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Hatfield Community Center: Hatfield, Massachusetts

Patrick Dominov
Roger Williams University, pdominov@gmail.com

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Hatfield, Massachusetts

Patrick Dominov
Masters of Architecture
School of Architecture, Art and Historic Preservation
Roger Williams University
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Patrick Dominov
Student

Date

Andrew Cohen
Advisor

Date

Stephen White
Dean of SAAHP

Date

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INTRODUCTION

Architecture is about creating a space that allows people to communicate and interact. It must be a servant to the needs of its users.

Architecture must be designed in a manor to fit the user, and to not force the user to fit the Architecture. It is the user that gives purpose to Architecture.

Architecture is about bringing people together and making connections amongst its users.

Architecture should make people feel comfortable within it as well as the exterior should complement and relate to the site. Site is very important to architecture; it gives the architect the preliminary ideas of how to approach the metaphor of the building and its form. The site is not just the immediate context around the building; it is everything that is affected by the new building.

PROBLEM STATEMENT

The Town of Hatfield is one of the smallest towns in Massachusetts. It currently has about 3,500 residents (www.hatfield.org) in its 16.8 square miles of land. The area was settled in 1660 and it was incorporated as the Town of Hatfield in 1670. Hatfield has a long history of being an agricultural center, with its rich soil due to its flat terrain and its adjacently to the Connecticut River. It has always been a slow progressing, small town that prides itself on its heritage.

There is evident of once an active town center, on Main Street, which runs parallel to the Connecticut river. This was the location of the initial settlement of the town. In this area were civic buildings, such as the town hall, and schools, trading posts for supplies that would travel up and down the river, as well as residential areas. As the settlement grew larger, more roads were created that branched off of Main Street, and people more further away from the center for more land to start their own farms. Even though people were moving away from the center, there was enough program in the town center to attract the residents back it on a daily basis. Whether it was children attending school, civic obligations to the town, or for business purposes, the town center stayed active.

However, it is currently struggling to remain active and performing its role as a center of life for the Town of Hatfield. The town lacks a facility that provides a location for activities for its residents. By creating a building which acts as a centralize hub of activities and locating it within close vicinity to the existing town center, the building can facilitate in reconnecting the community to each other.

PROJECT STATEMENT

The theme that I wish to explore is a sense of community and how important they are to society. How do they affect town grow, does the size of the town affect how the members of a community interacts with one another? How can an older town benefit with the addition of a community center? What is the next phase for these rural towns that are still around? Do the farmland and other undeveloped land become developed into suburbs? These small towns have a choice to make in deciding their future.

The goal is to create a building that can be as active as possible throughout the day and evening. This can be done by finding a variety of users to occupy the building for different times of the day. In addition, creating multipurpose spaces will allow the building to stay smaller in size; a space in the building can take on multiple functions. Bringing in the entire community to this building is what will make the building successful. The building will be designed with the entire community in mind; young, middle-age, and elderly, not just a specific group. However it is not enough to just allowing a space for the community to gather, but the spaces must allow and encourage connections to be made. Spaces need to be created for the interaction of its users. This way, the elderly can teach the young, as well as the young can teach the elderly. By doing this, the building and its spaces, will create a strong community that will grow stronger together.

In addition, this project will propose to look at the history of the community and allow that it evolve into contemporary ways; incorporating contemporary features that relate to the town and its community's history. This will be done in several ways. In the proposed town, Hatfield, both agriculture and small scale mills were very important in the development of the town. This is due to prominent landscape features such as the fertility of the soil in the Connecticut River Valley and the adjacently of the Connecticut River, as well as other tributary streams. The idea is to introduce new forms of agriculture to the town, as well as reconnecting the community of Hatfield to the Connecticut River.

The goal of this project is to revive Hatfield's town center by reactivating the space via creating a common location for the town to gather and interact. This project will improve the towns in a variety of ways. It improves the GOVERNMENT by supplying a large assembly space for the open town meetings; EDUCATION: incorporating the town's library; SOCIAL: creating a central location for its uses to meet, such as the teen center, senior center; HEALTH: having a fitness facility and maintaining athletic fields to improve the health; HERITAGE; creating a communal garden space to represent the agricultural history and allowing those who do not have adequate land to participate; FUTURE: applying sustainable features, such as geothermal, solar panels, and the electric facility generating electricity for the town, as well as Western Massachusetts.

PROGRAM

Hatfield Community Center

	Program	Square Footage	Quantity	Total Square Footage
1	**Proformance Space**			
	Assembly Hall	4,000	1	4,000
	Stage	600	1	600
	Back Stage Area	200	2	400
	Subtotal Proformance Space	4,800	4	5,000
2	**Teen Space**			
	Game Room	1,000	1	1,000
	Lounge	400	1	400
	Subtotal Teen Space	1,400	2	1,400
3	**Reception Room**			
	Large Meeting Room	1,500	1	1,500
	Catering Kitchen	300	1	300
	Storage	200	1	200
	Subtotal Reception Room	2,000	3	2,000
4	**Television Support Station**			
	Control Room	500	1	500
	Storage Room	200	1	200
	Subtotal Reception Room	700	2	700
5	**Fitness Facility**			
	Stretching	200	1	200
	Free Weights	1,000	1	1,000
	Cardio Equipment	1,000	1	1,000
	Strength Equipment	1,000	1	1,000
	Locker Rooms	1,000	2	2,000
	Subtotal Fitness Facility	4,200	6	5,200
6	**Administative Offices**			
	Offices	100	4	400
	Storage	200	1	200
	Subtotal Administative Offices	300	5	600
7	**Senior Center**			
	Lounge	500	1	500
	Subtotal Exterior Facilities	500	1	500
8	**Exterior Facilities**			
	Parking	180	80	14,400
	Subtotal Exterior Facilities	180	80	14,400
9	**Public Area**			
	Reception Area	200	1	200
	Lobby	500	1	500
	Rest Rooms	400	1	400
	Subtotal Public Area	1,100	3	1,100
10	**Energy Generator Facility**			
	Education Room	5,000	1	5,000
	Subtotal Energy Generator Facility			5,000
	Total Building Square Footage			21,500
	Total Program Square Footage			35,900

1) Performance Space/Large Assembly Hall:

A performance space is a location where art such as a musical, a play, and/or other forms of entertainment occur before an audience. Hatfield has yearly been the location for performed musicals, chores concerts, and various other plays throughout the year, which the participants are students of the high school, middle school and select grades of the elementary school. However, the town currently does not have a performance space to host events like these properly. Currently basketball gymnasiums of the high school and elementary school are used, which adds to the deterioration and constant upkeep of the basketball court floors from the damaged cause by chairs and shoes.

In addition, it can be the location for the town meetings, which currently meet in the high school gymnasium. Hatfield as an open town meeting government, which means that the citizens of Hatfield, who want to participate in governmental and town affairs, can show up and purpose their ideas, which can be place on the town election ballet.

The community center can be the location of both events. The community center should be the center of town engagement, especially for large scale gatherings. Adults will have more opportunity to attend town meetings since they will have the ability to drop their kids off in the teen space of the building, while they attend the meeting. In addition, more events can take place here, and less conflict will occur with the gymnasiums of both schools. The schools sponsor programs that were already describe, annual musicals, chores concerts, but other programs such as talent shows; the school band can have a permanent location for practices and performances, which could lead to more frequent performances; the graduation ceremony. In addition more programs can take occur here, such as movie nights, where the town can sponsor a newly released movie and play it for the public, organizations that have large events, for example the Smith Academy Athletic Awards Committee can have their awards nights there for the athletes; the summer theater program that is sponsored both privately and publicly, specialize lectures that could be used for health awareness for senior citizens, or innervations in farming techniques or plant disease awareness for the many farmers of Hatfield.

This space should design to accommodate 250-300 people.

2) Teen Space:

Having a space for the teenagers of Hatfield is very important component of the community center. This is a crucial time in human development in our society in which many changes occur. Physiological changes such the body growing and changing from the child to the adult occur, and psychological changes such as the need to break away from their parents and seek more freedoms. Parents understand

these changes, since of course they have gone through it already, and most are willing to allow more freedoms to their children. However having a concrete location, where teens can go without their parents, makes it easier for a parent to give their child that freedom. They would be in a safe, control location which puts the parents' mind to ease, instead of worrying that they child is just wondering around town, yet would allow the child to have their freedom and space from their parents.

In Hatfield there was a place for the teens to go called the D.A.R.E. Center. The D.A.R.E. Center was a place where 6,7,8,9 graders could go and hangout on a Friday night. There were two main rooms, one with 4-6 pool tables and the other with couches, arcade games, and foosball. Outside was a small basketball court that had lights so kids could play at night. This place was located in the center of town, where parents could easily drop off their kids, or kids could walk. This was an evening place; it started around eight and was over about midnight. It was privately funded through the D.A.R.E. program and the D.A.R.E. officer. However after several years the building did not pass building code for several reasons, such as egress and accessibility.

The addition of a community center would be extremely beneficial to the town. It provides a place for teens to have their freedom away from parents, while still providing a safe location which makes it more appealing to parents. It will increase the social life of those who attend, outside of the classroom, and form stronger connections among the younger community.

This space should design to accommodate 50-75 people.

3) Reception Room, Catering Kitchen

A large meeting room with an attached catering kitchen would be used for many formal events for the town, and for the school. In addition, private organizations can reserve the space to host their events. Even out-of-town organizations could rent the space and it could be a source of revenue for the town, or can be used to help pay for building expenses.

These spaces should design to accommodate 75-125 people.

4) TV Station Support Station

Hatfield currently has a TV station for the local broadcasting channel. However, this is located in the High School and it taking up what could be used as a classroom. The TV Station can be moved to the community center, and can be used to film the selectmen meetings, school committee meetings, musicals, graduation ceremony etc.

This space should design to accommodate 3-5 people with space for all the equipment required for the function.

5) Fitness Facility

After speaking with some town members and teachers, they mentioned that a fitness center should be considered in the idea for the community center. Teachers could go before and after work, students could use it, athletic teams, seniors citizens to help stay in shape, possible use for medical treatment. The facility could include fitness equipment such as treadmills, fitness machines, free-weights, locker rooms, lap swimming pool. A fitness facility would promote health and being in shape, which would be a positive message to the community.

This space should design to accommodate 25-50 people.

6) Administration

The construction of a community center in Hatfield would create jobs and administration to operate it. Jobs would be needed for the teen center, fitness center, classroom/tutor rooms as well as custodial staff to keep the building clean. The teen center would need people to check teens in and out of the teen center and monitoring them during their nights of operation. This is to keep the users safe and making sure they are in a protective environment. The fitness center would need staff to monitor users coming in and out of the facility and for safety precautions. Students who need help with school work can request the service of tutors, to help them understand that they are having trouble comprehending. These jobs, while some could be full time, a majority could be part time. These part time jobs could be given to deserving students. Older students could tutor younger students, which would increase the formation of community.

This space should design to accommodate 10-15 people, with 3-5 offices, and several work stations for part-time employees.

7) Parking, Drop Off & Pick Up Location

Parking should be held to a minimum. Parking lots create heat spots and have negative effects on the global world. Reducing lot size can be done by combining parking with other buildings; have share parking. Along Main Street there is street parking on both sides of the street which could be utilized. Also, there is are several parking lots in the area, one for the town hall, and another for Saint Joseph's Church. In addition, a drop off and pick up location will allow parents to easily bring their kids to and from the community center for teen nights, senior citizens can use it for their senior center meetings, etc.

This space should accommodate about 30 vehicles on site and designed in a way to have the least amount of environmental impact.

8) Exterior Facilities

Exterior facilities would include flexible athletic/recreational fields. This could include an outdoor basketball court that could be used by the public. Currently there is not a well maintain nor accurate size outdoor court in the town. Members of the community could have pickup games after school, on weekends, and during teen night (assuming the court has lights). During winter time, the court should have the option of being filled up with water, which would freeze, and could be used as a skating rink. This was a history with Hatfield, firefighters would fill up a large boxed in area and the community would use it as a skating rink.

Other programmatic features could be tennis courts. Hatfield used to have one in town but it was removed for the construction of the new elementary school. A running path/track could be included. It would allow visitors to have a measured circuit to run outdoors. These three programs promote health and fitness, as well as teamwork. These spaces form connections within the members of the community and increase overall public health.

Another possibility is to have a grass field that could be manipulated on demand for varying activities throughout the year. It is important to have direct sunlight in this area and design in a method that this space would be the town's green space.

9) Energy Generator Facility

It is the intention of this thesis project to make a prominent feature of a sustainable method of producing energy. This portion of the building program can also be separated into two sections, the main energy generator and the educational section. In order to have a deeper connection between the generator facility and the town, an examination of the town's long history and its environment should be accomplished. In the town, there is an old mill, the valley advocate building, which utilized a small man made dam, with a waterfall, for its energy source. Considering how utilizing water as an energy supplier is in the town's history, incorporating a modern method of a hydroelectric generator should suitable and appropriate for the town. With relations to site and environmental considerations, the potential site, is adjacent to the Connecticut River, which is the largest river in New England, running from Canada to Connecticut, and is one of the major reasons for the colonial settlement in Hatfield. Some of the river's water will be directed to one or more hydroelectric generators. After the water passes through them, the water could be used to fill up cisterns, which could be used for toilets, or irrigation for agriculture fields, the nearby field hockey field, and/or the surrounding landscape of the community center. The water will be cleaned on site and then release back into the environment via irrigation and then it would go back into the Connecticut River.

In addition to hydroelectric power, I believe another form of generating power should be incorporated to further pursue the opportunity for the town to develop a sustainable amount of electricity to run public and possibly private buildings in the town. Since Hatfield is an agricultural town, there are many flat fields that are used to grow and harvest crops. I am proposing the idea of incorporating a way to produce energy in congruence with agricultural life. Designing solar fields that are raised above the agricultural fields could produce electricity for the use of the town. The solar fields should be designed in a way to not interfere with the process of planting crops, allowing enough light for crops to grow, and allow farmers enough room to harvest the crops. In addition, to integrate this solar field system with the hydroelectric system, the pools that raise the solar panels above the fields, could be use as an irrigation distribution source for the fields below. The water could also be a method of washing off the dirt off of the solar panels, so their energy generating efficiency is kept at an optimum level.

The energy generator piece of the program could be a tool to teach the community as well as neighboring communities as well the nearby colleges. Hatfield is surrounded by many prestigious universities; University of Massachusetts (Amherst), Amherst College, Smith College, Elms College, Hampshire College, and Mount Holyoke. These universities could use this facility as a teaching and educational tool for its students in their curriculums. It can also be used to educate the community of Hatfield about sustainable techniques that they can apply to their own lives.

This space should have direct access to the Connecticut River, as well as the fields to the south of the site.

10) Agriculture Center

This portion of the project will be involved with education the community of new farming techniques and styles. It can also serve as informational hub that could enlighten the farmers in the community about plant disease; how to defend against getting it, as well as helping them if their crops were subjective to a type of disease.

Part of this aspect of the project could tie into the proposed hydroelectric facility. The water that is brought in for energy generation could be used as a water source ford teaching the community about hydroponics. This would increase and diversify the agricultural productivity of the town. Nutrients could be added from the water being pulled by the hydro electric generator and could be used to grow plants. This could be use as a teaching tool to the younger generation of Hatfield as well as the current farming generation. The biology departments of the surrounding universities could also be involved with either researching and studying hydroponics. The crops produced by the facility would be sold and the profits could go to the town as an additional source of income.

In addition, this could be a place where the elders/ more experience members of the farming community can connect to its younger generation. The could teach them things that they have learned during their experience, as well as historical aspects of farming in Hatfield.

This can also have exterior space where members of the community can create and take care of a community garden, where crops can be grown. The community can interact with one another, exchange personal gardening secrets. The could increase the connections amongst the community.

River Front

This portion of the project will be involved with reconnecting the town to the Connecticut River, which has been incredibly important to the town, with regards to founding, trade routes, economy, etc. Currently the town has little interaction with river, mainly in only three locations, one of which is private, and they are not near the town's center. This locations consist of the boat launch, the wastewater treatment facility, and the "Bashin", which is beach type location on the river that many people utilize for recreation such as swimming, fishing, barbecuing, etc.

The creation of a river front that the community can interact with the river will improve the quality of life of the community. It will also encourage the continuation of keeping the Connecticut River clean so that they community can enjoy it. This aspect of the project could become an exterior park like atmosphere for the town, where the community can reserve spaces to host outdoor parties and other celebration events. It can also be a destination the parades that the town host annually.

ORGANIZATIONS THAT COULD PROVIDE FUNDING

Since Hatfield is such a small town, 16 square miles with only 3,500-4,000 residents, the town would not be able to fund this project on its own, without raising its taxes considerably. Locating organizations that could donate capital, materials, labor, etc. would be crucial in allowing this scheme to become a reality. Since this project has a variety of different program, many different organizations can donate for their specific cause.

Senior Center

The department of Health & Human Services created an organization called the Administration On Aging (AOA). "For over 35 years, the AOA has provided home and community-based services to millions of older persons through the programs funded under the Older Americans Act." (Department of Heath and Human Services 2009) The AOA has donated over $350,000,000.00 each year for the past four years to "multi-purpose senior centers that coordinate and integrate services for the older adults such as congregate meals, community education, health screening, exercise/ health promotion programs and transportation." (Department of Heath and Human Services 2009)

The scheme purposed for the Hatfield Community Center fulfills many of these traits that the AOA desires for senior centers that they donate/sponsor. The facility will be multi-purpose and have many types of users for its community. In addition, it can be used to host workshops to educate seniors about health concerns etc. There will be a fitness facility incorporated with the project, which the seniors can utilize for increased health.

Teen center

The Drug Abuse Resistance Education (D.A.R.E.) program used to be an important aspect to the town. It would educate elementary students about the dangers of drugs and peer pressure that typically occur in the middle and high schools. In the Hatfield D.A.R.E. program, there was a teen center, which was available to upper elementary and middle school students as a safe location to hang out with friends. "It gave kids something to do on the weekends that was fun and provided a location for social activities with fellow students and other kids in the town. It allowed parents free time in the evenings, by allowing them to drop their kids off in the late afternoon and pick them back up in the late evening. Most parents supported this because they knew that their kids are at a safe place, without the peer pressures of drugs, which may occur in a different environment." (Wilkes 2009)

In addition to D.A.R.E., another organization that could be interested in supporting the teen aspect of this Community Center would be Youth Service America (YSA). "Youth Service America supports and motivates youth, educators, and service-learning coordinators by distributing over 400 micro grants each year for service and service-learning initiatives." (Youth Service America 2009) It was "founded in 1986, YSA is an

international nonprofit resource center that partners with thousands of organizations in more than 100 countries to expand the impact of the youth service movement with families, communities, schools, corporations, faith-based organizations, non-profits, the media, and governments. Through this network, we work to increase the quality and quantity of service opportunities and to make service and service-learning the common expectation and common experience of all young people." (Youth Service America 2009)
Organizations like these could donate capital and/or furniture for the teen center.

Energy Generator Facility

"Western Massachusetts Electric Company (WMECO) announced that it collaborate with the Department of Public Utilities' plan to implement an integrated, large-scale solar energy program in its service area that can begin to generate power from photovoltaics. Under the Green Communities Act, ground-breaking legislation passed in 2008, electric distribution companies like WMECO are authorized to play a critical role in meeting the state's solar energy goal of developing 250 megawatts (MW) of installed solar by 2017. Under the Green Communities Act, WMECO is allowed to own up to 50 MW of solar facilities." (WMECO Announces Solar Energy Plan for Western Massachusetts 2009) If the solar fields, which are in the design scheme, are executed, Western Massachusetts Electric Company would probably be interested in funding it.

The Database of State Incentives for Renewables & Efficiency (DSIRE) "is a comprehensive source of information on state, local, utility, and federal incentives and policies that promote renewable energy and energy efficiency. Established in 1995 and funded by the U.S. Department of Energy, DSIRE is an ongoing project of the N.C. Solar Center and the Interstate Renewable Energy Council." (NC State University 2009) For Massachusetts there are a number of organizations that supply financial incentives such as: New Generation Energy - Community Solar Lending Program, which supplies low interest loans for installation of solar electric and solar heating systems; Mass Energy - Renewable Energy Certificate Incentive, which through Energy Consumers Alliance of New England (ECANE), "a non-profit organization, that buys renewable energy credits (RECs) from photovoltaic (PV) systems and small wind-energy systems. The RECs from PV systems and small wind-energy systems are packaged together with low-impact hydro and biomass RECs and sold as New England GreenStart, a renewable energy-based electricity product marketed through GreenUp. GreenUp is a green power program offered by National Grid, an investor-owned electric utility serving customers in Massachusetts and Rhode Island." (NC State University 2009)

Another organization, Massachusetts Technology Collaborative (MTC) is an association that is pushing for clean energy production. MTC has a history of providing grants to companies and organizations that show inventiveness in moving towards a way of producing clean energy. In 2007, MTC gave a $125,000 grant to

Webster Hydro Electric Company, Inc. to aid in upgrading by replacing a turbine, which was non-functional at the time, to a more efficient one.

Massachusetts' governor, Deval Patrick, has started a program, Commonwealth Solar I, which is "to install a minimum 250 MegaWatts of Solar [energy] in Massachusetts by 2017. Commonwealth Solar's $68 million investment will fund more than 1,200 solar systems in Massachusetts, and leverage over $200 million in private investment. The program has created jobs in the state and has developed a robust and experienced solar business base which is well-positioned to compete in the solar industry nationwide." (Massachusetts Technology Collaborative 2009)

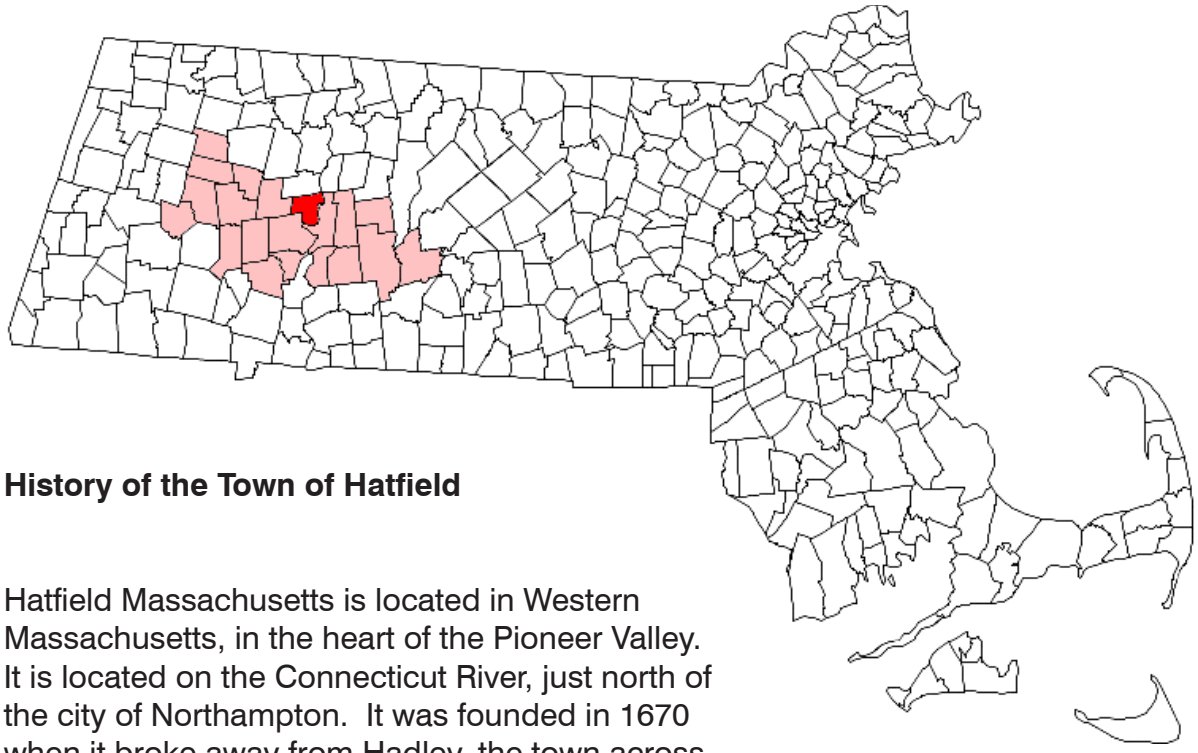
Nearby universities could utilize the energy generator facility as a teaching and research location for their staff and students. They could reference for its sustainable features, or use it as a research laboratory to explore new methods of hydroponics. In addition, once the project is built, the crops grown from the hydroponics system could be sold to the nearby communities as well as sold to supermarkets. This profit could be used to fund more research and/or given to the town as another means of revenue.

