

LEE TOWN CENTER STUDY

FALL 2009

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THE ARCHITECTS
EXCELLENCE SINCE 1980

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Context

Previous studies had rightly concluded that the existing Town Center site cannot support the expansion of the library, as well as growth of the Town Office functions in the future. The development of the Little River Park continues with the parking area, the ball field and the well having been completed. The Bricker Parcel is owned by the Town and is to provide for an expanded Library/Community Center. That would allow for Town Office functions to expand at the Town Center site. The Town had voted to obtain the Bricker Parcel with this overall concept in mind.

In the Spring of 2009 a Plan NH Charette was held in the Town of Lee to address the Town Center issues. It resulted in a number of large scale ideas, certain images, potential funding sources, etc. It also provided a forum for the various constituent groups to think through their needs. It proved to be a great exercise in expanding the thinking of the potentials of the concept. With the number and variety of the solutions articulated by the various constituent groups, it was the charge of this study to examine the viability of the overall concept and develop a consensus plan for moving forward.

A Committee that represented a good cross section of the community and constituent groups worked over the Fall of 2009 with the Consultant team to develop the recommendations of this report (see members attached). Based on some brainstorming at the first couple of meetings, the Committee agreed on a set of goals for the project. (see attached). These goals were kept in mind as the solutions evolved.

**Town Center study Committee
 Lee, NH**

1. Attendance

	<u>Name</u>	<u>Role</u>
	Diane Guimond	Town Administrator
	Caren Rossi	Planning/Zoning/CEO
	Robert P. Smith	Planning Board
	Michael Blake	Fire Chief
	Laurel Cox	Land Protection/Community Planning
	Dick Wellington	Town Historian Heritage Commission
	Dawn Genes	Recreation Commission
	Patricia Jenkins	Heritage Commission
	Katrinka Pellecchia	Library Trustee
	Lisa Morin	Library Director
	Margaret Dolan	Library Trustee
	Joe Lombardo	Selectmen/Chair
	Frank Reinhold	Citizen/Vice Chair
	Paul L. Gasowski	Citizen
	Tim Moody	Conservation Commission
	Allen Dennis	Code Official
	Architects	
	Dennis Mires, AIA	Dennis Mires, P.A., The Architects (DMPA)
	Stephen Peach, AIA	Dennis Mires, P.A., The Architects
	Wendall Kalsow, AIA	McGinley, Kalsow & Associates, Inc. (MKA)
	Stephen Walnut, AIA	McGinley, Kalsow & Associates, Inc.
	Consultants	
	Todd Menees, P.E.	Engineering Ventures, PC (EV)
	Bob Brecknock, P.E.	SW & C Engineering (SWC)
	Doug Waitt	Design Day Mechanicals, Inc. (DDM)
	Vic Reno, P.E.	Reno Engineering & Light Design (RELD)
	Dana Lynch, P.E.	Civil Works, Inc. (Town Consultant)

Town Center Study Committee
Lee, NH
Meeting Notes
September 22, 2009
Page 2 of 4

The following is a summary of items discussed at the meeting. All parties are requested to review the information for accuracy and completeness, with a response, if necessary, within seven (7) days with appropriate corrections or additions. These notes will become a permanent part of the project records.

I. Goal Setting Discussion

- A. Lee has an agricultural history. People are attracted to Lee for its quality of life (designated scenic roads, preserved barns under tax credit program, vistas, rural setting, etc.), yet convenience to road network, Exeter, Portsmouth, UNH. Public Safety Building has negative image/scale due to apparent size. Maintain rural character and scale in new and renovated buildings.
- B. Maintain linkages and connectedness of public buildings with trails, walks, vocabulary: Town Office site, public safety building, library, Little River Park, etc., i.e. "Campus" concept?
- C. All buildings get modified over their lifetime to reflect changing needs and function. Provide construction techniques and infrastructure placement to maximize flexibility so that expensive changes may be minimized in the future.
- D. After the 20+ year building horizon, life will go on and new and different needs will arise. Recognize current context and future potential, i.e. church, cemetery, grange, Little River Park, etc. Maximize the way buildings may be added to and/or sites may be expanded.
- E. The current Town Office site has a colorful history of buildings being moved to the site and several have since had additions. Since Lee has so few "historic" buildings, it wants to retain as much as possible, not only for their physical characteristics, but their social history. It may be possible to move certain buildings to other sites. They recognize the approach is rehabilitation, not preservation.
- F. The Committee wants to be smart about reducing their carbon footprint by promoting conservation, salvage, and reuse of materials; energy conservation; energy generation; and pursuit of local materials.
- G. Important town documents and records, i.e. clerk's records, Historic records, etc., are currently located in many different departments including individual's houses with little or no fire safety or environmental control. Provide a central, securable, fire safe, controlled environment of appropriate size for important documents that must be retained.
- H. What conclusions we reach through this process will cast the die for the future. The entire Team needs to be sensitive to the significant historical context within which we are working, while recognizing functionality and the long term cost/benefit evaluation in order to make informed decisions regarding the balance of rehabilitation and new construction.

III. Data Gathering

- | | <u>Action</u> |
|--|---------------|
| A. Design Team would like to collect the following: | |
| 1. Engineers drawing of Little River Park (electronically) | CR |
| 2. Electronic drawings of Town Office buildings by SDA | CR |
| 3. Engineers drawings of existing conditions plan of Town office site (electronically) | CR |
| 4. Any other drawings of existing buildings that may exist (electronically) | CR |

Existing Conditions

Bricker Parcel

The Town had the parcel surveyed which is largely flat until the grade starts dropping off toward Little River Park. The lot is tree covered with 45 - 50' pine trees with most of their branching at the top. Based on soil mapping and the experience at Little River Park, the soils are expected to be sandy gravel and well draining. A site analysis sketch was developed highlighting certain physical features as the way the sun moves around the site, potential access location due to grade and site lines (see attached). No utilities exist on site. It is anticipated a well and septic system will be required.

A copy of the proposed development plan for Little River Park was provided. The work that has been completed includes the parking lot, modified to avoid the buffer around the historic cellar hole, the ball field and the well in approximately the location noted. Off site improvements include the deceleration lane and acceleration lane along Route 155. It is noted the plan is continuing to be refined and that future improvements of the soccer field, another ball field, basketball, playground, etc., may move around as area for a pavilion that might house concession, toilet rooms, picnic area gets developed and placed.

The Bricker Parcel plan was reduced to the scale of the Park plan and combined in order to provide a composite base sheet to explore overall site development (see attached).



Town of Lee – Historic Municipal Complex

EXISTING CONDITIONS

TOWN CENTER PARCEL

Site

The 1.42+- acre parcel is bordered on the west by a private party, on the east by the Lee Congregational Church and across Route 155 to the south, the open space of the Lee Town Cemetery. Approximately a quarter of the site is part of a larger bog that grows into conservation land toward the north, as well as east/west (see Context plan attached). The site has had a colorful history beginning with a couple of original buildings, (Town Hall and Grange). Then buildings were moved to the site, (original Library and Historic) an additional building built (Annex) and additions have been built on three buildings (see existing site plan attached). Now with five buildings and their related parking and utilities the site is quite dense. The goal is to see if we can address the program with the available buildings, meet the projected parking criteria, and meet current utility needs while adequately protecting the bog. A more detailed discussion of parking and utilities occurs later in the report.

Structures

Lee Town Hall

Historical Background

Lee Town Hall was built in 1846 at its current location in the Greek Revival style with granite foundations, brick exterior walls, and a clapboard gable roof. A two-story clapboard addition was added in 1968 and a vestibule was added to the main south entrance at an unspecified time.

Current Program

Currently the first floor of the original Town Hall, which was the original meeting room, serves as office space for the Town Administrator, Secretary, Bookkeeper, Treasurer, Assessor, General Assistance, the Supervisor of the Checklist, and all their files. This space also houses a public access terminal, reception, and storage for various office and cleaning supplies.

The second floor of the original Town Hall, which originally served as the selectmen's office and town library, is accessed via a steep and narrow open-sided stair in the southeast corner and now serves as storage and a work space for the Town Administrator and for the efforts to compile a history of the Town of Lee.

The first floor of the addition contains the Town Clerk/Tax Collector's office, two small bathrooms, and a small kitchenette within one of the bathrooms. The second floor of the addition has a mechanical room, a storage room, and a corridor which connects the second floor of the original Town Hall to the exterior stair.

Existing Building Evaluation

The building currently has three means of access: the a non-ADA and non-code compliant south entry, which is the original entrance, is through a vestibule, over granite steps, and directly into the original Town Hall meeting space; the non-ADA and non-code compliant east entry is up two steps to enter into the Town Clerk/Tax Collector's office on the first floor of the addition; the north entry is reached by means of a concrete ramp situated between the Town Hall and the Town Garage. An exterior wood stair from the second floor of the addition down to ground level on the north side of the building provides a secondary means of egress from the second floor.

The exterior brick of the original building is in very good shape and has been repointed recently. The roofs are metal shingles that were installed within the past two years. The granite foundation stones are generally in good condition, though there some minor weather damage at the southeast corner. The clapboards at the addition and the gable end of the original town Hall are generally in good condition. The windows are double-hung aluminum or vinyl replacement with applied muntins set in the original wood frames. A single original shutter remains at the east window on the south façade and the original iron hinges and tiebacks can be seen at the other original windows.

The wood floor at the first floor of the original Town Hall is worn and needs refinishing with several areas buckling upward due to thermal expansion and other locations, notably the bottom of the stairs in the southeast corner, where the floor is sagging due to structural deterioration. The existing open-sided stair to the second floor is narrow and does not comply with current code standards. The second floor is not ADA accessible and the stair from the original Town Hall's second floor to the second floor of the addition does not comply with current code standards.

Current conditions at Town Hall are inadequate for the current program: workspaces are small and cramped; privacy is very limited; noise levels within the old meeting room can be distracting; there is a lack of secure and/or fire-proof storage; interior layout is limited by the need to place heavier items, such as file cabinets, along the two floor beams running north-south in the space.

The Town Hall gable lines appear straight and the eave lines appear straight and level. There is noticeable permanent deflection in the high ridge but the low ridgeline appears to be level. Areas under the original floor joists will require additional support to decrease deflection. The main rafters, floor joists, and floor beams all exhibit excessive deflection.

Systems Evaluation

The Town Hall is heated with a Weil McLain standard efficiency propane fired boiler with three zone circulator pumps with controlling night setback thermostats connected to fin tube radiation, two zones on the first floor, front and back, and one zone on the second floor. There is no apparent mechanical ventilation. Outside air requirements are provided, or not, by opening windows, or relying on uncontrolled building outside air infiltration.

The two bathrooms on the first floor do not comply with ADA standards. Toilet exhaust is required for code compliance in toilet rooms, and appear to be operable in the toilet rooms in the Town Hall. A propane fired water heater in the Town Hall provides domestic hot water.

The Town Hall building has a 100 amp, 120/240 volt, single phase service coming in overhead from a pole to the south at the street. The main panel is an old Federal Pacific (FPE) 125 amp panel with a 100 amp main breaker and 24 single pole full size positions all full with one 30/2 (30 amp, 2 pole) breaker for the kitchen range; 60/2 breaker feeding an upstairs sub panel; a 20/2 breaker feeding something marked "Library"; a 20/2 breaker marked "A. Couttet" and the rest are 20 amp, single pole, 120 v breakers for general power and lighting. The upstairs sub panel is an ITE Load Center, 100 amp, 20 position panel with seven 20/1 breakers; six 15/1 breakers and seven available spaces. Almost all the wiring in the building is NM cable ("Romex"). There may be some problems with overloaded circuits. Data and telephone wiring in the building is not code compliant with wires and cables being draped over doorways and randomly in and through spaces. The lighting is primarily fluorescent, surface "wrap" fixtures – two lamp, acrylic lensed fixtures with older T12 fluorescent lamps and magnetic ballasts. There are some older incandescent fixtures. There are exterior, HID (High Intensity Discharge) wall packs for exterior lighting. There are exit signs and emergency lights from self contained emergency battery units (EBU) which generally appear to meet current code requirements. The fire alarm system consists of pull stations at exits, and a mix of heat and smoke detectors, with relatively new horn/strobe alarm indicators. The main fire alarm control panel (FACP) is a Silent Knight 5207 addressable system and is actually located in the Annex with interconnecting cables to each building, so all buildings are on the same system with the main FACP in the Annex. There are fire alarm/security interface panels in each building. The one in the Town Hall is located in the north eave/attic space where the computer servers are located. There is an Ademco security system with door contacts and motion detectors. There is also an emergency call system with push buttons for initiation and automatic call to the local police. There is automatic notification for a fire or security alarm condition. Sea Coast Lock and Safe Company at 800-698-3818 appears to be the installer and service company for the fire alarm systems and the security systems.

Garage/Tramp House

Historical Background

The Garage or Tramp House is a wood framed structure with clapboard siding and a gable roof that was constructed in the 1920's to house town equipment and also to provide overnight shelter for tramps travelling the railroads. The building was expanded in the 1950's to accommodate larger pieces of Town equipment.

Current Program

Currently the Garage serves to store Town equipment and to serve as auxiliary workspace for Town projects and is accessed via two sliding wood garage doors on the east elevation and a wood man-door on the north side of the building.

Existing Building Evaluation

The wood clapboards are peeling and require scraping and painting but otherwise appear to be in good shape. The interior is unfinished and the floor is dirt but the space is dry.

Gables and the rear eave lines appear straight and the eave line appears level. The front eave line is bowed outward. The ridgeline is deflected downward. Large door headers are adequately sized. Studs are undersized with respect to wind loads. The two 4x6 ties at the top plate provide insufficient strength to support lateral forces in the main rafters. There is insufficient lateral strength in the structure's long direction. There is excessive deflection in both the main and shed rafters and the shed rafters are overstressed.

Systems Evaluation

There is no apparent mechanical ventilation and there is no heating for this building.

There is very minimal wiring to the Garage coming over from the Town Hall. There are a few lights and outlets. The wiring does not meet current National Electric Code (NEC) requirements.

There is no plumbing in this building.

Library

Historical Background

The current Library is a Colonial Revival style wood framed structure with clapboard siding and gable roof that was originally built in 1897 as the Center School House and located on Lee Hook Road. In 1962 it was moved to its current location on Mast Road and remodeled to serve as the Town Library, which was originally located on the second floor of the original Town Hall. The Library was subsequently expanded with a series of additions, each wood framed with clapboard siding to match the original building's style: a small addition to the rear of the schoolhouse built in 1972; a small addition at northwest corner of the schoolhouse that featured a new main entrance that was built in 1984; and a rear addition with basement meeting rooms that was built in 1996.

Current Program

The original Library building has stacks, a reading area, computer terminals, a small kitchenette, and a handicapped accessible toilet on the first floor and the basement space serves as additional library storage, including a vault space, and also contains the building systems for this part of the building.

The 1972 addition currently houses the circulation desk and the Head Librarian's office, the 1984 addition contains the Children's and Young Adult collections, the 1996 addition contains the adult fiction collection on the first floor and the basement has a meeting room with a mechanical room.

Existing Building Evaluation

There are two main entries to the Library; the first is a non-handicapped accessible entry up four steps and through a pair of doors into the original School House Building; the second is either up four steps or up a handicapped accessible wooden ramp to the south door of the 1984 addition. There are additional exits from the southeast corner of the 1996 addition, the west side of the 1996 addition, and the north side of the 1996 addition from the basement level.

The building appears to be well maintained and in good condition throughout. However, the current facilities are not adequate to provide for an expanding collection, population and readership.

All building lines appear straight and true. Roof framing for three additions used pre-engineered trusses. Joists and beams in the two earlier additions were not accessible. The main rafters and floor joists exhibit excessive deflection and the floor joists are overstressed.

Systems Evaluation

The Library is heated with two forced warm air standard efficiency propane fired furnaces each with controlling night setback thermostat, a Magic Chef unit for the original parts of the building with a ductwork system located in the basement and adjacent crawl space, and an Olsen unit with ductwork in the ceiling of the lower level reading room for the lower Reading Room level and main level of the latest Library addition. Diffusers and grilles are in the floor for the main level, and in the exposed ductwork in the lower level Reading Room. The original parts of the Library that are heated with the Magic Chef propane furnace, are also cooled with a Lennox packaged air conditioning unit located on the ground immediately outside the basement area that houses the furnace. This unit is connected with ductwork that runs through the basement wall and connects to the supply and return ductwork system for the furnace. There are two sets of dampers, one set on the supply and one set on the return, that are opened and closed depending on whether the building is using heat or cooling. There are also three supplementary through the wall air conditioning unit for the upper level Library addition. There is no apparent mechanical ventilation. Outside air requirements are provided, or not, by opening windows, or relying on uncontrolled building outside air infiltration.

Electric heaters in the Library provide domestic hot water. The toilet facility appears to be fully ADA compliant. Toilet exhaust is required for code compliance in toilet rooms, and appear to be operable in the toilet rooms in the Library.

The Library has a 200 amp, 120/240 volt, single phase service coming in overhead to a meter on the front of the building and a relatively new main electrical panel in the basement. The main panel is a Siemens ITE G4040MB 1200 CU panel with a 200 amp main breaker and 42 breaker positions. There are the following breakers: 70/2 breaker which feeds the Historical Society Building; 30/2 breaker for the range; 100/2 feeding a sub panel in the new addition (basement); 50/2 breaker for the central air conditioning; and the rest are 20 amp and 15 amp single pole breakers for general lights and power. There are five (5) spaces for additional breakers. The main panel has surge protection. There is a remote plug connection for connecting a mobile generator during a power outage to maintain heat. Most of the wiring is NM cable ("Romex") The sub panel in the basement is located in a boxed in enclosure which does not allow adequate, code required access and clearance. The lighting is primarily fluorescent, surface "wrap" fixtures – two lamp, acrylic lensed fixtures with older T12 fluorescent lamps and magnetic ballasts. There are exterior, HID wall packs for exterior lighting. There are exit signs and emergency lights from self contained emergency battery units (EBU), which generally appear to meet current code requirements. The fire alarm system consists of pull stations at exits, and a mix of heat and smoke detectors, with relatively new horn/strobe alarm indicators. The main fire alarm control panel (FACP) is a Silent Knight 5207 addressable system and is actually located in the Annex with interconnecting cables to each building; so all buildings are on the same system with the main FACP in the Annex. There are fire alarm/security interface panels in each building. The one in the Library is located in the basement under the original building. There is an Ademco security system with door contacts and motion detectors. There is automatic notification for a fire or security alarm condition. Sea Coast Lock and Safe Company at 800-698-3818 appears to be the installer and Service Company for the fire alarm systems and the security systems.

Historical Society Building

Historical Background

The Historical Society Building was originally the Lee train station depot and was moved to the Mast Road/Town Center site in the 1960's. It is a two-story wood frame structure with clapboard siding, a shallow-pitch roof with large overhangs and a CMU block basement.

Current Program

The first and second stories of the building display items of interest from the history of Lee and the basement serves as additional storage for the Historical Society.

Existing Building Evaluation

The building is accessed by one of two means: proceeding up an accessible wooden ramp, running parallel to the west façade, to a door at the north end of the west façade; up four risers to a wooden deck at the south façade and through a door situated in the center of the south façade.

The exterior wood clapboards are split and warped in some locations but otherwise are in good condition. The single-glazed true divided lite wood windows appear to be original to the building, as do the solid wood paneled doors with single-glazed lites. The architectural asphalt shingle roof appears to be in good condition. The stairs to the second floor and basement are narrow and steep and do not conform to current code standards. Head height at the first floor is limited and does not conform to code and the basement space shows signs of water intrusion.

Eave lines appear straight and level except at all four corners where deflection is noticeable. The ridgeline appears to be level. Additional posts and footings will be required to support the first floor beam. The floor joists and floor beam both exhibit excessive deflection and the floor beam and floor columns are overstressed.

Systems Evaluation

The Historical Society Building is heated with an Empire direct vent through the wall propane furnace. The Historical Society Building has no occupied space air conditioning, but does have a stand-alone dehumidifier for the basement. There is no apparent mechanical ventilation. Outside air requirements are provided, or not, by opening windows, or relying on uncontrolled building outside air infiltration.

There is no toilet in the Historical Society Building. There is no domestic water hot or cold in the Historical Society Building.

The electrical service and panel here is a 100 amp, 120/240 volt panel fed from the Library with a 70 amp, 2 pole breaker. There is a main breaker and six single pole breakers for general power and lights. There are 18 or 20 spaces for additional breakers. The lighting consists of residential fixtures and some track with incandescent lamps. There is really minimal electrical wiring in this building.

