

# Londonderry Business Park Design Charrette



May 15 - 17, 2003  
Londonderry, NH

PLAN NH AIA NH



## **Londonderry Business Park Design Charrette**

### **May 15, 16, 17, 2003**

#### **So what is a Design Charrette, anyway?**

In its current usage, a design charrette is an intensive work session involving professional designers (architects, engineers, planners, construction experts, and others) working in conjunction with local citizens and private landowners to investigate potential solutions to a particular design question or issue. Across New Hampshire and other locations, these sessions have been used to discuss re-use options for older buildings, development and preservation options for open space, and design options for new construction planned for sites that are currently undeveloped.

Charrettes are a good way to get lots of ideas and options out in the open for discussion very quickly. They produce concepts that can be discussed before details have to be finalized. They set tone and direction for future design efforts. Although they do not reveal final construction details, that is in fact their very strength. Charrettes seek to create consensus about concepts, so that there is a firm basis of agreement as the details are developed and worked out.

#### **Well, why Londonderry, and why now?**

There are several major trends and actions that are placing increasing development pressure on Londonderry, and especially on the undeveloped land in the northwest corner of Londonderry. As a starting point, Londonderry is at the center of a region that has been experiencing significant growth for a considerable time. Londonderry is currently at a population of 23,798. That is up from a total of 23,236 in 2000 and 19,781 in 1990. Estimates from the NH Office of State Planning are that both the region and Londonderry itself will continue to grow. The forecasts predict that Londonderry will reach 31,260 by the year 2025.

Coupled with that comes significant growth at the Manchester Airport, most of which is physically located in the Town of Londonderry. The annual number of passengers at the airport in 1993 totaled just under 800,000. Today, only ten years later, the annual number of passengers has risen to nearly 3.4 million. Forecasts indicate that, with the main runway now being extended to 9200 feet, larger (and quieter) aircraft will be handling 5.5 to 6 million passengers annually within the next ten years.

In addition to both population and airport growth, the NH Department of Transportation has now received approval to move forward with final design of a new Airport Access Road. After years of planning and public discussion, NH DOT has now received permission to proceed with the final design of a new roadway that will swing west from the F. E. Everett Turnpike in Bedford, cross the Merrimack River and Route 3A in Manchester, and then approach the Manchester Airport terminal from the southwest. This connector will provide a direct, limited access highway connection to some 700 acres of undeveloped land south of the Manchester Airport, and will increase development pressure on at least an additional 300 acres of undeveloped land in this northwest corner of Londonderry.

For all of these reasons, because of the increasing population in the region in general, because of the increasing levels of activity at the Manchester Airport, and because of the pending development of the new Airport Access Road, Londonderry chose to undertake a design charrette focused on this section of town at this time. They could not have picked a better time.

#### **So What Was the Process? And What Did People Say?**

The Town of Londonderry invited some thirty design professionals and resource specialists to come to Londonderry for three days, Thursday, May 15, through Saturday, May 17. Their charge was to listen to the estimates of market demand for real estate development in this area, to look at the constraints that the land itself presented, and to listen to the landowners, to the abutters, and to the citizens and businesses of Londonderry with respect to their interests and concerns about the area. Based on the input from all of these sources, the designers were to present their best thinking as to the most prudent and practical options for development, for conservation and resource protection, and for providing for economic opportunity for the residents of Londonderry and the region.

This process is complex enough in and of itself, but when you think of applying it to 1000 acres of land, the complexity increases astronomically. 1000 acres. If this were a simple rectangular block, it would be a parcel one mile across and over 1.5 miles long. Think of the number of abutters! Think of the number of soil types! Think of the road connections! Now take that rectangle and twist and turn it. Indent it on one side and extend it on another, the way land ownership patterns typically fall. Run a rail corridor to one edge of it. Border and bisect it with state and local roads. Add wetlands and aquifers and a mix of landowner interests. Put a major airport at its edge. Now one can begin to get a feel for the complexity of the task at hand.

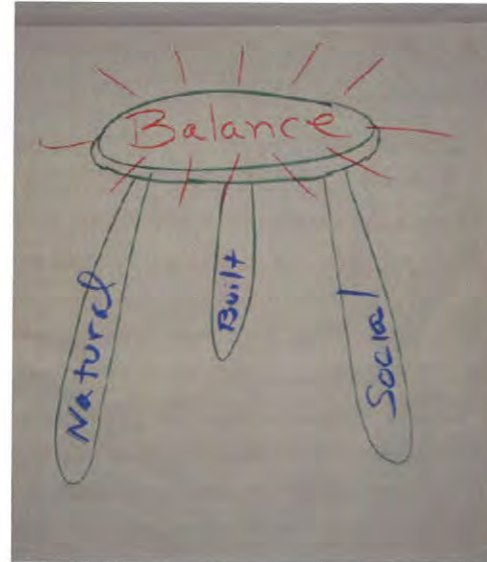
Sometimes it helps to use a simple analogy when exploring a complex problem. Not that the analogy will capture all of the details, but it often helps to have a framework on which to place the details. In discussions with the public, the designers spoke of the need to evaluate and consider constraints imposed on the project from three separate areas:

The ***Natural Environment***, including soils, vegetation, living creatures, the air, water resources, and all other components. As the designs moved forward, they needed to be respectful of these constraints.

The ***Built Environment***, including historic homes, existing roads, the airport, and all other components of the infrastructure that have been developed and put in place by human activity in the area. Clearly these needed to be respected as well.

Finally, the ***Social Environment***, the complex series of actions and activities that relate development here to neighbors, to abutters, to local activities and traditions. It is important to respect these as well.

When these elements are in harmony, we generally relate positively to a proposed activity. When one element is sacrificed at the expense of the others, when there is imbalance, we generally react negatively to a project. By way of analogy, the designers suggested the common milking stool, with each leg representing one of the areas of concern noted above. When the legs, or constraints are in balance, there is harmony, and the stool works. When one leg is significantly longer or shorter than the others, there is imbalance, and the stool (and the project it represents) is out of balance.



**Balancing - the natural, built and social environments.**

#### Guiding Themes

Through a series of public listening sessions and briefings that were held during the charrette, the following themes emerged:

Having 1000 acres of undeveloped land in this region presents *a rare opportunity*, and it should be developed with care and thought.

The area should be *developed with a mix of uses*, with the probable *exception of residential development* because of the proximity of the airport and the noise associated with it.

*Traffic is a major issue.* Residents and abutters alike expressed concern that traffic be directed north, east, and west, and *away from Harvey Road* and the existing residential development south of the target parcels.

Discussion focused on the need for a *stronger connection to Exit 5* on Interstate 93.

Property owners between Harvey Road and Route 28 expressed their strong opposition to any of the old DOT corridor proposals, and suggested a *Grenier Field Road connection to NH Route 28*.

Residents expressed a need for a *sensitivity to environmental resources*, including using an *Eco Park approach* to some of the development and the need to *protect the aquifer* which underlies much of the area south of the airport.

Suggestions were made that, to the extent feasible, the future development should *function as a campus* and include a *variety of services*, so that employees would not have to leave the area during the day. Additionally, *walking trails and other recreational opportunities should be included*.

With these charges in mind, the designers began their work.



**The Design Team reviews the project area map.**



**A school bus was used to tour the project area.**



**Constraint maps were developed for the area.**



**Kevin Dillion presented information to the Team.**



**Afternoon listening session on Thursday.**

## The Setting

As will be described in detail further on, the focus of the charrette was an area in the northwest corner of Londonderry, an area of some 1000 acres, bounded on the west by the Merrimack River and on the east by NH Route 28. It lies generally south and east of the Manchester Airport. But these descriptors merely bound the area. The land in question is impacted by forces from a much broader region. And the impact of development here will be felt well beyond the boundaries of the Town of Londonderry.

