

**Localness:
A Village Proposal
for Mixed Use Reappropriation
of the Industrial Landscape**

by

David M. Foxe

Submitted to the Department of Architecture
in Partial Fulfillment of the Requirements for the
Degree of

Bachelor of Science in Art and Design

at the

Massachusetts Institute of Technology

June 2003

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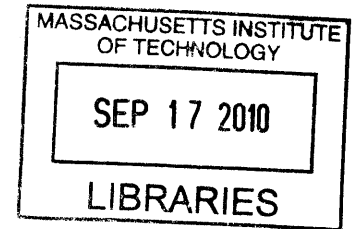
Department of Architecture
17 January 2003

Certified by

Anne Whiston Spirn
Professor of Landscape Architecture and Planning
Thesis Advisor

Accepted by

Stanford Anderson
Head, Department of Architecture
Chairman, Undergraduate Thesis Committee



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0.1 Abstract

This urban design thesis addresses the transformation of single-use industrial space to mixed-use public and private space, linking pedestrian and vehicular paths within the village of Sussex, WI.

The industrial revolution often reinforced the separation of functions (residential, commercial, industrial, civic) into separate buildings and often separate districts. In the midst of the built landscape, former places of industrial work and production are now large tracts of underused land. The reappropriation of urban and suburban industrial space provides the opportunity to create mixed-use, vital spaces relating well to pedestrian and vehicular traffic. Such reappropriation deals with the site not only visually, but also in terms of the way its history and natural processes are transformed. The reappropriation is essential on the urban scale of a village, and I choose to explore it at the site of the former quarry and canning factory in Sussex, WI. As a central link between Main Street and the pedestrian Bugline trail, the six acre urban landscape design (in several phases) includes over 100,000 indoor square feet of residential, commercial, and public spaces. This thesis examines issues of ownership, financing, phasing, landscaping, and architecture as they apply in the village. Through an urban design analysis and a series of schemes in drawings and models, the process shows the role of natural processes and public sector involvement in the site development, along with creative solutions to address these relationships on the site. It uses the prominent scale and location of former industrial land and spaces as a point of departure for improving a location's sense of local character, its local economy, its neighborhoods, and its public space.

Thesis Advisor: Anne Whiston Spirn
Professor of Landscape Architecture and Planning

Localness:

A Village Proposal for Mixed Use Reappropriation of the Industrial Landscape

David M. Foxe

Massachusetts Institute of Technology, Class of 2003
BSAD in Architecture; BS in Music
2003 Marshall Scholar

Department of Architecture
Undergraduate Architecture Thesis
13 December 2002

Presentation Booklet
17 January 2003

Thesis Advisor: Anne Whiston Spirn
Professor of Landscape Architecture and Planning
Thesis Reader: Valeria Koukoutsis-Mazarakis
Visiting Associate Professor of Architecture

0.2 Biographical Note

David M. Foxe was born in 1981 in Milwaukee, WI. He attended 21st Street School in Milwaukee, Templeton Middle School in Sussex, and graduated as the salutatorian of Sussex-Hamilton High School in 1999. He graduates from the Massachusetts Institute of Technology in June 2003 with two bachelor degrees, one in architecture and one in music. His architectural studies have focused on design and his music work has been primarily in composition, though in both these fields he has explored topics of history and theory. His architecture and music works are both archived in the MIT Museum, with compositions currently on exhibit and in the collection of the MIT Lewis Music Library. He has worked for architecture firms in Wisconsin and Massachusetts, and his architectural research photography has been included in several public exhibits, most recently at the MIT Rotch Architecture Library in Fall 2002. His photography, visual art, and architectural articles have been published in several book and journal publications at MIT and beyond. As a musician he has performed with the MIT Symphony, Wind Symphony, and Chamber Chorus, and his music compositions have been performed by chamber musicians and orchestras from MIT, Boston University, and the Eastman School of Music.

This thesis was an optional independent study project, prepared a semester early (Fall 2002 instead of Spring 2003) due to the complexities of scheduling two degrees for completion in four years.

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0.4 Preface

This report is prepared both to show the completion of the design thesis at MIT in written form, and to show the presentation materials in a format useful to those beyond MIT who have expressed interest in the past months' work. I had the privilege of presenting this undergraduate thesis on 13 December 2002 alongside the M.Arch students. I was reviewed by Ann Beha, Michael Boucher, Linn Hobbs, William Porter, Nasser Rabbat, William Rawn, and of course Anne Whiston Spirn (advisor) and Valeria Koukoutsis-Mazarakis (reader). I thank each of these people, as well as administrators like Nancy Jones and Renee Caso, for allowing me to have such a rigorous and fun opportunity to present my work. I also am forever thankful to my parents for being so supportive throughout the process and coming to visit for the presentation.

Two Fridays later on 27 December 2002, I met with Sussex Village Administrator Chris Swartz, Village Historian Fred Keller, Village President Mike Knapp, and Community Development Authority President Roger Johnson. Presenting the same printed boards and a computer slide show of photographs from the physical models, I had the opportunity to glean their perspective on my work. These people, along with former Friday Canning employee Myron Johnson, had been incredibly helpful through my initial research of summer 2002. An article by Fred Keller about my presentation, work, and education was published in the Sussex Sun and is included at the conclusion of this report.

Based on the course of these two presentations and numerous other partial showings to other architects, friends, and family members before and since, I have decided to suspend the body of the history and theory research I had conducted for the topic since the summer. While the readings and analysis were invaluable as I explored the issues surrounding industrial reappropriation, urban design on the scale of a village, the cultural and physical landscape of my site's region, and many other topics, the thesis's product focused on the actual design strategy. I want the written material to reflect this. Therefore, this is intended primarily as an adaptation of my oral presentations and visual materials into a concise format. The bibliography includes many of the sources that would serve for a more comprehensive written analysis in a larger context.

0.5 Prologue: Localness

Inside a Midwest Express Airlines DC-9, there is no local time. Until one reaches a destination, it is hard to determine what feels “local” besides the rest of the passengers and the flight attendants serving turkey foccacia sandwiches and fresh chocolate chip cookies. I am typing this en route from Boston to Milwaukee, traveling home to my family in the village of Sussex, Wisconsin.

In the Midwest Express magazine provided for our inflight reading enjoyment, the featured story is an extensive survey where Dayton Fandray details how former industrial land and waterways are planned to be transformed in Kansas City and Milwaukee (Fandray, “Park Places,” 2002). He chose these two cities deliberately, as they are two major hubs for this airline. Highlighting events and plans for destination cities is normal for airline magazines; it gives visitors and business travelers a chance to learn about local people, culture, and places they may be visiting. This particular topic is different. The inclusion of this subject, dealing with derelict factories, polluted stream beds, the legacy of urban renewal, and obsolete economic centers, demonstrates that the issue is now considered relaxing and of general interest, enough to be the lead story. It has enough locational pertinence to be an effective introduction to the economies, histories, and people of these locales.

It is often a cliché to describe how from an airplane, the world is all one green and blue



View from Midwest Express DC-9, 11 July 2002

mass without geopolitical boundaries. Upon closer inspection, however, patterns resolve out of the boundaries between forests, farmland, and developed areas. When traveling by car on a highway, the continuity of asphalt is punctuated only by the change in density of signage and buildings as one crosses through or around a city. From the air, however, the patterns do not emphasize the homogeneity but rather the significant presence of different locales. Roads crisscross at various angles, meeting near river crossings, railroads, and other historically significant avenues of transportation. Farm fields' shape and size reflect different scales of single uses, and as one looks closer to the spots where the aerial shapes are more densely packed, individual villages resolve themselves within the visual patchwork. When these communities grew up, most Americans lived in small villages and the interstitial rural areas. The distinctness, separateness, and recurrence of the tiny dense settlements allowed them to form a network, each individually walkable but linked by roads for horse-drawn transport. For most of Sussex's history, “local” travel included the two- to

three-hour wagon trip to Waukesha, Milwaukee, and other places. Within the same amount of time, I can now travel from Sussex to Boston or vice versa, yet Boston and Sussex do not seem to have any relationship resembling localness. If localness is no longer a mere function of transportation, how it is articulated?

This thesis explores possibilities for uses of architecture and urban design in the reappropriation of industrial land; some examples of this are hinted at in Fandray's magazine article. Artists, architects, planners, politicians, and others frequently examine the ramifications of such reappropriation, re-use, and renovation efforts through examples on either a definitively urban scale, such as the steel mills of Pittsburgh, or on a regional scale like the industrial river corridors of Germany. My intention is to clarify these issues as they apply to a village, using the prominent scale and location of former industrial land as a point of departure for improving a location's sense of local character, its local economy, and its public space and neighborhoods. The thesis also shows how the solutions for the site involve not just designing individual buildings but require the creation of significant public space within a microcosm of a village, a mixture of uses, buildings, spaces, and paths that work together.

As is the case for most schools and practices, all of my academic and professional architectural projects to date have been either in dense established urban settings, or in relatively idyllic and expansive rural areas. This points to the larger trend where projects increasingly

require profitable urban locations or private donors in rural settings in order to warrant *architectural* design; the majority of remaining projects use contractors and builders without involving an architect. I intend to explore the role of architecture in this gigantic but understudied intermediate zone of suburbs and villages, between the extremes of the urban and the rural. As more people move to this intermediate zone, each village must remain a place of public and economic vitality to be an adaptable amenity for residents. Therefore, the built and natural environment must be designed to create this sense of localness, and to solve currently unresolved questions of how to build well on Main Street.

After seven years of architectural history research throughout the northern United States and Europe, it is a fascinating change of direction to return to my hometown. It is also fitting because my research has always focused not only on famous architects and extant examples, but also on the more obscure but equally fascinating buildings, stories, projects, and people that lie on the periphery of architectural design and history. With the tools and experience I have gained through my years of architectural study prior to and at MIT, it is an intriguing pleasure to explore how these have relevance close to home.

It is now time to land; the time is now local.

David M. Foxe

11 July 2002 4:56PM EDT, 3:56PM CDT

(Revised January 2003)

1 The Village

One of the initial steps in this thesis was an in-depth analysis of the village of Sussex from many different viewpoints. The local qualities of topography, land use, and primary paths through the village are inherently specific to Sussex. Furthermore, since I have lived in Sussex for almost 12 years I felt it necessary to re-examine the village through images and analysis to communicate these qualities to persons not familiar with Sussex.

In a larger sense, village-scale redevelopment projects as a whole are highly idiosyncratic yet linked by the issues I present. Depending on the age of a village, the cultural geography of its origins may be more or less remote with respect to its current residents, but place names and civic traditions continue. Transportation systems and geology are but two of the man-made and natural elements that shape site infrastructure over time from which new development springs.

The urban context of Sussex shows on the scale of a village the juxtaposition of functions that existed before twentieth-century notions of zoning were enforced. From looking at the entire village to the more localized view around the project site in the eastern part of Sussex (formerly the railroad hamlet of Templeton), the way in which the village grew around nodal intersections allows it to maintain a “small-town” feel that has made it such an attractive residential community in recent decades. The challenge, however, is that growth either

contributes to vastly dispersed suburbanization that is disconnected from the village center, or to the transformation of the nodal Main Street into a far denser or purely commercial character than might be desirable.

Since maintaining small-scale residential areas along Main Street and commercial and public areas at the intersections is preferable, the primary places to upgrade the village are in underused industrial and parking areas. Using these sites can erase eyesores without scattering public spaces further village centers.

Sussex benefits from enormous natural and built amenities, including the Bugline pedestrian trail, picturesque land around Sussex Creek, and the former quarry on the project site that is now a treelined lake. It is essential to recognize the constructed nature of most of these landscapes, and to use them to the greatest public advantage. They are places of scenic and recreational potential that are too often hidden from the residents that could use them most readily.

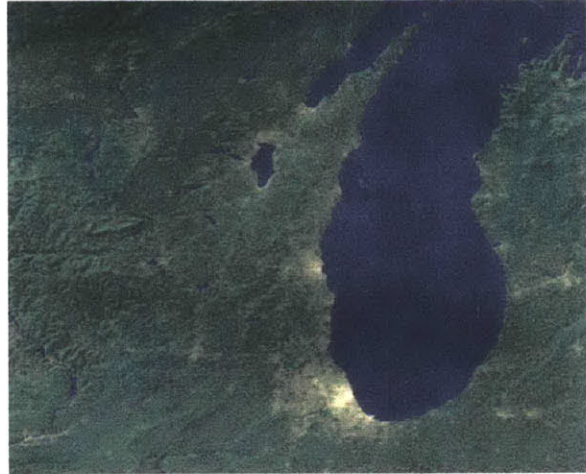
Furthermore, these qualities that reinforce the local village character are also opportunities to re-emphasize spaces and paths for pedestrian that coexist harmoniously with vehicular paths. Main Street and the Bugline are the two primary paths in this part of Sussex, but using transportation and movement to inform new urban design decisions opens the possibilities of designing the experience and character of not just buildings, but also the spaces and paths that pedestrians and vehicles use.

1.1 Regional Context

Sussex, Wisconsin is a rapidly growing community of 9,000 people within Waukesha County in southeastern Wisconsin. While it is now in a suburban zone with respect to Milwaukee (25 minutes by car), the first residents of Sussex and the surrounding township of Lisbon were English settlers from 1836. One of few villages with distinctively English ancestry, its economic base of agriculture expanded to include rock quarrying and other industries with the growth of railroad lines since the late 1880s. While it is currently peripheral to major urban commercial growth, it is only 10 minutes by car south to the interstate highway. The village remained of modest size until recently, but it grew from 3,482 in 1980 to 5,081 in 1990 and 8,828 in 2000.



Sussex, Wisconsin



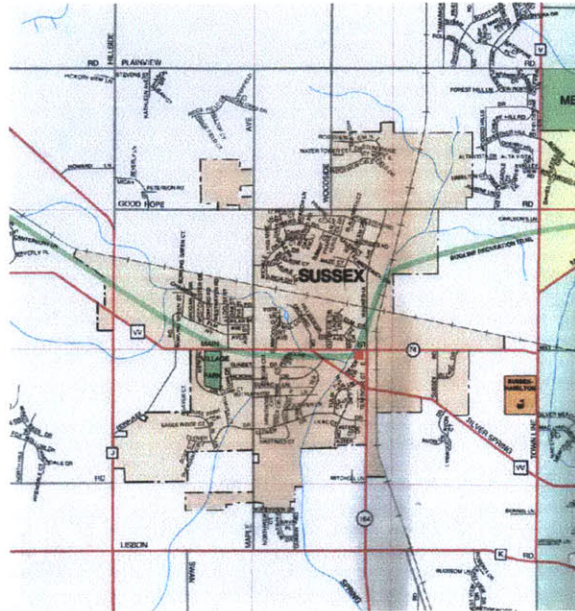
Aerial context around Lake Michigan



Aerial context of Sussex (highlighted) within eastern Waukesha County, July 2002



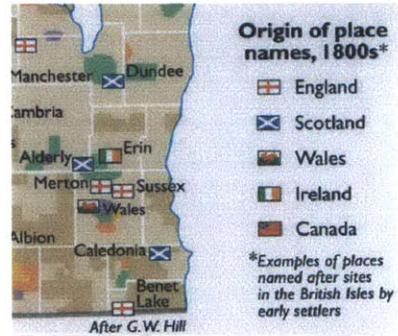
Sussex (highlighted) within southeastern Wisconsin and northeastern Illinois



Sussex c. 1995; The Bugline trail shown in green is discontinuous at the site in eastern Sussex



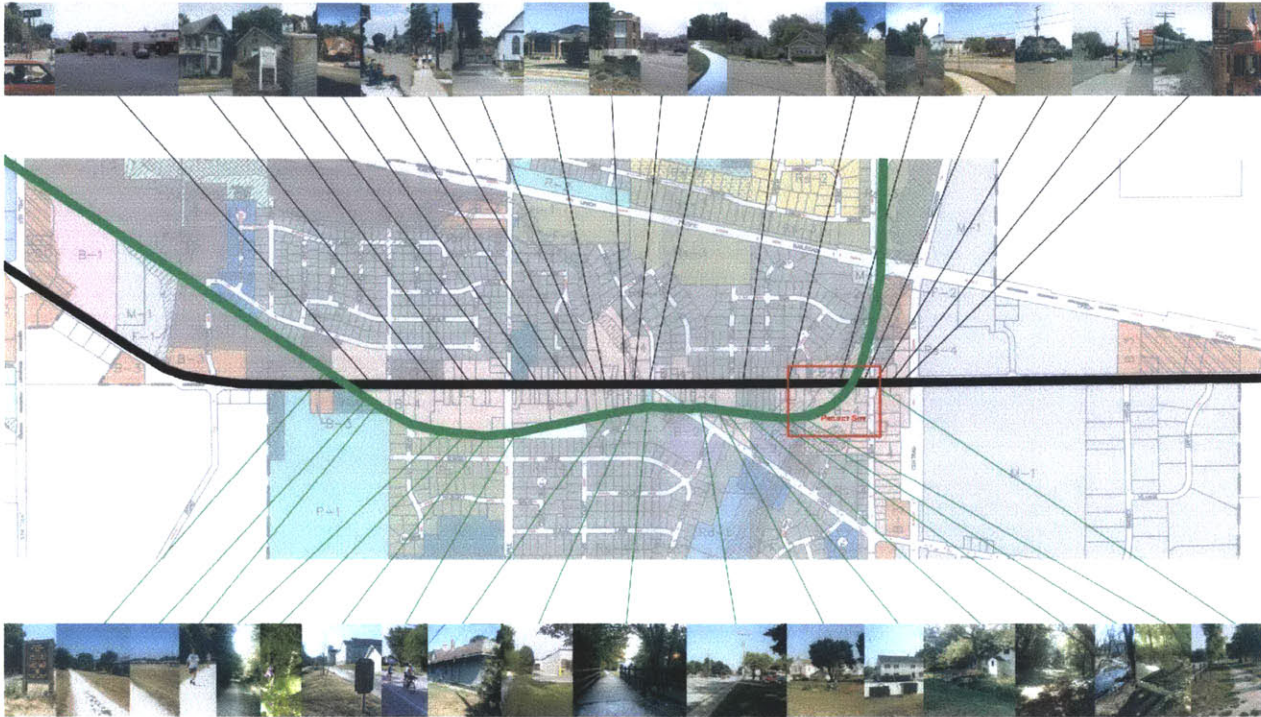
Cartography of Sussex, defined not just by streets but by its location at the intersection of rail lines



Cultural Geography of Sussex as one of few English enclaves

1.2 Main Street and the Bugline

Top row: Views Along Main Street (Black)
Bottom row: Views Along the Bugline (Green)



There are two major paths through Sussex: Main Street and the Bugline. Main Street is a primary vehicular path, continuing to become a primary street in neighboring towns. Within Sussex, its speed is mostly limited to 25 miles per hour. Main Street has a very specific nodal organization. Instead of having a continuous corridor of commercial activity, it has four major nodes at key intersections and residential areas between. The project site is at the easternmost node where one enters Sussex.

The "Bugline" is a former railroad that has become a pedestrian and bike trail since 1978. Despite frequent intersections and close proximity to Main Street, it is heavily wooded and quite rural in character. Over its eleven-mile run through three villages, the Bugline

recreational trail has only one gap which is at the project site, a former quarry and canning factory area. This local rail line connecting small towns like "bugs on a line," which allowed the quarry and cannery businesses to be economically feasible in the first place, is now blocked by the businesses it created.

Currently, pedestrians and bikers on the Bugline must leave the trail and meander along several busy streets in Sussex.

Along Main Street and the Bugline exist the oldest structures in Sussex and its village government centers. The Bugline widens near nodal intersections of Main Street; a prominent entrance at the project site would connect pedestrian traffic and vehicular traffic well.

Sample Main Street images from previous diagram

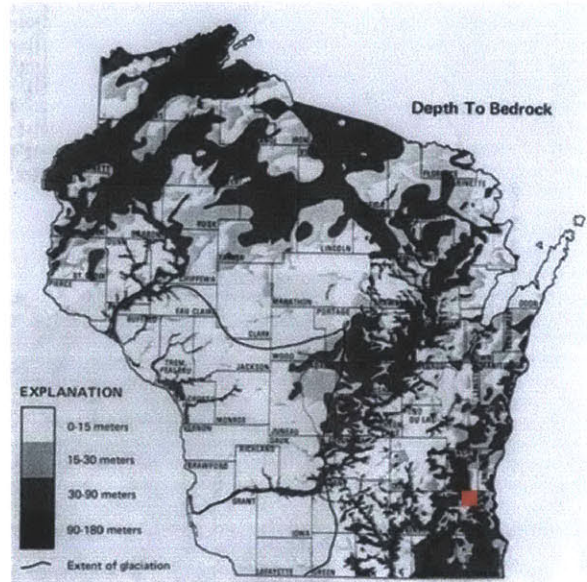


Sample Bugline images from previous diagram

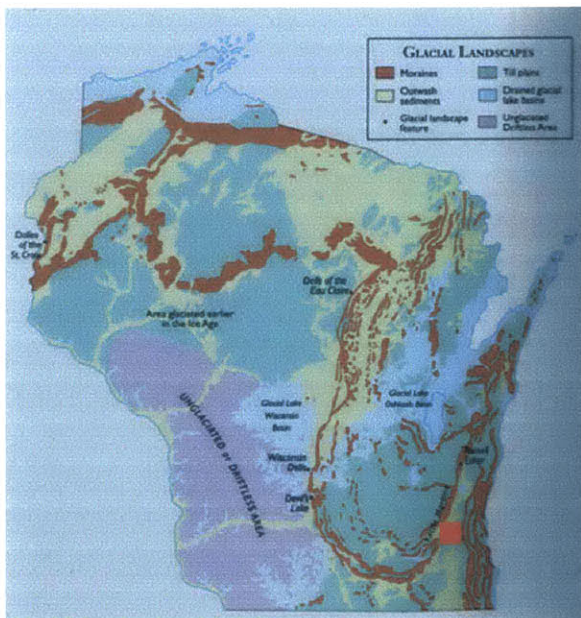


1.3 Geology

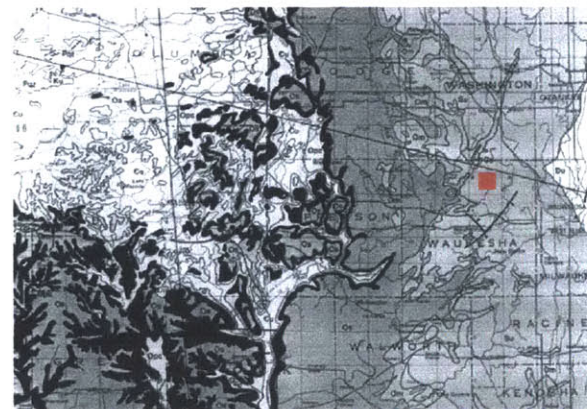
For this project's site, geology is a particularly present natural characteristic. After the glacial activity that shaped this part of Wisconsin, the area that Sussex now inhabits was left as one of few places in the state's southeastern corner with a shallow depth to bedrock. The site includes a limestone quarry that was used for producing lime c. 1890-1916, so the economic past and future has been shaped by the underlying rock qualities.



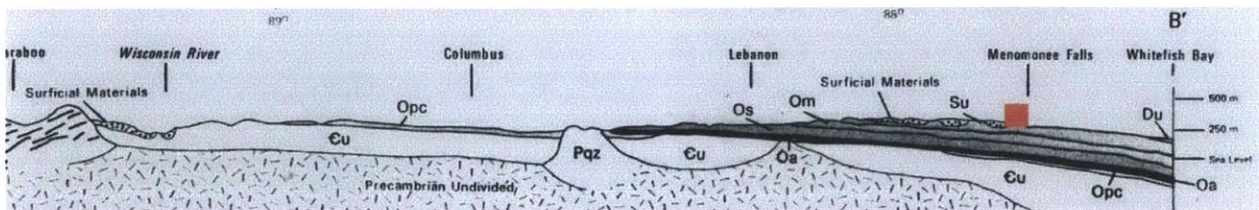
Sussex is in a small part of Southeastern Wisconsin with a shallow depth to rock



Glacial Deposits

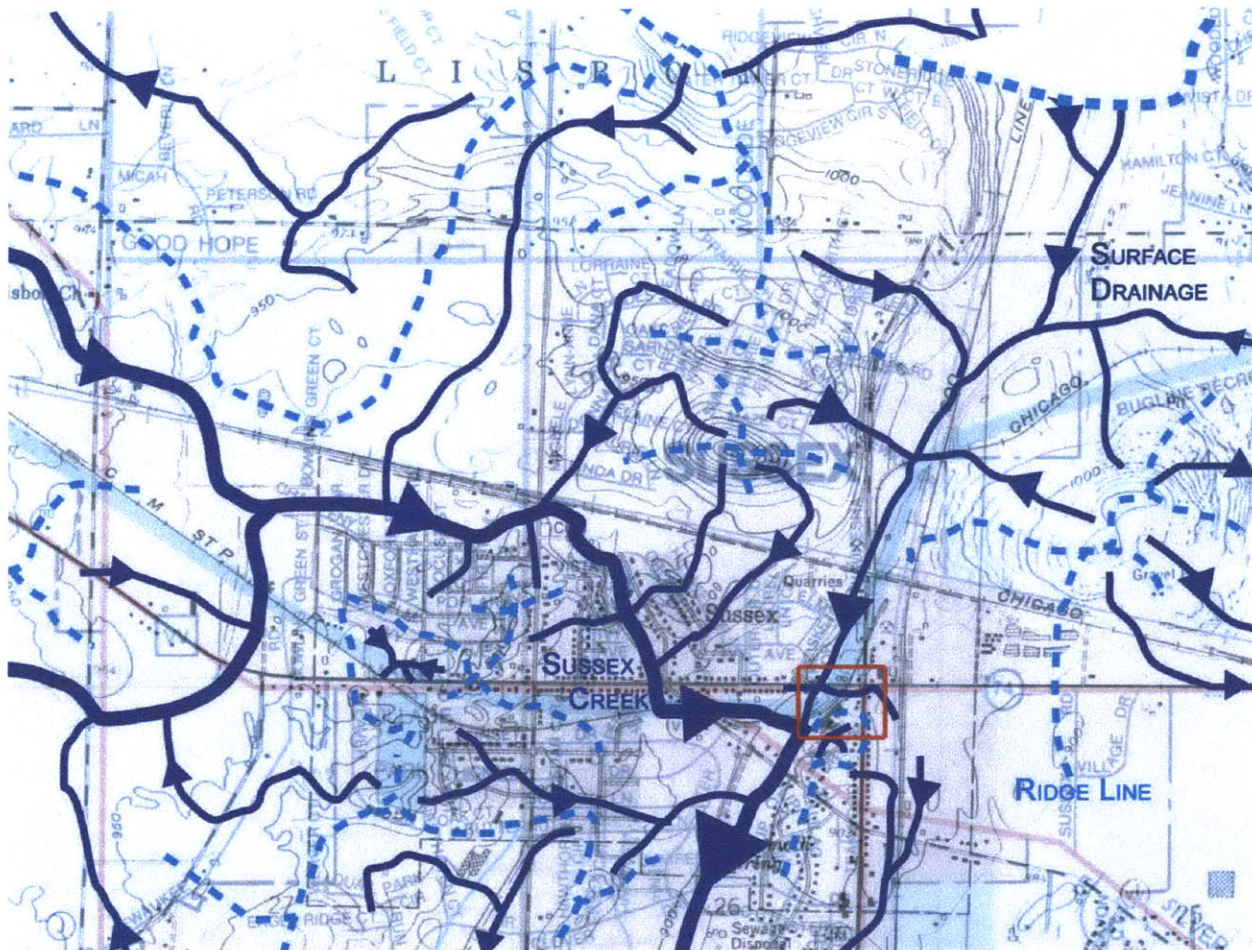


Plan of Local Surface Geology



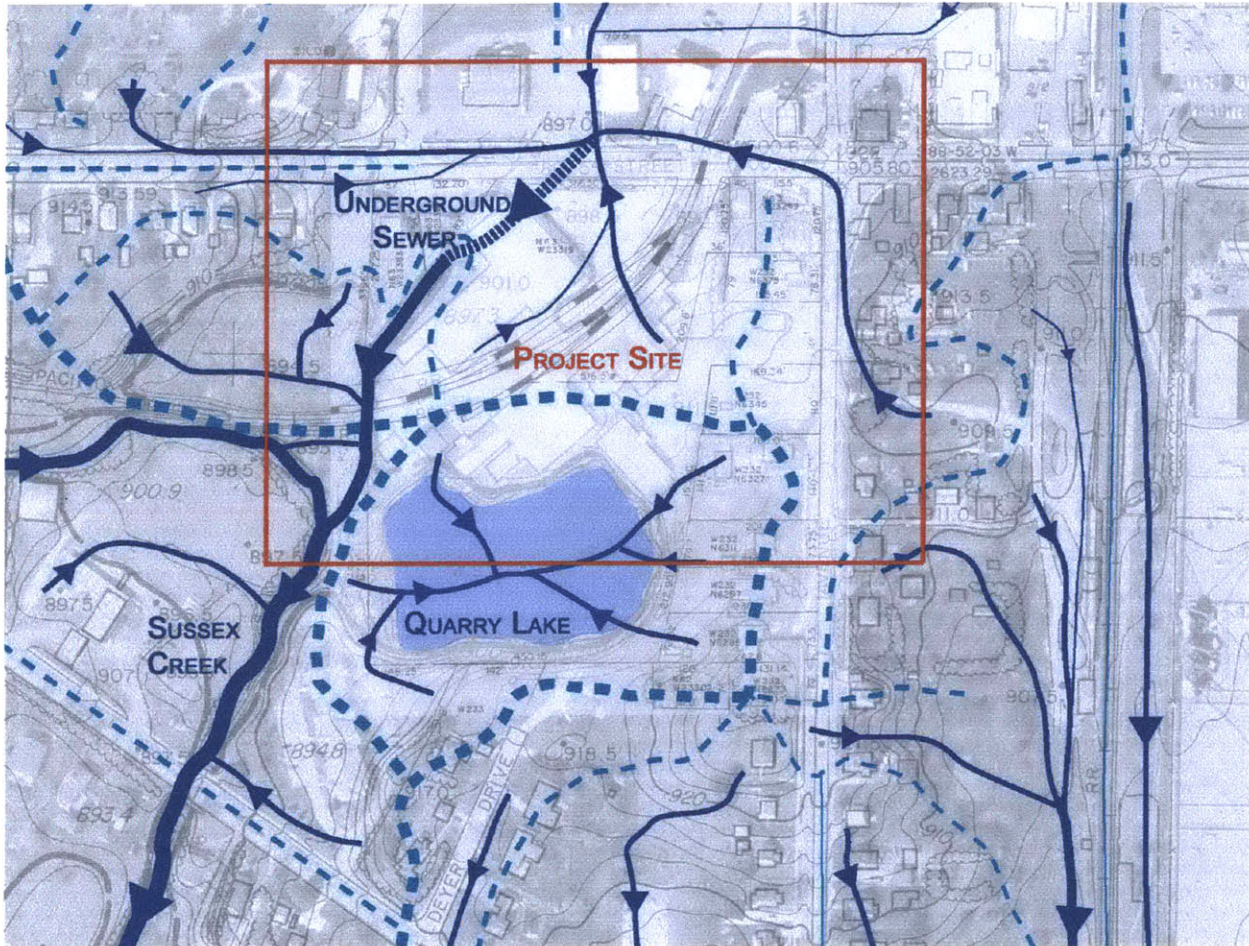
Section of Local Geology through Sussex, corresponding to above map. Section taken just north of the project site, showing surface deposits and rock layers below

1.4 Hydrology



Water drainage and ridge diagram for the village, project site highlighted

Sussex Creek drains most of the northwest parts of the village and drains to the south, eventually to the Fox River and into the Mississippi. Near the project site, it joins a creek draining northeastern Sussex. Improving drainage locally on the site is intrinsically related to the quality of water drainage in other neighborhoods around Sussex. This site offers opportunities to improve the water flow and flood control for the larger area.