Rentable Spaces

Once the building is complete, there are meeting spaces which could be rented out to organizations that would need a place to host their event(s). Demonstration and educational seminars, concerning the energy generator facility, could also take place in these meeting rooms to educate the nearby communities about clean energy production.

In addition, manufacturers could rent these rooms and hold conferences to promote their products. For example a company that manufacturer a new construction product, could rent one of the meeting spaces and it would be open to builders, architects, as well as the neighboring communities. Since Hatfield is located in the middle of Western Massachusetts, it will be more convenient for people to travel to the center to attend these meetings.

SITE ANALYSIS
Hatfield, Massachusetts



History of the Town of Hatfield

Hatfield Massachusetts is located in Western Massachusetts, in the heart of the Pioneer Valley. It is located on the Connecticut River, just north of the city of Northampton. It was founded in 1670 when it broke away from Hadley, the town across the river. Land in Hatfield is rich and fertile due to its close proximity to the Connecticut River, which had led Hatfield to become a farming community. The settlement began along the Connecticut river with Main Street and as community grew, it spread and branched off away from the river's edge.

Time Line of Town's History (information and images excepted from Town of Hatfield Massachusetts. http://www.townofhatfield.org/ & Heritage Surveys, Inc. WHERE IS HATFIELD, MASSACHUSETTS? http://www.heritagesurveys.com/hatfield.htm)

1675-1976

The town was involved in King Phillip's War and suffered from many attacks from the Native Americans.

1776-1783

Became an important food and good supply location during the American Revolutionary War for the rebels and 127 men participate (out of 582 available men)

1786

View of Main Street, Hatfield Massachusetts 1890

Shay's Rebellion meetings, named after Daniel Shay, took place in the town which rebelled due to the high taxes from caused by the high taxes after the war. This rebellion led to the realization that the country needed to have a stronger national government, instead of the stronger state government that was present with the current laws under the Articles of Confederation. This led to the development of the United States Constitution.

1800's & 1900's

Hatfield continued to produce agriculture, but also expanded to create mills that were located on Capawonk Brook, the river that runs through the center of the town. The most famous being the old Hatfield mill, currently the advocate building. During this period there were two individuals that gain wealth from the mills and land ownership, Oliver Smith and Caleb Cooley Dickinson. Oliver Smith started a trade school in Northampton and Caleb Cooley Dickinson started a hospital in the same town. Oliver's daughter Sophia Smith inherited her father's wealth, and when she died she endowed a women's college, Smith College, in Northampton which allows women to have the opportunity to get the same education as men. In addition, her will also allowed for a coeducational high school to be establish in Hatfield; Smith Academy.

1950

The creation of Interstate 91 had positive and negative affects on the town. Negatively it physically divided the town in half, east and west. Positively it allowed industry to become interested in locating their businesses in the town, with its large open land and close proximity to a major highway.

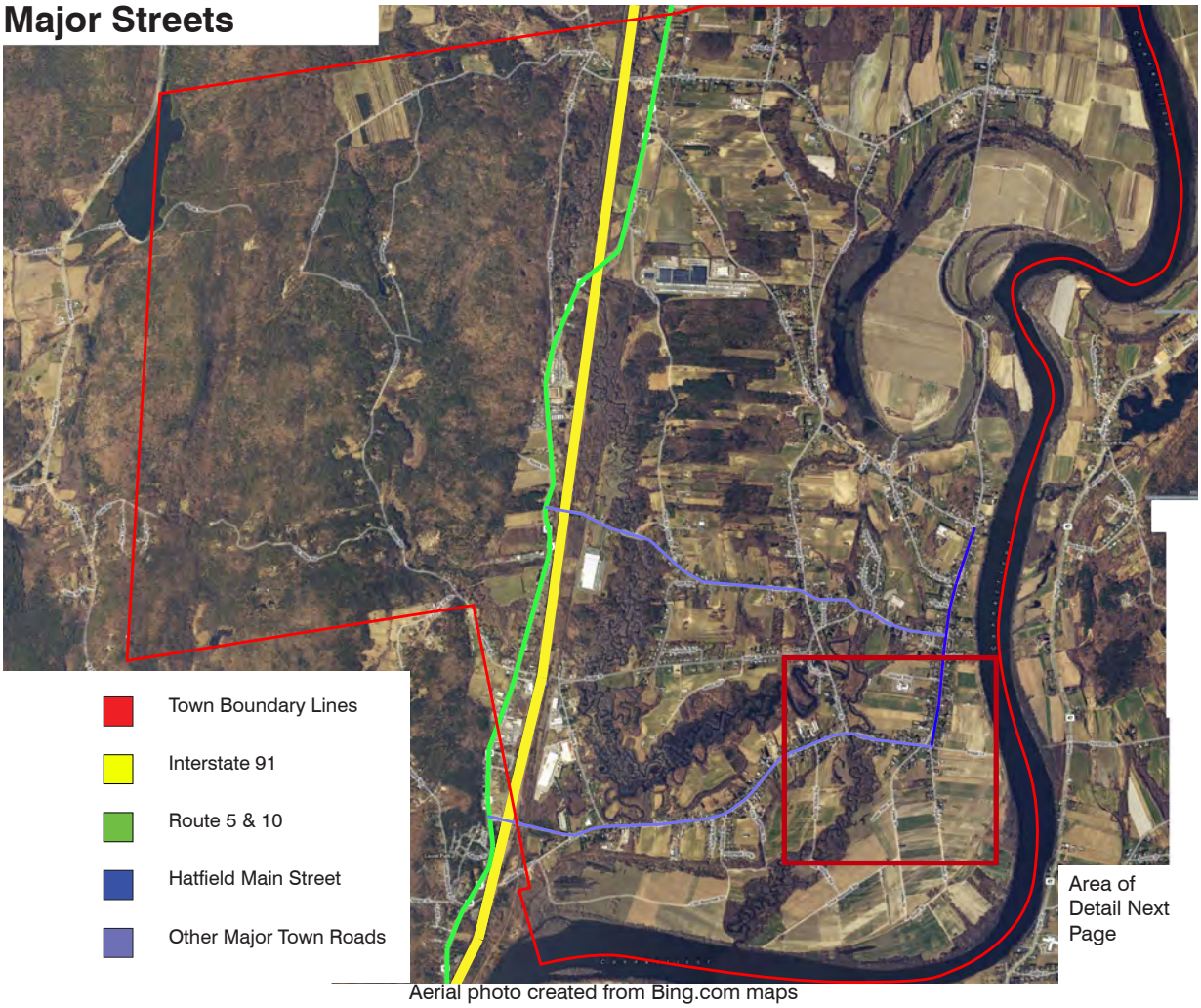
2009

Currently the town is struggling with identity. Does it continue with it agricultural roots, or do the farmlands divide for housing contribute to suburbia.

View of the Old Hatfield Mill

View of Edson Strong's Saw Mill, Hatfield, Massachusetts

Major Streets



Aerial photo created from Bing.com maps

Hatfield was founded initially along the Connecticut River from settlers traveling up the river from the larger, southern settlements such as Springfield and Holyoke. Naturally settlements began along the river and the town's first street was created, Main Street. As the town grew, the settlers began to spread out to develop more land for agriculture. Roads such as Chestnut Street and Elm Street began to branch out and move inland. In the 1920's and 1930's Route 5 (now called 5&10) was built during President Roosevelt's New Deal Plan to provide work during the Great Depression. Route 5&10 runs north and south along the Connecticut River and allowed for easier transportation and was intended towards the newly invented automobile. Chestnut and Elm Street connect Main Street to the route. After World War 2, Interstate 91 was built under the Dwight D. Eisenhower National System of Interstate and Defense Highways during the 1950's. Interstate 91 runs directly parallel to Route 5&10. However 91 had both positive and negative impacts on Hatfield. Since Hatfield had open land along the highway, it attracted large companies and warehouses to locate their facilities in the town because they could build adjacent to the highway and have easy access to it. However, due to the large scaled of the interstate, it physically divided the town in two, east and west, and people with land along the highway lost it due to eminent domain.

Significant Buildings in the Area

Legend

1) Elementary School
2) Smith Academy
3) Town Hall and Common
4) Western Massachusetts Regional Library
5) Capawonk(Elderly Facility)
6) Pavilion
7) Hatfield Farm Museum
8) Congregational Church
9) Fire Station
10) Post Office
11) Saint Joseph's Church
12) Holy Trinity Church
13) Hatfield Market
14) Advocate Building
15) Lions Club
16) Sophia Smith's House
17) Main Street Market
18) Mill River

Aerial photo created from Bing.com maps

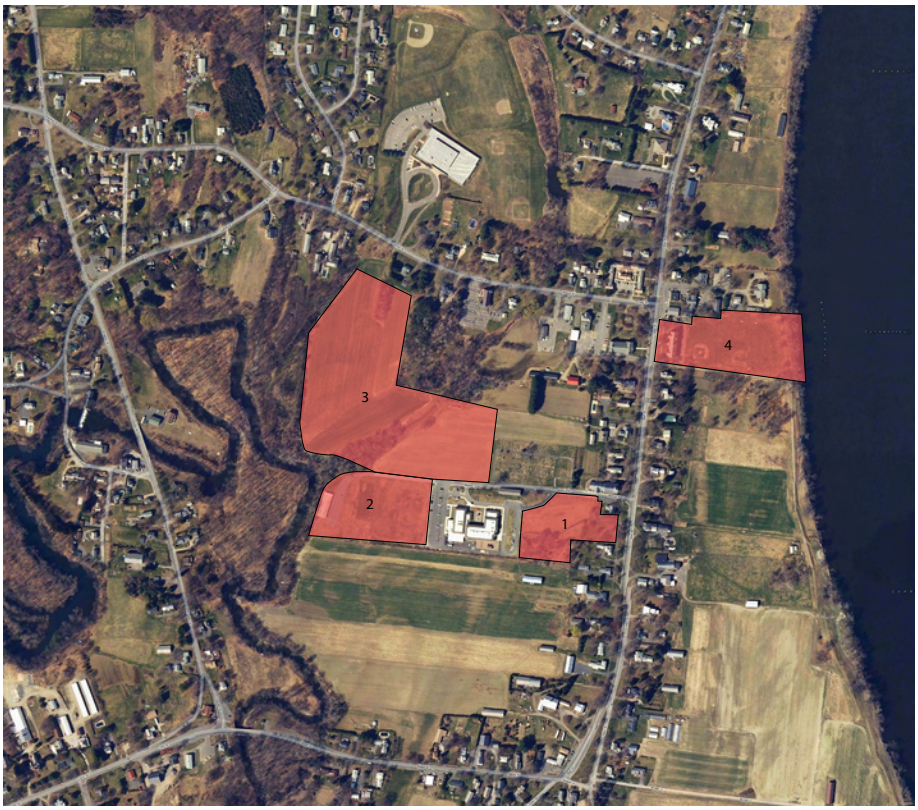
The center of town is where a majority of the public buildings are located, since that was the founding location of the town. These major public buildings are the town hall, public schools, post office, fire station, and churches. Integrated with the public buildings, are some of the original houses dating back to the 1700's. Of these houses, the most famous is the Sophia Smith house.

As you move further from the center town there were mills that used the Capawonk Brook (now called Mill River) for their power source.

The further away from the river one travels, the less developed the land becomes. The east side of Hatfield is completely different then the west side of the town. The east side contains the town's public buildings, and is developed and used for agriculture. The west side is mainly covered with forest and has more industrial type buildings.

A community center should be located near the center of town life so it is immediately accessed by as many members of the community as possible. This allows for more interactions among the community and it would increase the activity of the town. The center of Hatfield would be the ideal place for its community center because of the close proximity to many important buildings such as the elementary school, middle school/high school, town hall, town library and an elderly community.

Site Selection



Aerial photo created from Bing.com maps

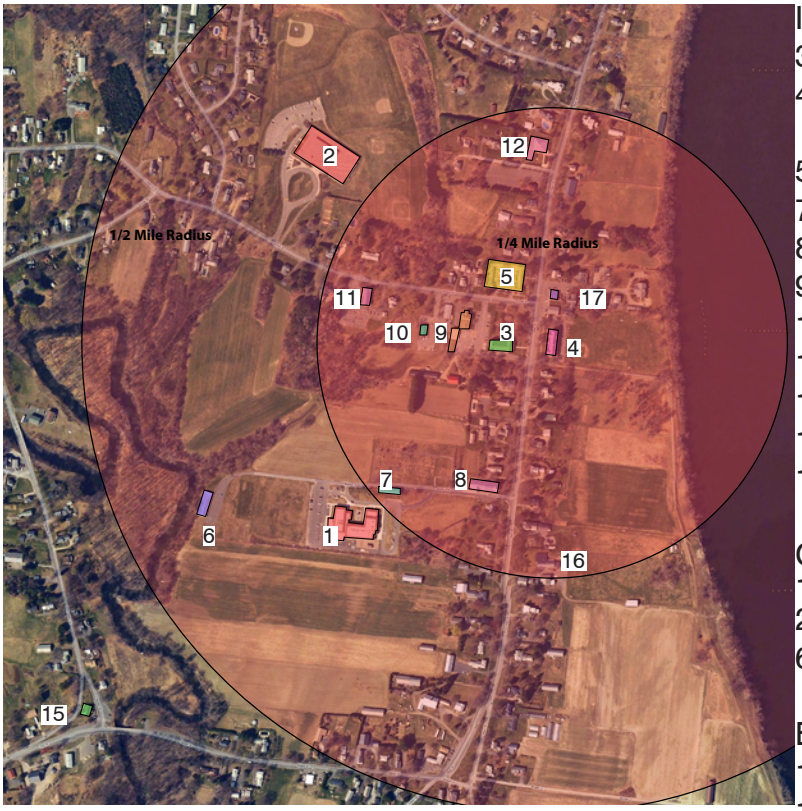
Site 1 is located directly off Main Street, and is between the elementary school and the town library. A positive aspect of this site is the location, the building would have a street front, as well as direct connection to the sidewalk. However, out of the three choices, it was is the smallest in size.

Site 2 is located behind the Elementary school, where the Hatfield Pavilion, which is a place to in which the residents can rent to host large outdoor gatherings, is located. A positive aspects of this site is the wide open landscape and its adjacency to the elementary school. The negative aspect is that is not located on the main road and does not have a visual presence for the community.

Site 3 is located north of site 2 and is on farmland that is owned by the town. A positive aspect of this site is the relationship between the middle school/high school and the elementary school; it is between the two. A possible road could be developed and a physical connection could be made, as well as create a city block in the town.

Site 4 is located on the east side of Main Street, and borders the Connecticut River. On the site is the Western Massachusetts Regional Library which use to be the old high school and is currently vacant. It is directly across the street from the town hall, and town common. There is direct access to the Connecticut River as well as to an access road (farm road) that runs parallel to the river and Main Street. The existing building on the site allows for adaptive reuse to occur and give the historic building new life as well as be beneficial for the town. (This is the Site Selected)

Walking Distances



Aerial photo created from Bing.com maps

Inner Circle (1/4 Mile Radius)
3) Town Hall and Common
4) Western Massachusetts Regional Library
5) Capawonk(Elderly Facility)
7) Hatfield Farm Museum
8) Congregational Church
9) Fire Station
10) Post Office
11) Saint Joseph's Church
12) Holy Trinity Church
16) Sophia Smith's House
17) Main Street Market

Outer Circle (1/2 Mile Radius)
1) Elementary School
2) Smith Academy
6) Pavilion

Beyond (1/2 Mile Radius)
14) Advocate Building
13) Hatfield Market
15) Lion's Club

Inner Circle

The inner circle represents a quarter mile radius from the center (Site 4- Western Massachusetts Regional Library). A quarter mile represents a 5 minute walk, (traveling at the average walking speed of 3 miles per hour). In this area are several key locations in town, such as the Town Hall, Hatfield Fire Station, the Hatfield Police Department, the Town Common, Capawonk, which is an elderly community, and the Main Street Market.

Outer Circle

The outer circle represents a half mile radius from the center (Site 4- Western Massachusetts Regional Library). A half mile represents a 10 minute walk, (traveling at the average walking speed of 3 miles per hour). In this are the town's elementary school and the middle school/high school, as well as the Hatfield Pavilion. The purposed community center is an easy and safe walk to and from both locations. In addition, the school's bus routes pass by the area and the center could become apart of the bus route.

Aerial View of Site

Aerial photo created from Bing.com maps

Site Looking East

This shows the site chosen for this project, the scale of the nearby buildings, the surrounding site context, as well as the relationship between the river to the main street of Hatfield. In addition, if provides information about the existing building such as the facade, and its scale.

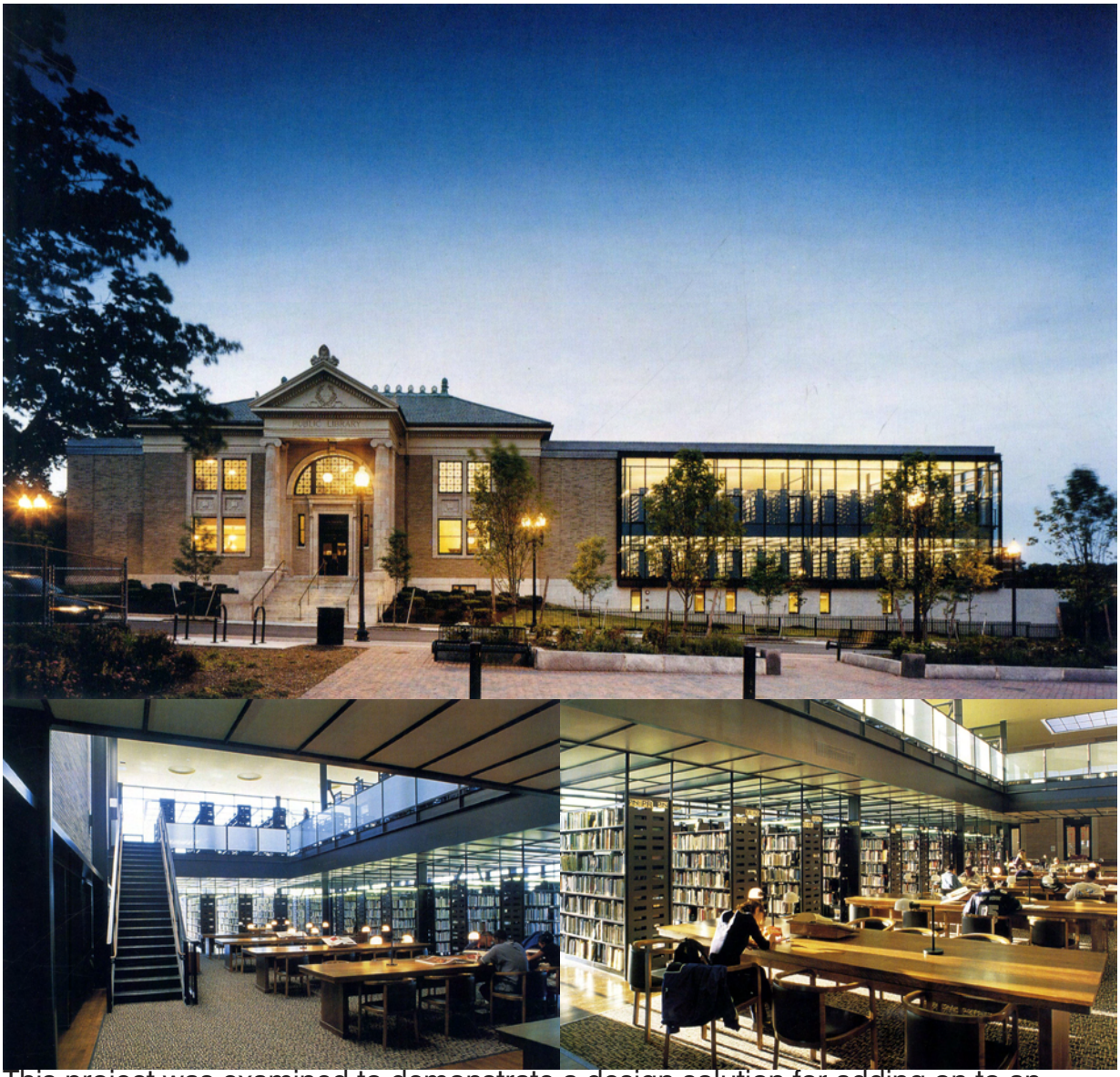
PRECEDENT ANALYSIS

Hyde Park Branch Library: Boston Public Library

Schwartz/Silver Architects

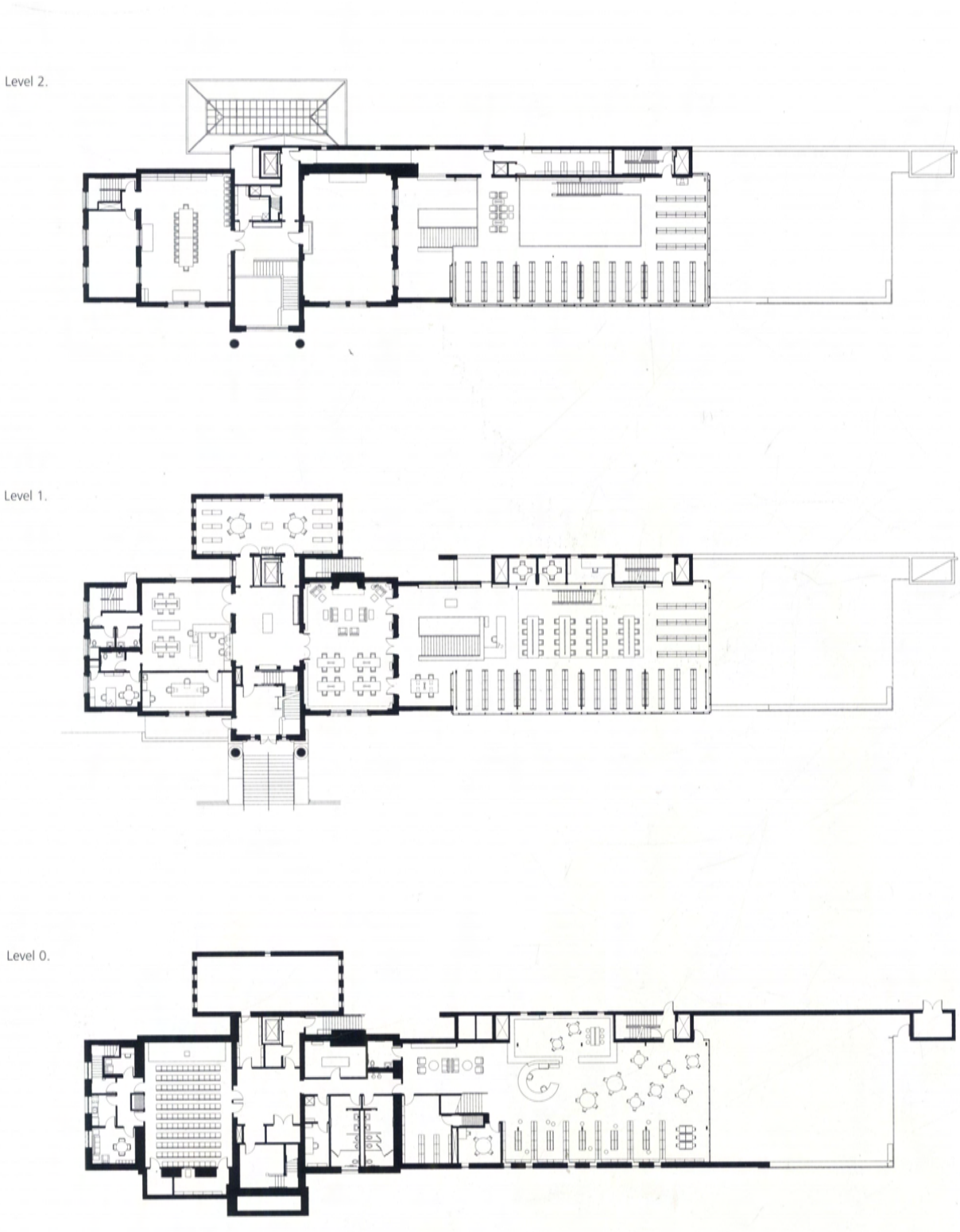
Boston, Massachusetts
Existing Building: 1899
Addition: 1996-2000

Source: Schwartz-Silver. *Argument for Buildings*. l'Arca Edizioni. Italy. 2001



This project was examined to demonstrate a design solution for adding on to an existing structure. It establishes a separation of the existing building with the addition by creating a solid brick bay between the contemporary glass addition to the brick historical structure. This building will be studied as one method for attaching an addition to an existing building, which will be helpful with designing my thesis with the existing building in site four. In addition, the arrangement its function, a library, will also be reviewed for organization, space, etc. to benefit the proposed library in the program of thesis.