Town Hall Annex

Historical Background

The Lee Town Hall Annex is a salt-shed roofed wood structure with clapboard siding that was built in 1950 with volunteer labor to serve as the Town's firehouse. After the fire department moved out of the building the building was renovated to serve as office space for the Town.

Current Program

The Annex currently houses the Town Planning/Code Inspector's office, the Planning/Code Assistant's office, the Planning Department Files, a Conference Room, storage, and a small bathroom.

Existing Building Evaluation

The main access to the building is on-grade at the center of the south elevation. A second exterior door is located on the south end of the west façade. The asphalt shingle roofs at the two bay windows on the south façade are in poor condition and will need to be replaced soon while the main roof looks to be in good condition. The wood clapboard shows some warping and bowing but are otherwise in decent condition. Entry to the interior is through a shallow vestibule that is not code compliant. The break room/janitor's closet in the northwest corner is overcrowded with exposed wiring dropping from the ACT ceiling where ceiling tiles are missing and exposing building insulation. Plan and file storage is inadequate and layout/meeting space is limited.

Gables and the front eave lines appear straight and the eave line appears level. The rear eave line is bowed outward. The ridgeline appears to be level. Rear shed rafters have a noticeable permanent center span deflection. The main rafters exhibit excessive deflection and are overstressed.

Systems Evaluation

The Planning and Zoning Building is heated with a Burnham standard efficiency propane fired boiler with one zone circulator pump with controlling night setback thermostat connected to fin tube radiation. There is no apparent mechanical ventilation. Outside air requirements are provided, or not, by opening windows, or relying on uncontrolled building outside air infiltration.

Electric heaters in the Annex provide domestic hot water. The single toilet is not ADA compliant. Toilet exhausts is required for code compliance in toilet rooms, and appear to be operable in the toilet rooms in the Annex.

The Library has a 200 amp, 120/240 volt, single phase service coming in overhead to a meter on the south end of the building and a relatively new main electrical panel in the utility room. The lighting consists primarily of fluorescent fixtures – most are 2'x4' 3 and 4 lamp recessed “troffers” which have older T12 lamps and magnetic ballasts. The Silent Knight main fire alarm control panel is located here in the Utility Room.

Parking

The existing parking is an asphaltic concrete area that is accessed directly off of Mast Road/NH Route 155 via a wide apron. There are four head-in parking spaces directly in front of the Town Hall Annex’s south façade with a striped area provided for access to the Annex’s main entrance. These spaces currently encroach on the highway right of way and can not be continued as the project gets implemented. The main lot consists of 20 head-in parking spaces access by a two-way travel lane running perpendicular to Mast Road/NH Route 155. Two of the 20 spaces are designated for handicapped use: a space at the southwest corner of the library building, and a space in front of the left-hand garage door of the Garage/Tramp Shed.

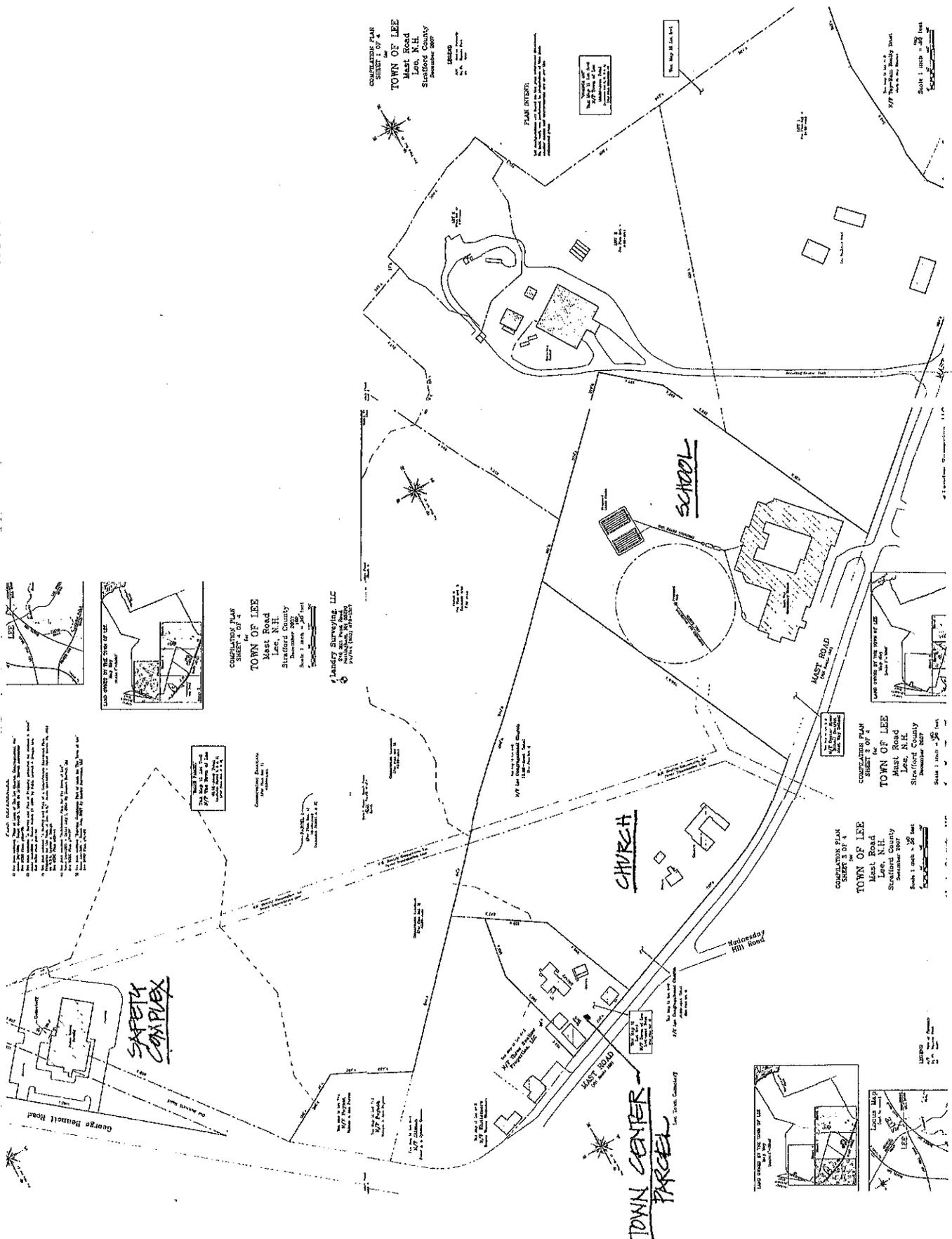
Utilities

Heating fuel for the four buildings on this site is propane, supplied from a common 1,000 gallon tank located behind the Town Hall Annex.

Also located behind the Town Hall Annex is a domestic water well head. The well water expansion tank appears to be located in the mechanical room of the Town Hall Annex, and distribution piping for domestic water to the other three buildings appears to originate in this same room as well.

There is a sump tank cover also located behind the Town Hall Annex. It is assumed that this houses a septic system pump that pumps sewage to a septic system settling tank and drainage field. Perhaps this can be confirmed with State approved septic system design plans that should be kept on file, if not in Lee, then at the New Hampshire DES Wastewater Engineering Bureau. There is anecdotal evidence that there may be more than one sanitary system. As the project moves forward there is a need to address a compliant system for the site.

There is single phase electrical power at 120/240 volts to each building. Electrical utility primary power comes from the south overhead on utility poles. The high voltage primary power stops at the pole to the south of the Town Hall with a pole mounted transformer that provides secondary, 120/240v single phase power to all five buildings. This is done with overhead secondary power and service laterals run to each building, with the exception of the Historical Society Building which is fed underground from the Library panel. The telephone and CATV cables come overhead from the south with the secondary power. Comcast is the TV cable provider. The nearest three phase primary utility power is five poles away to the north, about 1500 feet.



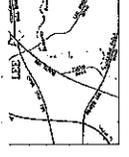
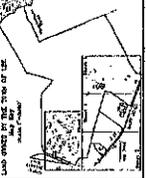
COMPLETION PLAN
SHEET 1 OF 4
TOWN OF LEE
Mast Road
Lee, N.H.
Strafford County
December 2007

COMPLETION PLAN
SHEET 2 OF 4
TOWN OF LEE
Mast Road
Lee, N.H.
Strafford County
December 2007

COMPLETION PLAN
SHEET 3 OF 4
TOWN OF LEE
Mast Road
Lee, N.H.
Strafford County
December 2007

COMPLETION PLAN
SHEET 4 OF 4
TOWN OF LEE
Mast Road
Lee, N.H.
Strafford County
December 2007

PLAN INFORMATION
This plan was prepared by the Town of Lee, N.H. and is subject to the approval of the Strafford County Planning Board. The plan shows the location of the proposed development and the boundaries of the property. The plan also shows the location of the existing buildings and the proposed new buildings. The plan is intended to provide information to the public and to the planning board. The plan is not intended to be used as a legal document. The plan is subject to change without notice. The plan is the property of the Town of Lee, N.H. and is not to be reproduced without the written consent of the Town of Lee, N.H.



TOWN CENTER SITE CONTEXT



Program

Bricker Parcel

Library

In 2006 the Library had a site visit and preliminary needs assessment developed by Patience Jackson, Library Consultant (see Appendix A). A page from that report summarizing space needs is attached. In addition, the Design Team used the guidelines from The Wisconsin Department of Public Instruction to develop a snapshot of space needs based on population projections from the NH Office of State Planning (see attached). Also, the Library Director, Lisa Morin, updated the collection projection by collection component. The overall collection numbers are not far off the Jackson numbers, but are redistributed by component, i.e. fewer volumes in Reference and more in Young Adult, reflecting current and projected trends. The projection for a 20 year horizon is approximately 38,000 volumes and approximately 54 patron seats.

As one comes to consensus around the number of volumes and patron seats, the primary variable in establishing program is the size and number of meeting, multi-use, and activity spaces of all sorts. From the outset, the new Library was thought to be a “Community Center”, which is a trend for new libraries in general. As we began to flush out what was meant by “Community Center”, many uses were identified, i.e. cultural center, a place for kids after school, a place a seniors, club and committee meetings, lectures, artist demonstrations, workshops, support of recreation programs, emergency shelter for up to 20 people, etc. It was agreed the school can continue to provide for voting and serve as a gym; the church can continue to support the programs they sponsor, and the Emergency Operations Center is best located with emergency services at the Safety Center.

The strategy was to identify those spaces the Library needed and which of those could serve others when not in library use and then identify what additional spaces might be required. The Library needed a story hour/craft space for up to 25 people that was acoustically separate from the library, but visually supervised by staff; had a sink for crafts, and had sufficient storage for supplies. This space could also be used by the community when not programmed for library functions. The Library also needed a Conference Room for staff meetings, trustee meetings, small group studies, etc., and could also house the NH Historical collection, which might require more security. A third small gathering space for up to 18 people called a reading room for book club, small group meetings, knitting group, etc. These last two are seen as available to the community while the Library is open (and, therefore supervised) when not programmed for library use. Occasionally the Library sponsors events of 100+/- people as well as events in the 50+/- people range. It was thought that these needs could be addressed by a multi-purpose community space that would have hours independent of the Library.

LEE PUBLIC LIBRARY
Program Summary Chart

LEE, NEW HAMPSHIRE
Estimated Space Needs
by Department

February, 2006
2005 population: 4,400
2025 population: 5,690

AREA	EST. NET SQ.FT.	VOLS	AV ITEMS	PERIOD- ICALS	PUBLIC COMPUTERS	READER SEATING TOTAL	TABLES FOR 4	LOUNGE SEATING	GROUP SEATING
Entrance & Lobby					1				
Circulation Desk	200								
Photocopier	30								
New Bks & Media	600	300	2,500						
Adult Fiction & Large Print	1,400	14,000							
Adult Nonfiction	1,000	10,000							
Reference Area	980	1,000			8	12	4		
Adult Seating	220					8	1	4	
Current Periodicals	200			50		4		4	
Adult Total	4,630	25,300	2,500	50	9	24	5	8	
Young Adults	300	1,000		5		6	1	2	
Children's Room									
Staff & Common Area	400	100	1,200	6					
Parenting	110	200				3			
Toddlers	650	5,000				8	2	2	
Youth Services	950	7,000				12	3	1	
Children's Storage	200				4				
Children's Total	2,310	12,300	1,200	6	4	23	5	3	
Multipurpose Rm	1,200								100
General Storage	150								
Local Hist/Conf	250	200							8
Director's Office	150								
Library Workroom	300								
Systems Rm	75								
Staff Room	150								
TOTALS	9,515	38,800	3,700	61	13	53	11	13	
TOTAL NET SQUARE FEET *			9,515						
25% NET FACTOR *			2,379	ESTIMATED	RANGE:				
30% NET FACTOR *			2,855	GRAND TOTAL		11,894	TO	12,370	GROSS SQUARE FEET

*See appendix for explanation of net vs. gross square feet and net-to-gross ratios

Appendix D:
Space Needs Worksheet

NOTE: An Excel workbook based on this worksheet can be downloaded from the Division's web site.

TOWN OF LEE, NH.

9.21.09.

Design population

- | | | |
|---|--|--------------|
| a. Current population of the municipality / primary service area: | | <u>5510.</u> |
| b. Projected population of the municipality / primary service area: | | <u>551</u> |
| c. Estimate of nonresident service population @ 10% | | <u>6061.</u> |
| d. Design population (b+c) | | |

Step 1: Collection space

- | | | | |
|------------|-----------------------------|---|--------------------|
| @ 1000/sq. | a. Books | <u>30800</u> volumes ÷ 10 | <u>3080</u> sq.ft. |
| | b. Periodical (display) | <u>61</u> titles ÷ 1 | <u>61</u> sq.ft. |
| | c. Periodical (back issues) | <u>10</u> titles x 0.50 x <u>2</u> yrs retained | <u>10</u> sq.ft. |
| | d. Nonprint | <u>3700</u> items ÷ 10 | <u>370</u> sq.ft. |
| | e. Digital resources | <u>15</u> terminals x 50 | <u>650</u> sq.ft. |
| | f. Total (a+b+c+d+e) | | <u>5171</u> sq.ft. |

Step 2: Reader seating space

- | | | |
|--------|-------------------------|--------------------|
| 9/1000 | a. <u>54</u> seats x 30 | <u>1620</u> sq.ft. |
|--------|-------------------------|--------------------|

Step 3: Staff work space

- | | | |
|---|--------------------|-----|
| a. <u>9</u> stations x 150 (list specific work stations on reverse) | <u>1350</u> sq.ft. | A50 |
| <u>3</u> REQ IN SPECIAL USE | | |

Step 4: Meeting room space

- | | | |
|--------------------------|--|-------------------------|
| a. General meeting space | <u>75</u> seats x 10 (plus 100 sq.ft. for speaker) | <u>850</u> sq.ft. |
| b. Conference room space | <u>15</u> seats x 25 | <u>375</u> sq.ft. |
| c. Storytime space | <u>25</u> seats x 10 (plus 50 sq.ft. for speaker) | <u>300</u> sq.ft. |
| d. Total (a+b+c) | <u>DOUBLE IN MULTI.</u> | <u>1525</u> sq.ft. 1225 |

Step 5: Special use space

a. Collection space (from 1.f)	<u>5171</u> sq.ft.	5171
Reader seating space (from 2.a)	<u>1620</u> sq.ft.	1620
Staff work space (from 3.a)	<u>1350</u> sq.ft.	450
Meeting room space (from 4.d)	<u>1525</u> sq.ft.	<u>1225</u>
b. SUBTOTAL 1	<u>9666</u> sq.ft.	<u>8466</u>
c. Divide Subtotal 1 by 6 (for a minimum allocation), by 5 (for a moderate allocation), or by 4 (for an optimum allocation)		<u>1932.</u> sq.ft. @ 6 1411

Step 6: Nonassignable space

a. Subtotal 1 (from 5.b)	<u>9666</u> sq.ft.	8466
Special use space (from 5.c) <u>1932</u> sq.ft.		<u>1411</u>
b. SUBTOTAL 2	<u>11598</u> sq.ft.	<u>9877</u>
c. Divide Subtotal 2 by 4 (for a minimum allocation, or by 3 (for an optimum allocation)		<u>2900</u> sq.ft. 2469

Step 7: Putting it all together

a. Collection space (from 1.f)	<u>5171</u> sq.ft.	5171
b. Reader seating space (from 2.a)	<u>1620</u> sq.ft.	1620
c. Staff work space (from 3.a)	<u>1350</u> sq.ft.	450
d. Meeting room space (from 4.d)	<u>1525</u> sq.ft.	<u>1225</u>
e. Special use space (from 5.c) <u>1932</u> sq.ft.		<u>1411</u>
f. Nonassignable space (from 6.c)	<u>2900</u> sq.ft.	<u>2469</u>
g. GROSS AREA NEEDED (a+b+c+d+e+f)	<u>14998</u> sq.ft.	<u>12,346.</u>

2.0 SF/CAP

Staff work stations

List here the staff work stations tallied and reported in Step 3:

<u>DIRECTOR</u>	<u>1</u>	
<u>CHILDREN'S</u>	<u>1</u>	
<u>REP</u>	<u>1</u>	
<u>CHARGE</u>	<u>2</u>	
<u>WORKER</u>	<u>4</u>	
	<u>9</u>	<u>3.</u>

UG
AVG
1.2 → 3.
NE AVG = 1.0

Notes:

Lee Public Library Growth Projections

Collection Area		Current Collection Size in volumes	Current % of Collection	Projected Collection Size in volumes	% Projected Growth
Adult Fiction	General	3907	15.10%	7000	79.17%
	Mystery	1502	5.80%	3500	133.02%
	Sci Fi	239	0.90%	750	213.81%
	Fantasy	580	2.20%	1000	72.41%
	Large Print	249	1.00%	500	100.80%
	Total		6477		12750
Adult Nonfiction	General	3,833	14.80%	7000	82.62%
	Oversize	66	0.30%	100	51.52%
	Biography	282	1.10%	750	165.96%
Total		4,181		7850	
DVD/Video	Adult	380	1.40%	700	84.21%
	Youth	371	1.40%	500	34.77%
Total		751		1200	
Adult Periodicals		62 titles	5.50%	62 titles	0.00%
Adult Audios		780	3.00%	1200	53.85%
Adult Paperbacks		465	1.80%	497	6.88%
Reference		295	1.10%	300	1.69%
NH Collection		334	1.30%	359	7.49%
Total				2356	
Young Adult	Fiction	1263	4.90%	1353	7.13%
	Nonfiction	468	1.80%	600	28.21%
	Audio	57	0.22%	100	75.44%
	Periodicals	6 titles	0.49%	6 titles	0.00%
Total				2053	
Youth Collection	Board Books	53	0.20%	150	183.02%
	Picture Books	2851	11.00%	3500	22.76%
	Early Readers	700	2.70%	1000	42.86%
	Fiction (age 8-12)	2377	9.20%	3000	26.21%
	Nonfiction (age 8-12)	2397	9.20%	3000	25.16%
	Oversize (ages 8-12)	59	0.22%	100	69.49%
	Periodicals	8 titles	1.21%	8 titles	0.00%
	Audiobooks	232	0.90%	500	115.52%
	Kits	4	0.00%	4	0.00%
	Homeschooling	45	0.17%	50	11.11%
Parenting	131	0.50%	200	52.67%	
Total				11504	
Staff	Professional/Planning	106	0.40%	110	3.77%
Total Volumes				37823	

Bricker Parcel

Community/Cultural Center

In addition to the functions identified above, the Community Center wants to be able to serve as an emergency shelter which requires a kitchen, showers, toilet rooms, storage for cots, etc. The kitchen can also support other activities, i.e. senior center, refreshment support at presentations, workshops, meetings, etc. A large space needed to provide that 100+ crowd maximizes its flexibility if it can be appropriately divided to create two smaller spaces where smaller programs can go on simultaneously. This may be the majority of the time in Lee. Additional activities that could be developed on the site could include such things as community gardens, pavilions for artist workshops, community fairs, etc.

Bricker Parcel

Recreation

In attempting to flush out the perceived program requirements for the Recreation Commission and clarify the relationship between the Library/Community Center and Little River Park, the recreation Commission provided a preliminary program outline (see attached). In thinking about recreation across the larger site, a concept emerged where it was more passive recreation at the Library site and transition to more active with the ballfields, soccer, etc., back to passive along the river. Passive in this context could include board games, crafts, yoga, etc., to walking, transitioning to a workout course, performances, to fully active baseball, soccer, playground, etc., back to walking, observing, etc.