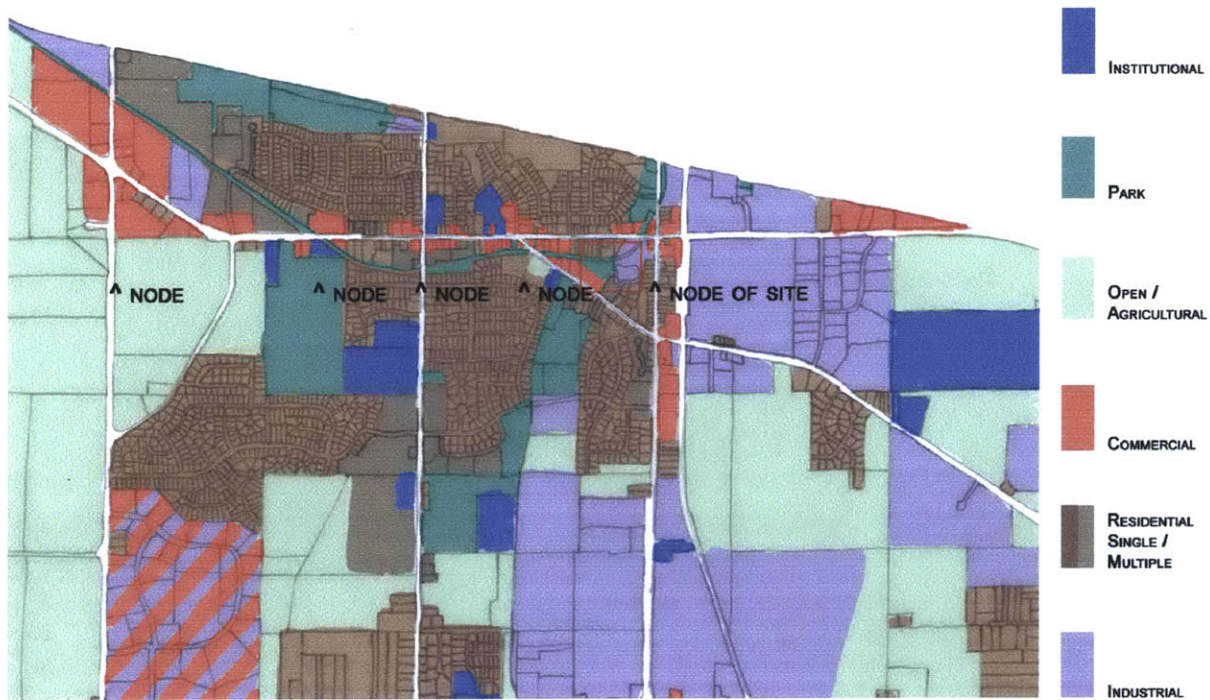


Water drainage and ridge diagram for the project site

Relatively little of the site is draining into the quarry, which is at ground water level. Most of the site instead drains north to a storm water sewer on Main Street that connects underground, emerging to drain into Sussex Creek. This explains flooding problems along Main Street. There exists the opportunity to redirect the water to drain into the creek while bypassing the sewer.

North of the quarry lake is Main Street, a west-east vehicular pathway. The other street that affects this site closely is Waukesha Avenue, the residential north-south street to the east of the quarry lake. The red project site boundary shows the focused area of study that will become the boundary for the final proposal in section 4.

1.5 Land Use - Village



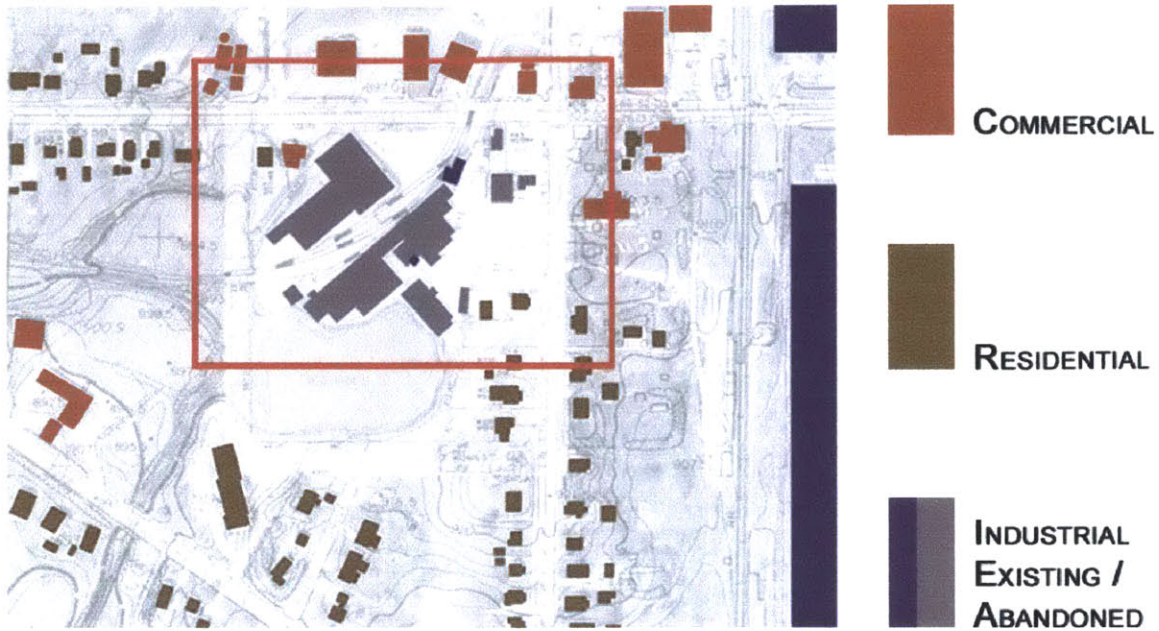
The nodal character of Sussex and its Main Street in particular is also seen in its land use. Land more distant from the village is carved into large polygons of industrial parks, farm fields, and sprawling subdivisions. The finer scale of varied uses along Main Street and its red commercial nodes is broken only by the large cannery site.

The Bugline also connects a loose network of park lands, often quite removed from central downtown access.

Current growth includes the mixed-use (striped) business park to the southwest, and soon more of the farm fields around it will become housing far from downtown Sussex.

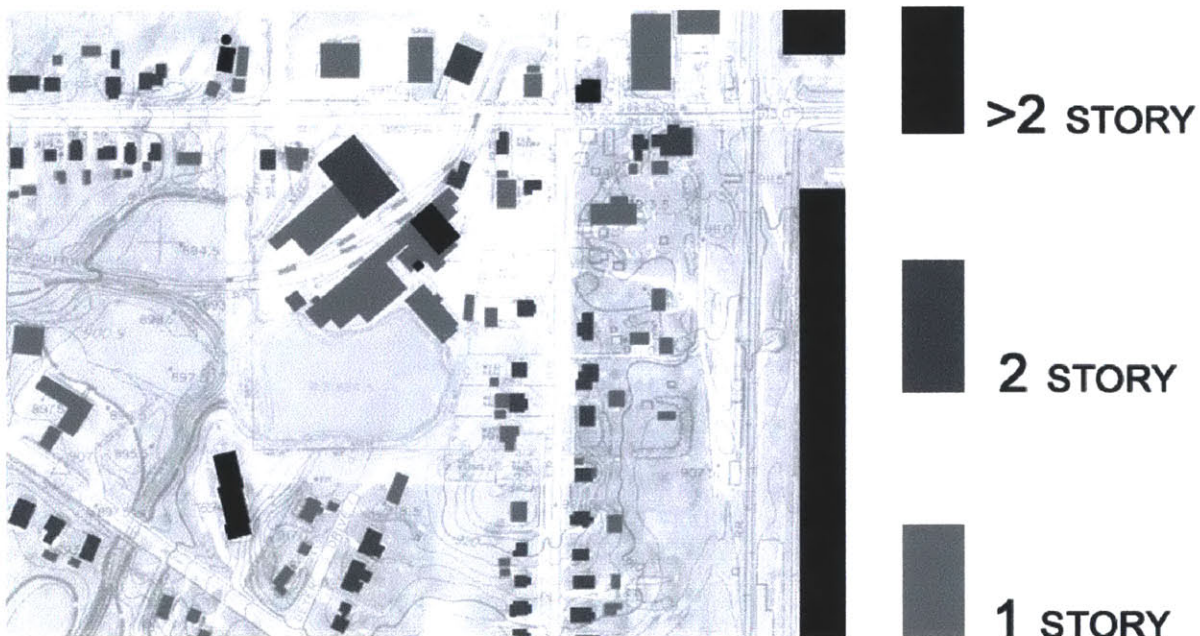
The node of the project site is the easternmost node in the village, and the large purple area on the southwest corner is the former industrial space that began as a quarry in the late nineteenth century. Since the 1920s, the site has evolved as a cannery factory with an amalgamation of buildings. This site is a workable place to explore the issues of public/private ownership and mixed-use development because it has such a prominent location in the village as a whole. While it is easily connected to nearby parklands and residential neighbors, it is currently very separate due to its past industrial uses. This anomaly within the village can therefore be seen as both a result of its history and an opportunity for future site improvements, such as that which this thesis explores.

1.6 Land Use - Site

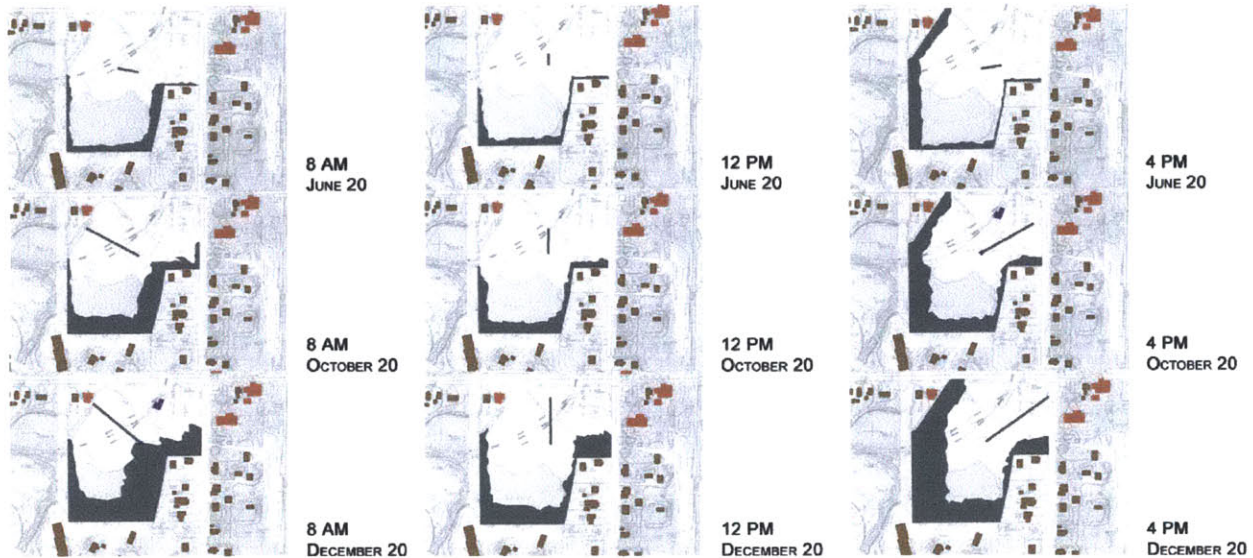


Zooming in, the project site's economic context bridges between the loose commercial fabric at the node and the residential continuity further along the streets. Beyond their differences in placement and frequency, the residential units' scale is definitively smaller than that of the

commercial buildings, and all of them are dwarfed by the large printing and office buildings owned by Quad Graphics at the east portion of this map. Therefore, the site's new development has the opportunity to use scale to bridge effectively between contexts.

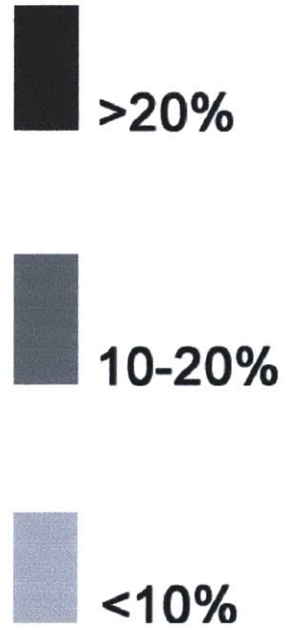


1.7 Light and Shadow



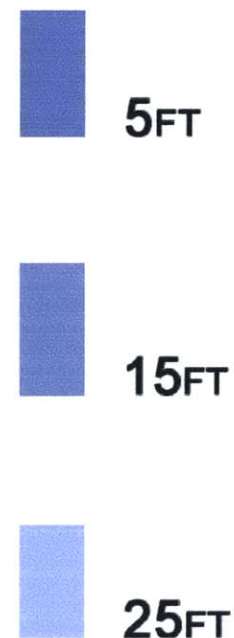
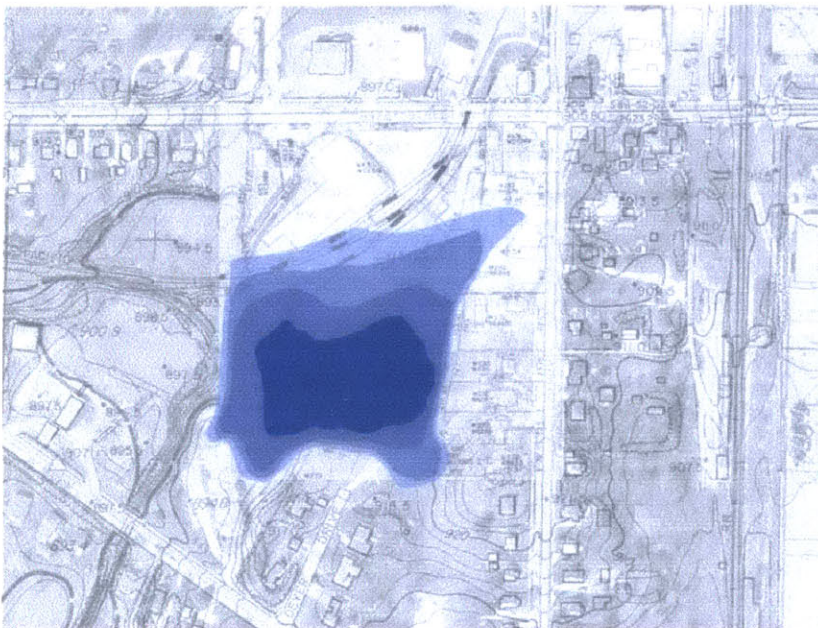
On the canning factory site, there is a tall (approximately 120') smokestack. Using that as a consistent vertical element and keeping the rest of the abandoned buildings hidden from view, these diagrams show how the surrounding trees shade the site. Most of the site is actually still lit through most of the day, even though the surroundings are quite heavily wooded. This presents the opportunity to use the advantageous sun angles, particularly from the south and southeast, in planning the buildings' orientation and the character of outdoor spaces.

1.8 Vertical Change



The diagram above shows the slope of the existing surface grade. This type of vertical change shows that the land around the quarry lake is quite steep, as is a strip of land snaking northwards from the quarry. These areas require particular care in using landscape features to avoid issues of ground instability.

While the quarry lake is a key element to which many possible program elements would need views, the diagram below shows that the lake is in fact only visible from a small part of the site. One must be quite close to the edge to see the lake from ground level, so buildings in the site's interior will lack this amenity unless they have second- or third-story unobstructed views. .



2 Planning and Program

This project deals with the redevelopment of the site of a former quarry that was best known as the Mammoth Springs Cannery site when it produced Kewpie brand canned goods, especially in the 1950s and 1960s. The redevelopment of former industrial land is not merely a case of changing functions or simply building anew, because the site has so many layers of history within the local economy. The site is therefore being *reappropriated*, taken over for a new purpose but with respect to the older changes evident on the site.

Therefore, the planning process for this site is not just the application of a routine program for suburban development or strip-mall detached retail to yet one more site. This is a site that deserves and requires a more complex analysis to resolve the various public and private interests that exist for such a prominent place in the village. Before creating a design that responds to the “localness” latent and apparent in the village context, the next step is to show the site’s history, its current status, and who could be involved in its improvement.

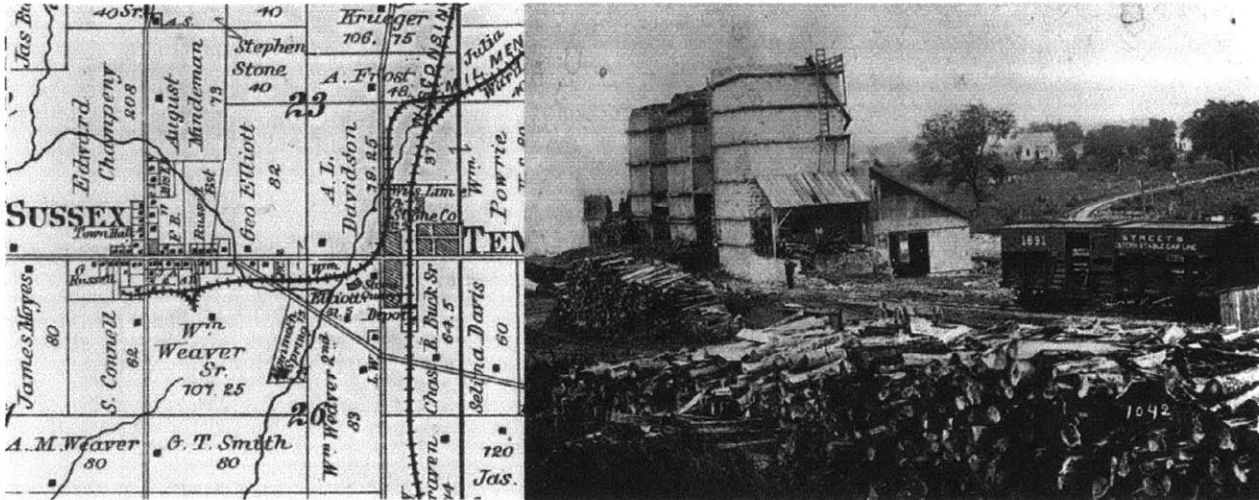
Because this was an urban design thesis and not merely an architectural design, I capitalized on the opportunity to provide a few initial ideas at how the site development could be programmed and financed. This will be expanded into ideas about phasing in the final proposal.

To a certain extent I had the luxury of being in an academic situation where I could propose a hypothetical combination of actors on the site and find a program to fit the site, instead of accepting an existing program. This was essential, however, because the site has strange geometric and topographic challenges and complex adjacencies. When one examines the surrounding visual environment and land uses carefully from the perspectives of the previous chapter, it becomes clear that the new development does not have the relative ease of fitting into a dense urban “Main Street” corridor and must instead create its own pedestrian environment.

In this urban design strategy, the buildings and urban spaces will act as solutions and answers. Therefore, the detail given to the planning and program allow the questions proposed to be more appropriate to the site so that the buildings and spaces are answering the right needs. These include questions of what functions should have access to the quarry, what elements can and should be retained from the site in its current status, and how a greater mix of uses can support each other to harness the site’s potential.

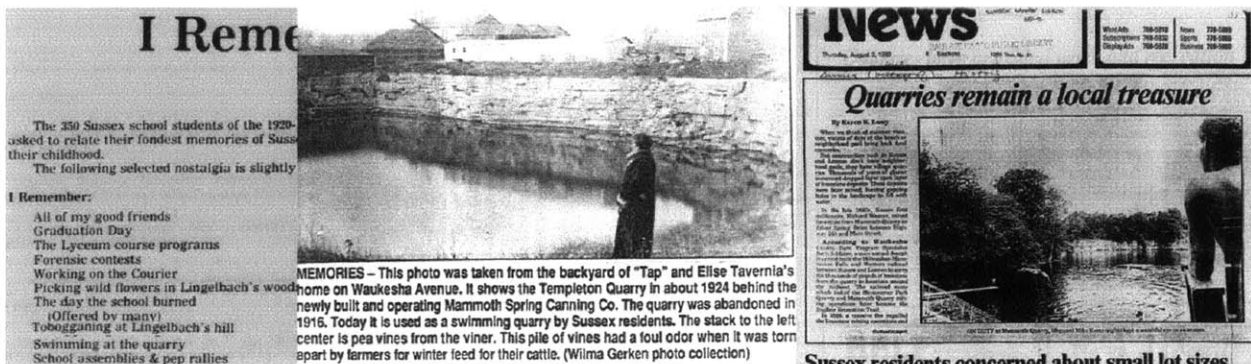
2.1 Site History and Current Status

Sussex and Templeton; Kilns c.1910



The Bugline and access to surface bedrock enabled the economic development of quarrying within this part of Wisconsin generally used for farming and dairy land. A lime quarry on this site from the 1890s burned in 1916. Beginning with the initiative of the Kraemer family, since 1920 the site was used for a variety of canning processes. From Sussex's initial industrial expansion alongside the hamlet of Templeton, to the lime kilns and the subsequent cannery buildings, the project site has been well documented. The former quarry is now a spring-fed lake, with a history of clean water for

safe swimming, although since 1990 it has been closed due to lack of handicap accessibility and municipal supervision. Given its man-made landscape within the village downtown, such a quarry can now be an amenity, a "local treasure."



The Quarry's written past (courtesy Fred Keller and the Pauline Haass Public Library)



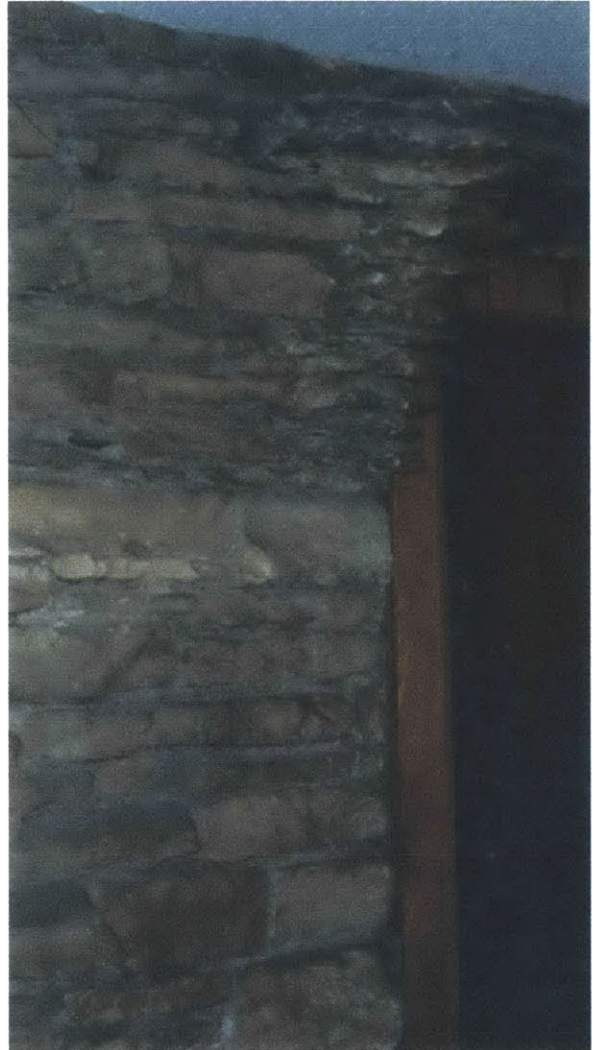
The quarry lake, however rich and verdant a place, is now inaccessible and surrounded by chain-link fencing. Vacant since 1997 with the departure of Friday Canning (owned by Chiquita Foods), the site has declined rapidly. While the site is quite overgrown, deteriorating, and sadly vandalized, there are traces of materials and spaces (primarily the stone office building) that can be reused in the development, just as the kilns' limestone was recycled as aggregate for the cannery's concrete mat over 80 years ago.



Current site conditions, with stone office (left), deteriorating empty building shells, and smokestack



Site buildings beyond repair, July 2002



The existing smokestack is a significant visual landmark, an industrial campanile, a vertical counterpoint to the undulating landscape. Recurring glimpses of it throughout the village provide a subtle means of local orientation.



