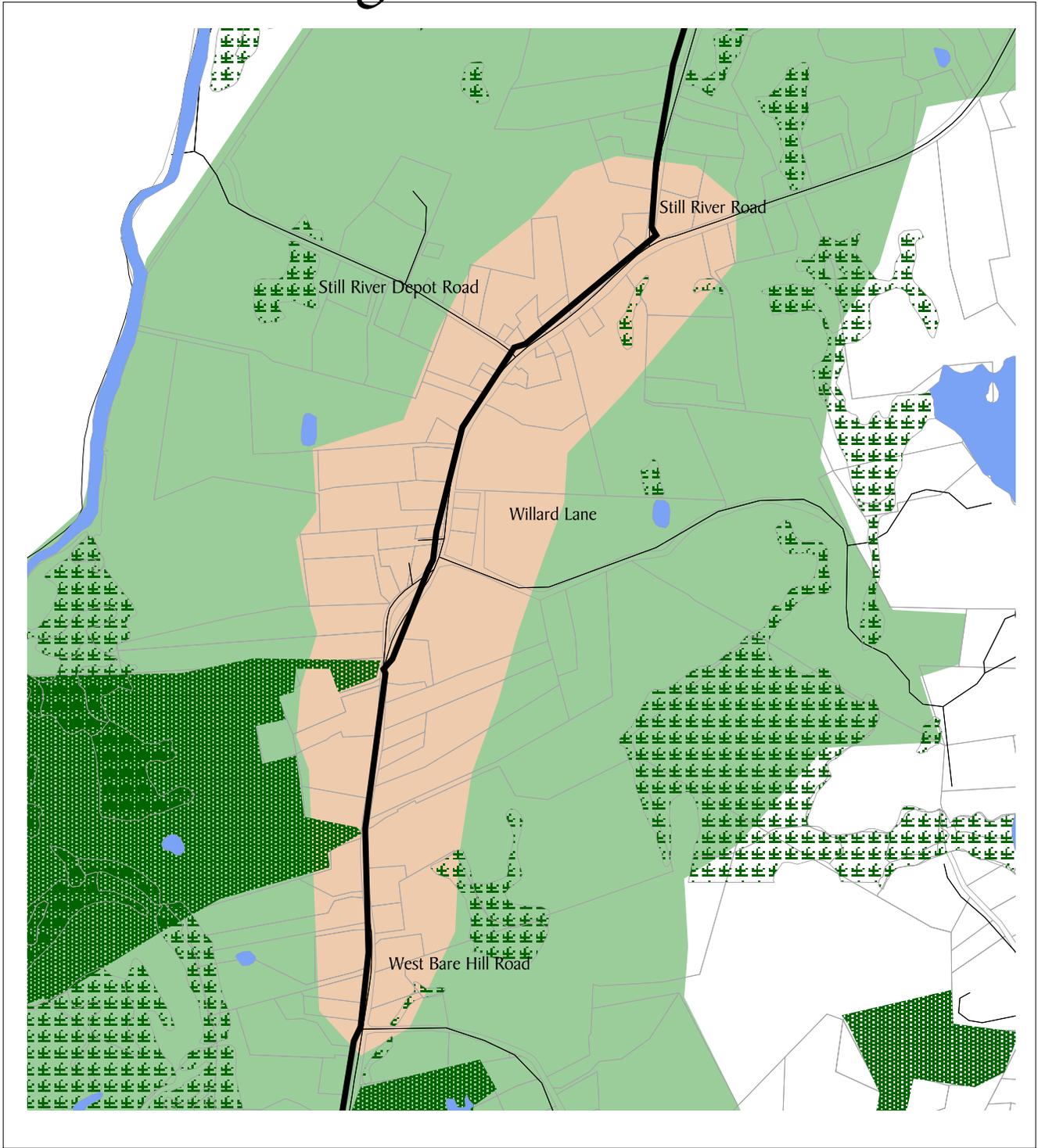


Open Space



# Fig. 5-D Still River Village

Concepts for Still River Village  
 Preserve historic village form  
 Protect historic buildings  
 Encourage limited mix of uses  
 Preserve vistas



- Village Preservation Area
- Historic Landscape Area
- Nashua River ACEC

Key

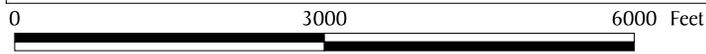
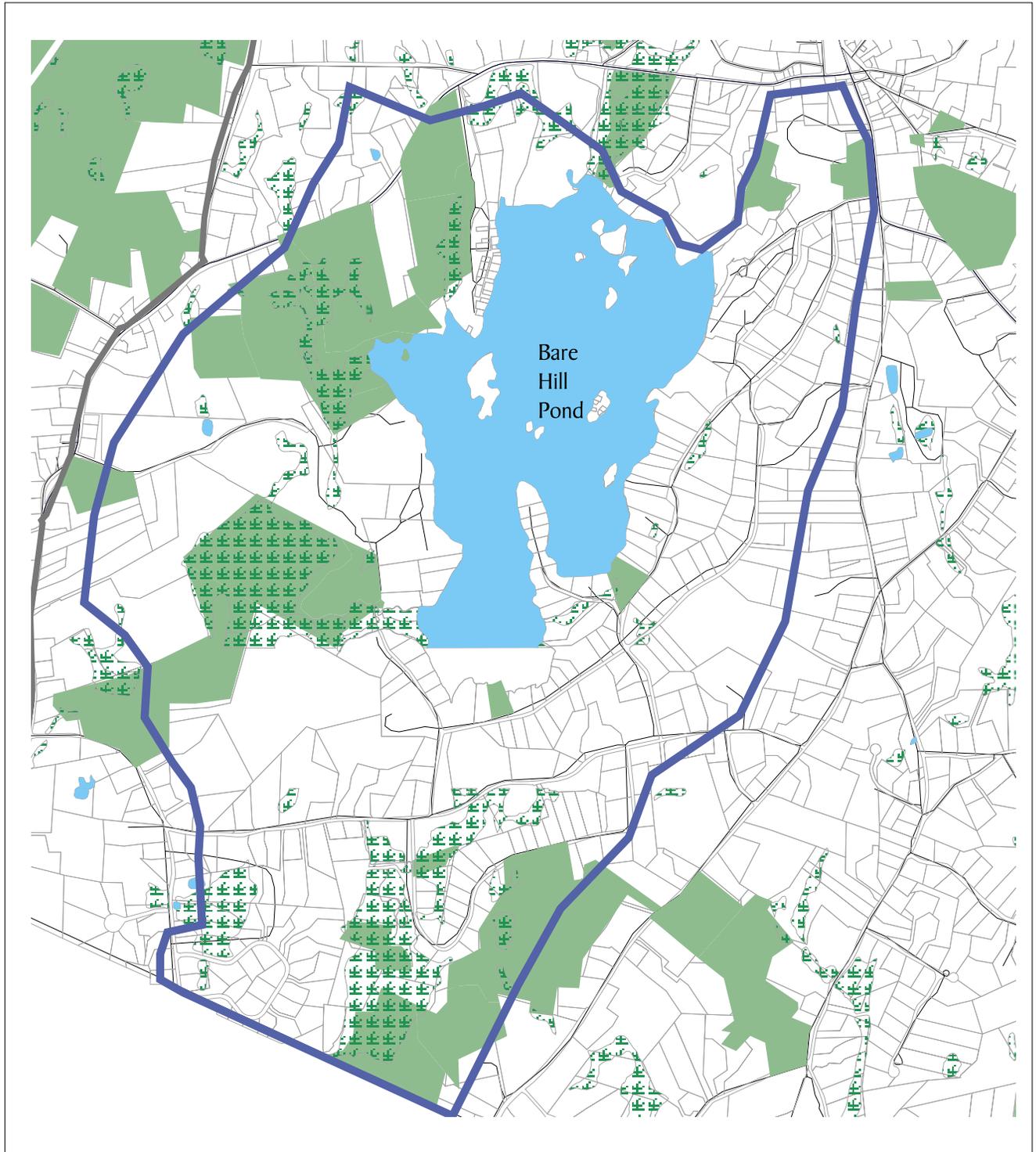
- Agricultural Incentive Areas
- Wetlands

Note: See also, Fig. 5-F.



# Fig. 5-E Bare Hill Pond Watershed

- Concepts for Watershed District
- Limit density of development
  - Limit use intensity of land
  - Prohibit high-risk activities
  - Require best management practices

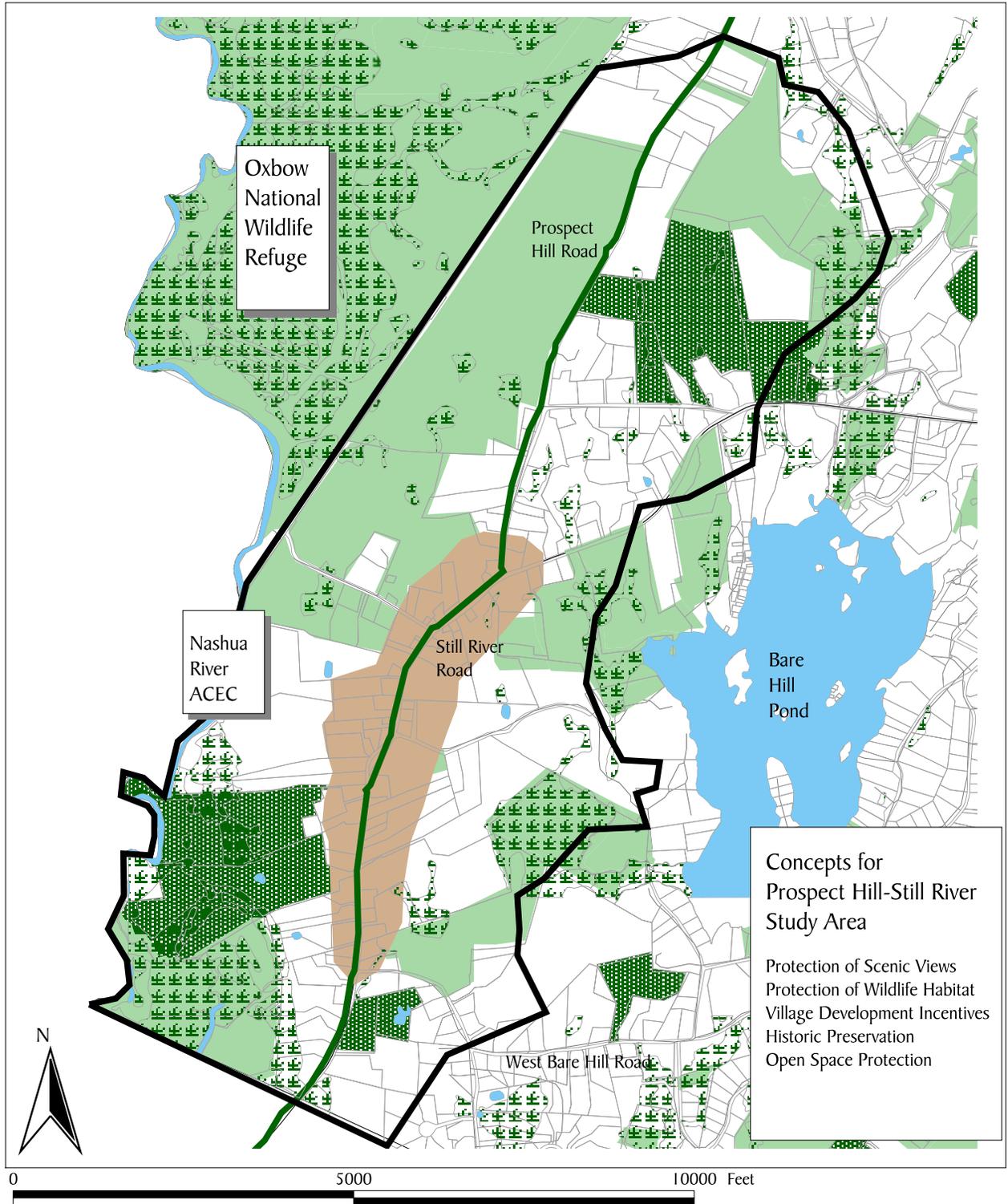


### Bare Hill Pond Watershed Key

- |   |                          |   |                     |
|---|--------------------------|---|---------------------|
|  | Bare Hill Pond Watershed |  | Existing Open Space |
|  | Wetlands                 |  | Open Water          |
|   |                          |  | Nashua River ACEC   |



Fig. 5-F  
Prospect Hill-Still River Study Area



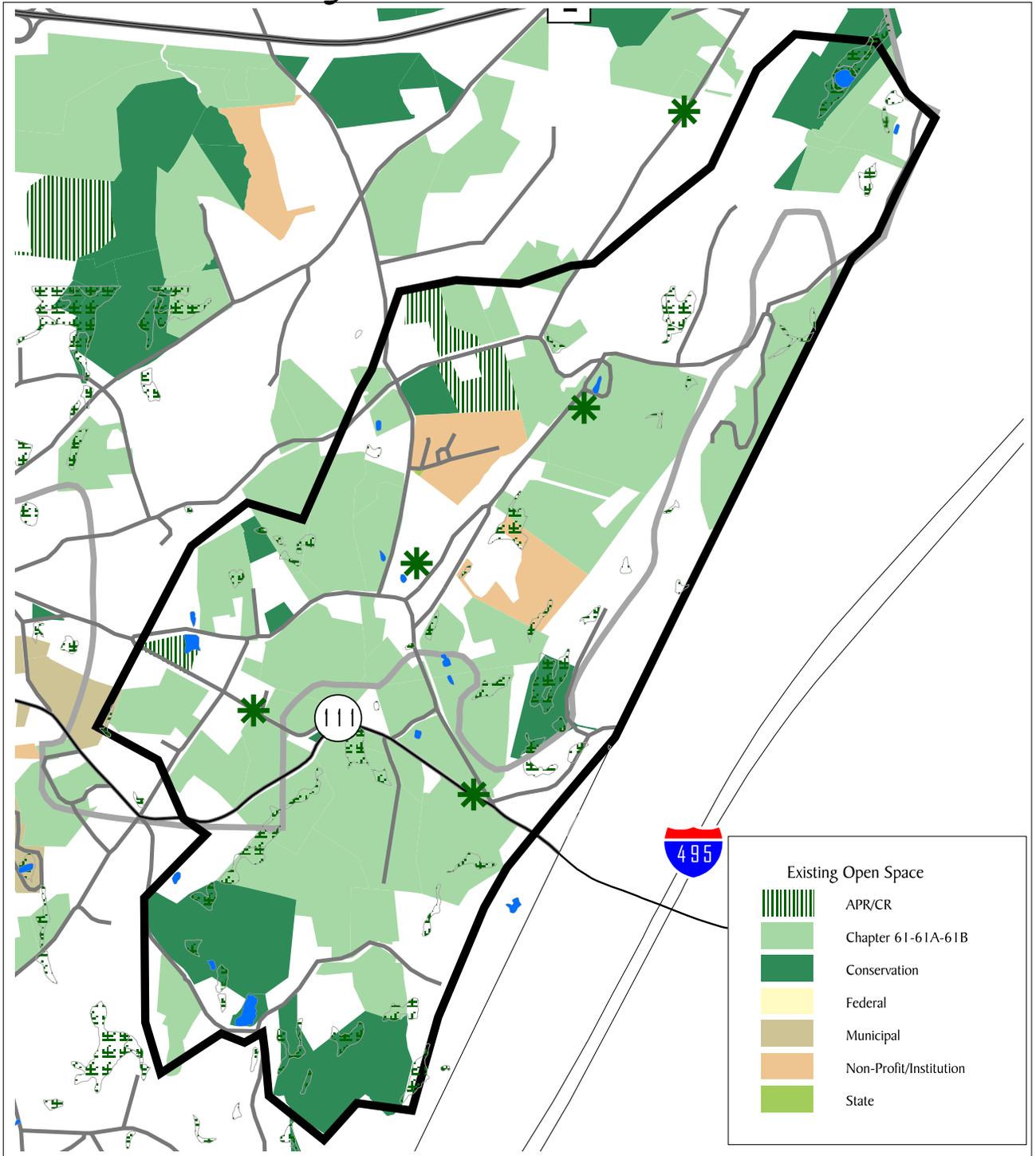
Concepts for Prospect Hill-Still River Study Area

- Protection of Scenic Views
- Protection of Wildlife Habitat
- Village Development Incentives
- Historic Preservation
- Open Space Protection

| Key   |  |   |                              |   |                   |
|---|--|---|------------------------------|---|-------------------|
|  | Agricultural-Historic Landscape District |  | Agricultural Incentive Areas |  | Nashua River ACEC |
|  | Still River Village Overlay District     |  | Open Water                   |   |                   |
|  | Existing Open Space                      |  | Wetlands                     |   |                   |



# Fig. 5-G Oak Hill Study Area



0 4000 8000 Feet



- |   |  |   |            |
|---|--|---|------------|
|  | Agricultural-Historic Landscape District |  | Open Water |
|  | Priority Scenic Roads                    |  | Wetlands   |
|  | DEM Scenic Landscape Inventory           |   |            |

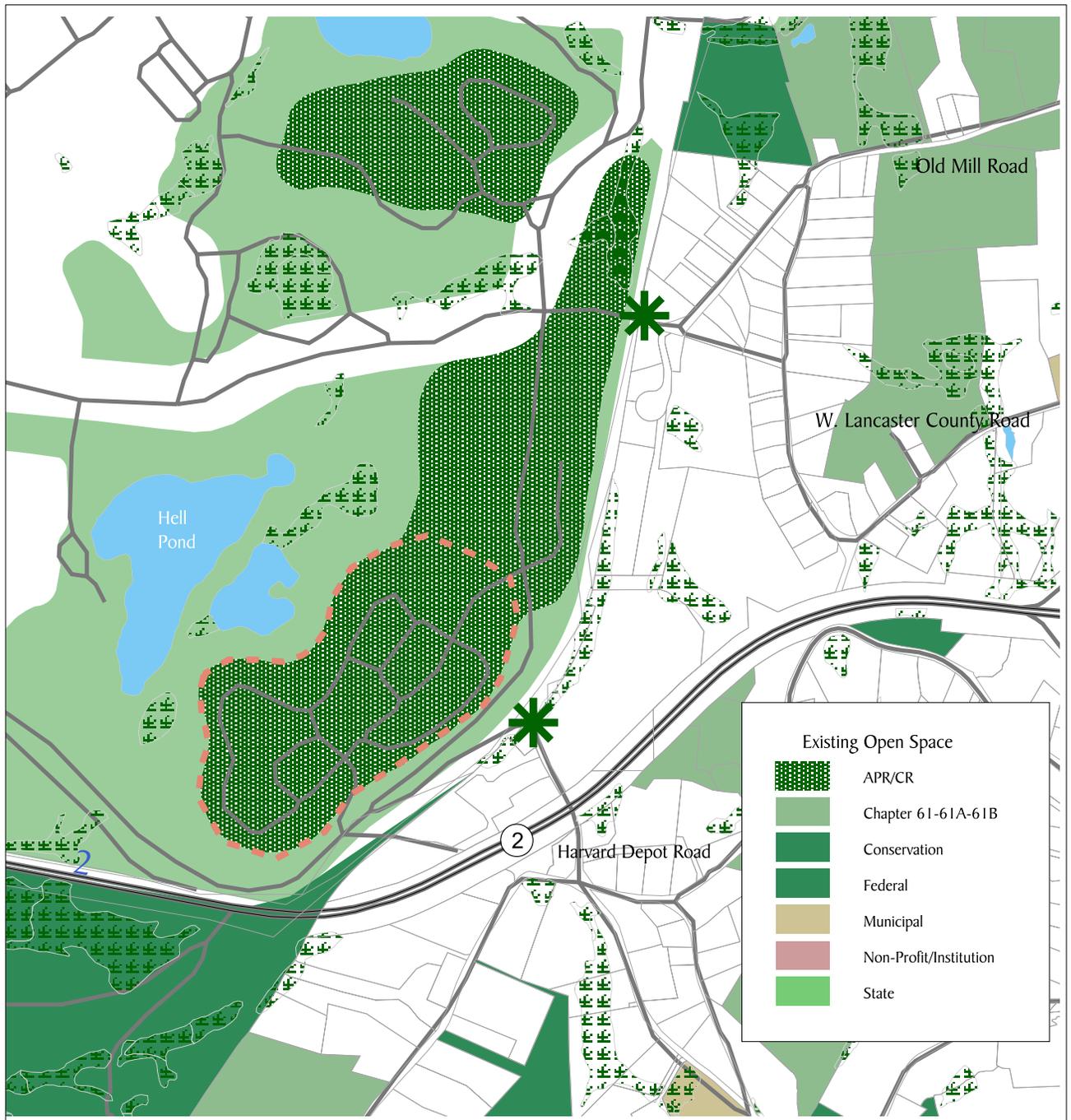
Key

Existing Open Space

-  APR/CR
-  Chapter 61-61A-61B
-  Conservation
-  Federal
-  Municipal
-  Non-Profit/Institution
-  State



# Fig. 5-H Harvard-Devens Study Area



0 3000 Feet

### Key

-  Open Space/Trails Connection
-  Open Water
-  Wetlands
-  Salerno Circle





# IMPLEMENTATION PLAN SCHEDULE

| ACTION   | TYPE | ANTICIPATED TIMELINE |      |      |      |      |      |      |      |      |      |  |
|--|------|----------------------|------|------|------|------|------|------|------|------|------|--|
|  |      | 2003                 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 |  |
| Appoint Master Plan Coordinating Committee   | C    |                      |      |      |      |      |      |      |      |      |      |  |
| Rezone portion of C District: Community Commercial District                          | Z    |                      |      |      |      |      |      |      |      |      |      |  |
| Adopt Conservation Cluster bylaw   | Z    |                      |      |      |      |      |      |      |      |      |      |  |
| Adopt Backlot Development bylaw  | Z    |                      |      |      |      |      |      |      |      |      |      |  |
| Adopt demolition delay, historic preservation regulations                            | Z    |                      |      |      |      |      |      |      |      |      |      |  |
| Adopt "agricultural-retail business" regulations                                     | Z    |                      |      |      |      |      |      |      |      |      |      |  |
| Adopt Bare Hill Pond Overlay District  | Z    |                      |      |      |      |      |      |      |      |      |      |  |
| Update Open Space & Recreation Plan  | P    |                      |      |      |      |      |      |      |      |      |      |  |
| Prepare, adopt Affordable Housing Strategy   | P    |                      |      |      |      |      |      |      |      |      |      |  |
| Prepare, adopt Town Center Public Realm Plan   | P    |                      |      |      |      |      |      |      |      |      |      |  |
| Make annual commitment to Public Realm Plan implementation                           | I    |                      |      |      |      |      |      |      |      |      |      |  |
| Adopt Town Center Overlay District   | Z    |                      |      |      |      |      |      |      |      |      |      |  |
| Adopt Groundwater Protection Overlay District  | Z    |                      |      |      |      |      |      |      |      |      |      |  |
| Develop, adopt community-based transportation management program                     | P    |                      |      |      |      |      |      |      |      |      |      |  |
| Conduct visioning process and technical review of Salerno Circle                     | P    |                      |      |      |      |      |      |      |      |      |      |  |
| Adopt Agricultural & Historic Landscapes Overlay District                            | Z    |                      |      |      |      |      |      |      |      |      |      |  |
| Establish pedestrian-only open space access between Harvard and Devens               | I    |                      |      |      |      |      |      |      |      |      |      |  |
| Make annual commitment to Conservation Fund  | I    |                      |      |      |      |      |      |      |      |      |      |  |
| Authorize Open Space Bond Issue  | I    |                      |      |      |      |      |      |      |      |      |      |  |
| Prepare and adopt Town Buildings/ Access Plan  | P    |                      |      |      |      |      |      |      |      |      |      |  |
| Make annual commitment to Town Buildings/ Access Plan improvements                   | I    |                      |      |      |      |      |      |      |      |      |      |  |
| Initiate/complete North Ayer Road Corridor Study                                     | P    |                      |      |      |      |      |      |      |      |      |      |  |
| Implement North Ayer Road Corridor Study, secure partial funding through TIP         | I    |                      |      |      |      |      |      |      |      |      |      |  |
| Amend W and WFH Zoning Districts (maps, text amendments)                             | Z    |                      |      |      |      |      |      |      |      |      |      |  |
| Update Still River historic properties inventory                                     | P    |                      |      |      |      |      |      |      |      |      |      |  |
| Adopt Residential Compatibility Overlay District                                     | Z    |                      |      |      |      |      |      |      |      |      |      |  |
| Hire Town Planner  | C    |                      |      |      |      |      |      |      |      |      |      |  |
| Appoint Agricultural Incentive Committee   | P    |                      |      |      |      |      |      |      |      |      |      |  |
| Establish Agricultural Incentive Areas (assuming favorable committee recommendation) | R    |                      |      |      |      |      |      |      |      |      |      |  |
| Develop Library Reuse Plan   | P    |                      |      |      |      |      |      |      |      |      |      |  |
| Amend BOH Regulations: mandatory septic system maintenance                           | R    |                      |      |      |      |      |      |      |      |      |      |  |

P = Planning

Z = Zoning

R = Other Regulatory

C=Capacity Building

I=Public Investment (Capital Outlay, Bond Issue)

| ACTION  | TYPE | ANTICIPATED TIMELINE |      |      |      |      |      |      |      |      |      |   |
|---|------|----------------------|------|------|------|------|------|------|------|------|------|---|
|   |      | 2003                 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 |   |
| Develop and adopt Street Classification Plan                                  | P    |                      |      | ■    |      |      |      |      |      |      |      |   |
| Adopt new Scenic Roads Bylaw  | P    |                      |      |      | ■    |      |      |      |      |      |      |   |
| Prepare and adopt Pavement Management Plan                                    | P    |                      |      |      |      |      |      | ■    |      |      |      |   |
| Initiate and complete Town Center Wastewater Study                            | P    |                      |      |      |      | ■    | ■    | ■    | ■    |      |      |   |
| Submit National Register nomination for Prospect Hill-Still River area        | P    |                      |      |      |      | ■    | ■    | ■    | ■    |      |      |   |
| Adopt home rule petition to create non-profit development corporation         | C    |                      |      |      | ■    | ■    | ■    | ■    |      |      |      |   |
| Conduct search and selection process for a future school site                 | P    |                      |      |      | ■    | ■    | ■    | ■    |      |      |      |   |
| Update subdivision regulations  | P    |                      |      |      |      | ■    | ■    | ■    |      |      |      |   |
| Fund and complete design, renovations, code improvements at Hildreth House    | I    |                      |      |      | ■    | ■    | ■    | ■    |      |      |      |   |
| Conduct site selection process and design plans for pre-school play lot       | P    |                      |      | ■    | ■    | ■    | ■    | ■    |      |      |      |   |
| Master plan five-year review  | P    |                      |      |      |      | ■    | ■    | ■    |      |      |      |   |
| Build pre-school play lot   | I    |                      |      |      |      | ■    | ■    | ■    |      |      |      |   |
| Historic property surveys & National Register nominations                     | P    |                      | ■    | ■    | ■    | ■    | ■    | ■    | ■    | ■    | ■    | ■ |
| Review development regulations, eliminate inconsistencies and conflicts       | P    | ■                    | ■    | ■    | ■    | ■    | ■    | ■    | ■    | ■    | ■    | ■ |
| Acquire/accept land for future school site                                    | I    |                      |      |      |      | ■    | ■    | ■    |      |      |      |   |
| Establish Prospect Hill-Still River local historic district                   | R    |                      |      |      |      | ■    | ■    | ■    | ■    |      |      |   |
| Adopt Still River Village Overlay District                                    | Z    |                      |      |      |      | ■    | ■    | ■    | ■    |      |      |   |
| Update Open Space & Recreation Plan   | P    |                      |      |      |      | ■    | ■    | ■    | ■    |      |      |   |
| Reorganize and re-codify the Zoning Bylaw                                     | Z    |                      |      |      |      |      |      |      | ■    | ■    |      |   |
| Implement Town Center Public Realm Plan                                       | I    |                      |      |      | ■    | ■    | ■    | ■    | ■    | ■    | ■    | ■ |
| Digitize assessors maps, complete GIS installation at town hall, train staff  | C    |                      |      |      | ■    | ■    | ■    | ■    | ■    | ■    | ■    | ■ |
| Site selection, neighborhood recreation area, southeastern corner             | I    |                      |      |      |      |      |      |      | ■    | ■    |      |   |
| Acquire/accept gift of land for neighborhood recreation area (southeast area) | I    |                      |      |      |      |      |      |      | ■    | ■    | ■    |   |
| Appoint committee/conduct Town Government Study                               | P-C  |                      |      |      |      |      |      |      | ■    | ■    | ■    |   |
| Plan for bicycle access between Town Center, North Ayer Road, Devens          | P    |                      |      |      |      |      |      |      | ■    | ■    | ■    |   |
| Update the Master Plan  | P    |                      |      |      |      |      |      |      |      |      |      | ■ |

P = Planning

Z = Zoning

R = Other Regulatory

C=Capacity Building

I=Public Investment (Capital Outlay, Bond Issue)

# Appendix A<sup>1</sup>

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## A Zoning Diagnostic Evaluation for Harvard

*The Relationship between Land Use Regulations and the Accomplishment of Master Plan Goals and Objectives*

### **Introduction**

This report provides an assessment of how the land use rules of the Town of Harvard, principally its zoning regulations, currently meet the goals, policies, and objectives recently adopted as part of the Town's initial Master Plan phase. The report is also designed to provide the Town with an array of zoning options to further advance the objectives of the Master Plan in appropriately guiding and influencing the evolution of the Town's built and natural environment.

The first section of this report reviews and summarizes Harvard's basic Zoning Bylaw provisions related to zoning districts, use regulations, density and dimensional rules, and the review procedures that shape proposed development. A brief review of issues related to the Town's subdivision regulations, and an examination of the issues surrounding cluster housing development, are included.

In the second section of this report, key findings related to the first section are further explored and compared in relation to the recently adopted Master Plan goals and objectives. Thereafter, conceptual options for amending the Zoning Bylaw to advance these goals and objectives are suggested. This section of this report includes suggestions about prioritizing zoning actions, and administrative and other consequences that the Town needs to prepare itself for as it considers implementation strategies for readying zoning amendments for adoption.

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<sup>1</sup> Terry S. Szold, Community Planning Solutions, prepared for Community Opportunities Group, Inc. and the Town of Harvard, October 17, 2001.