Certain activities become more appropriate in one place than another. Given the scale of the site, it was agreed that toilet rooms would have to be provided near the active part of the site; thus the concept of a pavilion that could serve as a concession stand, toilet rooms, storage, picnic shelter, etc. Grounds maintenance equipment and supplies need to be readily available to the active recreation fields, etc. Functions that might be part of a community center at the library include recreation office, after school activities, teen center, crafts, etc., snacks, and patio for good weather passive activities.

On Oct 9, 2009, at 10:51 AM, Meadowwind wrote:

Please forward the Lee Recreation Commission specs for space needs to Dennis Mires.

1. A 10' by 12' office for file cabinets for records (warranties, equipment manuals, meeting minutes, etc.) and eventually a part-time recreation coordinator (long-rang plan)
2. A closet/storage room for games, face paints, supplies for the egg hunt and fishing derby, indoor recreation equipment, etc. (6x10 min.)
3. A large open multi-purpose area in these designs that can be used for all indoor recreation events. This would NOT be just for recreation use but a community room that recreation could occasionally use
4. Field maintenance equipment storage will require a 12' by 24' space (one garage bay). This should be adequate space for field maintenance equipment (mowers, field lining equipment)and can probably house any larger athletic equipment for the interim period.
5. Long-range and additional 12' by 24' space will be needed when the park is finished for athletic equipment.

The Recreation Commission feels strongly that we do not want buildings dotting the landscape all over the park. They should aesthetically be housed into the larger buildings, if possible, or hidden into the banking of the surrounding slopes. We want to keep the park looking as natural as possible.

PROGRAM

TOWN CENTER PARCEL

Site

The strategy for the Town Center Parcel is to make it greener and more inviting to visitor and residents alike. With this goal in mind the parking's visual impact from Mast Road was minimized by rotating the parking field ninety degrees and hiding some of the parking behind the Town Hall Annex and reducing the access from Mast Road to the parking lot to a single lane one-way entry to the east of Old Town Hall and a single lane one-way exit to the east of the Town Hall Annex. A Town green was envisioned between the parking lot and Mast Road with a flagpole and/or memorial surrounded by trees along a visual axis from the Old Library's original entrance. Care was taken to minimize the hardscape and maximize the number of existing trees kept.

Buildings

With the construction of the new Library and Community Center on the Bricker Parcel, there is an opportunity to reclaim the former Library Building and incorporate it as part of the Town of Lee Offices. This will allow the Town Offices the space that they need to function properly now as well as providing for the future growth of Lee.

New Town Hall

The former Library is ideally situated to serve as the New Town Hall due to its prime location within the building complex and its large open interior spaces. The offices currently occupying the existing Town Hall will be relocated to the Old Library including the Town Administrator, Secretary, Bookkeeper, Treasurer, Assessor, General Assistance, the Supervisor of the Checklist, Town Clerk/Tax Collector's office, and all their files. The basement spaces will house Town Office storage, mechanical space, and the Assessor's files.

Old Town Hall

The original part of Old Town Hall will revert to what it was originally meant to be: a meeting hall. The first floor will have chair seating for up to sixty people, space provided for displaying artifacts from the Town's history along the walls, and storage for chairs and television equipment used for broadcasting public meetings. The second floor of this space will be for storage for the Town Offices. The addition to the Old Town Hall will house a small conference room, the Conservation Office, and two ADA compliant bathrooms while the second floor of the addition will stay much the same.

Garage/Tramp House

The Garage/Tramp House will remain a multi-functional space with the possibility of housing town equipment, providing temporary workshop space for Town projects, housing larger historic artifacts, temporary vault storage for historic documents, and serving as additional museum space.

Historical Society Building

The Historical Society Building will continue much as it is now with some of the artifacts relocated to the Old Town Hall or the Tramp House.

Town Hall Annex

The Town Hall Annex will continue to house the Planning Department including the Planning/Code Inspector's Office, the Planning/Code Assistant, a conference room, and Planning Department File Storage and File Room.

See attached for a program summary chart for the Town Hall Parcel.

Parking

The strategy for the parking was to provide adequate parking for the Town Offices during normal business hours and for smaller meetings to be held in the Old Town Hall after business hours. The parking's visual impact from Mast Road was minimized by rotating the parking field ninety degrees and hiding some of the parking behind the Town Hall Annex and reducing the access from Mast Road to the parking lot to a single lane one-way entry to the east of Old town Hall and a single lane one-way exit to the east of the Town Hall Annex. The configuration also leaves open the possibility of coordinating with future Church plan to provide additional parking; improved circulation or both.

Utilities

The strategy for the utilities is to provide a centralized point of distribution that would take advantage of the close proximity of the four building and also eliminate duplicate systems that currently exist for each building. In addition, an interest in exploring alternative sources of energy such as biomass (wood chips or pellets) or geothermal would lend itself to a district style heating plant with underground distribution of heating water, and heating and cooling water if geothermal systems are installed. For sanitary systems, a centralized septic with a leach field would be a replacement for the individual septic tanks that currently serve the Town Hall, Library, and Town Hall Annex.

With the ultimate decision on utility systems being made closer to implementation when the technology and associated costs may be more meaningfully evaluated, the final location of septic system and well will also remain open. One possibility may be to provide the septic system on site with the well off site on Town owned land behind the Church. This may also be an issue to explore with the Church as their plans develop and the town gets closer to implementation.



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**PROPOSED PROGRAM
PROJECT: LEE TOWN CENTER**

LIBRARY

USE TYPE	DESIGNATION	PROPOSED AREA (SF)	COMMENT
MAINTENANCE	JANITOR CLOSET		AT TOP OF EXISTING STAIRS
VESTIBULE	FRONT VESTIBULE	40	
CIRCULATION	MAIN LOBBY	87	
CIRCULATION	RECEPTION	89	INCLUDED IN THE MAIN LOBBY/RECEPTION AREA
PUBLIC	PUBLIC ACCESS/INFORMATION		
CIRCULATION	CORRIDORS	592	
TOILET	ADA MEN	61	
TOILET	ADA WOMEN	63	
ELECTRICAL	TELEPHONE/ELECTRICAL ROOM		IN LIBRARY BASEMENT
FIRE ALARM	FIRE ALARM CLOSET		IN LIBRARY BASEMENT
MECHANICAL	MECHANICAL ROOM		IN LIBRARY BASEMENT
OFFICE	TOWN ADMINISTRATOR	197	
OFFICE	CONFERENCE ROOM	133	
OFFICE	SECRETARY (SHARED)	132	
OFFICE	BOOKKEEPER	189	
OFFICE	TREASURER		
OFFICE	ASSESSOR	223	
OFFICE	ASSESSOR FILES		IN LIBRARY BASEMENT
OFFICE	COPY/MAIL ROOM	56	
OFFICE	IT NETWORK SERVER ROOM		IN PUBLIC SAFETY BUILDING (?)
OFFICE	GENERAL ASSISTANCE - WELFARE	134	
OFFICE	EMPLOYEE BREAK ROOM	98	
OFFICE	SUPERVISOR OF THE CHECKLIST		
CIRCULATION	RECEPTION AREA (TOWN CLERK)		INCLUDED AS PART OF CIRCULATION
CIRCULATION	WAITING/LINE CUE		INCLUDED AS PART OF CIRCULATION
OFFICE	TOWN CLERK/TAX COLLECTOR	467	
OFFICE	TOWN CLERK STORAGE		
OFFICE	VITAL RECORDS	61	
OFFICE	TOWN CLERK OFFICE	119	

OLD TOWN HALL

USE TYPE	DESIGNATION	PROPOSED AREA (SF)	COMMENT
VESTIBULE	FRONT VESTIBULE	42	
CIRCULATION	CORRIDORS	108	
PUBLIC	TOWN HALL WITH TV STORAGE	991	
STORAGE	STORAGE	130	FOR GENERAL AND TV STORAGE
OFFICE	CONFERENCE ROOM	184	
OFFICE	CONSERVATION OFFICE	115	
TOILET	HANDICAPPED TOILET	45	
TOILET	TOILET/STORAGE	46	
STORAGE	STORAGE	756	SECOND FLOOR
HVAC	MECHANICAL ROOM	196	EXISTING, SECOND FLOOR
STORAGE	STORAGE	196	EXISTING, SECOND FLOOR
CIRCULATION	HALL	93	EXISTING, SECOND FLOOR

TOWN HALL ANNEX

USE TYPE	DESIGNATION	PROPOSED AREA (SF)	COMMENT
CIRCULATION	RECEPTION AREA (PLANNING DEPT)	86	
OFFICE	PLANNING/CODE INSPECTOR OFFICE	203	
OFFICE	PLANNING/CODE ASSISTANT	171	
OFFICE	CONFERENCE ROOM	166	
OFFICE	PLANNING DEPARTMENT FILE ROOM	319	
STORAGE	PANNING DEPT/STORAGE	76	
TOILET	ADA TOILET	49	
HVAC	FURNACE	36	
MAINTENANCE	JANITOR	25	

GROSS BUILDING AREAS

BUILDING	FLOOR	AREA	TOTAL AREA
LIBRARY	FIRST FLOOR	3,030	4,892
LIBRARY	BASEMENT	1,862	
TOWN HALL	FIRST FLOOR	1,929	3,339
TOWN HALL	SECOND FLOOR	1,410	
ANNEX			1,111
GARAGE			980
TOTAL			10,322

PARKING

USE	RATIO	AREA/ SEATS	REQ. PARKING
PROFESSIONAL OFFICES	1 PER 350 SQ. FT. GROSS FLOOR AREA	3,968	11
ASSEMBLY	1 PER 4 SEATS OR 40 SQ. FT. GROSS FLOOR AREA USED FOR ASSEMBLY; WHICHEVER IS GREATER	991	25
STORAGE/MECHANICAL	1 PER 400 SQ. FT. GROSS FLOOR AREA	3,201	8
TOTAL			44

Proposal

Bricker Parcel

Site (see attached site plan)

Access

Site access is provided from Route 155 where the grades are most compatible. We anticipate a deceleration lane to the north and an acceleration lane to the south. Tree trimming will likely be required to achieve site lines. The two way drive leads to a Phase I parking lot of approximately 40 cars (300+/-sf/car) in front of the building. The dashed area on the plan represents another 40 car parking lot for future expansion based on the needs of the Community Center and/or future expansion.

Building Location

The building is located so the reading areas and people spaces are on the daylight side of the building. The fixed, more expensive elements such as toilet rooms, elevator, stairs are on the north side of the building. This maximizes the ways the collection and people spaces may be expanded. With that concept, the long axis of the building is in the east west direction maximizing the useful daylight opportunities. The location of that shape is set so there is future expansion capability on the high 'flat' part of the site before falling over the slope toward recreation. The site plan reflects cutting a number of the tall white pines to provide solar access while retaining many of these trees down the slope, which do not impact solar access, but help give a sense of place and modulates the scale to the wide open scale of Little River Park. The intent is to use the white pine resource in the building, i.e., wainscoting, certain flooring, furniture, etc.

The concept provides for a hard surface outdoor space adjacent to the Community Room to be used for all kinds of activities in good weather that could be sponsored by the Library or the Community Center/Recreation Dept. It is connected to the accessible path that leads to Little River Park. We show a potential location for the relocated Historic Association building should that ever become a program requirement. It reflects the concept that off the west side of the building and the Community Room that other compatible community activities could develop, i.e. community gardens/market; craft/artist workshops, and/or cultural/passive recreation activities.

Utilities

Electric:

We anticipate bringing three phase power to the site (approximately 3,000feet) overhead to pole mounted transformer at our site and feed the building underground from there. The main electric services will be in the area labeled mechanical, electric, sprinkler in the basement. There will be an emergency generator that will be sized as a minimum to support, the sprinkler system, the emergency shelter component of the building, and the emergency lighting requirements.

Another potential source of electricity is the use of photovoltaic panels that could be mounted on the south facing roof slope of the building. They continue to be fairly expensive and being a public entity, the Town cannot take advantage of the available tax incentives. A recent model that may be worth exploring is a service contract/power purchase agreement whereby the Town buys its power at an agreed upon rate from an entity that provides, installs and maintains the array over a performance period, at the end of which the Town owns the system. One New Hampshire example is the installation at Exeter High School by Revolution Energy, out of Rochester, New Hampshire.

- Water:** The domestic water requirements for a Library including the proposed Community Center is relatively low. There is no municipal water system so water needs to be provided by a well. Conceptually our recommendation is to use the well at Little River Park. A single water system is less maintenance, less operating cost, and the difference in grade is not an issue. It also requires only one protective radius as we address the septic systems for each site. When we evaluate final design and identify the needs of the Park, we can evaluate the well's ability to satisfy those requirements. With the one system, we can still separately meter the consumption on each site in order to proactively manage the resource.
- Sanitary Sewer:** There being no municipal sanitary sewer, we anticipate a septic tank and leach field system. At this time, based on soil type, we expect gravity fed inground system of less than 700 gpd, which under the State criteria, is the smallest area of influence. We expect it to be located on the north side of the building out of the way of future building expansion. To serve the basement, we expect a pump to lift it to the gravity sewer of the building.
- Storm Water:** Based on the soil maps, we envision a general storm water concept of pretreatment and infiltration. We would also evaluate the viability of a rainwater harvesting system. The non-potable water demand within the building is very low and initially does not look very viable. A more viable potential may be irrigation. We would generally specify native plant materials requiring little irrigation, but the irrigation potential may be evaluated in concert with the Little River Park.
- Sprinkler System:** With the area of the building, its potential for growth, and the basement, a sprinkler system is required. That necessitates a minimum underground 30,000 gal. cistern for flow, pump for pressure, and generator for emergency power. Emergency power would be supplied by the generator identified under 'electric'. We anticipate the cistern would be located on the north side of the building to facilitate filling, access for fire apparatus, access for maintenance, and out of the way for future building expansion. This system would supply the sprinkler room through the basement room "mechanical/electric/sprinkler".

Building (see attached floor plans, elevations)

The current plan was developed through several iterations with comments from library staff and trustees and the Town Center Committee. The description below highlights some of the important features to be considered as the plan is refined in final design.

One enters the building under an appropriately scaled canopy that announces the entry to this civic building. It sheds the water from the path and shelters the front doors, book drop, bike rack, etc. The vestibule is long enough to provide adequate air lock while providing wall space for public notices, displays, etc. The inner glass doors of the vestibule are the functional doors to the library and allow the library to be locked when the Community Room may be open. The toilet room, elevator and Recreation Director are on the corridor leading to the Community Room. The 40' x 40' Community Room can be subdivided in half to provide more spaces for smaller groups. It is supported with storage spaces, a kitchen, and showers to maximize its potential use by the community and be able to serve as a shelter for Town residents without other options in emergency situations. The arrangement also allows the community to use a third activity space that is the craft/story room when not in use by the library. A stair connecting to the basement also has access to the outside which allows direct access to the basement for programs without traversing the rest of the facility.

The charge desk is located at the front entry to control the comings and goings of materials, as well as knowing the comings and goings of the people. It is also located to provide visual supervision of the majority of the library including site lines to the children's desk. With minor 'walk-around' near the charge desk, the staff can see through most all of the stacks. The staff work room, break room and Director's office back up the desk and can see if assistance is required. The desk can also monitor the entries to the conference and quiet study rooms that can also be reserved for community use when the library is open. The location of the desk also allows staff to assist patrons with OPAC use, as well as online computers in the reference area.

The children's area has a toilet room adjacent to the craft/story space and the collection of the youngest users and their parents. The craft/story space has glass for nominal supervision, sink and storage for crafts and activities of all types. It can also be secured from the library and opened to the community space after hours. The west wall of the children's area has built-in window seats and storage for the materials to support children's activities.

The Young Adult area has a sense of their own space while being visually supervised from the desk and the comings and goings to Director, the conference and quiet study areas.

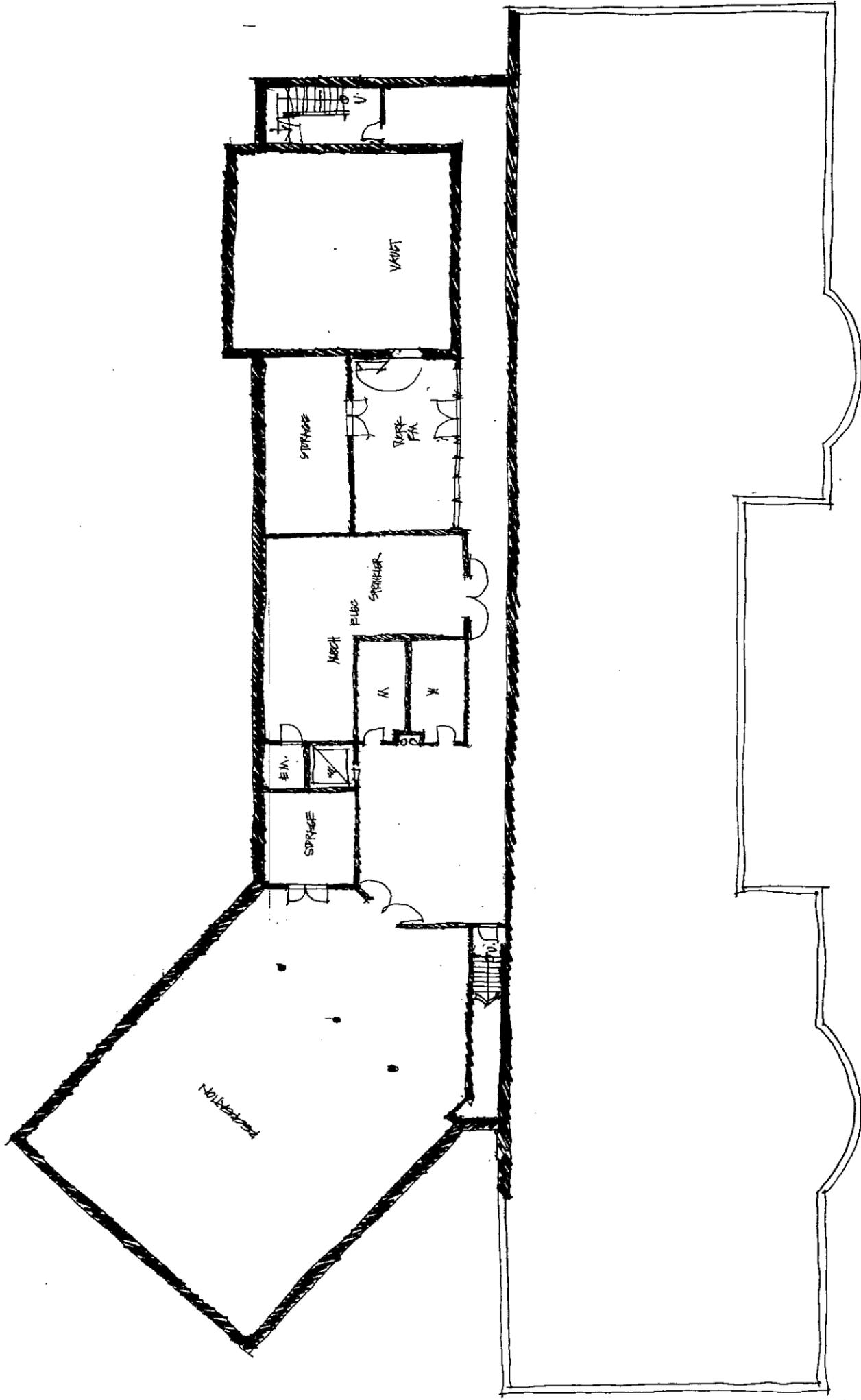
Patron spaces in general are located toward the windows for natural light and views. The porch is on the sunny side of the building accessible from both children and adult reading areas. It can be secured with a high handsome fence or screened at the column line.

The exterior form uses gable and hipped roof forms to recall the buildings of the Town Center and break up the scale of the building. The materials include brick, clapboard and shingle siding, and asphalt shingle roofing similar to those used in the Town Center.

The goal of the construction is to minimize the carbon footprint of this effort in as sustainable way as possible. The high performance envelope will pay attention to the detailing of a continuous air/vapor barrier with appropriate insulation generating an R30-36 wall. Roof insulation is anticipated at the bottom chord of the trusses for approximately R60. Operable windows with insulated glass will use coatings, tints, frits and sunshades to maximize daylighting, while managing heat loss and solar gain. Building materials and furniture will strive to contain no VOCs, maximize recycled content and be recyclable. They will attempt to be locally sourced. All plumbing appurtenances will use low flow fixtures.