Existing stone office details



former cannery employee and groundskeeper



Abandoned vegetable processing buildings in cannery complex

2.2 Client Team and Program

This site has already been designated a Tax Incremental Financing (TIF) district, which will encourage redevelopment by fiscal means. This site could have "mixed use development that is developed under a unified architectural theme and site plan" within the B-4 Central Business District zoning. As given initially by the village the possible program for the site consisted of a large amount of parking, an upscale commercial/bed and breakfast, and a few shops. In the Sussex Sun on 20 August 2002, the updated program was given as 46 apartments, 18 town house, 5 stores (no "big boxes" allowed) totaling 24,000 square feet of retail, and 8,000 square feet of office space. The proposal totals less than approximately 95,000 square feet overall. My critique is that this should include public spaces and not become an awkward subdivision in such a urbanistically prominent location. Therefore, I am proposing a new client team and program.

Client Team:

Quad/Graphics: This gigantic national printing company has a factory 1,000 feet from the site. Several hundred employees work here in three shifts, and could access the site by vehicle or on foot. Quad has clear interests to improve employee fitness and the community.

Village of Sussex: This must be a joint public-private venture to ensure feasibility, and the village owns the rights to the pedestrian Bugline trail. The village has clear interests in promoting downtown development and housing to offset sprawl and draw peripheral residents to their village more often.

Sussex Historical Society: Even if the society operates a museum in the former rail depot several blocks west (purchased in early December 2002), it must have a presence on this site for tourists interested in the cannery's Kewpie antique merchandise to have enough presence and draw casual visitors. This organization has interests within Sussex as well as to an international antique community.

Waukesha County Department of Land Use and Parks: The quarry lake should become a public recreation area. This department has done this most recently with the creation of Foxbrook park 10 miles southeast. They have clear interests with reusing quarry spaces and creating accessible environments without disrupting drainage or other natural processes.

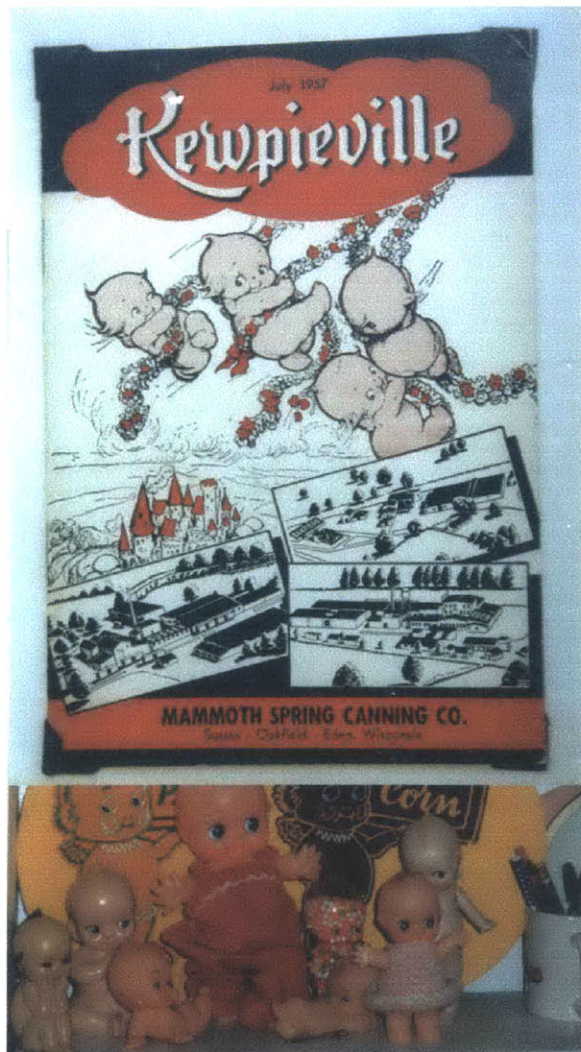
Program:

- Sussex Historical Museum, including office space, antique retail, and public meeting facilities. Incorporates the site's preserved building elements. 32,000 square feet.
- Boutique Hotel, including attached restaurant. 22,000 square feet
- Public recreation space, facilities for users of the Bugline and quarry lake. 8,000 square feet.
- Commercial space, including antique shops, restaurants, and retail tenants. Office space above ground level. 18,000 square feet.
- Condominiums, 1-3 bedroom, as townhouses and apartments. 30,000 square feet.

Total: 110,000 indoor square feet on a site of approximately 240,000 square feet. The site must be landscaped carefully to support pedestrians as well as to provide public park areas and a pavilion for farmers' markets, picnics, senior shuttle service, and other uses. square feet.

In deciding between creating a single giant public space or a series of smaller spaces, I have chosen the second option because of the site's scale and segmentation forced by natural constraints (flood control) and human constraints (pedestrian traffic on the Bugline). Just as Sussex as a whole does not have one central space nor one continuous Main Street commercial corridor, I intend to create nodes of public space linked by the Bugline. The commercial space must define the street edge while drawing visitors into the rest of the site. The primary public spaces will be at the

entrance on Main Street where the Bugline crosses, and along the northwest edge of the quarry. The residential and hotel units must all have views of the quarry and/or park. The museum space should be inviting and engaging to casual visitors and pedestrians as part of the village fabric. The stone office and smokestack should be retained as visual evidence of the workers, products, and economic forces that shaped the site.



Economic history and canning factory merchandise, Kewpies, as foundation of museum collection

2.3 Public-Private Partnership Proposal

This site has been designated as a TIF (Tax Incremental Financing) district, where Sussex's village government uses the TIF to raise redevelopment funds. TIF provides for municipalities to use tax revenues generated by urban redevelopment (the tax increment) to finance public costs of development, thereby enabling it to pay for itself. Wisconsin has been one of the top states in creating TIFs, and it even has a statute in the Tax Increment Law to give procedural information for implementing TIFs on a local level. A question beyond the initial site and scope of this project is whether the TIF should be expanded or at least integrated with plans to improve neighboring underused sites to the west, north, and east of the former cannery site, in keeping with a neighborhood model of TIF redevelopment. Even with the current TIF area, one option would be to have a single private owner maintain the entire site, but this would prevent the quarry from having proper public access. Furthermore, the county has a legal right to the land to connect the Bugline, but the entire site is far too large in context to be designated as park land or municipal space without private development. The site geometry and topography would make the literal space of the former railway less than ideal for the Bugline trail and would constrain the rest of the site development. Investigating a more complex combination of public and private spaces and constituencies will allow for all parties involved

to have more usable spaces and relationships. I will now detail a few initial ideas at how to organize, administrate, and maintain this project.

I propose a public-private partnership with a partnership board to administrate the distribution of the TIF funds. The model for this is similar to a nonprofit park organization, and funds would need to come from the TIF along with an annual contribution from Quad/Graphics and/or its Windhover Foundation, perhaps with some type of naming rights to compensate as in past projects. I propose that the nonprofit park organization would be in the form of a partnership board comprised of members of the Sussex Community Development Authority (CDA) along with representatives of Quad/Graphics, the county park system, and the Sussex Historical Society. While the land of the commercial buildings could be owned privately, the walking space, planted areas, the quarry itself, the recreation facility, and the places designated public plazas would need to be owned and operated by the village or the county as park space.

This requires a redefinition of "park" to include hardscape and landscape in the minds of local residents, but will allow for the role of the pedestrian to remain centrally prominent. The decision of ownership by the county would depend on if the park system is willing to accommodate responsibility for the additional space; in the case of other parks the system has had to construct and maintain parking, so this should not be a problem. This would improve

the visibility of the park space by including it in the county-wide network of parks and trails, such as the Bugline. If the county wishes to only operate and maintain the quarry park spaces proper, the rest could be designated as a village park in the manner of the pocket park in the center of Sussex (Olde Brook Park). Either way, the park service involved would be subject to review and input from the partnership board. In this manner, all of the members of the partnership board would be landowners except for the CDA.

The partnership board will review and administrate development for this site. In this partnership the CDA members would act as one of several constituencies, while outside of this collaborative role it could continue to loan money to new businesses at this site just as it would to businesses at any other site. This is a sustainable model because it allows the role of the CDA to continue uninterrupted before and after the TIF is in effect; the site will not be suddenly and privately vacated as with the cannery.

Well-planned phasing will be essential to any new construction on this site. If the entire site remains unusable or is visually incoherent while other construction continues, this will damage the prospects for success. The first phase must be site regrading to prevent flooding, remove derelict buildings and machinery, and decontaminate the ground. It must also include the primary public and private owners, the park facility, museum, and hotel. Commercial and

residential development may follow later in designated zones.

Furthermore, the buildings' siting and massing should allow them to evolve as future business needs dictate after the TIF expires (no more than 20 years from now) without compromising public spaces.

3 Design Process

Alongside this initial exploration of the issues that affect urban design proposals for this site and for Sussex as a whole, I worked on the actual design proposals. This was an iterative studio process that included repeated evaluations and revisions to find solutions that best addressed the challenges from as many points of view as possible. For example, many of the early massing studies soon needed work to include proper vehicular accommodation to match various programming proposals. The use of a series of physical models that fit into a model of the village enabled the evaluation of program, scale, outdoor spaces, and pedestrian needs within different ways of regrading the land.

From three overall diagrams of vehicular and pedestrian organization at 1"=200', I moved to twelve initial site proposals at 1"=100'. Given that the developable region of the site is over 200,000 square feet, it was essential to start the drawings and sketches small. Gradually moving up to a final urban design at the scale of 1"=25', I explored a total of over 32 design schemes in combinations of hand drawings, physical models, and CAD documents.

Given the primary assets of a pedestrian trail like the Bugline and a potentially vibrant Main Street, it was essential to begin with such issues as vehicular and pedestrian organization. From initial sketches and sketch models, I began to use media such as watercolor to explore organizational issues further in plan and section.

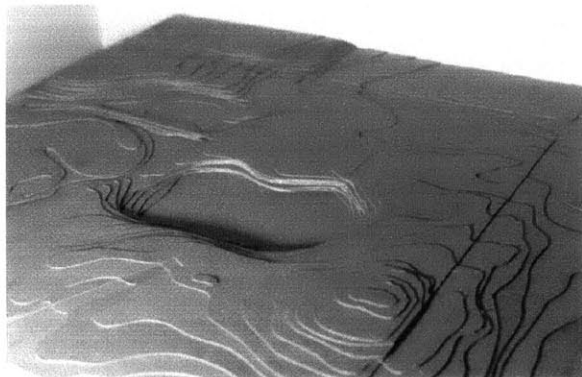
Studio space with sketches and final model



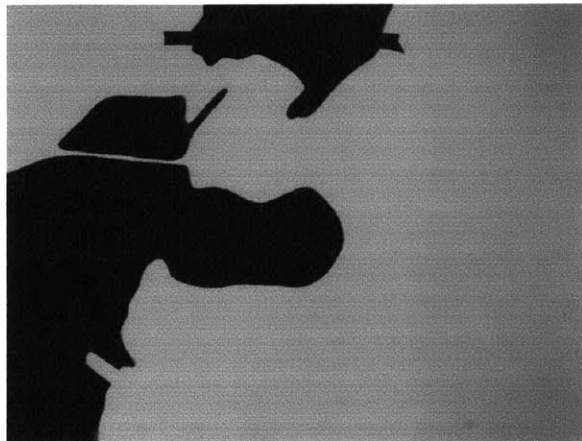
3.1 Site Study Model



Model at 1"=50' (plan)



Model at 1"=50' (perspective from SE)



Model at 1"=50' (topographic contour at 900')

I began by modeling the eastern portion of Sussex using a topographic model based on existing survey data. The lowest point is the water in the quarry, which is at ground water level at approximately 884 feet above sea level. The highest point in this part of the village is the hilltop southeast of the quarry lake, which rises to 932 feet. Each contour level in this model represents 2 feet of vertical change.

In this model and all subsequent drawings and models, north is directly to the top. Main Street is the street at the north of the diagram going from west to east, and Waukesha Avenue is the north-south street to the east of the irregularly shaped quarry lake. Sussex Creek flows in from the west and leaves at the southwestern corner of the model.

A closer examination of individual topographic contours shows the complexity of landforms and the impact on natural processes. For example, the floodplain level for this area is at approximately 900 feet above sea level, and the topographic contour for that level shows that while the quarry lake and creek area is below this level, a narrow neck of land for the former Bugline Railroad has been built up. Also, as the black area to the north (top) of the topographic diagram shows, there is a significant area around Main Street that is also below 900 feet and is thus floodprone. The buildable area of the site is thus like an isthmus between drainage areas.

3.2 Massing Models

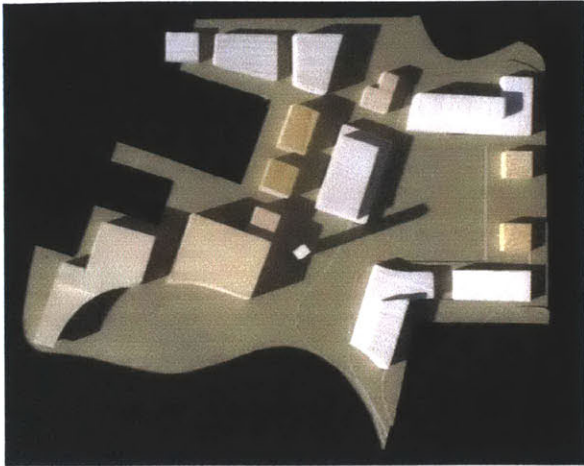


Onto the site study model, I added all 98 of the buildings in this part of the village. In this photograph, the model is shown with the project site (north of the quarry lake) removed. Into this part of the model I inserted each of the subsequent massing schemes (see next page).

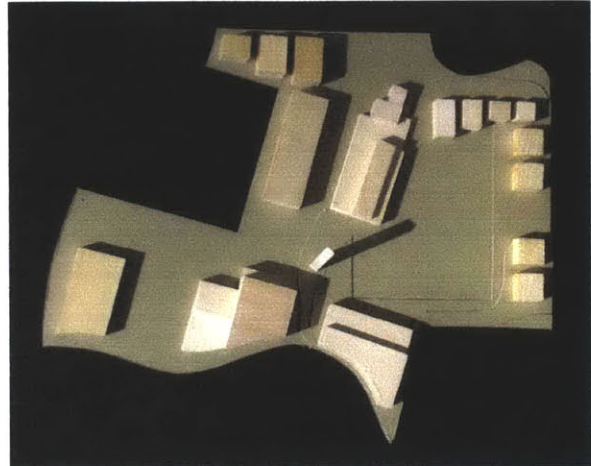
From this model, the large Quad/Graphics printing plant to the east (right) can be seen juxtaposed with the medium-sized commercial buildings along Main Street (top) and the smaller detached residential buildings elsewhere between the village's nodes.

Each of the massing models explored different spatial relationships at 1"=50', and were built primarily of chipboard and basswood. They provide snapshots of the process and of different possibilities. Each develops an increasing amount of detail and articulation as the program became clarified, while certain elements such as the pre-existing smokestack are more consistent.

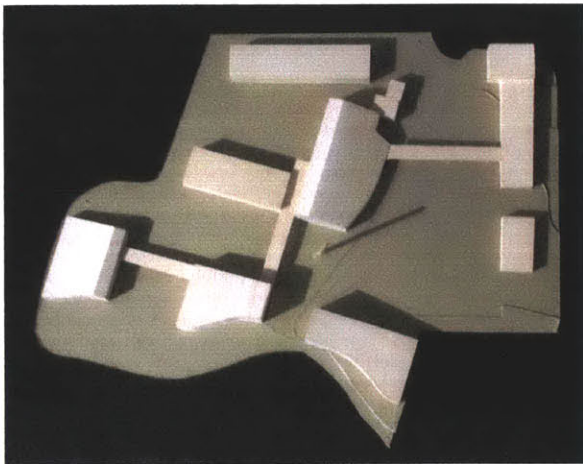
The massing models show the challenge of addressing the scale of the Bugline without overwhelming pedestrians. They also show how the placement of commercial buildings at the northeast corner of the site was less than advantageous because they blocked views into the site as one entered this part of Sussex from the east on Main Street. Also, these buildings tended to separate the areas of commercial activity in a manner that was too dispersed. While the buildings became more defined, the landscape and ways of accommodating the twelve-foot change in grade on the site were also part of the gradual development.



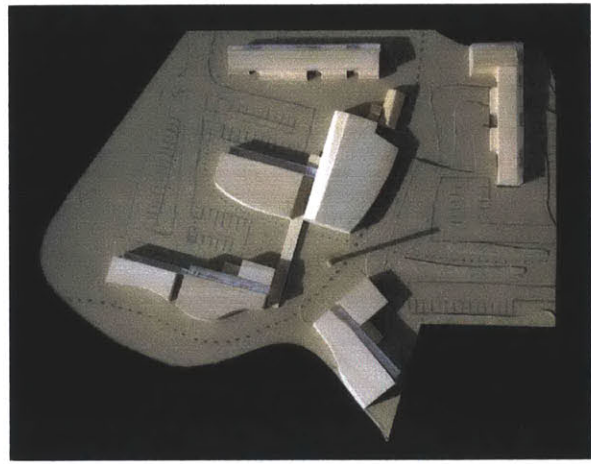
Scheme 7



Scheme 12



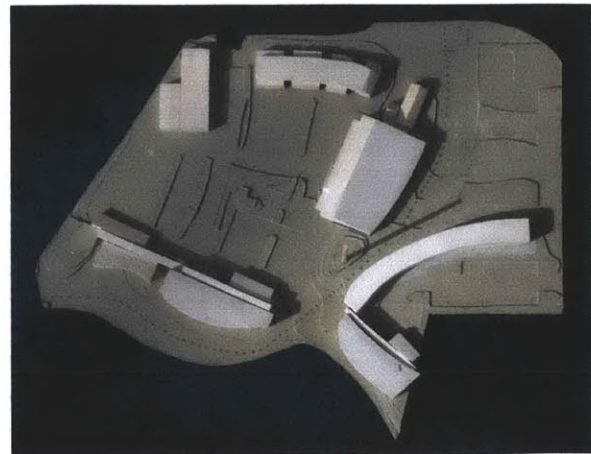
Scheme 15



Scheme 18



Scheme 26 Clay Model of Regraded Landforms



Scheme 26

3.3 Early Sketches

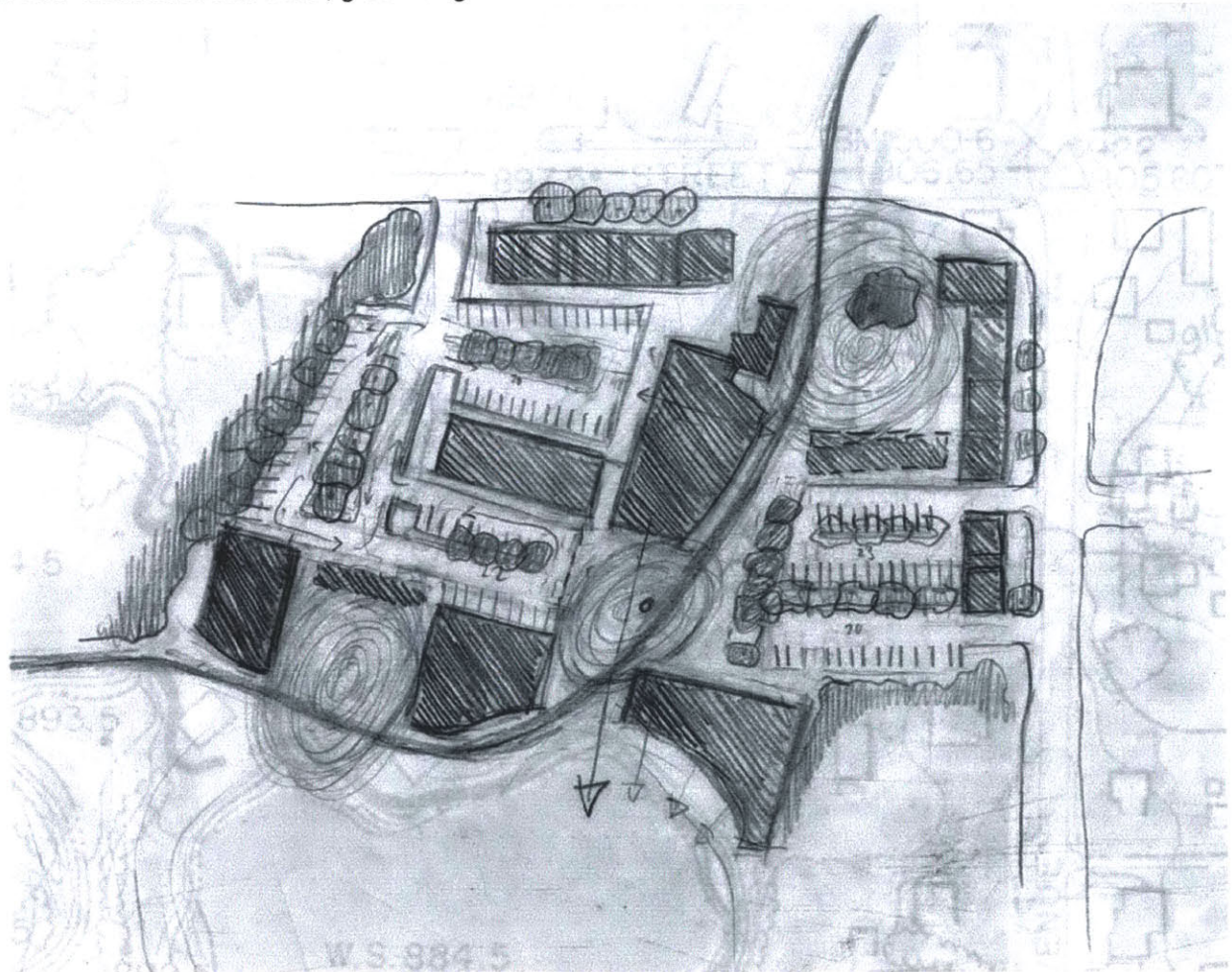


While developing the placement and massing of the buildings and spaces in model form, I also explored the character of the potential spaces through quick perspective sketches. These included preliminary ideas about recreational uses along the quarry edge, and possibilities for creating covered, outdoor connections between adjacent buildings. The sketches also explore the ways in which the buildings, despite their large programs, could be made more human in scale and how they could create pleasant spaces within the village landscape.



Preliminary sketch for scheme 12;
red=commercial, blue=museum and recreation,
brown=residential and hotel, green=bugline

The sketches also informed the programmatic relationships for the buildings shown in the physical models. The first twelve schemes developed general ways in which more public functions (recreation, retail, museum, etc.) and private residential areas could coexist on the site and interact well. I show one of these schemes as a sample. Further schemes, such as the one sketched below, expanded the idea of nodes and activity areas along the Bugline, and began exploring ways of dividing the parking into landscaped corridors that support the public spaces.

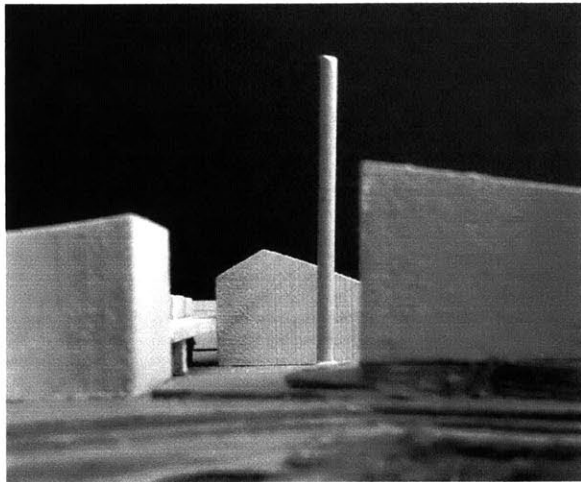


Scheme 14

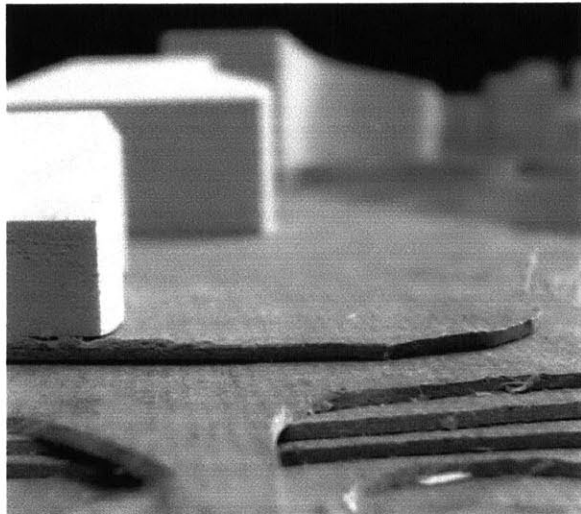
3.4 Scheme 15



Model in context, plan view



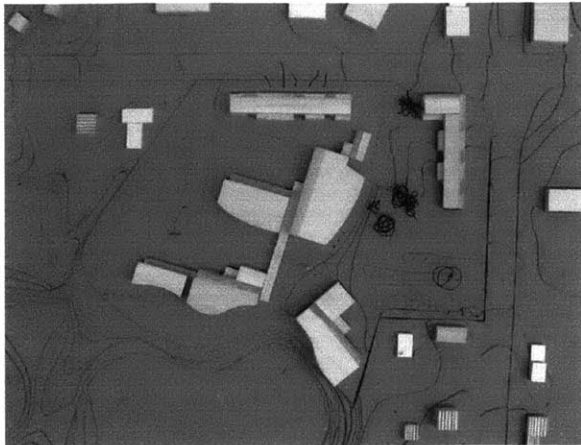
Perspective looking north from quarry lake at existing smokestack and new buildings



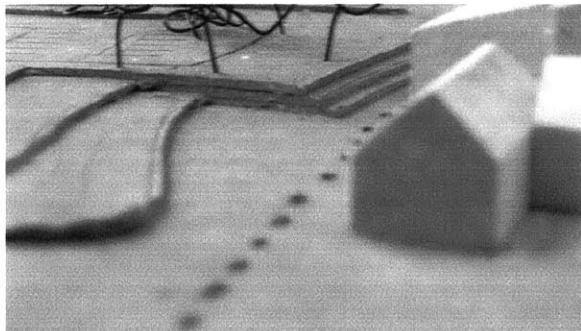
Perspective looking east along the Bugline

The most promising initial schemes used a central museum and antique retail area in the center of the site, with commercial development along the street edges. Along the quarry lake would be (from east to west) the recreational facility, boutique hotel / bed and breakfast, and residential condominiums. All of the lakeside areas would be able to have good views, and the museum building's scale would enable its upper floors to view the quarry lake as well (center photograph). This scheme also includes the first ideas of pergola-like pedestrian connections between commercial and public buildings, framing the park and landscape spaces.