## **Section I**

### **Current Zoning Rules**

There is ample evidence around us that zoning requirements strongly influence not only the form and pattern of development, but also the nature and distribution of trip generation and levels of service along roadways. Prior to any assessment and recommendation of alternative zoning strategies, it is important to review and analyze what the existing rules allow.

The core and essence of all zoning regulations are its districts, each district's use allowances, and the dimensional and density regulations that shape the built and natural environment. The pages that follow review Harvard's current zoning districts and use regulations. Thereafter, the dimensional, density, and development regulations that influence the built form of Harvard is reviewed and explored. Relevant findings are included.

#### **Zoning Districts and Use Regulations in Harvard**

- Agricultural-Residential (AR)
- Business (B)
- Commercial (C)
- Multiple Residence (MR)
- Watershed Protection and Floodplain (W)
- Watershed Protection and Flood Hazard (WFH)
- Watershed Greenspace Buffer District & Nashua River Watershed Greenspace Buffer District
- Wireless Communications Tower Overlay District (WCTOD)
- Interim Planning Overlay District (IPOD) (*No longer exists on Zoning Map and not covered here*)

#### **Use Regulations in the AR District**

This District is provided for compatible agriculture and single-family residence uses.

##### Summary of Permitted Uses:

Single Residence: Primary uses are detached one-family dwellings, and mobile homes serving as detached one-family dwellings (provided the mobile home has a permit from the Building Inspector). Home occupations, excluding retail or wholesale trade or on-premise showrooms, are allowed as a secondary use of the premises. Providing room and board to "non-transients by the resident family" is also allowed as a secondary use.

Agricultural: Agricultural uses permitted include ordinary farming, orchard keeping, animal husbandry, and other specialties. The commercial raising of swine or fur animals is not permitted. Parcels less than five acres are considered to be Home Farms. A Home Farm may include but is not limited to the following activities: rental of horse stalls, selling of its own produce to the public, and operation of a "you-pick" harvest. While normal farm operations are

not considered detrimental, agricultural uses are subjected to Section 5.1 of the Protective Bylaw—where no use is permitted which is injurious, offensive, or otherwise detrimental to the neighborhood, community, or the natural environment. For agriculture conducted on parcels of five or more acres, activities that constitute or are accessory to the principal agricultural use are *not* subjected to the provisions of Section 5.1. (Examples of such accessory uses are camps for seasonal farm labor and farm stands.)

Conversion for Multiple Residence: Conversions of existing single-residences and their accessory structures (primarily barns having a cubic volume of at least 15,000 feet) are allowed by special permit. Such conversions are permitted providing the following:

- the dwelling (and any accessory structures) will remain in “undivided ownership”;
- the dwelling (and any accessory structures) was in existence on 3/6/65 and has not been “significantly” enlarged since;
- the “external character” of the premises will continue to be that of a customary one-family residence;
- the lot has land area conforming to lot size standards with additional land area of at least .5 acres for each dwelling unit beyond the first;
- the lowest floor level of a dwelling is at least partly above grade;
- any parking area larger than that needed for a customary single family dwelling will be screened from view from neighboring properties;
- the septic system meets the regulations defined in the Bylaw for size and location; and
- approvals are given by the Board of Appeals and the Board of Health.

Conversion of Seasonal Residence: By special permit, conversion of a lawful existing seasonal residence—including summer homes and other part-time residences not previously reviewed and approved as year-round residences—is allowed. Such permits are authorized only when minimum standards of fitness for human habitation, minimum requirements for disposal of sanitary sewage, and any additional Board of Health requirements are met.

Institutional Uses: Parks, conservation areas, educational and religious uses are permitted.

By Special Permit:

*In-Law Apartment Use*

A group of rooms in a single-family residence may be used as a separate apartment with its own bedroom and kitchen facilities providing:

- the premises are being used by the owner as a principal residence (and have been used as such for a period of at least five years prior to the date of application for the special permit)
- the apartment has its own separate entrance from the outside
- an adequate supply of drinking water and provisions for sewage disposal is provided
- the number of residents in the separate apartment does not exceed three (3).

*Use authorized by special permit from the Planning Board*

- Golf courses
- As provided in the Mini-Subdivision section of the Bylaw
- As provided in the Cluster Development section of the Bylaw (see also additional sections of this report).

(Note: Findings and recommendations on Mini-Subdivisions and Cluster Development are found under the topic, “Development Review Procedures” in this Section of the report.)

***Findings: AR District***

The Town’s land area is principally composed of the AR District, and it contributes to the Town’s rural character. Consideration of additional flexibility in this district, such as removing some of the restrictions for conversion to multiple residence, and providing a more viable cluster option to generate greater housing diversity will be a key challenge for the new Master Plan.

**Use Regulations in the B District**

This District is a very small district (less than 5 acres) in the Town Center area, and provides for selected business uses.

Summary of Permitted Uses:

Uses that are permitted in the districts surrounding the B District are also permitted in this district. Additional uses that are permitted (subject to Site Standards in the Bylaw):

- retail businesses
- personal service establishments
- indoor eating establishments
- banks or similar financial institutions
- real estate offices
- other types of professional offices.

***Findings: B District***

The Town needs to consider a special district to be superimposed over, and to potentially be modestly expanded from what currently exists for the Town Center area. For example, the area of future uses in this new and expanded area needs to be expanded to ensure that artist space, galleries, and small-scale performance space will be permissible. (See the detailed discussion of a recommended Town Center and Village Overlay District in Section II of this report.)

**Use Regulations in the C District**

This District is intended to provide the community with “necessary and appropriate” commercial services. Limited manufacturing operations (no more than 12 persons involved on the premises) are allowed on the site of a permitted commercial activity, as applicable. This district is located along both sides of Ayer Road, north of Route 2.

Summary of Permitted Uses:

Commercial uses are categorized in the Bylaw as Small-Scale, Medium-Scale, and Large-Scale. Some Medium-Scale and *all* Large-Scale commercial uses are allowed by special permit only. Detail for each category is provided below.

Small-Scale

The following uses are permitted, subject to the Site Standards in the Bylaw:

- professional offices
- business agents
- travel agents
- secretarial services
- photocopying services
- artist/craftsman/photographer studios
- florist/gift/stationary/antiques shops
- tailor shops
- musical repair shops.

### Medium-Scale

The following uses are permitted, subject to the Site Standards in the Bylaw:

- medical/dental offices
- banks or similar financial institutions/ATMs
- barber/beauty shops
- appliance/upholstery repair
- bicycle repair/rental
- inns / bed and breakfasts (in a pre-existing building only)
- utility collection agencies
- laundry/dry cleaning (pick-up)
- preschool /day care
- small engine equipment sales and service
- retail businesses (not including auto sales)
- medical supplies/equipment sales and distribution (no storage of toxic/virulent substances allowed)
- catering/deli/food market or similar eating establishments
- eating establishments (not furnishing mechanical or live entertainment)
- farm stands
- media outlets (including broadcast stations, newspapers, publishing, printing)
- sports-related recreation/entertainment (daylight hours only; excluding golf driving ranges)
- construction/building supplies and sales (plumbing, electrical, carpentry, etc.)
- landscaping services
- nursing homes/long-term and convalescent health care facilities
- mobile storage/transfer and distribution of petroleum products (not to exceed 5,000 gallons)
- warehouse and storage (permitted in buildings existing prior to 10/16/98; with restrictions on motorized vehicle storage. Prohibited are toxic or virulent materials, hazardous or medical wastes, and self-storage facilities.)

The following types of Medium-Scale commercial uses are allowed by Special Permit only:

- engineering/research/experimental/testing laboratories
- kennel and/or veterinary services
- mortuaries.

### Large-Scale

The following are allowed by Special Permit *only* and subject to the Site Standards in the Bylaw:

- commercial greenhouses
- light manufacturing (no more than 12 persons involved in the actual manufacturing operations; all raw and finished materials stored inside structure)
- machine/welding shops
- commercial entertainment and recreation (indoor, such as bowling alleys, theaters, fitness centers, etc.)
- farm machinery sales and service
- auto repair garages/body shops/auto accessory sales and installation
- storage/parking/incidental maintenance of construction/excavation equipment (land area for this use not to exceed 50,000 square feet; special permit granted for this use only when granting authority finds that there will be no significant increase in traffic, and proper screening of the use from view of other properties and adjacent roads is in place)

- warehouse and storage (with restrictions on motorized vehicle storage. Prohibited are toxic or virulent materials, hazardous or medical wastes, and self-storage facilities.).

Other

Additional uses are allowed in the C District as provided in the Agricultural Uses, Conversion for Multiple Residence, Earth Moving, Institutional Use and Other Off-Site Signs subsections of the Bylaw. Also, Single Residence Use (on lots as they existed 2/1/72) allowed, as defined in the Bylaw.

***Findings: C District***

The C District needs to be newly described and use and development regulations need to be tailored specifically to encourage uses consistent with the Town’s village identity. Warehouse and storage as a principal use should be discouraged, as should petroleum product storage and transfer. (See Section II for more detail on potential new regulations for the C District.)

**Use Regulations in the MR District**

This District is intended for multiple-resident use, including subsidized residences. There is no evidence that any land is specifically zoned for MR District uses.

Summary of Permitted Uses:

Multiple residence use is subject to the Site Standards in the Bylaw. Further restrictions include the following:

- An individual lot for each multi-dwelling shall be in undivided ownership, conforming to Lot Size Standards and having additional land area of at least 1.5 acres for each dwelling unit beyond the first.
- Building length cannot exceed 150 feet; any garage must be only one story in height; lowest floor level must be at least partly above grade.
- A multiple residence cannot contain more than 8 dwelling units.
- Development must provide pedestrian ways for circulation and access to schools, parks, shopping and other facilities and community services/amenities.

Uses as provided in the Earth Moving and Institutional Uses sections of the Bylaw are also permitted.

***Findings: MR District***

Identifying locations for multiple residence uses is a key challenge for the new Master Plan. Permitting multifamily uses and apartments in the newly described C District should be considered.

**Special Districts**

- **Watershed Protection and Floodplain (W)**
- **Watershed Protection and Flood Hazard (WFH)**
- **Watershed Greenspace Buffer District & Nashua River Watershed Greenspace Buffer District**
- **Wireless Communications Tower Overlay District (WCTOD)**

Uses permitted in the **W District** are the same as those permitted in the AR District, provided certain performance standards are met related to grading, excavation, and filling, so that no adverse impacts to ground water absorption, storage capacity, and drainage patterns are created. Special Permits from the Planning Board are required for most construction and grading beyond what are authorized for driveways and subdivision roads and other incidental uses.

Construction of dwellings or sewage disposal (ordinarily allowed in the AR District), or other potential sources of contamination is not permitted unless a Special Permit is authorized by the Planning Board, and it is proven by an applicant that such use is not unsuitable because of drainage conditions, and an applicant's land is not an inland wetland.

The **WFH District**, which is explicitly listed as an "overlay district," superimposes the development and construction limitations listed in the W District, except that driveway and roadway length exemptions are less restrictive.

***Findings: W and WFH Districts***

Given the importance of wetland and water resource preservation objectives to the Town, there is a need for an improved, clearly mapped representation of both the W and WFH Districts. Applicants will always need to supplement such mapped representation with detailed field investigations, but clearly delineated town maps that reflect wetland and floodplain resources will clearly strengthen the town's ability to monitor development and improve an applicant's understanding of the importance of these critical resources.

Section 8 of the Zoning Bylaw provides reference to a **Watershed Greenspace Buffer District and Nashua River Watershed Greenspace Buffer District**, which protect watercourses and the wetlands and floodplains within such watercourses from development. Uses are limited to greenspace. The Nashua River Watershed Greenspace Buffer District is defined further as extending 300 feet from the centerline along the river.

***Findings: Buffer Districts***

The Town needs greater detail in its Zoning Bylaw on its intentions for these buffer districts, and its compatibility with the Commonwealth's "Rivers bill" regulations.

**Wireless Communication Towers Overlay District (WCTOD)**

The Town's regulations for wireless communication towers provide ample opportunity for the location of such facilities. Section 5.8 of the Bylaw and recently adopted amendments ensure a detailed review and Special Permit process to ensure minimization of adverse visual impacts.

***Findings: WCTOD District***

The evolving nature of legal challenges and decisions related to the Federal Telecommunications Act (TCA) of 1996 may shift the scope and reach of municipal regulations to regulate such uses. Since the Town amended its regulations for wireless communication towers in March of 2000, it makes sense to give the amended regulations a chance to be effective, prior to undertaking the preparation of new or amended rules.

## Density, Dimensional, and Development Regulations

Listed below are the Town’s dimensional and development regulations, grouped in two tables. The variable nature of how the regulations apply, particularly in relation to “lot types,” makes determining development rules a complicated exercise for Town Boards and the applicants who must use the regulations.

**Table 1: Lot Area, Width, and Access Requirements**

|                           | Basic Lots                       | Type 1<br>Lots | Type 2<br>Lots | Type 3<br>Lots | Type 4<br>Lot | Type 5<br>Lots |
|---------------------------|----------------------------------|----------------|----------------|----------------|---------------|----------------|
| Land Area:                | 1.5 acres                        | 1.5 ac.        | 4.5* ac.       | 1.5 ac.        | 4.5 ac.       | 3 acr.         |
| Lot Width:                | 200’ at 120’                     | 200’ at 120’   | 270’           | 200’ at 160’   | 400’          | 320’ at 180’   |
|                           | Or width from roadway centerline |                |                |                |               |                |
| Access frontage:          | 180’                             | 120’           | 50’            | 75’**          | 50’           | 180’           |
| Access width:             |                                  |                | 35’            |                | 35’           |                |
| Access centerline:        |                                  |                |                | 600’           |               |                |
| Access centerline radius: |                                  |                | 80’            |                | 80’           |                |

\*may be reduced to 2.5 with distribution of excess to adjoining lots and Planning Board approval.

\*\*frontage must be in circumferential arch of permanent turnaround in approved subdivision.

**Table 2: Land Structure Relations**

|                              |  |
|------------------------------|--|
| Floor Area Ratio (FAR):      | .10 or 8,000 Sq. Ft. (whichever is larger); Town uses in town-center .20                                 |
| Maximum Bldg. Size*:         | No greater than 220,000 cubic feet; Greater than 110,000 cubic feet by Special Permit only.              |
| Maximum Height:              | Less than 3 stories and 35 feet  |
| Setbacks**:                  | Bldg. to be located in compact, contiguous area of buildable land  |
| Centerline of Road Setback:  | 75-125 feet  |
| Maximum Structures on a Lot: | (all structures must demonstrate potential to comply with lot area and other dimensions)                 |
| Visibility:                  | No impairment of visibility within 20 feet of street sideline, for fence, plantings, signs of 2.5-7 feet |

\*Agricultural and institutional use by Town in town-center is exempt from this requirement.

\*\*and for Backland and Hammerhead lots, within a circle within the lot having a diameter of at least the lot width. Setbacks from lot boundaries for other than fences shall be at least the height of structure. Other variations for setbacks from lot boundaries apply for other than fences, signs, and poles (between 60-125 feet, and 20% of lot width. 60’ and 125’ setback does not apply to institutional use by Town).

### **Findings:**

The Town’s dimensional and lot standards involve the application of an array of standards to variable lot circumstances. As previously noted, calculating development privileges is a complex exercise for applicants seeking approval and the reviewing board. The calculations are made

more complicated because illustrative drawings are not provided, and the requirements are not grouped into tabular form.

The consulting team believes that the original drafters of the dimensional provisions appear to have been nobly trying to address a variety of lot and potential lot circumstances—including hammerhead lots (lots with more narrow frontage and access, and greater area to the rear), and lots with substantial area or backland area, enabling development without excessive subdivision roadway infrastructure, but ample provision made for driveway and emergency vehicle access. But the consulting team believes it is an appropriate time to re-examine the dimensional standards to ensure the following:

- Clear understanding of the application of the standards;
- Reducing the potential for excess land clearing to accommodate arbitrary building setback and centerline setbacks from the road; and
- Fostering building siting on the least constrained, contiguous buildable area of the lot.

It is suggested that the Planning Board engage a planner, landscape architect, and civil engineer, to review the above referenced standards, to present alternatives that may help the Town better accomplish its land use, Master Plan, and growth management objectives.

#### **Other Development Standards:**

- **Driveways**
- **Shared Common Driveways**

There are a variety of requirements for driveways, based on length, lot width and frontage, type of lots served, and date of actual creation of the driveway itself. There are standards for shared driveways that provide access for more than one lot. The Planning Board must either conduct a Site Plan Approval or a Special Permit Review for the various driveway construction situations described in the Bylaw.

It will be important for the Town and Planning Board to consider whether some of the Town's required building setback requirements cause driveway length and construction to be longer and more substantial than necessary.

- **Common Open Space Requirements**

Provision for Common Open Space (COS) is detailed in the Zoning Bylaw and is referenced as applicable to FPS (Flexible Plan Subdivisions), which is no longer fully described or included in the Zoning Bylaw.

#### **Development Review Procedures**

What follows is a summary of current development review procedures in the Town, and associated findings.

#### **Site Plan Review Regulations**

Site Plan Review is required to activate or enlarge certain uses, and to ensure compliance with the Zoning Bylaw and its Site Standards. Site plans detail, among other things, lot boundaries, setbacks, buildings, driveways, parking areas, walkways, green areas, utility details, disposal of sewage, methods of drainage, etc.

Many communities apply Site Plan Review to a large array of non-residential uses, and to selected residential uses.

The current regulation would need to be substantially expanded or augmented by other “Design Review” regulations in order to achieve the Town’s Master Plan Goals and Objectives detailed for the village and commercial areas in the Town.

(Note: More detail on “Design Review” is at the end of this section of the report.)

Even if an expanded Site Plan Review is not adopted, the Planning Board should consider drafting minimum and maximum parking ratio requirements for commercial and other uses, to ensure that there is adequate parking area, but not excessive or surplus parking area on lots.

### **Subdivision Regulations**

Pursuant to MGL Chapter 41, the Planning Board administers regulations pertaining to the subdivision of land, as well the division of land for lots not required for approval as a subdivision (ANR lots). The Subdivision Regulations are principally focused on the form and content of plans, and the layout and design of streets, ways, drainage, and underground utilities that will serve the new lots being created.

Since the Planning Board has not significantly revised these regulations since 1986, it is particularly ripe for review by a civil engineer, landscape architect, and planner to determine whether amendments can be achieved to update the regulations to reflect new design and construction standards related to the availability of new materials, drainage methods, and right-of-way and pavement width standards.

The consulting team’s initial review revealed that the Board’s roadway width standards (see Table 5.4.0 of the regulations) and its cul-de-sac width requirements need to be reviewed, particularly to reduce impervious surfaces and slow traffic. Additionally, the Board’s criteria for granting waivers or variations in standards (see Section 1.5), should be expanded to include considerations relating to protection of water resources and sensitive environmental areas.

Finally, the Town should remember to revisit the “Type 5 Lot” standards in the Flexible Plan Subdivision Regulations, particularly if the “Lot Width Circle Diameter” and “Lot Width Circle Setback From Centerline” regulations, if its cluster provision is amended in the Zoning Bylaw.

### **Mini-Subdivisions**

The development category, “Mini-Subdivision” is detailed both within the Planning Board’s Subdivision Rules and Regulations and the Zoning Bylaw. It provides an alternative to conventional subdivisions, and less stringent roadway standards for certain backland tracks of land. It is subject to a Special Permit review and approval and Subdivision Review by the Planning Board. The ways in mini-subdivisions must be private, and there must be a homeowners’ association to provide maintenance of all roads. There seems to be little application of this provision in Harvard but the mini-subdivision alternative may be useful to keep, since town services may be less burdened than in a conventional subdivision situation in which the Town, over time, may accept the streets proposed in the subdivision as public ways.

Additionally, there are requirements applicable to the mini-subdivision, such as a 180 foot frontage requirement on an existing street for one additional driveway connection (as well as other requirements), which makes this development option less attractive to developers who are more experienced with a conventional subdivision filing.

### **Sewage Requirements**

Since there is no public sewer in Harvard, and there are severe soil limitations for waste water disposal, there is a need to appropriately reflect sewage disposal rules in town regulations, in order to protect public health and wetland areas from contamination. The Town should review

its sewage disposal references and regulations to determine which regulations are more appropriately included in Board of Health rather than Zoning regulations.

***Additional Findings: Need for Expanded Design and Development Review***

A major theme that emerged in the recently adopted Master Plan Goals and Objectives and in discussions with members of the Master Plan Committee involved in the development review process, is the importance of ensuring that Harvard's special natural and built form and heritage is preserved. In Massachusetts, historic preservation of buildings can be most effectively ensured by the adoption of a local historic district(s) – a non-zoning tool that is administered by a *Historic District Commission*, pursuant to MGL Chapter 40C. In a local historic district, a *historic district commission* (which has regulatory authority, unlike a *historical commission*) is empowered to review proposals to alter and adapt structures included within the district's boundaries.

Chapter 40C does have its limits in terms of preservation objectives, however, because of its emphasis on exterior architectural features (not use of land). Sometimes issues of building massing, scale, and siting can be more completely addressed when historic district commission review is supplemented by a design review process that is grounded in zoning, either as a stand alone process or integrated within site plan review.

Another development review technique that can be used and applied through zoning is “design review,” often an administrative and advisory process that is different from traditional site plan review regulations. Site plan review is often focused on issues and considerations of access, parking, circulation, siting, landscaping, etc. Design review, in contrast, is principally focused on “form based” considerations and design and aesthetic issues. Site plan review, design review, and historic district commission review all have virtues and limitations, and are circumscribed by applicable state law. In some towns and cities in Massachusetts, such as Cambridge, Lexington, and Nantucket, design review and historic district commission review co-exist.

Expanding both the scope and level of development review in the Town has administrative and staff resource consequences that must be carefully considered. A wise course of action may be to formalize and add design review considerations and/or an advisory design review component to the existing Site Plan Review process, and to make it applicable, particularly in any future Village Overlay and Community Commercial District. (Note: See Section II for more detail on this topic.)

**Background—Cluster Development for Open Space Conservation (CDOS)**

Cluster residential zoning is a technique used to allow proposed residential units and accessory buildings to be “clustered” more closely together. The purpose is to create larger tracts and areas of surrounding open space, and to facilitate building siting which results in preservation of existing topographic and natural land features. Cluster housing can also promote a diversity of housing opportunities, thereby promoting greater housing affordability.

In a cluster housing development, a homeowners' or community association is often responsible for maintenance of roadways and utilities, snow plowing, and trash removal.

The gross density of development in a cluster configuration can often be the same density permitted under conventional single family zoning. For that reason, in some instances, cluster housing is virtually indistinguishable from existing single family house types. In other instances, however, cluster housing development involves unifying design or architectural motifs.

Another goal of cluster zoning is that on-site structures, utilities, and roadways are situated on the most suitable land on a parcel for building; this creates numerous opportunities to preserve

critical land and environmental features. Some communities in New England have elected to reference their cluster provisions as “Open Space Residential” zoning, reflecting the primary goal of this regulatory mechanism.

Cluster housing, similar to Planned Unit Developments (PUDs), can authorize a diversity of housing types (2 bedroom homes or townhouses are constructed, rather than the 3-4 bedroom homes associated with a conventional subdivision). The result is that the typical number of school age children associated with a cluster development, on a per unit basis, is frequently a smaller ratio or number than that associated with large single family homes within a subdivision.

Figure 1 provides a conceptual illustration of a conventional subdivision, typical of the type being developed throughout Massachusetts. In contrast, Figures 2 and 3 provide conceptual illustrations of residential development in cluster configurations, in both a detached and attached unit setting. As previously noted, the cluster approach should yield more open space, less pavement, and greater opportunity to preserve vistas and critical natural resources.

To summarize, the benefits of Cluster Housing are the following:

- *Housing* can be situated on the most suitable land area of the site, allowing more sensitive land to be protected as open space;
- *Open space* can be protected in perpetuity, allowing natural resource and aesthetic features to be preserved for future generations;
- *Substantial buffer areas* are provided, helping to assure privacy and the value of neighboring properties;

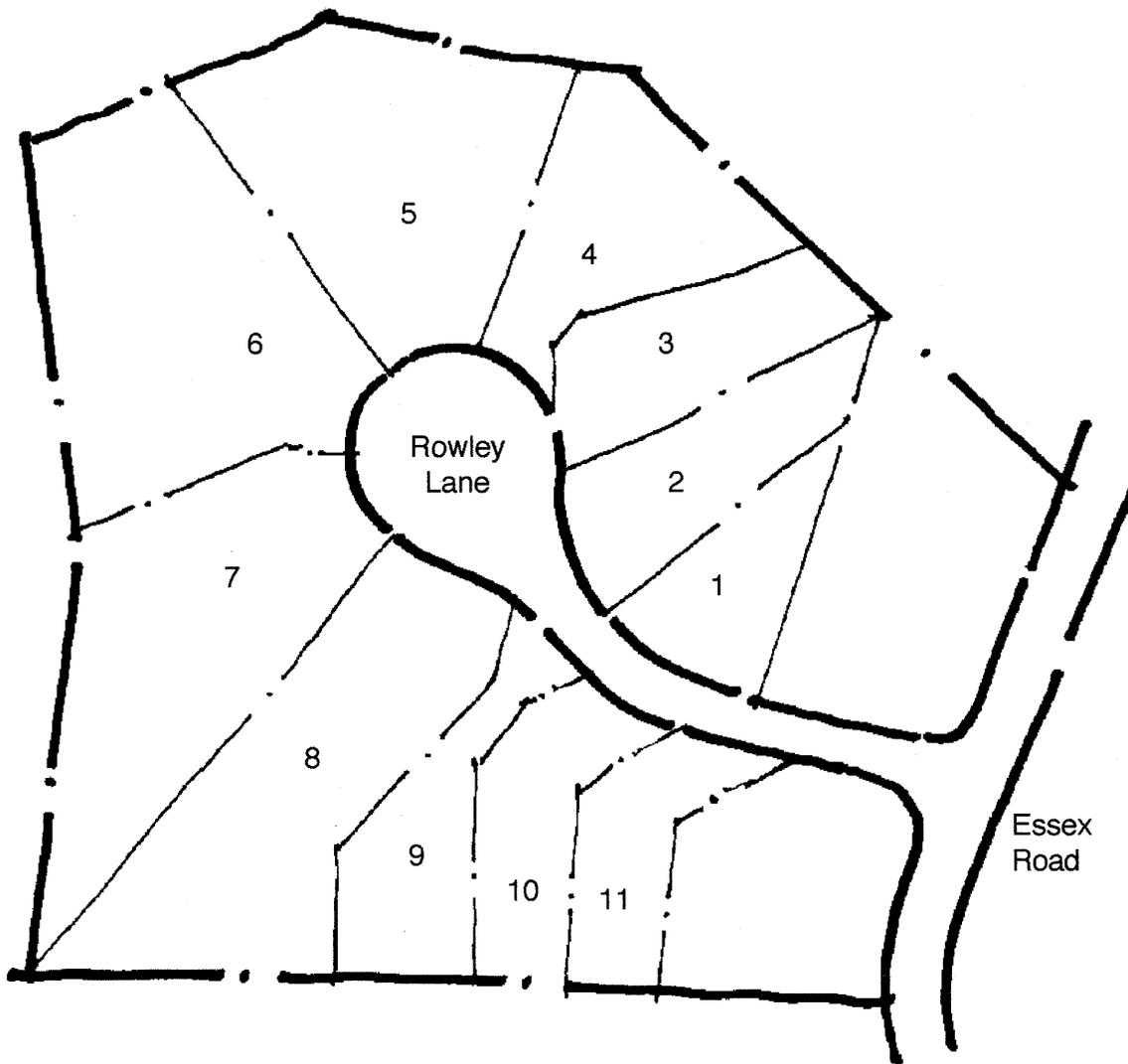


FIGURE 1: CONVENTIONAL SUBDIVISION CONFIGURATION

**FIGURE 2: DETACHED CLUSTER CONFIGURATION**

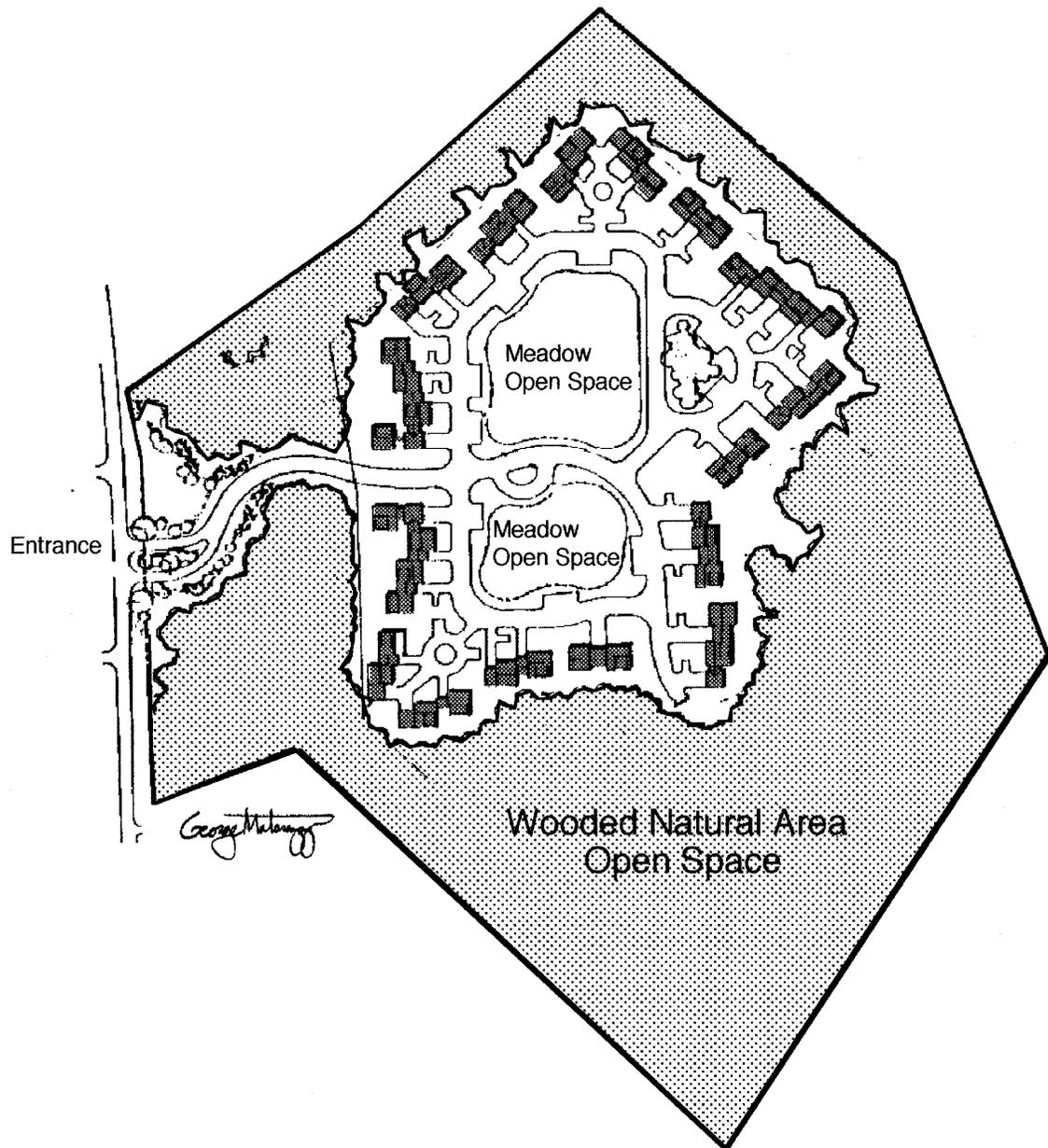


FIGURE 3: ATTACHED CLUSTER CONFIGURATION

- *Land Form* can be blended or harmonized with housing, minimizing removal of vegetation, and the needless alteration of existing topography by cut and fill operations;
- *Municipal service costs* are reduced because road maintenance and trash removal is the responsibility of a homeowners' association, rather than the responsibility of the Town; and
- *Fiscal impacts* such as school costs are reduced, since cluster housing units often have smaller numbers of bedrooms, generating less school age children per unit.