The area in question will be a critical junction. With the new highway connection across the Merrimack River, this area will become an important crossroads. The F. E. Everett Turnpike and Daniel Webster Highway are important north-south corridors lying west of the Merrimack. Collectively they currently carry nearly 65,000 vehicles per day. Just east of the charrette area, between them Interstate 93 and NH Route 28 carry nearly 90,000 vehicles per day.

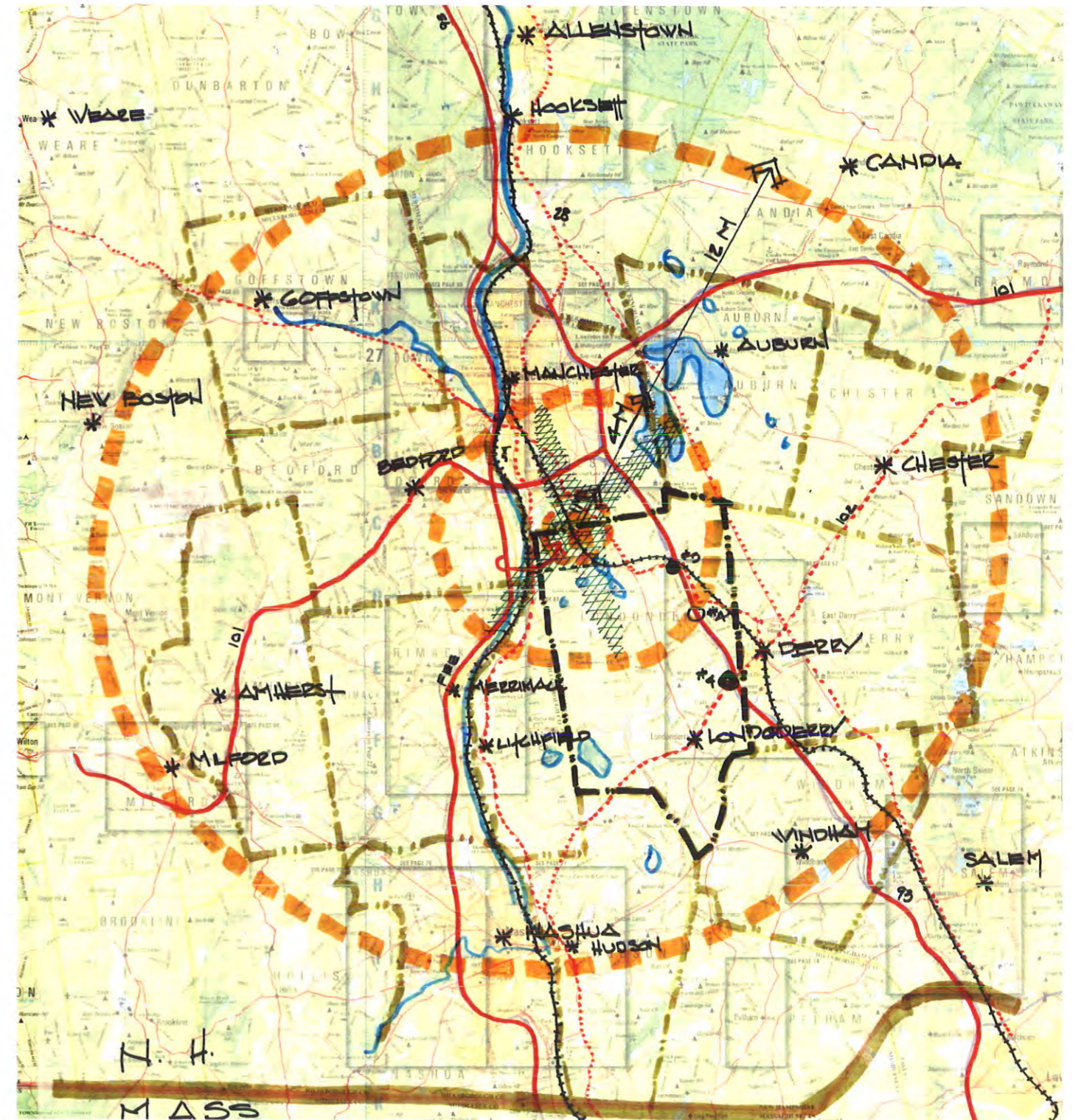
The only connecting links across the Merrimack River between these two important highway systems are the Route 111 bridge in Nashua, and the Route 293/101 bridge in Manchester, some fourteen miles further north. The new Airport Access Road will provide an intermediate link between Interstate 93 and the F. E. Everett Turnpike. Planners working on the charrette estimated that the airport and the business development that will likely surround it will be generating some 40,000 vehicles trips per day.

Two rail corridors parallel the north-south highway corridors, an active rail line to the west of the Merrimack, and an abandoned one to the east. The lines formerly joined in downtown Manchester, some eight miles north of the site. While the abandoned line right of way has been disrupted by recent development, much of the corridor is still available for bus, bike, or pedestrian connections to the charrette area. South of the target area, it could be used as a component of the proposed Interstate 93 rail corridor. Direct rail access into the airport at this point is unlikely to be a viable option, unless it is in combination with shuttle service or other intervening connectors.

The economic activity associated with this area will likely generate an additional 5,000 to 6,000 new jobs. While it is hoped that many of those will be filled by existing area residents who are currently commuting to the Boston job market, realistically a large proportion of them will be filled by individuals new to the area, individuals and families who will require additional housing, schools, medical facilities, and other development. This will place increased development pressure on Londonderry, and on the communities within a 30 to 45 minute commute from the site.

**In short, although the focus of the charrette was on land in Londonderry, the impacts of activity here will be felt in many of the surrounding communities. Demands for housing and other facilities will be felt both by abutting communities and by those who may be thirty or more miles away.**

Although New Hampshire has a long tradition of home rule and decision making by local communities, this area should be viewed by all parties as an important resource of statewide significance. At a minimum, it is recommended that Londonderry maintain strong lines of communication with its neighbors as it works with local landowners to develop this area.



The Greater Manchester Region in Southern New Hampshire  
with the Manchester Airport in the center.

**The Market Forces: What is the likely demand for development here?**

The section of Londonderry in question is part of a statistical area known most generally as Greater Manchester, containing both the central city and some eight surrounding communities in Merrimack and Rockingham Counties. In 2002 there were some 107,600 jobs located in this area. In the next ten years it is anticipated that there will be an additional 25,000 jobs added to this region.

Airports, in and of themselves, are generators of jobs. Some new jobs are located on the airport itself as ticket and baggage personnel, rental car agents, etc. Other jobs are created at businesses along corridors that connect to the airport. Still other jobs are at businesses that are in rings that surround the airport. Statistical analyses have shown that job creation within three to four miles of a growing airport is frequently at rates that are from two to five times faster than job growth of the region as a whole.

Clearly an expanding airport will generate new jobs, and Manchester is one of the fastest growing airports in the country, on a percentage basis. And businesses who are expanding will require the services of a good transportation system. Some of these businesses will locate near an airport for the ease of movement of personnel and goods. Others will locate there simply to be in an environment of businesses in an expansion mode.