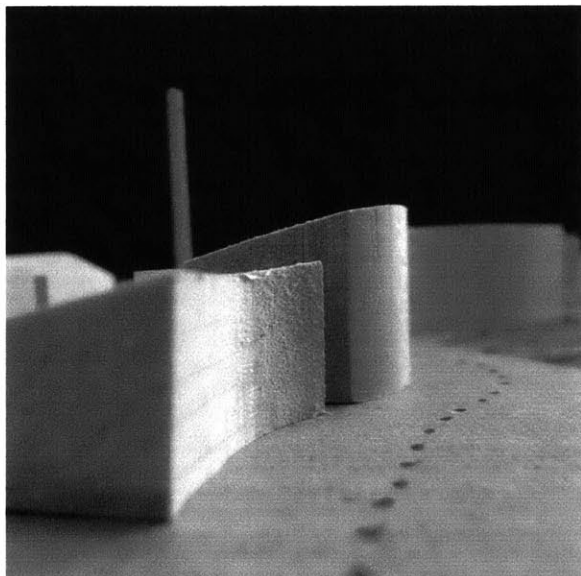
3.5 Scheme 18



Model in context, plan view

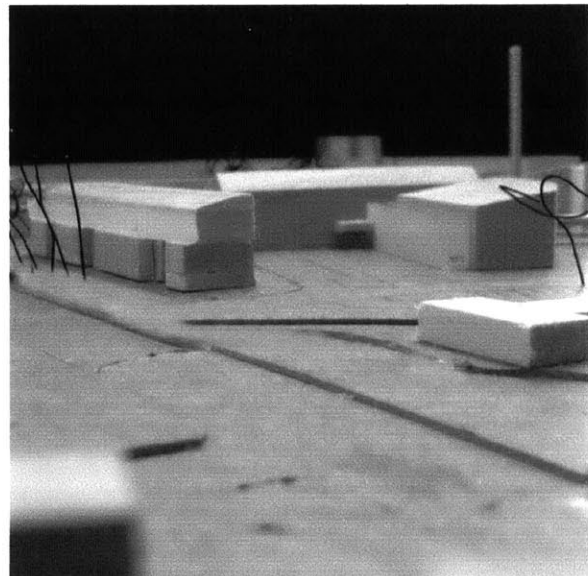


Landscape and Bugline (dotted line) near existing stone office building (right)

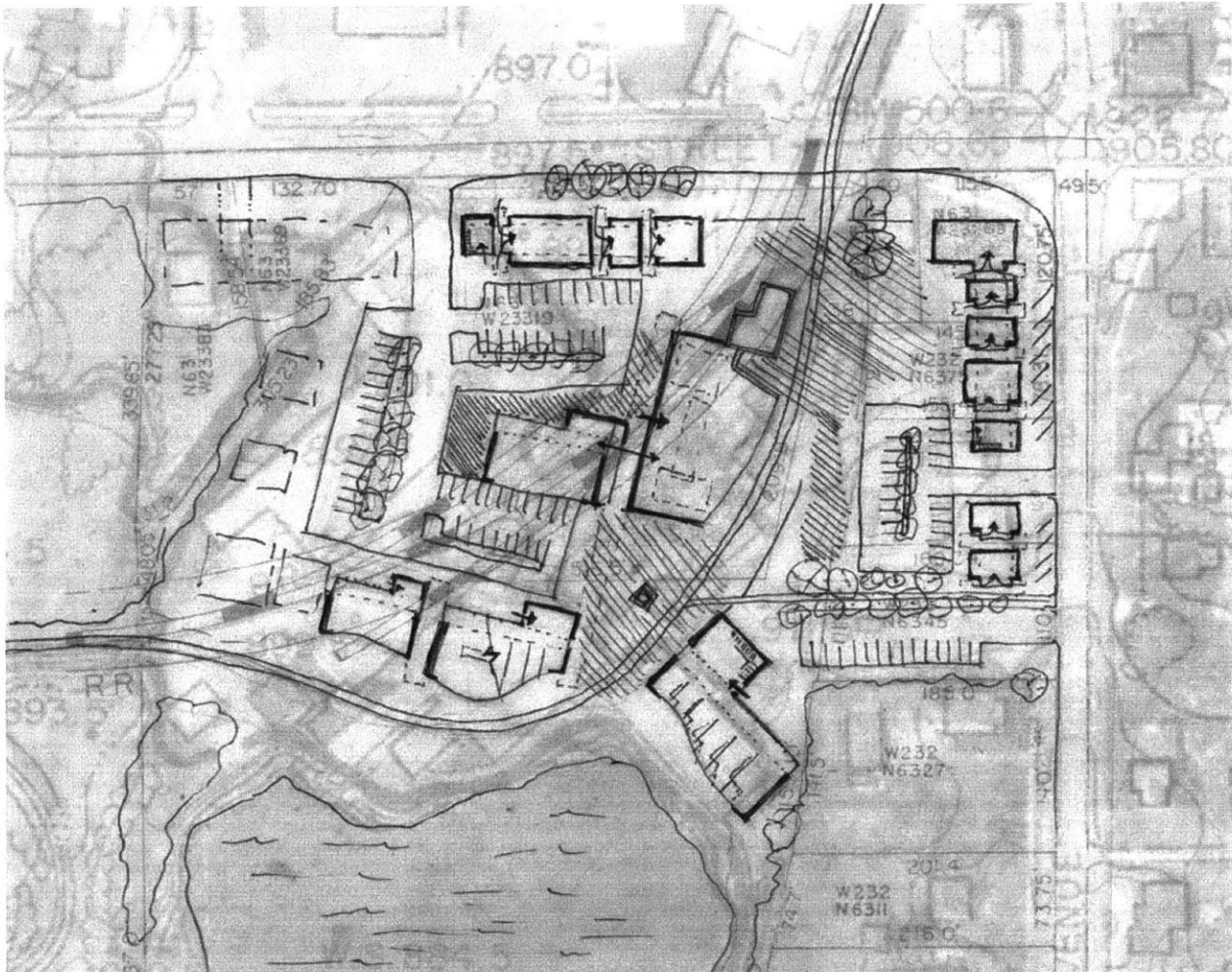


Perspective looking east along Bugline trail

This scheme shows ways in which the consolidation of program elements and careful consideration of views along the Bugline became further developed. The commercial buildings are now articulated as independent stores, interconnected by office space above. The buildings framing the quarry lake and the recreational spaces alongside it are now a sinuous, gentle curve that invites pedestrians along the Bugline (dotted line on model) into the next programmatic areas. Challenges of topography for the park spaces around the existing stone office building and smokestack are resolved with proposed retaining walls and a more sculptural treatment of the landscape. The buildings also frame the entrance from Main Street for cars and pedestrians.



Perspective looking southeast from entrance on Main Street



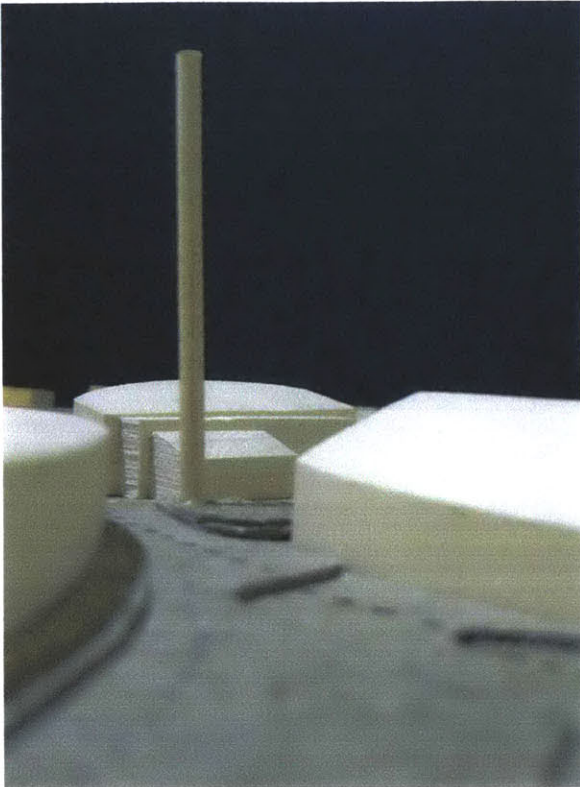
This sketch is also a snapshot of the design at scheme 18, including ideas about thicker, more massive walls and the lighter circulation spaces and pedestrian routes within and between buildings. As shown to a certain extent in previous schemes, the central museum is now fully attached to the existing L-shaped stone office building, and frames a view of the smokestack out towards the quarry lake. This preservation was essential, because it keeps the oldest and most visually quaint structure on the site, which was used for administrative uses, but it also keeps the strong vertical element of the

smokestack as a reminder of all of the labor and work involved with the factory while it was the primary economic center in Sussex in the 1920s to early 1960s.

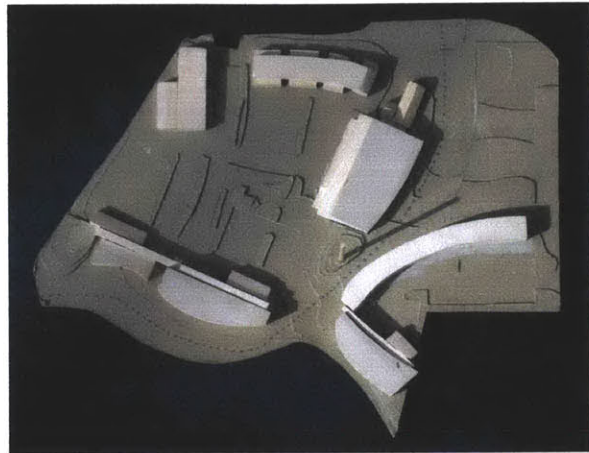
Shown in dotted lines in the northwest portion of the site are possible areas for further (residential) development) along the creek edge if the TIF district were expanded to include the neighboring properties.

3.6 Scheme 26

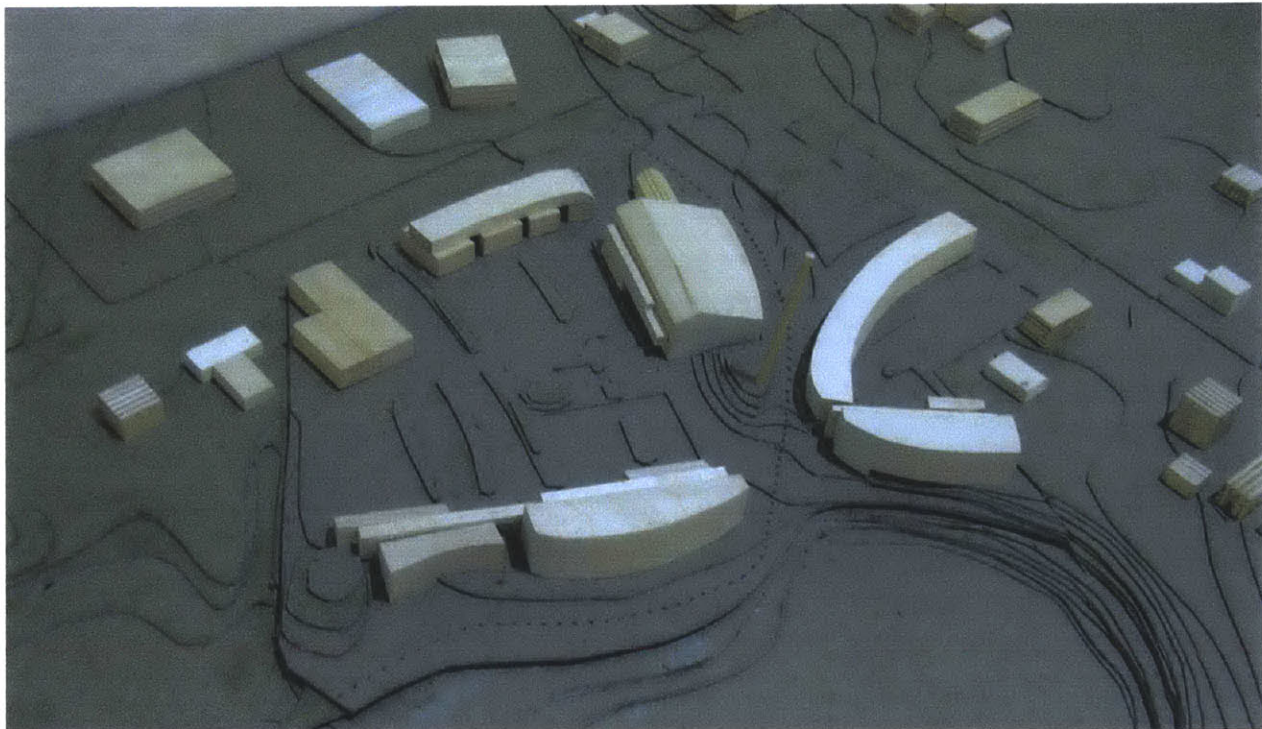
This last sketch model at 1"=50' scale shows the evolution of the previous schemes to accommodate the finalized program. The museum and antique retail area is the gabled building at center, with office and retail to the north and the curve of townhouses and condos to the southeast. The boutique hotel and recreation facility complete the scheme along the quarry edge.



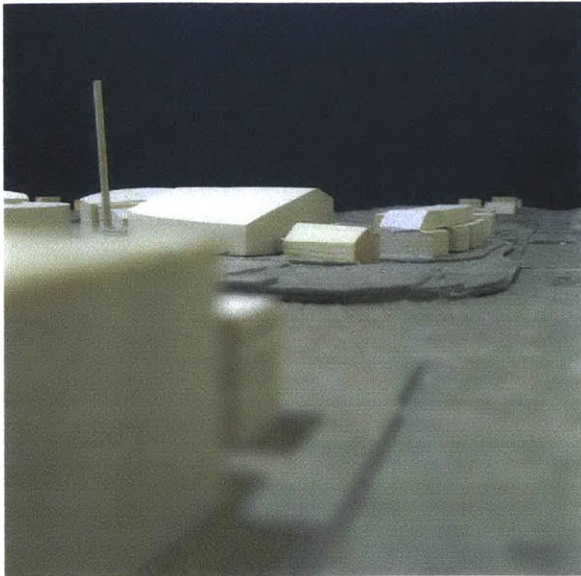
Park and view southwest to existing smokestack



Scheme 26 view in plan

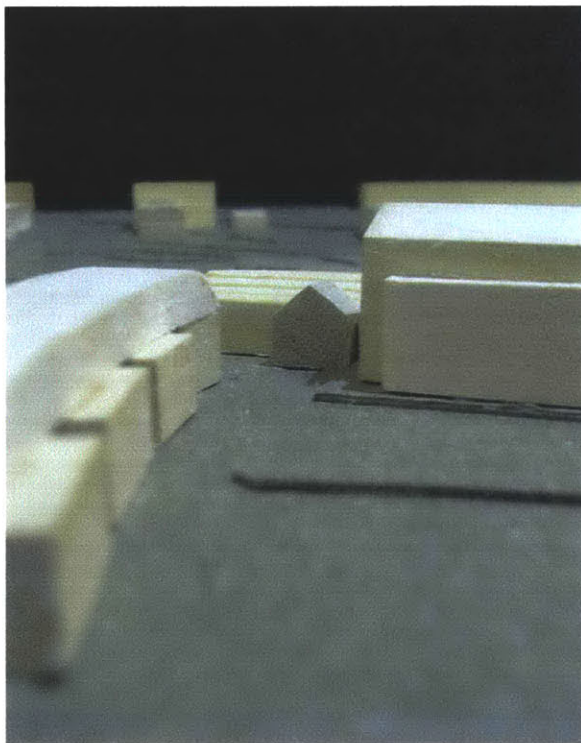


Aerial View of model in context

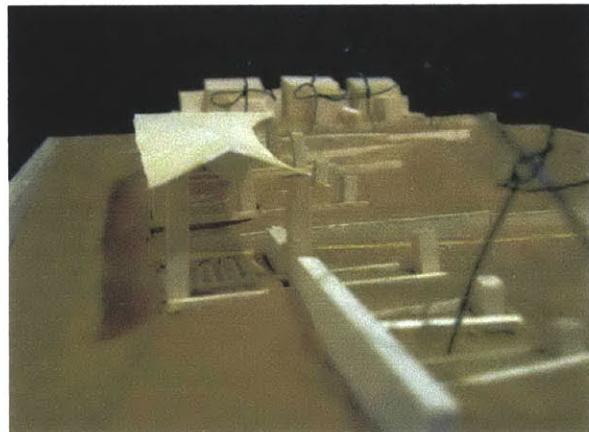


View west from intersection along Main Street

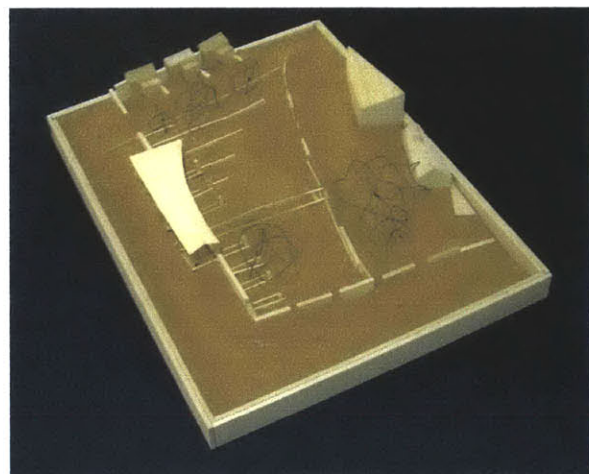
As this model became more finely articulated, I moved to a model in wood and clay at 1"=25' to begin working out the topography for the corner park area, the articulation of the housing masses, and the columnar park structure that integrates with the stone retaining walls. This proposal allows the view into the site from the east to remain unblocked (left), while defining the corner with a strong geometric wall that keeps the park separated from the busy intersection.



View of existing gabled stone office framed by surrounding commercial (left) and museum/antique retail buildings (right).



Clay model at 1"=25' showing park structure and landscape study for northeast corner of site



Aerial view of clay model looking southwest

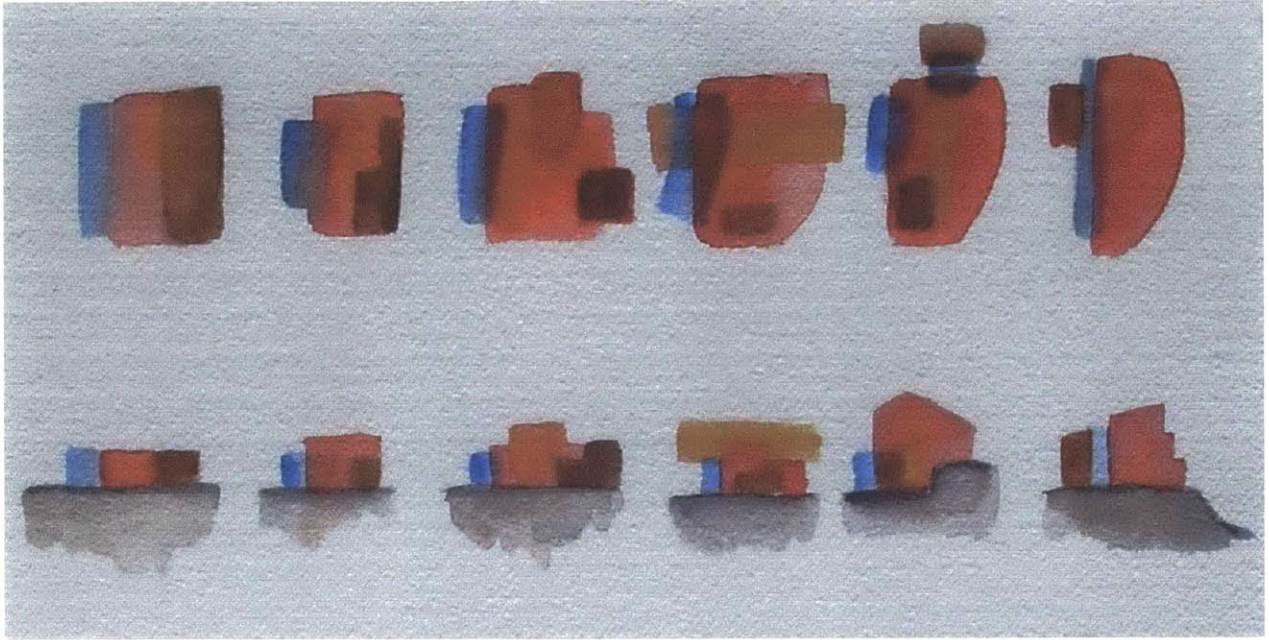
3.7 Watercolor Sketches



Preliminary sectional watercolor painting through quarry lake (not to scale)



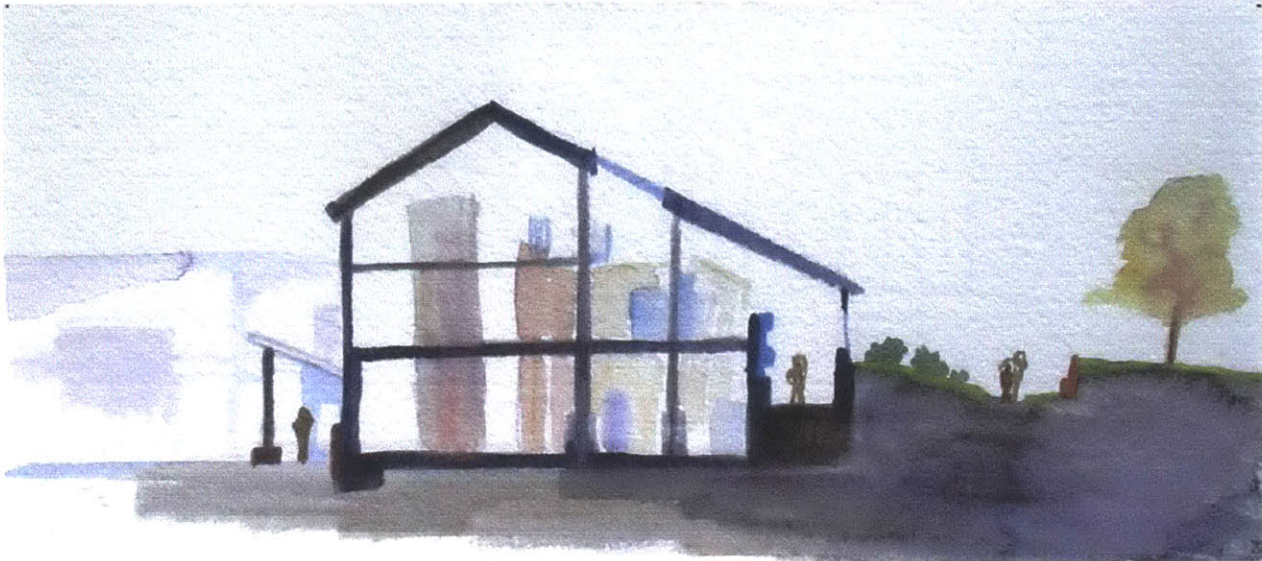
Sectional watercolor over pen, ink, and CAD showing early versions of park structure, stone walls and pedestrian connections, condominiums, and existing housing



Watercolor of plans (top row) and sections (bottom row) of potential building masses; primary program spaces in red, distinct circulation elements in blue, service areas in brown



Watercolor of housing plan diagrams, interior program relationships and interaction with landscape beyond for townhouses (left), first-floor apartments (middle), upper apartments (right)



Watercolor sketch of west-east section through museum and Bugline

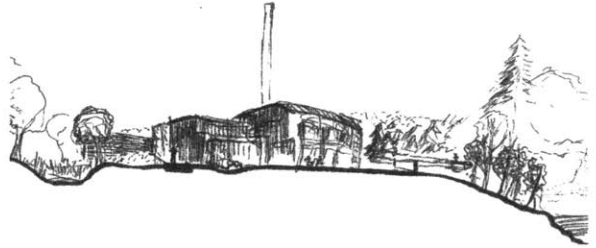
Amidst the more visually concrete models and scale drawings used to explore the physical dimensions of spaces within and between buildings in each scheme, I used a series of diagrammatic watercolor paintings and sketches to explore the spatial relationships in a more lyrical and expressive manner. Some of these used colored abstractions of programmatic relationships and sectional studies to examine qualities of light, form, and organization.

3.8 Bugline Sequence

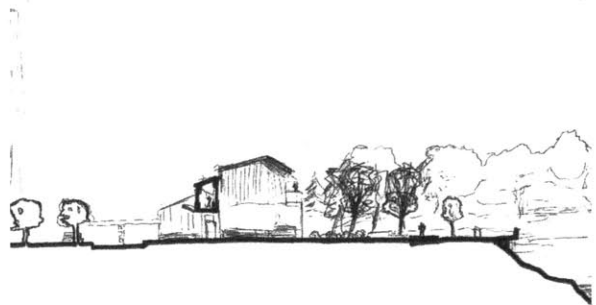
These sectional studies show the latter stages of development along the Bugline itself. Emerging from the relatively rural, wooded spaces of the existing Bugline corridor (top), I imagined how the path's character would change while walking or biking towards Main Street.



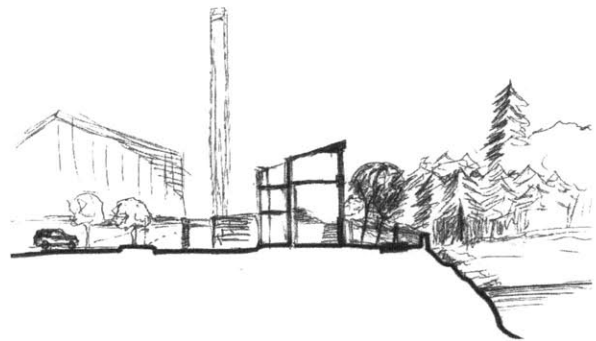
One aspect of the experience relates to how the building masses are brought down to a more human scale along the path, and how their orientation and curved facades gently direct the pedestrian instead of presenting an unfriendly impenetrable wall.



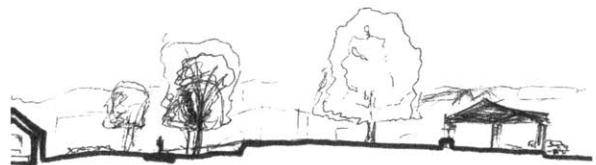
The plantings and various trees also shape the experience of the plaza spaces between the buildings and the quarry lake's rocky edge.



While the smokestack is a visual icon from far away in the village, it is also a significant element integrated with and framed by the rest of the buildings.



The path thus includes a variety of expanding and contracting spaces that eventually open to a park area at the street corner. The park space includes a stone retaining wall to solve topographical challenges, while articulating the place where the park activity spaces meet the more linear Bugline corridor.



4 Final Proposal

While I worked most of the schemes up to a larger scale in drawings and CAD, the final design schemes extended the massing of scheme 26 into a more completed urban design proposal. This final proposal, scheme 32, shows the architectural character and internal organization of the buildings, as well as the landscaping and plantings.

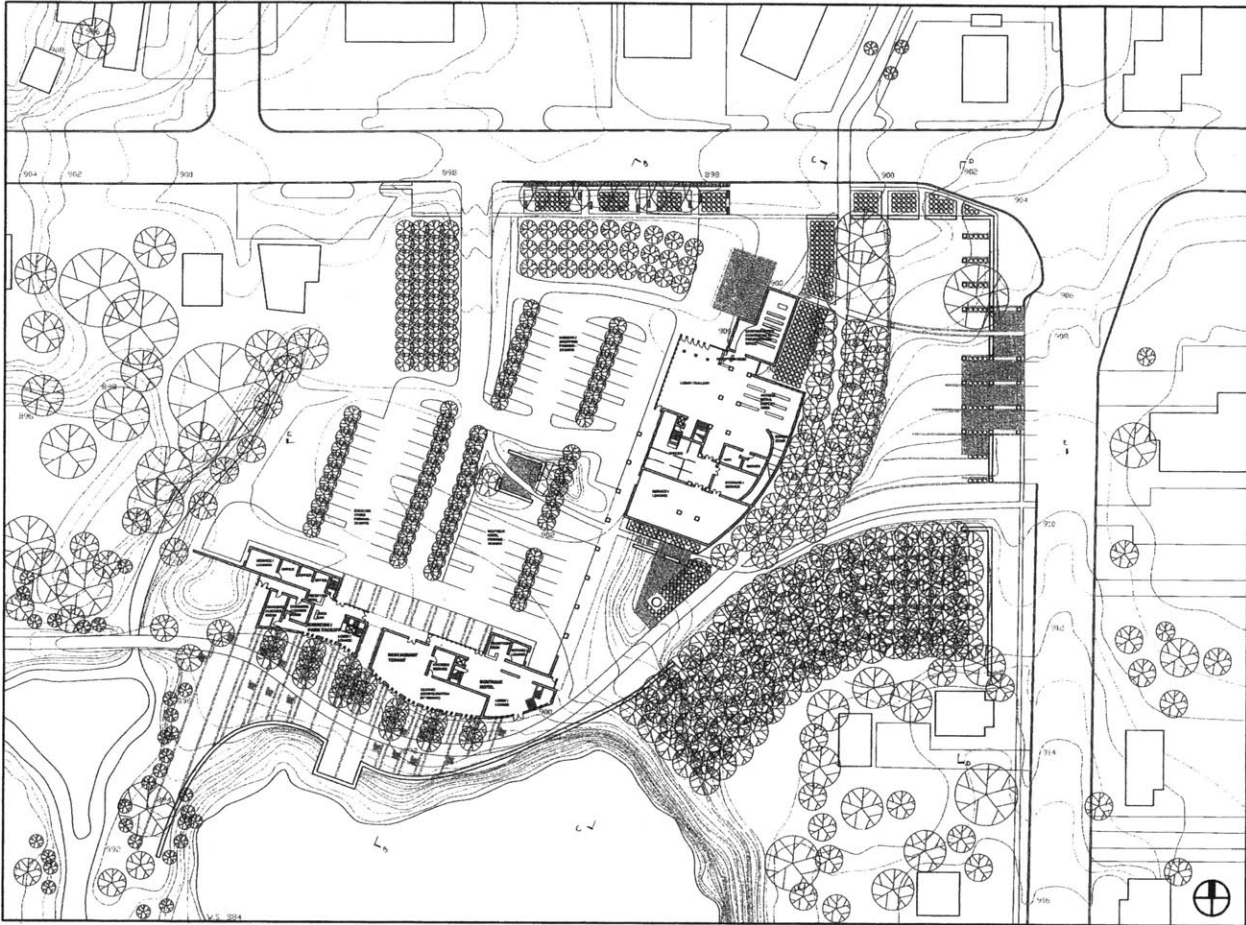
One essential aspect of the proposal is the phasing. Based on the program and planning ideas earlier in the process, I proposed a scenario where the historical museum with its antique retail area, the boutique hotel, the recreation facility, and the public park spaces would be part of phase one, and that temporary tree plantings would exist as placeholders until the second phase of residential and commercial development became feasible.