***Findings: Harvard and CDOS***

In Section 6.9, of the Zoning Bylaw, the Town has a provision for Cluster Development for Open Space Conservation. Town officials involved in the planning process have stated to the consultant team that this provision has been rarely been used. It is subject to a Special Permit granted by the Planning Board and subdivision approval.

The purpose and intent of the cluster section is to provide an alternative to conventional lot by lot residential development and to preserve open space farmlands, natural resources and wetland areas and to preserve the rural and historic character of the Town. There is a large minimum lot size required for activating cluster development and wetland areas must be discounted from minimal parcel size which is 20 acres.

While the net density of a cluster development can be higher as it relates to the concentration of cluster lots, the overall number of lots resulting on the tract must be the same as conventional development. Cluster development allows more flexibility in relation to lot width and other dimensional requirements. There are a variety of requirements related to cluster development including sewage disposal and water supply and site development standards. Appropriate mechanisms for the assurance of open land protection must be approved by the Planning Board. There are additionally other design requirements and standards. Once again, lesser setbacks and building separation are possible, but the overall density of the development will always be the same as that permitted under a conventional subdivision.

The Town's recently adopted Master Plan goals in relation to open space preservation and affordable housing are unlikely to be achieved under the present cluster bylaw for the following reasons:

- There is no density bonus offered to developers for providing substantial open space protection areas;
- There is no density bonus or incentive provided for setting aside units for low and moderate income housing, or housing for the elderly or disabled;
- A conventional subdivision plan must be filed and approved, in addition to the filing of a special permit, making the regulatory procedure less expeditious and subject to more scrutiny than a conventional development.

Other opportunities exist to vastly improve the cluster provision, and to make it more consistent with Master Plan objectives. In particular, there are few internal design considerations that are applicable to the special permit review. It would be useful for the Town to consider adding design considerations relating to building form, scale, screening and other strategies to minimize bulk and encourage building articulation more consistent with the built form of Harvard. The Town would be able to achieve more visual amenities both internal to the development and

adjacent to the cluster site, particularly if genuine incentives are provided to cluster development applicants. Without more dimensional flexibility, and/or at least modest density increases, cluster housing provisions will only be minimally used.

#### ***Recommendations Related to Cluster Provision***

In order to genuinely accomplish goals for rural character and open space, the Town should consider embracing a new cluster provision that dispenses with adherence to internal lot lines and traditional yard and setback requirements, and substitutes requirements for *securing large tracts of existing, undisturbed open space*.

Further, in order to meet the Town's objectives, a new cluster provision will need to be created that balances real dimensional flexibility with detailed design standards, and include genuine rewards such as the following:

- ***A density bonus*** offered to developers for providing substantial open space and agricultural protection areas;
- ***A density bonus or dimensional incentive*** provided for setting aside units for low and moderate income housing, or housing for the elderly or disabled;
- ***An allowance*** that provides for diverse housing types (e.g., townhouse units).

***Design standards*** to ensure aesthetic and overall development quality should include the following requirements and specifications:

- **Building Placement** that avoids regular spacings and that will be viewed as continuous walls from important vantage points should be demonstrated, inclusive of providing for maximum buffering of buildings and structures to adjoining properties, and for the preservation of scenic views from major vantage points, especially from major roads;
- **Building Massing and Articulation** that avoids unbroken building facades longer than forty (40) to sixty (60) feet;
- **Building Materials and Building Treatments** that reduce the visibility of buildings from distant vantage points, that are compatible with backgrounds and surroundings, and encourage use of materials and colors compatible with other quality buildings of similar scale in the vicinity;
- **Roofline Articulation** that provides a variety of building heights and varied treatments that are consistent with New England Village style architectural motifs;
- **Landscaping and Landscape Treatments** for all open areas, exclusive of areas that will remain in an existing natural state. Such areas should be landscaped in an appropriate manner, utilizing both natural and man-made materials, including treatments for new and existing streets; and
- **Pedestrian Amenities** that emphasize pedestrian-oriented features such as covered walkways, outdoor sitting plazas, landscaped open space, drop-off areas, and recreational facilities. Tree-lined or otherwise appropriately landscaped pedestrian paths and walkways should be required to link together areas designated as open space within the site, and wherever possible, to other adjoining open space areas.

The above requirements are actually “design review” or enhanced site plan review standards. If these requirements and standards were coupled with the more functional engineering requirements (such as drainage and roadway adequacy, requirements, etc.), the Town would have a more complete cluster provision—and better development outcomes would be ensured.

## **Section II**

### ***Connecting Zoning to Master Plan Goals and Objectives***

In this section, a selection of recently adopted Master Plan Goals and Objectives that are connected to land use and zoning are presented, and analyzed in relation to the zoning discussion and findings presented in the previous section. *The objective of this section is to tease out potential regulatory strategies that can be used to actually accomplish the Master Plan Goals and Objectives.*

To enable greater ease of review, the selected Goals and Objectives have been edited or consolidated to reduce redundancy and to better connect the zoning analysis previously conducted to the ultimate policy or goal envisioned.

#### **Accomplishing Housing Goals and Objectives**

Most municipal Master Plans contain broad goals and policies to promote housing diversity and affordability. However, many communities fail to achieve their housing diversity mission because zoning barriers exist and are allowed to continue in municipal bylaws and ordinances. To address this reality, Massachusetts has a “Comprehensive Permit” statute to allow a zoning override when cities and towns fail to meet their prescribed statutory minimum. This frequently controversial mechanism has been used throughout the state to generate hundreds of affordable units.

Harvard has recognized that it can use its own zoning authority to help foster affordable housing options. Listed below are the Housing Goals and Objectives along with the suggestion of zoning strategies and actions to help accomplish these important goals and objectives.

#### **Housing Goals and Objectives**

**Goals:** Encourage diversity in the local housing stock and diverse housing options that balance neighborhood “sense of place” and open space preservation. Consider ways to reduce housing costs.

##### *Specific Objectives:*

- Provide incentives through local regulation, funds or land.
- Allow housing in the commercial district.
- Regulate for smaller house sizes.
- Encourage mixed use development.
- Re-evaluate cluster zoning and approve cluster alternatives.
- Provide income- and age- diversity in housing options.
- Promote assisted living facilities.
- Encourage both ownership and rental units.
- Permit different types of units, such as condominium, townhouses, and two-family.
- Encourage wide variety of economic and social types of unity in different areas.

#### ***Specific Zoning Strategies and Actions to Accomplish the Goals and Objectives***

- *Allow Conversion for Multiple Residence Uses*  
There have been few conversions of existing single family dwellings and accessory structures for multiple family dwellings. Such conversions are subject to a special permit from the

Board of Appeals and are subject to a variety of other requirements including a date of existence requirement. If the Town were to genuinely wish to promote accessory or other apartment uses in existing single family residences, it would need to consider permitting them by right and subject to a variety of standards.

- *Identify Areas to Allow Multiple Residence Uses, and Permit such uses in the Commercial C District*  
The Town has a provision in its zoning to enable multiple residence uses. However, this provision is isolated within the zoning by-law and the uses discussed are not carried forward as allowable uses in the AR Districts. It is also important to point out that even in the Business and Commercial districts multi-family residences are not permissible. Instead, the Town has a stand-alone MR District that allows for multiple residences and subsidized housing, but there is no land to be found anywhere on the Town's current zoning map to enable such development to occur. Identifying future areas for multi-family housing and multi-family zoning is a key challenge to be addressed as part of the Town's implementation of the Master Plan.

Introducing mixed-use and apartment allowances in the Commercial district will enable the Town to combat commercial sprawl and help it to leverage more affordable housing units (see further discussion about the Commercial District, below). Deciding on units per acre allowances for such use will be an additional challenge, and may be directly affected by community sewage disposal availability.

- *Revise Housing Cluster Regulation*  
(See detailed discussion and recommendations in previous section.)

### **Accomplishing Town Center and Village Development Goals in the Commercial and Village Areas**

In the 1988 Master Plan update for the Town there many goals articulated for enhancing the quality of the Town's commercial districts. A greater emphasis in the new Master Plan Goals and Objectives has been placed on preserving and encouraging a village atmosphere in the Town's Commercial District, and also on encouraging mixed use and more civic uses and services in the village centers.

Listed below is the selection of Goals and Objectives for these important districts and areas, along with the suggestion of zoning strategies to help bring these goals and objectives to fruition.

#### **Commercial District Goals and Objectives**

**Goals:** Encourage village atmosphere in the commercial districts, and explore innovative uses to improve this area.

#### *Specific Objectives:*

- Develop strong design guidelines for site development and buildings, including aesthetic standards in keeping with the town's character.
- Expand commercial site standards to support town character.
- Consider alternative uses for the present C district, including a restaurant as part of the mix of uses.
- Consider mixed-use development that conforms to a village type identity.
- Create zoning for both commercial and residential uses.

There seems to be a strong interest in encouraging a more attractive and interesting built and environment in the Commercial C District along Ayer Road. Public officials and others would like to see alternatives to the emerging “strip” pattern of commercial development along this corridor that is more consistent with the Town’s village identity.

#### ***Specific Zoning Strategies and Actions to Accomplish the Goals and Objectives***

There are a variety of regulatory strategies that can be used to accomplish the objectives reflected above, including:

- *Create a new “Harvard Community Commercial District” replacing the existing Commercial “C” District;*
- *Establish new design considerations, standards (including minimum and maximum parking ratios, maximum floor area per use unit), and incentives in the “C” District;*
- *Allow on-site mixed-use and stand-alone residential development to enable small-scale apartment development.*

By introducing a mixed-use atmosphere the commercial district will become more viable, more pedestrian friendly, and aesthetically more pleasing. Further, residents could satisfy more shopping needs locally. The Town could also leverage more affordable housing units if such development was linked to greater retail opportunities and new allowances for residential use.

#### **Village Center Goals and Objectives**

**Goal:** Encourage a sense of community in the two village centers.

- Create mixed-use village centers - provide services, amenities, and gathering places.
- Direct development towards a community village pattern.
- Develop a trail system connecting commercial areas as an alternative to cars.

**Goal:** Plan for and manage the Town Center as the center of community spirit and government.

#### ***Specific Objectives:***

- Transform the town center into a pedestrian-oriented center.
- Serve local needs for shopping and cultural activities.
- Develop a trail system connecting the town center as an alternative to cars.

Conversations with Municipal Officials involved in the land use and permitting process in the Town reveal a strong interest in promoting more commercial diversity in the Town Center and the Still River Village area to complement the civic and open space uses to be found in this area. The Master Plan goals also reinforce this interest. Uses such as coffee shops, galleries, space for artisans and crafts people, and places for performance space and cultural activities and boutiques are all considered desirable uses and activities, particularly in the Town Center.

#### ***Specific Zoning Strategies and Actions to Accomplish the Goals and Objectives***

The Town may wish to consider a **Town Center and Village Overlay District** to superimpose special standards and special incentives to achieve the amenities described above. Such an overlay district for the Town Center could specify the following:

- *Special design standards and considerations;*
- *Maximum development thresholds and maximum floor area per retail unit;*
- *Uses to be allowed by right, subject to design review;*
- *Uses to be permitted only by special permit, also subject to design review; and*
- *Special incentives and floor area bonuses to be awarded by special permit for exemplary development proposals (including set asides or dedications for trails and pedestrian linkages and connections).*

Availability of sewer and water connections in capacity will be a major factor in how the Town Center can evolve. Clearly, a specialized and focussed planning effort, and potentially, a specific area plan, may be desirable for this important area.

### **Accomplishing Natural Resource, Land Management & Open Space, and Agricultural Goals and Objectives**

Listed below is a selection of Master Plan Goals and Objectives related to natural resources, open space, and agriculture. Specific regulatory strategies are highlighted, where appropriate to each topic area.

#### ***Natural Resource Goals and Objectives***

**Goals:** Ensure a safe and adequate water supply; Preserve and protect water resources using the best management and land use standards; Preserve air quality and control noise pollution.

#### ***Specific Objectives:***

- Take a town-wide perspective that seeks to protect water quality and quantity regionally as well as locally.
- Closely analyze all wetland projects and increase the size of buffer zones to wetlands where necessary to protect against fragmentation, critical habitat loss, and water quality impacts.
- Prevent light and noise pollution.
- Monitor air and noise quality.

#### ***Specific Zoning Strategies and Actions to Accomplish the Goals and Objectives***

Further mapping of the Town's Wetlands and Floodplain and Flood Hazard Districts will help integrate natural resource considerations into most aspects of the development. Revising the Town's Cluster Housing Provisions (detailed analysis of this issue is provided in the first section of this report) will also reduce residential sprawl, and preserve habitat and wetland areas.

#### ***Land Management & Open Space Goals and Objectives***

A recurrent theme in town planning documents is the maintenance and preservation of the Town's rural atmosphere. Listed below is a selection of these goals and objectives, and regulatory suggestions to help foster their accomplishment.

**Goals:** Preserve the rural landscape aesthetic; Maintain the rural characteristics of town roads. Encourage land use and development that is appropriate to the context of different areas in the town; Preserve and protect land resources using the best management and land use standards.

*Specific Objectives:*

- Preserve vistas to west.
- Preserve country-like characteristics, including significant street trees.
- Control the number and type of driveway cuts onto public roads.
- Apply the same design and esthetic standards to new roads.
- Do not manage land use with state Title V regulations.

*Specific Zoning Strategies and Actions to Accomplish the Goals and Objectives:*

The previously discussed revision to the Cluster Bylaw can help accomplish a number of the bulleted objectives reflected above. If genuine density and development flexibility is added to the cluster provision, curb-cuts from conventional subdivision and ANR lots will be reduced, and preservation of stone walls and significant caliper trees will result, particularly because the net buildable areas can be more carefully determined. The Town will also have an enhanced tool, beyond Title V regulations, to better manage land use.

**Agricultural Goal and Objectives**

Listed below is the primary Master Plan Goal related to agriculture, and its related objectives.

**Goal:** Preserve and support agricultural resources not as a conservation program, but as a viable enterprise.

*Specific Objectives:*

- Provide flexibility in uses allowed by zoning to help with the viability of agricultural operations.
- Use Agricultural Preservation Restrictions for preserving farmland.
- Identify potential agriculture lands and try to preserve for future use.

*Specific Zoning Strategies and Actions to Accomplish the Goals and Objectives*

Cluster development can be an excellent tool for preserving farmland. Density bonuses can be given for preservation of prime farmland or orchards, and further deed restrictions and transfer of development rights can be ensured prior to Special Permit approval. Additionally, by dispensing with the rigid dimensional standards of lot and setback configuration, greater amounts of land can be preserved in its natural state.

# Appendix B

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## Major Features of Harvard's Natural and Cultural Resource Inventory

| <u>Resource</u>  | <u>Comments</u>  |
|--|--|
| Bare Hill Pond   | Classified as a "Great Pond," the 321-acre Bare Hill Pond is one of the town's most significant natural assets. Townspeople regard the beach at Bare Hill Pond as their "Aquatic Common." The Bare Hill Pond watershed consists of 2,365 acres of which 2,060 acres are located in Harvard. It consists of five subwatersheds: Clapp's Brook, Pond Road Inlet, Thurston's Brook, Bowers Brook and Sprague Swamp. |
| Bennetts Brook/Shaker Village  | Significant wetlands system  |
| Black Pond (land and access)   | Acquired by the Conservation Commission in 1987 and totaling more than 55 acres, Black Pond and the land surrounding it have been identified as "distinctive" in the Massachusetts Landscape Inventory.  |
| Bolton Flats Wildlife Management Area  | Located in Harvard, Bolton and Lancaster; managed by DFWELE.   |
| Delaney Wildlife Management Area   | The 580-acre parcel is located in Harvard, Bolton, Stow and Boxborough; managed by DFWELE.   |
| Fort Devens Historic District (located in Harvard and Ayer). Roughly bounded by El Cagney and Antietam Streets, Sherman and MacArthur Avenues and Buena Vista Street. The district includes Vicksburg Square and Roger's Field parade grounds. | National Register Historic District est. 1991. Commissioned by the Army, c. 1990, the 300-acre district is located primarily in Harvard and consists of 93 contributing buildings, five sites, one structure and four objects. There are 45 non-contributing buildings in the district.  |
| Frederick Fiske and Gretchen Osgood Warren House. Commonly known as the "Fiske Warren" House, 42 Bolton Road   | Individually listed in the National Register of Historic Places, 1996. The Fiske Warren House dates from 1894 and is located on a 10.6-acre site.  |
| Fruitlands Museum<br>102 Prospect Hill Road  | Massachusetts Historical Landmark est. 1966; National Historic Landmark est. 1974. National Historic Landmark designation includes only one building, Fruitlands, not the entire museum site. Fruitlands is well known as the site of a communal living experiment begun by Amos Bronson Alcott and Charles Lane in 1843.  |
| Fruitlands Museums Historic District<br>102 Prospect Hill Road   | National Register Historic District est. 1997. Designation includes four museums: Fruitlands, the Shaker Museum, the Indian Museum, the Picture Museum, and seven ancillary buildings. The 130-acre site stretches west from Prospect Hill Road to the Boston and Maine Railroad right-of-way and the Oxbow National Wildlife Refuge.  |
| Great Elms (land and access)   | Owned by Harvard Conservation Trust  |

## Major Features of Harvard's Natural and Cultural Resource Inventory

| <u>Resource</u>   | <u>Comments</u>   |
|---|---|
| Harvard Center Historic District<br>Includes Ayer Road/Massachusetts Avenue, Still River Road, Elm Street, Lovers Lane, Littleton Road, Old Littleton Road, Oak Hill Road, Cross Street, Fairbanks Street, Old Boston Road, Pond Road, Bolton Road and Warrem Avenue. | National Register Historic District est. 1997. Considered one of Harvard's "special places."  |
| Harvard Common Historic District. Includes the common and abutting properties as well as properties located south of the common to Pond Road.   | Local historic district est. 1975. Boundaries included within the Harvard Center National Register Historic District (1997).  |
| Holy Hill   | Holy Hill of Zion, located on South Shaker Road, was established by the Shakers as an outdoor worship area commonly referred to as "the Dancing Ground." The land was acquired by the Conservation Commission in 1972.  |
| Horse Meadows   | Partially under Conservation Commission protection, Horse Meadows includes a variety of natural features including cliffs, outcrops, rocky basins, woodlands, wetlands and small ponds.   |
| Nashua River, Still River and associated wetlands   | Tributary of the Merrimack River. Listed in U.S. E.P.A.'s Priority Wetlands of New England. Included in State DEM's Scenic Rivers Program. Protected by Nashua River Greenspace Buffer Zoning District and partially included in Central Nashua River ACEC.   |
| Oak Hill  | Oak Hill is a long, high ridge that runs along Harvard's eastern border. Owing to its fertile soils, Oak Hill contains one of the most "extensive stretches of agricultural land in the town..."  |
| Oxbow National Wildlife Refuge  | The wildlife refuge consists of 662 acres (Harvard) and is managed by the U.S. Fish and Wildlife Service.   |
| Pin Hill  | Approximately 75 acres, Pin Hill is noted for its historic slate quarries, 19th-century mill features and scenic rock outcroppings.   |
| Robbins Pond, Mirror Lake and Little Mirror Lake  | Located at Fort Devens  |
| South Shaker Stone Barn Foundation<br>99 South Shaker Road  | Local historic district est. 1974. Included within the Harvard Shaker Village Historic District, est. 1989. Identified in the National Register inventory as the "South Family Stone Barn foundations," built 1835, collapsed 1975.   |
| Still River Baptist Church<br>213 Still River Road  | Individually listed in the National Register of Historic Places, 1996.  |
| Still River Village/Prospect Hill   | Still River Village is a small cluster of significantly intact 17th, 18th and 19th-century buildings extending a mile along Still River Road. Although the village has been surveyed, only the Still River Baptist Church at 213 Still River Road is listed on the National Register of Historic Places. Prospect Hill, a long ridge overlooking the Nashua River, provides outstanding scenic vistas of Harvard's rural character. |

Sources: Harvard Town Plan (1988); Planning for Harvard's Rural Landscape: Case Studies in Historic Conservation (1997, Town of Harvard Open Space and Recreation Plan (1996), VHB, Devens Reuse Plan (1994), MHC, State Register of Historic Places (2000), Dempsey, Comprehensive Inventory of Historic Resources in Harvard (1994-96).

## Appendix C

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### Rare Species Occurrences in Harvard, Massachusetts

| Common Name                   | Class          | Location                   | Status (DFW)    |
|-------------------------------|----------------|----------------------------|-----------------|
| BLUE-SPOTTED SALAMANDER       | Amphibian      | Residential Harvard        | Special Concern |
| GRASSHOPPER SPARROW           | Bird           | Residential Harvard        | Threatened      |
| AMERICAN BITTERN              | Bird           | Residential Harvard        | Endangered      |
| WOOD TURTLE                   | Reptile        | Residential Harvard        | Special Concern |
| BLANDING'S TURTLE             | Reptile        | Residential Harvard        | Threatened      |
| PIED-BILLED GREBE             | Bird           | Residential Harvard        | Endangered      |
| TRIANGLE FLOATER              | Mussel         | Residential Harvard        | Special Concern |
| EASTERN BOX TURTLE            | Reptile        | Residential Harvard        | Special Concern |
| MYSTIC VALLEY AMPHIPOD        | Crustacean     | Residential Harvard/Devens | Special Concern |
| ELDERBERRY LONG-HORNED BEETLE | Beetle         | Residential Harvard        | Special Concern |
| OVAKE SPIKE-SEDGE             | Vascular Plant | Residential Harvard        | Endangered      |
| CLIMBING FERN                 | Vascular Plant | Residential Harvard        | Special Concern |
| SMALL BUR-REED                | Vascular Plant | Residential Harvard        | Endangered      |
| CULVER'S-ROOT                 | Vascular Plant | Residential Harvard        | Special Concern |
| MARbled SALAMANDER            | Amphibian      | Residential Harvard        | Threatened      |
| WILD SENNA                    | Vascular Plant | Devens                     | Endangered      |

## Rare Species Occurrences in Harvard, Massachusetts

| Common Name           | Class          | Location | Status (DFW) |
|-----------------------|----------------|----------|--------------|
| HOUGHTON'S FLAT SEDGE | Vascular Plant | Devens   | Endangered   |
| OVOID SPIKE RUSH      | Vascular Plant | Devens   | Endangered   |
| LEAST BUR-REED        | Vascular Plant | Devens   | Endangered   |
| CATTAIL SEDGE         | Vascular Plant | Devens   | Threatened   |

Sources: Natural Heritage and Endangered Species Program, Mass. Division of Fisheries, Wildlife and Environmental Law Enforcement (DFWELE), "Natural Heritage Database," <<http://www.state.ma.us/dfwele/dfw/nhosp/nhdatt.htm>> (January 2002); Harvard Open Space & Recreation Plan (1996), 4-29, 4-31.

## Appendix D

### Open Space & Recreation Inventory: Harvard, Massachusetts

| Name                         | Location                      | Class        | Acres  | Use/Comments  | Level of Protection |
|------------------------------|-------------------------------|--------------|--------|---------------|---------------------|
| Abbot Orchard                | Bolton Rd.                    | Conservation | 0.45   | Orchard       | Permanent           |
| Abbot Orchard                | Bolton Rd.                    | Conservation | 8.70   | Orchard       | Permanent           |
| Abbot Swampland              | Woodside Rd.                  | Conservation | 1.50   | Wetlands      | Permanent           |
| Abbot-Reed-Powell Land       | East Bare Hill Rd./Bolton Rd. | Conservation | 32.89  | Trails        | Permanent           |
| Ayer Road Meadows            | Ayer Rd.                      | Conservation | 23.90  | Agriculture   | Permanent           |
| Barba's Point                | Bare Hill Pond                | Conservation | 16.10  | Pond Frontage | Permanent           |
| Barber Land                  | Shaker Rd.                    | Conservation | 27.73  | Wetlands      | Permanent           |
| Bare Hill Pond               | Bare Hill Pond                | Conservation | 300.28 | Great Pond    | Permanent           |
| Bare Hill Wildlife Sanctuary | Bolton Rd.                    | Conservation | 44.43  | Trails        | Permanent           |
| Bartlett Land                | Pattee Rd.                    | Conservation | 3.20   | Conservation  | Permanent           |
| Barton 1, Parcel 1           | Bare Hill Pond Dam            | Conservation | 0.50   | Wetlands      | Permanent           |
| Barton 1, Parcel 2           | Depot/Mill Rd.                | Conservation | 0.23   | Wetlands      | Permanent           |
| Barton 1, Parcel 3           | Bowers Brook/Depot Rd         | Conservation | 8.40   | Conservation  | Permanent           |
| Barton 2                     | Woodside Road                 | Conservation | 1.97   | Conservation  | Permanent           |
| Barton 3                     | Bowers Brook/Still River Rd.  | Conservation | 15.40  | Conservation  | Permanent           |
| Barton 4                     | Abuts Bowers Brook            | Conservation | 23.80  | Conservation  | Permanent           |
| Black Pond Access            | Littleton County Rd.          | Conservation | 3.34   | Trails        | Permanent           |
| Black Pond/Denny             | Littleton County Rd.          | Conservation | 54.49  | Trails        | Permanent           |
| Blomfelt Land                | Ayer Rd.                      | Conservation | 29.42  | Trails        | Permanent           |
| BOCA Land                    | Old Shirley Rd.               | Conservation | 3.90   | Open          | Permanent           |
| Bowers Spring-Sprague        | West of Bolton Rd.            | Conservation | 18.90  | Trails/Open   | Permanent           |
| Bowers Spring-Visockas       | West of Bolton Rd.            | Conservation | 24.09  | Trails/Open   | Permanent           |
| Brewer Land                  | So. of Hermann Orchard        | Conservation | 5.50   | Trails        | Permanent           |
| Brown Land                   | Glenview Dr., S. Shaker       | Conservation | 3.49   | Conservation  | Permanent           |
| Bull Land                    | Cruft Ln.                     | Conservation | 0.75   | Wetlands      | Permanent           |
| Bush Land                    | I-495                         | Conservation | 6.10   | Conservation  | Permanent           |
| Clapp Land 1                 | Still River Rd.               | Conservation | 37.61  | Trails        | Permanent           |
| Clapp Land 2 & 3             | Willard Rd.                   | Conservation | 8.00   | Trails        | Permanent           |
| Cobb Land 1                  | Oak Hill Rd.                  | Conservation | 4.50   | Conservation  | Permanent           |
| Cobb Land 2                  | Oak Hill Rd.                  | Conservation | 2.52   | Conservation  | Permanent           |

## Appendix D

### Open Space & Recreation Inventory: Harvard, Massachusetts

| Name                       | Location                    | Class        | Acres | Use/Comments           | Level of Protection |
|----------------------------|-----------------------------|--------------|-------|------------------------|---------------------|
| Coke Land                  | Littleton Rd.               | Conservation | 32.15 | Agriculture            | Permanent           |
| Colwell Land               | Bolton Road                 | Conservation | 2.70  | Wetlands               | Permanent           |
| Corzine Land               | Littleton Rd.               | Conservation | 3.00  | Trails                 | Permanent           |
| Eastview (Elwell) Land     | Ayer Rd.                    | Conservation | 7.90  | Trails/View            | Permanent           |
| Farnsworth Land            | Willard Ln.                 | Conservation | 39.00 | Wetlands               | Permanent           |
| Gillette/Horse Meadows     | Sherry Rd.                  | Conservation | 20.04 | Conservation           | Permanent           |
| Griffin/Dutcher Land       | Woodside Rd.                | Conservation | 2.25  | Wetlands               | Permanent           |
| Hammershaimb Land          | Woodchuck Hill/Rt 111       | Conservation | 1.10  | Undeveloped            | Permanent           |
| Harvard Historical Society | Oak Hill/ Woodchuck Hill    | Conservation | 1.50  | Undeveloped            | Permanent           |
| Haskell Land               | Still River Rd/Willard Ln.  | Conservation | 12.83 | Agriculture/Open Space | Permanent           |
| Haskell-Viles Swampland    | Woodside Rd.                | Conservation | 4.30  | Wetlands               | Permanent           |
| Hayes Land/Great Elms      | Murray Ln./Stow Rd.         | Conservation | 69.45 | Agriculture / Trails   | Permanent           |
| Hermann Orchard            | East of Ayer Rd.            | Conservation | 50.00 | Orchard/Trails         | Permanent           |
| Holy Hill (A1)             | Simon Atherton Row          | Conservation | 8.70  | Historic/Trails        | Permanent           |
| Holy Hill (A2)             | Shaker Rd.                  | Conservation | 4.65  | Historic/Trails        | Permanent           |
| Holy Hill (A3)             | Ann Lee Rd.                 | Conservation | 4.38  | Historic/Trails        | Permanent           |
| Holy Hill (A4)             | Simon Atherton Row          | Conservation | 3.22  | Historic/Trails        | Permanent           |
| Holy Hill (A5)             | Ann Lee Rd.                 | Conservation | 5.63  | Historic/Trails        | Permanent           |
| Holy Hill (A6)             | Ann Lee Rd.                 | Conservation | 5.13  | Historic/Trails        | Permanent           |
| Holy Hill (A7)             | Ann Lee Rd.                 | Conservation | 31.57 | Historic/Trails        | Permanent           |
| Holy Hill (A8)             | Ann Lee Rd.                 | Conservation | 7.90  | Historic/Trails        | Permanent           |
| Holy Hill (B1)             | Maple Lane                  | Conservation | 7.85  | Historic/Trails        | Permanent           |
| Holy Hill (B2)             | Maple Lane                  | Conservation | 17.23 | Historic/Trails        | Permanent           |
| Holy Hill (B3)             | Maple Lane                  | Conservation | 0.90  | Historic/Trails        | Permanent           |
| Holy Hill (C)              | South Shaker Rd             | Conservation | 9.53  | Historic/Trails        | Permanent           |
| Holy Hill (D)              | Shaker Rd.                  | Conservation | 9.89  | Historic/Trails        | Permanent           |
| Holy Hill/Smith            | South Shaker Rd.            | Conservation | 9.53  | Trails                 | Permanent           |
| Horne Land                 | No. of Still River Rd.      | Conservation | 7.70  | Conservation           | Permanent           |
| Kaufmann Land              | South Shaker Rd.            | Conservation | 20.21 | Trails                 | Permanent           |
| Klyce Land                 | BowersBrook/Hermann Orchard | Conservation | 2.25  | Conservation           | Permanent           |