Source: Schwartz-Silver. *Argument for Buildings*. l'Arca Edizioni. Italy. 2001



Source: Schwartz-Silver. *Argument for Buildings*. l'Arca Edizioni. Italy. 2001

Source: Schwartz-Silver. *Argument for Buildings*. l'Arca Edizioni. Italy. 2001

Museum of Modern Literature

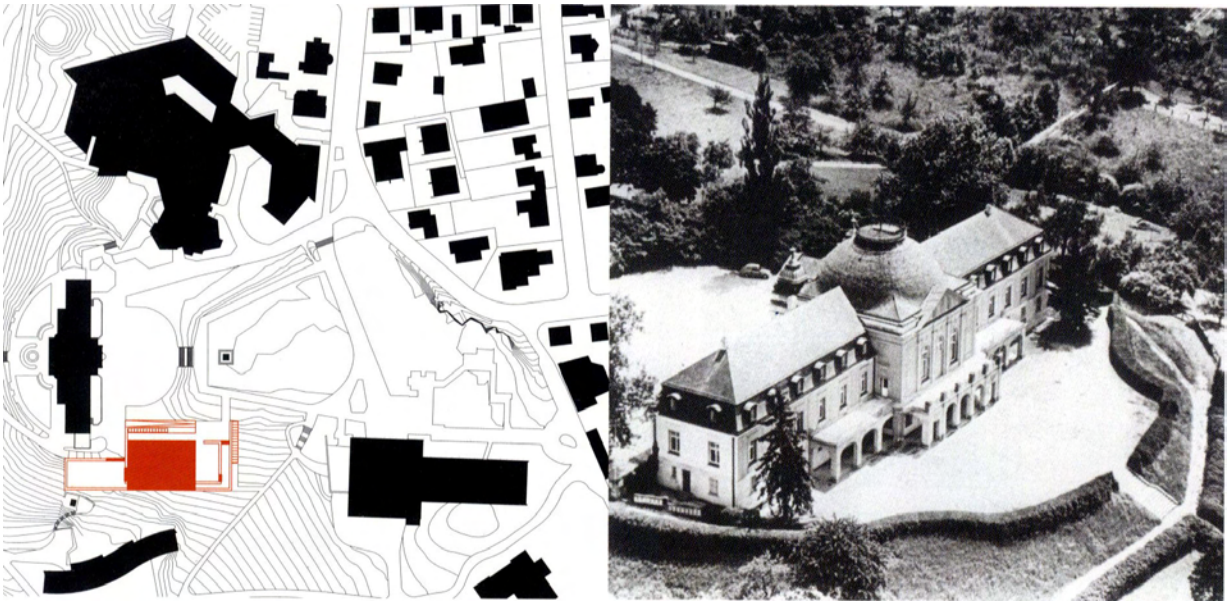
David Chipperfield

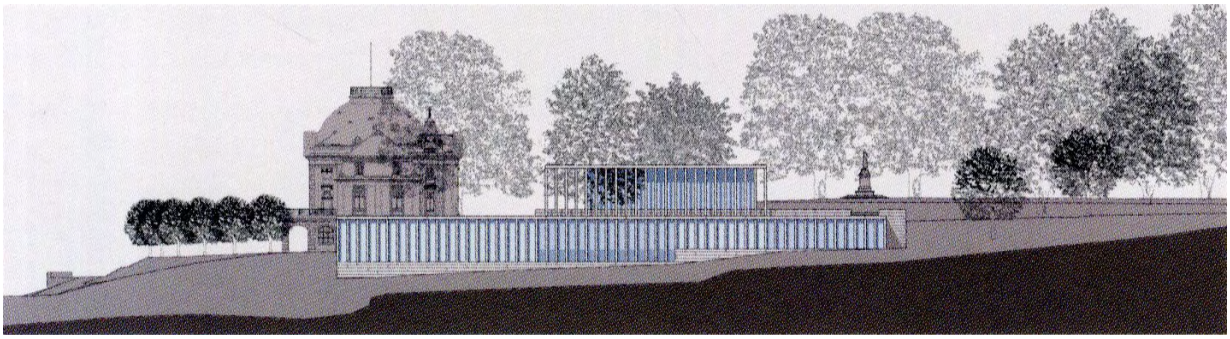
Marbach am Neckar, Germany

Existing Building: 1903

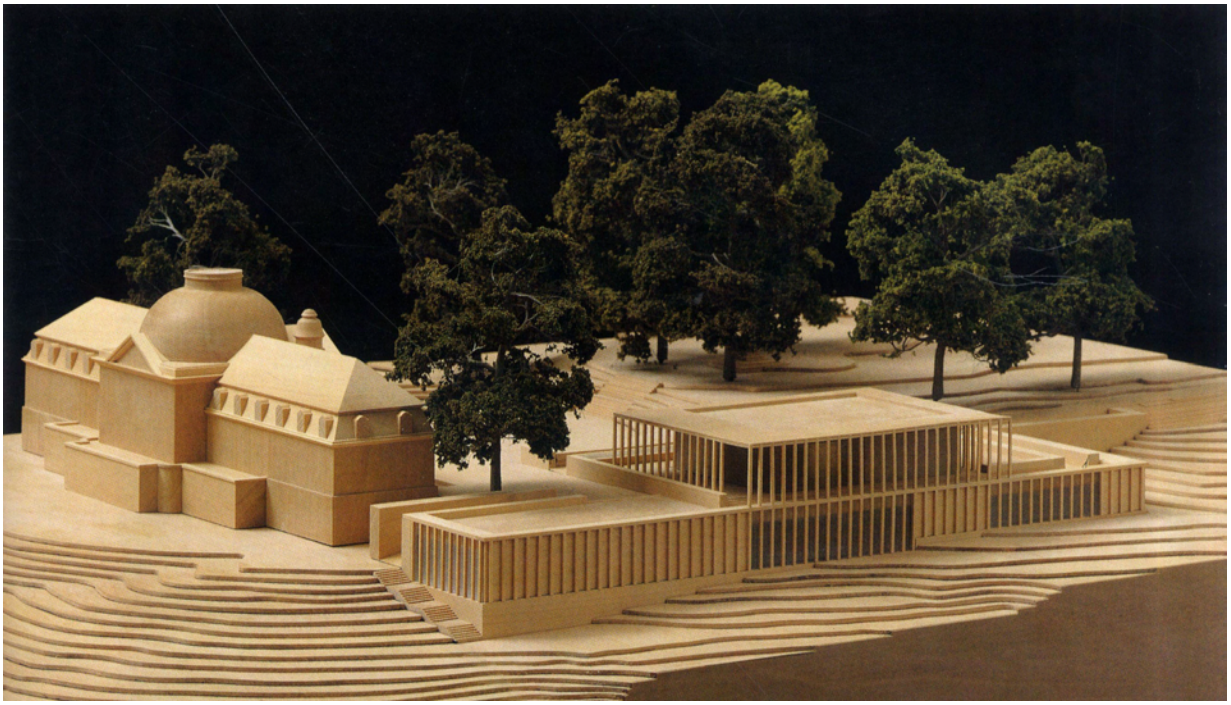
Addition: 2002-2006

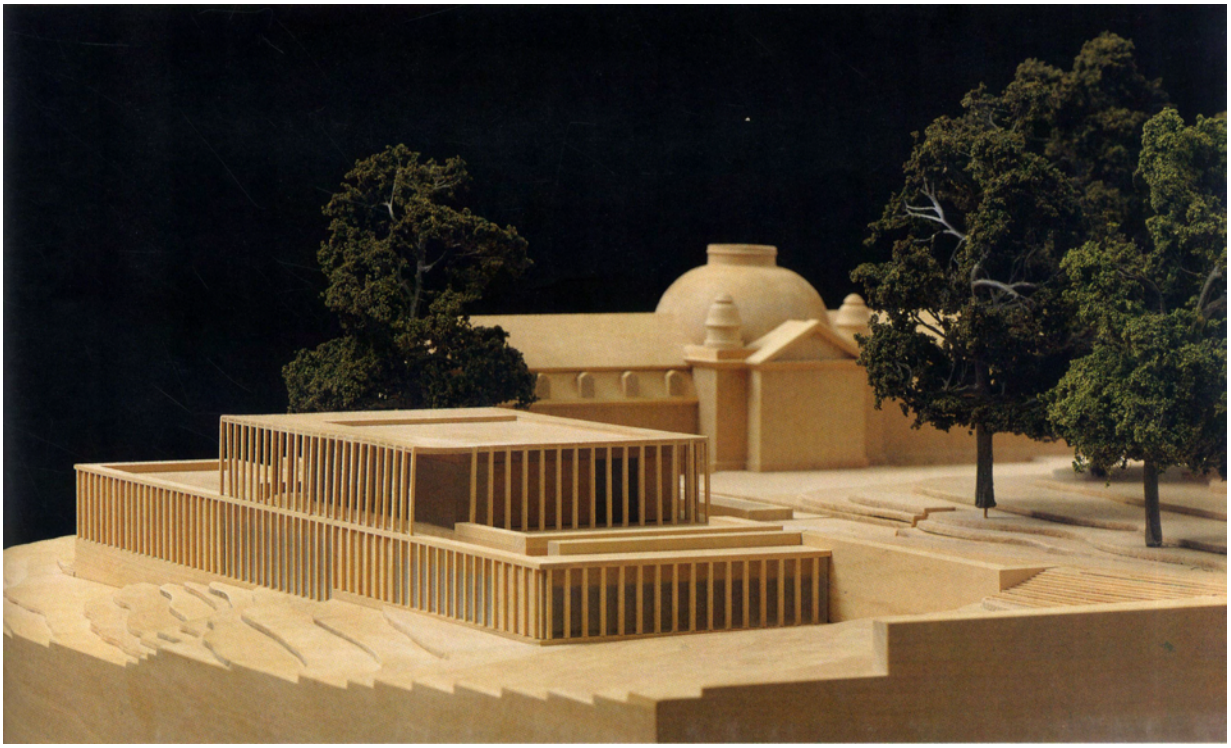
Source: David Chipperfield, 1998-2004. [Fernando Márquez Cecilia and Richard C. Levene] Madrid: El Croquis, c2004. Vol. 120. 228-233.



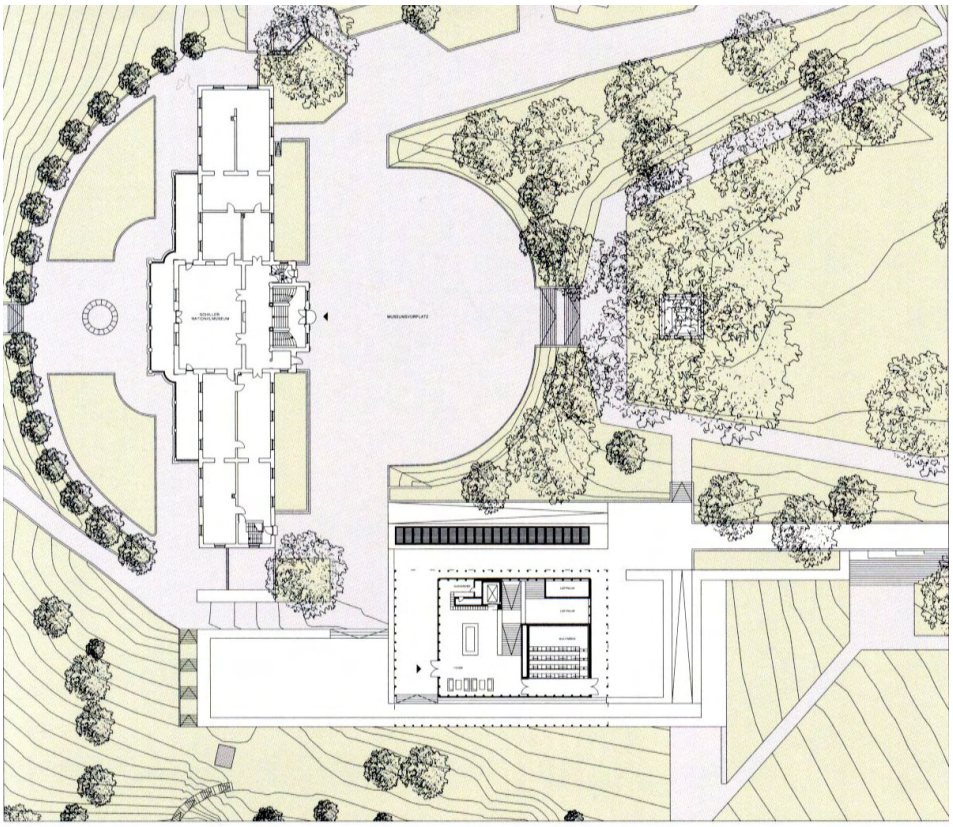


This project was examined to demonstrate another design solution for adding on to an existing structure. There is no visual, physical connection between the existing building and the addition. Instead, there is a below grade connection that connects the lower floors of the two structures. This allows the existing building to remain whole and seemingly untouched as well as gives the new building its own identity. This building will be studied as one method for attaching an addition to an existing building, which will be helpful with designing my thesis with the existing building in site four. In addition, this project demonstrates a method of designing on a slope terrain which will be useful for the chosen site. Along the perimeter of the site is a dike, which protects the interior of the site from flooding of the adjacent Connecticut River.

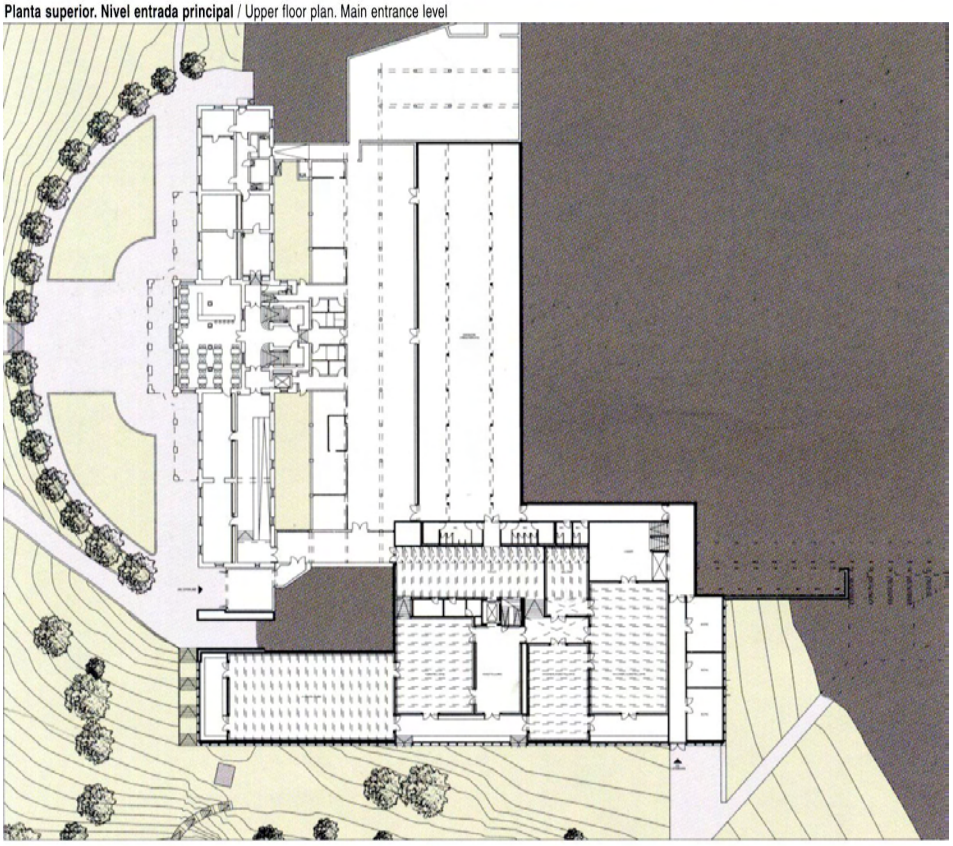




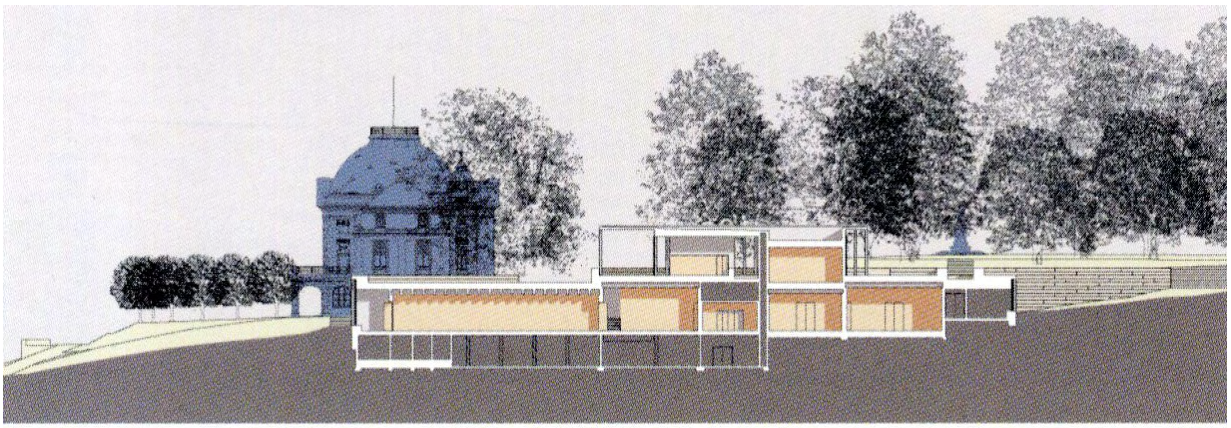
Source: David Chipperfield, 1998-2004. Fernando Márquez Cecilia and Richard C. Levene] Madrid: El Croquis, c2004. Vol. 120. 228-233.



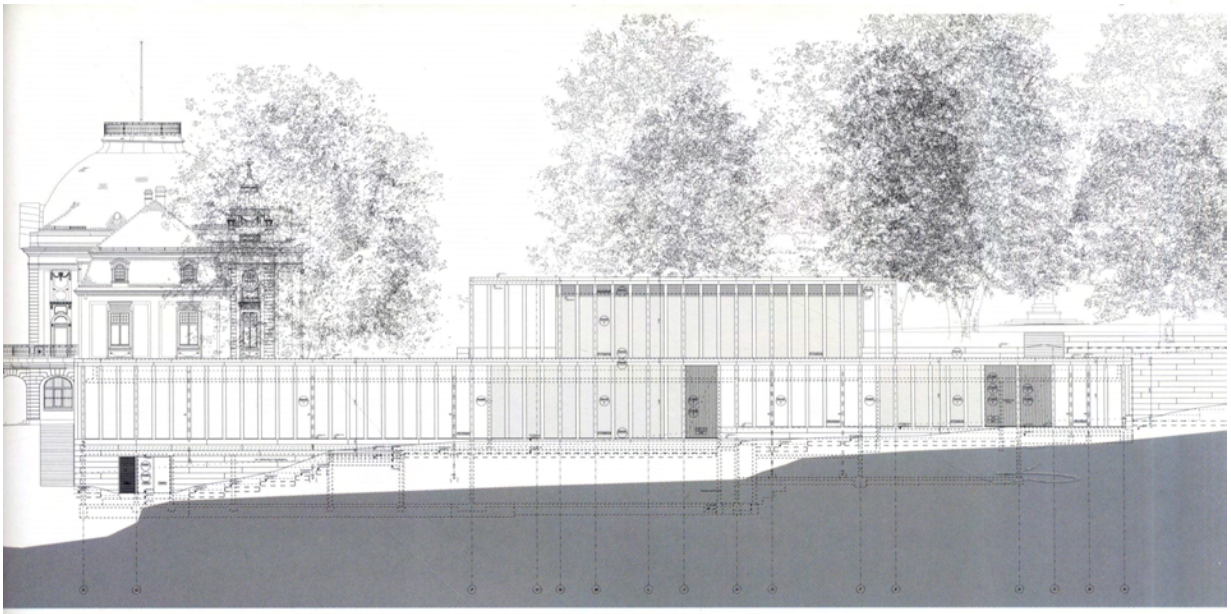
Planta superior. Nivel entrada principal / Upper floor plan. Main entrance level



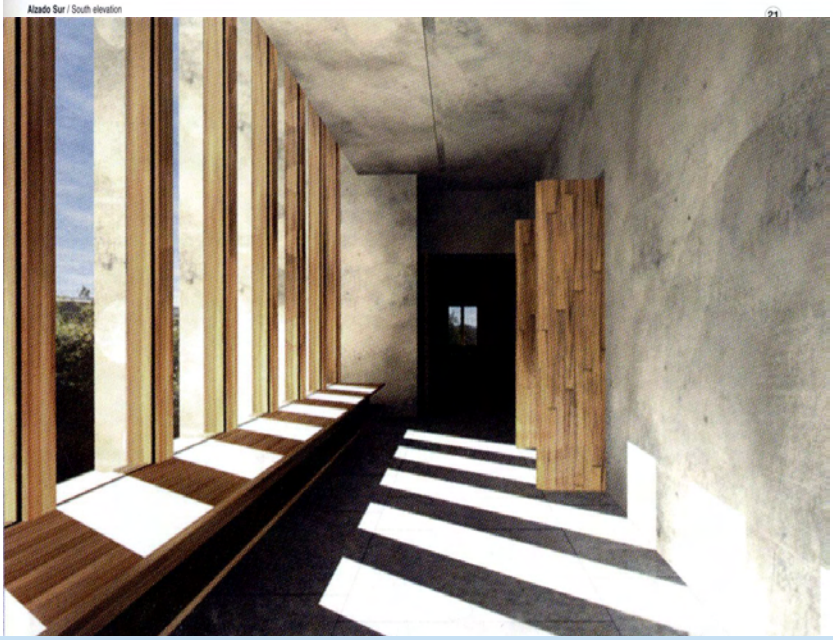
Planta inferior. Nivel galerías de exposición / Lower floor plan. Exhibition galleries level



Sección longitudinal / Longitudinal section



Alzado Sur / South elevation



Source: David Chipperfield, 1998-2004. Fernando Márquez Cecilia and Richard C. Levene] Madrid: El Croquis, c2004. Vol. 120. 228-233.