The proposal also has a strong architectural character that, while making a bold and unified statement, is able to work with the scale, materials, and forms of the neighboring village areas. It is not only comfortable with its immediate neighbors, but seeks to contribute to the overall localness that makes Sussex a positive village environment. For example, public buildings such as the new Pauline Haass Library in Sussex tend to use a cascade of gabled roof forms to shelter their main spaces, which is a strategy I abstracted and redeployed for the historical museum building. Sussex's typical detached commercial buildings are brought into a denser configuration in my

scheme for added retail and office space, but they retain the identity of individual shops rather than of a strip mall. These retail areas and the residential condominiums elsewhere on the site use the projecting gables and asymmetrical compositions found throughout Sussex in a clear vocabulary without resorting to mere stylistic repetition. All of the private buildings, while accommodating large programs and making bold sweeping visual curves across the landscape, are broken down into smaller visual elements through careful massing strategies. Rather than being simply reproduced from elsewhere, a sense of localness is articulated and created, bringing order out of a formerly disordered and confusing site.

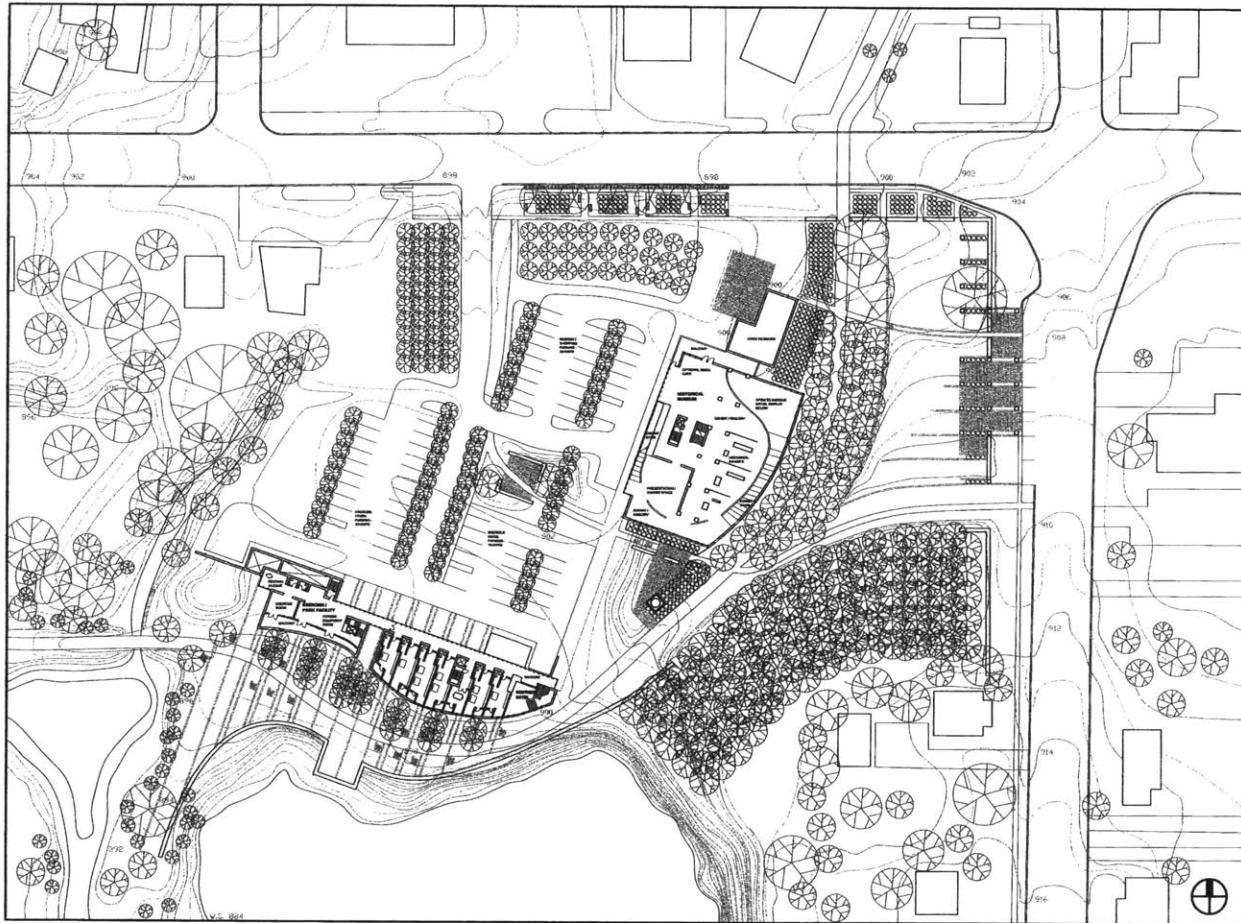
Furthermore, all of the buildings focus on the Bugline and how it leads to and past the quarry lake, amenities which make this particular locale especially rich in opportunities. At a nodal intersection where parades begin, businesspeople commute, and residents amble through their village, the park space and park structure at the corner provide a new and necessary public area for these and many other functions. The park structure can be used for the senior shuttle, for future transportation connections elsewhere in the county, for Quad/Graphics workers, and as a place to shelter picnics and gatherings that spill out into the gently sloping green space. These functions and this area of the site complete the program at the juncture of public zones, private spaces, and the Bugline that curves through this new haven of local character.

4.1 Site Plan, Phase 1 Floor 1

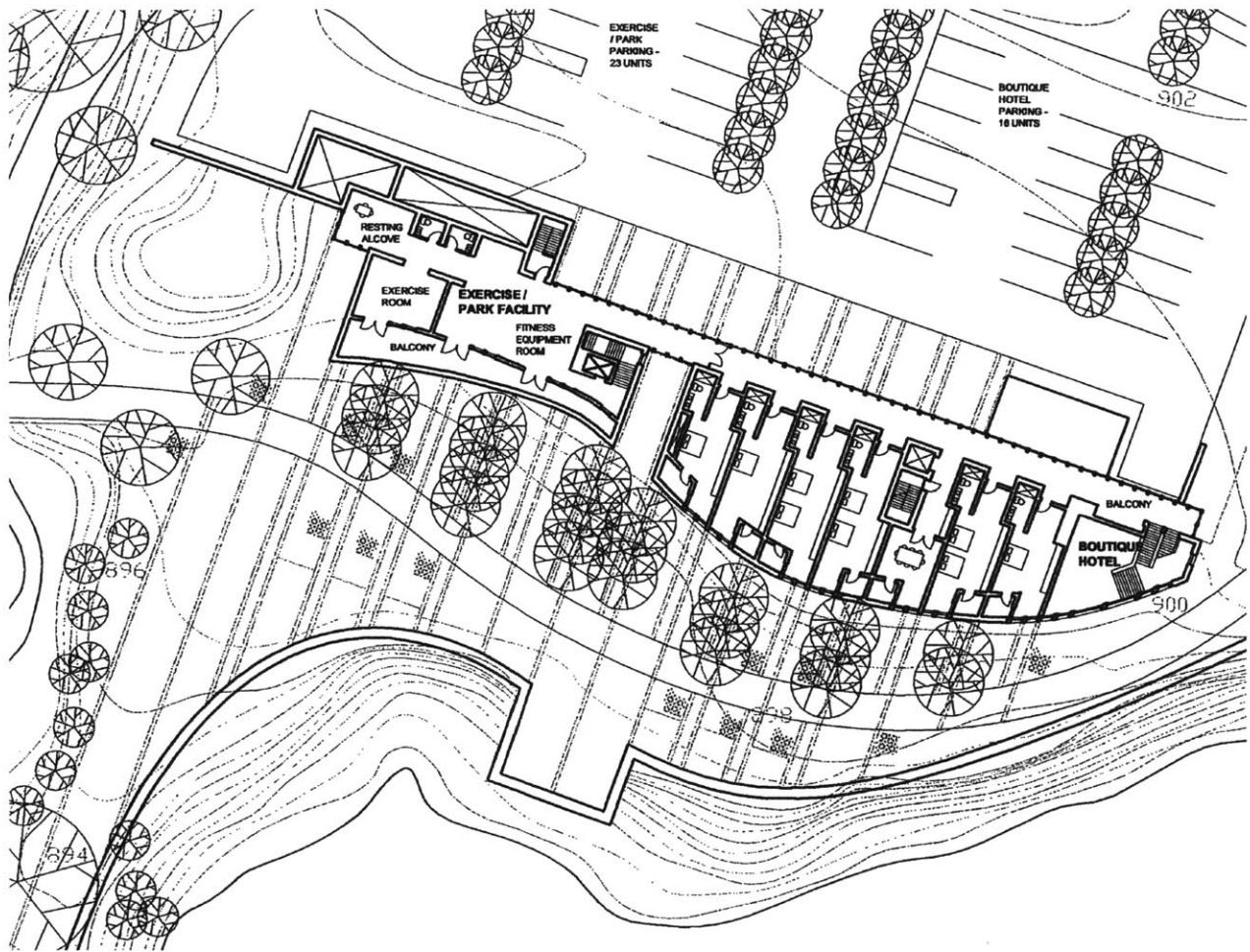


The first floor of the first phase includes the major public lobby of the historical museum with its antique retail area (center), the boutique hotel and its attached restaurant (bottom center), and the lounge and lobby for the exercise and park facility (bottom left). The carefully planted groves of trees define the spatial qualities of the pedestrian and park spaces, keeping the privacy of the residential areas to the southeast while providing a more open canopy along the Bugline.

4.2 Site Plan, Phase 1 Floor 2



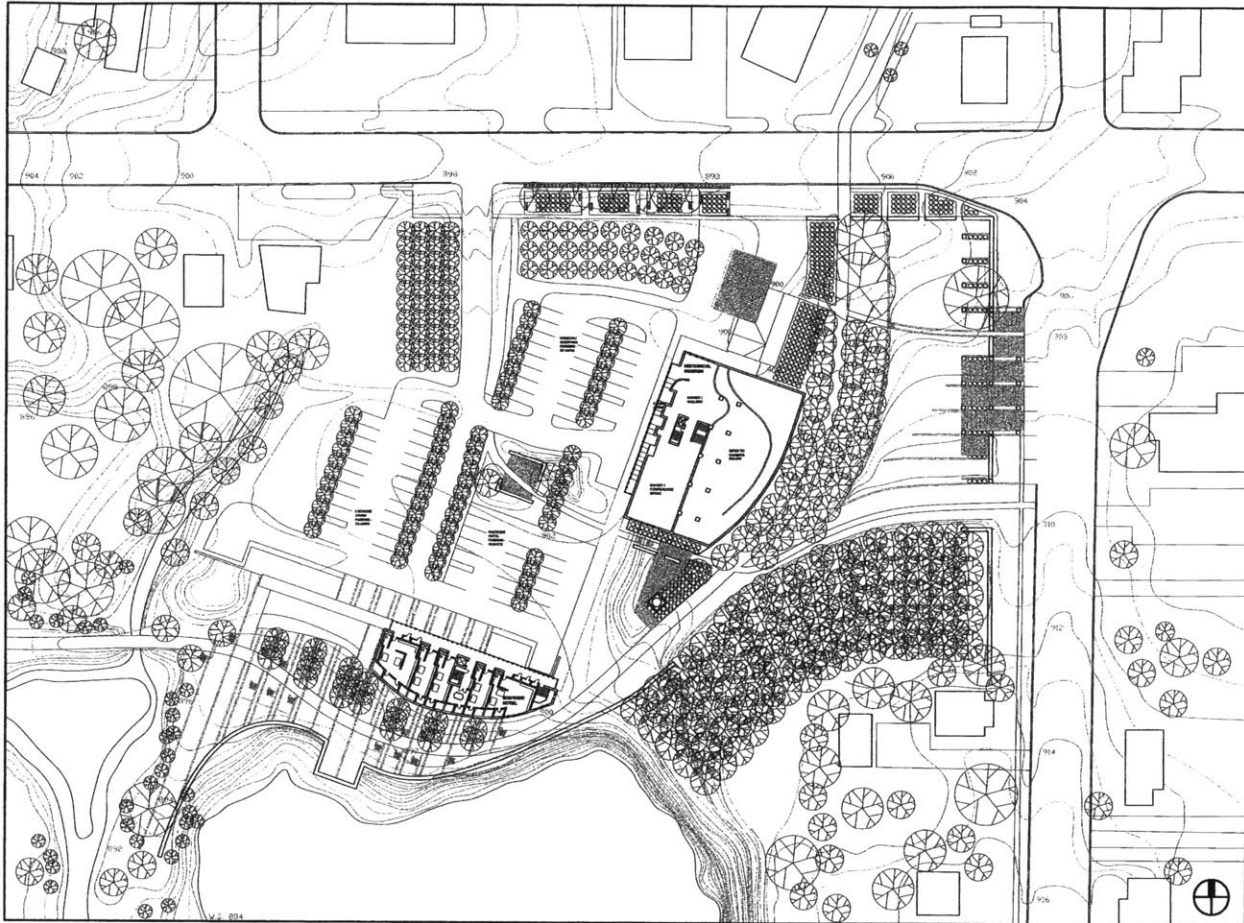
The second floor spaces include the main exhibit spaces of the historical museum, rooms and a meeting area in the boutique hotel, and the fitness rooms of the exercise facility.



In this enlarged detail, the interior organization becomes clearer. The corridor spaces are a light-filled interior street with a close rhythm of thin vertical columns. The program spaces of the boutique hotel and exercise/park facility have thicker walls and program spaces that spin off from the hallway's circulation spine. Different size rooms are created by the varying distance to the curved south facade, and each hotel unit has its own balcony.

The edge of the public plaza in front of these buildings meets the quarry landscape with a thick, curving stone wall. This wall continues southwest down the incline to the beach area of the quarry lake. From this wall a projecting rectangular terrace provides a focal point to gaze out on the swimmers, pontoon boats, and other non-motorized water activities.

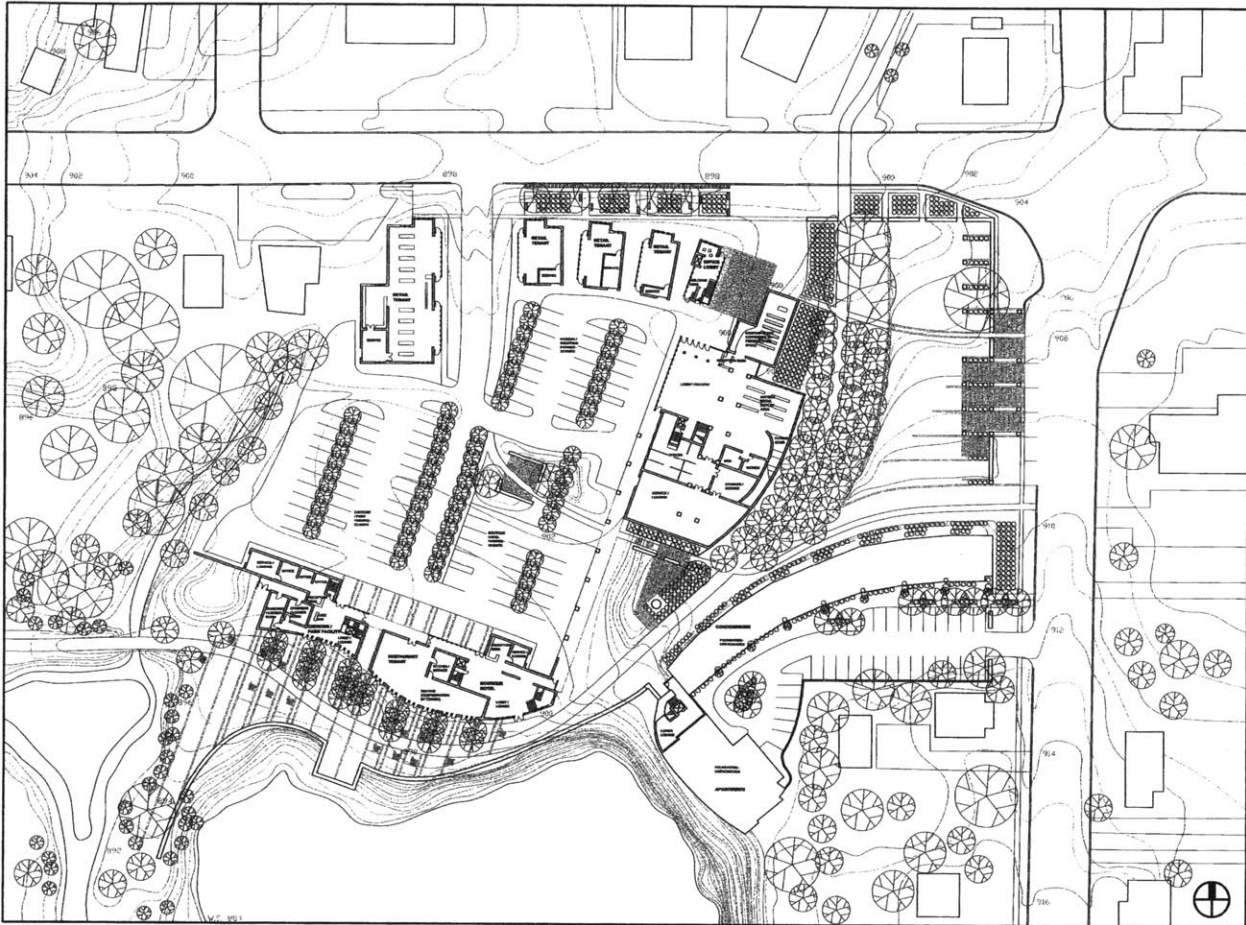
4.3 Site Plan, Phase 1 Floor 3



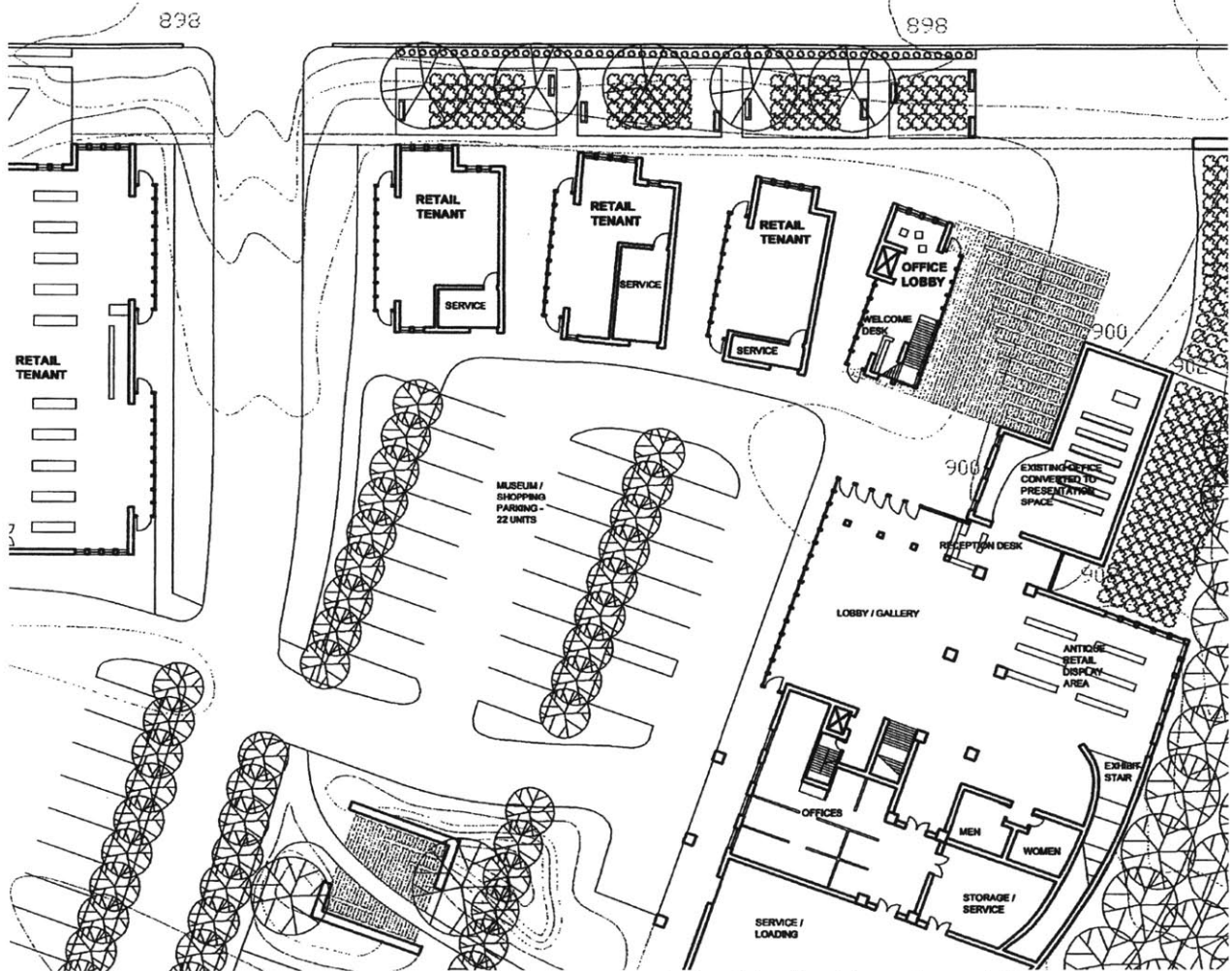
The topmost floor includes the meeting and conference facilities in the historical museum, which have a carefully framed view of the quarry lake and could be used for antique fairs, community meetings, and exhibits. As in the other buildings, the historical museum building has its circulation zone expressed as a bar to the western side where visitors ascend from the second floor exhibit space via a gradual staircase with further display space and seating.

This floor in the boutique hotel includes rooms including some that could be used as suites. Since there are currently no hotel facilities in the Sussex area at all, it is essential that this facility include a variety of accommodations for business travelers, tourists, and other people visiting local residents.

4.4 Site Plan, Phase 2 Floor 1



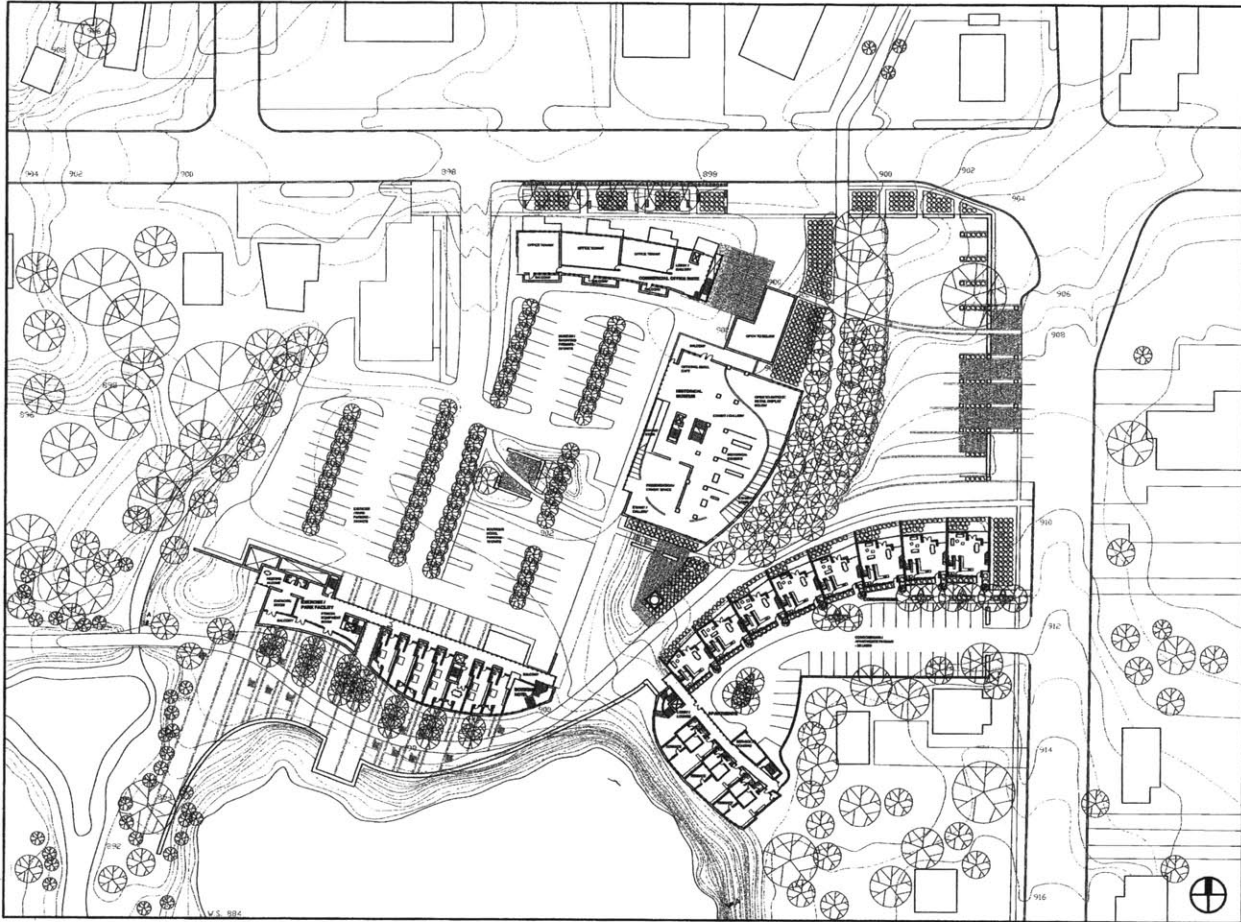
The second phase adds further parking and landscape areas, the commercial areas along Main Street, and the foundations for the residential units, which are at a higher part of the site and thus have their entries at the second floor level. The public circulation paths and pedestrian seating areas begun in phase 1 continue to function well to support the additional uses in phase 2.



This closer view of the retail area shows how the individual retail tenants, and the entrance lobby to the office suites above, each have their own circulation zone as a bar of wood and glass attached to the stone and panel main building mass. This strategy allows for the buildings to have entrances at the north along Main Street and from the parking and pedestrian areas to the south, without making one area feel like the unfriendly “back” of the building because service areas are tucked to the side. The one larger retail unit to the west could accommodate a potential anchor tenant, while the more

intimately sized tenants could include shops and cafes to support the antique retail areas inside the historical museum building. The existing L-shaped stone office building, because of its limited windows and tiny scale, has been reappropriated as a presentation space for images and film of Kewpie history. If it were more feasible, the historical museum complex could be phased further, with the office building conversion completed first, and then the first few structural bays of the new building.