## Appendix D

### Open Space & Recreation Inventory: Harvard, Massachusetts

| Name                      | Location                    | Class        | Acres | Use/Comments      | Level of Protection |
|---------------------------|-----------------------------|--------------|-------|-------------------|---------------------|
| Kronauer Land             | Sheehan Rd.                 | Conservation | 5.35  | Wetlands          | Permanent           |
| MacKnight Land            | Littleton Rd.               | Conservation | 4.18  | Trails            | Permanent           |
| Maxant Land               | Ayer, Lancaster County Rds. | Conservation | 19.04 | Trails            | Permanent           |
| Myrick Lane               | Myrick Ln.                  | Conservation | 0.34  | Undeveloped       | Permanent           |
| Newick Land               | Under Pin Hill Rd.          | Conservation | 5.68  | Wetlands          | Permanent           |
| Old Littleton Meadow      | Old Littleton Rd.           | Conservation | 8.10  | Trails            | Permanent           |
| Old Mill Road             | Old Mill Rd.                | Conservation | 24.00 | Trails            | Permanent           |
| Pena/Fairbank             | Brown Rd.                   | Conservation | 4.90  | Conservation      | Permanent           |
| Perini Lands A & B        | Stow Rd/I-495               | Conservation | 36.29 | Gravel Pit        | Permanent           |
| Pin Hill/Cram Land        | Harvard Depot Rd.           | Conservation | 10.20 | Trails            | Permanent           |
| Pin Hill/Wilfert Land     | Harvard Depot Rd.           | Conservation | 4.68  | Trails            | Permanent           |
| Postras Land              | Willard Ln.                 | Conservation | 13.37 | Conservation      | Permanent           |
| Prospect Hill (Newman)    | Prospect Hill Rd.           | Conservation | 61.51 | Trails            | Permanent           |
| Reed Land                 | Bolton Rd.                  | Conservation | 1.49  | Undeveloped       | Permanent           |
| Rennie Land               | Sheehan, Littleton Rds.     | Conservation | 5.10  | Wetlands          | Permanent           |
| Robb Land                 | Fairbanks/Old Turnpike      | Conservation | 1.77  | Open              | Permanent           |
| Rodriquez Land            | HermannOrchard/Bowers Brook | Conservation | 5.35  | Trails            | Permanent           |
| Rodriquez Land 2          | Cruft Ln.                   | Conservation | 7.82  | Trails            | Permanent           |
| Rowe Land                 | Sherry Rd.                  | Conservation | 6.34  | Conservation      | Permanent           |
| Rueben Reed Land          | Common/Mass Ave.            | Conservation | 0.32  | Town Common       | Permanent           |
| Russo Land                | Shaker Rd.                  | Conservation | 21.13 | Trails            | Permanent           |
| Pattee Land               | Pattee Road                 | Conservation | 3.20  | Undeveloped       | Permanent           |
| Schmidt (Doebele) Land    | Mill Rd./Pin Hill           | Conservation | 4.96  | Trails            | Permanent           |
| Scorgie Land              | Still River Rd.             | Conservation | 39.00 | Trails            | Permanent           |
| Shaker Village            | North side Maple Ln.        | Conservation | 9.89  | Historic/Trails   | Permanent           |
| Shapley Land              | Pinnacle Rd.                | Conservation | 9.10  | Orchard           | Permanent           |
| Shaker Spring             | Green Hill Rd.              | Conservation | 16.00 | Trails            | Permanent           |
| Sisters of St Scholastica | Still River Rd.             | Conservation | 7.81  | Agr./Conservation | Permanent           |
| Slattery Land # 1         | Abuts Coke Land             | Conservation | 5.00  | Trails            | Permanent           |
| Slattery Land # 2         | Stow Rd.                    | Conservation | 12.80 | Open              | Permanent           |

## Appendix D

### Open Space & Recreation Inventory: Harvard, Massachusetts

| Name                     | Location                    | Class                    | Acres | Use/Comments          | Level of Protection |
|--------------------------|-----------------------------|--------------------------|-------|-----------------------|---------------------|
| Smith Land               | Still River Road            | Conservation             | 3.50  | Trails                | Permanent           |
| Sprague Land             | West Bare Hill Rd.          | Conservation             | 48.56 | Agr./Conservation     | Permanent           |
| Sprague Land             | West Bare Hill Rd.          | Conservation             | 61.50 | Agr./Conservation     | Permanent           |
| Stephenson #1            | I-495                       | Conservation             | 25.00 | Undeveloped           | Permanent           |
| Stephenson #2            | I-495                       | Conservation             | 10.80 | Undeveloped           | Permanent           |
| Stephenson #3            | I-495                       | Conservation             | 6.00  | Undeveloped           | Permanent           |
| Stephenson #4            | Brown Road                  | Conservation             | 4.90  | Undeveloped           | Permanent           |
| Stephenson #5            | Brown Road                  | Conservation             | 11.10 | Undeveloped           | Permanent           |
| Sturdy Land              | Slough Rd.                  | Conservation             | 10.23 | Orchard               | Permanent           |
| Terry Land               | Bare Hill Pond              | Conservation             | 7.38  | Wetlands              | Permanent           |
| Thurston's Beach         | Warren Avenue               | Conservation             | 2.70  | Conservation          | Permanent           |
| Town Forest              | Poor Farm Rd.               | Conservation             | 2.20  | Undeveloped           | Permanent           |
| Town Forest              | Poor Farm Rd                | Conservation             | 29.00 | Trails                | Permanent           |
| Town Forest              | Poor Farm Rd.               | Conservation             | 9.00  | Trails                | Permanent           |
| Tufts Land 1             | Turner Ln.                  | Conservation             | 23.80 | Trails                | Permanent           |
| Tufts/Smith Land         | Turner Ln.                  | Conservation             | 15.00 | Trails                | Permanent           |
| Tully Land               | Behind Ryan Athletic Fields | Conservation             | 11.50 | Trails                | Permanent           |
| Warilla                  | Stow Rd.                    | Conservation             | 31.68 | Undeveloped           | Permanent           |
| Williams Land            | Stow Rd.                    | Conservation             | 64.25 | Agriculture/Trails    | Permanent           |
| Williams Pond            | Stow Rd.                    | Conservation             | 5.20  | Pond                  | Permanent           |
| Willow Road Land         | Willow Rd.                  | Conservation             | 2.85  | Undeveloped           | Permanent           |
| Town/Private Owner       | Old Littleton Rd.           | APR                      | 12.77 | Limited public access | Permanent           |
| Town/Private Owner       | Old Littleton Rd.           | APR                      | 17.56 | Limited public access | Permanent           |
| Town/Private Owner       | Oak Hill Rd.                | APR                      | 18.90 | Limited public access | Permanent           |
| HCT/Private Owner        | Still River Rd.             | Conservation Restriction | 10.44 | No public access      | Permanent           |
| N.E. Forestry Foundation | Shaker Rd.                  | Conservation Restriction | 4.50  | No public access      | Permanent           |
| Not verified             | Woodside Rd.                | Conservation Restriction | 7.15  | Trail                 | Permanent           |
| Town/Private Owner       | Ayer Rd.                    | APR                      | 50.00 | Limited public access | Permanent           |
| HCT/Private Owner        | Harris Lane                 | Conservation Restriction | 13.74 | Trail                 | Permanent           |
| Town/Private Owner       | Shaker Rd.                  | Conservation Restriction | 7.30  | No public access      | Permanent           |

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### Open Space & Recreation Inventory: Harvard, Massachusetts

| Name                         | Location              | Class                    | Acres  | Use/Comments               | Level of Protection |
|------------------------------|-----------------------|--------------------------|--------|----------------------------|---------------------|
| Town/Private Owner           | Shaker Rd.            | Conservation Restriction | 6.02   | No public access           | Permanent           |
| Town/Private Owner           | Shaker Rd.            | Conservation Restriction | 27.70  | No public access           | Permanent           |
| N.E. Forestry Foundation     | Shaker Rd.            | Conservation Restriction | 24.32  | No public access           | Permanent           |
| Town/Private Owner           | Old Littleton Rd.     | APR                      | 30.33  | No public access           | Permanent           |
| Not verified                 | Woodchuck Hill Rd.    | Conservation Restriction | 7.89   | No public access           | Permanent           |
| Not verified                 | Brown Rd.             | Conservation Restriction | 10.00  | No public access           | Permanent           |
| Not verified                 | Ayer Road             | APR                      | 31.30  | Limited public access      | Permanent           |
| HCT/Private Owner            | Littleton County Rd   | Conservation Restriction | 10.00  | No public access           | Permanent           |
| Comm of Mass/DFWELE          | Bare Hill Pond Access | Conservation             | 1.43   | Pond Access                | Permanent           |
| Comm of Mass/DFWELE          | Bolton Flats I        | Conservation             | 38.00  | Wildlife Mgt               | Permanent           |
| Comm of Mass/DFWELE          | Bolton Flats II       | Conservation             | 24.80  | Wildlife Mgt               | Permanent           |
| Comm of Mass/DFWELE          | Bolton Flats III      | Conservation             | 21.00  | Wildlife Mgt               | Permanent           |
| Comm of Mass/DFWELE          | Delaney Wildlife I    | Conservation             | 146.00 | Wildlife Mgt               | Permanent           |
| Comm of Mass/DFWELE          | Delaney Wildlife II   | Conservation             | 115.00 | Wildlife Mgt               | Permanent           |
| Comm of Mass/DFWELE          | Pinnacle Fire Tower   | Conservation             | 0.22   | Fire Observation           | Permanent           |
| MassDevelopment              | Devens Open Space     | Mixed                    | 821.39 | Passive/Active Recreation, | No restrictions     |
| United States Fish-Wildlife  | Oxbow Wildlife Refuge | Conservation             | 1188.5 | Trails/Wildlife Refuge     | Permanent           |
| Harvard University           | Pinnacle Rd.          | Institutional            | 37.32  | Educational                | No restrictions     |
| Boy Scouts                   | Westcott Rd.          | Institutional            | 9.48   | Charitable/Recreation      | No restrictions     |
| Bromfield Trustees           | Mass Ave.             | Institutional            | 6.80   | Charitable                 | No restrictions     |
| Roman Catholic Bishop of Wo  | Still River Rd.       | Institutional            | 3.81   | Religious                  | No restrictions     |
| Congregational Church        | 5 Still River Rd.     | Institutional            | 0.38   | Religious                  | No restrictions     |
| Harvard Conservation Trust   | Bolton Rd.            | Institutional            | 2.66   | Institutional              | No restrictions     |
| Unitarian Church             | 7 Elm Street          | Institutional            | 3.20   | Religious                  | No restrictions     |
| Fruitlands Museum            | Prospect Hill Rd.     | Institutional            | 133.00 | Cultural                   | No restrictions     |
| Worcester Girl Scout Council | Still River Rd.       | Institutional            | 51.92  | Charitable/Recreation      | No restrictions     |
| Harvard Conservation Trust   | Littleton County Rd.  | Institutional            | 28.87  | Institutional              | No restrictions     |
| Harvard Conservation Trust   | Poor Farm Rd.         | Institutional            | 25.50  | Institutional              | No restrictions     |
| Harvard Conservation Trust   | West Bare Hill Rd.    | Institutional            | 5.09   | Institutional              | No restrictions     |
| Sisters of St Benedict/SIMH  | 254 Still River Rd.   | Institutional            | 8.20   | Religious                  | No restrictions     |

## Appendix D

### Open Space & Recreation Inventory: Harvard, Massachusetts

| Name                        | Location            | Class         | Acres | Use/Comments              | Level of Protection |
|-----------------------------|---------------------|---------------|-------|---------------------------|---------------------|
| Sisters of St Benedict/SIMH | Still River Rd.     | Institutional | 13.39 | Religious                 | No restrictions     |
| St Benedict Priory          | Still River Rd.     | Institutional | 16.67 | Religious                 | No restrictions     |
| Church of Harvard Inc.      | 9 Ayer Rd.          | Institutional | 0.14  | Religious                 | No restrictions     |
| Ann Lee Ball Field          | Ann Lee Road        | Municipal     | 3.08  | Active Recreation         | No restrictions     |
| Bellevue Cemetery           | Still River Rd      | Municipal     | 10.60 | Cemetery                  | No restrictions     |
| Bromfield School            | Mass Ave            | Municipal     | 21.00 | Educational               | No restrictions     |
| Center Cemetery             | Mass Ave            | Municipal     | 3.50  | Cemetery                  | No restrictions     |
| Elementary School           | Fairbanks Street    | Municipal     | 2.24  | Educational               | No restrictions     |
| Elementary School           | Mass Ave            | Municipal     | 6.50  | Educational               | No restrictions     |
| Little Common               | Fairbanks Street    | Municipal     | 0.14  | Active Recreation         | No restrictions     |
| Fire Pond                   | Scott Road          | Municipal     | 1.85  | Public Safety             | No restrictions     |
| Fire Station                | Elm Street          | Municipal     | 1.61  | Public Safety             | No restrictions     |
| Fire Station                | Still River Road    | Municipal     | 0.60  | Public Safety             | No restrictions     |
| Harvard Park                | Lancaster County Rd | Municipal     | 33.35 | Active Recreation         | No restrictions     |
| Hildreth Land               | Elm Street          | Municipal     | 1.40  | General Government        | No restrictions     |
| Hildreth House              | Elm Street          | Municipal     | 5.66  | General Government        | No restrictions     |
| Library                     | Fairbanks Street    | Municipal     | 0.17  | Cultural                  | No restrictions     |
| Mass Ave Lot                | Mass Ave            | Municipal     | 1.31  | General Government        | No restrictions     |
| Parking Lot                 | Fairbanks Street    | Municipal     | 2.55  | Educational-Accessory     | No restrictions     |
| Ryan Playing Fields         | Depot Road          | Municipal     | 30.33 | Active Recreation         | No restrictions     |
| Shaker Cemetery             | S Shaker Road       | Municipal     | 0.85  | Cemetery                  | No restrictions     |
| Small Land/Trail            | Fairbank Street     | Municipal     | 24.00 | Educational               | No restrictions     |
| Sullivan Land/Fire Pond     | S Shaker Road       | Municipal     | 9.53  | Public Safety             | No restrictions     |
| Bromfield House             | Mass Ave            | Municipal     | 1.90  | Educational-Administratic | No restrictions     |
| Town Beach                  | Pond Road           | Municipal     | 11.19 | Active Recreation         | No restrictions     |
| TownReservoirs              | Bolton Road         | Municipal     | 16.00 | Water Resources           | No restrictions     |
| Town Well 1                 | Pond Road           | Municipal     | 1.12  | Water Resources           | No restrictions     |
| Town Well 2                 | Bolton Road         | Municipal     | 0.78  | Water Resources           | No restrictions     |
| Town Gravel Pit             | Stow Road           | Municipal     | 13.48 | Public Works              | No restrictions     |
| Town Common/Town Hall &     | Elm Street          | Municipal     | 4.40  | General Government        | No restrictions     |

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### Open Space & Recreation Inventory: Harvard, Massachusetts

| Name                  | Location              | Class      | Acres | Use/Comments         | Level of Protection |
|-----------------------|-----------------------|------------|-------|----------------------|---------------------|
| Transfer Station      | Depot Road            | Municipal  | 10.18 | Solid Waste Disposal | No restrictions     |
| A R Levison Trust     | East Bare Hill Rd.    | Chapter 61 | 37.10 | Forest Management    | Temporary           |
| Beale                 | Old Shirley Rd.       | Chapter 61 | 35.76 | Forest Management    | Temporary           |
| Brzek                 | Old Mill Rd.          | Chapter 61 | 31.00 | Forest Management    | Temporary           |
| Callahan              | Bolton Rd.            | Chapter 61 | 22.03 | Forest Management    | Temporary           |
| Capobianco            | Still River Rd.       | Chapter 61 | 28.00 | Forest Management    | Temporary           |
| Case                  | Bolton Rd.            | Chapter 61 | 16.84 | Forest Management    | Temporary           |
| Case                  | Bolton Rd.            | Chapter 61 | 25.36 | Forest Management    | Temporary           |
| Coleman               | Poor Farm Rd.         | Chapter 61 | 15.00 | Forest Management    | Temporary           |
| Coleman               | Poor Farm Rd.         | Chapter 61 | 13.20 | Forest Management    | Temporary           |
| Crook                 | Prospect Hill Rd.     | Chapter 61 | 26.38 | Forest Management    | Temporary           |
| D& M /Chu Tech        | Littleton County Rd.  | Chapter 61 | 51.10 | Forest Management    | Temporary           |
| Daman                 | Brown Rd.             | Chapter 61 | 1.51  | Forest Management    | Temporary           |
| Daman                 | Brown Rd.             | Chapter 61 | 46.88 | Forest Management    | Temporary           |
| Dunlap                | Old Littleton Rd.     | Chapter 61 | 6.40  | Forest Management    | Temporary           |
| Dunlap                | Old Littleton Rd.     | Chapter 61 | 29.28 | Forest Management    | Temporary           |
| Endicott              | Littleton County Rd.  | Chapter 61 | 30.66 | Forest Management    | Temporary           |
| Ernst                 | Murray Ln.            | Chapter 61 | 50.00 | Forest Management    | Temporary           |
| Estep                 | Blanchard Rd.         | Chapter 61 | 27.82 | Forest Management    | Temporary           |
| Fredrick Realty Trust | Old Schoolhouse Rd.   | Chapter 61 | 4.22  | Forest Management    | Temporary           |
| Fredrick Realty Trust | Old Schoolhouse Rd.   | Chapter 61 | 19.88 | Forest Management    | Temporary           |
| Galeski               | Shaker Rd.            | Chapter 61 | 17.32 | Forest Management    | Temporary           |
| Getty                 | Mass. Ave.            | Chapter 61 | 30.91 | Forest Management    | Temporary           |
| Gibson                | Mettacomett Path      | Chapter 61 | 2.71  | Forest Management    | Temporary           |
| Gibson                | Jacob Gates Rd.       | Chapter 61 | 8.07  | Forest Management    | Temporary           |
| Gibson                | Jacob Gates Rd.       | Chapter 61 | 4.41  | Forest Management    | Temporary           |
| Granville             | Littleton Rd.         | Chapter 61 | 24.72 | Forest Management    | Temporary           |
| Hall                  | East Bare Hill Rd.    | Chapter 61 | 12.60 | Forest Management    | Temporary           |
| Hapgood               | Brown Rd.             | Chapter 61 | 79.40 | Forest Management    | Temporary           |
| Jones                 | Littleton County Road | Chapter 61 | 12.00 | Forest Management    | Temporary           |

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### Open Space & Recreation Inventory: Harvard, Massachusetts

| Name                         | Location             | Class      | Acres | Use/Comments      | Level of Protection |
|------------------------------|----------------------|------------|-------|-------------------|---------------------|
| Keene                        | Ayer Rd.             | Chapter 61 | 49.43 | Forest Management | Temporary           |
| Kelly                        | Old Shirley Rd.      | Chapter 61 | 2.00  | Forest Management | Temporary           |
| Lawton                       | Old Littleton Rd.    | Chapter 61 | 15.19 | Forest Management | Temporary           |
| Lee                          | Slough Rd..          | Chapter 61 | 5.14  | Forest Management | Temporary           |
| Lee                          | Slough Rd..          | Chapter 61 | 7.61  | Forest Management | Temporary           |
| Luongo                       | Still River Rd.      | Chapter 61 | 37.00 | Forest Management | Temporary           |
| McCarthy                     | Ayer Rd.             | Chapter 61 | 19.90 | Forest Management | Temporary           |
| McGuire                      | West Bare Hill Rd.   | Chapter 61 | 14.50 | Forest Management | Temporary           |
| Nestler                      | Cruft Ln.            | Chapter 61 | 36.43 | Forest Management | Temporary           |
| Rathore                      | Mettacomett Path     | Chapter 61 | 13.53 | Forest Management | Temporary           |
| Rathore                      | Jacob Gates Rd.      | Chapter 61 | 19.52 | Forest Management | Temporary           |
| RB Realty Trust              | Mass. Ave.           | Chapter 61 | 24.11 | Forest Management | Temporary           |
| Panek                        | West Bare Hill Rd.   | Chapter 61 | 12.80 | Forest Management | Temporary           |
| Rotondo Family Trust         | Littleton Rd.        | Chapter 61 | 16.61 | Forest Management | Temporary           |
| Schaffer                     | Warren Ave.          | Chapter 61 | 7.40  | Forest Management | Temporary           |
| Schaffer                     | Warren Ave.          | Chapter 61 | 4.31  | Forest Management | Temporary           |
| Santini                      | Brown Rd.            | Chapter 61 | 1.63  | Forest Management | Temporary           |
| Setzco                       | Old Shirley Rd.      | Chapter 61 | 0.90  | Forest Management | Temporary           |
| Setzco                       | Old Shirley Rd.      | Chapter 61 | 1.90  | Forest Management | Temporary           |
| Setzco                       | Old Shirley Rd.      | Chapter 61 | 3.70  | Forest Management | Temporary           |
| Setzco                       | Old Shirley Rd.      | Chapter 61 | 7.50  | Forest Management | Temporary           |
| Shaw                         | Littleton Rd         | Chapter 61 | 17.00 | Forest Management | Temporary           |
| Shutt                        | Whitney Rd.          | Chapter 61 | 20.00 | Forest Management | Temporary           |
| Smith                        | Littleton County Rd. | Chapter 61 | 12.61 | Forest Management | Temporary           |
| Smith                        | Whitcomb Ave.        | Chapter 61 | 12.79 | Forest Management | Temporary           |
| Three Penney Farm            | Old Littleton Road   | Chapter 61 | 30.56 | Forest Management | Temporary           |
| Three Three Six Realty Trust | Stow Rd.             | Chapter 61 | 19.30 | Forest Management | Temporary           |
| Tracey                       | Shaker Road          | Chapter 61 | 19.90 | Forest Management | Temporary           |
| Turner                       | Turner Ln.           | Chapter 61 | 12.83 | Forest Management | Temporary           |
| Underwood                    | Sheehan Rd.          | Chapter 61 | 4.17  | Forest Management | Temporary           |

## Appendix D

### Open Space & Recreation Inventory: Harvard, Massachusetts

| Name                  | Location             | Class       | Acres | Use/Comments      | Level of Protection |
|-----------------------|----------------------|-------------|-------|-------------------|---------------------|
| Underwood             | Sheehan Rd.          | Chapter 61  | 26.00 | Forest Management | Temporary           |
| Underwood             | Sheehan Rd.          | Chapter 61  | 3.80  | Forest Management | Temporary           |
| Underwood             | Sheehan Rd.          | Chapter 61  | 20.00 | Forest Management | Temporary           |
| Warren                | Lancaster County Rd. | Chapter 61  | 40.00 | Forest Management | Temporary           |
| Webster               | Mass. Ave.           | Chapter 61  | 39.47 | Forest Management | Temporary           |
| Whitney Ln Farm LLC   | Littleton County Rd, | Chapter 61  | 31.15 | Forest Management | Temporary           |
| Willard               | Bare Hill Pond       | Chapter 61  | 48.50 | Forest Management | Temporary           |
| Arnold                | Old Mill Rd.         | Chapter 61A | 25.00 | Agriculture       | Temporary           |
| Berwind               | Ayer Rd.             | Chapter 61A | 53.70 | Agriculture       | Temporary           |
| Brusch                | Woodchuck Hill Rd.   | Chapter 61A | 20.00 | Agriculture       | Temporary           |
| Carlson Orchards Inc. | Old Littleton Rd.    | Chapter 61A | 12.77 | Agriculture       | Temporary           |
| Carlson Orchards Inc. | Old Littleton Rd.    | Chapter 61A | 17.56 | Agriculture       | Temporary           |
| Carlson Orchards Inc. | Littleton County Rd. | Chapter 61A | 6.08  | Agriculture       | Temporary           |
| Carlson Orchards Inc. | Littleton County Rd. | Chapter 61A | 0.19  | Agriculture       | Temporary           |
| Carlson Orchards Inc. | Littleton County Rd. | Chapter 61A | 33.36 | Agriculture       | Temporary           |
| Carlson Orchards Inc. | Oak Hill Rd.         | Chapter 61A | 33.30 | Agriculture       | Temporary           |
| Carlson Orchards Inc. | Oak Hill Rd.         | Chapter 61A | 16.90 | Agriculture       | Temporary           |
| Carlson Orchards Inc. | Oak Hill Rd.         | Chapter 61A | 2.11  | Agriculture       | Temporary           |
| Conklin               | Bolton Rd            | Chapter 61A | 1.52  | Agriculture       | Temporary           |
| Conklin               | Bolton Rd            | Chapter 61A | 5.08  | Agriculture       | Temporary           |
| Cutler                | Stow Rd.             | Chapter 61A | 15.41 | Agriculture       | Temporary           |
| Davis                 | Still River Rd.      | Chapter 61A | 24.00 | Agriculture       | Temporary           |
| Doe                   | Ayer Rd.             | Chapter 61A | 63.01 | Agriculture       | Temporary           |
| Durrant               | East Bare Hill Rd.   | Chapter 61A | 8.50  | Agriculture       | Temporary           |
| Dziewonski            | Old Littleton Rd.    | Chapter 61A | 6.50  | Agriculture       | Temporary           |
| Edgar W Cottle Found. | Woodchuck Hill Rd.   | Chapter 61A | 12.60 | Agriculture       | Temporary           |
| Ernst                 | Murray Ln.           | Chapter 61A | 13.50 | Agriculture       | Temporary           |
| Ernst                 | Murray Ln.           | Chapter 61A | 16.88 | Agriculture       | Temporary           |
| Evans                 | Still River Rd.      | Chapter 61A | 69.42 | Agriculture       | Temporary           |
| Frazer                | Bolton Rd.           | Chapter 61A | 11.50 | Agriculture       | Temporary           |

## Appendix D

### Open Space & Recreation Inventory: Harvard, Massachusetts

| Name                        | Location             | Class       | Acres | Use/Comments | Level of Protection |
|-----------------------------|----------------------|-------------|-------|--------------|---------------------|
| Grady                       | Slough Rd.           | Chapter 61A | 15.46 | Agriculture  | Temporary           |
| Hammershaimb                | Woodchuck Hill Rd.   | Chapter 61A | 17.43 | Agriculture  | Temporary           |
| Hapgood                     | East Bare Hill Rd    | Chapter 61A | 10.52 | Agriculture  | Temporary           |
| Hazel                       | Ayer Rd.             | Chapter 61A | 49.00 | Agriculture  | Temporary           |
| HermannFamily Realty Trust  | Slough Rd.           | Chapter 61A | 1.50  | Agriculture  | Temporary           |
| Hermann Family Realty Trust | Mass. Ave.           | Chapter 61A | 6.00  | Agriculture  | Temporary           |
| Hermann Family Realty Trust | Mass. Ave.           | Chapter 61A | 3.00  | Agriculture  | Temporary           |
| Hermann Family Realty Trust | Mass. Ave.           | Chapter 61A | 56.00 | Agriculture  | Temporary           |
| Hermann Family Realty Trust | Madigan Ln.          | Chapter 61A | 76.00 | Agriculture  | Temporary           |
| Hermann Family Realty Trust | Oak Hill Rd.         | Chapter 61A | 31.20 | Agriculture  | Temporary           |
| Hermann Family Realty Trust | Littleton County Rd. | Chapter 61A | 73.00 | Agriculture  | Temporary           |
| Hinchliffe                  | Still River Rd.      | Chapter 61A | 12.28 | Agriculture  | Temporary           |
| Kronauer                    | Old Littleton Rd.    | Chapter 61A | 0.33  | Agriculture  | Temporary           |
| Latham                      | Old Littleton Rd.    | Chapter 61A | 6.47  | Agriculture  | Temporary           |
| Latham                      | Old Littleton Rd.    | Chapter 61A | 5.73  | Agriculture  | Temporary           |
| Lowe                        | Westcott Rd.         | Chapter 61A | 9.62  | Agriculture  | Temporary           |
| Lewis                       | Mettacomett Path     | Chapter 61A | 2.51  | Agriculture  | Temporary           |
| Lawson                      | Depot Rd.            | Chapter 61A | 12.55 | Agriculture  | Temporary           |
| M & J Trust                 | Old Mill Rd.         | Chapter 61A | 26.00 | Agriculture  | Temporary           |
| Mahoney                     | West Bare Hill Rd.   | Chapter 61A | 12.21 | Agriculture  | Temporary           |
| Maka                        | Stow Rd.             | Chapter 61A | 8.83  | Agriculture  | Temporary           |
| Maxant                      | Ayer Rd.             | Chapter 61A | 15.46 | Agriculture  | Temporary           |
| Maxant                      | Ayer Rd.             | Chapter 61A | 18.90 | Agriculture  | Temporary           |
| Maxant                      | Willard Ln.          | Chapter 61A | 20.47 | Agriculture  | Temporary           |
| Maxant                      | Willard Ln.          | Chapter 61A | 14.31 | Agriculture  | Temporary           |
| McCready                    | West Bare Hill Rd.   | Chapter 61A | 14.50 | Agriculture  | Temporary           |
| McCurdy                     | Littleton Rd.        | Chapter 61A | 28.00 | Agriculture  | Temporary           |
| McLaughlin                  | Old Littleton Rd.    | Chapter 61A | 10.66 | Agriculture  | Temporary           |
| Moran                       | Shaker Rd.           | Chapter 61A | 7.30  | Agriculture  | Temporary           |
| Moran                       | Shaker Rd.           | Chapter 61A | 27.70 | Agriculture  | Temporary           |