Londonderry currently hosts approximately 11% of the jobs in Greater Manchester. Given the pending availability of the 1000 acres of land in question, and given the attractiveness of the Manchester Airport location, it is not unrealistic to assume that Londonderry may be able to increase its share of the new jobs being created from 11% to 20%. Thus, of the 25,000 new jobs expected in Greater Manchester in the next decade, something on the order of 5,000 new jobs.

Given that capture rate, and looking at both the employment sectors that are likely to be expanding and national statistics on how many square feet of building space these sectors typically use to accommodate employees, it would appear that the market demand for real estate in Londonderry in the next decade will be as follows:

Market Demand for Space in Londonderry 2003- 2013		
Office space	1,000,000	square feet
Manufacturing	500,000	“
Warehousing	1,000,000	“
Hotel	120,000	“
Retail, Service, Restaurant	500,000	“
Convention Center	200,000	“
Education/Training	300,000	“
	3,620,000	square feet

**Thus, the charge to the designers was to determine if they could locate 3.6 million square feet of development on the site in a prudent and sound manner, a manner consistent with other community goals and objectives.**

(The statistics and analysis in this section are from a paper presented by Dennis Delay, 5/15/03)



**Dennis Delay explains the market forces within the Greater Manchester Area.**



**Southwest Airlines and Federal Express are just two examples of the many businesses operating on the airport itself.**



**Lisa Thorne shows how Verizon can provide service to the undeveloped areas adjacent to the airport.**



## The Site

As has been noted above, the charge from the Town of Londonderry to the designers was to examine lands in the northwest corner of the town to determine their suitability for development, to see if they could reasonably accommodate the 3.6 million square feet of new real estate that Londonderry is likely to see a demand for in the next decade.

There were two primary areas of consideration: one lying south of the new airport runway extension and bounded on the east by Harvey Road and on the west by the Manchester city line. The southern limit was the new AES power plant at the end of Burton Drive. A second area lies between Harvey Road and NH Route 28, bounded on the north by their intersection and on the south by Grenier Field Road. The first area totals approximately 700 acres, the second approximately 300 acres. The designers were also given license to examine developable lands lying adjacent to these primary areas as well, as they saw fit.

The design teams generally followed these boundaries, with one significant exception. As will be seen below, after an examination of the physical and social constraints on the lands in question, and in consideration of the large volumes of traffic that will be drawn to and through the area, the designers felt it important to give consideration to completing the connection between the Airport and Exit 5 on Interstate 93.

A complete connection from the F. E. Everett Turnpike to the Airport and then out to Interstate 93 had been a part of the original NH DOT planning process when they began seeking to improve access to the Manchester Airport in 1992. In deference to local wishes, and after considerable examination, the NH DOT dropped discussion of a connecting link between Interstate 93 and the Airport, and concentrated their attention on a link between the F. E. Everett Turnpike and the Airport.

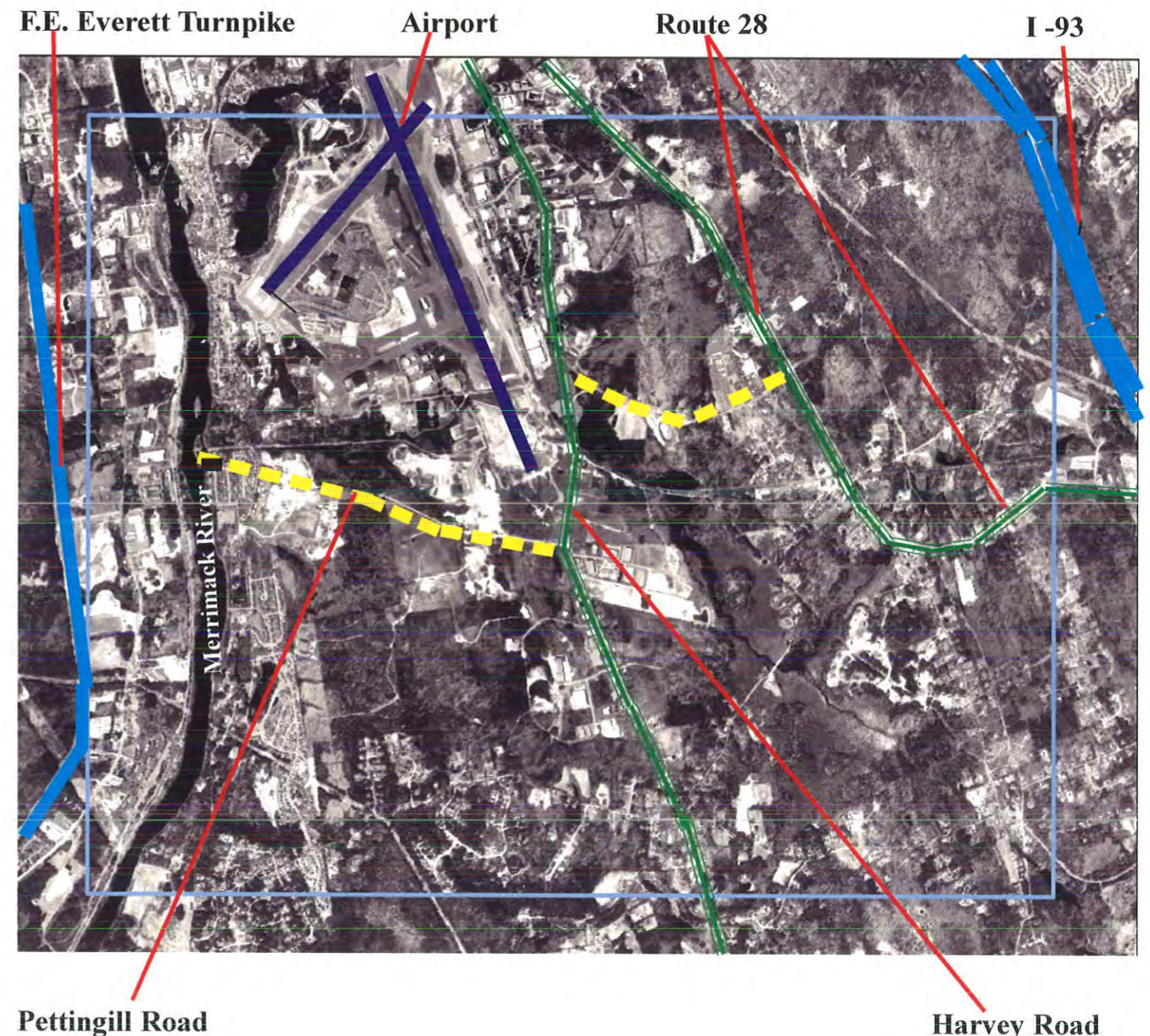
As plans move forward with the Airport Access Road, it was evident to the design team and others that travelers will be making their own connections between Interstate 93 and the Airport, via existing local roads, if an improved roadway is not available. For that reason, the designers extended the scope of their work to include land lying between NH Route 28 and Exit 5 on Interstate 93.

Thus, the entire scope of the area examined by the design teams was approximately 3.5 miles on an east-west axis, the distance between the Airport Access Road and Exit 5 on Interstate 93. On a north-south basis, they examined properties between Litchfield Road in Londonderry and the Manchester city line. The total area examined was on the order of 4 square miles, or some 2,500 acres, approximately 1,400 of which are undeveloped.

## Development Considerations

So as to approach the work in manageable sections, the design team divided the task at hand into three separate geographic segments: From the new Airport Access Road east to Harvey Road; from Harvey Road east to NH Route 28, and finally from NH Route 28 east to the intersection with Interstate 93 at Exit 5.