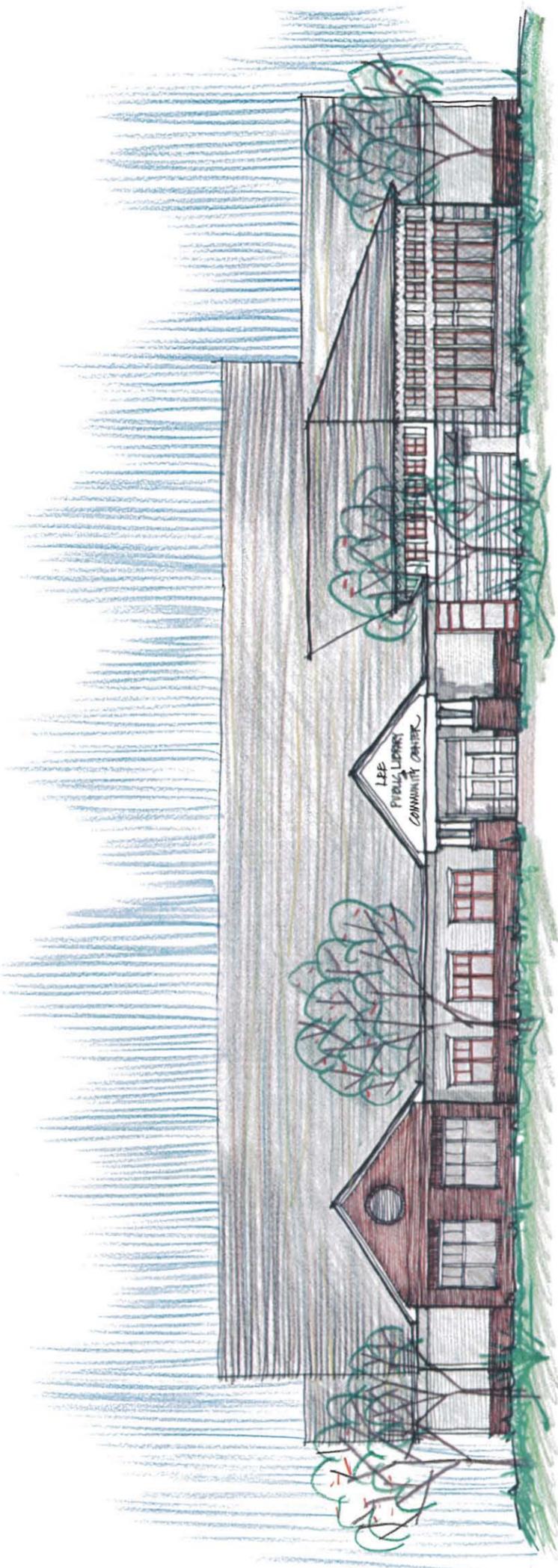
Currently we are anticipating a closed loop geothermal source for the HVAC system using water source heat pumps for distribution. All pumps, motors, etc., will be variable speed drives to only use the energy needed based on demand. Energy recovery ventilators are expected to provide the mechanical ventilation while recapturing the heat. Since we have a 30,000 gal. cistern for firefighting emergency use, we will explore its potential as a heat sink to store excess energy generated by the solar collectors. Solar collectors will also be used for heating water for domestic use.

The electrical system will use energy efficient, rebateable light fixtures, multiple switching, daylight sensors, and occupancy sensors as appropriate to use energy when and where needed.



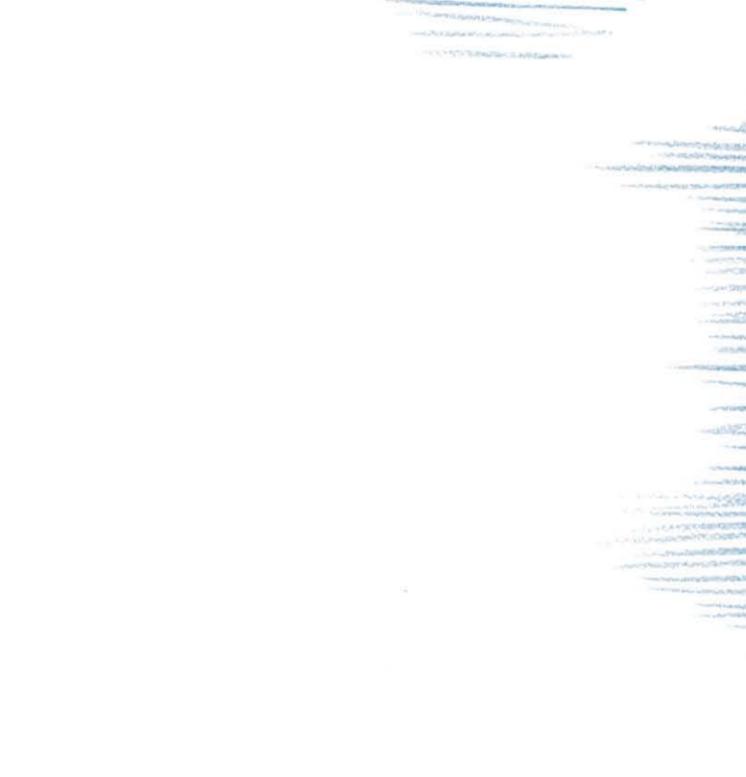
↑ N
 BASEMENT
 12.12.09
 12.15.09
 12.18.09
 12.18.09

LIBRARY NH
 LEE, DENNIS MIRBS, P.A.
 T&K ARCHITECTS
 1000 W. 10th Street
 New York, NY 10011-1001



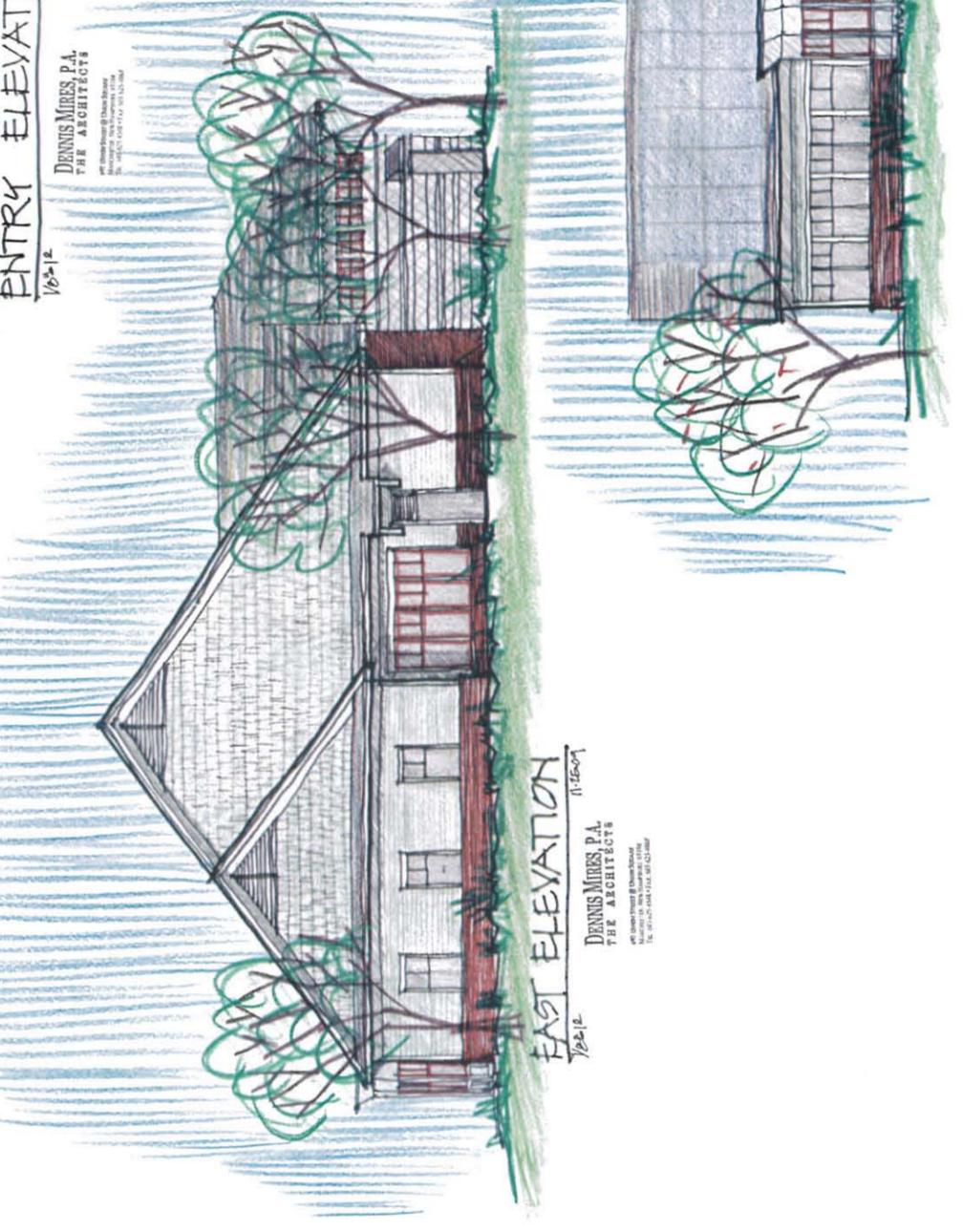
ENTRY ELEVATION
1/2" = 1' 11-15-01

DENNIS MIRES, P.A.
THE ARCHITECTS
1000 W. 10TH STREET
ANN ARBOR, MI 48106
TEL: 734.769.1100 FAX: 734.769.1101



EAST ELEVATION
1/2" = 1' 11-15-01

DENNIS MIRES, P.A.
THE ARCHITECTS
1000 W. 10TH STREET
ANN ARBOR, MI 48106
TEL: 734.769.1100 FAX: 734.769.1101



REAR ELEVATION
1/2" = 1' 11-15-01

DENNIS MIRES, P.A.
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1000 W. 10TH STREET
ANN ARBOR, MI 48106
TEL: 734.769.1100 FAX: 734.769.1101

PROPOSAL

TOWN CENTER PARCEL

Site

The proposal for the Town Center Parcel is to make it greener and more inviting to visitor and residents alike. With this goal in mind the parking's visual impact from Mast Road was minimized by rotating the parking field ninety degrees and hiding some of the parking behind the Town Hall Annex and reducing the access from Mast Road to the parking lot to a single lane one-way entry to the east of Old town Hall and a single lane one-way exit to the east of the Town Hall Annex. A Town green was envisioned between the parking lot and Mast Road with a flagpole and/or memorial surrounded by trees along a visual axis from the Old Library's original entrance. Care was taken to minimize the hardscape and maximize the number of existing trees kept.

Buildings

New Town Hall

The proposed New Town Hall's exterior will remain mostly as it appears now with the exception of the addition of an exterior vestibule at the main entrance of the 1984 addition, and removal of the existing stair and ramp to this entrance and regrading of the site to provide for a sloped walkway up to the new vestibule. The interior of the Library requires minimal reconfiguration due to its open nature. The Town Clerk/Tax Collector, the Town Clerk's Office, Town Clerk's Storage, Vital Records Vault, Main Lobby, and Public Access will occupy the first floor of the original Library Building with the Assessors Files and mechanical space will be located in the original Library's basement. The Town Administrator, Secretary, and Bookkeeper will have their offices on the first floor of the 1996 addition with additional storage space in the basement of this addition. The Treasurer, Assessor, General Assistance offices will occupy the first floor of the 1984 addition and the 1972 addition will have the Conference Room, Break Room, Copy/Mail Room, and accessible toilets. The primary entrances to the building will be through the south entrances of the original Library building and through a new internal vestibule or up a sloped walkway and through an external vestibule to the south entrance of the 1984 addition.

Old Town Hall

The proposed Old Town Hall will remain mostly as it appears now except for the removal of the exterior vestibule and regrading the site at the south elevation to allow for on-grade access. The first floor of the original Town Hall will have chair seating for up to sixty people, new cabinet space for displaying artifacts from the Town's history along the walls and under the windowsills, the original stage will be lowered and extended and will have handicapped access, new storage for chairs and television equipment will be located in the southwest corner, and a new code compliant stair to the second floor will be provided in the southeast corner. The second floor of the original Town Hall will be for storage for the Town Offices. The addition to the Old Town Hall will house a small conference room, the Conservation Office, and two ADA compliant bathrooms while the second floor of the addition will stay the same as it is currently.

Garage/Tramp House

The proposed Garage/Tramp House exterior will remain as it currently appears except for cosmetic updates like a new coat of paint. A new concrete slab will be added to replace the dirt floor.

Historical Society

The Historical Society Building will continue much as it is now with some of the artifacts relocated to the Old Town Hall or the Tramp House.

Town Hall Annex

The Town Hall Annex exterior will remain as it currently appears. The interior layout will be revised to provide a code compliant Reception vestibule space, a central conference room, office for the Planning/Code Inspector and Planning Code Assistant, Planning Storage, a Planning File Room, an ADA compliant uni-sex toilet, and closets for janitor and mechanical.

See attached for proposed plans for the Old Town Hall, Garage/Tramp House, New Town Hall, and Town Hall Annex.

Parking

The proposed parking will consist of 20 head-in parking spaces including 3 handicapped spaces. Access to the parking is from Mast Road via a single lane one-way entry to the east of Old town Hall and a single lane one-way exit to the east of the Town Hall Annex. Striped crosswalks are provided where the entry and exit lanes cross the public sidewalks, from the green to the New Town Hall, and from the green to the Old Town Hall. This plan removes the existing head-in spaces at the south façade of the Town Hall Annex, which are in violation of DOT standards.

Utilities

Heating

If the Town decides to continue with the traditional propane fired heat systems they currently use, they should consider upgrading them to higher efficiency condensing type furnaces and boilers. These existing systems have a normal life expectancy of 15 years for the furnaces, and 20 years for the boilers. The Historical Building unit is relatively new and would be the last unit I would recommend replacing.

If a centralized biomass heating plant is used, the existing systems, except for the Historical Building unit, can be retrofit to accommodate the new centrally produced hot water energy. The baseboard systems would remain essentially as they are, and the furnaces could have duct mounted hot water coils. In the case of the Library, that would allow for separate control of the lower level Reading Room, which is currently controlled by the heating thermostat located upstairs. The Historical Building would need a cabinet hot water unit heater to replace the through the wall furnace.

If a centralized geothermal system is used, more extensive changes will be required for the Town Offices and Planning and Zoning Building as the existing hot water baseboard would not be sufficient to heat the buildings with the lower temperature water that a geothermal system produces. New radiant floor heating systems may be a good option, though more problematic in the Planning and Zoning Building with its concrete slab floor.

Air Conditioning

The existing Library packaged air conditioning unit appears to be relatively old. If it fails, or requires significant service, and new higher efficiency unit should be installed. Rebates are available from the electric utilities for higher efficiency air conditioning unit.

The through the wall units are hard to beat for inexpensive air conditioning for short periods of the year. If more permanent air conditioning systems are desired, ones that do not need to be taken in and out of windows every season, either for aesthetic or efficiency reasons, ductless split systems are available with higher efficiency ratings that are also eligible for utility company rebates.

Exhaust and Ventilation

With the current building envelopes in these four buildings, there is probably sufficient uncontrolled infiltration to provide sufficient minimum required amounts outside air for the occupants. If however the building envelopes are tightened as a part of energy saving measures, as they should be, the amount of infiltration would hopefully be reduced so that mechanically provided outside air would be required for a healthful inside environment. Outside air can be provide with energy recovery ventilators, or, in the case of the Library that has ducted heating systems, with direct connections from the return air ductwork system to the outside with motor operated dampers that open and close in response to carbon dioxide levels within the occupied spaces.

Plumbing

If high efficiency boilers are used to replace the existing boilers in the Town Offices and Planning and Zoning Building, indirect fired water storage tanks could be used to replace the existing standard efficiency propane and electric water heaters in these buildings. High efficiency propane fired domestic water heaters are available to replace the electric water heater in the Library. However, due to the limited usage of domestic hot water in all these facilities, significant expenditure on new domestic water heating systems would have a relatively long economic payback.

Instantaneous electric water heaters are also a good consideration to standard electric water heater storage tanks, as they have no standby losses. These should only be considered when the current systems fail.

New ADA accessible plumbing fixtures should be included as a part of new additions and renovations.

Electrical

These are old, historic buildings that have been renovated and fitted out with electrical power, lights, exit and emergency lights and fire alarm systems to serve as office space, Library and other spaces for Town operations.

There are some limits to what can be done with these buildings electrically. Currently, there is no three phase electrical service easily available and it could cost tens of thousands of dollars to get it to the site. This means that there are very limited options for elevators and larger HVAC systems with only single-phase power available.

If these buildings are to remain in use, the lighting in the buildings could and should be upgraded and improved. The use of more modern, linear indirect/direct fixtures in some of the spaces, like the Town Hall main floor, with the new T8 “High Performance” lamps and electronic ballasts would save operating costs while providing much improved lighting quality.

If these buildings remain in use, it would be worth considering “cleaning up” the electrical and telephone site services to the buildings by putting these services underground to the buildings, and a permanent emergency generator system to power all or some of the buildings automatically.

Other than that, there are no major problems or hazards, and the Life Safety systems that have been added (fire alarm, exit and emergency lighting) are essentially code compliant.

BUDGET

TOWN CENTER PARCEL

See attached Preliminary Budget Estimate and Phasing.



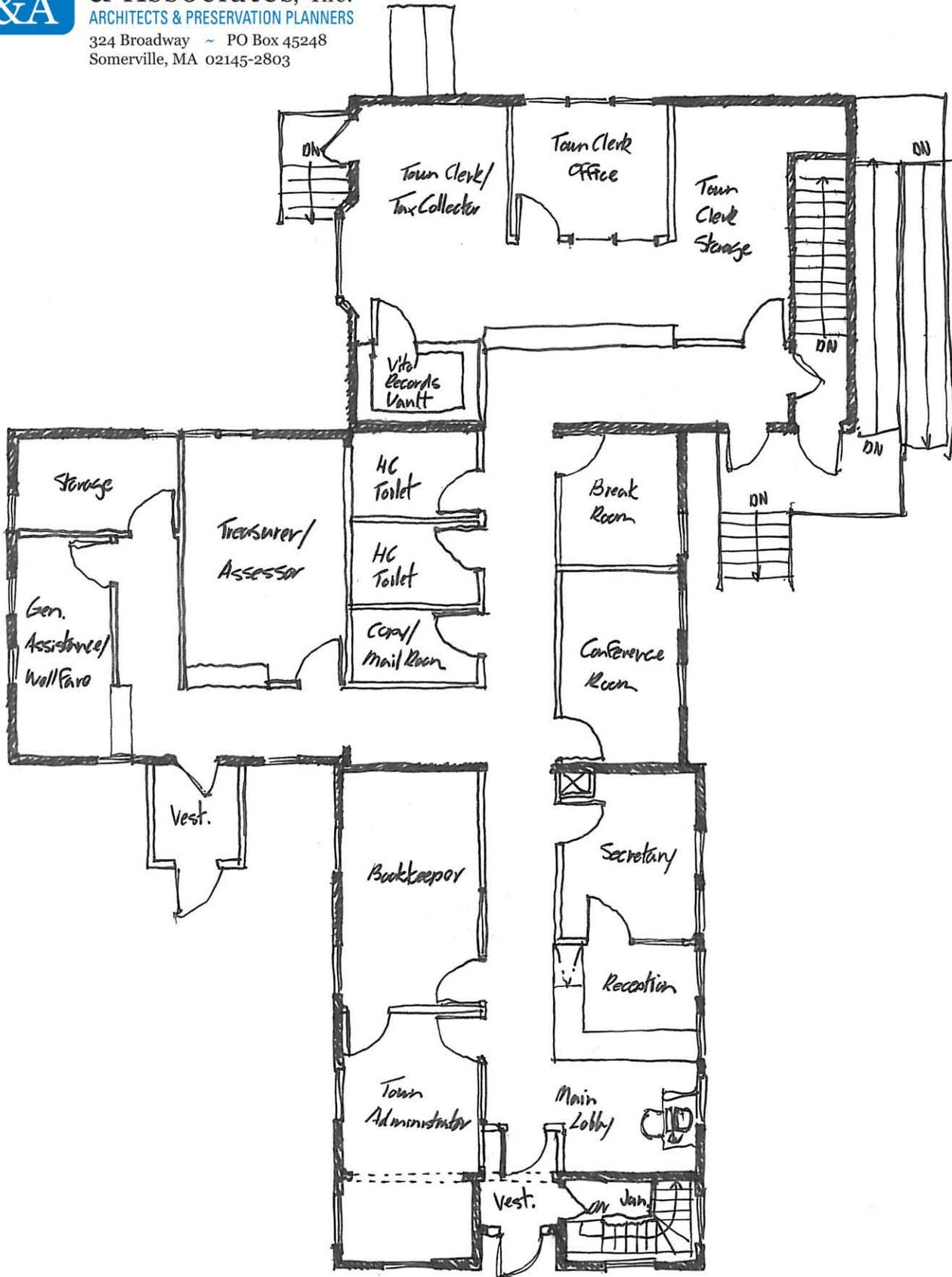
**McGinley Kalsow
& Associates, Inc.**
ARCHITECTS & PRESERVATION PLANNERS
324 Broadway ~ PO Box 45248
Somerville, MA 02145-2803