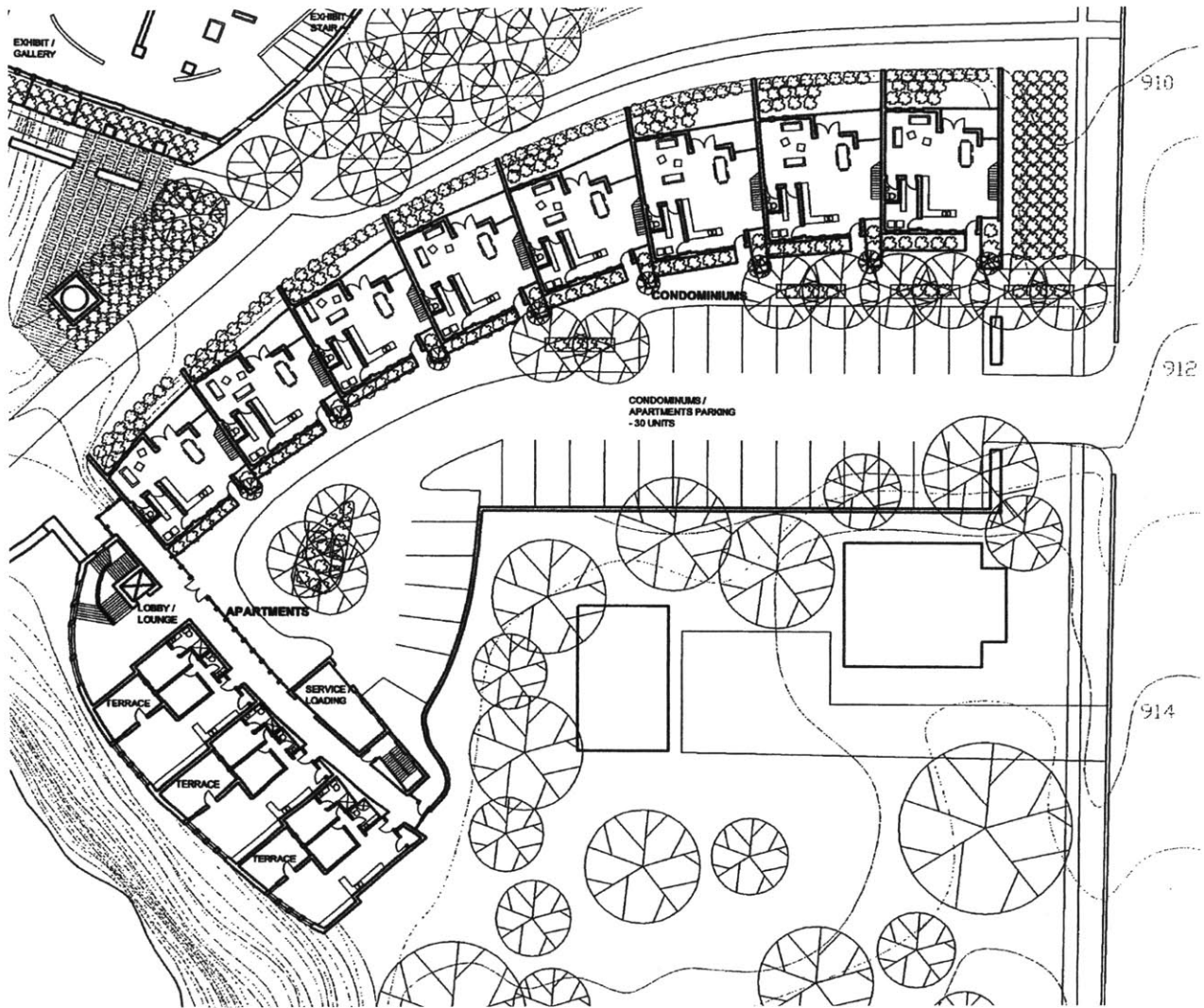
4.5 Site Plan, Phase 2 Floor 2



The second floor includes the flexible office suite spaces along Main Street. It is essential that all retail spaces were placed at ground level, but these office spaces use the space above to accommodate additional commercial tenants.

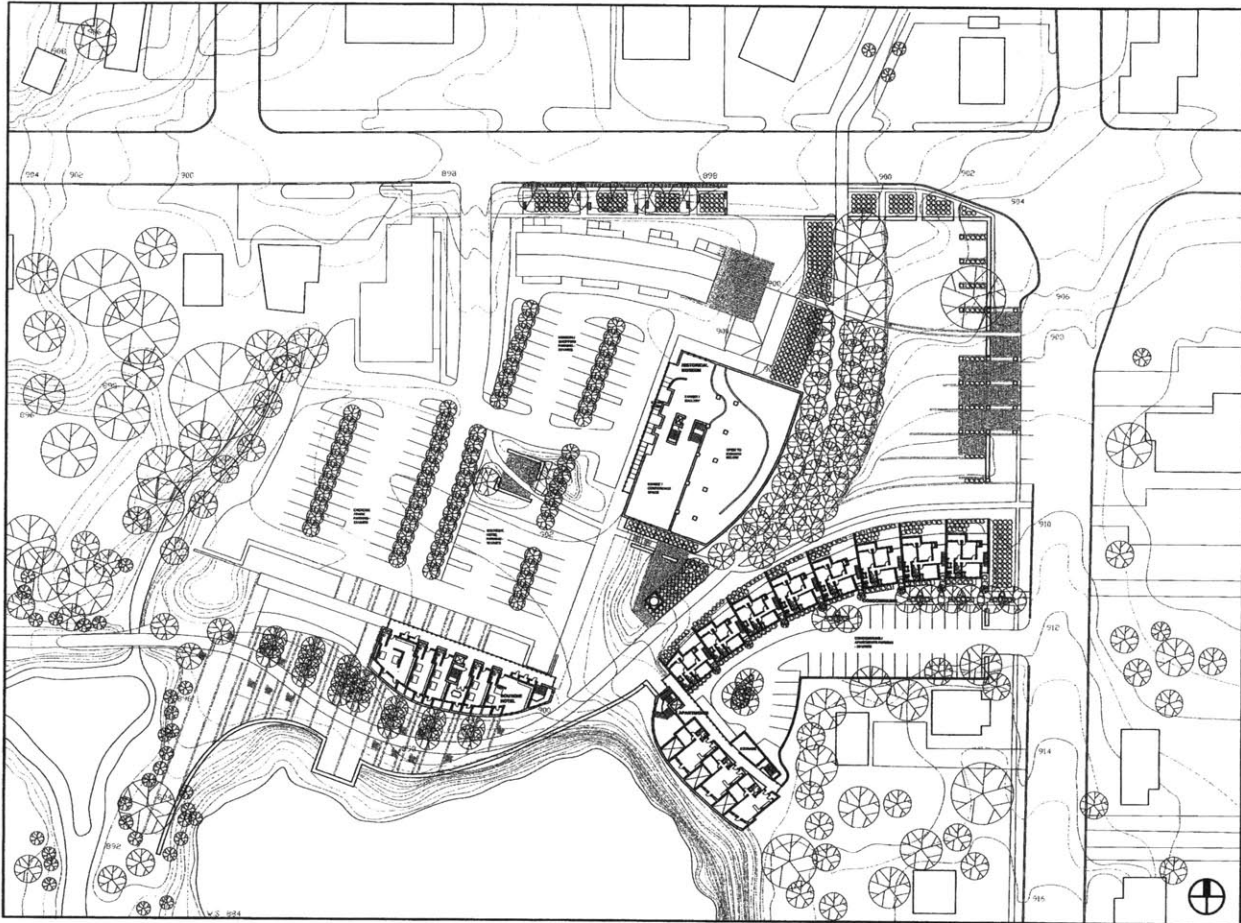
The condominiums to the southeast corner of the site include one- and two-bedroom apartment-style accommodations facing the quarry directly, and eight townhouse-style three-

bedroom units sweeping from the quarry to face the park area to the north. The residential units achieve privacy by being three feet higher than the public path to their north, and despite their generous size and density, they have a minimally disruptive presence on Waukesha Avenue; they have the scale and gabled character that resonates with the other residential units along this north-south street.



This closer view shows how each condominium unit has a generous terrace space, at least two parking spaces, a carefully landscaped and scaled entry area, and flexible living, dining, kitchen, and service areas.

4.6 Site Plan, Phase 2 Floor 3



The topmost level of the second phase's residential units includes generous balcony areas for each of the apartments and interior balconies for each of the townhouse-style condominiums. Each takes advantage of the segmented massing strategy to bring light and air into the living spaces, while keeping the residences private despite their relative proximity to the Bugline. Residents can have the benefit of looking out over beautiful park spaces and the quarry lake while retaining private, individualized interior and terrace spaces.

4.7 Landscape Plan, Phase 1



The nature of this urban design scheme is to include not just the old and new buildings, but also to show ways in which old and new plantings can support the spatial qualities of the site. For the final proposal, I prepared a landscape plan for phase one that included specification of trees and bushes.

First of all, I chose to preserve the existing 35-foot oaks along Main Street and the two large walnut trees towards the northeastern corner of the site. In the landscaped pedestrian zone along the sidewalk of Main Street, I

choose Fairview Yews (*Taxus x Media Fairview*) and Japanese Garden "Nana" Junipers (*Juniperus procumbens*) for their resilience and small sculptural shape.

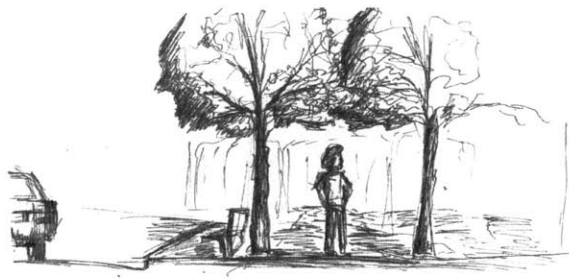
South of the largest walnut tree is a curving double allee of trees around the Bugline; these are to be Paper Birches (*Betula papyrifera*) or another tree that creates a tall, relatively transparent canopy. These are shown as yellow-green on the above diagram; the birches are also placed alongside the Bugline south of

the hotel and exercise buildings to frame the view out towards the quarry lake.

In the midst of the segmented parking areas, Sorrel trees (*Oxydendrum arboreum*) are used as a short but ornamental tree with a rich orange-red color, planted 10' on center. Each tree lines up with a parking space, and the trees allow the buildings to remain framed focal points as one enters the site while hiding some of the vehicular parking from looming too large.

The materials of the public plaza along the quarry edge include strips of native limestone between patterns of concrete pavers and grassy areas. This reduces the cost from using entirely stone paving and shows the importance of stone due to its careful application. This same limestone is used as the surface material for the four other pedestrian plazas on the site for a similar reason; the surface material shows the importance of these areas within larger concrete and grassy areas. The concrete could even continue the reuse of aggregate from the former lime kilns on the site as was done on the site eighty years ago.

The Bugline is designated to be asphalt by the plans of the Waukesha County Park and Land



Section along parking lot with Red Maples

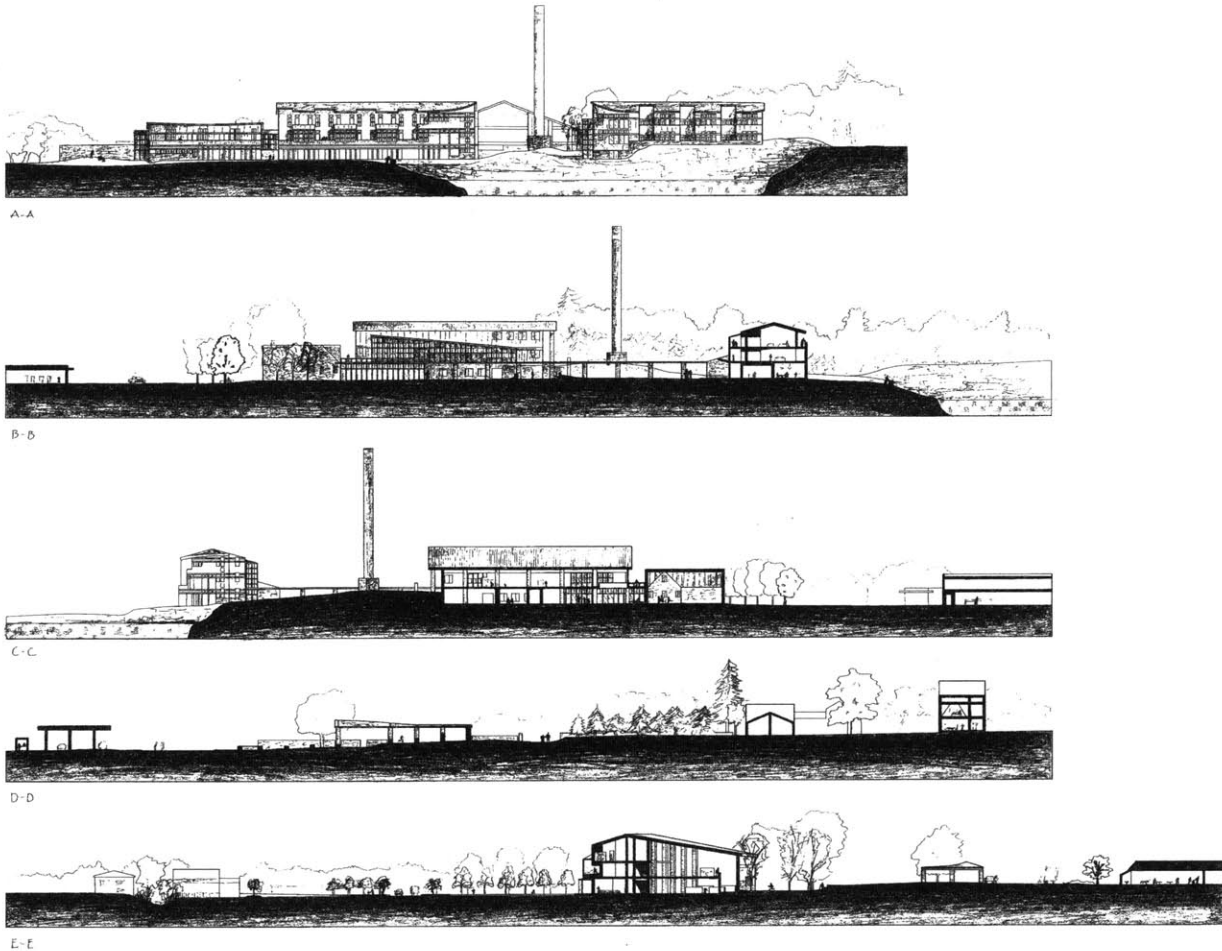
Use department, but in front of the exercise and hotel buildings I have substituted slate or a similar stone with a rich gray hue to show the Bugline's particular importance in this zone of increased activity.

Beyond the final trees and surface materials, the landscape diagram also shows three areas of trees that are particular to phase 1. The northwest grove of trees would be closely spaced Red Maples (*Acer rubrum*), and to their east would be the colorful Tulip Poplars (*Liriodendron tulipifera*), with a slightly more generous spacing to encourage the public to mingle in the shade along the sidewalk and plaza in front of the old stone office building. In the southeastern corner of the site is a curving group of densely packed Serbian Spruces (*Picea omorika*), which would help keep the neighboring residential areas private and also relate to the tall coniferous trees along that part of Waukesha Avenue. These trees could be harvested through the years between phases as Christmas trees, and depending on the building schedule all three groups of trees could be operated as a nursery for trees to be transplanted to homes in the vicinity.



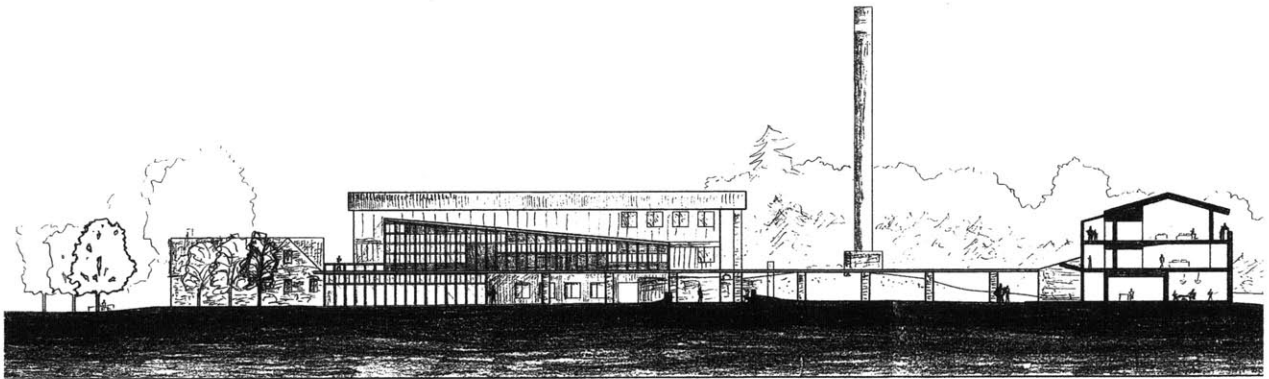
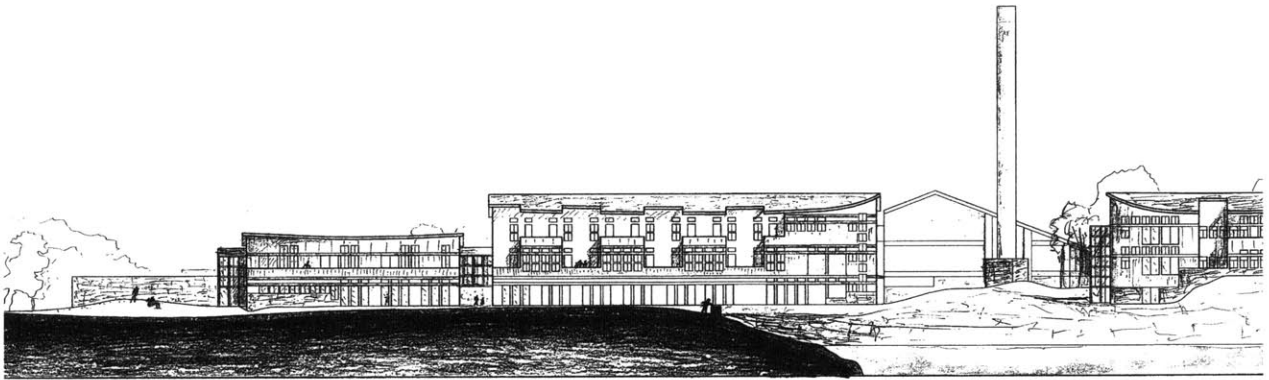
Section along Main street sidewalk with existing tree (left) and Tulip Poplars (right)

4.8 Sections and Elevations



The sections and elevations show a few characteristic slices through the buildings and site. Buildings like the historical museum take up much of the change in grade on the site, and the buildings' scale and placement frames the existing smokestack. Section AA shows the elevation along the quarry lake in phase two, while the last four sections show only phase one. Section BB shows the elevation of the historical museum and the section through the boutique hotel. Section CC details the interior

of the historical museum and existing stone office. Sections DD and EE show the park structure and landscape as they relate to the scale of the surrounding gas stations, restaurants, and residences, and section EE shows the asymmetrical gabled cross-section through the museum exhibit space and retail area. These are CAD drawings with pencil and watercolor rendering, reproduced without color or tone; they were originally shown at 1"=25', the scale of the final model.

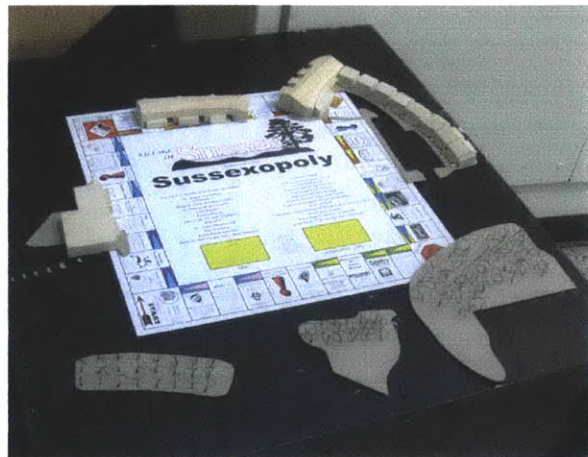


These enlarged views show a few details of the full sections; they are excerpted from sections AA and BB, respectively. They begin to show the windows' fenestration patterns and how they interact with balconies along the quarry, and the character of how the museum links with the existing quaint stone office. The goal is to actively reappropriate the historic buildings, showing the new and old interventions actively engaged in the overall design and emphasizing the local character of this group of buildings. These drawings also demonstrate how the scale of the plantings and trees of the previous landscape diagram fit into the larger built context.

4.9 Final Model Photographs

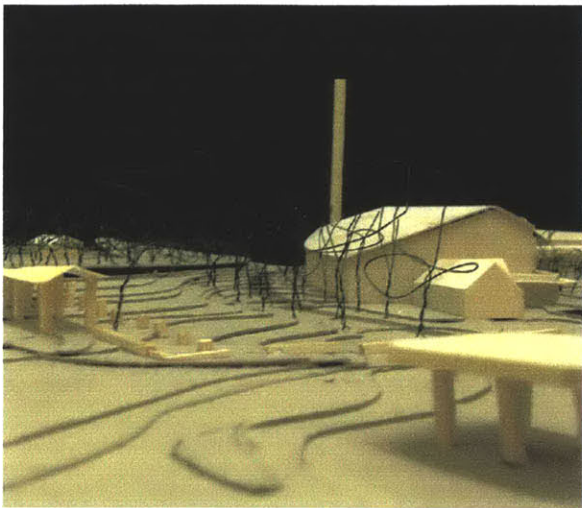


While two-dimensional images are necessarily abstractions, in the case of the final model the photographs help to tell the story of how the massing strategies and massing become manifest in three dimensions. This general view of the final proposal model at 1"=25' shows phase 1. The elements of phase 2 were at the final presentation as "game pieces" on the "Sussexopoly" game board. The game was a fundraiser during fall 2002 for the new Sussex Community Center, and it seems apt to consider new commercial and residential buildings within the game of small-town economic strategy.





Phase 1, view southeast from corner of Main Street and Waukesha Avenue, existing restaurant in foreground

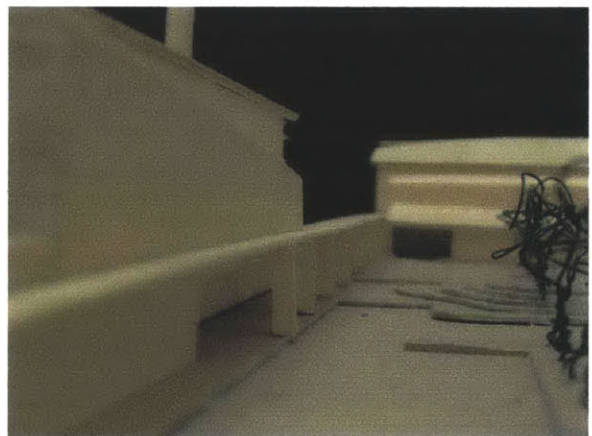


Phase 1, view southeast from Waukesha Avenue, existing gas station in foreground

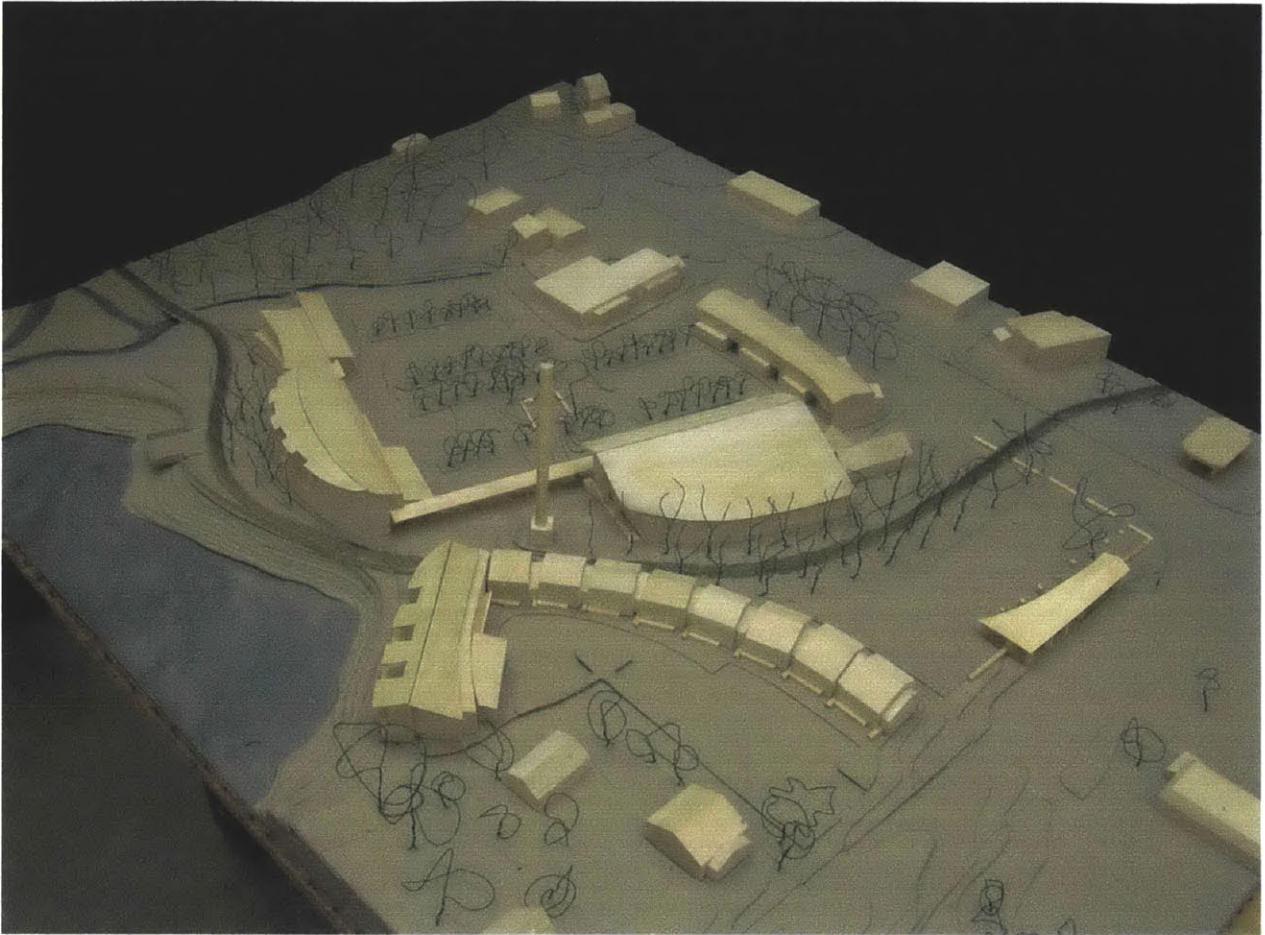


Phase 1, aerial view south from historical museum looking at parking areas with Sorrel trees, boutique hotel (top), and exercise facility (top right)

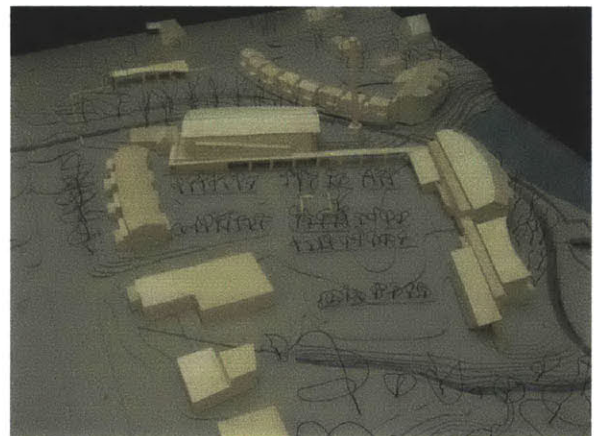
Phase 1 includes the regrading of the site, and the major public and profit-generating elements. It also creates park space framed by the buildings and the graceful, columnar park structure near the corner. The curvilinear profile of the buildings creates a continuous visual sweep upward from the existing tiny stone office building to the heart of the site. The model, in chipboard (each layer equals one foot of topographical change), basswood, paper, and floral wire, shows the trees and their abstracted shape within the scheme. The stone columns of the park structure are repeated to create a pedestrian pergola connection between the hotel and historical museum / antique retail areas.