## Appendix D

### Open Space & Recreation Inventory: Harvard, Massachusetts

| Name                          | Location           | Class       | Acres  | Use/Comments | Level of Protection |
|-------------------------------|--------------------|-------------|--------|--------------|---------------------|
| Nigzus                        | Madigan Ln.        | Chapter 61A | 12.23  | Agriculture  | Temporary           |
| Parkinson                     | Old Littleton Rd.  | Chapter 61A | 10.38  | Agriculture  | Temporary           |
| Parkinson                     | Old Littleton Rd.  | Chapter 61A | 1.50   | Agriculture  | Temporary           |
| Parkinson                     | Old Littleton Rd.  | Chapter 61A | 1.50   | Agriculture  | Temporary           |
| Perry                         | Old Mill Rd.       | Chapter 61A | 24.00  | Agriculture  | Temporary           |
| Matheson                      | Rte 2A Pingryville | Chapter 61A | 3.80   | Agriculture  | Temporary           |
| Rice                          | Old Mill Rd.       | Chapter 61A | 10.60  | Agriculture  | Temporary           |
| Rice                          | Old Mill Rd.       | Chapter 61A | 5.00   | Agriculture  | Temporary           |
| Rich                          | Still River Rd.    | Chapter 61A | 22.66  | Agriculture  | Temporary           |
| Shappy                        | Whitney Ln.        | Chapter 61A | 13.58  | Agriculture  | Temporary           |
| Sisters of St Benedict Center | 8 Still River Rd.  | Chapter 61A | 51.80  | Agriculture  | Temporary           |
| Spaulding                     | Eldridge Rd.       | Chapter 61A | 0.54   | Agriculture  | Temporary           |
| Spaulding                     | Eldridge Rd.       | Chapter 61A | 12.50  | Agriculture  | Temporary           |
| Stone, Robert K               | Ayer Rd.           | Chapter 61A | 19.00  | Agriculture  | Temporary           |
| Three Penny Farm              | Old Littleton Road | Chapter 61A | 3.20   | Agriculture  | Temporary           |
| Three Penny Farm              | Old Littleton Road | Chapter 61A | 2.05   | Agriculture  | Temporary           |
| Tracey                        | Bolton Rd.         | Chapter 61A | 5.51   | Agriculture  | Temporary           |
| Tracey                        | Bolton Rd.         | Chapter 61A | 1.12   | Agriculture  | Temporary           |
| Wade                          | Westcott Rd.       | Chapter 61A | 9.66   | Agriculture  | Temporary           |
| Wade                          | Westcott Rd.       | Chapter 61A | 1.75   | Agriculture  | Temporary           |
| Westward Orchards Inc         | Oak Hill Rd.       | Chapter 61A | 25.15  | Agriculture  | Temporary           |
| Westward Orchards Inc         | Oak Hill Rd.       | Chapter 61A | 4.86   | Agriculture  | Temporary           |
| Westward Orchards Inc         | Oak Hill Rd.       | Chapter 61A | 31.30  | Agriculture  | Temporary           |
| Whitney Farms                 | Whitney Lane       | Chapter 61A | 6.80   | Agriculture  | Temporary           |
| Whitney Farms                 | Whitney Lane       | Chapter 61A | 12.06  | Agriculture  | Temporary           |
| Wilson                        | Still River Rd.    | Chapter 61A | 8.16   | Agriculture  | Temporary           |
| Wilson                        | Still River Rd.    | Chapter 61A | 6.25   | Agriculture  | Temporary           |
| Willard                       | Still River Rd.    | Chapter 61A | 17.00  | Agriculture  | Temporary           |
| Noxon                         | Pinnacle Rd        | Chapter 61B | 7.00   | Nature Study | Temporary           |
| Woodland Corporation          | Shaker Rd          | Chapter 61B | 133.32 | Golf Course  | Temporary           |

## Appendix D

### Open Space & Recreation Inventory: Harvard, Massachusetts

| Name                 | Location  | Class       | Acres    | Use/Comments | Level of Protection |
|----------------------|-----------|-------------|----------|--------------|---------------------|
| Woodland Corporation | Shaker Rd | Chapter 61B | 21.00    | Golf Course  | Temporary           |
| Woodland Corporation | Shaker Rd | Chapter 61B | 9.31     | Golf Course  | Temporary           |
| Total Inventory      |           |             | 7,993.64 |              |                     |

# Appendix E

## *Excerpted from EOEa Build-Out Methodology Specifications*

### **Initial Map & Source Materials**

A variety of source materials and information needs to be collected from the town – this may involve several visits and some personal interaction with town staff. The contractor needs to collect at a minimum the following documents:

- Current town zoning by-law
- Any additional land use controls relating to subdivisions, flood zones, parking etc.
- Current zoning map or maps
- Board of health regulations
- Conservation by-laws such as local wetlands or riverfront protection

In order to map subdivisions and/or to update the land use mapping, which will be critical inputs to the process, the contractor should look at the history of subdivision filings since the date of MacConnell land use mapping. If there are a sufficient number of non-ANR subdivisions to warrant, a separate subdivision layer should be created. Essential attribute information to be collected and assigned to the subdivision polygons includes subdivision-id, name, date, number of lots, number of houses built to date and total acreage. Ideally this information would come in soft-copy form and could be linked to the subdivision mapping. Additionally the contractor should obtain any available map showing the new subdivisions at a scale suitable for transfer to a town-wide map.

If the town has a digital basemap and has compiled its assessor's parcel maps in digital form, those files may provide useful ancillary information and should be collected, along with the assessor's database.

After obtaining and reviewing all the above documents, if locus maps/site plans for recent subdivisions are not available, the contractor should seek the assistance of a local official such as the town planner or engineer in compiling their boundaries on a large-format map of the community. Town base maps may have severe limitations in terms of geographic registration and accuracy, so it would be recommended to use a map of known accuracy (such as a USGS topo or ortho image base map) for this purpose.

**Deliverable: If EOEa is providing additional production support or review, then copies of the materials collected should be forwarded to EOEa at this point.**

### **Critical GIS Data Inputs**

For every town, the contractor shall determine the status/availability of the following input layers:

- Zoning and overlays (some towns available from MassGIS)
- Update of MacConnell land use
- Open space (available from MassGIS)
- Recent subdivisions (source data described above)

The first three and possibly the fourth as described above will constitute the minimum GIS data inputs for the buildout. Even if the zoning, land use updates or recent subdivisions exist in

digital form, **the contractor will need to review these data layers and possibly reformat them or update them** as part of this project. (See "Local Review"). If not currently available, they will need to be digitized from scratch using the source materials described above and the available GIS data such as the orthophotos. Careful attention to coincident features in the creation of these new layers will save much grief during subsequent overlay procedures. For instance, the MHD roads layer should be the standard road centerline and the MassGIS boundary coverage should be the standard for town boundaries.

What follows is detail on each of these layers.

### Zoning

The contractor will develop or update zoning (ZONE) and zoning overlays (OVER) from the most current town zoning map or maps, digitized with reference to the most current town zoning by-law and registered to the town boundary layer from MassGIS. The polygon attribute table of these GIS layers must conform to the MassGIS/RPA standard for attributes as implemented in the MassGIS library which is attached to this contract. Zoning overlays should be digitized only if they will have a real impact on development – in many cases they impose minor restrictions which won't affect the basic buildout analysis.

### Subdivisions

If needed, the contractor will develop a GIS layer representing subdivisions (SUBD) filed and approved since the date of the last MacConnell land use photo-interpretation. This layer will have attributes as follows:

**NAME 40 40 C**  
**SUB\_I 8 8 C** subdivision id from local listing  
**SUB\_CODE 4 4 I** field for optional use in processing  
**DATE\_APPR 8 8 I** date approved  
**DATE\_DIG 8 8 I** date digitized  
**NO\_UNITS 4 4 I** total number units approved  
**UNITS\_BLT 4 4 I** number units built to date  
**TOT\_ACRES 4 8 F 2** total area of approved subdivision

### Land Use

The contractor will provide a new GIS layer (NEWLU) to complement the subdivision layer which shows all other new development not shown in that layer. This will be developed from visual interpretation of the most recent orthophoto if available. **For the land use update, only one attribute field will be required**, defined as

**TYPE 3 3 C** land use type

The codes for this new land use will be as follows:

- o R new residential development
- o C/I new industrial/commercial development

Note that this layer will be used as an update of the MacConnell land use, but is being kept separate since the methodology of its creation and attribution are so different.

## Open Space

The MassGIS open space data need to be reviewed and updated as part of this project. New data on permanently protected open space must be provided as an edited version of the MassGIS data, using the coding conventions and other guidance contained in the document "Guidance Notes" distributed to open space mapping volunteers. Permanently protected open space is land which is either held in fee ownership by a government agency or a private non-profit organization for the purpose of conservation or water supply protection or land with deeded limitations on development e.g. conservation restriction, APR or other permanent legal interest. **For the purposes of this contract, all the attribute fields relating to site name, ownership or other legal interest, primary purpose and level of protection are critical and must be collected.** If a Municipal Open Space plans is available, this may help focus the Open Space layer update.

### **Additional GIS Data Inputs**

For every town, the following data layers will be provided by MassGIS as part of the regular data distribution of a Data Viewer CD for that town. This will include the assignment of an ArcView 3.1 license to facilitate the use of Mr. SID imagery.

- Black and white ortho
- 1:25k USGS topo imagery
- MacConnell land use
- Q3 floodplains data ( 100 year floodplain only)
- Classified slopes (based on USGS 25k DEM)
- Areas of critical environmental concern
- Locations of public water supply wells and wellhead protection zones
- MHD Roads
- USGS/MassGIS hydrography including wetlands polygons
- Rivers Protection Act buffers
- MHD Mass transit
- USGS transmission lines

The MacConnell land use will be part of the analysis and needs to be reclassified to show residential, commercial/industrial and undeveloped land. How some classes are treated may be a matter for judgement and later review; MAPC, for example, has found that gravel pits, presumably classified as industrial/commercial developed, might need to be reclassified to allow for future development.

Also note that many of the above data layers may not represent constraints, but should be available for display and query in interaction with the town.

The contractor will determine in consultation with MassGIS and any other sources the availability/status of the following standardized data layers which might contribute significantly to the analysis:

- NRCS soils
- National Wetlands Inventory
- DEP/WCP 1:5k wetlands

Note that the NRCS mapping of soils, or any derivative of that mapping, needs to be used with great caution, since soil suitability tables may greatly overstate the limitations on development imposed by poorly-drained soils or high water table, alternative technologies may be used, etc.

The DEP Wetlands Conservancy Program mapping is the most detailed, and should be used if available, with the NWI data being next most desirable and the 25k USGS hydrography as the default choice. The NWI should be coded to allow for display of the five wetlands systems with an item SYSTEM, 1, 1, C whose domain is "P","L","R","E","M".

Finally, after analysis of the town zoning by-law and the other source documents collected above, the contractor will determine if any other legal, physical or environmental factors will so significantly influence or constrain future development in the town that no reasonable buildout analysis can be done without considering them. These might include:

- particular ownership of parcels of land
- "grandfathering" of certain large parcels
  - water and sewer infrastructure
  - buffers to any of the data layers mentioned above
  - miscellaneous factors such as transmission lines

The miscellaneous layer should be standardized with the name MISC and fields as follows:

```
COMMENT 40 40 C
MISC_CODE 4 4 I
```

As digital GIS layers, these factors may be included as absolute or partial constraints as described below under "GIS Methodology". They may also simply represent information that needs to be considered visually when estimating the potential for buildout. Every such GIS layer must be documented fully with descriptive text and data dictionary. However, within the time constraints of this project, it is unlikely that there will be sufficient time to complete the development of much additional data.

### **Local Review**

At this stage, the contractor should produce one or more overview maps of the town with various data layers plotted out for local review. It is critical that the appropriate town officials review the various GIS layers developed or updated for this project. If at all possible, the contractor should review the mapping of environmental or legal constraints with the following municipal staff:

- community planner, if there is one, or the zoning enforcement officer,
- a member of the conservation commission or its staff,
- the town engineer or assessor
- the public health officer.

Time constraints may not permit the contractor to meet with all of these, in which case the contractor's reasonable judgement about which data layers are most in need of review should determine the level of effort. All suggested changes should be incorporated into the datasets above.

**\*\* Deliverable: As soon as all GIS inputs have been created or updated and reviewed, they must be delivered to EOEA along with appropriate, brief documentation describing each**

**one and whether or not it represents an absolute or partial constraint (see "GIS methodology") .**

### **GIS Methodology**

Given the datasets described above, the basic approach can be summarized in the following series of steps. Sample code, training and support will be provided to contractors as part of the project.

1. The assumption is that development will occur on land that is not now developed, so the analysis begins by creating a GIS layer of all developed land by combining areas identified in the mapping of subdivisions and the update of land-use with areas extracted from the MacConnell land use mapping. The use of the MacConnell information should be documented – the developed categories would include spectator and water-based recreation (8,9), residential (10,11,12,13), commercial (15), industrial (16), transportation (18), waste disposal (19), and water (20). Mining (5) is debatable but is probably not an absolute constraint. The assumption that "developed" land cannot be further developed may be questionable; if specific land-use categories or areas that are already developed can be identified where infill or densification should be considered then those areas should be left out of the developed layer and used instead as partial constraints. (See discussion below under step 7.)

2. Subtract all developed land-use from zoning to produce a GIS layer of undeveloped land with attributes of zoning district code.

3. Subtract all permanently protected open space from GIS layer of undeveloped land to produce unprotected, undeveloped land . As described above, permanently protected open space is land which is held in fee ownership by a government agency or a private non-profit organization for the purpose of conservation or water supply protection or which has deeded restrictions on development,

4. If relevant, combine all wetlands information into one data layer.

5. Decide what data layers represent **absolute constraints** on development for **both residential and commercial/industrial zoning**. This analysis must reflect the way in which the zoning by-law treats resource areas such as wetlands and floodplains. For example, if wetland areas can be included in gross building lot area minimums, then wetlands are not an absolute constraint on development. Only areas which can neither be built on nor contribute to how much building is allowable should be mapped as absolute constraints.

6. Subtract the no-build layers from the unprotected, undeveloped land to produce a GIS layer of all unprotected, undeveloped land which could potentially be developed or contribute to development.

7. Decide what data layers represent **partial constraints** on development and need to be included in the analysis. For example, large areas to be subdivided within a given soil type may typically allow only 30% of the gross area to be developed due to poor drainage. Wetlands or floodplains may be partial constraints as discussed above. Zoning overlays for water supply protection are another example of a partial constraint that should be mapped if they restrict the density or type of development in a given area. The next step is to overlay the GIS mapping of potentially developable land with all areas representing partial constraints on development to produce a GIS layer of potentially developable land which includes the attributes of zoning district and all the attributes of the partial constraints on development.

8. Three types of summary table may be produced from the polygon attribute table for potentially developable land from step 7. One table gives, for each zoning district classification, the total area within the town for each combination of constraints present within that zoning district. Thus, if floodplains are mapped as a partial constraint, the town might have 2000 hectares of R1 district without any constraint, and an additional 100 hectares of land in the R1 district that are in the 100 year floodplain. This table can be the basis of the analysis of a generalized analysis that provides a rough estimate of buildout potential. If all constraints are treated as absolute constraints, then there is simply one record for each zoning category giving the total potentially developable area within that district.

Optionally, a second, more detailed analysis will require summarizing by individual zoning polygon – this would be appropriate where the distribution of partial constraints is very irregular and certain polygons end up with little or no allowable building because of an atypical concentration of constraints. In this case, the zoning polygon –id should be referenced to a map with those –ids printed for the individual zoning polygons. Finally, if parcel mapping is available, the analysis can be done to summarize for each parcel (or each parcel above a certain minimum) the characteristics of that parcel.

**\*\* Deliverable: As soon as the overlay analysis has been completed and a summary table generated, all intermediate GIS layers and the final summary table should be sent to EOE.**

### **Analysis and Implications**

At whatever level of detail is chosen, the summary table should be moved to a spreadsheet package to complete the analysis. For each zoning category, or for each zoning polygon or parcel if more detailed analysis is undertaken, the contractor must estimate either the number of residential units or total square footage of industrial/commercial building floor area that can be developed. These results should be stored in the last two columns of the spreadsheet. Additional columns may be used to enter in coefficients for estimating net buildable area or the net floor area ratio for commercial/industrial square footage. For example, calculation of residential buildout will need to subtract a percentage of land area from what is available for building lots in order to account for roads, irregular lots, etc. Calculation of commercial/industrial buildout will need to consider floor area ratio, parking requirements, percentage lot cover, height restrictions, and Board of Health regulations.

### Residential

The broad-brush estimate of the future number of house-lots within each zoning district can be calculated by:

Total potentially buildable acreage within zoning district  
- 10 to 30% of total potentially buildable acreage (for roads and lot size variation)

= Total net area for building lots

The total net area for building lots divided by the area required for each lot will yield the potential additional number of lots for each zoning district. The proposed methodology will provide a broad estimate of the potential total buildout for residential lots in the municipality. The following is a list of limitations that are inherent in this methodology:

1) Because the MacConnell Land Use data do not show single houses on large lots (e.g. farms) as being in the category of developed land, there will be a slightly upward bias in the estimates of future number of houses. For example, a development model of an 80-acre estate into 65 building sites would not take into account the existing house on the estate, and would therefore overestimate the total number of new houses by one. (The "developed land" category includes commercial, industrial, residential, and urban lands. The lands available for development therefore include farms, forests etc.).

2) However, a bias in the opposite direction may also occur because the MacConnell mapping may not show all of the small developable lots within the municipality core as being available for future development (i.e. these lots have already been placed in the developed lands category).

3) Depending on how wetlands are treated as partial constraints, this methodology may also underestimate the effect of wetland regulations, as the scale of the maps may not allow for all wetlands to be shown. Although most towns allow at least some wetlands to be included in the lot area required for zoning, typically only the large wetlands show on the buildout constraints map. These are the wetlands that are likely to be predominantly "excess acreage" as part of houselots. The assumption is that smaller wetlands that do not show on the Buildout Constraints Map are the ones which will be incorporated into future houselots.

4) The analysis does not include any potential residential units in the business, commercial or industrial zones. These areas are instead analyzed for the potential for commercial or industrial development.

5) An assumption of this study is that the municipality will have 10% of its housing stock qualified as "affordable", and the community will therefore not be subject to proposals for higher density "Chapter 40B" developments.

6) The estimate of households can be viewed as conservative, since it does not include the potential for conversion of existing single family houses to two-family units (where allowed), and also does not account for variances or special permits that would increase the total number of units of housing or the amount of commercial or industrial space.

To calculate the residential buildout, the simplest approach is to calculate a multiplier for each zoning district that relates the raw land acreage to the potential number of houselots that could be established from that raw acreage. For example, in a community with requirements for 50-foot-wide road right-of-way for new subdivision roads, in a 1-acre zoning district which has a minimum frontage requirement of 200 feet (Note: use lot width, if that is greater than the frontage requirement), then the calculation is:

Area required for roadway = percent of land used for roads in subdivision plus lot requirement

For example:

$25 (1/2 \text{ of right-of-way}) \times 200 (\text{lot width required}) = 5,000$

$43,560 (\text{zoning lot requirement}) + 5,000 (10.3\%) = 48,560$

However, when the most recent 10 years of subdivisions are compared for lot yield from gross acreage, it becomes obvious that the average subdivision within a particular zoning district does not meet the theoretical maximum number of lots that could be generated from the raw land that was the basis of the subdivision. This is the result of wetlands, steep slopes poor soils (on the areas served by septic systems) and odd lot configurations that will not allow a developer to maximize the number of lots. These additional constraints can be modeled using the GIS as

described above. In areas where the subdivisions were on sewer and where wetlands and steep slopes do not appear to be a constraint, an additional 10% may have to be removed from the raw land acreage to account for the odd lot configuration. This would mean that in the above case, a total of 20.3% of the raw land would need to be removed from the buildout calculations.

The calculations for lot yield from a raw land acreage of 531,432 square foot area (12.2 acres) would therefore be as follows:

$$531,432 \text{ (raw land square feet)} \times .797 \text{ (100\% - 20.3\%)} / \\ 43,560 \text{ (acreage per lot required by zoning)}$$

$$= 9.7 \text{ or } 9 \text{ lots}$$

Note that for smaller lot zoning districts, the roadway takes up a larger percentage of the gross lot acreage. For example, in a 15,000 square foot zoning district with a 125 foot frontage requirement in the same community as the example above (i.e., with the same 50' wide road right-of-way requirement), then the calculations would be as follows:

$$25 \text{ (1/2 right-of-way)} \times 125 \text{ (lot width required)} = 3,125 \text{ (or 17.2\%)} \\ 3,125 + 15,000 = 18,125$$

When an additional 10% is added (to account for odd lot sizes and shapes), a total of 27.2% should be removed from the gross land acreage as part of the buildout calculation.

#### Commercial / Industrial

The analysis is based upon a combination of the Floor Area Ratio (FAR) and percent lot coverage and height limitations in the local zoning code taking account of impacts of the local parking, open space, and Board of Health requirements on this FAR. This establishes an "effective FAR" that takes all of the various regulations into account. Analysis will be made for the various potential uses within each zoning district. In order to not overestimate the potential square footage, these figures should be based upon a realistic mix of alternative allowable land uses within each district (i.e., upon existing patterns and trends).

The buildout analysis for the business, commercial and industrial districts within a community results in a total additional square footage of commercial or industrial space that could reasonably be built under the regulations within a community. This analysis is based upon the Floor Area Ratio, percent lot coverage, height limitations, parking regulations, open space requirements, and (on rare occasions) the board of health regulations. Note that in some communities, these various regulations may have different limitations within an aquifer protection district. Also note that the definitions may vary from town to town; for instance one town may allow gross square footage of floor space and gross lot area to be used in calculating floor area ratio, while another town may base this calculation on net rentable square footage (no stairways or storage areas included) and dry upland lot area (no floodplain or wetlands). The regulations and the definitions must both be examined.

Because commercial and industrial facilities tend to be very large, and in most cases appear to have sufficient existing road frontage (or could have such frontage by lot consolidation), one would not include road area as a reduction factor for calculations of commercial and industrial future potential development. Areas determined to be "developed" by the MacConnell data generally are left in that category. However, areas on commercial or industrial lands that are used only for junkyards or extensive outdoor storage are not deemed to be developed, and are generally added back into the calculations. Gravel pits within the commercial and industrial

zones may also be added back in, on the assumption that they will be built upon at the end of the mining cycle. Areas in narrow strips between developments shown on the MacConnell datalayers are generally removed as non-developable buffer strips (they are likely to be greenbelt buffers required as part of the adjacent developed areas).

#### Floor Area Ratios:

- Some communities have Floor Area Ratio (FAR) regulations. This is generally a ratio of the gross floor area of the structure (i.e., total of all floors) to the total area of the lot (although, as noted above, it is important to check the definitions in the zoning bylaws for occasional critical differences).

#### Percent Lot Coverage

- For communities without FAR, most have percent lot coverage and height limits. Percent lot coverage is generally the ratio of land area covered by buildings to the total land area of the lot (although it is again critical to read definitions regarding the rare exceptions).

#### Height Limits

- In conjunction with the percent lot coverage, the height limits can give an approximate maximum of a floor area ratio in a community without an FAR regulation. However, this must be further tempered by a realistic evaluation of the actual number of stories that would be built for a particular use (e.g. warehouses are generally 1 story), as well as other restrictions (e.g., parking requirements).

#### Parking Regulations:

- The zoning bylaws of a community generally list the minimum required number of parking spaces for a particular land use, although, once again, there are exceptions (e.g., a community that lists maximum spaces, with requirements for participation in transit programs to address any excess demand). For the purposes of buildout analyses, parking is frequently the most limiting factor. This is because although the FAR or a combination of the Height Limit and Percent Lot Coverage may allow for a relatively high amount of floor area, the physical limits of the lot may significantly reduce the amount of floor space by limiting the amount of parking that may be associated with any building on the lot. This is particularly true if there is a significant amount of wetlands on the property, or if there is a requirement for a large percentage of the property to be in green vegetated open space as part of any development. Unless there is very strong evidence to the contrary, it should be assumed that there will be no structured parking associated with the future development. Structured parking is very expensive, and will be used with only the highest value land uses. If structured parking is assumed, then parking is not likely to be a limiting factor on the square footage of future development. Parking lot design requirements vary from town to town. Area required for parking lots consist of stall space, aisle space, planting strips, and unusable space at corners and other buffer areas. For purposes of consistency across a large number of communities, it would appear appropriate to use a standard value of 420 square feet of parking lot per required parking space.

The "Effective Floor Area Ratio" used in the buildout analysis calculations should be based on whichever of the various regulations is the most limiting. This will avoid over-estimating

the potential square footage of space that may be constructed within a particular zoning district.

Examples:

1) A district which allows a mix of retail and office space, where the number of spaces required is 5 per 1000 square feet of floor area for both uses. Assume that the regulations specify a height limit of 25 feet (or two stories) and a percent lot coverage of 25%. Based on the percent lot coverage and the height limit, one could expect an FAR of .50 in the absence of any other constraints. The following illustrates that parking is a limiting factor:

$$\frac{\text{Total square footage of floor space}}{(\text{Lot square footage occupied by structure}) + (\# \text{ parking spaces} \times 420)} =$$

$$\frac{\text{Effective FAR}}{2000 \text{ (assuming offices over one story retail, or 2-story offices)}} / \frac{1000 + (10 \times 420)}{1000} =$$

.38 Effective FAR

If these were the only two uses allowed in this particular zoning district, and the assumption was made that there would be offices over all of the one-story retail, then the above calculation would also be the Effective FAR for the district.

2) A District which allows for a mix of offices, warehousing and manufacturing, with a 35 foot (or three story) height limit and a 40% lot coverage. Parking regulations vary for the three uses, being 5 per 1000 square feet for offices, 4 for manufacturing, and 2 for warehouses.

For Offices, assume 3 story to maximize the total square footage on the smallest land area:

$$\frac{3000 \text{ (1000 on each floor)}}{1000 + (15 \times 420)} =$$

.41 Effective FAR

For Warehousing, assume 1 story because that is the current construction practice for these types of facilities:

$$1000 / 1000 + (2 \times 420) = .54 \text{ Effective FAR}$$

Note, however, that the 40% lot coverage bylaw is more restrictive than the figures calculated from analysis of the parking. Therefore, parking is not limiting, and the Effective FAR for Warehousing is .40 based on the lot coverage bylaw.

For Manufacturing Facilities, also assume one story construction, as that is the current industry standard:

$$1000 / 1000 + (4 \times 420) = .37 \text{ Effective FAR}$$

Note that in this case, the Effective FAR based on the parking analysis is more restrictive than the lot coverage bylaw, and so the .37 figure would be used.

To calculate the Overall Effective FAR for the above District, the relative amounts of future growth expected in each category would need to be determined in conjunction with the Town Planner. This is an important phase of the analysis, because an assumption of 100% warehouse space will yield a much higher result than an assumption of 100% manufacturing or a mixed use assumption. If one assumes a future mixed use of 1/3 of each of the above land uses in the District, then the Effective Floor Area Ratio for the District is calculated to be .39 FAR

Similar calculations would have to be done to account for required green space or other amenities.

If it is not possible to obtain local input in projecting the mix of uses, the pattern of existing uses may also be used as an estimate for the mix of future allowable uses. For example, if the land use within an existing commercial district is 30% warehouse, then this figure could be used as the estimate for the future proportion of warehouse development in that district.

Total number of additional houses can be multiplied by the appropriate local multiplier (based on existing demographic data) to yield information regarding projected total additional students for the schools or projected total additional population. Additional calculations regarding water supply or sewer demands of the future population can also be made. These are based upon appropriate multipliers for these demands measured on a per future household basis, or in the case of commercial and industrial uses, on a per 1000 square feet of floor area basis.

#### **Final Review and Comment**

The contractor should assure that all town officials who contributed information and any others who might be able to provide useful comments have an opportunity to comment before the presentation of the analysis. This would include as many as possible of those mentioned above:

- community planner, if there is one
- zoning enforcement officer
- a member of the conservation commission or its staff
- town engineer or assessor
- public health officer
- at least one member of the board of selectmen or town council
- town manager if there is one
- plus any other elected or appointed official whose support and involvement would be critical to the success of the project.

#### **GIS Products and Presentation**

Just as the data products developed in this project must be standardized, the intent is for the processing, mapping and presentation of the results to be consistent for all towns. This means that the same code will be used to prepare the areal summaries for all towns, and the same Arcview project will be used as the basis for interaction with the data and display of the results. Legend files for the core data sets will be standardized. Map products will be generated from the same Arcview project which will contain template layouts for a series of maps illustrating the analysis.