Each area was approached using the framework of the overall guiding principles of mixed use, and sensitivity to environmental and social constraints. Traffic was a key consideration.



Each area presented its own unique constraints as well. And, of course, the solutions for the individual sections needed to flow smoothly into an overall, coordinated program of improvements as well. Keeping the three legged milking stool in mind, the teams moved forward!

**The Western Sector: From the Airport Access Road to Harvey Road**

This area, bounded by the existing Airport development, the new Airport Access Road, the AES power plant and residential activity on Litchfield Road, and finally Harvey Road itself, is a series of sand and gravel terraces that rise up from the Merrimack River, which borders the area to the west. The entire area is underlain by an important aquifer. It is reported to be the current (or former) home of the hog nosed snake, an unusual reptile species.

Although the land is occasionally shallow to bedrock, the bulk of it consists of well drained soils, often extremely well drained. It supports a native vegetative cover of white pine trees. Although the area was likely an annual gathering site of some Native American communities, the sandy nature of the soil made it of little interest to European settlers as an agricultural area. It contains no historic buildings or known sites from the colonial or later periods.

This area totals some 700 acres. Much of it, however, is about to be purchased by the State of New Hampshire as mitigation for wetland and other impacts associated with the Airport Access Road. The designers laid all of these constraints out on maps, and used them as a base for their further activities. When sensitive habitats, purchased mitigation areas, and other areas are removed from development, the remaining land totals between 400 and 500 acres.

The task then, was for the design team to develop an approach to siting as much as 3.6 million square feet of new real estate in a manner that respected both the absolute constraints of the mitigation areas and the design principles recommended by the public.



### ***The Key Issue: The Location of Pettingill Road***

The location of Pettingill Road is a key issue in this area. Its placement dictates the location of many of the other elements that will follow. In its current, now defunct, location it follows a sandy path westerly from Harvey Road to the Manchester city line, where it formerly connected with local streets. As currently envisioned, Pettingill Road is to be the major east-west connector between Harvey Road and the Airport Access Road.

**The design team recommends that the western end of Pettingill Road be moved southerly some 350 feet from its former location, so as to intersect with the Airport Access Road opposite the proposed connector to NH Route 3A.**

Relocating the western end of Pettingill Road will both move the roadway further away from Little Cohas Brook and provide a more useful development site on the north side of Pettingill Road, as it intersects with the Airport Access Road.

**The design team further recommends that Pettingill Road be developed as a limited access boulevard. In fact, it recommends this design standard for the entire road network linking the Airport Access Road to NH Route 28 and Interstate 93.**

This roadway will be a major arterial. Estimates are that the Airport and the business activity surrounding it will generate some 40,000 vehicle trips per day. It is assumed that those trips will divide roughly half coming to and from the east, and half coming to and from the west. The design team feels that a four lane divided highway, attractively landscaped and with modest paved shoulders could both handle this volume of traffic and meet the design recommendations of the public. In this area, the team envisioned major intersections at Harvey Road, at Industrial Drive, at the Airport Access Road, and one new one between the latter two. Access to all abutting lots would be through these collector road intersections, not from the boulevard itself.

**North of Pettingill Road, the design team recommends siting a major convention center at the intersection with the Access Road. The balance of the land would become surface parking for car rental agencies, and infill development around the Airport.**

**South of Pettingill Road, the design team recommends a major mixed use development, with space for a corporate office park, an educational facility, industrial and manufacturing activity, warehousing/freight forwarding facilities, and sufficient retail to support the daily needs of the 5000 employees who might work here. It sees the potential for housing only in the extreme southerly section, perhaps as an extension of some of the Litchfield Road developments.**

Such an approach, the design team believes, respects both the absolute constraints of the mitigation areas, and the general direction of the public. It creates a large, but not necessarily intense, mixed use development. The internal roads connect back to Pettingill Road, not out to Harvey Road. The proposal actually accommodates the entire 3.6 million square feet of development, while still leaving large sections of connected open space. With appropriate site design, this would be a pleasing area, a real asset for the Greater Manchester Area, and all of Southern New Hampshire.



VIEW OF BOULEVARD

**Design standard for Pettingill, Grenier Field, and Page Roads.**



**The western section of Pettingill Road today.**



***The Central Sector: Harvey Road to NH Route 28***

This is a difficult area. The terrain between Harvey Road and NH Route 28 rises steeply to a ridge with elevations in excess of 150 feet above the two adjacent road corridors. Much of the land in this area is shallow to bedrock. South of the connecting link of Grenier Field Road, the bulk of the land is either open water or designated wetlands. Much of it either has been or will be purchased as mitigation property for the Airport Access Road. Further complicating matters, along Grenier Field Road there are a number of historic structures. At the intersection of Mammoth Road, these blossom into the village of North Londonderry.

**NH Department of Transportation Efforts**

In 1992 NH DOT began a series of analyses in support of the Airport Access Road Environmental Impact Statement. The purpose of the effort at that time was to investigate the construction of a limited access roadway that would link the F. E. Everett Turnpike in Bedford with Interstate 93 at Exit 5 in Londonderry. East of the Merrimack River there would be a northerly spur road that would tie the new roadway with the Airport terminal.

NH DOT noted that the corridor options between Harvey Road and NH Route 28 were very limited. The Town of Londonderry supported a connection to Route 28, and then the use of that road as the connecting link to Interstate 93. This did not meet the NH DOT design requirements of a limited access roadway. Ultimately, NH DOT dropped the easterly portion of the roadway from consideration and proceeded with the current link between the Airport and the F. E. Everett Turnpike.

Although they never completed the EIS for the easterly portion of the roadway, the NH DOT studies at the time were leading toward consideration of a corridor that went from Harvey Road easterly to NH Route 28 via a saddle between two hummocks at the height of land on the high ground between the two roads and north of Grenier Field Road. This would have all been new roadway on a new location.

**Current Discussion**

The design team began their discussion where NH DOT had ended their's, looking at the high ground, and circling north of Grenier Field Road, coming out onto Route 28 approximately a half mile north of the Route 28/Grenier Field Road/Page Road intersection. This corridor avoids most wetlands and, although it would be expensive to construct, avoids the Grenier Field Road corridor as well.

**Instead of following the initial NH DOT corridor over the height of land, the design team recommends that Grenier Field Road be re-developed as a four lane, divided boulevard, linking Pettingill and Harvey Roads with NH Route 28.**

A number of things have changed since the period of the NH DOT analysis a decade ago. When the NH DOT studied the Grenier Field Road corridor, it consisted of some older, historic homes at either end of its nearly three mile length, and undeveloped properties in the center.

Development has now leapfrogged to the center portion with the Kittyhawk development project opening up some 65 acres north of the center of Grenier Field Road. This is increasing development pressure on the few remaining homes west of there, and it appears likely that they will also be converted to some more intense use in the foreseeable future. Thus, the nature of the corridor is different than when NH DOT examined it.

Conversely, several families who have owned land on the southeasterly and southwesterly slopes of the high ground which surrounds the Kittyhawk project, are actively pursuing placing them under permanent conservation easements to be managed by a family trust. These families have no interest in seeing their land developed now or in the future, for either a roadway or as building sites.

Thus comes again that three legged milking stool. While the natural and built environment legs might suggest further consideration of a new corridor over the high ground, the social leg argues against it. The landowners, whose families have apparently worked this land as field, orchard, and woodlot for generations, do not support development here. The design team respected that, and looked instead for ways to minimize the impact of moving traffic along the existing corridor of Grenier Field Road.