Cyclops Development

Maurice Nio

Hilversum, Holland

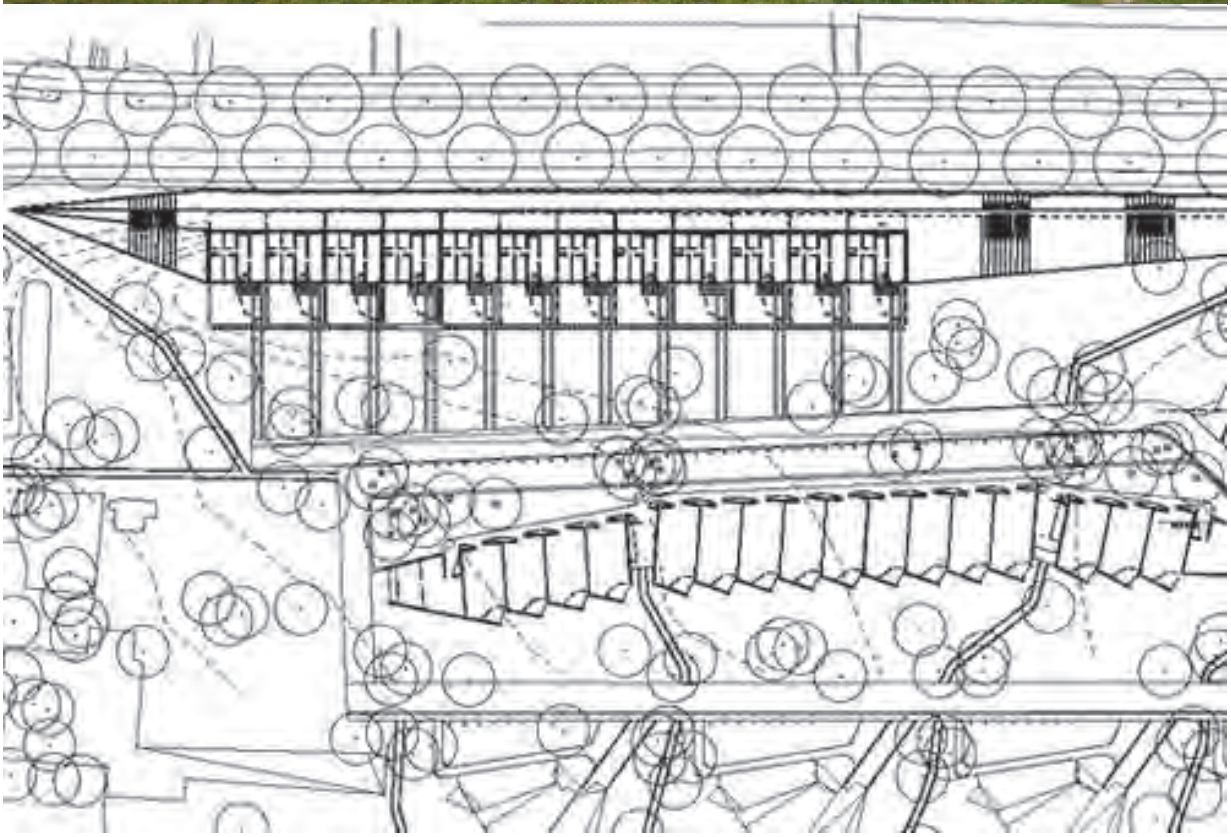
1997-2001

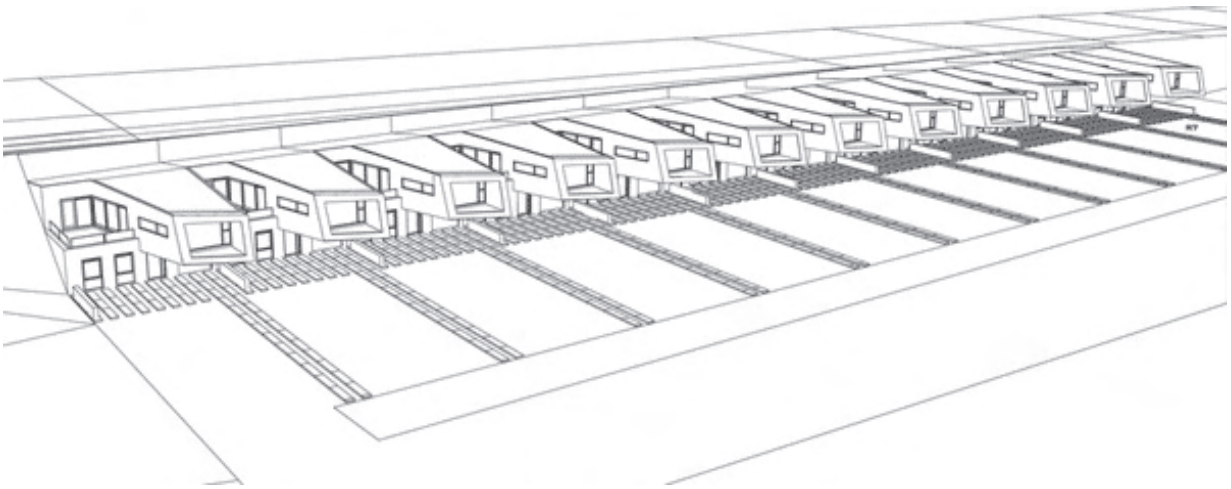
Source:

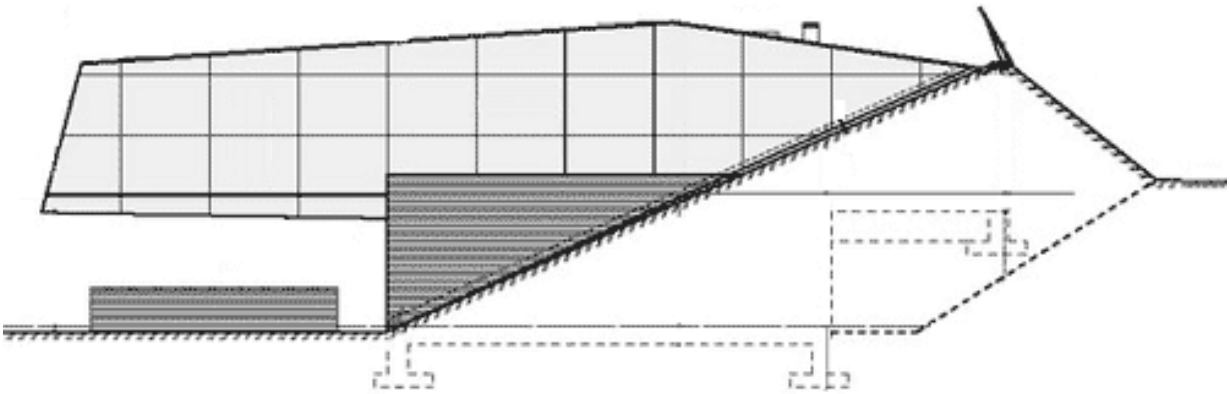
Szita, Jane. “Breaking The Sound Barrier.” Dwell, June 2005: 119-120.

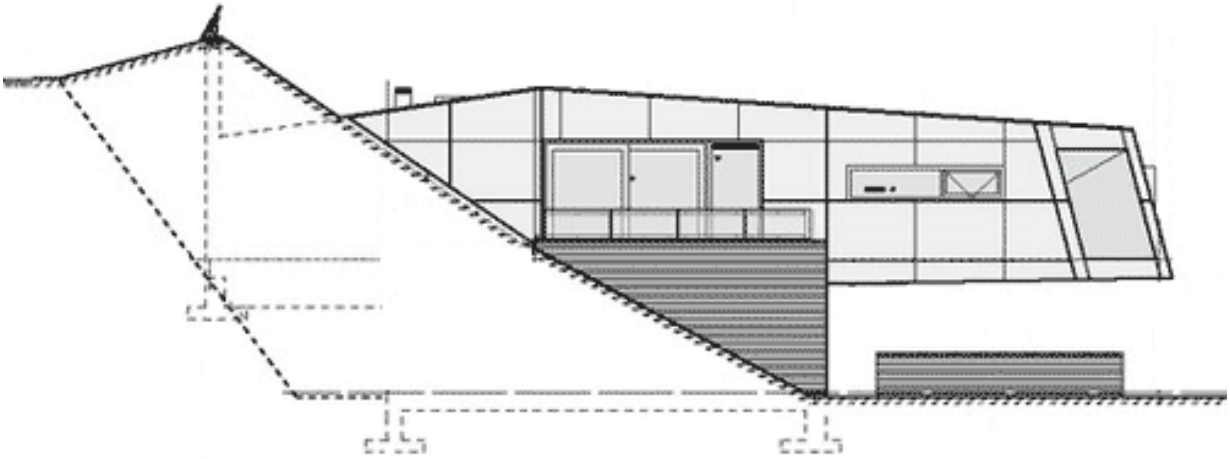
l’Arca, July 2004: 16-17.

This project was examined to demonstrate a design solution for constructing a building set into a hillside. It uses the hillside as a sound barrier to block the noise from the highway behind it. This creates a quiet atmosphere at the interior of the site for the residents living in this community. As stated before, site four has a dike system along its perimeter which protects the interior of the site from flooding of the adjacent Connecticut River. This precedent was chosen to help with ideas of how I could integrate my project with the dike system.









HYDRO-ELECTRIC PRECEDENT ANALYSIS

Water Wheels

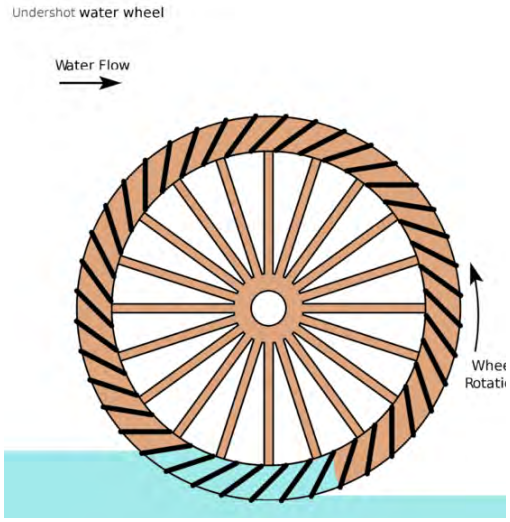
Pros:

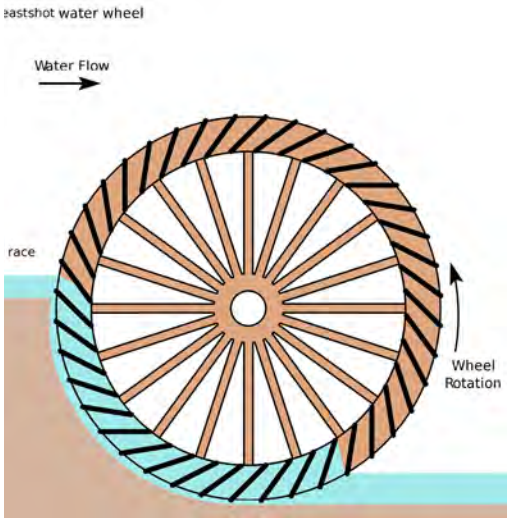
Earliest form of hydro power
Minimum impact of environment
No Pollution
Many types

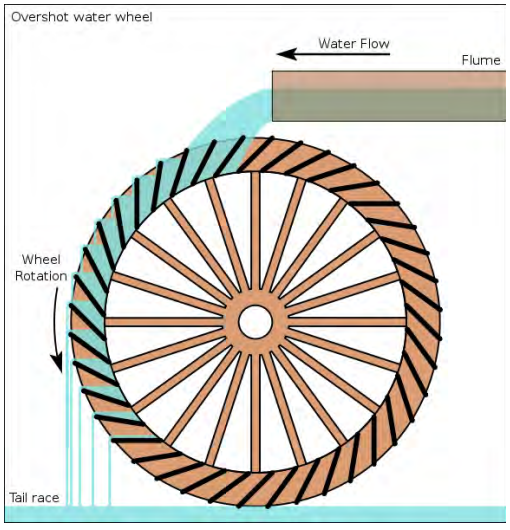
Cons:

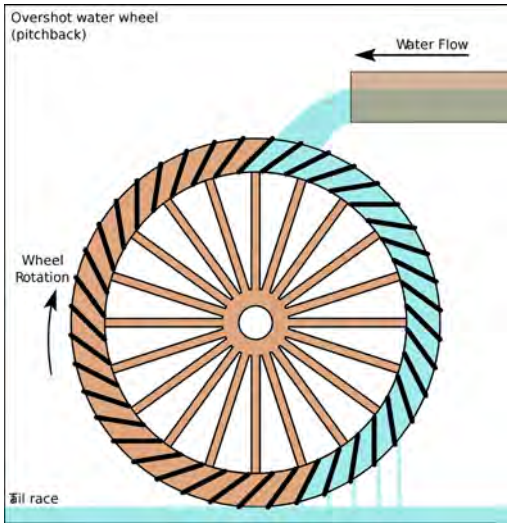
Needs direct access to water source.
Small scale
Dependant on the speed of the river
Most types need a waterfall

Photographs from Wikipedia. Water wheel. http://en.wikipedia.org/wiki/Water_wheel (accessed November 15, 2009).

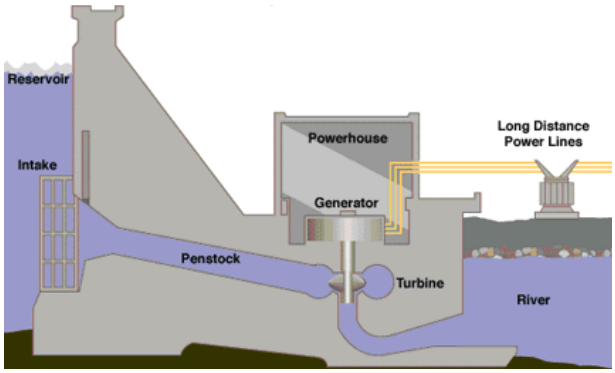








Hydroelectric Dams



Pros:

It has the ability to generate an enormous amount of electricity, more efficient then other types of hydroelectric generators,
Most widely used
No production of Carbon Dioxide and Pollution
More likely to be Profitable.

Cons:

Many environmental issues
High Costs

Photographs from Wikipedia. Hydroelectricity. http://en.wikipedia.org/wiki/Hydroelectricity (accessed November 15, 2009).

Water Vortex Generator

Pros:

The Vortex increases the speed and momentum of the water, which increases the amount of energy that can be made
Minimum physical impact on existing environment

Cons:

Small scale
Relatively new concept, not as widely used yet
Trench has to be constructed from and back to water source

Information and photographs from Sepp Hasselberger Physics- Economy- New Energy. Water Vortex Drives Power Plant. June 30, 2007. http://blog.hasslberger.com/2007/06/water_vortex_drives_power_plan.html (accessed November 15, 2009).

Water Turbines

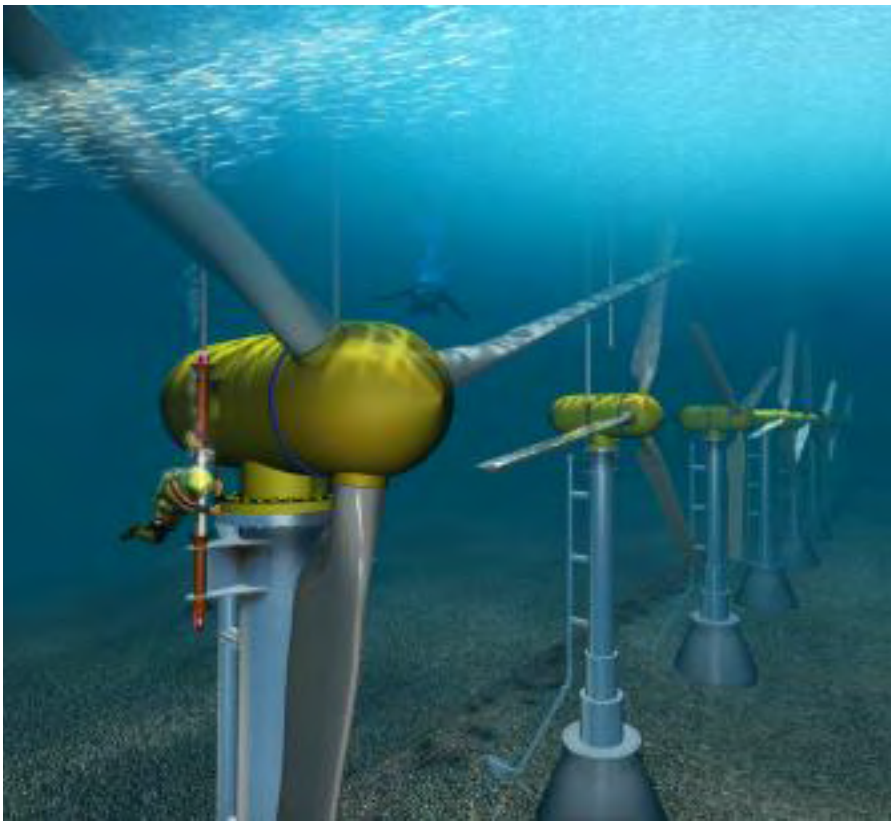
Pros:

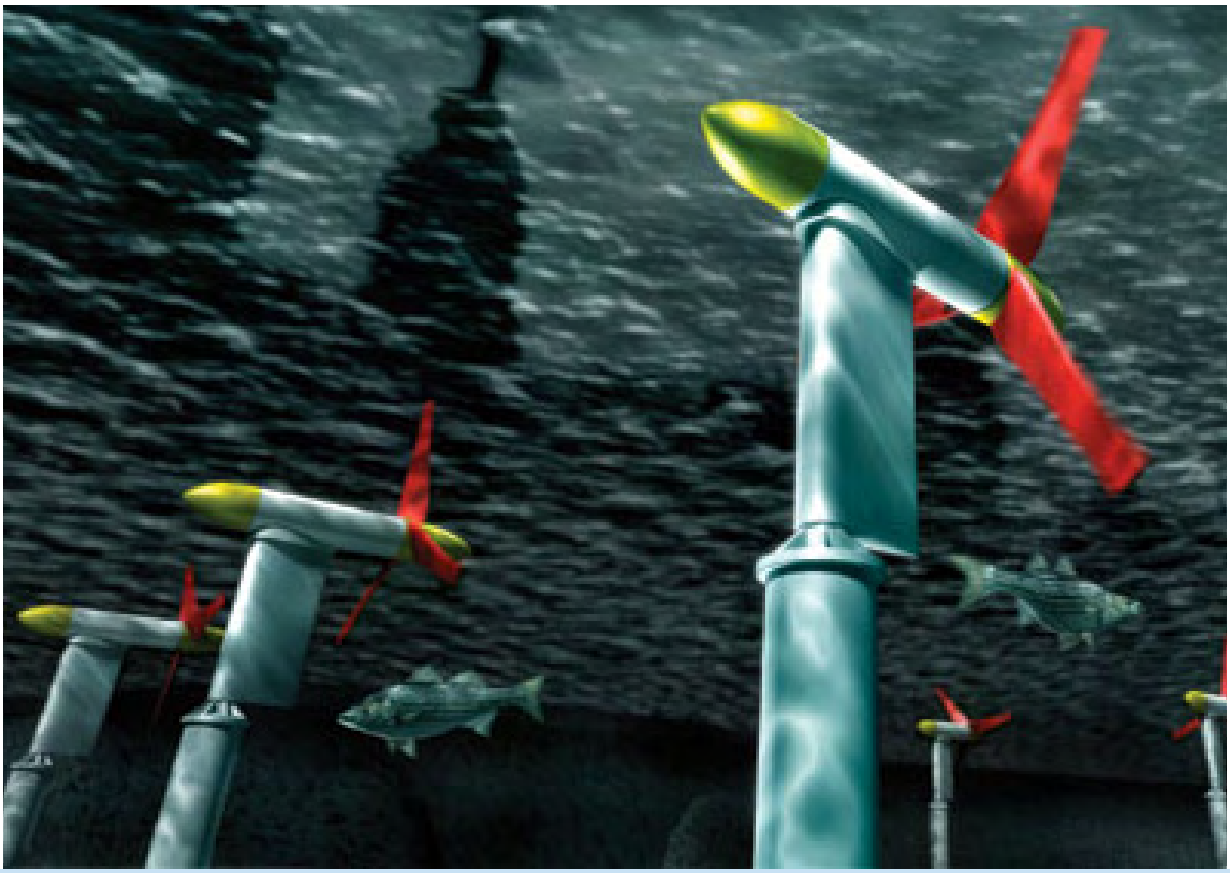
It is below the surface, “invisible”
Can produce a lot of energy
Slow rotation to have less of an environmental impact

Cons:

Needs relatively deep waters
Affects boat traffic

Information and photographs from Water Turbines. http://www.haeturbines.com/Under_water_turbines.html.