# Appendix F

## Cost of Community Services (COCS) Land Use Allocation System

A: RESIDENTIAL CATEGORY  
DOR Code Description

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| DOR Code | Description                     |
|----------|---------------------------------|
|          | IMPROVED LAND < 10 Acres        |
| 101      | Single-Family                   |
| 102      | Condominium                     |
| 103      | Mobile Home                     |
| 104      | Two-Family                      |
| 105      | Three-Family                    |
| 106      | Accessory Land                  |
| 109      | Multiple Dwellings/One Lot      |
| 111      | Four-Eight Unit Buildings       |
| 112      | Apartments                      |
| 140      | Child Care < 10 acres           |
| 013      | Mixed use primarily residential |
| 014      | Mixed use primarily residential |
| 016      | Mixed use primarily residential |
| 017      | Mixed use primarily residential |
| 018      | Mixed use primarily residential |

Subtotal Improved Land

### VACANT LAND < 5 ACRES

|     |                                   |
|-----|-----------------------------------|
| 130 | Developable                       |
| 131 | Potentially Developable           |
| 132 | Undevelopable                     |
| 200 | Mix/open, primarily or all vacant |

B: COMMERCIAL CATEGORY

| DOR Code | Description                       |
|----------|-----------------------------------|
|          | <u>IMPROVED LAND &lt;10 ACRES</u> |
| 300      | Hotels                            |
| 301      | Motels                            |
| 302      | Inns, Resorts                     |
| 304      | Nursing Homes                     |
| 305      | Private Hospitals                 |
| 306      | Care/Treatment Facilities         |
| 310      | Fuel Oil Tanks                    |
| 311      | Bottled Gas Tanks                 |
| 312      | Grain/Feed Elevators              |
| 313      | Lumber Yards                      |
| 314      | Trucking Terminals                |
| 315      | Piers, wharves & docks            |
| 316      | Other Storage/Warehouse           |
| 317      | Farm Buildings                    |
| 318      | Commercial Greenhouses            |
| 321      | Hardware Stores                   |
| 322      | Discount Stores                   |
| 323      | Shopping Centers/Malls            |
| 324      | Supermarkets                      |
| 325      | Small Retail <10,000 s/f          |
| 326      | Restaurants                       |
| 330      | Car Sales & Service               |
| 331      | Car Parts & Service               |
| 332      | Auto Repair                       |
| 333      | Fuel Service Only                 |
| 334      | Gas Stations (Fuel & Service)     |
| 335      | Car Wash                          |
| 336      | Parking Garage                    |
| 337      | Commercial Parking Lots           |
| 338      | Other M-V Sales/Service           |
| 340      | General Office                    |
| 341      | Bank                              |
| 342      | Medical Office                    |
| 350      | Postal Services (Non-Exempt)      |
| 351      | Non-Exempt Education              |
| 352      | Day Care Center                   |
| 353      | Fraternal Organization            |
| 354      | Bus Transportation                |
| 355      | Funeral Home                      |

B: COMMERCIAL CATEGORY

DOR Code Description

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|     |   |
|-----|---|
| 356 | Misc. Public Services                       |
| 360 | Museum                                      |
| 361 | Art Gallery                                 |
| 362 | Cinema                                      |
| 363 | Drive-In Theatre                            |
| 364 | Theatre                                     |
| 365 | Stadium                                     |
| 366 | Arena/Field House                           |
| 367 | Race Track                                  |
| 368 | Fairground/Amusement Park                   |
| 369 | Other Cultural/Entertainment                |
| 370 | Bowling                                     |
| 371 | Ice Skating                                 |
| 372 | Roller Skating                              |
| 373 | Swimming Pool                               |
| 374 | Health Spa                                  |
| 375 | Tennis-Racquetball Club                     |
| 376 | Athletic Club or Gymnasium                  |
| 377 | Billiards, Other Indoor Recreation Facility |
| 380 | Golf Course                                 |
| 381 | Tennis Court                                |
| 382 | Riding Stable                               |
| 383 | Beach or Swimming Pool                      |
| 384 | Marina                                      |
| 385 | Fish & Game                                 |
| 386 | Camping Facility                            |
| 387 | Summer Camp                                 |
| 388 | Other Outdoor Recreation Facility           |
| 389 | Structure on Chapter 61B Land               |
| 031 | Mixed-Use, Primarily Commercial             |

Subtotal Improved Land

VACANT LAND < 5 ACRES

|     |                                 |
|-----|---------------------------------|
| 391 | Developable Commercial Land     |
| 392 | Potentially Developable Land    |
| 393 | Not Developable Land            |
| 394 | Ag-Horticulture Not Chapter 61A |

C:. INDUSTRIAL CATEGORY

DOR Code Description

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| <u>IMPROVED LAND &lt; 10 ACRES</u> |   |
|------------------------------------|---|
| 400                                | Manufacturing                             |
| 401                                | Industrial Warehouse                      |
| 402                                | Industrial Office                         |
| 403                                | Land Integral to Manufacturing            |
| 404                                | Research & Development                    |
| 410                                | Sand & Gravel                             |
| 411                                | Gypsum                                    |
| 412                                | Rock                                      |
| 413                                | Other Mining                              |
| 420                                | Tanks                                     |
| 421                                | LNG Tanks                                 |
| 423                                | Electric ROW                              |
| 424                                | Electric Substations                      |
| 425                                | Gas Production Plant                      |
| 426                                | Gas Pipeline ROW                          |
| 427                                | Natural/Manufactured Gas Storage          |
| 428                                | Gas Pressure Control Station              |
| 430                                | Telephone Exchange Station                |
| 431                                | Telephone Relay                           |
| 432                                | Cable TV Transmitting Facility            |
| 433                                | Radio/TV Transmitting Facility            |
| 041/042/046                        | Mixed Use, Primarily Industrial           |
| 450                                | Elec. Generation Plants                   |
| 451                                | Elec. Generation Plants, Transition Value |
| 452                                | Elec. Generation Plants, Agreement Value  |

Subtotal Improved Land

VACANT LAND < 5 ACRES

|     |                              |
|-----|------------------------------|
| 440 | Developable Industrial Land  |
| 441 | Potentially Developable Land |
| 442 | Not Developable Land         |

D: OPEN SPACE

| DOR Code | Description   |
|----------|---|
|          | IMPROVED LAND 10+ Acres                                   |
| 101      | Single-Family   |
| 102      | Condominium   |
| 103      | Mobile Home   |
| 104      | Two-Family  |
| 105      | Three-Family  |
| 106      | Accessory Land  |
| 109      | Multiple Dwellings/One Lot                                |
| 111      | Four-Eight Unit Buildings                                 |
| 112      | Apartments  |
| 013      | Mixed use primarily residential                           |
| 014      | Mixed use primarily residential                           |
| 016      | Mixed use primarily residential                           |
| 017      | Mixed use primarily residential                           |
| 018      | Mixed use primarily residential<br>(Subtotal Residential) |
| 300      | Hotels  |
| 301      | Motels  |
| 302      | Inns, Resorts   |
| 304      | Nursing Homes   |
| 305      | Private Hospitals   |
| 306      | Care/Treatment Facilities                                 |
| 310      | Fuel Oil Tanks  |
| 311      | Bottled Gas Tanks   |
| 312      | Grain/Feed Elevators                                      |
| 313      | Lumber Yards  |
| 314      | Trucking Terminals  |
| 315      | Piers, wharves & docks                                    |
| 316      | Other Storage/Warehouse                                   |
| 317      | Farm Buildings  |
| 318      | Commercial Greenhouses                                    |
| 321      | Hardware Stores   |
| 322      | Discount Stores   |
| 323      | Shopping Centers/Malls                                    |
| 324      | Supermarkets  |
| 325      | Small Retail < 10,000 s/f                                 |
| 326      | Restaurants   |
| 330      | Car Sales & Service                                       |
| 331      | Car Parts & Service                                       |
| 332      | Auto Repair   |

D: OPEN SPACE

| DOR Code | Description                                 |
|----------|---|
| 333      | Fuel Service Only                           |
| 334      | Gas Stations (Fuel & Service)               |
| 335      | Car Wash                                    |
| 336      | Parking Garage                              |
| 337      | Commercial Parking Lots                     |
| 338      | Other M-V Sales/Service                     |
| 340      | General Office                              |
| 341      | Bank  |
| 342      | Medical Office                              |
| 350      | Postal Services (Non-Exempt)                |
| 351      | Non-Exempt Education                        |
| 352      | Day Care Center                             |
| 353      | Fraternal Organization                      |
| 354      | Bus Transportation                          |
| 355      | Funeral Home                                |
| 356      | Misc. Public Services                       |
| 360      | Museum                                      |
| 361      | Art Gallery                                 |
| 362      | Cinema                                      |
| 363      | Drive-In Theatre                            |
| 364      | Theatre                                     |
| 365      | Stadium                                     |
| 366      | Arena/Field House                           |
| 367      | Race Track                                  |
| 368      | Fairground/Amusement Park                   |
| 369      | Other Cultural/Entertainment                |
| 370      | Bowling                                     |
| 371      | Ice Skating                                 |
| 372      | Roller Skating                              |
| 373      | Swimming Pool                               |
| 374      | Health Spa                                  |
| 375      | Tennis-Racquetball Club                     |
| 376      | Athletic Club or Gymnasium                  |
| 377      | Billiards, Other Indoor Recreation Facility |
| 380      | Golf Course                                 |
| 381      | Tennis Court                                |
| 382      | Riding Stable                               |
| 383      | Beach or Swimming Pool                      |
| 384      | Marina                                      |
| 385      | Fish & Game                                 |
| 386      | Camping Facility                            |

D: OPEN SPACE

| DOR Code    | Description  |
|-------------|--|
| 387         | Summer Camp  |
| 388         | Other Outdoor Recreation Facility                                  |
| 389         | Structure on Chapter 61B Land                                      |
| 031         | Mixed-Use, Primarily Commercial<br>(Subtotal Commercial)           |
| 400         | Manufacturing  |
| 401         | Industrial Warehouse   |
| 402         | Industrial Office  |
| 403         | Land Integral to Manufacturing                                     |
| 404         | Research & Development   |
| 410         | Sand & Gravel  |
| 411         | Gypsum   |
| 412         | Rock   |
| 413         | Other Mining   |
| 420         | Tanks  |
| 421         | LNG Tanks  |
| 423         | Electric ROW   |
| 424         | Electric Substations   |
| 425         | Gas Production Plant   |
| 426         | Gas Pipeline ROW   |
| 427         | Natural/Manufactured Gas Storage                                   |
| 428         | Gas Pressure Control Station                                       |
| 430         | Telephone Exchange Station   |
| 431         | Telephone Relay  |
| 432         | Cable TV Transmitting Facility                                     |
| 433         | Radio/TV Transmitting Facility                                     |
| 041/042/046 | Mixed Use, Primarily Industrial                                    |
| 450         | Elec. Generation Plants  |
| 451         | Elec. Generation Plants, Transition Value                          |
| 452         | Elec. Generation Plants, Agreement Value<br>(Subtotal Industrial)  |
|             | Total Open Space w/ Improvements                                   |
|             | <u>VACANT LAND 5+ Acres</u>  |
| 130         | Developable Residential  |
| 131         | Potentially Developable Residential                                |
| 132         | Undevelopable Residential  |
| 200         | Mix/open, primarily or all vacant<br>(Subtotal Residential Vacant) |
| 390         | Developable Commercial   |

D: OPEN SPACE

| DOR Code | Description  |
|----------|--|
| 391      | Potentially Developable Commercial                       |
| 392      | Undevelopable Commercial<br>(Subtotal Commercial Vacant) |
| 440      | Developable Industrial                                   |
| 441      | Potentially Developable Industrial                       |
| 442      | Undevelopable Industrial<br>(Subtotal Industrial Vacant) |
| 600      | Chapter 61   |
| 700      | Chapter 61A  |
| 800      | Chapter 61B  |

# Appendix H

## Sample Bylaws

### Part I: Demolition Delay Bylaws (Sample from Massachusetts communities)

#### TOWN OF WESTON

Intent and purpose: The Demolition Delay by-law is enacted for the purpose of preserving and protecting significant buildings within the Town of Weston which are outside Local Historic Districts. Such buildings reflect distinctive features of the architectural, cultural, economic, political or social history of the Town, and their preservation promotes the public welfare by making the Town a more attractive and desirable place to live and work.

The intent of the by-law is not to permanently prevent demolition, but rather, to provide an opportunity to develop preservation solutions for properties threatened with demolition. The by-law is intended to encourage owners and townspeople to seek out persons who might be willing to purchase, preserve, rehabilitate or restore such buildings rather than demolish them, and to limit the detrimental effect of demolition on the historical architectural resources of the Town.

To achieve these purposes, the Weston Historical Commission ("the Commission") is empowered to advise the Building Inspector with respect to the issuance of permits for demolition of significant buildings, and, where appropriate and consistent with the intent and purpose of this by-law, to allow demolition under conditions designed to minimize the loss of distinctive features of significant buildings.

#### Definitions

- I. "Building" - any combination of materials forming a shelter for persons, animals, or property.
- II. "Demolition" – any act of pulling down, destroying, removing, razing or moving a building or any portion thereof, or commencing the work of moving or of total or substantial destruction of a building or portion thereof, with the intent of completing the same;
- III. "Significant Building" – any building or portion thereof which in whole or in part was constructed by 1945, or is of unknown age, and which meets one or more of the following three criteria:
  - A. is listed on, or is within an area listed on, the National Register of Historic Places, or is the subject of a pending application for listing on said National Register; or
  - B. is included within a "significant area" or "further study area" inventoried or outlined by the Commission in the 1993-1994 Historical Resources Survey; or
  - C. is documented on a Cultural Resources Inventory form prepared by the Commission; and, in addition, is determined by vote of the Commission to be of historical or architectural significance by reason of period, style, method or building construction, or by reason of its association with a particular architect, or a builder, or with a person or event of importance to the Town's history;
- IV. "Commission" - the Weston Historical Commission.
- V. "Business Day" - any day which is not a legal municipal holiday, Saturday or Sunday.

#### Procedure

- I. No demolition of a building, or any portion of a building, which was in existence as of January 1, 1945 or which is of an indeterminate age, shall be permitted except in conformity with the provisions of this by-law.

II. Upon receipt of an application for a demolition permit for any building, or portion thereof, which was in existence as of January 1, 1945 or which is of indeterminate age, the Building Inspector shall forward a copy thereof to the Commission within five (5) business days, and shall notify the applicant in writing of this action. No demolition permit shall be issued at that time.

III. Within twenty-one (21) business days of its receipt of a copy of an application for a demolition permit, the Commission shall make an Initial Determination as to the significance of the subject building. The Initial Determination shall be positive if the building, or a portion thereof, meets one or more of criteria (a) through (d) of the above definition of "Significant Building." Otherwise, the Initial Determination shall be in the negative. The Commission shall notify the applicant of the meeting at which it intends to make its Initial Determination at least seven (7) days in advance of said meeting, and the applicant shall be given an opportunity to make a presentation to the Commission.

IV. The Commission shall notify the Building Inspector and the applicant in writing within ten (10) business days of its Initial Determination. If the Initial Determination is in the negative, or if the Commission fails to notify the Building Inspector of its Initial Determination within the said ten (10) business days, the Building Inspector may, subject to the requirements of the State Building Code and any other applicable law, by-laws, rules and regulations, issue a demolition permit.

V. If the Commission's Initial Determination is positive, the Commission shall, within thirty (30) days of its Determination, conduct a public hearing to determine whether the Significant Building is preferably preserved; the Commission shall give public notice of said hearing by publishing notice of the time, place, and purpose of the hearing in a newspaper of general circulation in the Town twice, the first notice to be published at least fourteen (14) days before the hearing and the second notice no more than seven (7) days before the hearing, and by mailing a copy of said notice to the applicant, to the owner of the premises on which the Significant Building is located (if other than the applicant) to the owners of all property within three hundred feet of the premises on which the Significant Building is located as appearing on the most recent tax list, and to such other persons as the Commission shall deem entitled to notice.

VI. If, after a public hearing, the Commission determines that demolition of the Significant Building would not be detrimental to the historical or architectural heritage or resources of the Town, the Commission shall so notify the applicant, the owner, if other than the applicant, and the Building Inspector, in writing, within ten (10) business days of such determination. Upon receipt of such notice, or upon the expiration of ten (10) business days from the date of the close of the Commission's public hearing, without having received any notification from the Commission, the Building Inspector may, subject to the requirements of the State Building Code and any other applicable laws, by-laws, rules and regulations, issue a demolition permit for the subject building.

VII. If, after the public hearing, the Commission determines that demolition of the Significant Building would be detrimental to the historical or architectural heritage or resources of the Town, such building shall be considered to be a preferably preserved building, and the Commission shall so advise the applicant, the owner if other than the applicant, and the Building Inspector, in writing, within (10) business days, and no demolition permit shall be issued until six months after the date of such determination by the Commission.

VIII. During the six-months delay period following the Commission's determination that a building is to be considered preferably preserved, the Commission shall notify the Massachusetts Historical Commission, the Town Planner, and any other interested party in an effort to obtain assistance in obtaining preservation funding or in finding an adaptive use of the building which will result in its preservation.

IX. Notwithstanding the preceding paragraphs, the Building Inspector may issue a demolition permit for a preferably preserved significant building at any time after receipt of written advice from the Commission to the effect that

- i. the Commission is satisfied that there is no reasonable likelihood that either the owner or some other person or group is willing to purchase, preserve, rehabilitate or restore such building, or
- ii. the Commission is satisfied that for at least six months the owner has made continuing,

bona fide and reasonable efforts to locate a purchaser to preserve, rehabilitate and restore the subject building, and that such efforts have been unsuccessful;

iii. the Commission has determined that the proposed moving or demolition may be conducted in a specified manner so as not to be detrimental to the historical or architectural heritage or resources of the Town.

#### Responsibilities of the Owner

Once a Significant Building is determined to be a preferably preserved building, the owner shall be responsible for properly securing the building, if vacant, to the satisfaction of the Building Inspector. Should the owner fail to so secure the building, a subsequent destruction of the building at any time during the six month demolition delay period, which destruction could have been prevented by the required security measures, shall be considered a demolition in violation of this by-law.

#### Emergency Demolitions

Notwithstanding the following provisions, the Building Inspector may issue a demolition permit at any time in the event of imminent and substantial danger to the health or safety of the public due to deteriorating conditions. Prior to doing so, the Building Inspector shall inspect the building and document, in writing, the findings and reasons requiring an emergency demolition, a copy of which shall be forwarded immediately to the Commission. Before allowing emergency demolition, the Building Inspector shall make every effort to inform the Chairperson of the Commission of his intention to allow demolition before he issues a permit for emergency demolition.

No provision of this by-law is intended to conflict with or abridge any obligations or rights conferred by G.L.c.143 regarding removal or demolition of dangerous or abandoned structures. In the event of a conflict, the applicable provisions of Chapter 143 shall control.

#### Historic Districts Act

Nothing in this by-law shall be deemed to conflict with the provisions of the Historic Districts Act, Massachusetts General Laws, Chapter 40C, with respect to requirements of notice, hearing and issuance by the Commission of a Certificate of Appropriateness, a Certificate of Non-applicability or a Certificate of Hardship prior to demolition of any building in an historic district.

#### Enforcement and Remedies

1. Except as provided below, whenever a significant building or any portion thereof has been voluntarily demolished in violation of this by-law, and for a period of two years after the date of completion of such demolition, no building permit shall be issued with respect to any premises upon which such demolition has occurred. As used herein, "premises" includes the parcel of land upon which the demolished significant building was located.

2. Notwithstanding the foregoing, whenever the Commission shall, on its own initiative, or on application of the landowner, determine that earlier reconstruction, restoration or other remediation of any demolition in violation of this by-law better serves the intent and purpose of this by-law, it may, prior to the expiration of said period of two years, but no sooner than six months from the date of completion of any demolition in violation of this by-law, authorize issuance of a building permit, upon such conditions as the Commission deems necessary or appropriate to effectuate the purposes of this by-law, and may so notify the Building Inspector pursuant to Section IX of this by-law.

## Severability

If any section, paragraph or part of this by-law for any reason declared invalid or unconstitutional by any court, every other section, paragraph and part shall continue in full force and effect.

## TOWN OF DUXBURY

### Demolition of Historically Significant Buildings

#### Section 1. Purpose

This bylaw is adopted to protect and preserve the buildings and structures within the Town of Duxbury which reflect or constitute distinctive features of the architectural, cultural, economic, political or social history of the Town and to encourage the preservation and restoration rather than the demolition of such buildings and structures. By furthering these purposes, the public welfare shall be promoted, making the Town a more attractive place in which to live, learn and work.

To achieve this purpose, the Historical Commission is empowered to advise the Building Inspector with respect to the issuance of permits for demolition. The Commission is hereby required to offer its advice and expertise to owners of any building or structure within the Town.

#### Section 2. Definitions

“Building.” See Section 302 of the Duxbury Zoning Bylaw.

“Business day.” A day that is not a legal municipal holiday, Saturday or Sunday.

“Demolition.” The intentional act of pulling down, destroying, removing or razing a building or structure or commencing the work of total or substantial destruction with the intent of completing the same.

“Regulated Building or Structures.” This bylaw shall apply only to buildings or structures which in whole or in part were built seventy-five (75) years or more prior to the date of the application for a demolition permit and are:

- a) listed or eligible to be listed on the National Register of Historic Places or on the State Register of Historic Places; or
- b) is associated with one or more historic persons or events, or with the broad architectural, cultural, economic, political or social history of the Town; or
- c) is historically or architecturally significant in terms of period style, method of building construction or association with a significant architect or builder, either by itself or as part of a group of buildings.

#### Section 3. Procedures

No permit for the demolition of any building or structure shall be issued other than in conformity with this bylaw. Upon receipt of an application for a demolition permit, the Building Inspector shall forward a copy to the Historical Commission.

Within thirty (30) days of receiving the application for a demolition permit from the Building Inspector, the Historical Commission shall determine whether the building or structure is a “regulated building or structure” as defined under this bylaw. If the Commission determines that the building or structure is not regulated by this bylaw, it shall sign the permit immediately and forward it to the Building Inspector, who shall issue the permit.

If the Commission determines that the building or structure is regulated by this bylaw, it shall review the application for a demolition permit at a public hearing to be held within twenty (2) business days of determining that the building or structure is a regulated building or structure.

The Commission shall publish a notice of the hearing in a newspaper of local circulation during each of the two weeks preceding the date of the public hearing, noting the date, location, and subject of the hearing, the cost to be borne by the applicant.

Within fourteen (14) business days after the public hearing on the demolition permit, the Commission shall make its determination either to permit immediate demolition or delay demolition and notify the applicant in writing, stating its reasons with a copy to the Building Inspector.

If a determination is made that the building or structure is historically significant, meeting one of the three criteria of a "regulated building or structure," and that demolition should be delayed, the Building Inspector shall not issue a demolition permit for a period of six (6) months from the date of notification to the Building Inspector, unless the Commission informs the Building Inspector in writing prior to the expiration of the six-month period that the Commission is satisfied that the applicant has made a reasonable but unsuccessful effort to locate a purchaser to preserve, relocate or rehabilitate the building or structure.

In an emergency, nothing in this bylaw shall prohibit the Building Inspector from exercising the authority of M.G.L. c.143, but the Building Inspector shall make every reasonable effort to inform the Commission of his actions in such an emergency.

## TOWN OF WESTFORD

### A. Intent and Purpose

This by-law is adopted for the purpose of preserving and protecting significant buildings within the Town, which constitute or reflect distinctive features of the architectural, cultural, political, economic, or social history of the town; to encourage owners of such buildings to seek out persons who might be willing to purchase, preserve, rehabilitate, or restore such buildings rather than demolish them. To achieve these purposes the Westford Historical Commission (herein after the "Commission") is empowered to advise the Building Commissioner with respect to the issuance of permits for demolition of significant buildings.

### B. Definitions

1. Building – Any combination of materials capable of being used as a shelter for persons, animals or property.
2. Commission – The Westford Historical Commission.
3. Commissioner – The Westford Building Commissioner.
4. Demolition Permit – The permit issued by the Commissioner as required by the state building code for the demolition or removal of a building or structure; and
5. Historically Significant Building or Structure – Any building or structure which is (1) importantly associated with one or more historic persons or events, or with the architectural, cultural, political, economic or social history of the Town, the Commonwealth of Massachusetts or the United States of America; or (2) is historically or architecturally important by reason of period, age, style, method of building construction or association with a particular architect or builder, either by itself or in the context of a group of buildings or structures.

### C. Regulated Buildings and Structures

1. A building or structure listed on, or is within an area listed on, the National Register of Historic Places or the State Register of Historic Places, or the subject of a pending application for

listing on either of said Registers; or

2. A building or structure located within 200 feet of the boundary line of any federal, state or local historic district; or

3. A building or structure included in the Inventory of the Historic Assets of the Commonwealth, or designated by the Commission for inclusion in said inventory including those buildings listed for which complete surveys may be pending; or

4. A building or structure determined by vote of the Commission to be historically or architecturally significant in terms of period, style, and method of building construction based on the following criteria:

a. Properties listed on the State Register of Historic Places and the Inventory of Historic Assets of the Commonwealth for the Town of Westford.

b. Properties in existence in or before 1921.

c. Properties that appear on the 1855 Symmes Maps.

1. No demolition permit shall be issued for a regulated building or structure without full compliance with the provisions of this by-law.

#### D. Procedure

1. The Commissioner shall forward a copy of each demolition permit application for all regulated buildings or structures identified in section (c) of this section to the Commission within seven (7) days after the filing of such application. No demolition permit shall be issued at that time.

2. Within thirty (30) days after the receipt of such application, the Commission shall determine whether the building or structure is historically significant. The applicant for the permit shall be entitled to make a presentation to the Commission if he or she makes a timely request in writing to the Commission.

3. A. If the Commission determines that the building or structure is not historically significant, it shall so notify the Commissioner and the applicant in writing and the Commissioner may issue a demolition permit.

B. If the Commission determines that the building or structure is historically significant, it shall notify the Commissioner and the applicant in writing that a demolition plan review must be made prior to the issuance of a demolition permit. If the Commission fails to notify the Commissioner and the applicant of its determination within sixty (60) days after its receipt of the application, then the building or structure shall be deemed not historically significant and the Commissioner may issue a demolition permit.

4. Within thirty (30) days after the applicant is notified that the Commission has determined that a building or structure is historically significant, the applicant for the permit shall submit to the Commission seven (7) copies of a demolition plan which shall include the following information: (i) a map showing the location of the building or structure to be demolished with reference to lot lines and to neighboring buildings and structures; (ii) photographs of all street façade elevations; (iii) a description of the building or structure to be demolished; (iv) the reason for the proposed demolition and data supporting said reasons, including, where applicable, data sufficient to establish any economic justification for demolition; and (v) a brief description of the proposed reuse of the parcel on which the building or structure to be demolished is located.

5. The Commission shall hold a public hearing, within 30 days of receipt of the demolition plan referenced in paragraph four, with respect to the application for a demolition permit, and shall give public notice of the time, place, and purposes thereof at least fourteen (14) days before said hearing in such manner as it may determine, and by mailing, postage prepaid, a copy of said notice to the applicant, to the owners of all adjoining property and other property deemed by the Commission to be materially affected thereby as they appear on the most recent real estate tax list of the Board of Assessors, to the Planning Board, to any person filing written request for notice of hearings, such request to be renewed yearly in December, and to such other persons as the Commission shall deem entitled to notice. Within sixty (60) days after its receipt of the demolition

plan, the Commission shall file a written report with the Commissioner on the demolition plan which shall include the following: (i) a description of age, architectural style, historic association and importance of the building or structure to be demolished (ii) a determination as to whether or not the building or structure should preferably be preserved. The Commission shall determine that a building or structure should preferably be preserved only if it finds that the building or structure is an historically significant building or structure which, because of the important contribution made by such building or structure to the Town's historical and/or architectural resources, it is in the public interest to preserve, rehabilitate or restore.

6. If, following the demolition plan review, the Commission does not determine that the building or structure should preferably be preserved, or if the Commission fails to file a report with the Commissioner within the time limit set out in subparagraph (5) next above, then the Commissioner may issue a demolition permit.

7. If, following the demolition plan review, the Commission determines that the building or structure should preferably be preserved, then the Commissioner shall not issue a demolition permit for a period of six (6) months from the date of the filing of the Commission's report unless the Commission informs the Commissioner prior to the expiration of such six (6) month period that it is satisfied that the applicant for the demolition permit has made a bona fide, reasonable and unsuccessful effort to locate a purchaser for the building or structure who is willing to preserve, rehabilitate or restore the building or structure, or has agreed to accept a demolition permit on specific conditions approved by the Commission. During the six (6) month review period, the Commission shall invite the Applicant to participate in an investigation of alternatives to demolition.

#### E. Determination of Applicability

An owner of a regulated building or structure may petition the Commission for a determination of applicability of the bylaw. Within sixty (60) days after the receipt of such application, the Commission shall determine whether the building or structure is historically significant. The applicant for the permit shall be entitled to make a presentation to the Commission if he or she makes a timely request in writing to the Commission. The determination by the Commission of whether a regulated building or structure is historically significant shall be made in writing signed by the Commission and shall be binding on the Commission for a period of 5 years from the date thereof.

#### F. Emergency Demolition

If the condition of a building or structure poses a serious and imminent threat to public health or safety due to its deteriorated condition, the owner of such building or structure may request the issuance of an emergency demolition permit from the Commissioner. If possible and as soon as practical after the receipt of such a request, the Commissioner shall arrange to have the property inspected by a board consisting of himself, the Chairman of the Commission and the Chairman of the Board of Health, and the Chief of the Fire Department, or their respective designees. After inspection of the building or structure and, to the extent possible, consultation with this Board, the Commissioner shall determine whether the condition of the building or structure represents a serious and imminent threat to public health or safety and whether there is any reasonable alternative to immediate demolition of the building or structure which would protect the public health or safety. If the Commissioner finds that the condition of the building or structure poses a serious and imminent threat to public health or safety, and that there is no reasonable alternative to the immediate demolition permit under the provision of this paragraph (E), they shall prepare a written report describing the condition of the building or structure and the basis for his decision to issue an emergency demolition permit with the Commission. Nothing in this paragraph (E) shall be inconsistent with the procedures for the demolition and/or securing of building and structures established by Chapter 143, section 6-10, of the Massachusetts General Laws. In the event that a

Board of Survey is convened under the provisions of Section 8 of said Chapter 143 with regard to any building or structure identified in paragraph (C) of this section, the Commissioner shall request the Chairman of the Commission or his designee to accompany that Board of Survey during its inspection. A copy of the written report prepared as a result of such inspection shall be filed with the Commission.

G. Non-Compliance

1. The Commission and the Building Commissioner are each authorized to institute any and all proceedings in law or equity, as they deem necessary and appropriate to obtain compliance with the requirements of this bylaw, or to prevent a violation thereof.
2. No building permit shall be issued with respect to any premises upon which a significant building has been voluntarily demolished in violation of this bylaw for a period of twenty-two months after the date of the completion of such demolition. As used herein "premises" includes the parcel of land upon which the demolished significant building is located.
3. Upon a determination of the Commission that a building is a preferably preserved significant building, the owner shall be responsible for properly securing the building, if vacant, to the satisfaction of the Building Commissioner. Should the owner fail to secure the building, the loss of such building through fire or other cause shall be considered voluntary demolition for the purposes of section G2.
4. Anyone who demolished a building or structure identified in paragraph (C) of this section without first obtaining, and complying fully with the provisions of, a demolition permit, shall be subject to a fine of not less than one hundred (100) dollars nor more than three hundred (300) dollars.