**The design team felt that continuing the boulevard design of Pettingill Road along the Grenier Field Road corridor made a lot of sense. They thought that it could be designed to fit with minimal impact along its length, across Mammoth Road, and out to Route 28.**

The following drawings show a variety of options, some leaving the connections to Mammoth Road open, others restricting, or even cutting off, access to Mammoth Road. There are some opportunities for development sites near Webster Road, but other than this and the Kittyhawk development, traffic would be moved through the existing corridor rather than provided access to abutting properties. Existing driveways would need to be redirected and relocated if this design were to be pursued.



**The design team reviews the potential route from Harvey Road to Route 28.**



**The Eastern Sector: Route 28 to Interstate 93**

When the EIS process was underway, it was the recommendation of the Town of Londonderry that NH DOT simply use the existing NH Route 28 corridor as the connecting link to Interstate 93 at Exit 5. The design team started with this premise as well. Increasingly, however, as the design team considered the thought of bringing the Airport traffic to the Route 28/Grenier Field Road intersection, they saw opportunities to the east of Route 28.

All of the concerns that NH DOT had about funneling increasing volumes of traffic along existing NH Route 28 remain. Adding a new volume of 20,000 vehicles a day (as the Airport and surrounding areas develop) to NH Route 28’s existing volume of 18,000 vehicles per day argues against using the current roadway, with its multiple curb cuts and intersections. If you have ever tried to make a left turn from NH Route 28 northbound onto Route 128 southbound, imagine it with even more traffic coming at you down the NH Route 28 corridor.

**The design team strongly recommends that field investigations be undertaken to explore the practicality of extending the boulevard easterly from NH Route 28 at its intersection with Grenier Field and Page Roads to a point just west of Exit 5 on Interstate 93.**

From the resources available during the charrette, this would appear to be a reasonable and practical connection between Interstate 93 and the Airport. If developed, it should follow the limited access pattern of other sections, allowing only interconnections with major collector roads. No driveways or other service connections to individual lots should be permitted.

**The design team finds that extending the boulevard corridor easterly from Route 28 not only improves traffic flow, it opens up an additional 400 acres to potential development.**

It was noted at the outset that Londonderry and all of southern New Hampshire are likely to continue to grow. That in and of itself may be of concern to some, but more importantly in many people’s eyes is the manner in which we grow. Our typical development pattern has been houses on multiple acre lots, separated from work, from stores, from schools. In fact, we typically are so separated from everything but other houses that we have to use our automobiles to get to everything else.

**Many parts of the country are attempting to accommodate growth in ways that take their lead from traditional village centers. That is even happening in New Hampshire. This area would be an excellent opportunity to pursue that in Londonderry.**

Think of a community where you knew your neighbors. Think of one where your kids could walk to school, and you could walk to a local market to buy a bottle of milk. Think of a traditional New England village, complete with a town green, sidewalks, front porches, and all of the other features that make these places so attractive that photos of them adorn thousands of calendars every year.