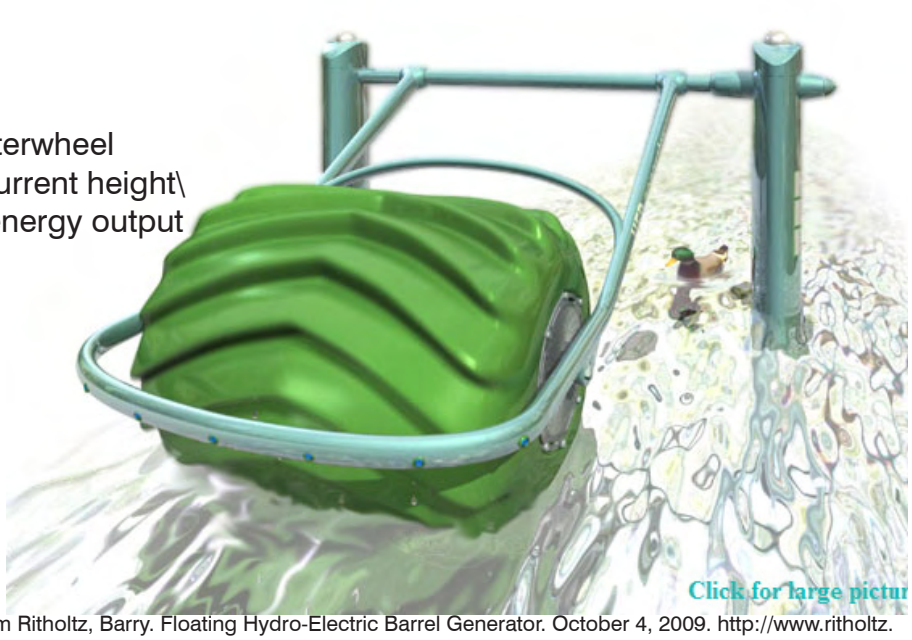
Floating Hydro-Electric Barrel Generator

Pros:

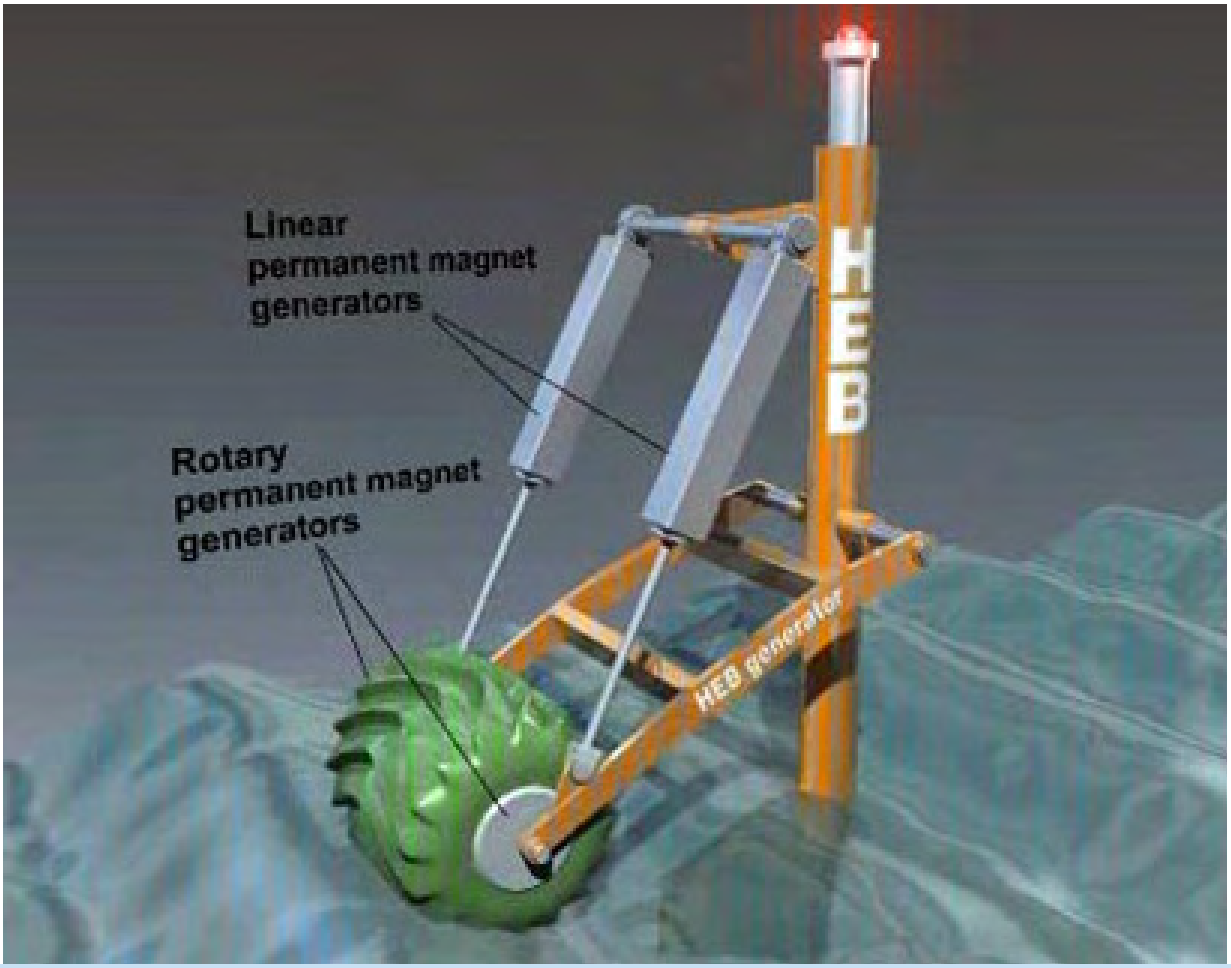
Evolution from the waterwheel
Ability to adjust with current height\
Has most consistent energy output

Cons:

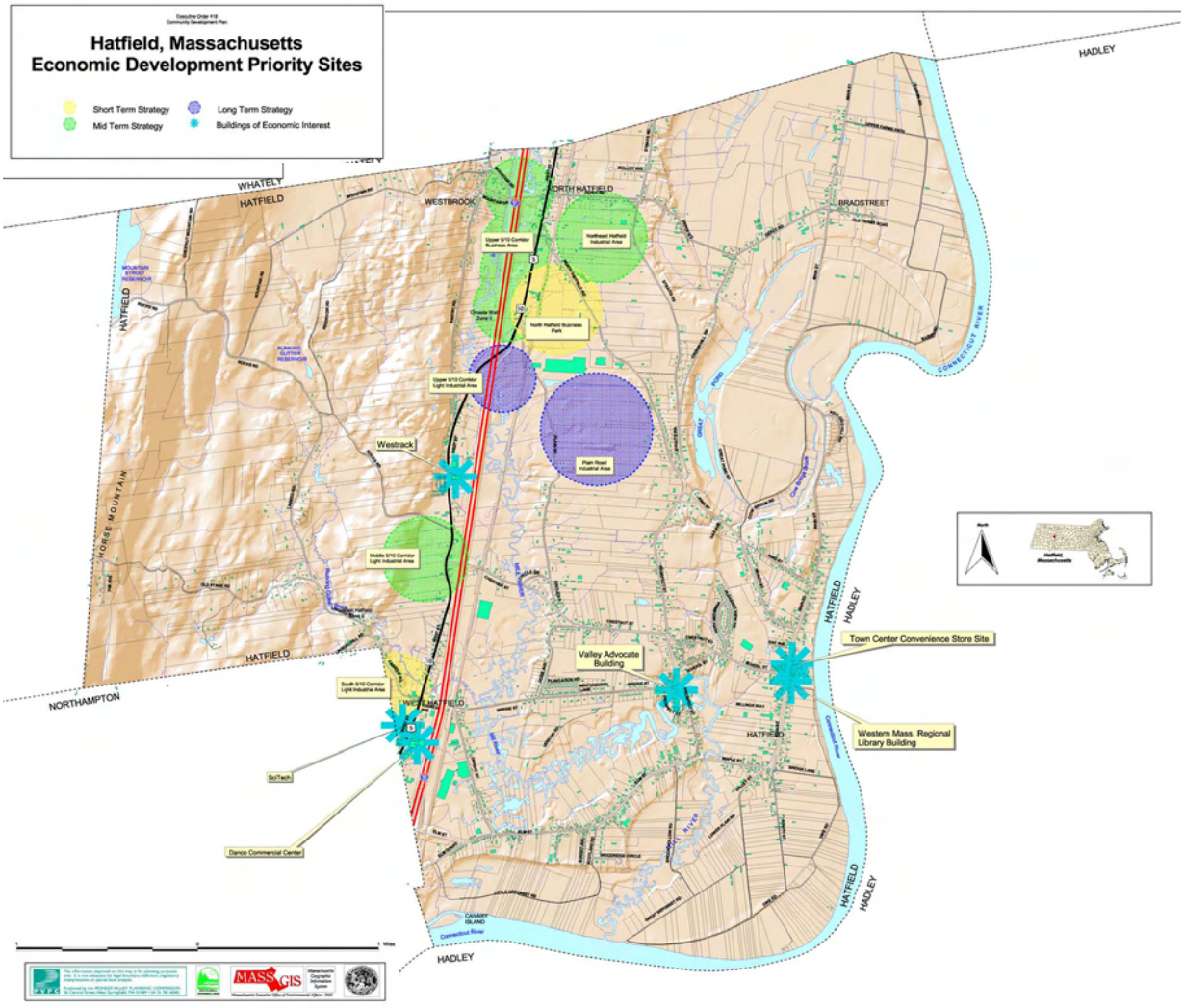
Visible
Small scale



Information and photographs from Ritholtz, Barry. Floating Hydro-Electric Barrel Generator. October 4, 2009. http://www.ritholtz.com/blog/2009/10/floating-hydro-electric-barrel-generator/ (accessed November 15, 2009).

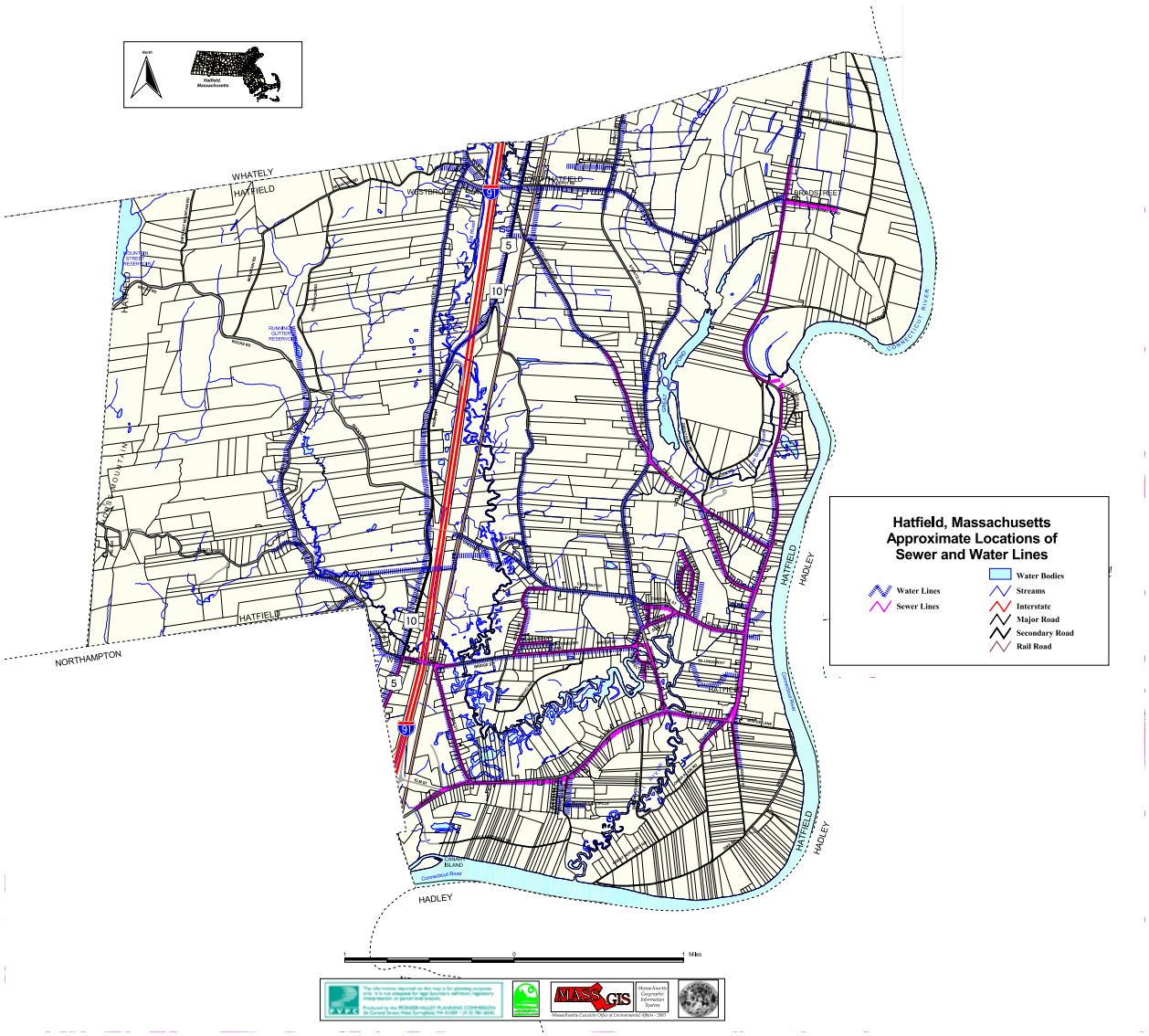


ENVIRONMENT SUMMARY REPORT



Map from Town of Hatfield Massachusetts. http://www.townofhatfield.org/.

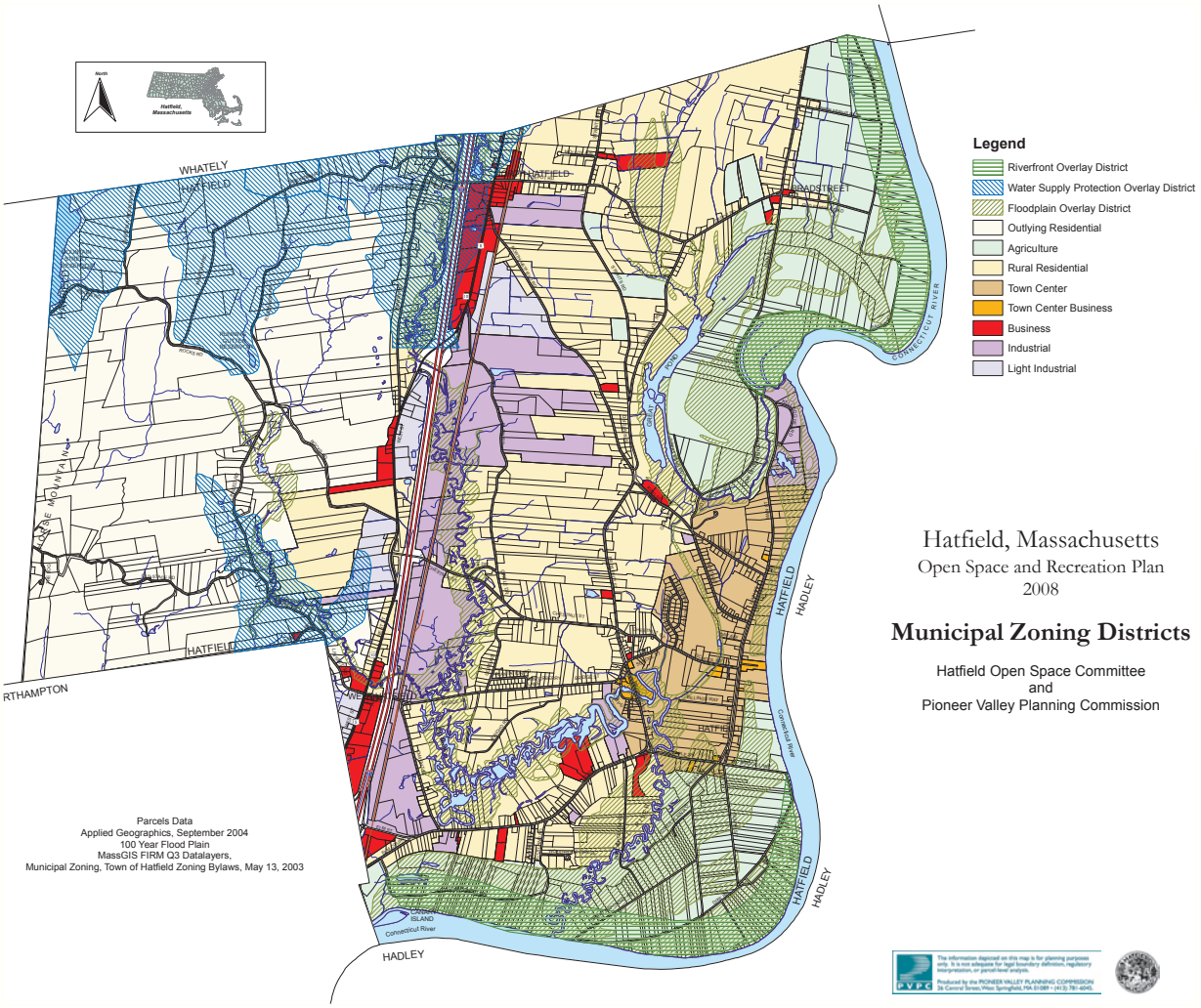
The building that this thesis project is incorporating is a part of Hatfield's economic development priority sites. The building is the Western Massachusetts Regional Library, which is currently vacant and needs a new function. Recovering this building will give the town's center a rejuvenation that would energize the town as well as the community.



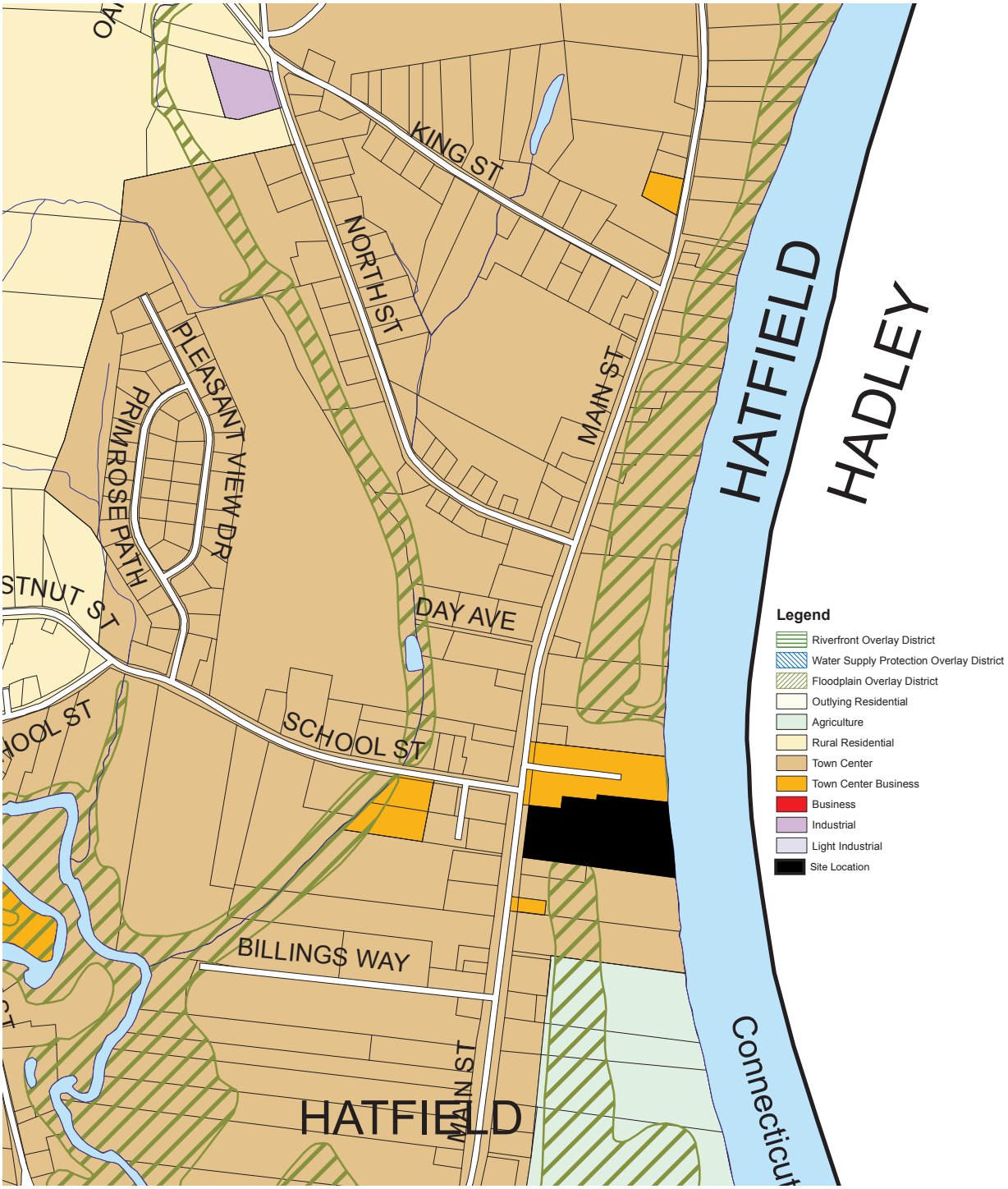
Map from Town of Hatfield Massachusetts. http://www.townofhatfield.org/.

Added benefits to this location are that it has access to water and sewage lines and the building that I am adaptive reusing/ building off of, the Western Massachusetts Regional Library building, is one of the buildings that is a part of Hatfield's Economic Development Priority Sites.

Municipal Zoning Map of Hatfield, Massachusetts

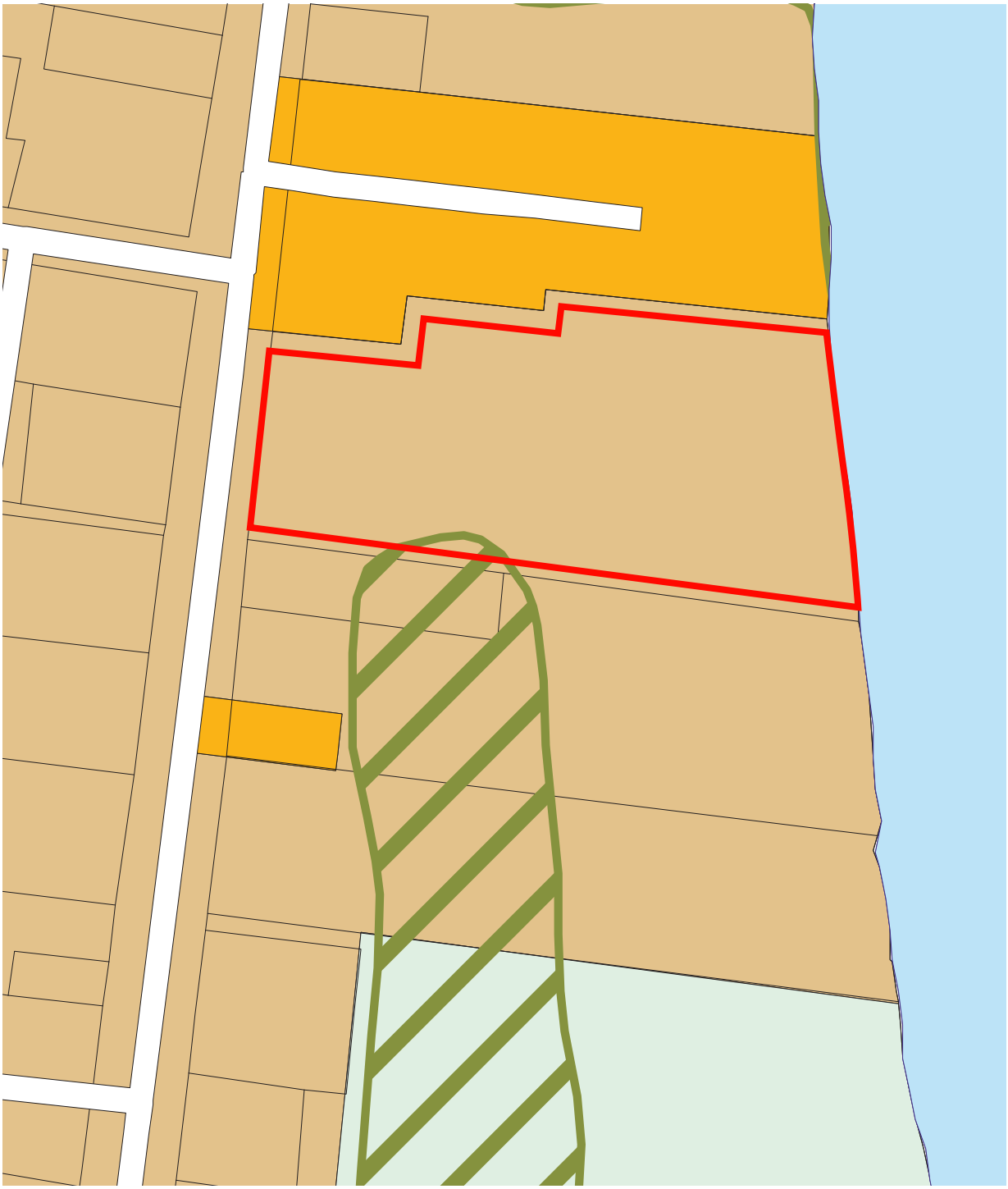


Map from Town of Hatfield Massachusetts. http://www.townofhatfield.org/.



Map from Town of Hatfield Massachusetts. http://www.townofhatfield.org/.