PROPOSED SITE PLAN
SCALE" 1" = 30'-0"



McGinley Kalsow
& Associates, Inc.
ARCHITECTS & PRESERVATION PLANNERS
324 Broadway ~ PO Box 45248
Somerville, MA 02145-2803

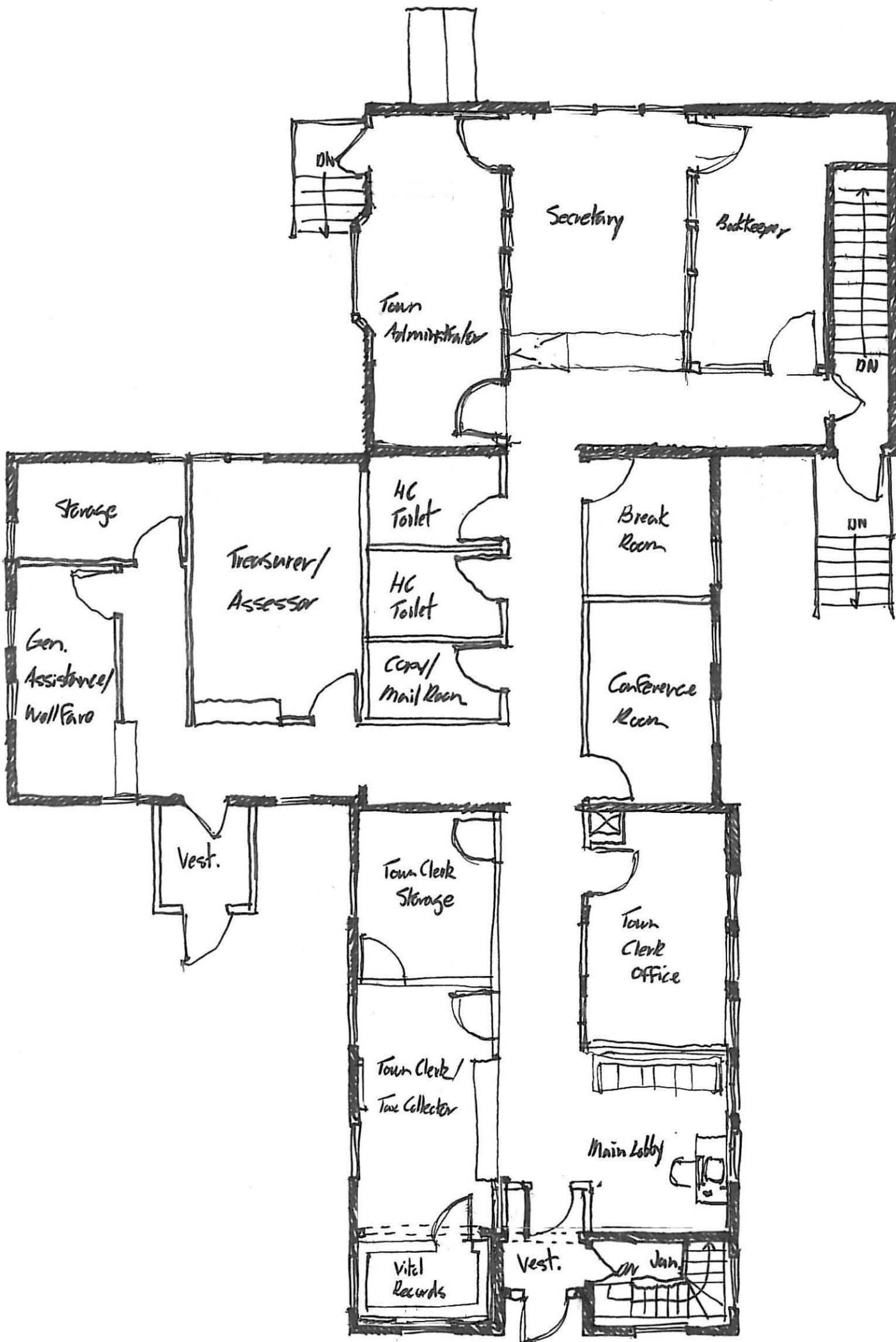


PROPOSED LIBRARY FIRST FLOOR REPROGRAMMING





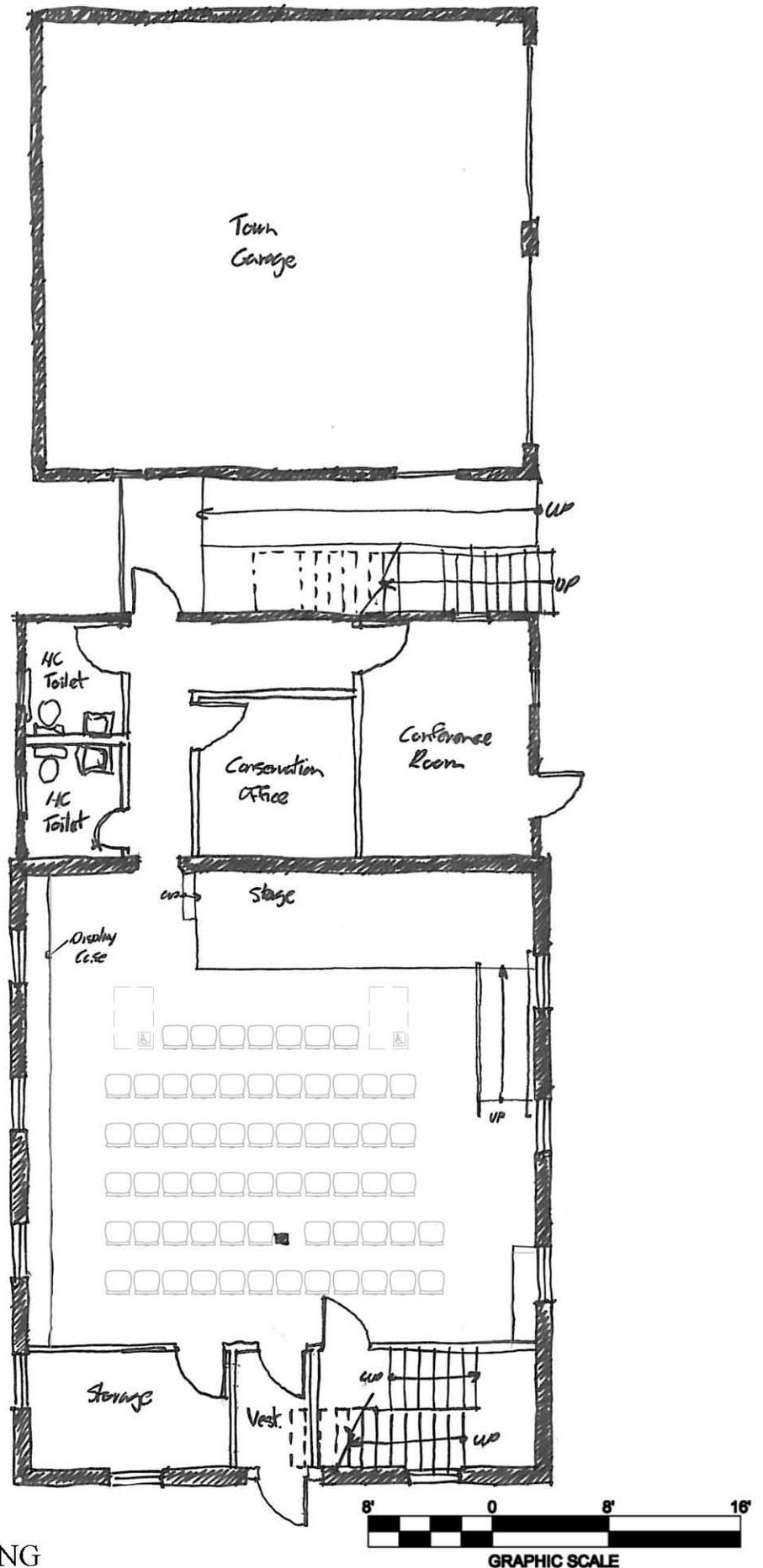
McGinley Kalsow
& Associates, Inc.
ARCHITECTS & PRESERVATION PLANNERS
324 Broadway ~ PO Box 45248
Somerville, MA 02145-2803



PROPOSED LIBRARY FIRST FLOOR REPROGRAMMING, ALTERNATE - 12/1/2009
SCALE: 1/8" = 1'-0"



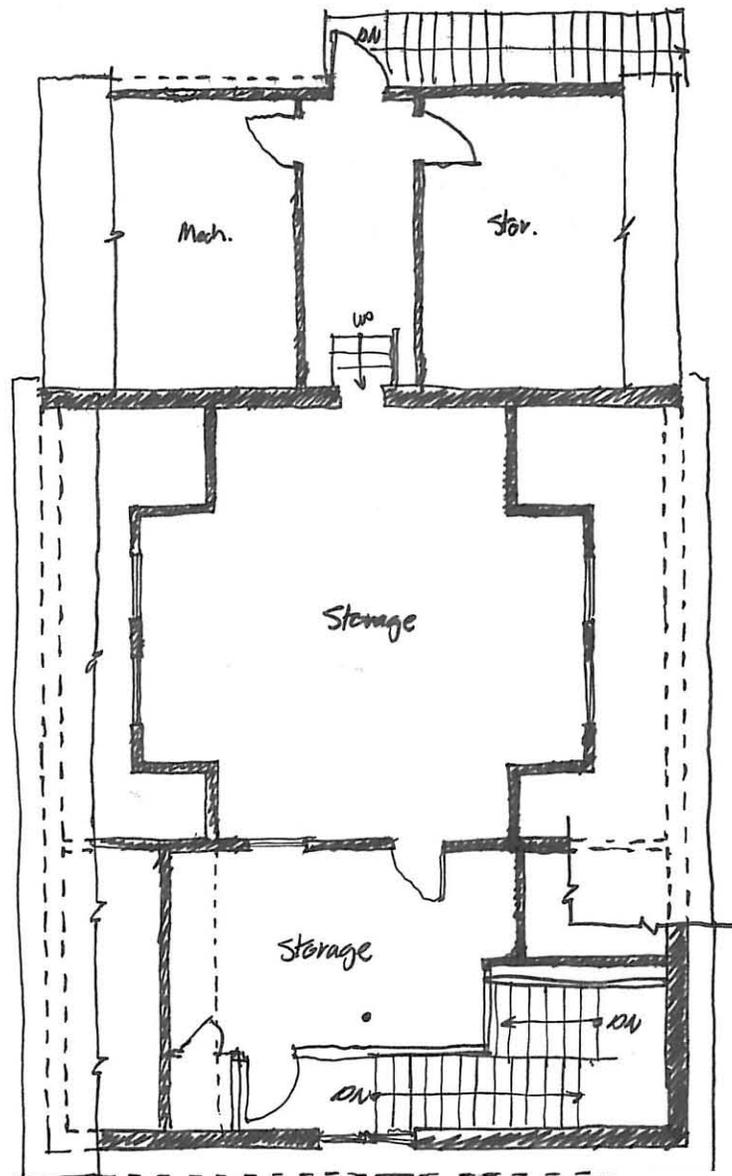
McGinley Kalsow
& Associates, Inc.
ARCHITECTS & PRESERVATION PLANNERS
324 Broadway ~ PO Box 45248
Somerville, MA 02145-2803



PROPOSED TOWN HALL
FIRST FLOOR REPROGRAMMING



McGinley Kalsow
& Associates, Inc.
ARCHITECTS & PRESERVATION PLANNERS
324 Broadway ~ PO Box 45248
Somerville, MA 02145-2803



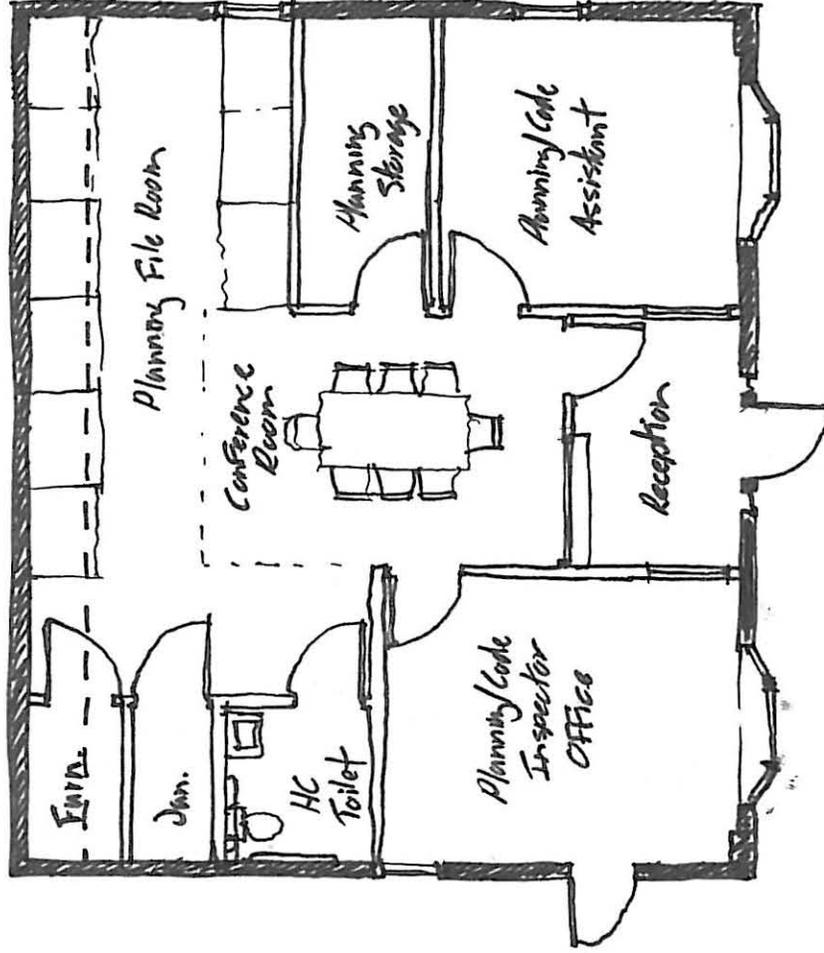
PROPOSED TOWN HALL
SECOND FLOOR REPROGRAMMING





McGinley Kalsow
& Associates, Inc.
ARCHITECTS & PRESERVATION PLANNERS

324 Broadway ~ PO Box 45248
Somerville, MA 02145-2803



PROPOSED TOWN HALL ANNEX REPROGRAMMING

Budget

The following budgets are based on the drawings enclosed and the discussion of the proposals in this report. They are based on today's dollars and today's market. As the implementation becomes imminent, the budget should be reviewed to be sure it reflects current market conditions.

A preliminary budget has been developed for the Library/Community Center at the Bricker parcel and represents approximately \$3.85 million (see attached).

A separate budget has been developed for the Town Center parcel and is broken down according to a logical construction sequence (see attached). It is expected that the library has to move to the Bricker parcel before work can begin at the Town Center parcel.

When looking at the overall Town budget and financial commitments, it has been determined that it is premature to bond the project this budget year (2010). As the Town evaluates its strategy for moving forward, the discussion is reflected in some questions and answers in the enclosed email.

Lee Public Library

Preliminary Budget Estimate

12/8/09

Construction			
12,200sf @ \$200/sf		\$	2,440,000
5,520sf @ \$100/sf			552,000

Contingency @ 10%			299,200
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Subtotal		\$	3,291,200

Land Acquisition			0
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Furniture & Equipment			
12,200sf @ \$18/sf			219,600
5,520sf @ \$10/sf			55,200

A & E Fees @ 7%			231,000
-----------------	--	--	---------

Expenses			50,000
----------	--	--	--------

Bond
 Testing
 Printing
 Etc.

Total		\$	3,847,000

SAY		\$	3.85 million



Town of Lee – Historic Municipal Complex
Preliminary Budget Estimate
November 30, 2009, Revised December 14, 2009

Town Hall Annex

New HP Bathroom, New High Efficiency Boiler, Reinforce Rafters,
Modest Plan Revisions & Interior Finish Upgrades
1,110 s.f. @ \$75/s.f. = \$ **83,250**

Town Hall (Old Library)

Comprehensive Interior Renovation
First Floor: 3,030 s.f. @ \$125/s.f. = \$ 378,750
Basement: 1,862 s.f. @ \$ 30/s.f. = \$ 55,860
Town Hall Subtotal = \$ **434,610**

Old Town Hall

Comprehensive Interior Renovation & Structural Repairs.
First Floor Minor Work, Second Floor for Storage Use
First Floor: 1,930 s.f. @ \$135/s.f. = \$ 260,550
Second Floor: 1,410 s.f. @ \$ 40/s.f. = \$ 56,400
Old Town Hall Subtotal = \$ **316,950**

Historical Society Building

Structural Repairs, Revise Wood Deck, Minor Upgrades
First Floor: 840 s.f.
Basement: 840 s.f. *Lump Sum* = \$ **20,000**

Garage (Hobo Shed)

Rafter Repairs, Add Concrete Slab on Grade, Minor Electrical
980 s.f. @ \$ 30/s.f. = \$ **29,400**

Site (Site Plan Number 8)

Site Prep Including Paving Removal &
New Buried Propane Tank & Piping – Allowance: \$ 75,000

Paved Surfaces with Drainage: 13,300 s.f. @ \$15/s.f. = \$ 199,500

General Landscaping – Allowance: \$ 75,000

H.P. Ramp, Septic System & Well – Allowance: \$ 75,000

Site Subtotal = \$ **424,500**

	<i>Above Subtotal</i>	= \$ 1,308,710
<u>Contingency @ 10%</u>		= \$ <u>130,871</u>
	<i>Subtotal</i>	= \$ 1,439,581
<u>Furniture & Equipment</u> 6,000 s.f. @ \$ 15/s.f.		= \$ <u>90,000</u>
	<i>Subtotal</i>	= \$ 1,529,581
<u>A&E Services @ 8%</u>		= \$ 122,366
<u>Expenses @ 1%</u>		= \$ <u>15,295</u>
	TOTAL	= \$ 1,667,242

PHASING

PHASE 1

- New Library Completed
- Library moves to new building.

PHASE 2

- New Town Hall (existing Library building) is renovated and basic site improvements are undertaken.
- Move Old Town Hall offices in to New Town Hall.

	<i>Town Hall Subtotal</i>	= \$ 434,610
	<i>Site Subtotal</i>	= \$ 424,500
<u>Contingency @ 10%</u>		= \$ <u>85,911</u>
	<i>Subtotal</i>	= \$ 945,021
<u>Furniture & Equipment</u>		
3,030 s.f. @ \$ 15/s.f.		= \$ <u>45,450</u>
	<i>Subtotal</i>	= \$ 990,421
<u>A&E Services @ 8%</u>		= \$ <u>79,238</u>
<u>Expenses @ 1%</u>		= \$ <u>9,904</u>
	TOTAL	= \$ 1,079,563

PHASE 3

- Renovate Old Town Hall and Garage.
- Temporarily move Planning/Code Offices into Old Town Hall.
- Temporarily move items from the Historical Society Building into the 2nd floor of Old Town Hall.

	<i>Old Town Hall Subtotal</i>	= \$ 316,950
	<i>Garage Subtotal</i>	= \$ 29,400
<u>Contingency @ 10%</u>		= \$ <u>34,635</u>
	<i>Subtotal</i>	= \$ 380,985
<u>Furniture & Equipment</u>		
1,930 s.f. @ \$ 15/s.f.		= \$ <u>28,950</u>
	<i>Subtotal</i>	= \$ 409,935
<u>A&E Services @ 8%</u>		= \$ <u>32,795</u>
<u>Expenses @ 1%</u>		= \$ <u>4,099</u>
	TOTAL	= \$ 446,829

PHASE 4

- Renovate Town Hall Annex and Historical Society Building.
- Move Planning/Code Offices into Town Hall Annex.
- Move Historical Society items into Historical Society Building.