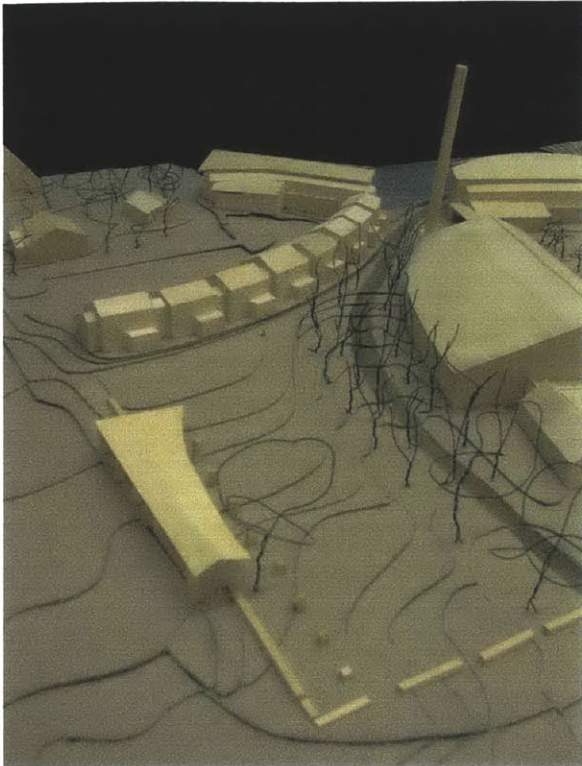
Outdoor pergola connection, view south to hotel



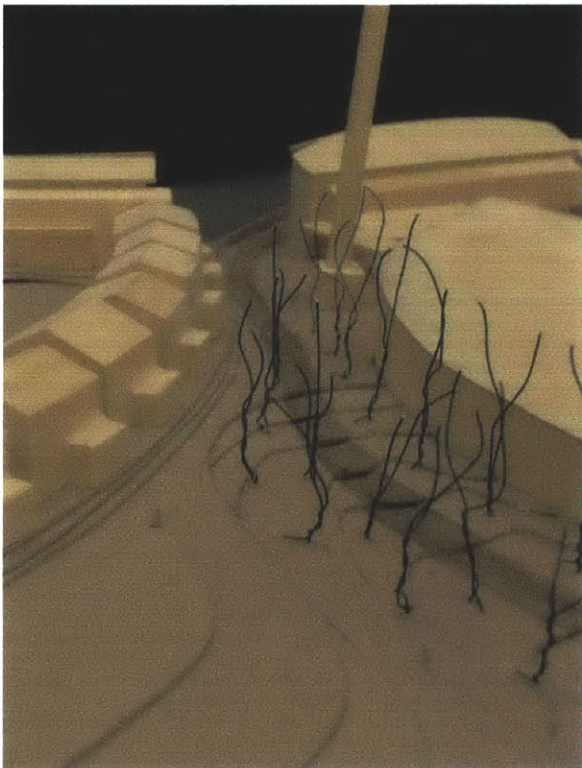
Phase 2, aerial perspective looking northwest with condominiums in foreground and added commercial development further to the north along Main Street



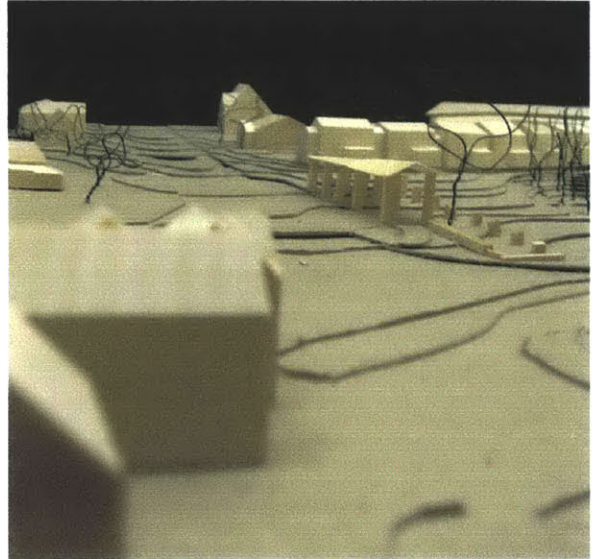
Phase 2, aerial perspective looking east; existing small commercial building and creek in foreground



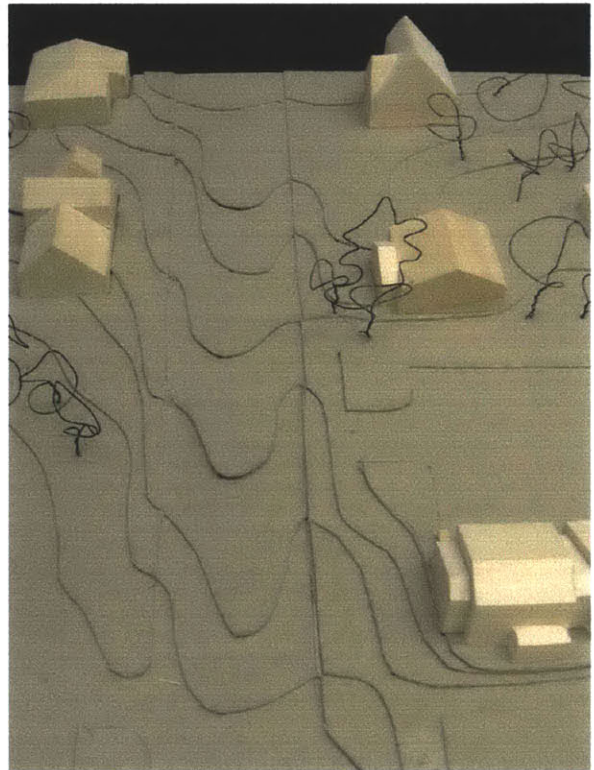
Phase 2, view southwest from corner that is unblocked to the quarry



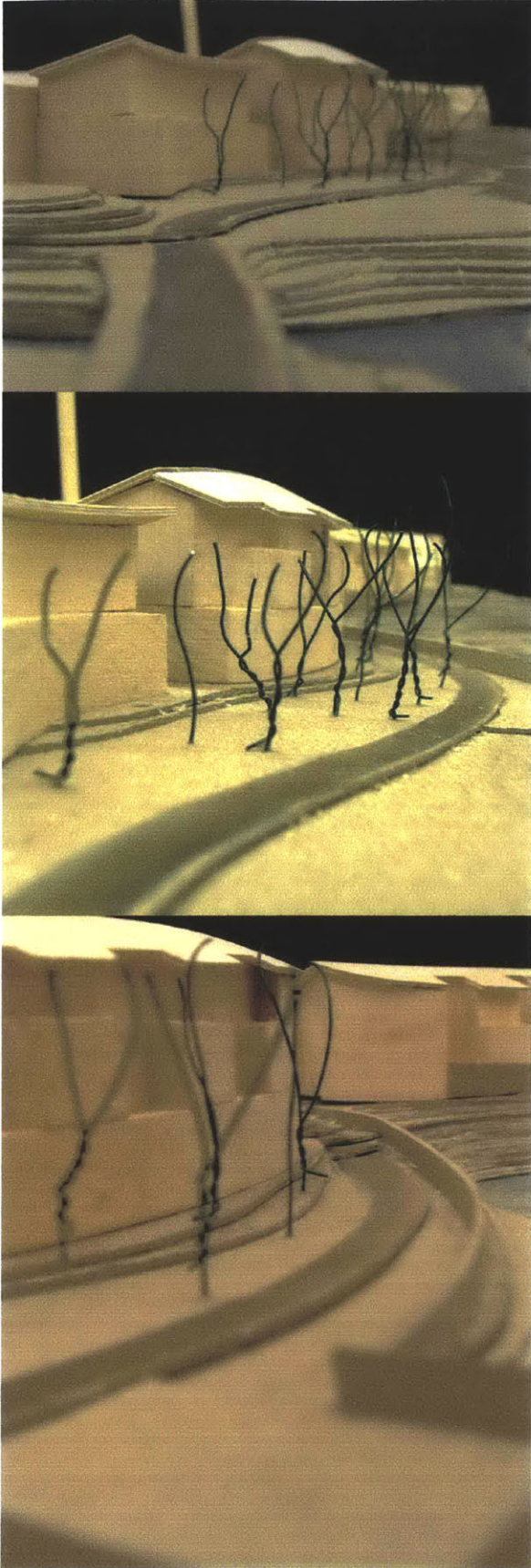
Phase 2, view of Bugline corridor



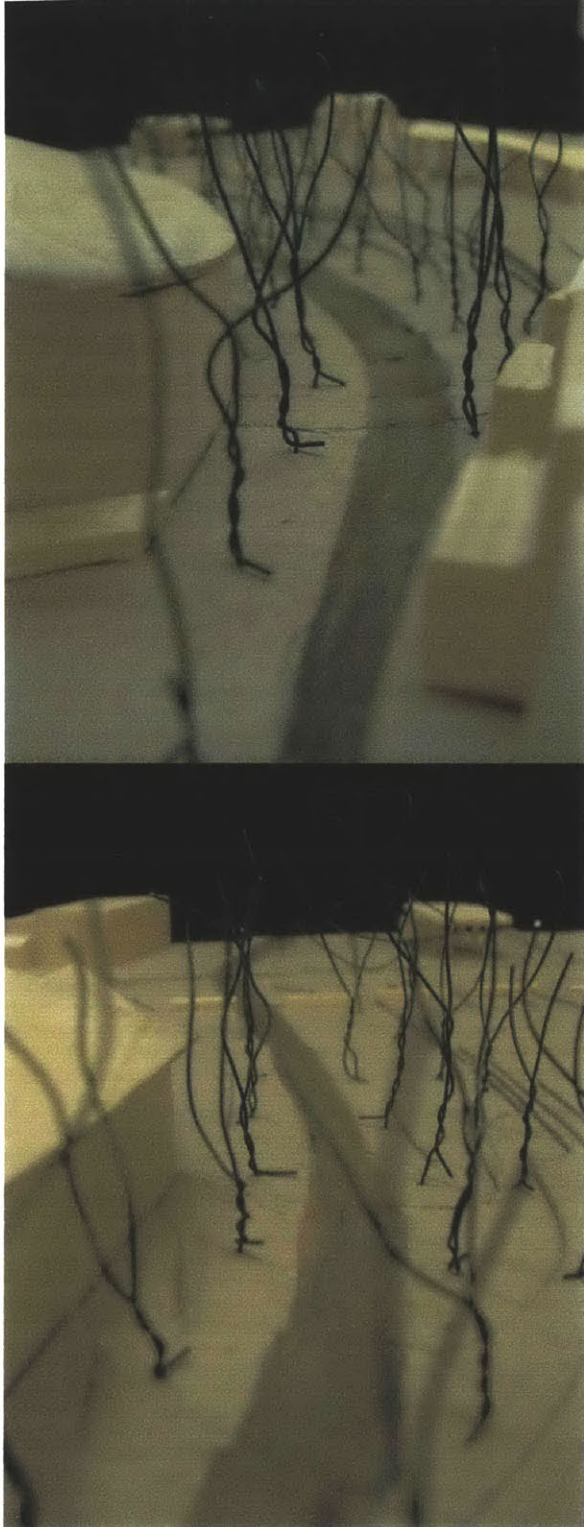
Phase 2, view from Waukesha Avenue south to park structure, condominiums, and existing residential area



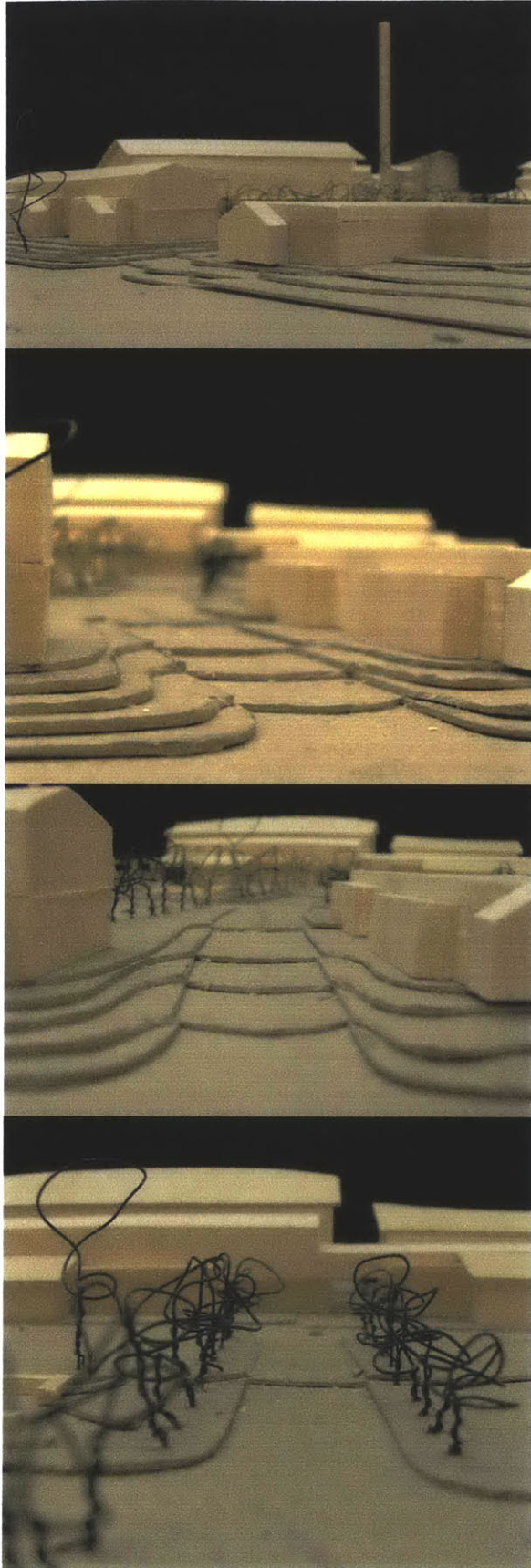
The condominiums have a street-friendly presence to pedestrians, similar in scale to the existing residences



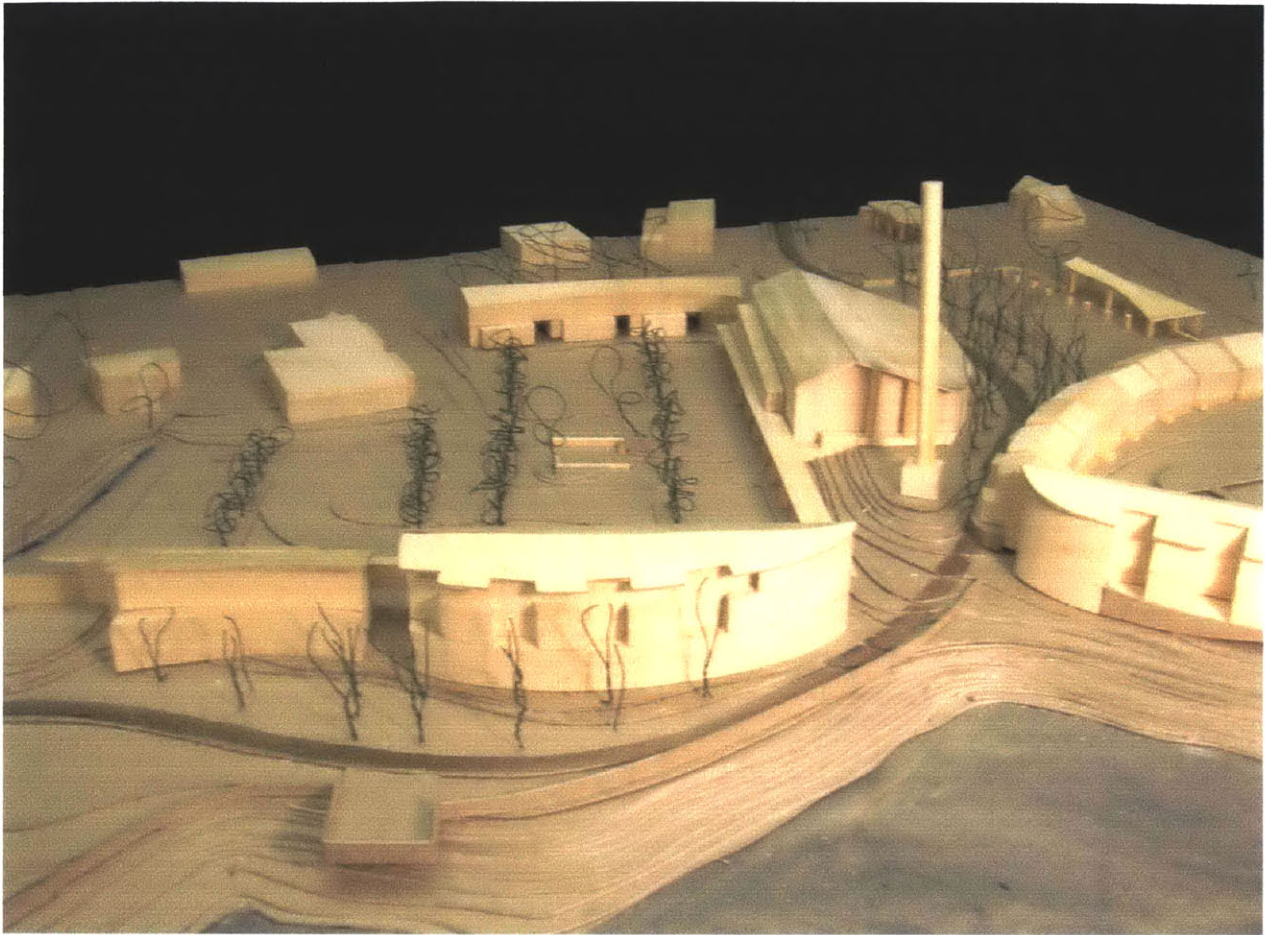
This sequence of images shows the experience along the Bugline. Just as at the beginning of the Village analysis I showed a sequence of views along Main Street and the Bugline, this sequence shows how the experience evolves along the path in the final proposal. The buildings' scale, their visual interaction with the birch trees, and their creation of expressively curved spaces are all part of the new, enhanced Bugline that is both a corridor for pedestrian movement and a place for public activity.



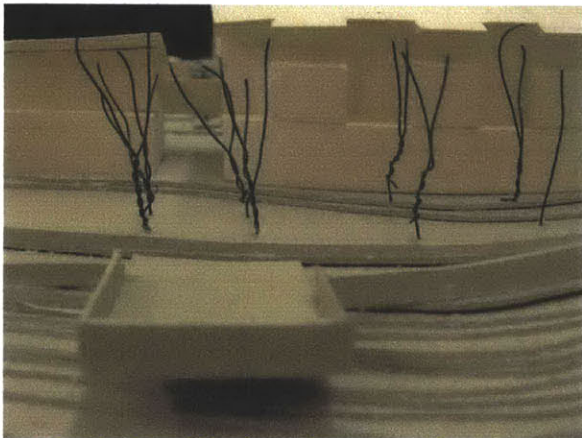
As the Bugline continues northeast towards Main Street, it passes between the condos and the historical museum. The repeating birches act as a spatial and visual cue along this path. Passing the vertical smokestack, these birches act as a screen to define the path and its shaded areas to the east, with seating and a retaining wall, in contrast to the open park space just beyond. The path organization could be adapted if the Bugline were to cross at the intersection of Main Street and Waukesha Avenue instead of the place where the railroad tracks formerly crossed Main Street, but this was beyond the assumptions of this scheme.



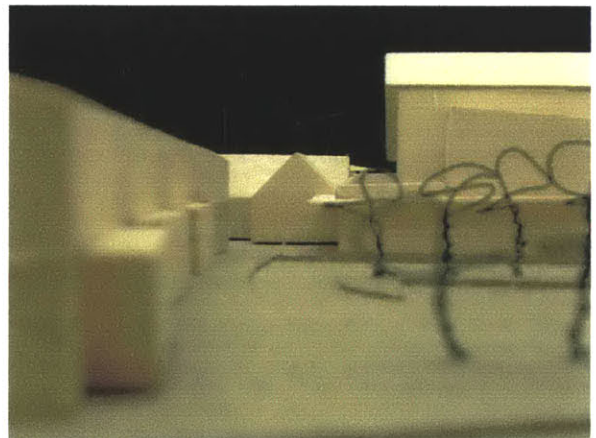
While the Bugline trail was one primary pedestrian trail, I also designed the way in which cars would enter the main parking areas of the site from Main Street, to show how a vehicular path would be treated. First, the buildings (rather than the parking) have a strong presence to the street for good recognition. The historical museum, smokestack, and other interior structures have a larger scale so that they remain clearly visible above the lower commercial buildings and trees. Turning into the access drive from either direction on Main Street, one's view is immediately directed towards the boutique hotel to direct visitors. As one drives further into the site, the Sorrel trees on each side define and frame the view forward to the hotel, its restaurant, and the park and exercise facility. Furthermore, the open outdoor ground floor passage leading to the public plaza at the quarry edge visually continues this entry axis. Therefore, visitors traveling by car are shown the primary pedestrian entrances and connections, and can then turn into parking zones, to the museum, etc.. Also, the open ground level pedestrian passages throughout the site allow the building complex as a whole to be more welcoming instead of blocking all vehicles' views to the landscape and Bugline path beyond.



Overall view of phase 2 looking north from quarry lake; along the edge are (from left to right) the park and exercise building, the boutique hotel, and the condominiums, with the commercial and museum buildings behind



Detail of projecting terrace at quarry edge, with Bugline and birches beyond

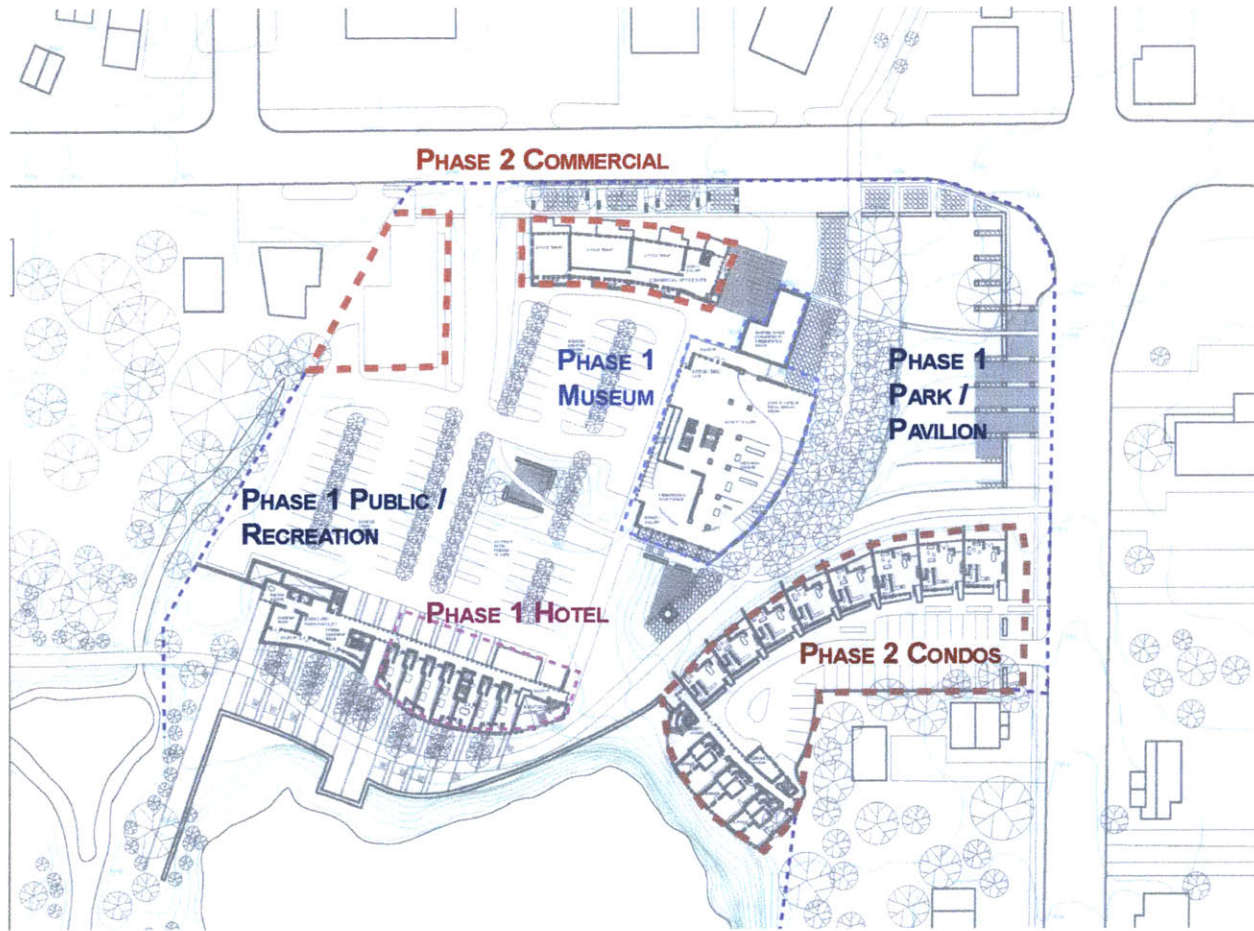


The entire scheme frames the existing stone office building; historic elements are central to the new vital commercial and public spaces

5 Site Flow

As a closing topic, I return to the multiple perspectives used in the village analysis and extend them to the final proposal. While the urban spaces, particularly around the Bugline, have a physically dramatic sense of movement and “flow,” each of these closing perspectives use the idea of “flow” in many different ways with respect to the site. From the cyclical flow of time in seasons to the long-term flow of phasing, time is a significant element to this proposal’s viability and character. The literal flow of water, people, cars, and other entities on the site show that while the drawings and models are static, the actual proposal for the site is quite lively. These dynamic, evolving qualities are part of what I sought to communicate in the presentation. The site has undergone so many changes and the project has so many exciting opportunities for future working and living spaces, so it seems appropriate to end with a fluid, dynamic series of perspectives.

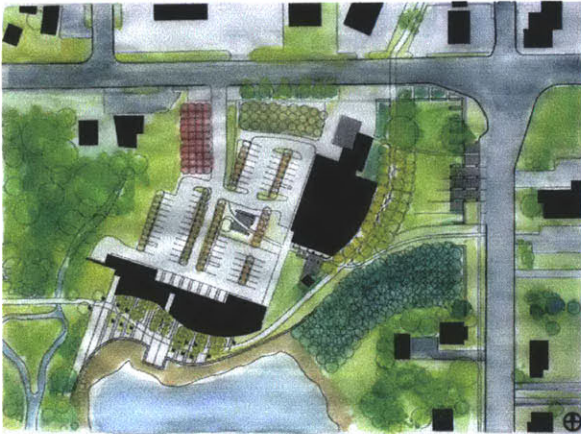
5.1 Time Flow and Phasing



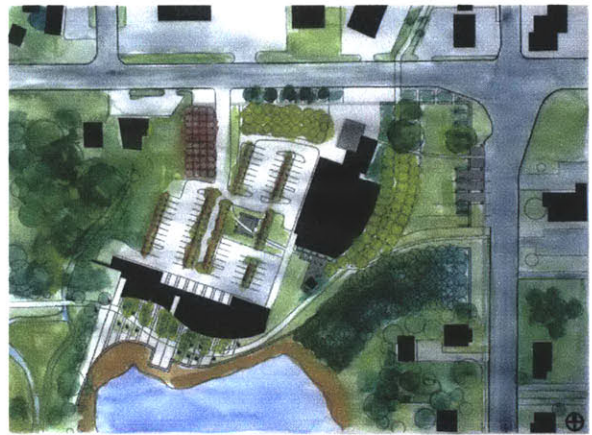
In order to be economically and politically feasible, I have created the proposal in two phases. The first phase includes all of the public land, the historical museum, the hotel and its restaurant, and the park and recreation facility. These are the primary centers of economic activity that will attract visitors, tourists, and potential clients and residents for the rest of the development. The second phase includes residential and commercial components that could be added gradually or even only in part. Additionally, this allows the

potential for the housing or commercial functions to be added as market forces dictate while providing the framework for all of the multiple functions to coexist over the course of time. During the five to fifteen years between phases, the landscape of the second phase's parcels will be used as a small "nursery" for their respective trees: red maples, tulip poplars, and serbian spruces.