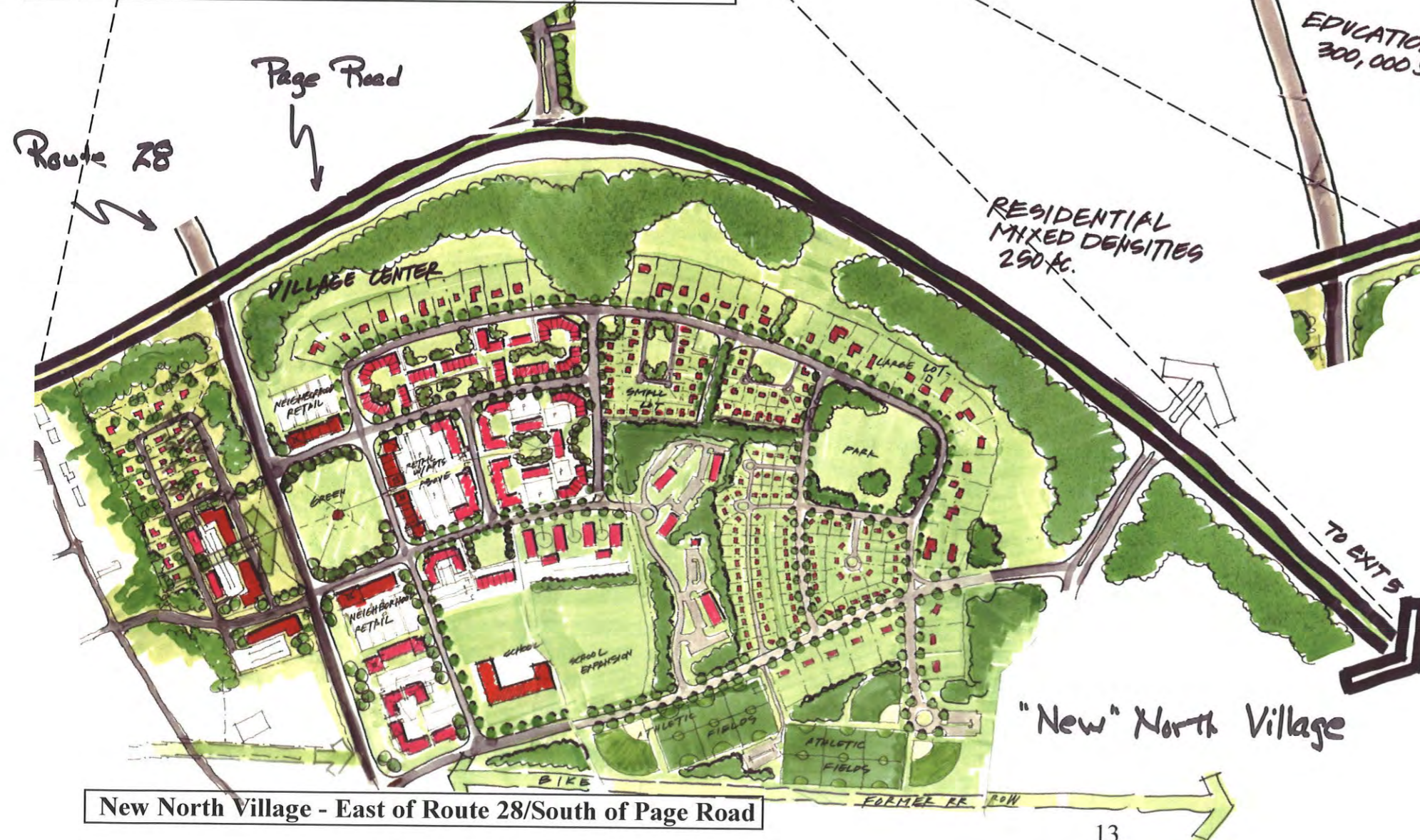
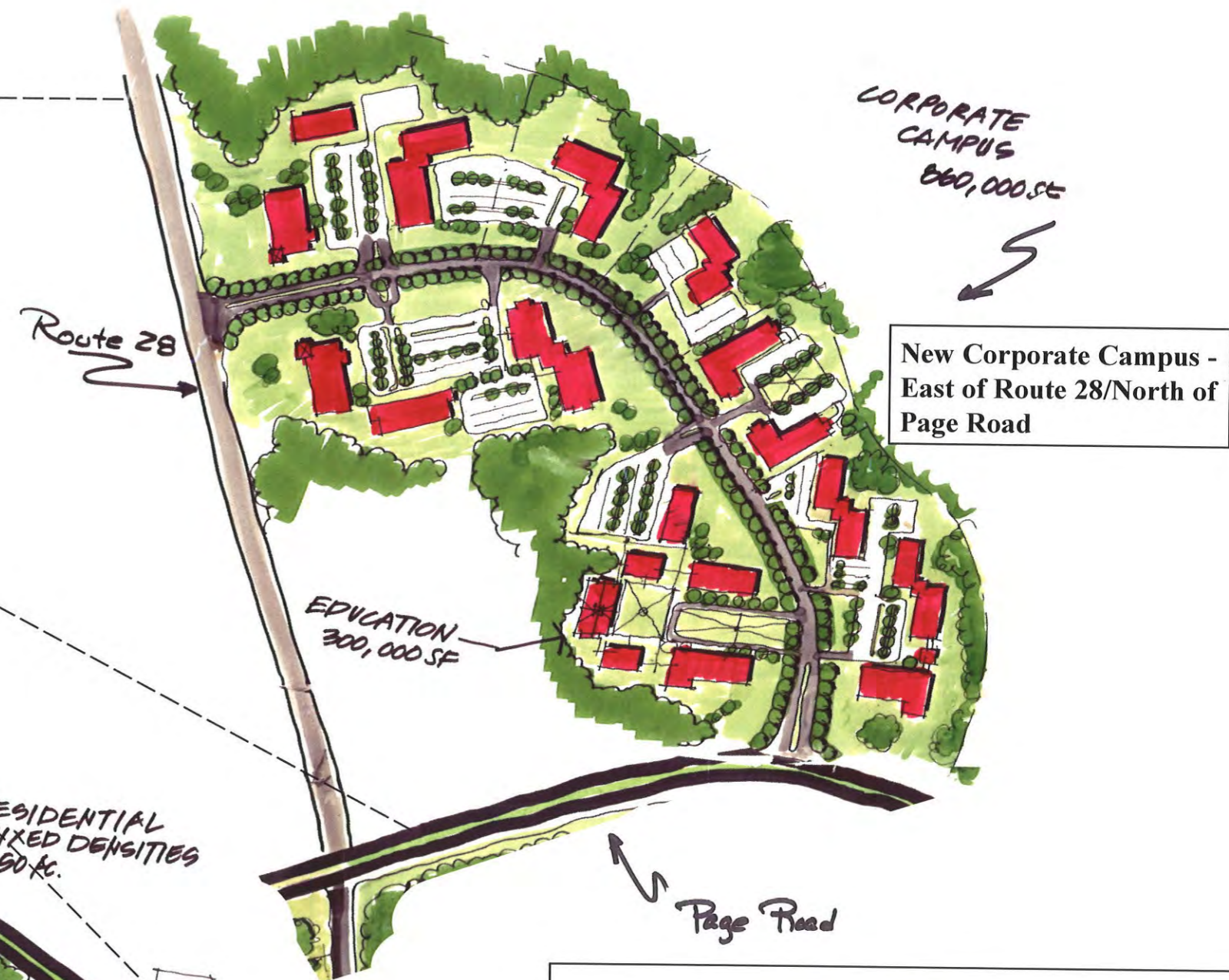
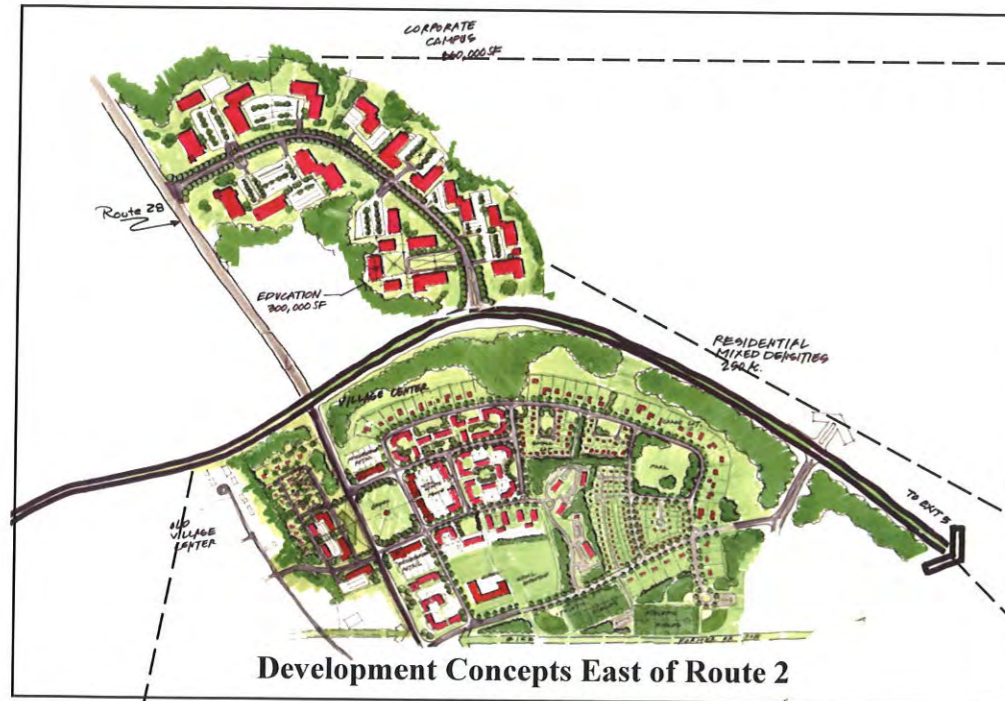
Now think of the more typical subdivision: large lots, nothing but residential activities, no common spaces, no front porches, no chance interaction with friends and neighbors. While people embrace the New England village as a concept, our zoning ordinances typically do not even permit them. Standard lot dimensions and set backs produce ..... sprawl.

Here, east of NH Route 28, is an opportunity for Londonderry to seek something different, something more in keeping with what many people are seeking, a traditional neighborhood design, a place that is designed for people, not automobiles. It just might be worth a thought. It is currently being used in other parts of New England, even in other parts of New Hampshire. Why not here?



**The Theory and Application**  
**Traditional Village Concept - interconnected streets, green spaces and a mix of housing types. Sidewalks, street trees and a mix of uses are also encouraged.**





The Details

A project such as this, spread out over several thousand acres of land and likely developed over a decade or more, requires incredible attention to detail, many many details! It is not just what you do, it is how you do it. Success here will create value for the land owners, for the developers, and for those who come to work here. Success here will create significant property value. It is important to do it correctly. To do otherwise would be to waste a rare opportunity, and to lose potential property value.

**Flexible zoning** The plan calls for a mix of uses and activities. It calls for concentrating development in some areas, while others will be left open. There is a high level of development here, but it is surrounded and linked by corridors that support wildlife, that shelter buildings and parking lots, and limit heating and cooling costs. It attempts to create win/win opportunities. Look for zoning examples from areas such as Nashua, Bedford, and Whitefield, New Hampshire. These are useful models that might be adapted to this area successfully.

**Development Practices** The practices outlined below take advantage of the extremely well drained, pine barren soils, and support native wildlife and vegetation. Such practices can reduce site development costs and provide the essential mix of open sandy areas. The practices address both *open space areas* unimpacted by structures, and *naturalized areas* surrounding buildings, roads, and other features. Such practices can be used both in commercial and residential settings.

Planting Practices

Identify the specific location and configuration of the open space network shown in the conceptual design, maximizing the size of unimpacted areas, and the connections of such areas with neighboring parcels.

Permanently protect those designated open space areas and corridors with easements or covenants. Incorporate naturalized areas into and around the developed areas.

Design open drainage systems, surrounded as much as possible by naturalized areas.