	<i>Town Hall Annex Subtotal</i>	= \$ 83,250
	<i>Historical Society Subtotal</i>	= \$ 20,000
<u>Contingency @ 10%</u>		= \$ 10,325
	<i>Subtotal</i>	= \$ 113,575
<u>Furniture & Equipment</u>		
1,110 s.f. @ \$ 15/s.f.		= \$ 16,650
	<i>Subtotal</i>	= \$ 130,225
<u>A&E Services @ 8%</u>		= \$ 10,418
<u>Expenses @ 1%</u>		= \$ 1,302
	TOTAL	= \$ 141,945

Lisa,

Glad to see you are getting your collective head into exploring how best to move this effort forward. I'm pleased to be able your questions as best I can from my experience and perspective. Often these answers may generate other questions, so feel free to stay in touch. See reply below.

Dennis

Dennis Mires
Dennis Mires P.A. The Architects
697 Union Street
Manchester, NH 03104
(603) 625-4548
dennis@thearchitects.net

On Dec 17, 2009, at 4:16 PM, Lee Library wrote:

Dennis:

This morning several members of the Town Center Committee met to review the preliminary budget estimate figures for the proposed new library/community center and the historic municipal complex. We also looked at the town's CIP, reviewed the bond rates and a 20 year bond schedule, and examined the impact on the tax rate over time. A few questions arose out of this meeting that we hope you can answer.

1. Can you reiterate the difference between the two proposed A&E fees of \$213,000 and \$170,000 for the library/community center:? There seems to be some confusion as to what each amount represents. **Reply: The \$170,000 represents refining the design and engineering the project through contract documents suitable for bidding for construction. The balance represents taking the project through construction for approximately one year with shop drawing review, onsite weekly meetings, requisition review etc. until the contractor turns over the keys.**
2. Is there any wiggle room in those figures? Are there parts of the A&E process that could be postponed/addressed at a later date, closer to a construction date, to reduce initial costs? **Reply: Once you start the design development/contract document phases, it is most efficient to complete. A lot can happen between now and 2015 that may mean that additional work done at this time may have to be redone.**
3. Would there be a savings in the fee structure if the A&E for both the library/community center and the historic municipal complex were to be done at the same time, even though construction for both would not commence in the same year? **Reply: Given the different time frames and buildings and sites, I don't see any efficiencies in necessarily doing them together.**
4. Are there any sections of the library/community center that can be built in phases? For instance, could the community center/kitchen area be built at a later date to save on initial construction costs? **Reply: With the basement, etc. it is most cost effective to build the shell at one time. The way to phase it from there is to leave the basement unfinished, hold off on the elevator, leave Community room and area unfinished, etc.**
5. Do you have any thoughts on this scenario: Funds for A&E for the library/community center would be requested at the March 2010 town meeting, with a proposed 5 year future construction date (2016) for the actual project. Funds would be requested for the capital reserve fund at each town meeting leading up to the 2016 construction date, to offset the amount to be bonded. The thought behind this would be to have the actual construction documents on hand as we pursue fundraising opportunities (grants, bequests, donations, etc) to demonstrate the voters' commitment to the project. **Reply: As I indicated above, I would be cautious about doing the documents so far in advance of construction.**

I do think it would show commitment to have the Town endorse the concept and put money in capital reserve this year.

The package we will provide by the end of the year is often used to pursue grants, donations, etc. which might enable you to move up your start dates. In that time priorities may change, technologies may change, market will change, etc.

APPENDIX A
LIBRARY SPACE NEEDS STUDY

A

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THE LEE PUBLIC LIBRARY
OF
LEE, NEW HAMPSHIRE
FACILITY NEEDS:
AN ASSESSMENT AND PROJECTION

#####

FEBRUARY, 2006

Patience Kenney Jackson
Library Building Consultant
7 Howard Road
Maynard, Massachusetts 01754
(978)897-4956

DENNIS MIRES, P.A.
THE ARCHITECTS

697 UNION STREET @ UNION SQUARE
MANCHESTER, NEW HAMPSHIRE 03104
TEL: 603-625-4548 • FAX: 603-625-1067

THE TOWN

The town of Lee, New Hampshire is located in the Seacoast Region of New Hampshire's southeast quadrant, immediately west of Durham. Lee is an old town, first settled in the mid-eighteenth century as the colonial population expanded inland and north from New England's coastal areas. With the exception of a group of small town-owned nineteenth century buildings located near the church and the elementary school along Route 155, there is no particular town center. There is a new Public Safety building nearby. The town consists chiefly of forested land and open farm land, while rolling hills conceal newer single family homes. To the west of the town center, busy New Hampshire Route 125 runs north and south through Lee from Rochester in the north to the Massachusetts border and I-495.

Children attend the elementary school in Lee from kindergarten through grade four, then are dispersed through the Oyster River School District, where they attend middle school and high school in Durham along with children from Durham and Madbury.

The population of Lee has been changing. The U.S. Census of Population, at 1,481 back in 1970, had risen to 3,729 by 1990 and 4,145 by 2000, nearly tripling in thirty years. The New Hampshire Association of Regional Planning Commissions places the population of Lee at 4,400 in 2005, an increase of 6.2% in only five years.¹ Part of the increase can be attributed to the area's desirability as a rural community, as well as the development of telecommuting. Residents of Lee commute to Durham and the University of New Hampshire, to Portsmouth and even as far away as the Boston area. The 2000 Census also reported that 47.7% of Lee's population over 5 years of age lived in a different house in 1995, and 29.8% lived in a different county or state in 1995.²

¹ New Hampshire Association of Regional Planning Commissions. Community of Lee. <http://www.nharpc.org/infosheet.php>.

² U.S. Census of Population. Profile of General Demographic Characteristics: 2000 Table DP-1.

Most significantly, the education level in Lee is unusually high. Of the 2,569 adults in town over the age of 25 in 2000, 95% held a high school diploma, while 52.6% held a bachelor's degree or a graduate/professional degree. In comparison, 87.4% of New Hampshire residents and 80.4% of U.S. residents had a high school diploma, while only 28.7% of New Hampshire residents and 24.4% of U.S. residents held a bachelor's degree or graduate/professional degree.³ (See chart below.)

**COMPARATIVE EDUCATION LEVELS IN LEE, NEW HAMPSHIRE
2000 U.S. CENSUS**

EDUCATION LEVEL	UNITED STATES	NEW HAMPSHIRE	LEE, NEW HAMPSHIRE
HIGH SCHOOL GRADUATE	87.4%	80.4%	95%
COLLEGE DEGREE/GRADUATE OR PROFESSIONAL DEGREE	28.7%	24.4%	52.6%

A recent New Hampshire Office of Energy and Planning population projection estimates Lee's 2003 population at 4,320, at 5,400 for 2020, and at 5,690 in 2025.⁴ — 5310 JAN 07.

In addition, the public library service population must be calculated to include a certain percentage of students from the school district who are residents of Madbury and Durham, yet who are permitted to use the Lee Public Library.

³ Ibid.

⁴ New Hampshire Office of Energy and Planning (OEP) 2005 to 2025. January, 2005.

THE LEE PUBLIC LIBRARY

The Lee Public Library is located in the center of the municipal complex of antique town buildings clustered along Route 155. The buildings, in a horseshoe arrangement include the Town Hall on the left, with a barn to its rear, the library at the rear of the curve, a small antique building to the right of the library, which is a former railroad depot and now houses the Historical Society, and closest to the road on the right, a Town Hall annex (formerly the police station) in a small saltbox. The library/old school house was moved to this site in 1962.

There are three Library Trustees, elected for staggered three-year terms. Town Meeting has approved an increase in the Board of Trustees to five, in 2006. The annual operating revenue for Fiscal Year 2004 was \$114,307, or about \$25.97 per capita in the resident population.

At the close of 2005, the library has 2,325 registered borrowers. Circulation for Fiscal Year 2004-2005 is reported as 56,509 items, of which 28,407 items, or 50.2%, were circulated to children. There is an active Friends of the Library group, which raises funds to support library facilities and services as well as the Summer Reading Program, community events and adult programming. Fundraising activities include an innovative annual Silent Auction, a holiday house tour, and book sales. The library offers a regular schedule of preschool story hours and craft programs. Attendance at the children's programs totaled 2,015 for FY2004-05. The library has a minimal collection targeted to young adults, but no distinct Young Adult area.

Library staff include a full-time Director and four part-time staff, including a children's librarian. They are assisted by up to thirty-three volunteers.

The library is open 40 hours per week on the following schedule:

Monday, Wednesday	12:00 Noon - 8:00 PM
Tuesday	3:00 PM - 8:00 PM
Thursday, Friday	10:00 AM - 5:00 PM
Saturday	10:00 AM - 3:00 PM; summer 9:00 AM - 12:00 Noon

NEEDS ASSESSMENT AND STANDARDS

In 2004, a committee of citizens and trustees was appointed by the Library Trustees to assess the library's physical plant and its need for expansion. Committee activities have included meetings, inspection of the building, publicity, and the planning and implementation of a community-wide survey. Since the fall of 2005, the Trustees have retained a Library Building Consultant to assist with facility planning, of which the present discussion and report are a component. This document is one outcome of the consultant's site visit on September 24, 2005, interviews with library staff and a meeting with the Trustees. The consultant's additional assignment is to project appropriate space needs with a twenty-year planning horizon, to focus on library service and the future of the building and to assist in the library's developing vision for the future. The library will in turn use this as a springboard for the preparation of a Building Program.

The Lee Public Library is housed in a nineteenth-century schoolhouse, which was moved to the present site in 1962 for use by the library. Ten years after that, in 1972, a small addition was constructed to the rear. A subsequent small space with a new main entrance was added to the left of the 1972 addition in 1984, while a final rear addition, with a basement meeting space, was constructed in 1996,

As the chart on the next page demonstrates, each small addition to the library in the past forty-three years has barely kept even with the growth in Lee's population over the same period. This is despite the natural increase in the library's book collections, the addition of computers for both public and staff, the addition of videotapes and DVD's, a large print collection and increasingly popular books-on-tape/CD (for commuters), and the establishment of a strong series of programs for both children and adults.

**GROWTH OF THE LEE PUBLIC LIBRARY PHYSICAL PLANT
1962 - PRESENT**

Year	Population ⁵	Area Constructed	Cumulative Sq. Ft.	Sq. Ft. per capita
1962	931 (1960)	723 sq.feet	723 sq.feet	0.77
1972	1,481 (1970)	+ 544 sq.feet	1,267 sq.feet	0.86
1984	2,111+ (1980)	+ 552 sq.feet	1,819 sq.feet	0.86
1996	3,729+ (1990)	+ 720 sq.feet + basement	2,539 sq.feet + basement	0.68 + 0.19 bsmnt
2006	4,400 + (2005)	none since 1996	same	0.59 + 0.16 bsmnt
↓	↓			↓
2025	5,690 (est.)	<i>if none, assume same</i>	<i>if none, assume same</i>	0.46 + 0.12 bsmnt.

Back In 1960, the American Library Association published an across-the-board standard for public libraries of 0.7 square foot per capita. In Lee, this minimal outdated standard was not even met back in 1996.

In 2006, a more adequate size for a public library to serve a 2005 population of 4,400 that is growing would be from 1.2 square feet to 3 square feet per capita, or 5,280 square feet to 13,200 square feet. The U.S. average, which includes many libraries in need of expansion, such as the Lee Public Library, is 1.2 square feet per capita in the present population. The New England average for Lee's population size is 1.0 square feet per capita in the present population.⁶

⁵ Source: U.S. Census in Lee Town Crier, Volume 42, Summer, 2005.

⁶ Hennan, Thomas J. "Great American Public Libraries: the 2005 Hapler Rankings." *American Libraries*, October, 2005, p. 45. Based on data from the Federal State Cooperative System, a nationwide database.

As the Lee Public Library stands today, it is entered on the left from a long ramp or exterior staircase and deck. A small vestibule opens into the 1984 space, now divided into an entry corridor with bulletin boards and media display, which leads to the circulation area, and a very limited space for children's materials. The circulation desk, located in the space between the original school house and the 1996 addition, provides a central point for both staff and patrons. Behind the circulation desk is a small staff work space and a very small office, which is shared by both the Director and staff and also has been housing the server for the computer system.

A small and very congested children's area is also located in the 1984 space. There is no specific seating or play space for children, although there are 3 adult-size seats and one small desk. Shelving is too high for young children to select their own books. (A three to four-foot height would be preferable). The aisles are generally too narrow for more than one person at a time. There are no computers for children.

The original school house, approximately 723 square feet, houses computer work stations, a microfilm reader/printer, and one table for adult readers. Reference materials and a local history collection are shelved here, along with the biography collection and the paperback collection. There is one accessible rest room in the front of the school house building, along with a staircase leading down to a small basement, which is used for storage.

When the antique one-room school house was moved to this site for use as the public library in 1962, it was placed on a modern concrete foundation. Presumably because of damage to the structure which occurred after the move, when this segment of the library was overloaded with the weight of the book collection, four lally columns have been installed in the basement recently, to support the main floor of the building. At least one supporting beam has been reinforced.

It must be noted that because of the weight of loaded book stacks, libraries must be carefully structured, to meet the code standard of 150 pounds per square foot "live load." In contrast, no antique building was designed for such a load and even a recently-constructed school building or office building is usually planned for only 60 to 80 pounds per square foot "live load."

In Lee's case, the bulk of the adult book collection is now housed in the most recent addition, constructed in 1996 to the rear of the existing structures and presumably built close to or in compliance with the structural code, although a structural engineer is needed to determine that this has been done. While most aisles in this book stack are 36 or more inches wide, in compliance with handicapped requirements, it must be noted that the entrance into the space is itself only 34 inches. Further, the end aisle is too narrow to permit the passage of a wheelchair, and the left-most aisle, which houses a small couch under the window, provides only a 27-inch passage. Finally, handicapped requirements include an end-of-aisle turnaround or cross aisle 42 to 48 inches wide. The end aisle near the rear windows is much too narrow to permit passage or turnaround of a wheelchair.

The 1996 structure has a second basement, accessed by a steep staircase to the right rear. There is also an egress door into the staircase, but it cannot be classified as an emergency egress, because the door from the bookstack space into the staircase must be chained open, so as not to block the staircase itself when it opens. The 1996 basement has been made into an appealing small story hour/craft area, which is also used for adult programs. It has a dehumidifier and a supplementary heating device. There is a secondary emergency egress from this space directly to the exterior. The capacity of the space is from 15 to 30 people, depending on activity. Regardless of the size of the crowd, both adult and children's programs that require handicapped access must be held either in the main reference space upstairs or elsewhere in town.

The library has been maintaining its physical plant in a systematic way, according to its long-range plan set out in 1996. Projects have included the furnishings for the 1996 addition, installation of the handicapped rest room, establishment of handicapped parking, painting of the interior, and, most recently, a new roof. The original book return, a slot in the front door of the school house, has been discontinued for safety reasons, and a free-standing external book drop is now in use. New oak shelving has been installed in the reference room.

As a physical plant, the library is appealing and appears to be in good order. Furnishings are traditional and well-maintained. The exterior is well-kept and attractive, featuring high-quality landscaping invitingly arranged at the entrance. There is a central parking lot for up to twenty cars, paved but not striped. This parking lot must also serve Town Hall and its annex as well as library staff, patrons

and volunteers. There is no parking dedicated to library users.

The well is shared with other town buildings on the site. An aging septic tank must be pumped twice a year. To the rear of the 1996 addition, the land is wooded and slopes down to wetlands. It is clear that no further expansion of the library can be contemplated on this site.

THE CIRCULATING COLLECTIONS

Since continual weeding is required in order to make space for new materials, the net gain in the collection was 637 volumes in Fiscal Year 2005, or a net gain from the previous year of 2.38% after withdrawals. Net gain for Fiscal Year 2004 was 365 volumes, or 1.6%.⁷ Shelving in the Reference Room is completely full.

Whatever shelf space is available at the moment will inexorably disappear, particularly with such a small collection and a net growth rate that averages 1.99% per year. Total two-year net gain is 1002. On average, each twelve volumes requires one linear foot of shelf space, so up to 83 new linear feet of shelf space has been needed over the past two years. Yet, in the name of balance in the collection and retention of judicious recent purchases, there will be increasing limits to what can be withdrawn.

Within the past five years, the library has also added small collections of books on tape, adult videotapes, videotapes for children and books-and-tape bags for children. There is a growing collection of books-on-tape/CD. There is a growing collection of DVD's for both adults and children. These alternative formats are very popular and represent an additional resource the library can offer patrons. However, the growth of these collections has also required the addition of new shelving for display, at the cost of very finite space.

The library is really on a collision course, where soon every new item will mean the

⁷ New Hampshire Public Library Annual Report Fiscal Year 2004.

discard of another item, no matter how carefully selected and weeded the collections are. This is typical in libraries that are running out of space.

OTHER FACILITIES

For adults, the Library offers six computers for public use. In 2006, three of these provide access to the Internet and Microsoft Office™, while the other three serve as online catalogs for collection access. There are four seats at a study table in the old school house, plus one study carrel, two lounge chairs and a rocking chair.

There is neither study space nor play space in the children's area. There is no parent seating in the children's area. There is no desk for the children's librarian.

Programs such as preschool story/craft hours, after-school groups and adult craft groups must meet in the rear basement, which is not accessible to the handicapped and has no rest room (and no after-hours rest room access at all). A gathering in the old school house can be contrived for up to 35 people, but halts both all library operations and public computer access as well as rest room access.

TECHNOLOGY

The library has been automated for many years, with an independent Athena™ catalog and circulation system, not linked to other libraries in a network. There is a Technology Committee, and a Technology Plan is in place. The circulation computer and the staff computers are networked. The library is a member of the Rochester Area Library Cooperative (RALI). The library's e-mail address is leelibrary@comcast.net. The website can be found at <http://www.lee.lib.nh.us>. The library borrowed 884 items for Lee residents through the New Hampshire State Library and lent 1,184 items to other libraries for their patrons in Fiscal Year 2005.

These resources enhance the ability of the library to be a gateway to a whole world of information for its patrons. As mentioned previously, there are no computers in the Children's Room.

It must be pointed out that public libraries are the only free (publicly-funded) Internet access point for many people who do not own a computer, who cannot afford a computer, who do not have space for a computer, or who lack interest in or necessary expertise in computer use. Particularly in a rural area, the public library may offer the only convenient Internet access in the region.

Computers and Internet access have become an expected new role for traditional public libraries, in the name of equal access for all citizens to government information. Yet computers often eliminate study space and place new strains on limited budgets as well as stresses on electrical service and wiring and frequently on even the limited availability of electrical outlets.

CHANGING NEEDS, CHANGING SERVICES, SAME BUILDING

In addition to the Lee Public Library building's limited size, the following difficulties are noted:

- ▶ In recent years, the library has not only added to the book collection. It has added videotapes and DVD's, the very popular books-on-tape and CD, multiple computers and programs for both children and adults.
- ▶ All available shelving is full. There is no space available for additional shelving.
- ▶ There is no space for additional computers, except by removing reader seats or book shelves. There are no computers in the children's space.
- ▶ There is no children's service desk or office.
- ▶ Shelving for children's books is too high for small children to select their own materials. A preferred height for preschoolers would be no more than 36 inches.
- ▶ There is no Young Adult area.
- ▶ There is no accessible multipurpose meeting room in the library. The only Story Hour space is in the basement, down a long, steep staircase. If a program is held in the only accessible open space, i.e., the school house, the program is subject to interruptions and distractions and the space and materials are not available to the public. This means that each program or meeting would actually be a barrier to use by other patrons as well as a source of noise.
- ▶ Staff work space consists of the space behind the circulation desk and a very small Director's office, which must be used by other staff as well as

housing the computer server, which is a source of both noise and heat. This office is claustrophobic when the door is closed, making it impossible for a patron to ask a confidential question or transact private business with any member of the library staff or with the public or with a volunteer.

- ▶ There is no work space for an active volunteer program.
- ▶ There is no space for quiet study, volunteer tutoring or group study.
- ▶ There is no staff break area or staff rest room.

To put it another way, the Lee Public Library is accommodating all of its twenty-first century operations (including 56,509 circulations to 2,325 borrowers, who may represent many more in a household) and public services and housing all of its resources in total space (2,539 square feet) equivalent to that of a medium-sized house plus basement or a bit more than two modern school classrooms.

It should be noted that if individual citizens were to purchase the 56,509 items circulated by the Lee Public Library in Fiscal Year 2005, at even a modest average of \$25 per item, would mean a private expenditure of at least \$1,412,725 per year by residents. This is quite apart from the value of other library services, such as reference service, interlibrary loan, children's programming, and Internet access.