H. Severability

If any section, paragraph or part of this bylaw be for any reason declared invalid or unconstitutional by an court authority, every other section, paragraph and part shall continue in full force and effect.

## **Part II. Historic Preservation Incentive Bylaw**

### TOWN OF LEXINGTON

#### 4.4 HISTORIC PRESERVATION INCENTIVES

##### 4.4.1 GENERAL OBJECTIVES

- a. Encourage preservation of buildings, structures, sites and settings, and elements of historical or architectural significance.
- b. Establish eligibility criteria for buildings, structures, sites and settings, and elements attaining protected status under paragraph 4.4.2.
- c. Expand economic options for the owner/investor, by broadening the permitted uses in various zoning districts and removing barriers presented by development standards governing those permitted uses.
- d. Permit the flexibility of development options by modifying dimensional requirements that might be an impediment to historic preservation.
- e. Provide incentives to preserve contributory elements of historic or architectural significance, such as settings and sites, objects, monuments, trees or other elements.

##### 4.4.2 HISTORIC ELIGIBILITY DEFINED

- a. Any historic element, as defined below, may qualify for paragraph 4.4.2, Historic Preservation Incentives, if it is included on any of the following lists or surveys:
  1. National Register Of Historic Places
  2. State (Commonwealth Of Massachusetts) Register Of Historic Places
  - 3) Inclusion by the Lexington Historical Commission in its Comprehensive Cultural Resources Survey, or identification by that Commission of historic and/or architectural significance and thereby potential inclusion in the Comprehensive Cultural Resources Survey.
  - 4) Pending nominations in good standing to the National or State Registers
- b. Primary Qualifying Elements shall include the following: buildings, and other structures and outbuildings located on the property.
- c. Secondary Qualifying Elements shall include the following: sites and settings, objects, monuments, trees or any element of historical, architectural and/or cultural significance which indicates their contributory value in establishing historical context.
- d. Priority in granting special permits under these historic preservation incentives shall, in all cases, be placed upon keeping buildings and structures in place, rather than moving them to other locations, provided that the existing siting can be shown to represent valid historical setting and context. Moving of buildings, structures and elements to other locations shall be considered only if no other preservation measures are practical or reasonable on the existing site, or if the proposed removal is to return a building, structure or element to an original or more historically accurate location. The SPGA shall determine the validity of any such requests.

##### 4.4.3. SPECIAL PERMIT AUTHORIZED

The Board of Appeals, or the Planning Board where it is authorized to be the special permit granting authority (SPGA), may grant a special permit to authorize actions that would otherwise not comply with the provisions of this By-Law and that would allow the renovation, repair, adaptive reuse or, in limited instances, removal, of historic or architecturally significant buildings.

a. The following uses, identified by the line in which they appear in Section 4.2 of this By-Law that are not usually permitted in the districts identified below, may be allowed in those districts, provided the SPGA makes the findings listed in 4.4.4.:

1. 1.13 Residential/Institutional/Agricultural Uses; the conversion of single family residences in the RD, CB and CLO districts.
2. 1.14 the conversion of single family residences in the CB and CLO districts.
3. 1.187 the conversion of municipal buildings to residential use in the RM, CB and CLO districts.
4. 1.21 the creation of Rooming Units in the CB, CLO and CN districts.
5. 1.22 the creation of Accessory Apartments in the CB and CLO districts.
6. 1.23 the creation of Bed and Breakfast Homes in the RT, RM, RD, CN, CB, and CLO districts.
7. 1.24 General Home Occupation Uses with a maximum of one (1) employee other than an owner occupant and with a maximum of 4 customers per hour, as an average during the course of the business day, in all districts.
8. 1.25 Professional Office Home Occupation Uses with a maximum of one (1) employee other than an owner occupant, in all districts.
9. 6.14 Office Uses, Professional Services, in CN districts.
10. 6.15 Advertising/Editing, in CN and CB districts.
11. 6.16 Employment Agency and similar uses, in CN districts.
12. 6.17 Manufacturer's Representative and similar uses, in CN districts.
13. 6.18 Other Business and Administrative and similar uses, in CN districts.
14. 7.13 Professional and Business Services, Tailor, Dressmaker And Shoe Repair, in CLO districts.
15. 7.14 Real Estate Sales or Rental Office, in CS districts.
16. 7.18 Repair of Household Appliances, in CLO districts.
17. 7.28 Private Postal Service, in CB districts.

b. Modifying 6.2, Development Standards for Offices (6.21 – 6.26) and 7.3, Development Standards for Personal, Business Services (7.31 – 7.32), provided that any negative impacts to the surrounding area can be feasibly mitigated.

c. Modifying the standards in Table 2, Schedule Of Dimensional Controls, with regard to minimum: lot area; lot frontage; front, side and rear setbacks; maximum percentage of site coverage; and maximum height (stories).

d. Modifying the standards in Section Five (5), Supplementary Use Regulations, sub-sections 5.2, 5.3, 5.4, 5.5 inclusive.

e. Modifying the dimensional and intensity controls in Section Seven, 7.1 – 7.6, 7.9.1 and 7.9.2.

f. Modifying the landscaping, transition and screening requirements in Section Ten, 10.3 – 10.8.

g. Modifying the off-street parking and loading requirements in Section Eleven, 11.1 – 11.9, inclusive.

4.4.3.1. FINDINGS REQUIRED: In order to grant a special permit, the SPGA shall determine:

- a. that the uses authorized in 4.4.3. or the modification of standards and requirements authorized in 4.4.3 b. – g. are necessary to maintain the historic or architecturally significant building, structure or element on the site on which it was originally constructed or to relocate it back to such a site;
- b. that the proposed renovation, repair, adaptive reuse or removal preserves, to the maximum extent feasible, the historical and architectural features of the building, structure or element, said determination to be made by the SPGA;
- c. failure to grant the special permit is likely to result in inappropriate use or physical modification or pursuit of a demolition permit; and

d. that the proposed use will not generate negative impacts to the surrounding area or zoning district or that any negative impacts generated may be feasibly mitigated.

#### 4.4.3.2. CONTRIBUTORY LOTS

For one or more lots that do not otherwise qualify under paragraph 4.4.2 above and are shown on a definitive site development plan submitted by an applicant, the SPGA may grant a special permit to modify:

1. the standards in Table 2, Schedule Of Dimensional Controls,
2. the standards in Section Five (5), Supplementary Use Regulations, (entire section, covering the special uses identified),
3. the dimensional and intensity controls in Section Seven, Dimensional Controls, 7.1 - 7.5,
4. the landscaping, transition and screening requirements in Section Ten, Landscaping, Transition and Screening Requirements (entire section), or
5. the off-street parking and loading requirements in Section Eleven, Off-Street Parking and Loading (entire section) provided the SPGA makes a finding that such modifications are necessary to make historic preservation feasible on another lot within the same development on which a historic element, as defined in subparagraph 4.4.2. is located. The use of one or more lots that do not otherwise qualify may apply to a conventional or cluster subdivision (see Section 9) or to a two lot subdivision qualifying for a frontage reduction (see subsection 7.4.5)."

### Part III: Groundwater Protection Overlay District

#### DEPARTMENT OF ENVIRONMENTAL PROTECTION DRINKING WATER PROGRAM MODEL GROUNDWATER PROTECTION DISTRICT BYLAW OR ORDINANCE

(Revised January 2002)

#### 1. PURPOSE OF DISTRICT

The purpose of this Groundwater Protection District is to:

- a. promote the health, safety, and general welfare of the community by ensuring an adequate quality and quantity of drinking water for the residents, institutions, and businesses of the (Town)(City) of \_\_\_\_\_;
  - c. preserve and protect existing and potential sources of drinking water supplies;
- A. conserve the natural resources of the (town)(city); and
- d. prevent temporary and permanent contamination of the environment.

#### 2. SCOPE OF AUTHORITY

The Groundwater Protection District is an overlay district superimposed on the zoning districts.

This overlay district shall apply to all new construction, reconstruction, or expansion of existing buildings and new or expanded uses. Applicable activities/uses in a portion of one of the underlying zoning districts that fall within the Groundwater Protection District must additionally comply with the requirements of this district. Uses prohibited in the underlying zoning districts shall not be permitted in the Groundwater Protection District.

#### 3. DEFINITIONS

For the purposes of this section, the following terms are defined below:

*Aquifer*: Geologic formation composed of rock, sand or gravel that contains significant amounts of potentially recoverable water.

*Groundwater Protection District*:<sup>1</sup> The zoning district defined to overlay other zoning districts in the (Town/City) of \_\_\_\_\_. The groundwater protection district may include specifically designated recharge areas.

*Hazardous Material*: Any substance or mixture of physical, chemical, or infectious characteristics posing a significant, actual, or potential hazard to water supplies or other hazards to human health if such substance or mixture were discharged to land or water in the (Town/City) of \_\_\_\_\_. Hazardous materials include, without limitation: synthetic organic chemicals; petroleum products; heavy metals; radioactive or infectious wastes; acids and alkalis; solvents and thinners in quantities greater than normal household use; and all substances defined as hazardous or toxic under Massachusetts General Laws Chapter(c.) 21C and 21E and 310 CMR 30.00.

*Impervious Surface*: Material or structure on, above, or below the ground that does not allow precipitation or surface water to penetrate directly into the soil.

*Landfill*: A facility established in accordance with a valid site assignment for the purposes of disposing solid waste into or on the land, pursuant to 310 CMR 19.006.

*Non-sanitary wastewater*: Wastewater discharges from industrial and commercial facilities containing wastes from any activity other than collection of sanitary sewage, including, but not limited to, activities specified in the Standard Industrial Classification (SIC) Codes set forth in 310 CMR 15.004(6).

*Open Dump*: A facility which is operated or maintained in violation of the Resource Conservation and Recovery Act (42 U.S.C. 4004(a)(b)), or the regulations and criteria for solid waste disposal.

*Potential Drinking Water Sources* <sup>2</sup>: Areas which could provide significant potable water in the future.

*Recharge Areas:*<sup>1</sup> Areas that collect precipitation or surface water and carry it to aquifers. Recharge areas include areas designated by DEP as Zone I, Zone II, or Zone III.

*Septage:* The liquid, solid, and semi-solid contents of privies, chemical toilets, cesspools, holding tanks, or other sewage waste receptacles. Septage does not include any material which is a hazardous waste, pursuant to 310 CMR 30.000.

*Sludge:* The solid, semi-solid, and liquid residue that results from a process of wastewater treatment or drinking water treatment. Sludge does not include grit, screening, or grease and oil which are removed at the headworks of a facility.

*Treatment Works:* Any and all devices, processes and properties, real or personal, used in the collection, pumping, transmission, storage, treatment, disposal, recycling, reclamation, or reuse of waterborne pollutants, but not including any works receiving a hazardous waste from off the site of the works for the purpose of treatment, storage, or disposal.

*Very Small Quantity Generator:* Any public or private entity, other than residential, which produces less than 27 gallons (100 kilograms) a month of hazardous waste or waste oil, but not including any acutely hazardous waste as defined in 310 CMR 30.136.

*Waste Oil Retention Facility:* A waste oil collection facility for automobile service stations, retail outlets, and marinas which is sheltered and has adequate protection to contain a spill, seepage, or discharge of petroleum waste products in accordance with M.G.L. c. 21. s. 52A.

#### **4. ESTABLISHMENT AND DELINEATION OF GROUNDWATER PROTECTION DISTRICT**

For the purposes of this district, there are hereby established within the (Town/City) certain groundwater protection areas, consisting of aquifers or recharge areas which are delineated on a map. This map is at a scale of 1 inch to \_\_\_ feet and is entitled Groundwater Map Protection District<sup>3</sup>, (Town/City) of \_\_\_\_, dated \_\_\_\_\_. This map is hereby made a part of the (Town/City) zoning (bylaw) and is on file in the Office of the (Town/City) Clerk.

#### **5. DISTRICT BOUNDARY DISPUTES**

If the location of the District boundary in relation to a particular parcel is in doubt, resolution of boundary disputes shall be through a Special Permit application to the Special Permit Granting Authority (SPGA). Any application for a special permit for this purpose shall be accompanied by adequate documentation.

The burden of proof shall be upon the owner(s) of the land to show where the bounds should be located. At the request of the owner(s), the (town/city) may engage<sup>4</sup> a professional engineer, hydrologist, geologist, or soil scientist to determine more accurately the boundaries of the district<sup>5</sup> with respect to individual parcels of land, and may charge the owner(s) for the cost of the investigation.

#### **6. PERMITTED USES**

The following uses are permitted<sup>6</sup> within the Groundwater Protection District, provided that all necessary permits, orders, or approvals required by local, state, or federal law are also obtained:

- i. conservation of soil, water, plants, and wildlife;
- ii. outdoor recreation, nature study, boating, fishing, and hunting where otherwise legally permitted;
- iii. foot, bicycle and/or horse paths, and bridges;
- iv. normal operation and maintenance of existing water bodies and dams, splash boards, and other water control, supply and conservation devices;
- v. maintenance, repair, and enlargement of any existing structure, subject to Section 7 and Section 8 of this bylaw;
- vi. residential development, subject to Section 7 and Section 8 of this bylaw;
- vii. farming, gardening, nursery, conservation, forestry, harvesting, and grazing, subject to Section 7 and Section 8 of this bylaw;

- viii. construction, maintenance, repair, and enlargement of drinking water supply related facilities such as, but not limited to, wells, pipelines, aqueducts, and tunnels.
- ix. underground storage tanks related to the permitted activities are not categorically permitted.

## 7. PROHIBITED USES

The following uses are prohibited within the Groundwater Protection District <sup>7,8</sup>

- i. landfills and open dumps as defined in 310 CMR 19.006;
- ii. automobile graveyards and junkyards, as defined in M.G.L.c. 140B, §1;
- iii. landfills receiving only wastewater and/or septage residuals including those approved by the Department pursuant to M.G.L.c. 21, §26 through 53; M.G.L.c. 111, §17; M.G.L. c. 83, §6 and 7, and regulations promulgated thereunder;
- iv. <sup>9</sup> facilities that generate, treat, store, or dispose of hazardous waste that are subject to M.G.L.c. 21C and 310 CMR 30.00, except for:
  - a) very small quantity generators as defined under 310 CMR 30.000;
  - b) household hazardous waste centers and events under 310 CMR 30.390;
  - c. waste oil retention facilities required by M.G.L. c. 21, § 52A;
  - d) water remediation treatment works approved by DEP for the treatment of contaminated ground or surface waters;
- v. <sup>10</sup> petroleum, fuel oil, and heating oil bulk stations and terminals including, but not limited to, those listed under Standard Industrial Classification (SIC) Codes 5983 and 5171, not including liquefied petroleum gas.
- vi. <sup>11</sup> storage of liquid hazardous materials, as defined in MGL.c. 21E, and/or liquid petroleum products unless such storage is:
  - a) above ground level, and;
  - b) on an impervious surface, and
  - c) either
    - (i) in container(s) or above ground tank(s) within a building, or;
    - (ii) outdoors in covered container(s) or above ground tank(s) in an area that has a containment system designed and operated to hold either 10% of the total possible storage capacity of all containers, or 110% of the largest container's storage capacity, whichever is greater;
- vii. <sup>12</sup> storage of sludge and septage, unless such storage is in compliance with 310 CMR 32.30 and 310 CMR 32.31;
- viii. <sup>13</sup> storage of deicing chemicals unless such storage, including loading areas, is within a structure designed to prevent the generation and escape of contaminated runoff or leachate;
- ix. storage of animal manure unless covered or contained within a structure designed to prevent the generation and escape of contaminated runoff or leachate;
- x. earth removal, consisting of the removal of soil, loam, sand, gravel, or any other earth material to within 4 feet of historical high groundwater as determined from monitoring wells and historical water table fluctuation data compiled by the United States Geological Survey, except for excavations for building foundations, roads, or utility works<sup>14</sup>;
- xi. <sup>15</sup> discharge to the ground of non-sanitary wastewater including industrial and commercial process waste water, except:
  - a) the replacement or repair of an existing treatment works that will not result in a design capacity greater than the design capacity of the existing treatment works;
  - b) treatment works approved by the Department designed for the treatment of contaminated ground or surface water and operating in compliance with 314 CMR 5.05(3) or 5.05(13);and
  - c) publicly owned treatment works.
- xii. stockpiling and disposal of snow and ice containing deicing chemicals brought in from outside the district;

- xiii. storage of commercial fertilizers, as defined in MGL Chapter 128, §64, unless such storage is within a structure designed to prevent the generation and escape of contaminated runoff or leachate.

## **8. USES AND ACTIVITIES REQUIRING A SPECIAL PERMIT**

The following uses and activities are permitted<sup>16</sup> only upon the issuance of a Special Permit by the Special Permit Granting Authority<sup>17</sup> (SPGA) under such conditions as they may require:

- i.<sup>18</sup> enlargement or alteration of existing uses that do not conform to the Groundwater Protection District;
- ii.<sup>18</sup> those activities that involve the handling of toxic or hazardous materials in quantities greater than those associated with normal household use, permitted in the underlying zoning (except as prohibited under Section 7). Such activities shall require a special permit to prevent contamination of groundwater;
- iii. any use that will render impervious any lot or parcel more than 15% or 2,500 square feet, whichever is greater. A system for groundwater recharge must be provided which does not degrade groundwater quality. For non-residential uses, recharge shall be by storm water infiltration basins or similar system covered with natural vegetation, and dry wells shall be used only where other methods are infeasible. For all non-residential uses, all such basins and wells shall be preceded by oil, grease, and sediment traps to facilitate removal of contamination. Any and all recharge areas shall be permanently maintained in full working order by the owner.

## **9. PROCEDURES FOR ISSUANCE OF SPECIAL PERMIT**

- A.** The Special Permit Granting Authority (SPGA) under this bylaw shall be the \_\_\_\_\_. Such special permit shall be granted if the SPGA determines, in conjunction with the Board of Health, the Conservation Commission, and (Town/City) Engineer/Department of Public Works, and Planning Board that the intent of this bylaw, as well as its specific criteria, are met. The SPGA shall not grant a special permit under this section unless the petitioner's application materials include, in the SPGA's opinion, sufficiently detailed, definite, and credible information to support positive findings in relation to the standards given in this section. The SPGA shall document the basis for any departures from the recommendations of the other (Town/City) boards or agencies in its decision.
- B.** Upon receipt of the special permit application, the SPGA shall transmit one copy to the Planning Board, Board of Health, the Conservation Commission, and (Town)(City) Engineer/Department of Public Works for their written recommendations. Failure to respond in writing within 35 days of receipt by the Board shall indicate approval or no desire to comment by said agency. The necessary number of copies of the application shall be furnished by the applicant.
- C.** The SPGA may grant the required special permit only upon finding that the proposed use meets the following standards, those specified in Section 7 of this bylaw, and any regulations or guidelines adopted by the SPGA. The proposed use must:
  - 1. in no way, during construction or thereafter, adversely affect the existing or potential quality of quantity of water that is available in the Groundwater Protection District; and
  - 2. be designed to avoid substantial disturbance of the soils, topography, drainage, vegetation, and other water-related natural characteristics of the site to be developed.
    - b. The SPGA may adopt regulations<sup>19</sup> to govern design features of projects. Such regulations shall be consistent with subdivision regulations adopted by the municipality.
- E.** The applicant shall file \_\_\_\_ copies of a site plan and attachments. The site plan shall be drawn at a proper scale as determined by the SPGA and be stamped by a professional engineer. All additional submittals shall be prepared by qualified professionals. The site plan and its attachments shall at a minimum include the following information where pertinent:
  - 1. a complete list of chemicals, pesticides, herbicides, fertilizers, fuels, and other potentially

- hazardous materials to be used or stored on the premises in quantities greater than those associated with normal household use;
2. for those activities using or storing such hazardous materials, a hazardous materials management plan shall be prepared and filed with the Hazardous Materials Coordinator, Fire Chief, and Board of Health. The plan shall include:
    - a) provisions to protect against the discharge of hazardous materials or wastes to the environment due to spillage, accidental damage, corrosion, leakage, or vandalism, including spill containment and clean-up procedures;
    - b) provisions for indoor, secured storage of hazardous materials and wastes with impervious floor surfaces;
    - c) evidence of compliance with the Regulations of the Massachusetts Hazardous Waste Management Act 310 CMR 30, including obtaining an EPA identification number from the Massachusetts Department of Environmental Protection.
    - d) proposed down-gradient location(s) for groundwater monitoring well(s), should the SPGA deem the activity a potential groundwater threat.
- F. The SPGA shall hold a hearing, in conformity with the provision of MGL Chapter 40A, Section 9, within 65 days after the filing of the application and after the review by the (Town/City) Boards, Departments, and Commissions.

Notice of the public hearing shall be given by publication and posting and by first-class mailings to "parties of interest" as defined in MGL Chapter 40A, §11. The decision of the SPGA and any extension, modification, or renewal thereof shall be filed with the SPGA and (Town/City) Clerk within 90 days following the closing of the public hearing. Failure of the SPGA to act within 90 days shall be deemed as a granting of the permit. However, no work shall commence until a certification is recorded as required by 11.

#### **10. SEVERABILITY**

- D. Written notice of any violations of this (bylaw) shall be given by the (Zoning Enforcement Officer/ Building Inspector) to the responsible person as soon as possible after detection of a violation or a continuing violation. Notice to the assessed owner of the property shall be deemed notice to the responsible person. Such notice shall specify the requirement or restriction violated and the nature of the violation, and may also identify the actions necessary to remove or remedy the violations and preventive measures required for avoiding future violations and a schedule of compliance.
- A copy of such notice shall be submitted to the (Town/City) Building Inspector, Board of Health, Conservation Commission, Engineer, Department of Public Works, and Water Department. The cost of containment, clean-up, or other action of compliance shall be borne by the owner and operator of the premises. A determination that any portion or provision of this overlay protection district is invalid shall not invalidate any other portion or provision thereof, nor shall it invalidate any special permit previously issued thereunder.

## FOOTNOTES

<sup>1</sup> The MA DEP defines three types of recharge areas to which certain regulations may apply. DEP Wellhead Protection Regulation, 310 CMR 22.21(2), apply to the Zone II. If the Zone II delineation has been waived by DEP, pursuant to 310 CMR 22.21(1)(f), the Zone III must be included in the District.

If these Zones are protected by the District, the following definitions should be included:

**Zone I:** The 100 to 400 foot protective radius around a public water system well or well-field which must be owned by the water supplier or controlled through a conservation restriction.

**Zone II:** The area of an aquifer which contributes water to a well under the most severe pumping and recharge conditions that can be realistically anticipated (180 days of pumping at safe yield with no recharge from precipitation), as defined in 310 CMR 22.00.

**Zone III:** The land area beyond the area of Zone II from which surface water and groundwater drain into Zone II, as defined in 310 CMR 22.00.

<sup>2</sup> Sand and gravel areas that lie within medium to high yield aquifers are potential sources. Municipalities should conduct a hydro-geological study prior to defining an area as a potential water supply.

<sup>3</sup> The groundwater protection district map should be specifically identified in the text of the bylaw by name and date.

<sup>4</sup> It may be desirable to specify the licensing requirement for the professionals permitted to redefine district boundaries under this paragraph. For example, a registered land surveyor may be acceptable for the definition of watershed boundaries, but not acceptable for defining Zone II boundaries.

The Zone II is defined by hydro-geologic research, testing and field analysis; therefore, a professional engineer, hydrologist, geologist or soil scientist is required. The Zone II delineation and methodology must be approved by DEP. Licensing of these professionals is not required.

<sup>5</sup> For disputes which may arise related to Zone II areas, (if included in the District) the following provision would be appropriate: The determination of the location and extent of Zone II shall be in conformance with the criteria set forth in 310 CMR 22.00 and in the DEP's Guidelines and Policies for Public Water Systems.

<sup>6</sup> Only uses related to the operation and maintenance of the public water supply are permitted in the Zone I defined in 310 Code of Massachusetts Regulations 22.00.

<sup>7</sup> Federal and State agencies and counties are not subject to local zoning regulations. This is a long established principle, recently reinforced by decisions of the MA Supreme Judicial Court (SJC).

<sup>8</sup> It may be the preference of counsel to include an "as of effective date" clause in relation to all prohibitions which reference state or federal statutes.

<sup>9</sup> Includes most vehicular maintenance facilities, dry cleaners, print and photo processing operations as well as many industrial uses. Refer to the MA Zoning Act, MGL Chapter 40A, Section 9 and Chapter 21D, Section 21.

<sup>10</sup> SIC Codes are established by the US Office of Management and Budget and may be determined by referring to the publication, Standard Industrial Classification Manual, and any other subsequent amendments.

<sup>11</sup> 310 CMR 22.21 allows for the replacement of existing tanks/systems for the keeping, dispensing or storing of gasoline consistent with state and local requirements. Above ground home heating oil tanks are not required to have a containment system. Home heating oil tanks may also be placed in a basement on an impervious surface.

<sup>12</sup> 310 CMR 32.30 and 32.31, prohibit storage within a 2,500' radius of existing or potential public water supply wells; unless stored in a watertight container, or a hydro-geological study determines that storage will not result in contamination. Long term storage requires written approval from the municipal Board of Health, other requirements may apply, see 32.30 and 32.31.

- <sup>13</sup> Uncovered storage of salt in water supply areas is forbidden by MGL Chapter 85 Section 7A
- <sup>14</sup> Utility works includes stormwater retention and , detention systems designed to mitigate stormwater impacts on groundwater quality.
- <sup>15</sup> Refer to Title 5, 310 CMR 15.00 for requirements governing septic system density.
- <sup>16</sup> A municipality may want to identify additional or more specific governed uses/activities or conditions that are especially relevant to its own situation.
- <sup>17</sup> MGL Chapter 40A, Section 9 specifies that the SPGA must be one of the following: Board of Selectmen; Board of Appeals; or Planning Board. Applications should be reviewed by all town or city boards, departments and commissions having an interest in or responsibility for review and approval of actions taken by the applicant.
- <sup>18</sup> Local conditions will affect how extensive this and similar provisions may become. If there are many industrial and commercial uses in a Groundwater Protection District, and their expansion is probable, specific conditions for expanding and altering their operations should be included.
- <sup>19</sup> The SPGA is encouraged to adopt regulations to administer this (bylaw). The SPGA should consider including performance and/or design standards in such regulations.

#### **Part IV: Local Development Corporations**

##### **AN ACT ESTABLISHING THE WELLESLEY HOUSING DEVELOPMENT CORPORATION (Chapter 311 of the Acts of 1998)**

SECTION 1. There is hereby established a nonprofit housing corporation to be known as the Wellesley Housing Development Corporation, which shall be subject to the supervision of the board of selectmen of the town of Wellesley. Said corporation shall be governed by a board of directors hereinafter referred to as the board. Said board, which is hereby established, shall consist of not less than five members who shall be residents of said town and who shall be appointed by the board of selectmen for staggered three year terms as designated by said board of selectmen. Such appointments shall be made on or before June 30. Members shall serve until their successors are appointed and qualified. Continuing members may act despite a vacancy in said board and, for this purpose, shall be deemed to constitute a full board. A vacancy in the board, however occurring, may be filled by said board of selectmen for the remainder of the unexpired portion of the term.

The board shall exercise its powers and perform its duties for the purpose of investigating and implementing alternatives for the provision of and providing affordable housing for persons of low, moderate and middle income and others whose needs may be identified from time to time in said town. The powers and duties of said board shall be alternative and supplemental to, and not in limitation of, the powers and duties of the Wellesley Housing Authority, established pursuant to chapter 121B of the General Laws. The liability of said board and its members shall be limited to the same extent as the liability of a public employer and public employees as provided in section 2 of chapter 258 of the General Laws.

SECTION 2. The board shall have the powers conferred by the provisions of paragraphs (a) to (i), inclusive, and paragraph (k) of section 9 of chapter 156B of the General Laws and the following powers; provided, however, that no such power shall be exercised either in a manner inconsistent with this act or any other general or special law or to carry on any activity which is not in furtherance of the purposes set forth herein:

(a) to adopt, amend and repeal corporate by-laws for the regulation and conduct of its business including, but not limited to, the call and conduct of its meetings, the number of members which shall constitute a quorum and the mode of voting by proxy;

(b) to elect a chairman and vice-chairman, each of whom shall be members of said board, and a secretary and a treasurer, who need not be members of said board and who may be the same person. The treasurer shall give bond for the faithful performance of his duties in a form and amount approved and affixed by the board of selectmen, the cost of which bond shall be paid from funds of said board. The chairman and, in his absence, the vice-chairman shall chair meetings of said board. The secretary shall be the custodian of all books, documents and papers filed with said board and of the minute book or journal of said board;

(c) with the approval of the board of selectmen, to make and execute all contracts and all other instruments necessary or convenient for the exercise of its power and functions, subject to approval of the town counsel as to form;

(d) with the approval of the board of selectmen, to acquire or lease, by purchase, gift or otherwise, and to own, hold and use, on such terms and conditions and in such manner as it may deem proper, and to exchange, grant options on, sell, transfer, convey, assign, lease, pledge, mortgage, encumber, grant liens on and security interests in, or to otherwise dispose of, on such

terms and conditions as it may deem proper, real, personal or mixed real and personal property or any interest, easements or rights therein and assets or revenues of said board, as may be necessary or appropriate to carry out its purposes, it being understood that said board's right to acquire or sell town owned real estate shall be subject to town meeting vote authorizing the same;

(e) with the approval of the board of selectmen, to enter into agreements or other transactions with the commonwealth or a political subdivision or public instrumentality thereof, the United States government or a federal, state or other governmental agency;

(f) with the approval of the board of selectmen, to borrow money and to execute notes therefor which shall not be deemed to be debts or obligations of said town, to hold mortgages and to invest any funds not required for immediate disbursement in such investments as may be lawful for fiduciaries in the commonwealth; provided, however, that said board shall have no stock;

(g) with the approval of the board of selectmen, to enter into contracts or agreements with, and to employ from time to time, contractors, architects, engineers, consultants, attorneys, accountants, construction, financial and other experts, superintendents, managers and such other agents and employees as may be necessary in its judgment and to fix their compensation;

(h) with the approval of the board of selectmen, to receive and hold funds appropriated by the town and other funds, property, labor and other things of value from any source, public or private, by gift, grant, bequest, loan or otherwise, either absolutely or in trust, and to expend or utilize the same on behalf of said board for any of its purposes or to act as an agent or conduit in administering or disbursing funds or financial or other aid from any source; provided, however, that all revenues collected or received by said board in connection with its activities, investments or transactions shall be expended only with the approval of said board of selectmen;

(i) to appear in its own behalf before boards, commissions, departments or other agencies of government, municipal, state or federal;

(j) to procure insurance against any loss in connection with the property or activities of said board, in such amounts and from such insurers as it may deem necessary or desirable and, with the approval of the board of selectmen, to indemnify its members or agents if and to the extent specified from time to time in the by-laws of said board and subject to and in the manner provided in section 6 of chapter 180 of the General Laws;

(k) to formulate and, with the approval of the board of selectmen, carry out or monitor plans for projects involving the acquisition or operation of housing facilities of any kind or nature and to construct, reconstruct, renovate, expand, extend, improve, repair, remodel, equip, furnish, maintain, manage and operate such facilities;

(l) with the approval of the board of selectmen, to fix and revise from time to time and to charge and collect rates, fees, rentals and other charges and sales prices for or in connection with the use, occupancy or other disposition of any housing facility or other property or portion thereof under its ownership or control;

(m) with the approval of the board of selectmen, to establish, impose, grant or amend, by deed, lease or other means or method, and to hold the benefit of, monitor, exercise and enforce lawful restrictions on the rental, sale, resale, use or occupancy of housing facilities or other property under its ownership or control or other facilities or property designated by said board of selectmen or restrictions with respect to the income of owners, tenants or occupants of such

housing facilities or other property or options and rights of first refusal with respect to such facilities or property and to waive, release or discharge any such rights or restrictions; provided, however, that the foregoing shall not apply to any town owned real estate or facilities except upon the vote of the town meeting so voting;

(n) with the approval of the board of selectmen, to enter into, perform or monitor agreements or other transactions with contractors, developers, brokers or other real estate professionals or any other person relating to the providing of affordable housing for persons of low and moderate income in the town;

(o) to do any and all things necessary or convenient to carry out its purposes and exercise the powers conferred by this act.