The site for my purpose community center is located in the Town Center District/Town Center Business District, and it boarders the Flood Plain Overlay District along the Connecticut River. The Town Center District separates the town's center from the Rural Residential District and the Agricultural District. For the Town Center District/ Town Center Business District, there is a minimum lot area of 45,000 square feet, minimum frontage of 200 feet, minimum yard front of 35 feet, minimum yard side of 15 feet and minimum yard rear of 15 feet. The maximum height of the building can be is 35 feet/2.5 stories and the maximum lot coverage is 25%.



Map from Town of Hatfield Massachusetts. http://www.townofhatfield.org/.

ZONING INFORMATION

Project Program Oriented Information (from Hatfield Zoning by-laws)

Parking Space Requirements

According to 5.7.2 of the Hatfield-By-Laws there are parking space requirements that vary with the building typology and program.

A. For dwelling units, including apartments and condominium – two (2) parking spaces for each family unit, plus common parking area for guests.

B. For all lots improved with only a single family detached dwelling unit, a driveway shall constitute a parking space or parking spaces provided that the area provided meets the minimum dimensional requirements in Section 5.7.3.

C. In the case of any multi-family dwelling specifically designed for the elderly, the minimum off-street parking requirement shall be one (1) space for each two dwelling units.

D. Hotels, motels, inns, boarding and lodging houses shall have one (1) space for each rental room.

E. Farm labor boarding facilities used specifically for migratory or transient labor shall provide one (1) space for each four beds.

F. Rest homes, convalescent and nursing homes, and residential rehabilitation centers shall have one (1) space for each two (2) beds.

G. Indoor place of assembly without fixed seats, including dance halls, skating rinks, or other places of amusement shall have one (1) space for each two hundred (200) square feet of floor area in public use.

H. Indoor places of assembly with seating facilities including auditorium, theater, assembly hall, church, arena, or convention center, shall have one (1) space for each four (4) seats.

I. Restaurant or similar establishment shall have one (1) space for each fifty (50) square feet devoted to patron use plus one (1) spaced for each two employees on the largest shift.

J. Retail sales of furniture, automobiles, recreational vehicles, nursery stock, etc. involving extensive display areas in relation to customer traffic shall have one (1) space for each eight hundred (800) square feet of gross floor area in such use, plus one (1) space for each one thousand (1,000) square feet of lot area devoted to display.

K. Other buildings for retail sales and services shall have one (1) space for each

three hundred (300) square feet of gross floor area.

L. Professional offices and office buildings, including sales space, shall have one space for each two hundred fifty (250) square feet of gross floor area.

M. Buildings for manufacture, assembly, processing or packaging shall have one (1) space for each employee on the largest shift.

N. Storage, wholesale establishments, freight terminals and similar uses shall have one (1) space for each three thousand (3,000) square feet or one (1) space for each employee on the largest shift, whichever is greater.

O. Any business establishment, such as, but not restricted to, a bank or restaurant, with a drive-up service window will provide a vehicular storage lane for no fewer than ten (10) cars.

P. Buildings or uses, other than those specified above, shall have no fewer than one (1) space for each one thousand (1,000) square feet of gross floor area.

Of the previous scenarios, situations G, H, L, apply to the proposed Hatfield Community Center.

Net Developable Area

According to 6.2.3 of the Hatfield-By-Laws there are regulations for net developable area.
1. The net developable area of a parcel for Open Space development shall be the total area of all lots shown to be developable under Town of Hatfield Subdivision Regulations and zoning, and shall be calculated by the following procedure:
a. The area of those lots which is determined to be not suitable for on-site sewage disposal shall be subtracted from the developable area of the total parcel.

b. Under the supervision of the Conservation Commission, the total acreage of all wetlands, in accordance with the Wetlands Protection Act, M.G.L. Chapter 131, Section 40, and the Hatfield Wetlands Protection Bylaw shall be identified and their area subtracted from the developable area of the total parcel.

c. The area of those lots which is identified as having steep slopes (slopes of 25% or greater) shall be subtracted from the developable area of the total parcel.

Dimensional Requirements and Landscape Buffer

According to 6.2.6 of the Hatfield-By-Laws there are regulations for dimensional requirements and landscape buffer.
1. All lots within an Open Space development shall meet the front, rear and side

yard requirements specified in the Table of Open Space Development Dimensional Requirements (Table 6.2.13).

2. All residential structures and accessory uses shall be set back from the boundaries of the development by a buffer strip of at least fifty (50) feet in width which shall include trees and shall be kept in a natural or landscaped condition.

Site Design Standards

According to 6.2.7 of the Hatfield-By-Laws there are regulations for site design standards.
1. Each structure shall be integrated into the existing landscape on the property so as to minimize its visual impact through use of vegetative and structural screening, landscaping, grading, and placement on or into the surface of the lot.

2. Lots shall be laid out and designed, to the greatest extent feasible, to preserve and protect historic and archaeological sites, farmland, wooded stream corridors, forested areas and large trees, scenic views particularly as seen from public roads, ridgelines and hilltops.

3. All buildings, roads and driveways shall be located away from soils which are most suitable for agriculture (based on U.S. Soil Conservation Service classifications for prime farmland soils and soils of state and local importance) to the maximum practical extent. This provision does not apply to the location of on-site septic disposal facilities which

Utility Requirements

According to 6.2.8 of the Hatfield-By-Laws there are regulations for utility requirements.
1. On-site Sewage Disposal
The following standards shall apply to developments requiring on-site sewage disposal:
a. The applicant shall submit a septic system design prepared by a certified engineer and approved by the Board of Health and a plan illustrating the location of water supply wells with the application.
b. All Open Space developments must meet the minimum state Environmental Code (Title V) requirements for minimum setbacks between private water supply wells and septic tanks or soil absorption systems (310 CMR 15.211).
c. All Open Space developments must meet the minimum state Environmental Code (Title V) requirements for nitrogen loading limitations (310 CMR 15.214-15.217). For Open Space developments with individual lot sizes less than 40,000 square feet, applicants must meet the following standards:
i. Applicants must designate, on a plan, specific areas of common open space as “nitrogen credit land”, based on the following equation:

(40,000 square feet x number of lots) – (total square feet in proposed Open Space lots) = square feet of required nitrogen credit land in common open space

ii. Nitrogen credit land must meet DEP qualifications contained in "Guidelines for Title 5 Aggregation of Flows and Nitrogen Loading 310CMR15.216" including, but not limited, to the following qualifications:
1. Must be restricted to prohibit man-made sources of nitrogen, including sewage discharge, nitrogen-based fertilizer or raising and grazing of livestock;
2. Must be restricted to prohibit artificially rendered imperviousness (i.e. paved streets, paved parking lots, buildings, structures, etc.);
3. Not within a Velocity Zone or Regulatory Floodway identified by FEMA;
4. Not under surface water;
5. Not already being used as nitrogen credit land.
iii. All designated nitrogen credit land must be permanently restricted from further development under a "Grant of Title 5 Nitrogen Loading Restriction and Easement on Nitrogen Credit Land"
After approval of the Open Space Final Subdivision Plan, applicants must apply to the Board of Health and the Mass. Department of Environmental Protection (DEP) for an aggregate determination of nitrogen loading under 310 CMR 15.216.
d. It is required that septic systems be installed on individually-owned lots.
2. Water Supply
a. In order to meet state Title V requirements for separation distances between drinking water wells and septic systems, private drinking water supply wells may be located in the common open space for an Open Space development, provided that the provisions of Section 6.2.10 for a homeowner's association are met.

Common Open Space

According to 6.2.9 of the Hatfield-By-Laws there are regulations for common open space requirements.
1. Common Open Space Requirements
a. A minimum of 40% of the total development parcel must be permanently protected as common open space. At least 70% of the common open space shall be retained in contiguous areas, unless approved by the Planning Board.

b. Watercourses, lakes, ponds, wetlands and steep slopes over 25% may not be included in common open space calculations.

c. The Planning Board may permit up to three (3) percent of the open space area to be paved or built upon for structures accessory to the dedicated use of open space (i.e. pedestrian walks, bicycle paths, playgrounds, farm-related structures).

2. Land Protection Methods for Common Open Space

a. All land not devoted to buildings, lots, roads and other development shall be

permanently protected as common open space for recreation, conservation, forestry or agricultural uses which preserve the land in its natural condition, by using the following method.
The land shall be owned by a non-profit land trust or conservation organization, homeowner's association, or individual, and a permanent conservation easement or deed restriction must be conveyed to the Town, with Town approval, or to a nonprofit trust or conservation organization whose principal purpose is to conserve farmland or open space.
b. Further subdivision of common open land or its use other than recreation, conservation, forest or agriculture, except for easements for underground utilities or drinking water supply wells, shall be prohibited.

Homeowner's Association

According to 6.2.10 of the Hatfield-By-Laws there are regulations for homeowner's association.
1. In the event that ownership of the land will remain with the homeowners in the Open Space Development, a non-profit, homeowner's association shall be established, requiring membership of each lot owner in the Open Space development. The association shall be responsible for the permanent maintenance of all common lands, common open space, recreational and thoroughfare facilities (not including drinking water wells), except where such responsibility is assumed by another owner of the common land (land trust or conservation organization). If any drinking water well is located on common open space, the homeowner/s shall own the well and be responsible for any maintenance or related costs associated with their well. A homeowner's association agreement or covenant guaranteeing continuing maintenance of such common utilities, land and facilities, and assessing each lot a share of maintenance expenses shall be submitted with the final subdivision application. Where no homeowner's association is proposed, an alternative plan shall be submitted with the final subdivision application. Such agreement shall be subject to the review and approval of Town Counsel and the Planning Board, and shall be recorded in the Hampshire County Registry of Deeds. Such agreements or covenants shall provide that in the event that the association fails to maintain the common open land in reasonable order and condition in accordance with the agreement, the town may, after notice to the association and public hearing, enter upon such land and maintain it in order to preserve taxable values of the properties within the development and to prevent the common land from becoming a public nuisance. The covenants shall also provide that the cost of such maintenance by the town shall be assessed equally against each of the properties within the development.

Storm Water Management

According to 6.2.11 of the Hatfield-By-Laws there are regulations for storm water management.
The Planning Board shall encourage the use of non-structural storm water

management techniques and other drainage systems that reduce impervious surfaces and enable infiltration where appropriate.

1. Storm water management systems serving the Open Space subdivision may be located within the required common open space. Surface systems, such as retention and detention ponds, shall not qualify towards the minimum open space requirement.

Appearance/Architectural Design

According to 6.3.4 of the Hatfield-By-Laws there are regulations for appearance/ architecture design.

1. Project design should be compatible with the rural character and scale of Hatfield and other similar traditional New England towns through the use of appropriate site design, building design, building materials, and landscaping.

2. For projects within the Town Center and Business Zoning Districts, the applicant shall reference the Hatfield Design Guidelines Handbook for specific guidance regarding design issues. (Not created as of 2009)

Landscaping

According to 6.3.5 of the Hatfield-By-Laws there are regulations for landscape design.

1. A landscaped buffer strip at least twelve (12) feet wide, continuous except for approved driveways, shall be established adjacent to any public road to visually separate parking and other uses from the road. The buffer strip shall be planted with grass, medium height shrubs, and shade trees (minimum 2-inch caliper, planted at least every 50 feet along the road frontage). Artificial trees or plants shall not be used to meet these requirements. At all street or driveway intersections, trees or shrubs shall be set back a sufficient distance from such intersections so that they do not present a traffic visibility hazard. The sidewalk required above may be incorporated into the buffer strip.

2. Exposed storage areas, waste disposal areas including dumpsters, machinery, service areas, truck loading areas, utility buildings and structures and other unsightly uses shall be screened from view from neighboring properties and streets using dense, hardy evergreen plantings, earthen berms, walls, fencing, or any combination of these methods so approved by the Planning Board.

3. All landscaped areas shall be properly maintained. Shrubs or trees which die shall be replaced within one growing season.

4. Landscaping shall be in conformance with existing town bylaws and regulations.

5. Completion of the landscaping requirements may be postponed due to seasonal weather conditions for a period not to exceed seven (7) months from the

time of project completion.

Lighting

According to 6.3.6 of the Hatfield-By-Laws there are regulations for lighting design.
1. No light standard shall be taller than fourteen (14) feet in height.
2. For projects within the Town Center and Mixed Use Development Zoning Districts, the applicant shall reference the Hatfield Design Guidelines Handbook for specific guidance regarding lighting design issues.(Not created as of 2009)

Environmental Standards

According to 6.3.7 of the Hatfield-By-Laws there are regulations for environmental standards.
1. Storm Water Management
a. Proposed developments shall meet the requirements of Section 7.0, Storm water Management Bylaw.
2. Erosion Control
a. Erosion of soil and sedimentation of streams, water bodies, and wetlands shall be minimized by using the following erosion control practices:
i. An erosion control plan shall be filed with Planning Board at the time of site plan review. No work shall begin until the Planning Board has approved the erosion control plan.
ii. Areas that are exposed or disturbed due to stripping vegetation, soil removal, or regarding shall be permanently stabilized before issuance of an Occupancy Permit.
iii. During construction, temporary vegetation and/or mulching shall be used to protect exposed areas from erosion. Until a disturbed area is permanently stabilized, sediment in run-off shall be trapped by using sedimentation traps such as siltation fencing, staked hay bales, or stone check dams.
iv. Permanent erosion control and vegetation measures shall be in accordance with the management practices recommended by the Natural Resources Conservation Service.
v. All slopes exceeding twenty percent (20%), resulting from site development or disturbance, shall be covered with four (4) inches of topsoil and planted with a vegetative cover sufficient to prevent erosion, or stabilized by a retaining wall.
vi. Dust control shall be used during non-agricultural grading operations if the grading is to occur within 200 feet of an occupied residence or place of business. Dust control methods may consist of dampening the ground with water prior to beginning work or grading fine soils only at times of low wind velocity.
3. Water Quality
a. All outdoor storage facilities for fuel, hazardous materials or wastes, and potentially harmful raw materials shall be located within an impervious, dike containment area adequate to hold 110% of the total volume of liquid kept within the storage area. Projects shall comply with all relevant state requirements and Board of Health and Fire Department regulations.

4. Explosive Materials

a. No highly flammable or explosive liquids, solids, or gases shall be stored in bulk above ground, unless prior written approval of the Fire Chief has been obtained by the applicant. The project shall also meet any relevant federal and state regulations.

b. Propane gas tanks for residential use or in 100-lb. cylinders (and smaller) shall be exempt from these safety regulations.

5. Particulate Matter

a. All cinders, dust fumes, and gases shall be effectively confined to the premises.

6. Electromagnetic Interference

a. Electromagnetic interference shall be regulated according to FCC and other federal and state laws.

7. Buildings

a. All permitted uses, functions, and services shall be conducted entirely within buildings of permanent construction except as otherwise provided herein, except for parking, loading/unloading, open space, and minor accessory uses related to the principal use. All minor accessory uses shall be screened from the view of the public way and adjacent properties with a vegetative screen or fence.

8. Storage of Materials

a. All materials, supplies, and equipment stored in structures shall be stored as to be in compliance with the Fire Prevention Standards of the National Board of Fire Underwriters.

b. Storage of materials in trailers shall not be allowed in the Light Industrial District.

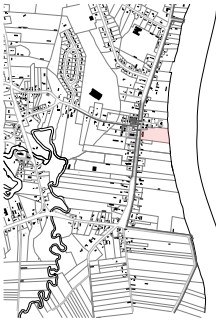
FINAL PROJECT

Final Layout

HATFIELD COMMUNITY CENTER

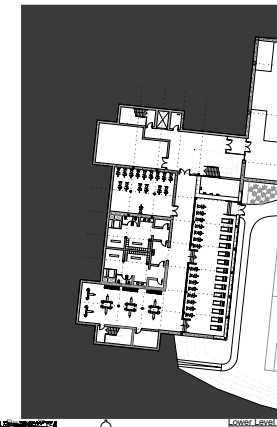
Hatfield, Massachusetts

Patrick Dombroy
ARCH 613 Thesis Design Studio
Adam Cohen
May 03, 2010



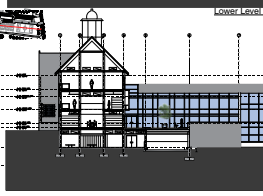
Design Parti

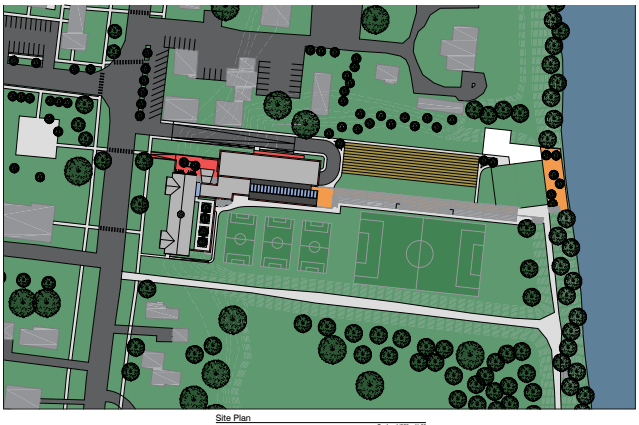
"Point of Interest" Nodes



Lower Level

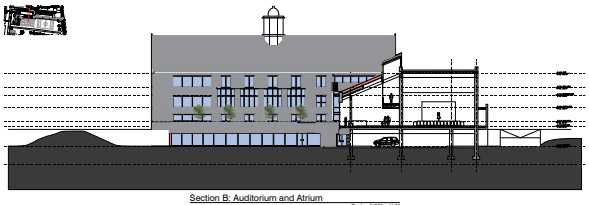
West Elevation



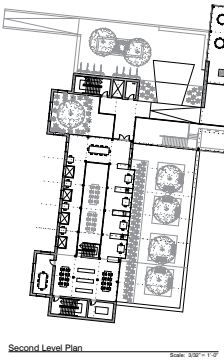


Site Plan

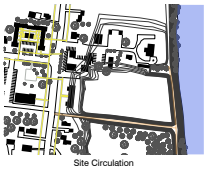
Section A: Entry



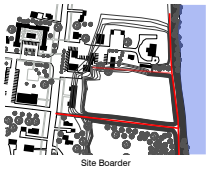
Section B: Auditorium and Atrium



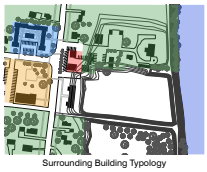
Second Level Plan



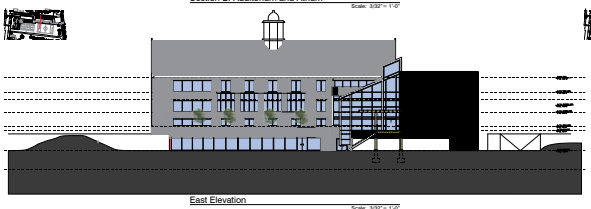
Site Circulation



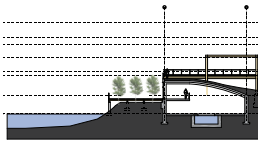
Site Boarder

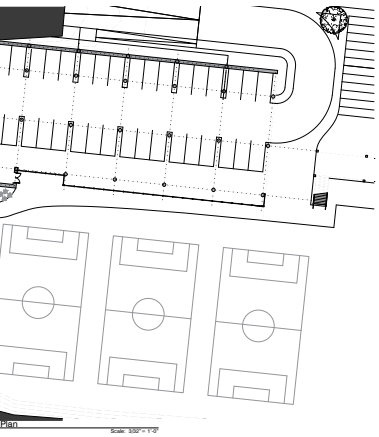


Surrounding Building Typology



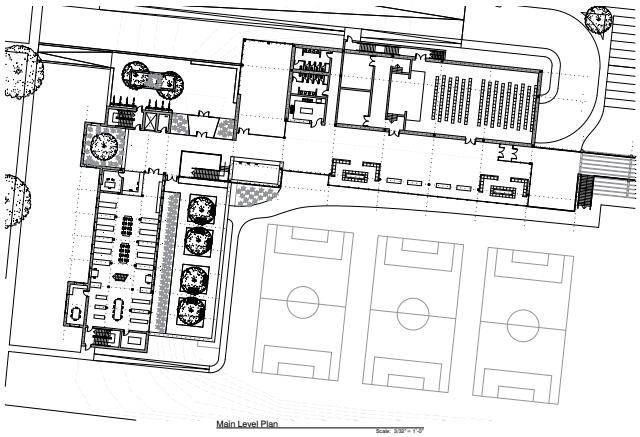
East Elevation





Plan

Scale: 3/32" = 1'-0"



Main Level Plan

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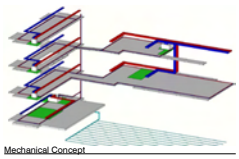
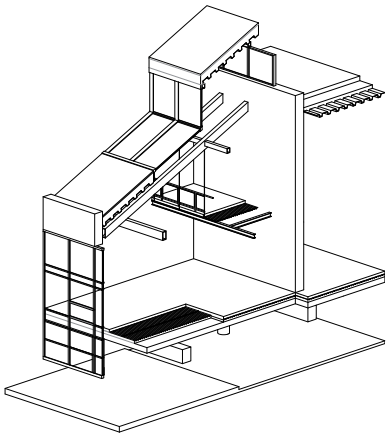
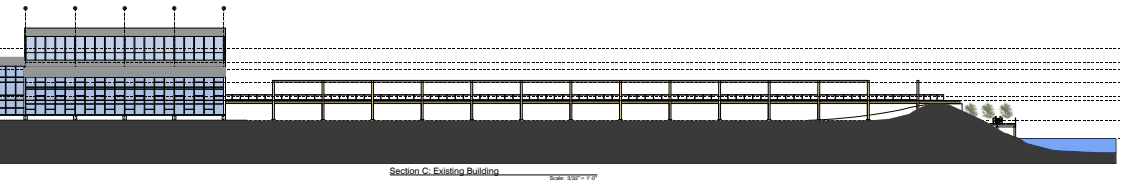


Mechanical Concept



Assembly Axon

Scale: 1/4" = 1'-0"



Section C: Existing Building

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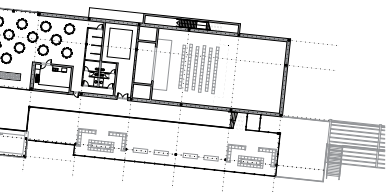
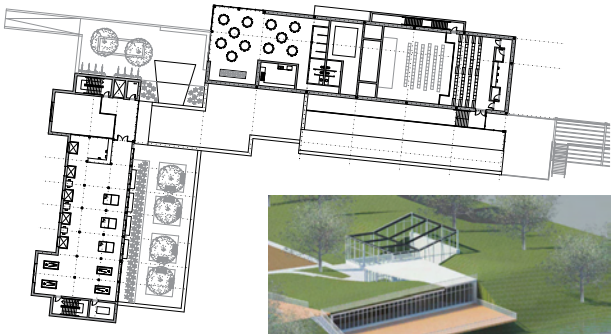
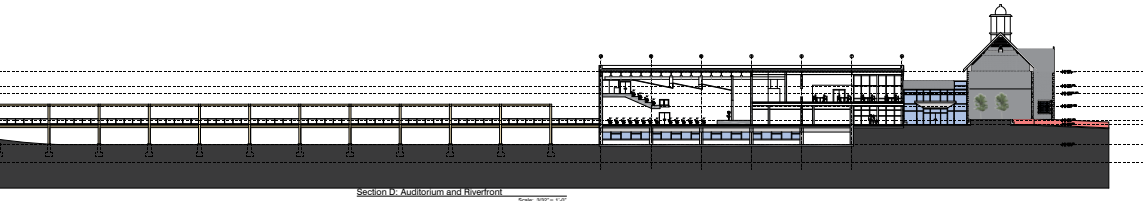




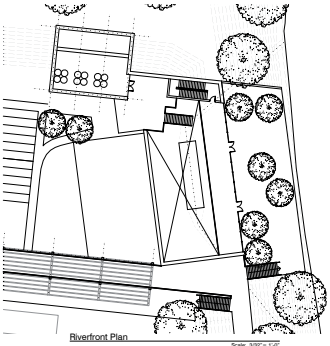
Third Level Plan

Scale: 3/32" = 1'-0"



Section D: Auditorium and Riverfront

Scale: 3/32" = 1'-0"



Riverfront Plan

Scale: 3/32" = 1'-0"

Design Statement

My thesis project involves the ability to create community connections for a rural town, which lacks density and the amount of interaction within the members of the community. The building will be a community center, which will serve as a hub for interaction in bringing diverse range of age groups together. In addition, this facility will teach the community, ranging from designers and contractors, to the ordinary home owner, about sustainability and how one could apply its ideas to their individual lives. The site is located in Hatfield, Massachusetts, a small town along the west bank of the Connecticut River. Hatfield is a very old town that has a long, rich history. Currently, however, the town lost its dynamic town center. The goal of this project is to reestablish the town center and create a common, central location in which the town, as well as neighboring communities, can benefit from and grow. The site chosen is located in the center of town, across from the Town Hall, where an existing building, a former middle school facility, is located. The middle school was built in 1914, and recently it was converted into a regional library, but that has moved out and the building is currently vacant. The proposed program for this site consists of absorbing the town library and adding a teen center, senior center, a community gym, reception areas (which can be used to host events) as well as a large auditorium space which could be used for town meetings, school plays, and be able to be rented out for private events. A gallery is included which can display works of the community, as well as products developed/tested by the on-site electric generator facility, which uses the current from the Connecticut River to produce electricity.