As indicated earlier, the 1996 addition brought available library space up to roughly 0.68 square feet of library space per capita for a population of 3,729 plus. For a 2005 population of approximately 4,400, 2,539 gross square feet works out to be only 0.57 square feet per capita - a significant step backward, in only ten years. The basement meeting room, though not accessible, adds a small factor in both cases. Moreover, much of the space at the Lee Public Library can be called "inefficient" space, broken up by partitions, walls and angles, and not designed structurally (particularly in the case of the original old school house) for the purposes for which the various elements might otherwise be used.

Another simple way to analyze the essential problem was introduced in conjunction with the chart on page 1.6. A national standard for public libraries published back in 1960 by the American Library Association called for .7 square feet per capita.

This was forty-six years ago, before handicapped access requirements, the proliferation of computers, videotapes and books-on-tape, meeting and conference rooms and the information explosion in general. More usually, since the 1990's, the expectation has been that a small public library building will offer between 1.2 and 3 square feet per capita, depending on collection sizes and meeting room spaces.

As mentioned previously, the U.S. average (latest available figures are based on 2003 and 2004 data) which includes many libraries in need of expansion, such as the Lee Public Library itself, is 1.2 square feet per capita in the present population. The New England average for Lee's population size is 1.0 square feet per capita in the present population.⁸ Particularly in New England, this average figure would include many unimproved buildings first opened in the late nineteenth or early twentieth century and now bulging at the seams.

In classic library planning, the rule is to plan a library facility to serve the community for twenty years into the future, in this case to the year 2026. In Lee, this population has been projected at 5,690 (for 2025).⁹ It is also to be noted that telecommuting may be taking a larger role in the lives of some Lee residents and that the library needs to maintain and to lay claim to its larger role as a community crossroads for information and recreation as well as an important resource for children, particularly for young preschool children.

How much space does the Lee Public Library need right now, in order to house its present materials and services properly? The chart on the following page demonstrates the situation in 2006, using standard space-planning formulas.¹⁰ As illustrated in the chart, in order to house the 2006 collections and services

⁸ Hennan, Thomas J. "Great American Public Libraries: the 2005 Hapler Rankings." American Libraries, October, 2005, p. 45. Based on data from the Federal State Cooperative System, a nationwide database.

⁹ As cited previously: New Hampshire Office of Energy and Planning (OEP) 2005 to 2025. January, 2005.

¹⁰ One source of space-planning formulas is Holt, Raymond. Planning Library Facilities: from concept to completion. Scarecrow, 1989. Appendix A. Other authorities include the writings of Anders Dahlgren, Nolan Lushington, Aaron and Elaine Cohen, the American Library Association, and the Connecticut State Library.

adequately, the library would need about 5,694 gross square feet, or 2,393 gross square feet more (72% more space) than the library presently has. No wonder both patrons and staff are feeling crowded!

LEE PUBLIC LIBRARY, LEE, NEW HAMPSHIRE
SPACE DEFICIENCY FOR PRESENT HOLDINGS AND SERVICES

AREA		PRESENT FACILITY	ESTIMATED SQUARE FEET	STANDARD SPACE PLANNING FORMULA	EXPECTED BY STANDARD SPACE PLANNING FORMULA
Materials		23,541 volumes/ 1,517 AV items	↑ ↓ Combined / Intermingled ↑ ↓	10 vols/sq ft.	2,505 sq.ft.
Seating	Adult	12 seats		25 - 30 sq.ft./	360 sq.ft.
	YA	0 seats		25 sq.ft./	0
	Children	5 seats		25 sq.ft./	125 sq.ft.
Public Computers & microfilm		7		40 sq.ft./	280 sq.ft.
Meeting Room		up to 30	basement	10 sq.ft./ + 20%	360 sq.ft. ±
Staff		circulation desk	107 sq.ft.	200 sq.ft.	750 sq.ft.
		Children's public desk	0	100 sq.ft.	
		Workroom	0	300 sq.ft.	
		Director's office	69 sq.ft.	150 sq.ft.	
SUBTOTAL			2,539 net sq.ft		4,380 net usable sq. ft.
			762 sq.ft.	30% unassigned	+ 1,314 sq.ft.
GRAND TOTAL REQUIRED FOR 2006 HOLDINGS AND FACILITY			est. 3,301 gross sq.ft. + basements	approx. 5,694 gross sq ft needed for 2005 services	
2005 DEFICIENCY				- 2,393 gross square feet or - 72%	

STANDARDS AND NORMS

The Wisconsin Department of Education Division of Public Libraries has developed and published a set of graduated standards which can be used to measure the adequacy of a small public library facility.¹¹ By this measure, the Lee Public Library's book collections, which totaled 23,541 volumes at the end of Fiscal Year, 2005 offer 5.35 volumes per capita. According to the standard for a town of 2,500 - 4999, this represents slightly less than a "Basic" (6.0/capita) level of service. However well-weeded and well-selected, a book collection this size will simply be too small to serve a population of 4,400.

		For 4,400 population
Lee Public Library	2005 - 5.35 volumes/capita	2005 - 23,541 volumes
Wisconsin standards for a town of 2,500 - 5000 population		
Basic	6.0 volumes/capita	26,400 volumes
Moderate	6.9 volumes/capita	30,360 volumes
Enhanced	8.6 volumes/capita	37,840 volumes
Excellent	10.8 volumes/capita	47,520 volumes

The chart above, of course, represents a range for 2005, without any population growth.

¹¹ Wisconsin Public Library Standards, 2000, 3d edition.
([Http://www.dpi.wi.gov/pld/plspace.html](http://www.dpi.wi.gov/pld/plspace.html))

THE NEEDS: SHORT-TERM AND LONG-TERM

SHORT-TERM NEEDS

There is very little to suggest for improving the Lee Public Library, within the confines of its present physical plant. The maintenance of the building, as outlined in the long range plan, has been well looked after by staff, trustees and the Town.

Based on the September, 2005 site visit, the following short-term suggestions have been discussed:

- The Director needs a place to work and to maintain secure records and materials. At the time of the site visit, a proposal was reviewed that would have eliminated the "kitchen area" as well as positioning the Director's office far from other staff. New plans have been drawn, which will not eliminate the "kitchen area" but will include removal of the computer server, a source of both heat and noise, from the Director's office. The new plans will also provide more work space for staff.
- At the time of the site visit, video and DVD cases were on display out in the entrance area and on display shelving. Those cases were empty. The actual tape or DVD was being kept behind the circulation desk, which was a very labor-intensive way to organize media and used twice the space. The media collection has now been re-organized, freeing up space behind the circulation desk and simplifying patron transactions.
- The basement meeting room in the 1996 addition is wet. This clearly impacts air quality in the basement and presents a possible source for mold. Mold has been known to escape from library basements to the main floor, where it can infect both books and carpeting with disastrous results in only one long summer weekend. It is urgent that the dehumidifier be used continually, despite the cost of an increased electric bill. It should never be turned off, except in the winter months.

LONG-TERM NEEDS

The most pressing longer-term needs of the library for an enlargement of the physical plant are as follows:

1. Accessible meeting and conference space
2. Additional space for books and media
3. Space for more public access computers
4. Quiet study space and more comfortable seating
5. An identifiable children's space and increased children's collections
6. Computers for children.
7. Space for young adults
8. Tutoring space
9. Building security and enhancement of the library's image.
10. Increased parking, dedicated to library users.
11. A staff break room.
12. Additional staff and volunteer work spaces.
13. A secure Director's office.
14. Moisture-free storage.

Because of the limited site and wetlands to the rear of the site, nothing on this list can be addressed within the confines of the present building. There is no space to add anything more. A new site and a new library building will be necessary in Lee.

The spreadsheet in the next section is a preliminary estimate of the library's space needs for twenty years into the future. The chart represents a preliminary estimate and is likely to increase or even decrease somewhat as a full Library Building Program is fleshed out.

SUMMARY CHART

(Based on a twenty-year planning horizon)

APPENDIX

NET SQUARE FEET AND GROSS SQUARE FEET - WHAT? AND WHY?

A standard Library Building Program applies standard net-square-foot formulas for each library area. However, these formulas can only produce an estimate of the total net square footage required for library service. They are not designed to predict an actual building configuration. Until an actual design has been presented by an architect, the precise capacities and ultimate gross square footage of the library building cannot be calculated.

At the programming stage, in order to obtain a preliminary estimate of the total gross square footage required in the actual future building, a factor of 25% - 35% must be added. This factor recognizes that, until the building is actually designed, it is impossible to forecast whether the building will be one-story or multiple stories, requiring an elevator and multiple fire stair cases. The height of shelving, the length of a range of shelving and the actual configuration have yet to be determined. Pre-design, it is unknown whether there will be a basement or an attic in which to house heating and air conditioning equipment and some storage. The added factor also makes allowance for lobbies, vestibule and entrance space, public staircases, emergency exits, corridors, rest rooms, closets, storage, furnace, airconditioning unit, electrical rooms, "circulation" (moving around) space, and the thicknesses of both exterior and interior walls. To put it another way, it can be said that the gross area of any building can be determined by the exterior measurements, (like a tape measure around the outside), multiplied by the number of stories.

The "efficiency" of a particular building design is ultimately the ratio of net square feet to gross square feet. Thus, a design that provides 8,000 net square feet for library services may actually require the construction of, say, 10,500 gross square feet ($8,000 \div 10,500 = 76\%$ efficiency), or 11,000 gross square feet (72.7% efficiency), or 11,500 gross square feet (69.56% efficiency). This depends on the design and whether the building is to be single-story or multi-story.

Only when an actual design is available to be analyzed can the actual square footage of the building be determined, by the real dimensions of the building. The capacity of the shelving shown on the drawings can also be estimated, once the

heights of shelving and the configuration of shelving are known. The Building Program comes into play once more at this stage, to be used as a yardstick or checklist to be certain that all of the desired elements are actually present in the desired amounts, in the design.

In past decades, some writers have discussed a building efficiency of up to 80%. This would be a warehouse-style structure, with no interior walls and minimal details such as vestibules or hallways or rest rooms. Most architects assert that it is no longer possible to design a library building that is 80% efficient. Some factors that prevent such a design include:

- ▶ new requirements (since 1991) of the Americans with Disabilities Act for minimum space between ranges of shelving and around furniture, just as they do in rest rooms, etc.
- ▶ earthquake requirements that add extra columns and structure and increase the dimensions of columns
- ▶ walls that are now thicker because of insulation, wiring, heating and air ductwork, and fireproofing
- ▶ additional rest rooms and egress corridors required by modern building codes
- ▶ electrical and computer needs, including closets
- ▶ site limitations
- ▶ an addition to an existing building.

At the programming stage, it is prudent to think at the very outset in terms of a realistic estimate of the library's size by using the standard formulas, then adding 25% - 30%. It will then be a pleasant surprise if the eventual design can be smaller because it is also very efficient. Likewise, a particular design may be larger because it includes a special feature that the building itself requires, such as a grand central staircase or a two-story clerestory or an outside lobby, an elevator, multiple egress stairs - or simply because the layout is inefficient. A particular design can often be modified to increase efficiency. At the programming stage, particularly in the case of an addition/renovation of an existing or historic building or a difficult site, it may be wiser to propose a range of ratios, and thus a range of gross square feet.

LEE PUBLIC LIBRARY
Program Summary Chart

LEE, NEW HAMPSHIRE
Estimated Space Needs
by Department

February, 2006
2005 population: 4,400
2025 population: 5,690

AREA	EST. NET SQ.FT.	VOLS	AV ITEMS	PERIODICALS	PUBLIC COMPUTERS	READER SEATING TOTAL	TABLES FOR 4	LOUNGE SEATING	GROUP SEATING
Entrance & Lobby									
Circulation Desk	200				1				
Photocopier	30								
New Bks & Media	600	300	2,500						
Adult Fiction & Large Print	1,400	14,000							
Adult Nonfiction	1,000	10,000							
Reference Area	980	1,000			8	12	4		
Adult Seating	220					8	1	4	
Current Periodicals	200			50		4		4	
Adult Total	4,630	25,300	2,500	50	9	24	5	8	
Young Adults	300	1,000		5		6	1	2	
Children's Room									
Staff & Common Area	400	100	1,200	6					
Parenting	110	200				3			
Toddlers	650	5,000				8	2	2	
Youth Services	950	7,000			4	12	3	1	
Children's Storage	200								
Children's Total	2,310	12,300	1,200	6	4	23	5	3	100
Multipurpose Rm	1,200								
General Storage	150								
Local Hist/Conf	250	200							8
Director's Office	150								
Library Workroom	300								
Systems Rm	75								
Staff Room	150								
TOTALS	9,515	38,800	3,700	61	13	53	11	13	
TOTAL NET SQUARE FEET *			9,515						
25% NET FACTOR *			2,379	ESTIMATED GRAND TOTAL					
30% NET FACTOR *			2,855						
							TO	12,370	GROSS SQUARE FEET

*See appendix for explanation of net vs. gross square feet and net-to-gross ratios

APPENDIX B
TOWN OFFICE STUDY

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Town Offices Space Needs Assessment

Town Of Lee, New Hampshire 03824

October 2007

Sumner Davis Architects Inc.
959 Islington Street
Portsmouth, NH 03801



DENNIS MIRES, P.A.
THE ARCHITECTS

697 UNION STREET @ UNION SQUARE
MANCHESTER, NEW HAMPSHIRE 03104
TEL: 603-625-4548 • FAX: 603-625-1067

Summary

In July 2007 the Town of Lee hired Sumner Davis Architects Inc. to conduct an analysis of the current and future space needs of the Lee Town Offices, including activities housed in the Town Hall Annex.

The design team interviewed administration and staff, prepared existing condition drawings and created a space program for the future needs of Town departments.



Town Hall

Existing Lee Town Hall

The Town Hall and Town Hall Annex buildings share a common parking lot with the Town Library, the Historical Society building and a storage garage situated behind the Town Hall. (See attached site plan)

The Town Hall is housed in a former brick schoolhouse and a newer, wood frame addition at the rear. The main first floor room houses the Town Administrator, Town Bookkeeper, Town Secretary, files, a public access area and a meeting space. The wood clapboard rear addition includes two (2) toilet rooms, a small kitchenette, and the Town Clerk's office.

Accessed through an interior open stair, the 2nd floor area includes an office and open workroom for the Town Planner and his secretary. Above the newer addition is a mechanical room and storage room. An exterior stair at the rear provides a 2nd means of egress.

The Town Hall Annex building is used for offices, janitorial storage and maintenance workspace. It houses the Town Hall fire alarm and telephone systems, and includes a toilet room, Town Conservation Committee room, General Assistance Director office, two meeting rooms shared by the Recreation, Agricultural, and

Town of Lee, New Hampshire

Town Offices Needs Assessment

October 2007

Heritage Committees, and a room that stores 2 fire proof safes for the Town Hall, and file cabinets for the Heritage Committee. (See Attached Floor Plans)

Deficiencies in the Town Hall include noncompliance with ADA (handicap accessibility to the 2nd floor, & ADA bathrooms); inadequate stair widths and hand railings, stair riser and tread dimensions; and other building and life safety code violations. There is a lack of sufficient, secure filing space, and public areas and staff workspaces are small and cramped.

Of real concern is the lack of privacy and security for several departments. Also, there is an overall lack of meeting space for employee use and for public meetings, as well as no maintenance supply room or employee break room.



Town Hall & Storage Garage

Department Descriptions

Town Administrator

The Town Administrator provides customer services to residents, reports to the Selectmen, and has responsibility for assessing matters, finance/accounting, human resources, and the administration of town business. The Town Administrator interacts closely with the Town Planner, Building Department, Health, Welfare, Town Clerk/Tax Collector, Treasurer Department, and outside organizations including the Highway Department, Transfer Station, and the Fire and Police Departments. Direct staff includes the Town Secretary, Town Bookkeeper, and Janitor. The Administrator's tasks include daily public interaction, but also require security and privacy. A small meeting room is needed, as well as additional filing and working space.

Town of Lee, New Hampshire

Town Offices Needs Assessment

October 2007

The Treasurer does not require public access, but is currently in the open plan business area. Secure space and additional lateral files are needed. A secure vault is required for Assessor vital documents and would be shared with the Town Clerk. Currently there is a main copier, a smaller copier, a printer, and open storage of paper supplies. The network computer is not in a secure space as is required.

The Town Bookkeeper does payroll and other normal bookkeeping duties. Additional lateral files are needed, as well as secure storage for checks.

The Supervisor of the Checklist, composed of three part time employees, registers new voters, maintains a voter database and assists at elections. The Department interacts with the Town Clerk. Some secure filing cabinets and storage bin space is required, as well as access to a meeting room. The area used for public enrollments is required to be ADA accessible. A copier, shredder, and computer are required to access to the NH State database.

Selectmen

The Selectmen work directly with the Town Administrator, meeting several times a month. They require a publicly accessible meeting room with a head table and chairs to sit a minimum of 15 persons, seating for an additional 75 persons, storage space for television broadcasting equipment, and miscellaneous storage.

Town Clerk/Tax Collector

The Town Clerk's office, currently with two employees, processes car registrations, dog registrations, marriage certificates, liens, and voter registrations, maintains all vital records, collects taxes for the Town, and swears-in appointees and elected officials. While public contact is required, limited and restricted access is necessary. Visual contact to the public from all areas of the office is necessary, but private workspace is also needed. A walk-in fireproof safe is required for vital file storage. The Town Clerk has verbal contact with the Town Bookkeeper, but needs physical access to the Assessor files. As the town grows the number of employees and filing requirements will grow.

Planning/Zoning/Health/Code Enforcement

The Department covers all planning/zoning functions, health official functions, and code enforcement operations, as well as serving as the information center for all land use related matters. The Department is currently housed on the 2nd floor of the main building. Access to this area is not code conforming.

Many people come into the office to meet with staff and view plans and other documents. The staff's responsibilities cover a wide range of activities and enforcement including other work as directed by the Selectmen and other committees and boards.

Space needs for the Department includes an additional room for files and plan storage, a meeting area with large table and large eraser board, a private office for meetings and work, and additional filing cabinet space.

General Assistance

General Assistance is a financial assistance and counseling service for individuals and families, requiring office and meeting space for employees. Other Departmental contact may be by phone or through the Internet. Personal security is needed because of potentially hostile clients. The Department should have a waiting room, reception counter with shared secretary and private office areas.

Committees

The Conservation Committee supports land protection and provides recommendations to Zoning and Planning for town owned properties, as well as conducting education and outreach programs. Currently the Committee has an office and adjacent room for meetings. Monthly meetings are held with the public. Lockable file cabinets are required. This Committee could share an office and meeting room.

The Heritage and Agricultural Committees meet once a month and can share office and meeting space. Additional storage space is required.

The Recreation Department currently does not have its own office space and could share space with another committee provided that locked file and storage space is available for health and contact information of participants in Town recreational activities.