Said board may delegate to any subcommittee or member of the committee any action which said board is authorized to do or make. Said board may be a partner in any business enterprise which it would have power to conduct by itself.

SECTION 3. Notwithstanding the provisions of any general or special law to the contrary, the income, assets and activities of the board shall be exempt from all taxes and assessments and said board shall not be subject to any of the provisions of chapter 63 of the General Laws or to any taxes based upon or measured by property or income imposed by the commonwealth or by any political subdivision thereof. Said board may enter into agreements with the assessor of the town of Wellesley, with the approval of the board of selectmen, wherein said board shall undertake to make to said town annual payments in lieu of taxes in connection with any real property acquired and owned by said board, the amounts of such payments to be reasonable sums stipulated in such agreement or agreements or determined in accordance with a reasonable formula so stipulated.

SECTION 4. Without limiting the powers of the board, said board may receive, expend and utilize for its purposes all interests in town owned real estate and proceeds of the sale by the town of Wellesley of certain lands, properties, and surplus buildings, as voted by said town but not otherwise. In addition, said town may appropriate other funds for the carrying out by said board of its purposes as set forth herein. Any appropriation therefor may be raised by said town by taxation. At least annually, said board shall cause independent audits to be made of its books and records of said board, which annual audits shall be filed with the board of selectmen.

SECTION 5. In the event that the board shall be dissolved in accordance with law at any time, all property and interests therein, assets and rights of said board existing at such time shall be transferred to the town of Wellesley and title to all such property and all such rights shall vest in said town automatically without the need for further action or instrument, and said town shall, to the maximum extent permitted by law and acting by and through its board of selectmen, assume, hold and exercise the powers and duties of said board set forth herein with respect to such property and rights so transferred to said town.

SECTION 6. This act shall take effect upon its passage.

**Part V: Village Development Bylaw**  
Cape Cod Commission Model Bylaw Series

VILLAGE-STYLE DEVELOPMENT BYLAW

01.0 Purpose and Intent:

This bylaw enables the development and re-development of Cape Cod towns' village centers in keeping with their historic development patterns, including the size and spacing of structures and open spaces. This bylaw is intended to be used in conjunction with other regulations adopted by the town, including historic district regulations, site plan review and other local bylaws/ordinances designed to encourage appropriate and consistent patterns of village development on Cape Cod.

*Commentary: This bylaw does not regulate, per se, the physical appearance of new or reconstructed structures--that is best accomplished by historic district legislation and, to a lesser extent, site plan review regulations. Rather, this bylaw is designed to allow individual towns to relax and revise underlying regulatory controls on new and rehabilitated structures. Note again, this bylaw cannot be used to regulate and control the physical appearance of new or rehabilitated structures beyond their bulk, height or situation on a lot. However, proper use of this bylaw can assist towns to recreate historic village development patterns and provide for much needed "in-fill" within several of the Cape's village centers. "In-fill" is loosely defined as developing or expanding development within a village center to provide continuity and consistency with existing land uses and structures.*

02.0 Definitions

02.1 Village Development (Overlay) District. A(n) (overlay) district established by the Town Meeting upon recommendation by the Planning Board as an area in which Cape Cod village style development should be encouraged.

*Commentary: This bylaw is drafted to be adopted as either a new, traditional zoning district or as an overlay district. The purpose and effectiveness of the regulation will not change regardless of the method chosen.*

An overlay district is a type of district that lies on top of another, like a bedspread over a blanket. The blanket is the underlying zoning district, such as a commercial zone with minimum and maximum lot and structure sizes. In an overlay district, towns will superimpose a new level of requirements and opportunities over the underlying district. The overlay district in this regulation is established by the town, upon recommendation by the planning board, and should generally include pre-existing village centers, adjacent land areas that the community wants to include as a developed village center, as well as other areas in the community that the town wants to see developed as a village center.

Note that the use of an overlay district may help "call attention" to the goals of this regulation that would not otherwise be highlighted by means of a traditional zoning designation (e.g. a new or revised "business" zoning district). The purpose and intent of this regulation would not be diminished, however, if towns opted for a traditional zoning designation in lieu of the overlay district recommended here.

02.2 Special Permits

Option 1:

Special permits shall be required for all uses and structures required to obtain a special permit by the (existing) (underlying) zoning district.

Option 2:

An increase of floor area by greater than \_\_\_\_\_ square feet through either the placement or construction of a new principal structure, a new accessory structure, or an addition to a principal or accessory structure shall be allowed only upon receipt of a special permit in accordance with this bylaw and the zoning bylaw of the town.

*Commentary: Two options are presented with regard to the issuance of special permits. Option 1 repeats existing requirements for a special permit, either based on use or size of structure.*

*Option 2 establishes a special permit requirement based solely on size of structure. The threshold for when a special permit is required has been left blank; however, the suggested threshold is 5,000 square feet. Towns should consider carefully the level of development considered relevant for a special permit review, including whether it wants to include both principal and accessory structures as noted above, or only principal structures greater than a specified size (e.g. greater than 5,000 square feet).*

*(Note: Determination of the increase of floor area that triggers a special permit requires completion of a general survey of the floor areas of existing developments within the village. This recommendation applies to both Option 1 as well as Option 2.)*

02.3 Special Permit Granting Authority (SPGA). The special permit granting authority (SPGA) for this bylaw shall be the planning board.

03.0 Pre-Application Conference Requirement:

03.1 Timing. Prior to the submission of an application for a special permit under this regulation, the applicant shall meet with the SPGA at a public meeting to discuss the proposed development in general terms and establish the plan filing requirements. The SPGA shall meet with an applicant under this regulation within twenty-one (21) days following a written request submitted to the SPGA and the Town Clerk. If the SPGA fails to meet with an applicant who has requested such a meeting within twenty-one (21) days of said request and said meeting has not been postponed due to mutual agreement, the applicant may proceed with a special permit application under this regulation without need for a pre-application conference.

03.2 Filing Requirements. The purpose of the conference is to inform the SPGA as to the preliminary nature of the proposed project. As such, no formal filings are required for the pre-application conference. However, the applicant is encouraged to prepare sufficient preliminary architectural and/or engineering drawings to inform the SPGA of the scale and overall design of the proposed project.

*Commentary: The purpose of a pre-application conference is to give the SPGA advance notice of an application for development within the overlay district and remove, to the extent possible, some of the "pressure" that Boards experience once a formal special permit has been applied for. The conference is further designed to educate both the SPGA and the applicant as to the project and the likely concerns raised by the project. Note that there are no formal filing requirements proposed in this model regulation. Towns are free to articulate specific filing requirements although it is recommended that these requirements be kept to a minimum for this pre-filing phase. Finally, towns with site plan review regulations that require pre-application meetings may wish to substitute the above-noted process with their existing site plan review regulations.*

#### 04.0 Site Planning Standards and Filing Requirements:

04.1 Access. New curb cuts on existing public ways shall be minimized. To the extent feasible, access to businesses shall be provided through one of the following methods: (a) through a common driveway serving adjacent lots or premises; (b) through an existing side or rear street thus avoiding the principal thoroughfare or (c) through a cul-de-sac or loop road shared by adjacent lots or premises.

04.2 Parking lot design. In addition to the provisions of Section 04.1, the following guidelines are included to ensure that new and renovated off-street parking areas are constructed in accordance with the village's character and the provisions of this bylaw.

- (a). Parking areas shall be located to the side and rear of the structure. No parking area shall be designed such that parking is within the required or authorized front yard setback.
- (b). To the extent possible, parking areas shall be shared with adjacent businesses.
- (c). Parking areas shall include provisions for the "parking" of bicycles in locations that are safely segregated from automobile traffic and parking.
- (d). Parking areas shall include adequate provisions for on-site retention and treatment of stormwater.
- (e). Parking areas serving all structures other than those solely for residential use shall be paved, unless an alternative surface is approved by the SPGA.

04.3 Pedestrian Access. Provision for safe and convenient pedestrian access shall be incorporated into plans for new construction of buildings and parking areas and should be designed in concert with landscaping plans noted below. New construction should improve pedestrian access to building, sidewalks and parking areas and should be completed with considerations of pedestrian safety, handicapped access and visual quality.

04.4 Landscaping and appearance. A key provision of this bylaw is ensuring that appropriate landscaping and design is incorporated into new and expanded development within the overlay district. Landscape design plans should ordinarily be prepared by a landscape architect, although the SPGA may accept a plan prepared by one other than a landscape architect if it believes the plan meets the design guidelines noted below and is in concert with the intent of this regulation.

- (a). A landscaped buffer strip may be required adjacent to adjoining uses. This buffer strip shall be planted with a combination of grass, appropriate height shrubs and shade trees.
- (b). Large parking areas (e.g. greater than 20 parking spaces) shall be separated by landscaped islands of eight (8) to ten (10) feet in width. In addition, a minimum of one (1) shade tree shall be planted for every three (3) parking spaces required or built, within appropriate locations on the lot(s). Note that the exact location of the tree plantings is not specified. Rather, the most appropriate location of plantings shall be considered, including use of plantings to buffer neighboring properties, along the street frontage and pedestrian ways. Trees planted within parking areas shall be planted in protected pervious plots of at least 60 square feet of area.
- (c). Exposed storage areas, machinery, garbage "dumpsters," service areas, truckloading areas, utility buildings and structures shall be screened from the view of abutting properties and streets using plantings, fences and other methods compatible with the goals of this regulation.
- (d). To ensure that landscaped areas are maintained, the SPGA shall include as a provision of any special permit granted that a condition of said special permit is the maintenance of the landscaping as approved by the SPGA. The beneficiary of any special permit under this regulation shall replace any tree or shrub that dies within one (1) growing season. Replacement trees or shrubs shall be of similar type and size to the one(s) approved as part of the original approval.

04.5 Plan Filing Requirements. Unless determined by the SPGA at the pre-application conference that some of the following requirements are not necessary to reach a decision on the merits of the application, the following plans/items shall be submitted. Plans shall be prepared by a registered architect, landscape architect and/or professional engineer licensed in the Commonwealth of Massachusetts.

- (a) A locus inset within the plans noted below identifying the site of the proposed development at a scale of 1" = 1,000';
- (b) The plan view location and dimensions of all existing and proposed buildings on the lot(s) subject to this application on a plan not to exceed 1" = 40', clearly showing the relationship between proposed development and existing structures within a radius of eight (800) hundred feet;
- (c) The profile/elevation view showing location and dimensions of all existing and proposed buildings as viewed from front, side and rear yards following completion of the proposed project on a plan not to exceed 1" = 40';
- (d) The location and dimension of all existing and proposed buildings, parking areas, bicycle racks, roads, sidewalks, open spaces and utilities, including underground utility lines, water, sewer, electric power, telephone, gas, outdoor illumination and cable television within a radius of eight (800) hundred feet of the locus on a plan not to exceed 1" = 100';
- (e) The location, species and dimensions of trees and other landscaped features, both existing and proposed, within a radius of eight (800) hundred feet of the locus on a plan not to exceed 1" = 100';
- (f) In concert with the requirements of Section 04.4, the location, species and dimensions of trees and other landscaped features proposed on the lot(s) on a plan not to exceed 1" = 20'.

*Commentary: This regulation is designed to ensure that new or expanded development within the overlay district complies with the vision of community residents. It is recognized, however, that this regulation, if not properly applied, could result in structures and uses that threaten the very character it is designed to safeguard. Therefore, the regulation requires an applicant for a special permit to submit comprehensive plans and, where appropriate, landscape renderings, to satisfy the SPGA's concerns regarding the potential impacts resulting from the proposed project.*

*This bylaw incorporates the belief that prescribing minimum landscaping requirements has not resulted in desirable parking lots on, as well as off, Cape Cod. As a result, the landscaping and appearance standards noted above grant flexibility to the applicant and the SPGA to design and develop off-street parking areas that are attractive and in keeping with the goals of this regulation and the character of the village. Thus the standards noted above should be considered as minimum standards. For example, please note that the ratio of 1 tree per 3 spaces is considered a minimum requirement; a far greater number of trees should ordinarily be provided.*

*Landscaping design suggestions, as well as grasses, shrubs and shade trees for use on Cape Cod are recommended in the 1994 publication "Designing the Future to Honor the Past," as may be amended from time to time and the 1995 publication, "Route 6A Vegetation Management Plan," as may be amended from time to time. Use of these publications, available from the Cape Cod Commission, is strongly suggested.*

*Note that the model regulation as written does not include requirements for architectural drawings. Rather, towns are encouraged to use their existing, or adopt new, historic district regulations to control and regulate building facades and design.*

*Finally, and as noted in Section 03.0, towns with site plan review regulations may wish to substitute or amend the filing requirements noted above with requirements currently adopted and successfully used for site plan review.*

#### Introduction to Sections 05.0 through 07.0.

As noted in the background discussion, this regulation rejects the "one size fits all" approach to village development on Cape Cod. No two villages are the same; no two villages would benefit identically from the same regulation. As a result, this model bylaw requires each town adopting its contents to establish appropriate standards for height, bulk, setback and parking requirements. While suggestions are provided below, the actual requirements are presented as "blanks." Towns, under the leadership of the planning board, Chamber of Commerce or a combination of entities are encouraged to establish appropriate requirements for their villages. These requirements should, ideally, reflect past development patterns and future planning goals. They should include provisions for structures and uses that the town would like to see repeated, and delete provisions for structures and uses that the town would not want to see constructed in the future.

To establish appropriate numbers for use in this regulation, it is recommended that pre-existing structures be measured in terms of height, bulk, setback, exterior square footage and if possible, interior square footage (useable interior space) and parking. Measurements can be either physical (measurements with tape), determined from building or assessor department records, or a combination of both. Remember that the goal of these measurements is to establish what makes the village attractive as well as functional; what makes the village "work." Conversely, this process will help establish guidelines for avoiding whatever mistakes have occurred in the past. While everyone in the community may agree on the fact that a structure does not "fit" within the village, few may agree on why. This process should help identify why a building or a series of buildings do not belong and establish guidelines through this regulation to avoid repetition in the future.

Thus, one of the principal objectives of this regulation is the development and re-development of village centers in concert with historic and accepted development practices and styles. Note that exact symmetry with existing structures is not required, nor necessarily encouraged. Rather, consistency with the development style and bulk that is supported by the community is the primary goal.

Finally, applicants for a special permit under this regulation, as well as the SPGA, are reminded that the 1994 publication "Designing the Future to Honor the Past" provides an excellent overview of development and re-development strategies for the Cape's villages. These strategies may be incorporated directly into a Town's regulation or used as guidelines in reviewing the appropriateness of individual permit requests. For example, one of the recommendations, the placement of overhead wires underground, could be made a requirement of this regulation. To receive a special permit, an applicant would be required to place specified utilities underground, even though abutting properties used utilities from overhead wiring.

In the alternative, the SPGA could rely on the recommendation for underground utilities made in the report in a more general fashion. Applicants would be encouraged to submit plans that followed the guidelines contained in the publication, but would only be required to comply with those specifically presented in the bylaw.

Regardless of the approach taken, the report, either in its current form or as amended by Towns via their local comprehensive plans, should be used to provide guidance to applicants and Board members regarding design, development and re-development within designated village centers.

05.0 Height, Bulk and Setback within the Village Development Overlay District:

### 05.1 Height

#### Option 1:

The maximum height of any new or expanded existing structure shall be \_\_\_\_\_ feet or \_\_\_\_\_ stories, whichever is less.

#### Option 2:

To accomplish the purposes of this bylaw, the special permit granting authority (SPGA) is authorized to allow an increase in height of structures either in existence, as re-constructed, or as new construction, up to \_\_\_\_\_% above that provided for in the underlying zoning district. This increase may be granted in conjunction with a reduction in required on-site parking spaces as provided for in Section 06.0, below. The SPGA shall allow this increase only upon a finding that the additional height is consistent with the scale of adjacent structures and is necessary to maintain the area's character. The SPGA must further find that the relaxation of height limitations will not interfere or negatively impact abutting properties, particularly property used or zoned for residential purposes.

*Commentary: Option 1 provides a strict and traditional method of regulating the height of structures within a zoning district.*

*The purpose of Option 2 is to allow the applicant and the SPGA flexibility as to the height of new or rehabilitated structures within the Overlay District. For example, if the height limitation in the underlying district is 35 feet, the provisions of this Section could allow the SPGA to increase the maximum height of structures up to a certain percentage. This increase does not automatically trigger a significant increase in required parking spaces; see Section 6.0 and accompanying commentary. Note that the SPGA, and therefore the applicant seeking an increase in allowable height, is required to demonstrate that the height increase is necessary to maintain neighborhood scale and character. The suggested range of maximum allowable heights within the Overlay District is between 35 feet and 50 feet. However, it is strongly recommended that the range be based on actual measurements from within the Town's current village(s).*

*(Note: Determination of the allowable range of building height requires completion of a general survey of the heights of existing developments within the village. This recommendation applies to both Option 1 as well as Option 2.)*

### 05.2 Bulk

#### Option 1:

The maximum (floor area ratio) (square footage) of any new or expanded existing structure shall be \_\_\_\_\_ .

#### Option 2:

To accomplish the purposes of this bylaw, the SPGA is authorized to allow an increase in (floor area ratio) or (square footage) of structures either in existence or as re-constructed up to \_\_\_\_\_% above that provided for in the underlying zoning district. This increase may be granted in conjunction with a reduction in required on-site parking spaces as provided for in Section 05.0, below. The SPGA shall allow the (floor area ratio) or (square footage) increase only upon a finding that the additional useable square footage is necessary to reflect the scale of adjacent structures, to maintain the area's character and/or to rehabilitate or develop a structure or parcel

within the Overlay District that would otherwise unlikely be rehabilitated or developed. The SPGA must further find that the relaxation of said bulk standards will not interfere or negatively impact abutting properties, particularly property used or zoned for residential purposes.

*Commentary: Option 1 provides a strict and traditional method of regulating the bulk of structures within a zoning district.*

*The purpose of Option 2 is to allow the applicant and the SPGA flexibility as to the bulk--size--of new or expanded structures. This Section allows the SPGA to grant a percentage increase in the bulk of a structure over the underlying zoning's restriction on size. This expansion would, in many cases, require a relaxation of setback requirements, more fully discussed in Section 05.3, below.*

*Note that constraints on bulk expansion, unlike limitations on height expansion, is a function of available land area and abutting structure design and layout. In other words, in many cases, a structure simply will not be able to expand in bulk due to existing structures on either side, in the front or rear of the building. Where such expansion is possible, however, the SPGA and the applicant must demonstrate that the physical expansion/extension is in keeping with the neighborhood's or area's overall character and scale.*

*The SPGA may also include as a factor for granting a special permit for bulk expansion issues relating to the structure's or parcel's economic viability without such an expansion. For example, after consideration of the factors noted above, the SPGA may grant a special permit for bulk expansion if it believes, based on information submitted to it by the applicant, that the parcel or structure is unlikely to be used or developed without a relaxation of bulk standards.*

*Finally, please note that this model does not provide suggested maximum bulk limitations for individual towns or villages. Bulk, unlike height and setback standards, is extremely site specific--building specific--and precise standards, even ranges, are difficult to develop Cape-wide. As recommended throughout this regulation, however, towns should physically measure the bulks of structures within their village districts to establish general ranges. Those ranges, if based on actual measurements, could then be included within the regulation.*

### 05.3 Setback

#### Option 1:

The front yard setback of any new or expanded existing structure shall be no more than \_\_\_\_\_ and no less than \_\_\_\_\_. The rear and side yard setbacks of any new or expanded existing structure shall be .

#### Option 2:

To accomplish the purposes of this bylaw, the SPGA is authorized to allow a complete or partial reduction of front, side and rear setback standards for new or pre-existing structures. The SPGA shall allow the reduction of setback requirements only upon a finding that the setbacks as imposed by the underlying district would result, or have resulted, in construction of structures that are not in keeping with the area's scale and character. The SPGA must further find that the relaxation of said standards will not interfere or negatively impact abutting properties, particularly property used or zoned for residential purposes.

*Commentary: Option 1 provides a method of regulating the setback of structures within a zoning district, but it provides for a range of minimum and maximum setbacks based on the characteristic setbacks in the neighborhood. Option 2 is intended to provide maximum flexibility to the applicant and the SPGA regarding the imposition of front, side and/or rear setback requirements so as to encourage consistency with the area's overall scale and character. As with Sections 05.1 and 05.2, above, the SPGA is required to ensure that the use of these flexible provisions will not negatively impact abutting properties. For example,*

*while the relaxation of rear yard setback requirements from 10 feet to 5 feet may be in keeping with the development pattern of the area, the SPGA should not grant the 5-foot reduction if the abutting property is used for residential purposes and would be negatively affected by the setback reduction.*

*The range of suggested front yard setbacks range is 0 to 25 feet. The range of suggested side yard setbacks is 0 (for common wall construction) to 25 feet and 0 to 25 feet for rear yard setbacks. However, it is strongly recommended that the range be based on actual measurements from within the Town's current village(s).*

*(AUTHOR'S NOTE: Determination of the allowable range of setbacks requires completion of a general survey of the location and setbacks of existing developments within the village. This recommendation applies to both Option 1 as well as Option 2.)*

#### 06.0 Parking Requirements within the Village Development Overlay District

Recognizing that parking requirements in the underlying zoning district may hamper development of village-style land use and development, the SPGA is authorized to reduce the parking requirements specified for the use/structure proposed up to %. In determining the appropriate reduction, if any, the SPGA may give consideration to the hours of usage of the proposed use/structure, hours of usage of other uses/structures within the Village Development Overlay District, amount of "shared" parking with other uses, the opinions of merchants, residents and municipal officials as to the adequacy or inadequacy of parking spaces within the specific area of the proposed use/structure, as well as other relevant information to assist the SPGA in determining the need for additional parking for motor vehicles.

*Commentary: This section allows the SPGA to reduce the parking requirements in the underlying zoning district up to a certain percentage. The suggested reduction range is between 10 and 50 percent.*

*This section is considered critical to allowing pre-existing and new structures to expand and be built within the Overlay District without being constrained by strict off-street parking requirements. A note of caution, however. Relaxation of underlying standards, regardless of the standard, entails some risk that the SPGA will be held to arguments that it has established a "precedent" when it relaxes the parking requirements for a particular structure. Note, however, that each application is to be reviewed as a new and unique application. Precedent is only relevant if the SPGA acts arbitrarily in subsequent decisions. For example, the SPGA may grant a parking reduction of 40 percent to applicant "A" and then, based on legitimate and substantive reasons, deny a parking reduction to applicant "B." Note the importance of the legitimate and substantive reasons for the denial to applicant "B." Based on this scenario, the SPGA is not and should not be considered bound in future decisions by its past decision with applicant "A."*

*Finally, it is recognized that in some instances, new construction may trigger parking requirements that the applicant cannot meet due to lack of available off-street land. In these situations, and where the town has determined that there is a general shortage of off-street parking within the Village, an option exists for towns to require payment to an "off-street parking fund." The fund would be established by Town Meeting/Town Council as a separate and distinct fund for the development of public, off-street parking within the Town and/or designated village. To establish this requirement, town planners should determine the land and construction costs of an individual parking space within designated villages. Once determined, an "off-street parking fund" bylaw could be drafted linked to the Village-Style Development Bylaw. This linkage would require the provision of off-street parking, or if not possible due to land constraints, the set-aside of equivalent funds in a special fund intended to create public, off-street parking. Town Meeting/Town Council should then be petitioned to adopt the parking fund regulation.*

### 07.0 Allowable Uses:

Recognizing that village-style development entails a mixture of uses, the SPGA is authorized to allow a mix of residential and non-residential land uses within the Village Development Overlay District.

07.1 Residential uses. The SPGA may grant approval for (single family, two-family, multi-family) residential uses at a density of one dwelling unit per \_\_\_\_\_ square feet within the Overlay District or a maximum of \_\_\_ units on the same lot. If residential uses are currently allowed in the underlying zoning district(s), the provisions of this Section shall apply to said residential uses only if this Section is less restrictive than the underlying district.

Commentary: This Section allows the development of a variety of residential housing units within the Overlay District at a density and type to be established by the town. Residential development within the District encourages an important link between commercial activities and appropriate scale and design of structures. More importantly, residential development within the District mirrors historic development patterns: residential structures interspersed with commercial uses and vice-versa: commercial structures with residential units typically secondary to the primary commercial use.

07.2 Non-residential uses. The SPGA may grant approval for non-residential uses within the Overlay District consistent with the provisions of the underlying zoning district(s) and with the following additional uses:

- a) retail sales;
- b) business or professional offices
- c) banks and other financial institutions
- d) restaurants or other places serving food, but not including fast food restaurants

*Commentary: This Section allows towns to expand the list of non-residential uses allowed by special permit within the Overlay District. It is recommended that these uses include commercial, as opposed to industrial, uses that will assist the town to strengthen its village centers either by attracting new commercial activities or encouraging the expansion of existing activities that have been successful in restoring or otherwise aiding the development of the village center. It is recommended that the list of non-residential activities allowed by special permit be developed with recognition that Section 07.1, above, encourages the establishment of residential uses within the Overlay District. In other words, the list of non-residential uses should be compatible with the goal of encouraging residential uses within the Overlay District and generally compatible with the form of buildings that are encouraged in the District.*

### 08.0 Special Permit Standards and Criteria:

In addition to the specific criteria regarding the grant of a special permit contained within this regulation, the SPGA shall issue a special permit only after consideration of the following:

- (a) adequacy of the site in terms of the size for the proposed use(s);
- (b) suitability of the site for the proposed use(s);
- (c) impact on traffic and pedestrian flow and safety;
- (d) impact on the neighborhood visual character, including views and vistas;
- (e) adequacy of utilities, including sewage disposal, water supply and stormwater drainage;
- (f) degree to which the proposed project complies with the goals of the Town Comprehensive Plan and the provisions of this bylaw.

*Commentary: This Section presents several criteria for the SPGA to consider in the grant or denial of a special permit. These criteria are in addition to those set forth throughout the regulation. As noted previously, towns with strong special permit language may wish to substitute their current language for that*

*noted above, or simply reference their current language in place of Section 08.0, above.*

09.0 Review by Special Permit Granting Authority (SPGA):

The Planning Board shall be designated as the SPGA under this bylaw. In reviewing a proposed development under this bylaw, the SPGA shall apply the criteria for special permits noted throughout this regulation, in addition to other relevant special permit criteria provided for in the zoning bylaw.

*Commentary: This Section establishes the planning board as the special permit granting authority under this regulation and connects the criteria for issuance of a special permit in this regulation with existing criteria within the zoning bylaw.*

10.0 Severability:

0.10.1 If any provision of this bylaw is held invalid by a court of competent jurisdiction, the remainder of the bylaw shall not be affected thereby. The invalidity of any section or sections or parts of any section or sections of this bylaw shall not affect the validity of the remainder of the [town]'s zoning bylaw.

## Appendix G

### Areas Recommended for Listing in the National Register of Historic Places

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| Recommended Nomination  | Comments  |
|---|---|
| Bellevue Cemetery<br>Still River Road   | The late 19 <sup>th</sup> -century cemetery includes the graves of prominent Harvard residents. The cemetery is characterized by large, elaborate monuments.  |
| Mill Area<br>The approximately 51-acre site encompasses land on either side of Mill Road, four parcels on the west side of Ayer Road, south of its intersection with Mill Road, and one industrial archaeological site on the east side of Ayer Road. | This historic mill area is less than one mile north of the Harvard common. Remnants of this small-scale manufacturing site include: a mill, a mill-related administrative office building, six mill-related buildings, a farm and five industrial archaeological sites.   |
| Pin Hill Area<br>Pin Hill is partially bounded by Harvard's historic mill area to the west and north, Ayer Road to the east and Depot Road to the south.  | The Pin Hill area consists of a group of standing buildings and a slate quarry that survive from the 18 <sup>th</sup> and 19 <sup>th</sup> -centuries. Pin Hill encompasses approximately 49.5 acres (29.66 acres of privately-owned land and 19.84 acres of town conservation land) and is dominated by a blue-slate ridge which rises 480 feet above sea level. Historically, Pin Hill was an important source of slate that was used by gravestone artisans who valued its durability and resistance to staining.<br>Recommended for listing as a potential National Register historic district. |
| Civilian Conservation Corps Camp (CCC .Camp)<br>131 Littleton Road; located on the north side of Littleton Road, west of the four-way intersection with Poor Hill and Pinnacle Roads.   | This remnant of a Civilian Conservation Corp. camp was built between 1930-1937. Located on 11.13 acres, the camp is thought to consist of seven structures originally. The CCC was a federal agency which provided training and employment for young men during the Depression in the 1930s. The Harvard camp provided living quarters for workers in the apple orchards.   |