Construction Practices

Minimize soil compaction by erecting fences around unimpacted areas and limit heavy equipment to alignments for future roads and driveways.

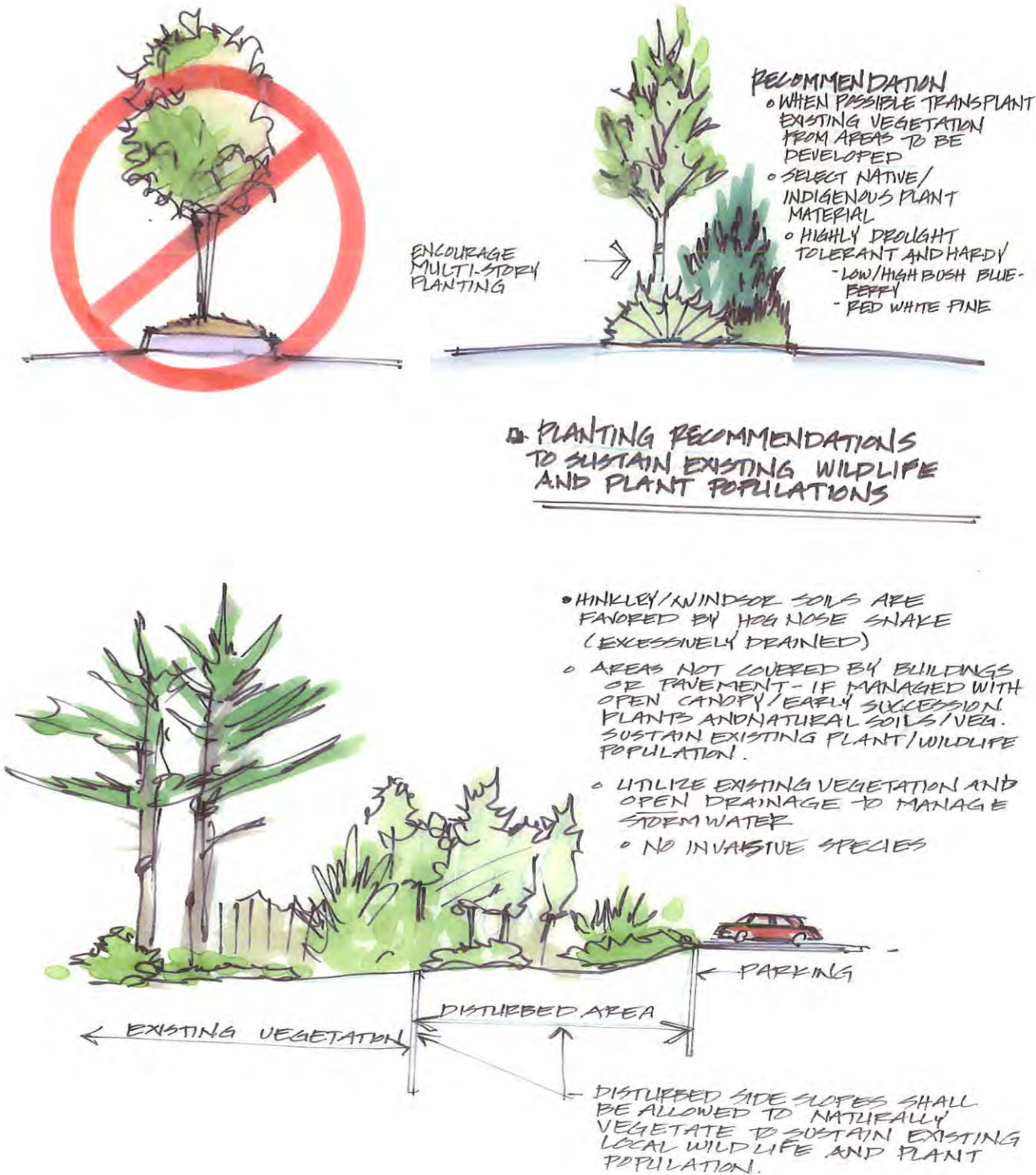
Work compacted areas after construction to loosen soil.

Landscaping Practices

Minimize or eliminate lawn areas. Provide a mix of natural, open sandy areas, areas of multi-story vegetation, and park-like woodlands of mixed scrub oak, pitch pine, and white oak.

Intersperse flowering herbaceous species which are hardy and highly drought tolerant to reduce maintenance expense.

Create local garden areas with mixes of the grasses, shrubs, and herbaceous materials.



## Costs, and Benefits

The major public expense in this development proposal will be the creation of a new, four lane divided boulevard running from the Airport Access Road on the west to the Interstate 93 improvements at Exit 5. It will not be inexpensive. Current estimates are that it will be nearly \$15,000,000, exclusive of land acquisition and any needed water or sewer lines. This would provide a safe, efficient four lane roadway, with a landscaped median strip for the entire 22,500 lineal feet (4.26 miles) between Exit 5 and the Airport Access Road.

Clearly the project can be broken into phases. In current dollars, it is estimated that the section between the Access Road and Harvey Road would be approximately \$3.7 million, from Harvey Road to NH Route 28 would be approximately \$5.6 million, and from NH Route 28 to Interstate 93 approximately another \$5.6 million. The point in offering these numbers is not to overwhelm, but rather to give thought to the kinds of development they might encourage, and to make sure that the zoning leads to a high quality of development.

Using both national statistics and regional construction costs, 100,000 square feet of warehousing would yield a taxable value of perhaps as little as \$5,000,000 and approximately 60 jobs. The same amount of office development would yield taxable value of perhaps three times that, and likely some 330 better paying jobs. A \$15 million investment in the new boulevard would serve either complex equally well, but clearly the return to the Town of Londonderry on its investment in the road is much more favorable when it is surrounded with the higher value real estate.

This is not to say that the area does not need warehousing. It certainly does. A major portion of the Airport's business is in moving freight and parcels. And these are key services for the businesses in the area. So warehousing has to be in the mix. The point is, rather, that there will be a requirement for the Town of Londonderry to make major investments in roads and other utilities, and it will then need to service them, both in terms of direct maintenance, and in terms of providing police, fire, school, and a host of other public services once the abutting properties are developed.

The Town of Londonderry should protect its investment in infrastructure by assuring that the quality of the abutting private development is of the highest standards. It can best achieve this through collaboration with the landowners and developers, through its zoning, site plan, and other administrative procedures, and, perhaps most of all, by seeking out grants and other incentives to attract the kind of development that it would like to see here.

## Implementation: How do you get started?

This is perhaps the largest undeveloped tract of land in Southern New Hampshire. It is an almost unbelievable opportunity to be able to come in on the front end of the development process and to begin to contemplate what might, what could, happen here. The development suggestions that have been proposed here could easily take ten years to come to fruition, maybe closer to twenty or twenty five years. The important thing is to have that long term vision in mind as the initial steps are taken. The right step leads to the opportunity for a second right step. A wrong step at the very beginning may foreclose many good opportunities.

### Step 1: Cooperation and Coordination

As was noted repeatedly throughout the charrette, *the land that is being discussed is almost exclusively privately owned*. The Town of Londonderry may ask, may suggest, may entice private landowners to consider this plan, but, in the end, the bulk of the land use decisions will be made by private landowners. The Town should look for opportunities to bring parties together, both publicly and privately, to suggest the type of development it would like to see here and to facilitate the discussion about how to make it happen.