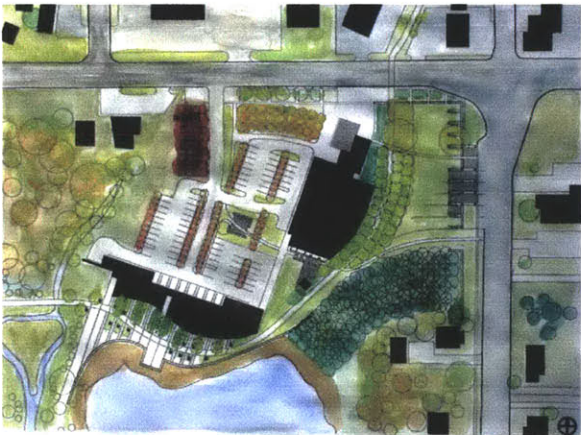
5.2 Time Flow and Seasons



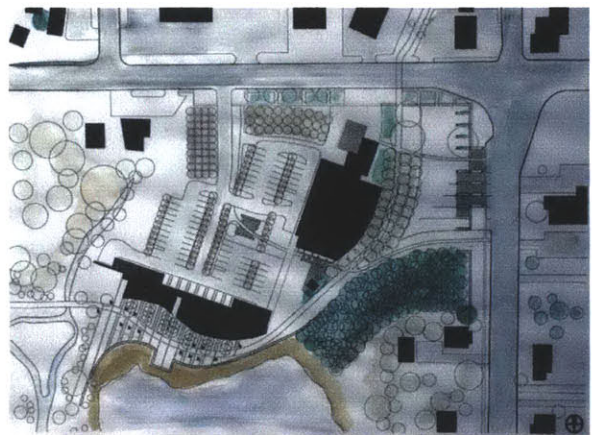
Spring



Summer



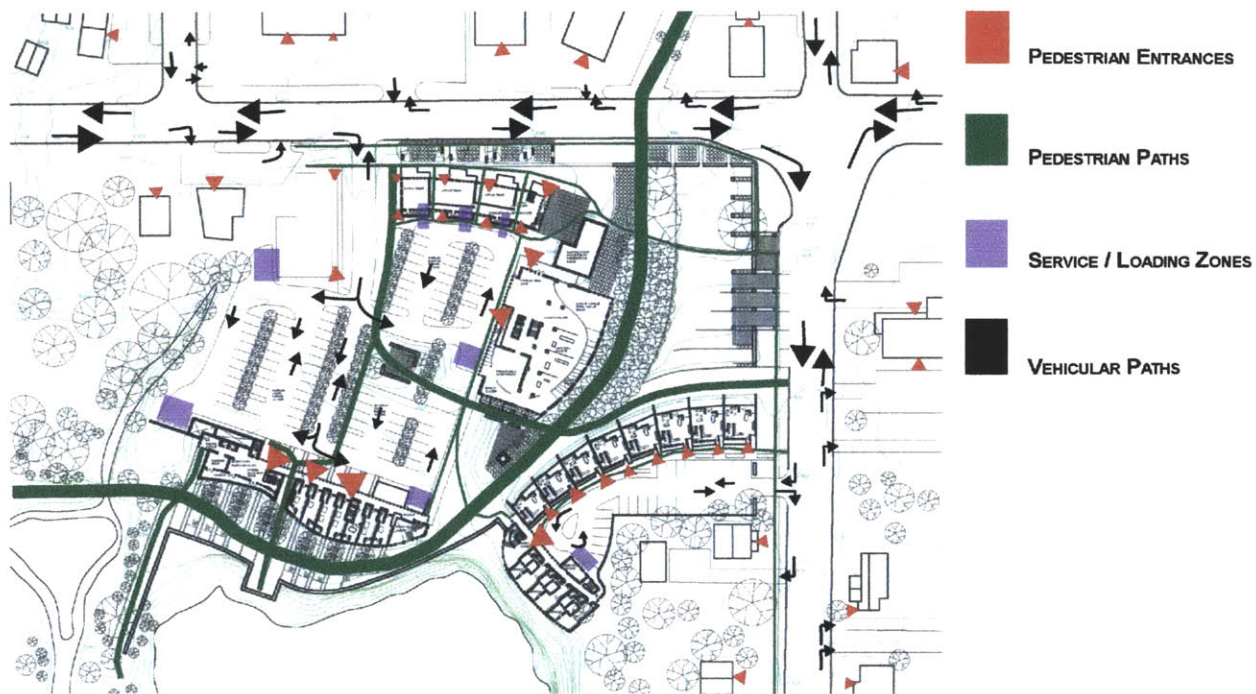
Fall



Winter

The landscape is designed not only for spatial character but for specific qualities of massing and color that evolve and give variety through the course of a year.

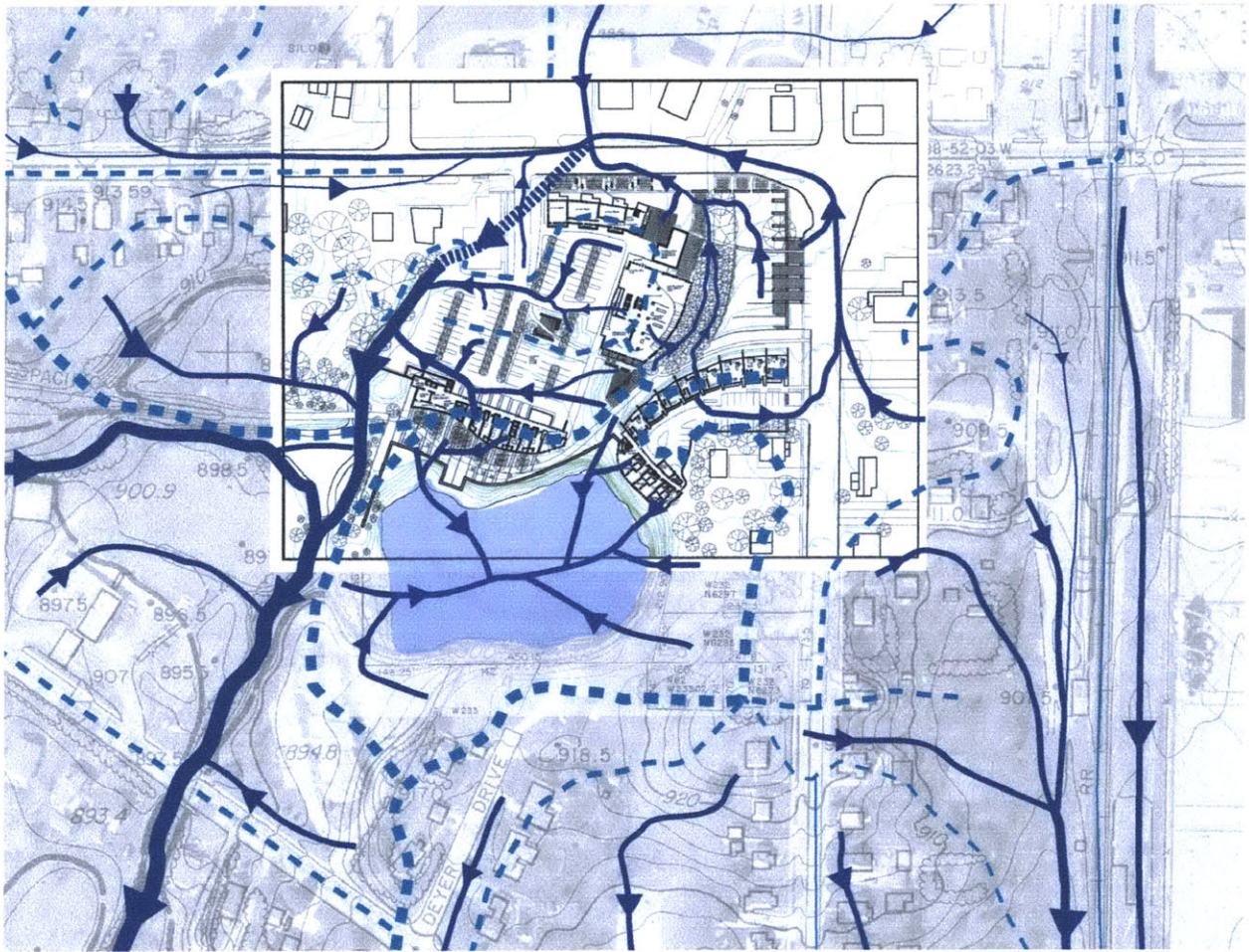
5.3 Pedestrian and Vehicular Flow



The flow of pedestrians is carefully managed and organized around the continuity of the Bugline. This primary path separates the site into two vehicular zones, each with a T-intersection typical for this part of Sussex. Therefore, the Bugline never crosses or conflicts with vehicular traffic (except for the Main Street crossing), and the secondary pedestrian paths that lead to the center of the site from Main Street and Waukesha Avenue cross a total of one driveway. This scheme is shown based on having the Bugline cross Main Street where the railway used to go through, but it could be adapted further to give the Bugline greater prominence with a crossing at the intersection, pending the addition of a traffic light. The commercial entrances are along both the street and the parking plaza, taking advantage of the narrow massing to welcome

pedestrians from multiple paths. Thus, the buildings do not have a traditional “front” and “back,” but instead present a pleasant character to multiple sides and viewpoints, with have secondary functions and service access areas allocated carefully at the sides. Plentiful shared parking is broken into manageable chunks by the Sorrel tree plantings and landscaped spaces.

5.4 Updated Water Flow



The revised water flow diagram shows that while the underground sewer still carries some of the water, the majority of the parking and buildings drain directly into the creek. The topographic manipulations also place all the buildings above the floodplain level. This diagram also shows how the final proposal's massing and roof forms relate to the initial studies of natural processes and their influence on this site's redevelopment.

5.5 Presentation Flow



On Friday, 13 December 2002, I presented these materials at MIT in the form of 17 presentation boards and a series of other smaller photographs and watercolors. The flow of the presentation followed a similar sequence to this booklet, except that this printed format allowed for a few more process details that time did not allow during the twenty-minute oral presentation. Also, since the models were visible throughout the hour-long review, the printed boards and physical representation could be part of a simultaneous dialog as reviewers began to discuss the project and its content.

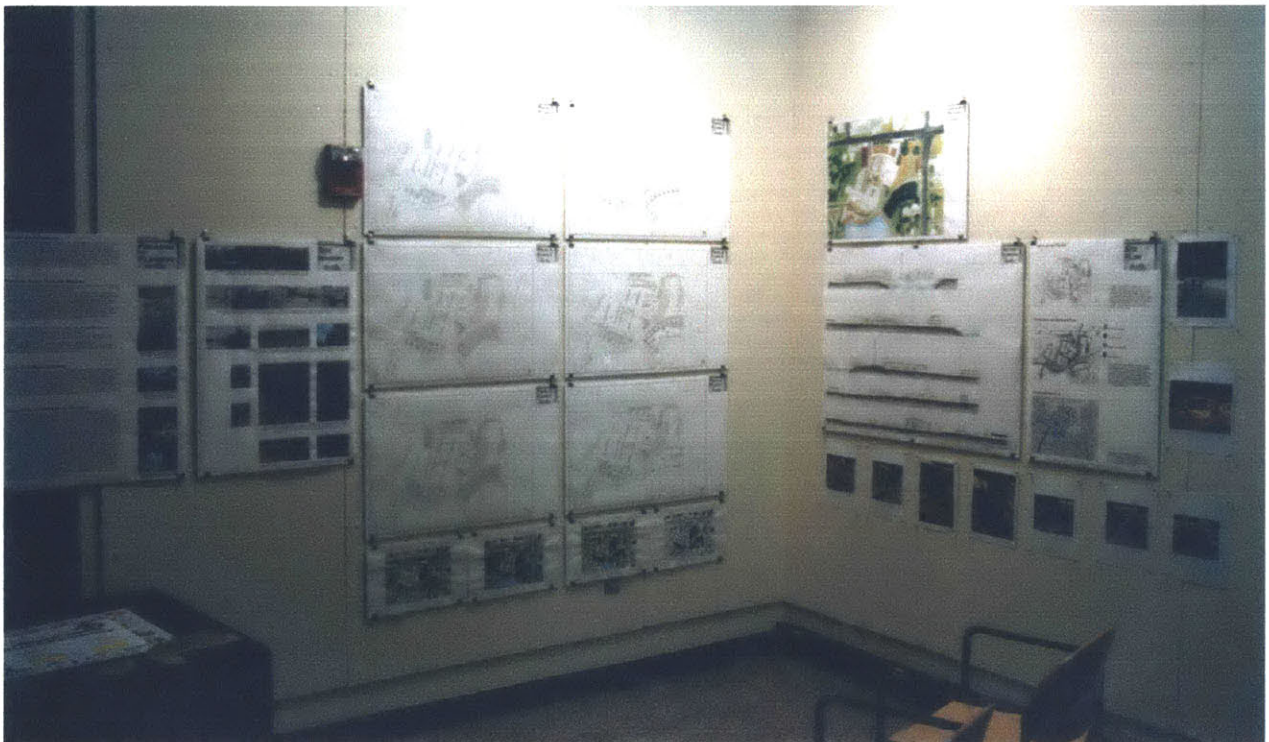
The presentation boards began with regional context and the sequence of photographs through the village of Sussex, and the presentation ended with the sequence of model photographs along the Bugline in the new

proposal. Besides these sequences of views, another recurring element was that of how natural processes and the flow of time influence the site's development through phasing.

The reviewers and visitors I mentioned in the introduction were quite complimentary of the realistic approach, and discussed possibilities for re-evaluating the proliferation of parking, the proximity of residences to the Bugline, and ways of clarifying the active public spaces to make the project even more vital.



Models and boards 1 through 7



Boards 6 through 17, model photographs

6 Conclusions and Reflections

It is in the nature of a village to be somewhere between urban and rural, but the sense of localness in a place like Sussex is a construct. It is not a false sense identity, but it is a simulacra, a reproduction of an idealized Main Street shaped by cultural imagery from Disney's Main Street USA to literature about fictional character's homes somewhere in small Midwestern towns. Part of choosing to live in a village rather than a very urban or very rural location is that residents want the buildings to *look like* a village should be, and not like an industrial wasteland.

Yet in the midst of many villages and small towns around Wisconsin and the larger world, places like the former cannery site of this thesis present themselves as very real reminders of the past and present. Even small settlements needed places of work and production, not just idyllic farm fields and quaint flower shops. As the United States and other Western nations struggle with the transition to economies based on service, electronic data, and reproduction instead of just manufacturing and production, one of the challenges is how to use these sites to make the village look like and feel like a village rather than any other place of suburban sprawl with acres of housing and housing and housing. Recent Sussex surveys and internal village planning recommendations recognize that new development must be able to attract people from outside the village for specific reasons and amenities, places where an

interaction with culture, history, and/or nature support commercial and recreational activity. Even as places like the cannery site evolve, they must have economic viability and flexibility or else they risk becoming as desolate as the cannery is now.

Even as more people move into suburban and exurban villages, they still need places to work and places that invigorate the local economy. This thesis project's proposal is but an initial investigation of one way to deal with this, but it has a greater relevance. When mavens of e-commerce and digital media like William Mitchell (dean of MIT's School of Architecture and Planning while this thesis was prepared) write about telecommunication and technology, they often advocate how the internet can allow people to work from home or in a dispersed collection of small Main Street locations. Even as virtual spaces develop, the design of real places for face-to-face networking remains essential (cf. Mitchell, *E-topia* p.154). In other words, Mitchell's concept allows people to potentially live in comfortable, walkable, dense but smaller urban areas with friendly neighbors instead of always commuting to one central downtown, physically concentrating everyone in skyscrapers. This assumes that Main Street development is preexisting, well-defined, and vital, whereas I believe such development is a challenge that in many places needs to be solved anew to create positive village environments.

This is part of why this project became more and more relevant and engaging as I continued

through the design process this semester. When I first thought of someday designing a new building for this site in 1999, I thought of it in terms of just that: an isolated building. When I traveled home in July 2002 and wrote the preface en route, it remained a question as to whether I would design just on this site, or would propose more general changes dispersed along Main Street and the Bugline. In the past year, however, Sussex has continued changing quite rapidly and development at other nodes in the village have begun to add small condominium and park areas along the Bugline at places that needed intervention. The cannery site is different, because as the initial land use diagram showed, it is the one place left in the village downtown with an opportunity for a larger, more inventive, more transformative intervention. This is how former industrial spaces are so crucial as primary places to create village spaces with an essential local character. It became very clear as I prepared for design that the reason this site deserved particular attention was because it was not a site that would benefit from just designing an isolated nice building, but one that needed an urban design scheme on a scale both smaller (in density) and larger (in scale) than I had ever worked.

Therefore, the questions asked for the thesis project needed to change. Instead of using the thesis to ask how to design a building on this site, the question became how to design a microcosm of a village, a mixture of uses and buildings and spaces and paths. My research into the past village documents about this site

and its planning reinforced that I would need to investigate public-private partnerships and the creation of distinctive pedestrian spaces. For example, here are excerpts from handouts at a meeting of the Village of Sussex Community Development Authority, from 15 July 2002:

- Mission: To provide an aggressive, proactive approach to implement economic development within the Village of Sussex

- Goals and Objectives: Maintain the integrity of the Downtown Design and Development Plan; Utilize fully its authority as a Community Development Authority in redeveloping the Sussex Downtown area; Review and make recommendations for other Village areas in need of potential redevelopment / blight elimination.

- Action Items: Determine a clear vision for Historic Downtown "Sense of Place:"

...

- Downtown is distinct from other settings;
- Downtown is multifunctional;
- Downtown is pedestrian friendly;
- Downtown is representative of community heritage;
- [In Downtown,] Human activity is essential to a strong sense of place;
- Downtown encourages people to linger;
- [Downtown should] Have a high level of community ownership

These are therefore some of the issues I kept in mind while trying to find programmatic and design questions in the process of the thesis. If the questions had focused on how to design and implement typical condominiums and retail uses as the sole uses of the site, the resulting answers and design might have been interesting but would likely have fundamental difficulties. If the design didn't ask questions about how to involve the Bugline more fully or take advantage of public recreation space, these

opportunities central to the site would be lost. Because I decided to include many elements of reality in the project, the questions instead had to address the natural processes, economic context, and visual experiences of the site so that the answers would hold more relevance.

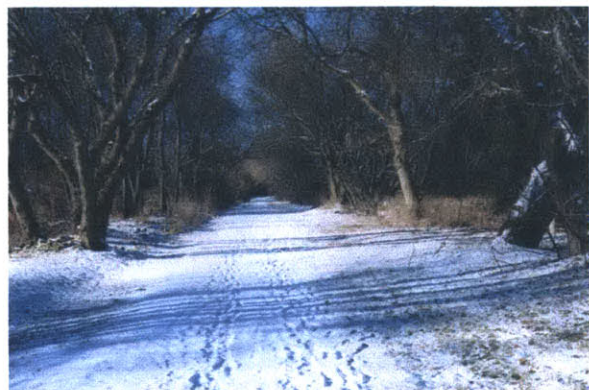
These answers and design ideas are merely a proposal, however, because the questions keep improving. The architecture and urban design for this site is not a placebo for the village's challenges, but it is an optimistic start to a process that a semester of work can only begin to address. It is also a process that continues even though the thesis is concluding.

After the presentation to Fred Keller and the other village officials, Mr. Keller interviewed me and wrote an article that appeared in the 14 January 2003 Sussex Sun. It discussed my academic pursuits at MIT and beyond, and included a description of this thesis, its program, and the elements of the site I proposed reusing. Mr. Keller rather elegantly showed the similarities with the possible proposal prepared by other urban planners while pointing out how my thesis adds the hotel, historical museum, and other public functions amidst the Bugline. If the eventual goal of the thesis was to affect and broaden the public planning discourse on what could be imagined for the site, then it has succeeded.

Returning home in December 2002 and early January 2003 before flying to MIT, the Bugline is snowy but still disconnected at the cannery site, and Main Street still has its quirky nodal

character. One path began life as a path for train traffic, the other for pedestrians in the village; now the pedestrian and vehicular roles are reversed! The cannery remains the primary site for investigating and relating to both paths; it is a sort of central pin that could hold everything together. Just as the uses of these paths continue and change with new urban design ideas, studying the paths themselves have made this thesis project a path and process that continues.

The Bugline in Sussex near Main Street, January 2003



6.1 Sussex Sun Article

8 Tuesday, January 14, 2003

SUSSEX SUN

Sussex Sun Hamilton Headlines

Alum heads to Cambridge on scholarship

Winner hopes to integrate music, architecture

By FRED H. KELLER
Staff Writer

Village of Sussex - David M. Foxe, a 1999 Hamilton High School graduate, upon graduating from the Massachusetts Institute of Technology (MIT), will be awarded a coveted Marshall Scholarship for two years of advance studies at Cambridge University in England.

Foxe, who first attended Templeton Middle School in 1991 as a sixth-grader, quickly became one of the outstanding students at Templeton. He would later be named Hamilton High School's 1999 salutatorian.

Foxe was one of seven chosen from the Midwest for the Marshall Scholarship.

Marshall scholars demonstrate outstanding academic achievement and a capacity to make a significant contribution to society. The scholarships, given every year since 1953, are awarded by the United Kingdom as a national gesture of thanks to the United States for aid received under the post-World War II Marshall Plan. Winners may attend any British university.

Forty Marshall scholars are chosen each year from more than 1,000 applicants who apply to one of eight regions centered on the eight British consular districts in the U.S.

Notable Marshall Scholars include Supreme Court Justice Stephen Breyer, former interior Secretary Bruce Babbitt, electronics entrepreneur Ray Dolby, New York Times Pulitzer Prize-winning columnist Thomas Friedman, more than 100 chaired professors at U.S. universities and the presidents of five major U.S. universities.

Foxe is a double major in architecture and music. He is also an accomplished photographer and has both architecture designs and musical compositions archived in the MIT Museum.

At MIT, Foxe was a member of the Simons Hall Founders' Group that worked with architect Stephen Holl to design the living spaces and define the culture of the new MIT dormitory.

He will attend Cambridge University, combining his two majors in a study of the application of musical paradigms to architectural design. A percussionist and timpanist, he played with the MIT Symphony Orchestra on tour at Cambridge University last summer.

Foxe said that while at Cambridge, he plans to "investigate how people perceive architectural space through the language and media of other

disciplines," particularly in music.

"Architects try to use the metaphors of music for example, to express ideas about how time affects the perception of space; they use literature to express notions of narrative and character in architecture," he said.

"Instead of viewing interdisciplinary metaphors as a confusing obstacle, I seek to use my insider experience in multiple areas to use synthetic description as an asset in design and communication."

Foxe is appreciative of the scholarship to Cambridge. "I might not be able to afford to go (if not for the scholarship)." He added, "Being at Cambridge, I will get a chance to visit Europe."

After Cambridge, Foxe thinks he will go onto graduate school in architecture.

A longtime Pauline Haase Public Library volunteer, Foxe is remembered at the library for his "Time and Places" art exhibition in the Quad Room, which included an exhibit of photography. He hopes one day to be an architect for a major firm.

Most bachelors' candidates are not required to create a thesis, and such was the case for Foxe. However, Foxe took it upon himself to do one anyway — one that had a Sussex connection. Foxe centered his thesis work on a proposed development of Mammoth Springs Canning Co. property.

Development of the property has been a hot topic around Sussex lately, as only last week MLG Corporation announced the sale of the land to developer FHB Inc.

And while Foxe's proposal for the land is somewhat different that the visions revealed by the Bielinski Homes and Vandewall and Associates last summer, the two projects do have some similarities.

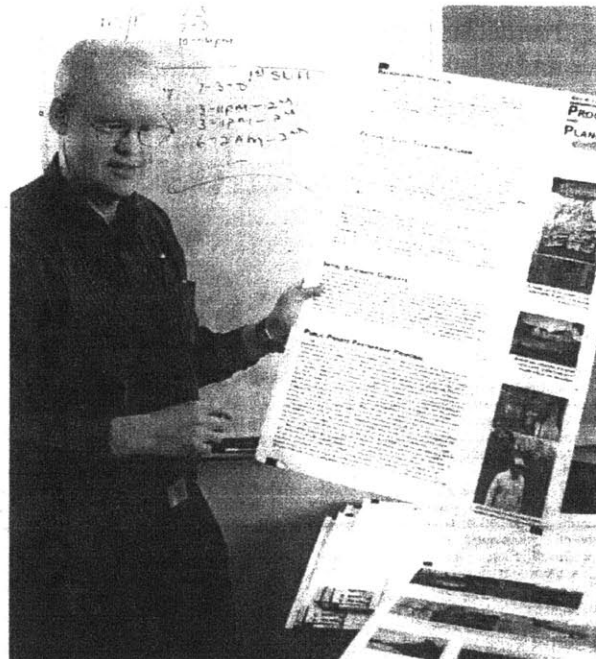
For example, both proposals intend to make use of historic buildings on the cannery site.

In his plan, Foxe integrated the use of a lannonstone office, the water-filled quarry and the Bug Line Recreational Trail into a development that would bring condominiums, museums, hotel rooms, businesses, parking and offices to downtown Sussex.

Foxe's cannery development centers around the property's 1920-built smokestack chimney as a stark, separate visual point.

Foxe goes over the plan in detail in a presentation called "Localness: A village proposal for mixed-use re-appropriation of the industrial landscape."

Foxe gave the presentation to local village officials over his Christmas vacation. Sussex Village Administrator Chris Swartz, CDA Chairman Roger Johnson and Village President Mike Knapp came to see



FRED H. KELLER/STAFF PHOTOGRAPHER

CAMBRIDGE BOUND - David M. Foxe, a 1999 graduate of Hamilton High School, will graduate from the Massachusetts Institute of Technology (MIT) in June and then accept a two-year Marshall Scholarship at Cambridge University in England. This past week Foxe gave an extensive presentation to the Sussex Village fathers about his thesis on the redevelopment of the Mammoth Springs Canning Company land mass.

parts of the lengthy show-and-tell. Johnson asked Foxe to loan part of the display to the CDA committee.

As a charter member of the Sussex/Lisbon Area Historical Society, he wants to assist the society in

developing the 1914-16-built depot/museum that has recently been purchased by the society.

He is the son and only child of Gary and Katie Foxe of Sussex.

6.2 Resources and Credits

The following bibliography lists but a few of the resources that informed my design decisions and explorations while preparing during summer 2002 and designing in the fall. I would like to thank all of the authors as well as the many professors, library staff, and especially Anne Spirn for extensive suggestions and assistance in finding appropriate resources. As I mentioned in the introduction, the scope of this thesis's product did not include many of the external analysis, historical context, and theoretical topics from the research, but I provide the sources to pass on to interested readers.

All photographs (including those from Midwest Express airplanes), drawings, and other images are by David M. Foxe, except those relating to Sussex history and geology that are courtesy Fred Keller, Sussex Village Historian, and/or the Pauline Haass Public Library in Sussex, WI. There are so many hundreds of resources and individual published articles from Mr. Keller's compilations that an exhaustive list would be beyond the scope of this selected bibliography. Mapping data and files are courtesy the Waukesha County Department of Parks and Land Use, with special thanks to Hans, and the Pauline Haass Public Library, with a special thanks to Joy Botts, Kathy Klager, and the rest of the reference staff. I apologize for any omissions and/or inaccuracies that may have resulted in the compilation of resources.

All computer imaging work was done in Adobe Photoshop 6.0 and 7.0, Adobe Illustrator 9.0 and 10.0, and AutoCAD 2000, while the page layout and text documents were prepared with Lotus WordPro 97. Photographs were taken from March 2002 to January 2003 on a Canon Elan II (analog) and/or Nikon Coolpix 2000 (digital). I would like to thank Tom Fitzgerald, Eduardo Gonzalez, and the numerous other people in the architecture department who assisted with technical computer challenges along the way.

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6.4 Acknowledgments and Dedication

I acknowledge these incredible people and dedicate my thesis work to them:

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To Fred Keller, for thoughtful help and an invaluable article, and for opening the door to the all too often hidden history of Sussex, its quarries, and its people.

"...Look to the rock from which you were hewn,
and to the quarry from which you were dug."
Isaiah 51:1