The parti of my project consists of two large bars, one being the existing building and the other is the addition. These bars are perpendicular to each other, and they are separated by a circulation void that runs horizontally across the site and connects Main Street to the Connecticut River. The idea behind this connection is to bring the town and the river back together. The town has a long history of using the river in a variety of ways, such as powering mills, irrigation for farm land, etc. Currently, however, the connection between the two is minimal; there are only select locations where there are public interactions with the river. The site has a very unique feature to it: along the perimeter, mainly along the southern and eastern edges, are dikes that protect the town along the river's edge from flooding. In this site's case it protects the existing building, as well as the athletic fields that are located between the existing building and the river. However to the north this boundary is not as clearly defined. My strategy is to use the addition to become that boundary and enclose the fields located in the site. Another strategy comes from looking at how property lines were subdivided, especially in regards to farm fields. Long, narrow lots became the outcome.

The goal is to incorporate the horizontals of the property line history with the design. This strategy is beneficial to the idea of moving people across the site towards the river's edge. To help persuade this movement, a visitor to walk through the building and across the long site, a series of "point of interest" nodes were incorporated along the path, which helps decrease the knowledge of the length, as well as to create several moments for the visitor to experience. As you enter the building, the first node is the town library as well as an outdoor terrace that overlooks the southern portion of the field. As you walk further towards the river, a gallery appears as the second node. Further down is the reception area that overlooks the field which acts as

the third node. The next node is the auditorium, which can host large events and is adjacent to the reception area for an increase in space for after event activities. After one walks past the auditorium, the person exits the building and finds themselves elevated twelve feet off the ground and at the fifth node. This node is a long trellis boardwalk that connects the addition to the dike on the far side of the site. The boardwalk has views of two public spaces; to the north is a community garden, in which one could grow their own vegetables, and to the south is a green lawn which can be used for an assortment of athletic fields. At the end of the boardwalk is the hydroelectric generator which is embedded into the dike. The public has the opportunity to explore this area and look down on how the facility creates electricity. Along the riverbank is a platform that can be utilized as a rentable picnic location with views of the river; it also serves as a pier from which one could fish.

Some of the sustainable aspects of the project, besides the hydroelectric generator, are shared parking, solar panels/ photovoltaics, and living machine. The impact of incorporating the auditorium within the project will result in a large amount of parking that was required by zone. To limit the amount of on site parking, share parking was utilized; Main Street is wide enough for street parking on both sides, as well as the neighboring lot for the town hall. Solar panels/ photovoltaics are used on the southern roofs to generate as much heat and electricity as is required. The solar panels are used to generate the heat for the radiant heating along the floors. The living machine is located adjacent to the water generator facility and is used to clean the used water from the main building,