### Step 2: Promote the Plan - Share the Information

This is a process that has just begun. The plan is a product of a very productive effort over a three day period, but it is a beginning, not an end. It begins to suggest what might be, not what has to be. The Town needs to get the information out for further discussion: among the property owners, among various local boards and commissions, among other interested parties including abutting communities. The Town may want to do another cable television show on the plan. Guest articles in local media outlets by town officials would be appropriate. Making the plan recommendations available to those working on the master plan update will be important.

### Step 3: Set the Stage (I): Amend the Zoning

As the Town completes its master plan update, there will likely be several areas where the zoning regulations will need to be changed to accomplish the stated goals. This charrette area will likely be one of them. The plan here calls for a wide variety of uses in close proximity to each other: offices, warehouses, manufacturing, a conference center, a training and educational center. These can work well in combination with each other, *if* there are good performance standards in the underlying zoning ordinance. The activities that are engaged in on a site are not nearly as important as the impacts that those activities generate: noise, traffic, emissions, etc. With a good set of performance standards in the zoning ordinance, the mix of activities that are called for here can be accommodated.

### Step 4: Set the Stage (II): Establish a Tax Increment Financing District

State law permits communities to establish Tax Increment Financing Districts to promote economic development. The essential components are the drawing of district boundaries and the establishment of the gross valuation of property within the district at the time it is established. The taxes on new value that is added within the district can then be used to pay off the bonds on infrastructure that has been installed in support of that new development. The cost of the new roads and utility lines that will be needed to support development here could be off set by segregating the new tax revenues from private development in the area from the general fund and dedicating them to pay off these bonds.

### **Step 5: Set the Stage (III): Design and Build New Pettingill Road**

The first major investment in this area is likely to be the new Airport Access Road. The NH DOT is now engaged in its final design, and hopes to have that road operational by 2007/8. The next key investment will be the development of the new Pettingill Road, linking the Harvey Road Corridor to the Airport Access Road. The location of this road, the location of curb cuts and intersections, and the nature of the road design itself are all critical pieces that will set the stage for the nature and tone of the development that will occur in this area. Properly done, it sets the stage for improvements that may ultimately reach Interstate 93.

### **Step 6: Seek out Incentives**

As noted above, other than the road rights of way, very little of the land in question is owned by the Town of Londonderry. Many of the development decisions will be made by others. Many communities stop their participation in the development process when the zoning and basic infrastructure decisions and investments are complete. There are many more opportunities!!

New Hampshire offers financial incentives to development through a variety of programs at the NH Community Development Finance Authority, the NH Business Finance Authority, and the Community Development Block Grant program (currently at the NH Office of State Planning). Many of these programs require sponsorship by a local community in order to gain access to the funds. All work more easily when the projects have been endorsed by the host community.

CDFA funds can be used to sponsor both direct business investment, and to support things like day care centers that are important compliments to business developments.

CDBG funds have been used to support the cost of infrastructure that stimulates business development, and they have been used to provide loan funds to expanding businesses. These funds are then re-paid to revolving loan funds to service the region in the future.

The BFA administers the tax exempt Industrial Revenue Bond program. They should be approached to see if they would be willing to set aside funds for projects that were being developed in compliance with an overall development plan for this area.

By seeking funds to assist developers in implementing parts of this plan, the Town of Londonderry can go far beyond zoning and infrastructure investments to see that the plan is implemented.

### **Step 7: Plan, Revise, and Improve**

This is clearly just the beginning, and new opportunities (and obstacles) will present themselves as the process moves forward. In general, as outlined in the attached chart, the design team recommends a strategy that flows from west to east over time, starting with the Airport Access Road, and moving eventually to a connection all the way out to Exit 5 on Interstate 93. Along the way, a variety of opportunities will present themselves that may alter that approach. If an overall plan is in place, moving around and implementing different sections will not be a problem.

### **Step 8: Be open to New Strategies**

This is a major project focused on a major transportation hub. Within a very compact area, there are present an airport with a 9000 foot runway, an Interstate highway, two rail corridors, numerous state and local roads, and over 1000 acres of vacant land. The airport itself is divided between two communities, Manchester and Londonderry. The impacts of development in this hub will be felt by many communities, some of whom are immediate abutments and some of whom are twenty five and thirty miles away.

In other locations, the coordination of large scale projects has been easiest to achieve when there was a central authority managing the effort. In New Hampshire, the model of the Pease Development Authority comes to mind. There are many factors that distinguish that effort from this one, most notably that the Pease Development Authority controls the land in and around that airport, but the need to have some entity with overall responsibility for planning and implementation in order to maximize the outcome is certainly parallel with this situation in Londonderry.

In other parts of New Hampshire, adjacent communities have collaborated on economic development projects, sharing both the initial investment and the later rewards of tax benefits and economic development. Laconia and Guilford and their shared industrial park being a good example. There are even examples of the State of New Hampshire being a partner in these efforts, with the Lake Winnepesaukee River Basin Program (which provides sewage treatment for 10 municipalities) being an outstanding example.

Without identifying solutions, these comments focus on the simple observation that a project of this magnitude may strain the capacity of more traditional development models, and the proponents may serve the community's interest by being alert to that and being open to new models as they present themselves.

### **Conclusion**

The Town of Londonderry is to be congratulated for taking on this forward thinking planning project! Clearly there are many options, many players, and many opportunities to be sorted through. Simply recognizing the importance of the land in question was the critical first step. This process, and the conversations it has engendered, are an important beginning. The members of the design team trust that this work will be a firm basis upon which to begin detailed discussions. It is important for the future of Londonderry and much of Southern New Hampshire that those conversations continue. We trust that they will and that the product will be something that all parties can refer to with pride in the coming years.

**Development Resources**

Many of these individuals actually participated in the charrette. Others offer services that may be of use as the project progresses.

Ms. Edna Feighner  
State Archeologist  
NH Division of Historic Resources  
19 Pillsbury Street  
Concord, NH 03301  
(Source of field archeology expertise)

Mr. Jim Garvin  
State Architectural Historian  
NH Division of Historic Resources  
19 Pillsbury Street  
Concord, NH 03301  
(Source of advice relative to historic properties)

Mr. Jack Donovan  
NH Business Finance Authority  
14 Dixon Avenue  
Concord, NH 03301  
(Source of tax exempt bonding and other subsidies for private and non-profit investment)

Mr. Rob Nichols  
NH Community Development Finance Authority  
14 Dixon Avenue  
Concord, NH 03301  
(Source of tax credits for publicly supported projects)

Mr. Patrick Herlihy  
NH Community Development Block Grant Program  
2 ½ Beacon Street  
Concord, NH 03301  
(Source of grants and loans for projects that benefit low and moderate income people)

Mr. George Zoukee  
NH Municipal Bond Bank  
10 Park Street  
Concord, NH 03301  
(Source of low interest funds for publicly bonded projects)

**Proposed Development Schedule**

Phases	1	2	3	4	5
Timeframes	2003 - 2005	2005 - 2007	2007 - 2010	2010 - 2015	2015 Plus
Steps	1,2,3,4	5,6	6,7	7	8
NHDOT	Design Access Road Continue Rail Discussion Continue Trail Discussion	Build Access Road	Build Exit 5 Improvements		
Town of Londonderry	Complete Master Plan Convene Partners Design Pettingill Blvd.	Build Pettingill Blvd.	Build Grenier Field Blvd. Design Page Road Blvd	Construct Page Road Blvd.	
Public/Private Entities	Discuss & Research Conference Center	Design & Build Conference Center			
Private Entities	Design Business Park	Build Business Park	Build Business Park	Build Business Park	Build Business Park