Site Photographs

Site Photographs

Site Diagrams

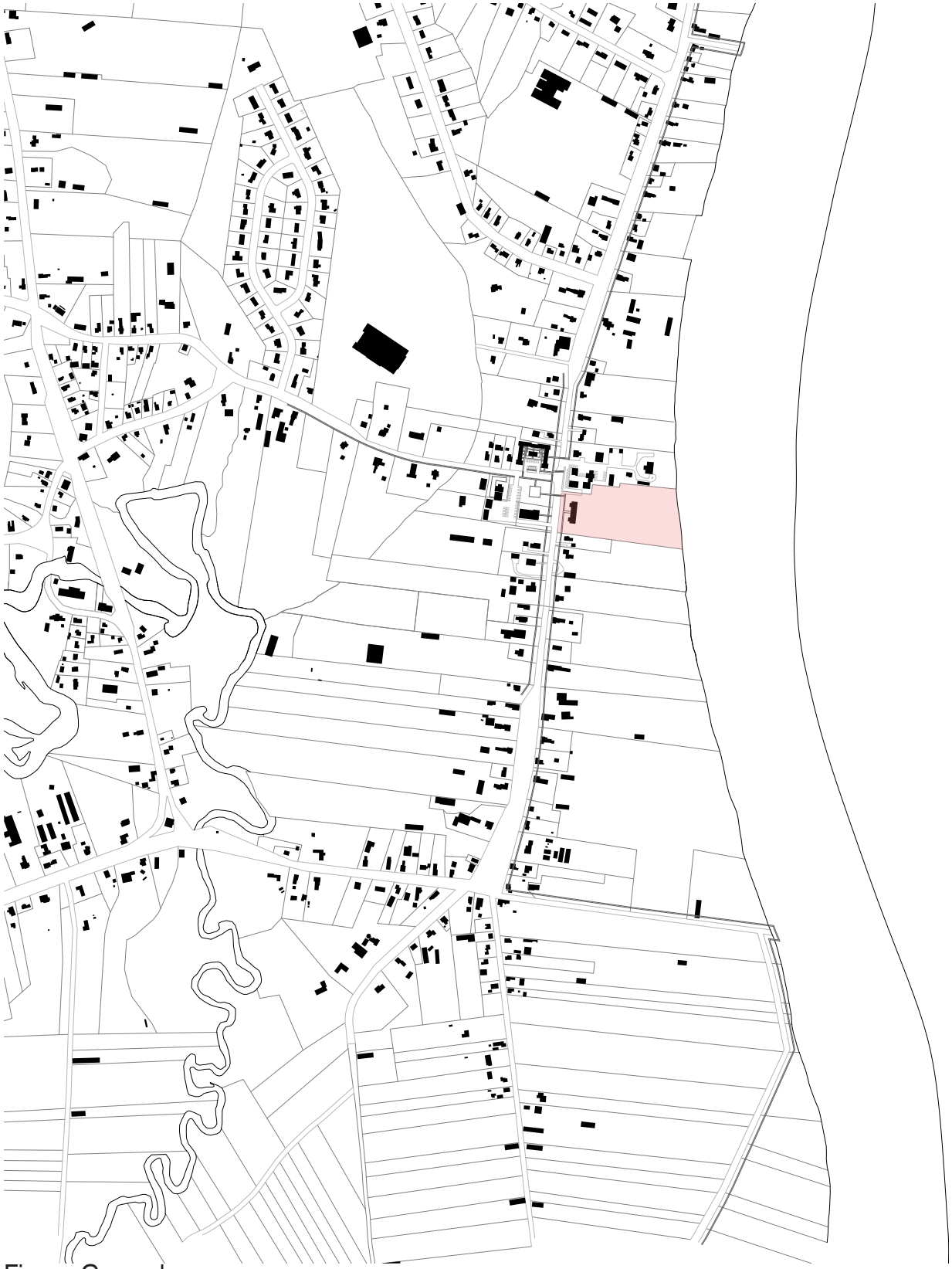


Figure Ground

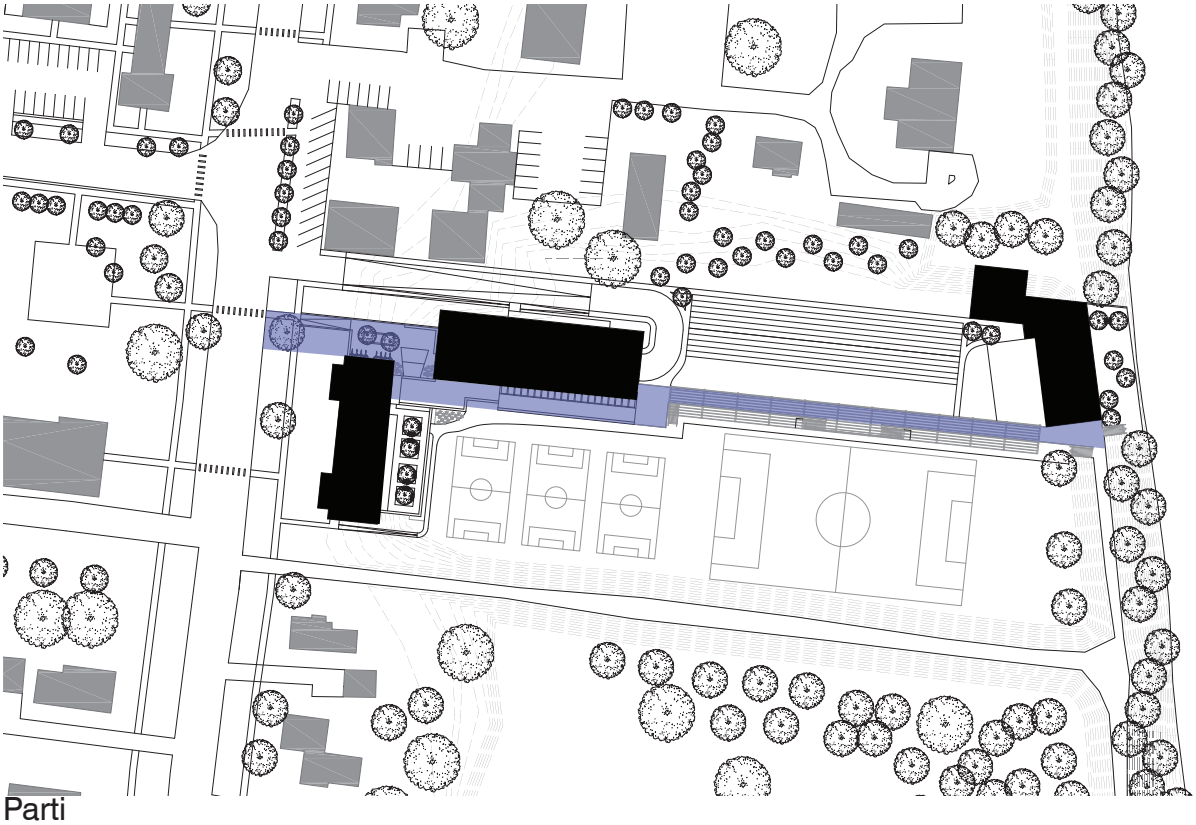
Site Diagrams

Site Boarders

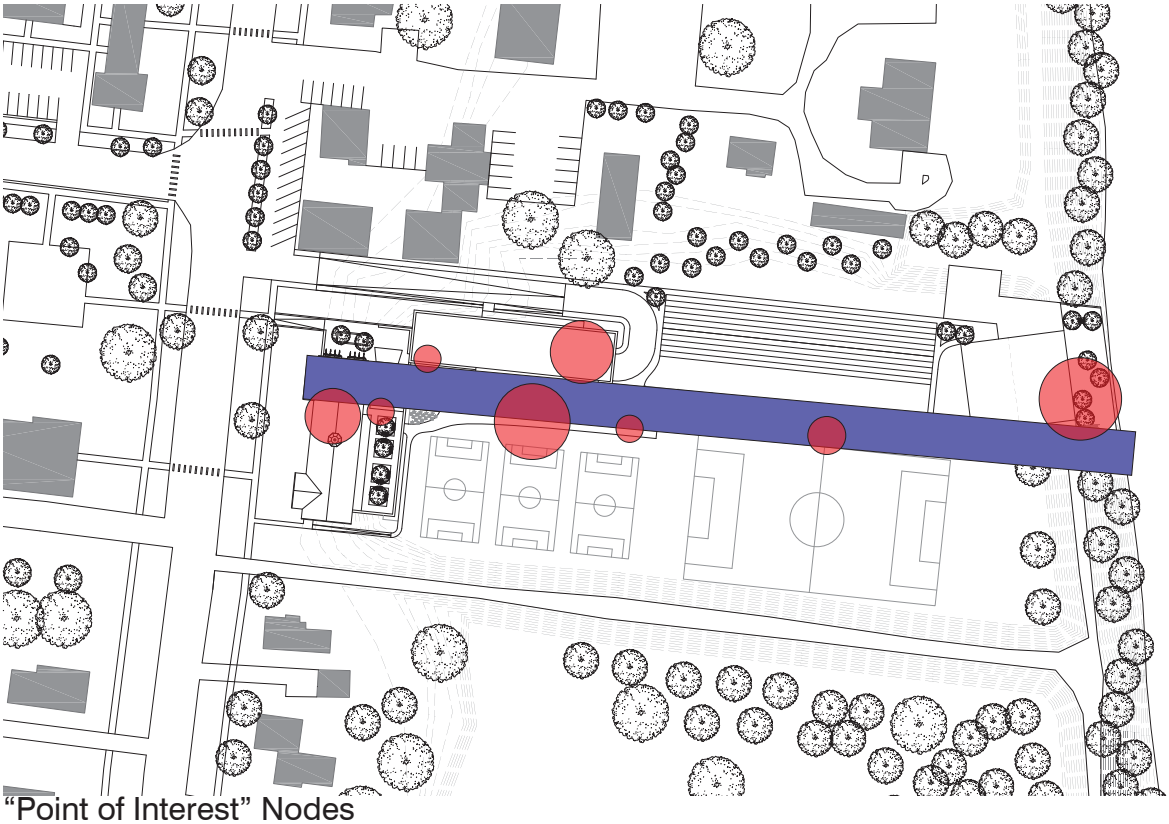
Surrounding Building Typology

Pedestrian Circulation

Design Diagrams

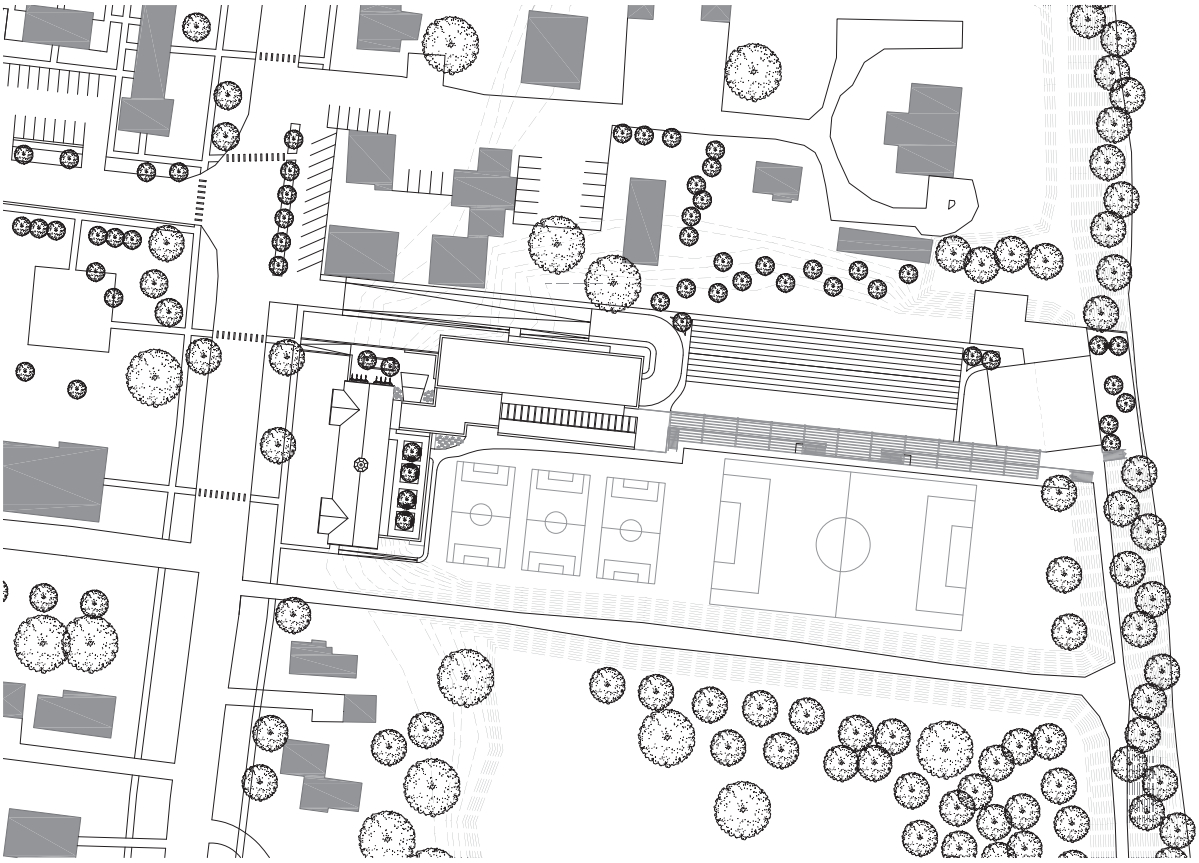


Parti



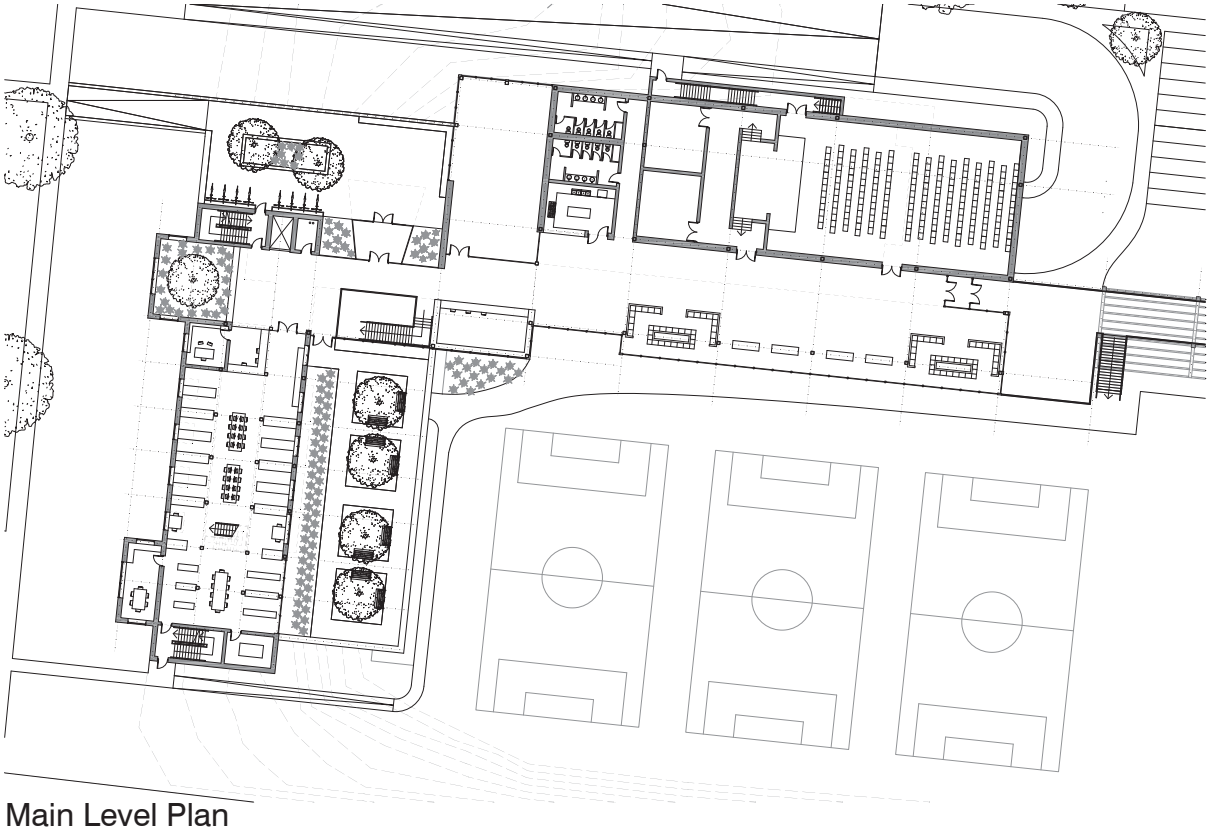
“Point of Interest” Nodes

Site Plan

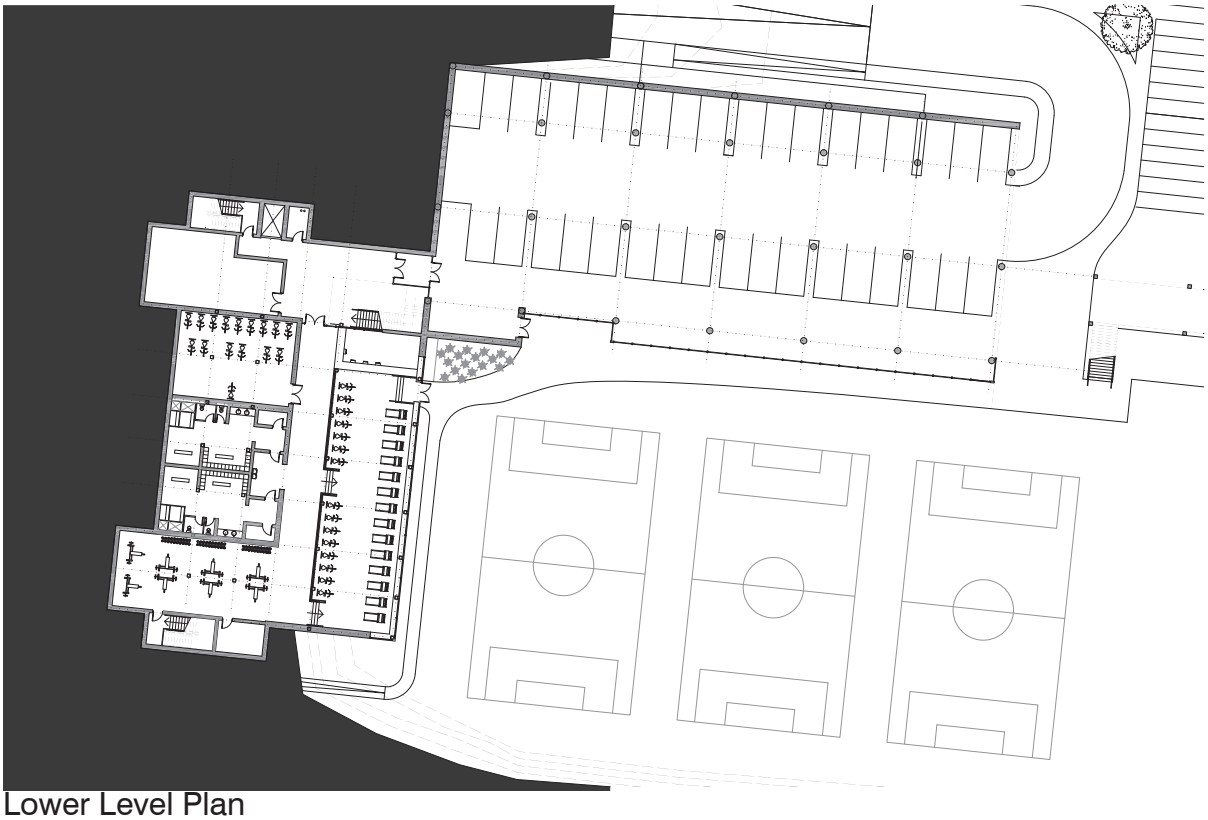


Aerial Rendering

Floor Plans

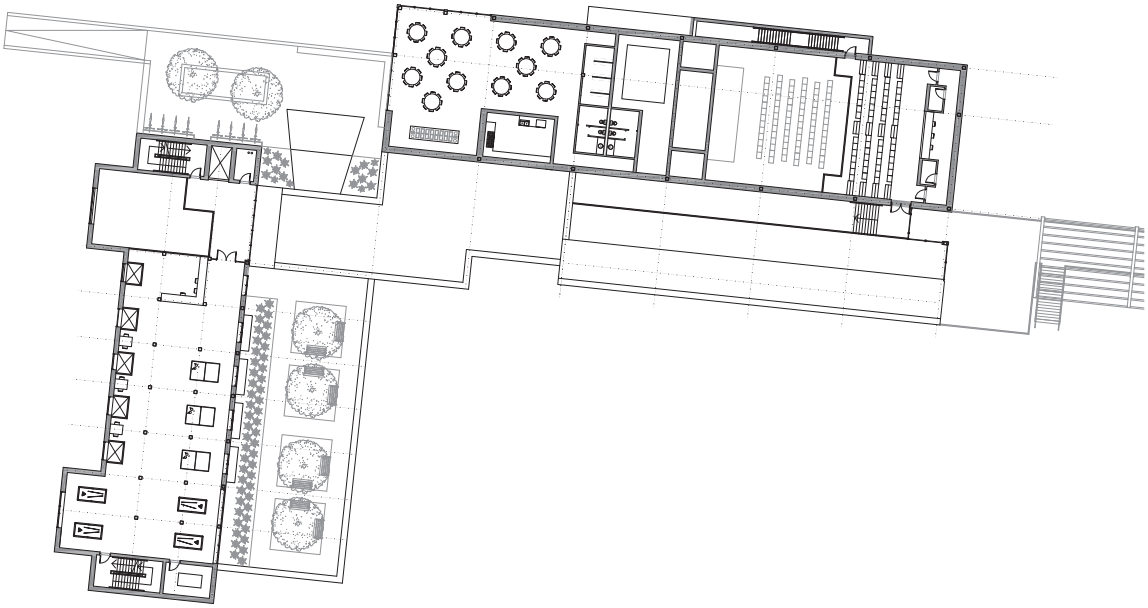


Main Level Plan

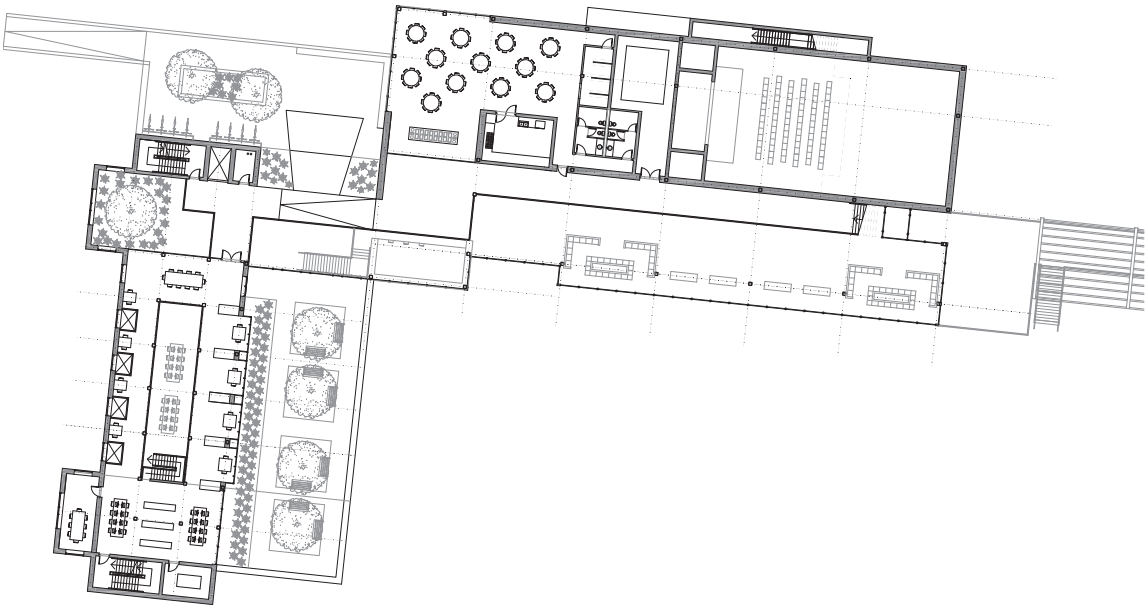


Lower Level Plan

Floor Plans

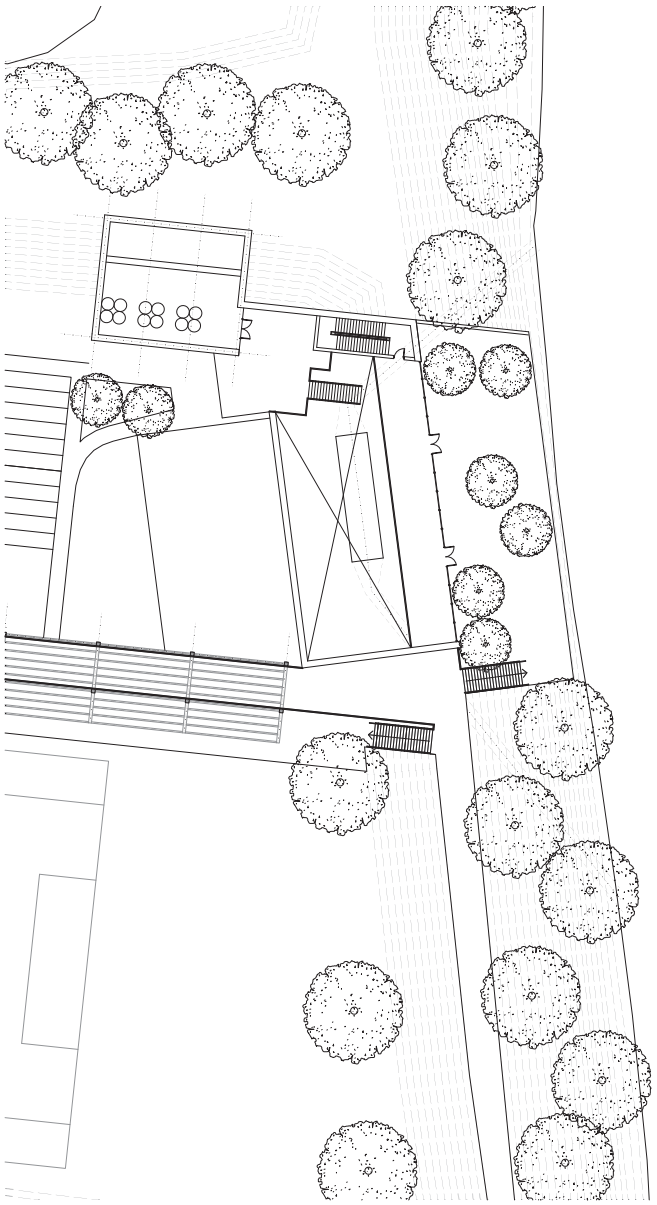


Third Level Plan



Second Level Plan

Floor Plans



Main Level Plan

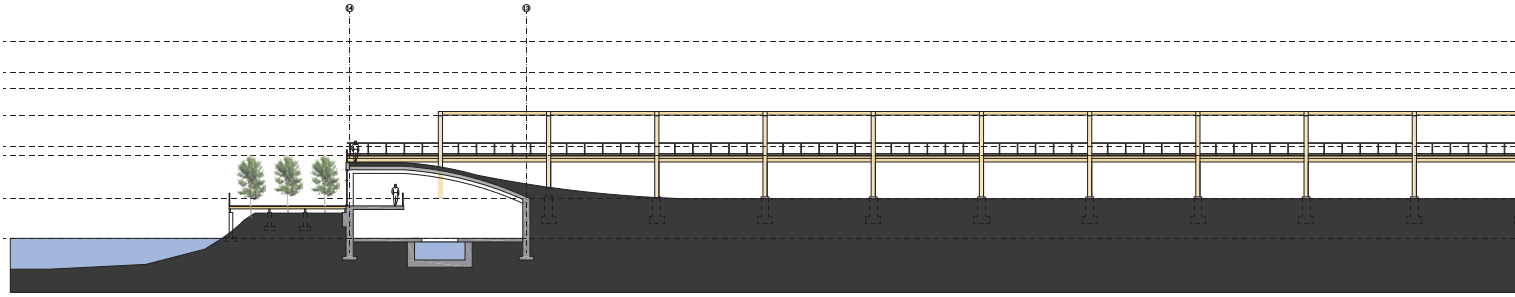
Elevations

West Elevation

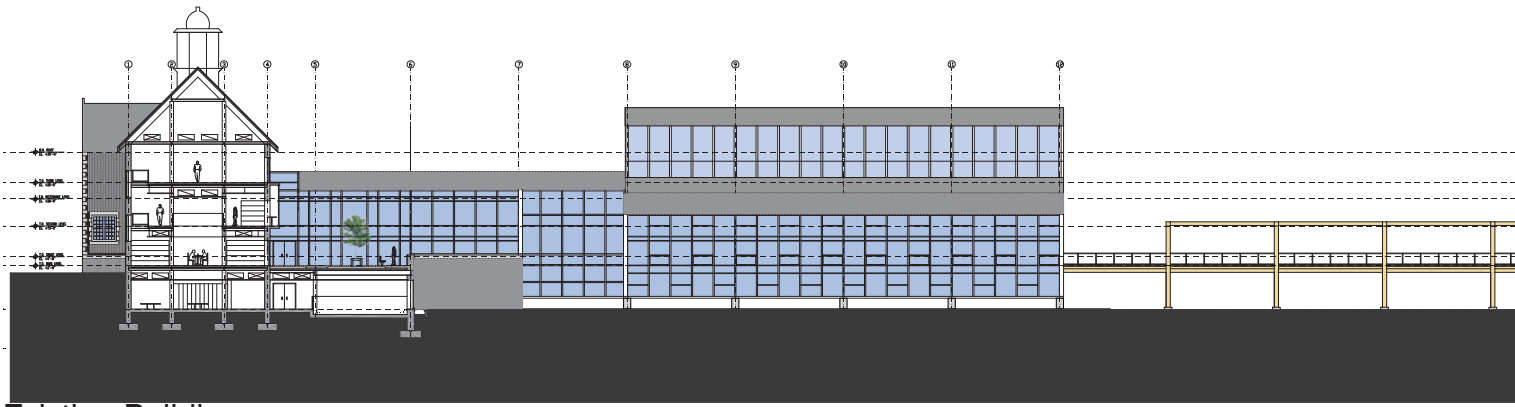
East Elevation

Sections

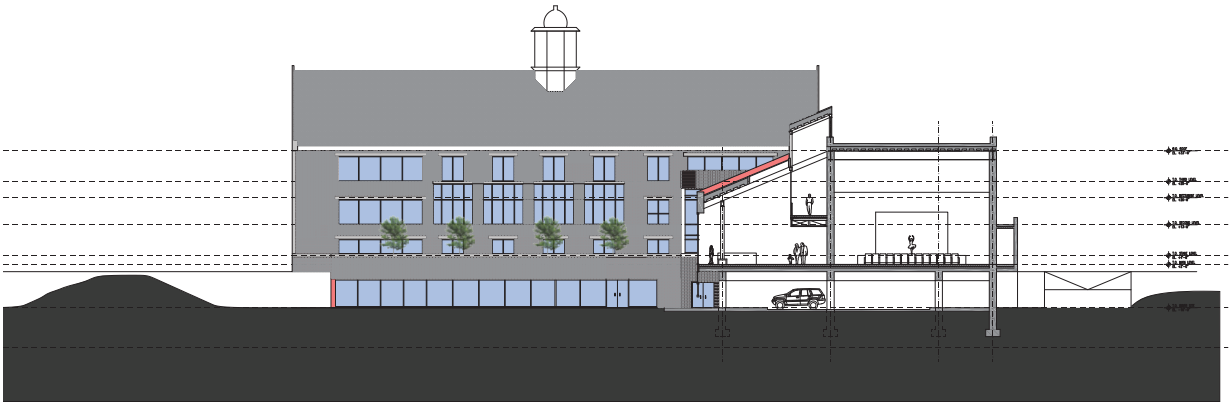
Entry and Fitness Facility



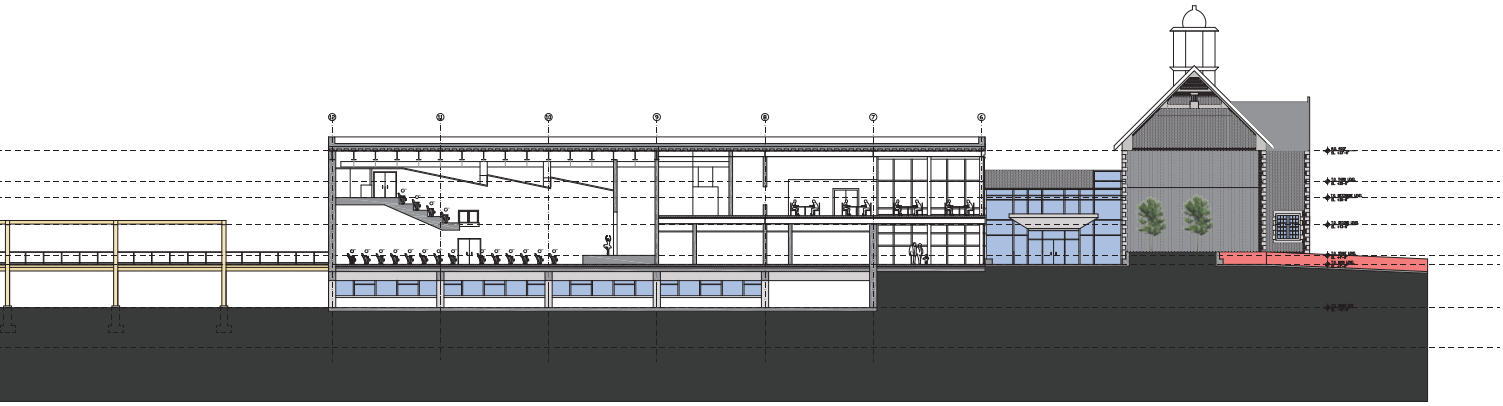
Auditorium and Electric Facility

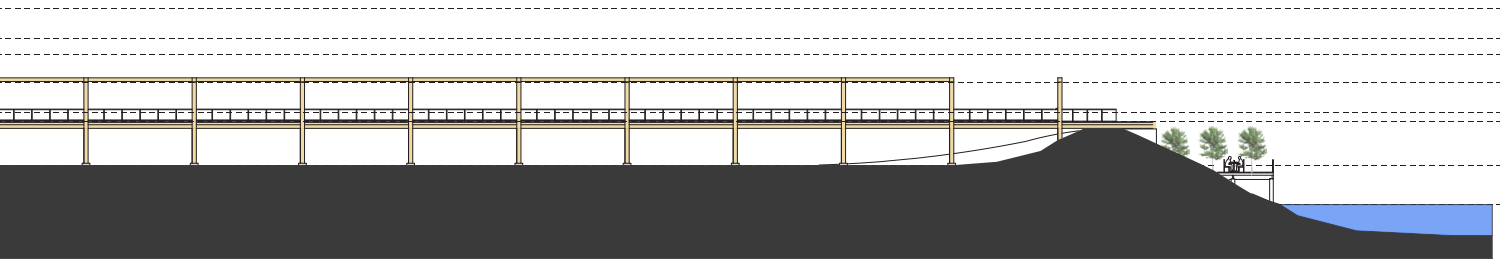


Existing Building

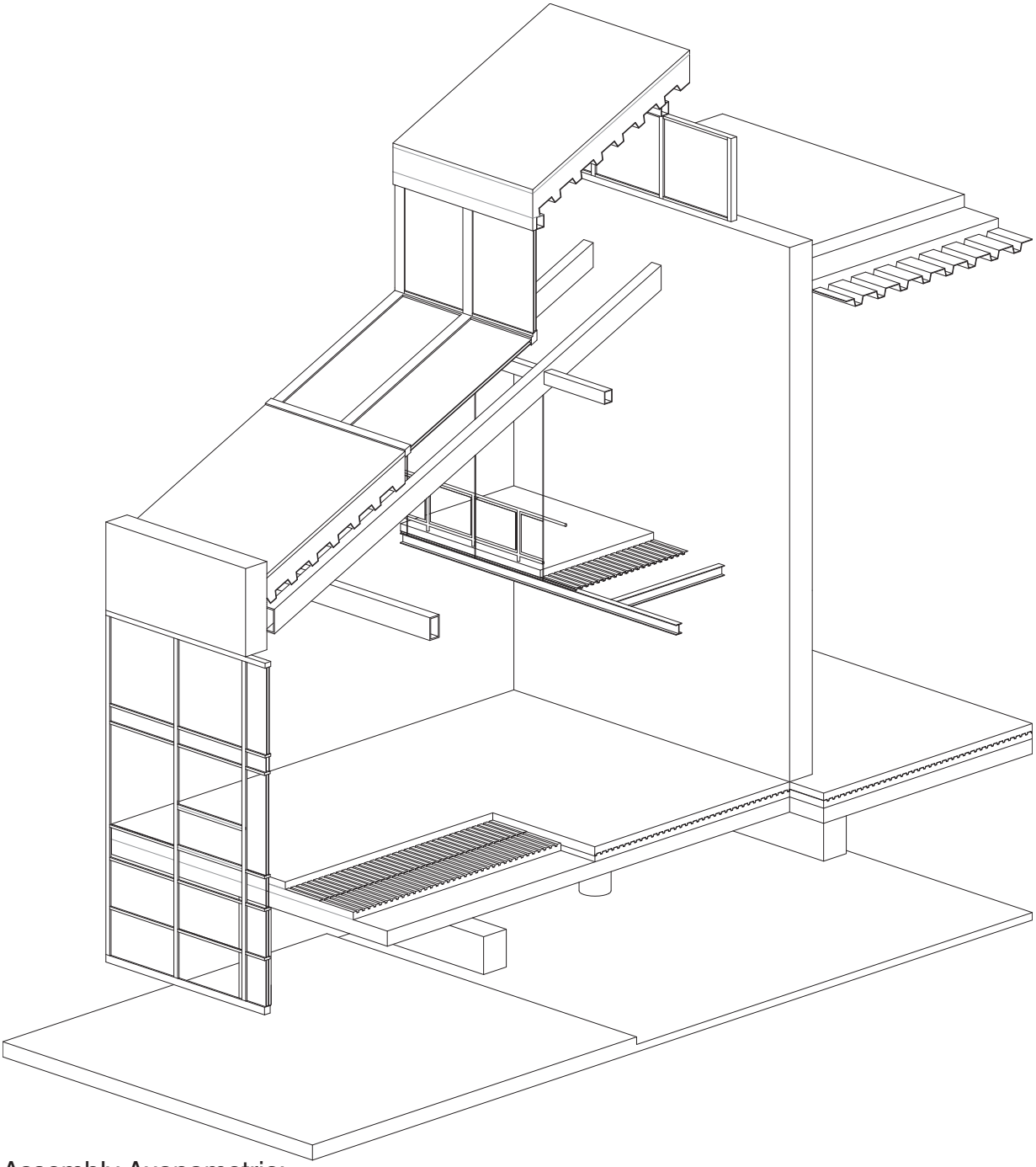


Auditorium and Atrium





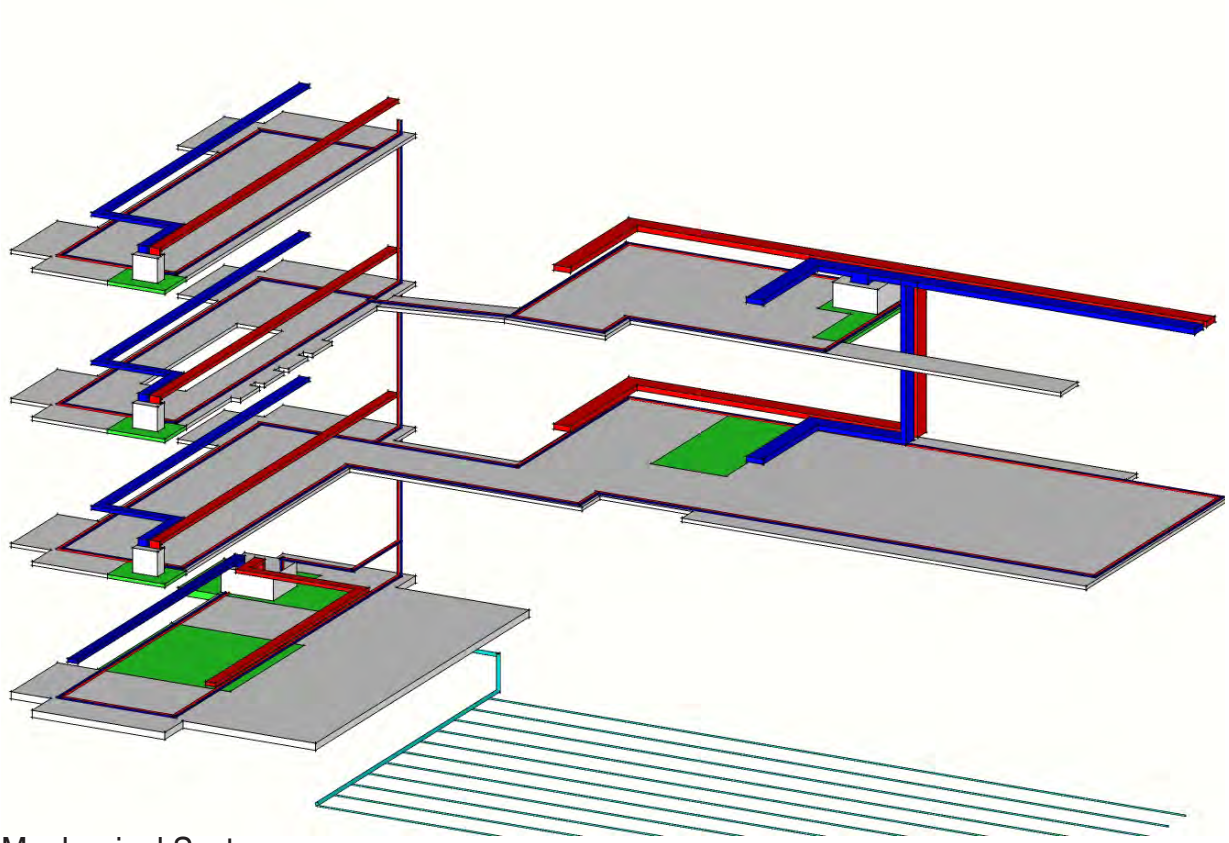
Systems



Assembly Axonometric:

This axonometric is of the atrium support space to the auditorium. The axonometric shows structure system, the enclosure system, and ventilation system.

Systems



Mechanical System:

Horizontal geothermal system that helps operate the radiant floor heating system. To provide air control small fan rooms on each level are added to help control air temperature and humidity.

Renderings

Renderings

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