Town Hall Annex

Existing Town Hall Square Foot Calculations

<i>Use</i>	<i>Room Assignment</i>	<i>Square Feet</i>	<i>Comment</i>
FIRST FLOOR			
Entry	Front Vestibule	20 sf	Not ADA accessible
Public	Public Access/ Information	183 sf	inadequate space
Public	Town Meeting Room	314 sf	Seats 25, head table seats 8
Office	Secretary	152 sf	Inadequate workspace

Town of Lee, New Hampshire
Town Offices Needs Assessment
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Office	Town Administrator	162 sf	Inadequate security, and privacy
Office	Treasurer	132 sf	Shared space & inadequate security
Office	Book Keeper	126 sf	Shared space & inadequate security
Office	Assessor Files	72 sf	Secured vault, additional files required
Storage	Supervisor of the Checklist	22 sf	Secure area required, computer access
Office	I T/ Network Server	65 sf	Secured area required
Toilet	Handicapped Toilet (Addition)	45 sf	Room width deficient
Toilet	Toilet/ Storage (Addition)	46 sf	2 nd H/C Toilet required, currently shared
Circulation	Hall (Addition)	36 sf	General circulation lacking, undersized
Circulation	Coffee Nook (Addition)	45 sf	Break room and kitchen required
Office	Town Clerk/Tax Collector (Addition)	301 sf	Larger secure vault, storage required
Circulation	Stair	45 sf	Code deficient
Net SF		1,752 sf	

SECOND FLOOR

Office	Planning, Zoning, Health, Depts.	472 sf	No ADA access, no public reception
Office	Code Inspector Office	260 sf	Adequate size, but no security or privacy
Storage	Storage	51 sf	Moldy, sloping rafters
Circulation	Stair	30 sf	Code Deficient
HVAC	Mechanical Room (Addition)	196 sf	Attic space
Storage	Storage (Addition)	196 sf	Unused attic space
Circulation	Hall (Addition)	93 sf	Rear access to stair, code deficient
Net SF		1,349 sf	

Circulation	Exterior Stair	75 sf	Unprotected, Code deficient
Walls, chases etc.	Multiplier	335 sf	Added to net square footage

EXISTING TOWN HALL Gross SF **3,436 GSF** Net SF plus .11 multiplier

Existing Town Hall Annex Square Foot Calculations

<i>Use</i>	<i>Room Assignment</i>	<i>Square Feet</i>	<i>Comment</i>
Entry	Front Vestibule	48 sf	Second airlock door missing
Office	Meeting Room	200 sf	Central room
Office	Conference	187 sf	Exterior door without airlock
Office	Conservation Office	134 sf	Sufficient space
Office	Welfare Office	126 sf	Lacking security
Maintenance	Janitor/ Phone/ Fire	133 sf	Inadequate storage, no security
Toilet	Toilet	31 sf	Not ADA accessible
HVAC	Furnace	25 sf	Access through Toilet
Storage	Storage Vault	93 sf	Inadequate storage
Net SF		977 sf	
Walls, chases etc.	Multiplier	127 sf	Added to net square footage
EXISTING TOWN HALL ANNEX Gross SF		1,104 SF	Net SF plus .13 multiplier

Town Hall Proposed Square Footages

<i>Use</i>	<i>Room Assignment</i>	<i>Square Feet</i>	<i>Comment</i>
Vestibule	Front Vestibule	49 sf	Energy saving airlock
Circulation	Main Lobby/Reception	140 sf	Map display; directories
Circulation	Corridors	200 sf	Serves offices
Public	Town Hall with TV storage	800 sf	Seats 75, head table seats 15
Public	Public Access/ Information	240 sf	Includes computer, file access, table
Toilet	ADA Accessible Bathroom	128 sf	Serves public and offices (Men)
Toilet	ADA Accessible Bathroom	128 sf	Serves public and offices (Women)
Maintenance	Janitor Closet	100 sf	Equipment, supplies, slop sink
Electrical	Telephone/Electrical Room	40 sf	Building systems
Fire Alarm	Fire Alarm Closet	10 sf	Building systems
Mechanical	Mechanical Room	200 sf	Serves entire facility
Office	Town Administrator	180 sf	Workstation, mtg. area w/ table & chairs
Office	Conference Room	160 sf	Shared meeting room
Office	Secretary (Shared)	210 sf	File storage; workstation
Office	Bookkeeper	180 sf	File storage; two (2) workstations
Office	Treasurer	100 sf	File storage; workstation
Office	Assessor	120 sf	File storage; workstation
Office	Assessor Files	220 sf	Secure file room
Office	Copy/Mail Room	160 sf	Office supplies; layout counter; mail
Office	IT/Network Server Room	120 sf	Office Systems; workstation
Office	General Assistance – Welfare	180 sf	Workstation, meeting area, security
Office	Employee Break Room	180 sf	Kitchenette; table & chairs
Storage	Supervisor of the Checklist	60 sf	Secure storage; handicapped booths
Circulation	Reception Area (Town Clerk)	120 sf	Waiting area
Circulation	Waiting/Line Cue	120 sf	Adequate public counter, security glass
Office	Town Clerk/ Tax Collector	300 sf	Four (4) workstations; files; copiers
Office	Vital Records	60 sf	Secure, fire rated vault
Office	Town Clerk Storage	192 sf	General storage
Office	Town Clerk Office	120 sf	Separate office w/ meeting area
Circulation	Reception Area (Planning Dept)	80 sf	Waiting area, service counter
Office	Planning/Code Inspector Office	180 sf	Plan review table; flat files; shelves
Office	Planning/Code Assistant	150 sf	Work area; files; secure behind counter
Office	Conference Room	150 sf	Multi-use meeting space
Office	Planning Department File Room	300 sf	Storage for plan files, etc.
Storage	Planning Dept/Storage	60 sf	Secure Storage
Circulation	Existing Town Hall Stair	<u>45 sf</u>	Maintain Existing Stair
Net SF		5,782 sf	
PROPOSED TOWN HALL Gross SF		6,534 GSF	Net SF plus .13 multiplier

Town of Lee, New Hampshire

Town Offices Needs Assessment

October 2007

Town Hall Annex Proposed Square Footages

Entry	Front Vestibule	48 sf	Add second door for airlock
Office	Meeting Room	200 sf	Shared central room
Office	Conference	187 sf	Shared committee use
Office	Conservation Office	134 sf	Sufficient space
Office	Committee	126 sf	Shared committee room
Maintenance	Janitor	115 sf	Equipment; supplies for annex only
Toilet	Toilet	49 sf	Enlarge, make ADA accessible
HVAC	Furnace	25 sf	Access through central room
Storage	Storage	93 sf	Shared storage
Net SF		<u>977 sf</u>	

TOWN HALL ANNEX Gross SF

1,104 GSF

Net SF plus .13 multiplier

Second Floor Design Consideration

Town Hall Building

The Town Hall Proposed Square Footages are based on a single floor layout. If a second floor is desired, an ADA accessible Elevator, two (2) Egress Stairs, and additional circulation space will be required.

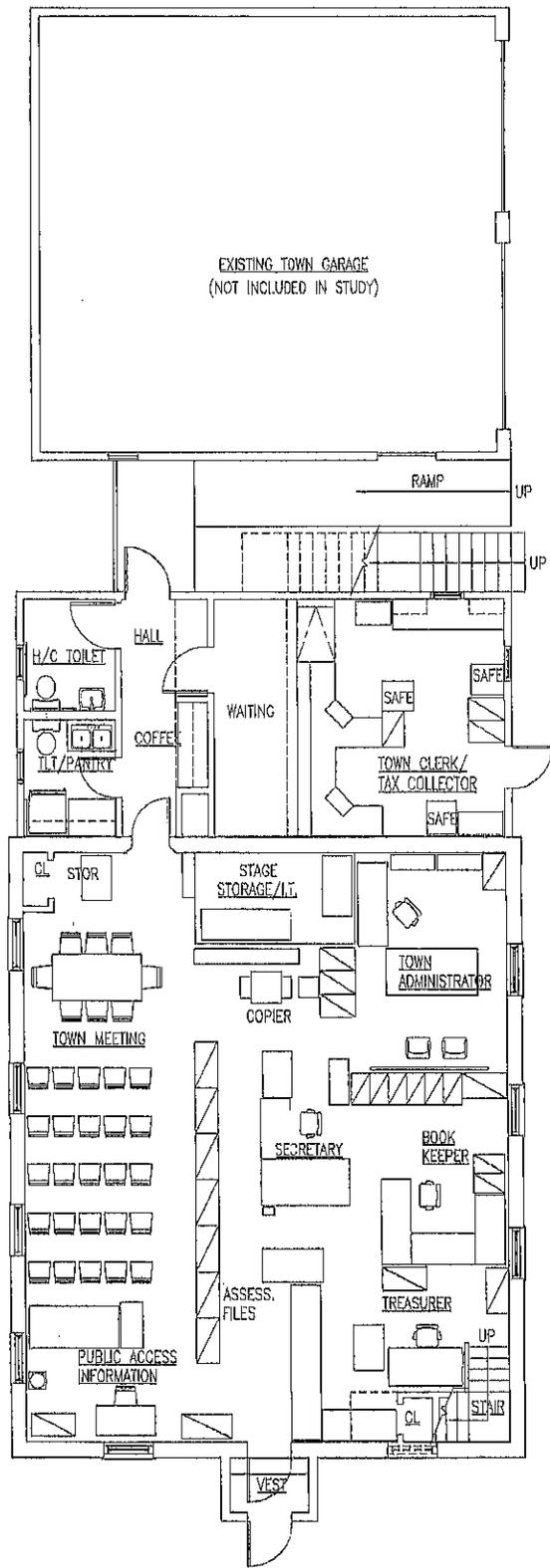
<i>Use</i>	<i>Room Assignment</i>	<i>Square Feet</i>	<i>Comment</i>
FIRST FLOOR			
Circulation	Main Stair	200 sf	Serves offices
Circulation	Elevator	50 sf	Provides ADA access to second floor
Elevator	Elevator Machine Room	50 sf	Building systems
Stair	2 nd Egress from Second Floor	180 sf	Serves offices
Circulation	Elevator Lobby and Corridor	120 sf	Serves offices
SECOND FLOOR			
Circulation	Main Stair	200 sf	Serves offices
Circulation	Elevator	50 sf	ADA accessible
Stair	2 nd Egress	180 sf	Serves offices
Circulation	Elevator Lobby and Corridor	<u>120 sf</u>	Serves offices
Net SF		1,150 sf	

PROPOSED TOWN HALL

SECOND FLOOR SUPPORT Gross SF

1,300 GSF

Net SF plus .13 multiplier



TOWN HALL FIRST FLOOR PLAN
 SCALE: 1/8"=1'-0"

Lee Town Offices Needs Assessment

Lee, New Hampshire 03861

SDA Sumner Davis Architects, Inc.
 959 Millington Street,
 Portsmouth NH 03801
 603-436-8891 603-436-1121 fax

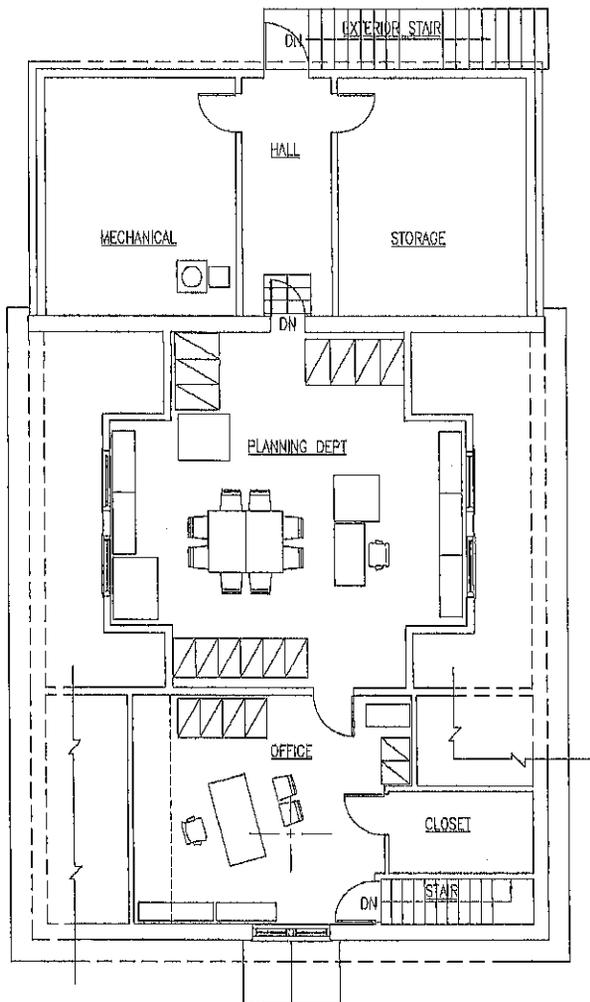
SCALE: As Noted

DRAWN BY: GWL

DATE: October 16, 2007

CHKD BY: WKD

PROJECT NO.: 27-045



TOWN HALL SECOND FLOOR PLAN

SCALE: 1/8"=1'-0"

Lee Town Offices Needs Assessment

Lee, New Hampshire 03861

SDA Summer Davis Architects, Inc.
 959 Islington Street,
 Portsmouth NH 03801
 603-436-8891 603-436-1121 fax

SCALE: As Noted

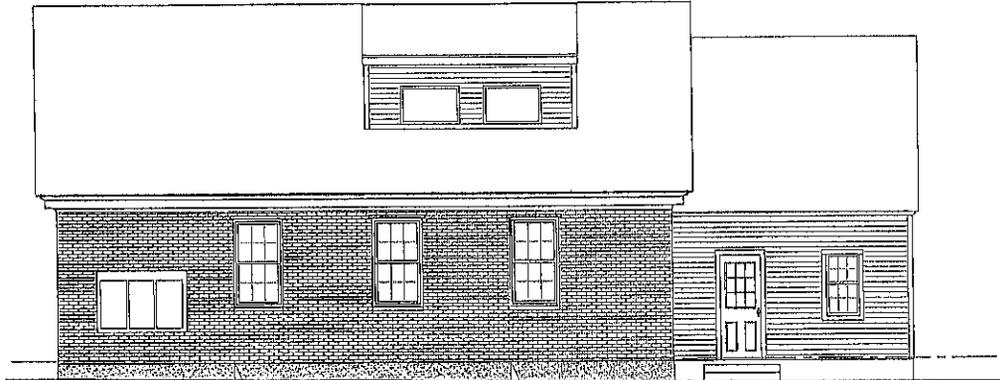
DRAWN BY: GWL

DATE: October 16, 2007

CHKD BY: WKD

PROJECT NO.: 27-045

EX2



TOWN HALL SIDE ELEVATION

SCALE: 1/8"=1'-0"



TOWN HALL STREET ELEVATION

SCALE: 1/8"=1'-0"

Lee Town Offices Needs Assessment

Lee, New Hampshire 03861

SDA Sumner Davis Architects, Inc.
 959 Islington Street,
 Portsmouth NH 03801
 603-436-8891 603-436-1121 fax

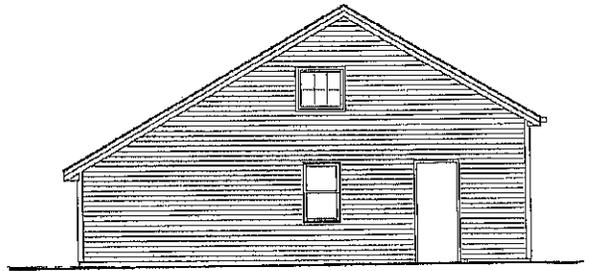
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DRAWN BY: GWL

DATE: October 16, 2007

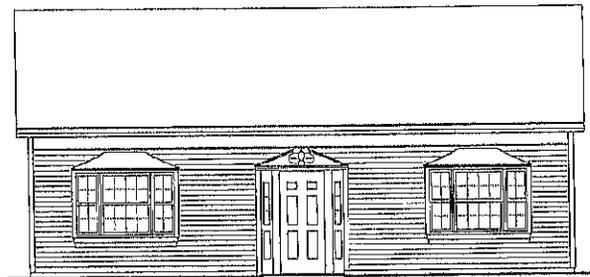
CHKD BY: WKD

PROJECT NO.: 27-045



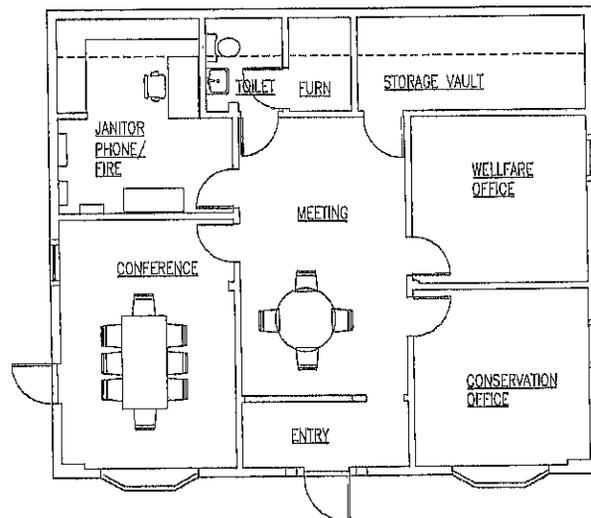
ANNEX SIDE ELEVATION

SCALE: 1/8"=1'-0"



ANNEX STREET ELEVATION

SCALE: 1/8"=1'-0"



ANNEX FLOOR PLAN

SCALE: 1/8"=1'-0"

Lee Town Offices Needs Assessment

Lee, New Hampshire 03861

SDA Summer Davis Architects, Inc.

959 Islington Street,
Portsmouth NH 03801
603-436-8891 603-436-1121 fax

SCALE: As Noted

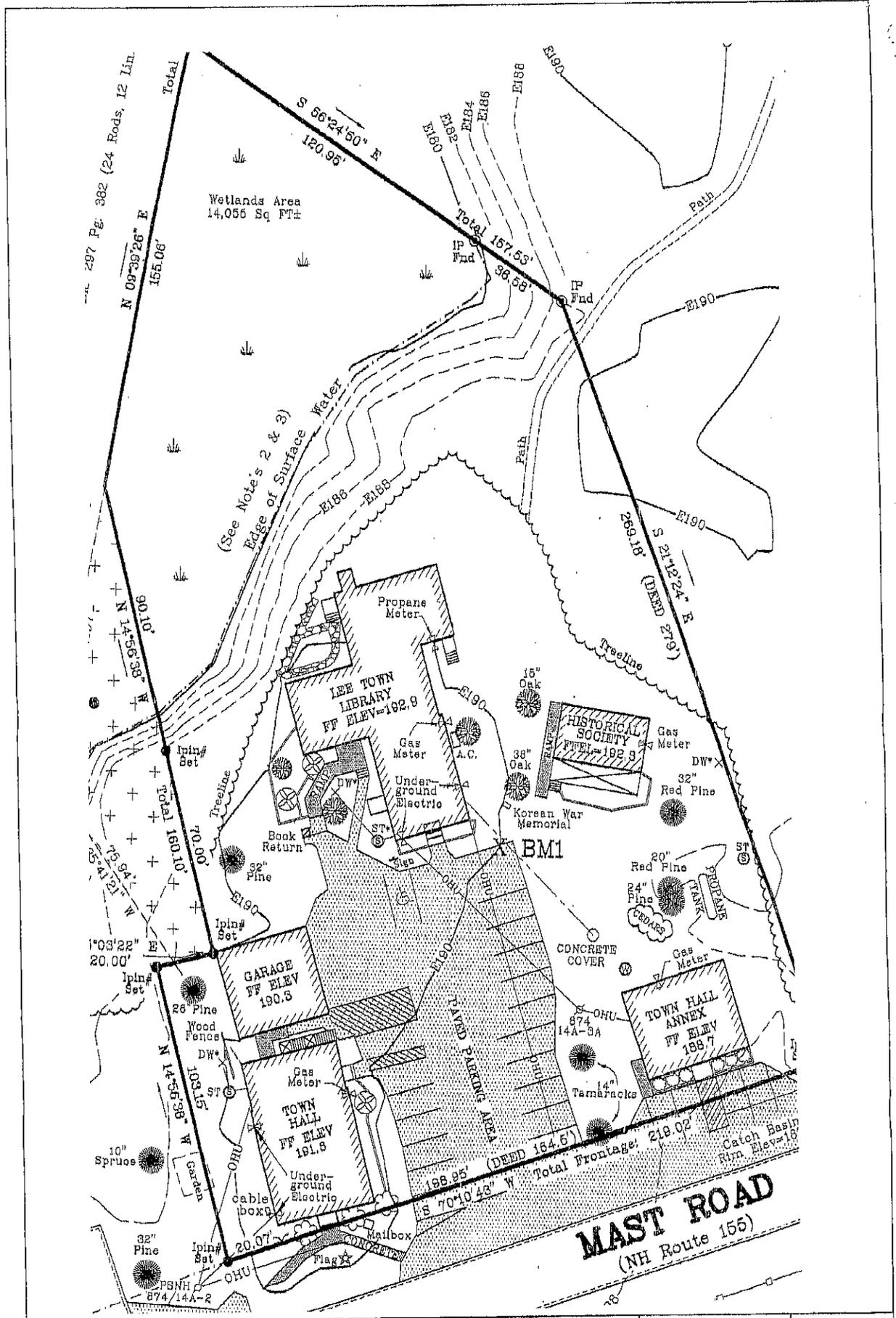
DRAWN BY: GWL

DATE: October 16, 2007

CHKD BY: WKD

PROJECT NO.: 27-045

EX4



Lee Town Offices Needs Assessment

Lee, New Hampshire 03861
 SDA Sumner Davis Architects, Inc.
 959 Islington Street,
 Portsmouth NH 03801
 603-436-8891 603-436-1121 fax

SCALE:	As Noted
DRAWN BY:	GWL
DATE:	October 16, 2007
CHKD BY:	WKD
PROJECT NO.:	27-045

EX5

Town of Lee
Town Hall, Library and Bricker Parcel Overview
July 20, 2009 Site Walk

Town Hall

- Built in 1846, at original Mast Road/Town Center location
- Greek Revival style of architecture, stone foundation, brick exterior, clapboard gable roof
- Underpinnings and granite doorstep came from the town's first meeting house, built about 1766
- Tramp House (Garage) constructed in 1920s with remodel/addition sometime in the 1950s
- Two story, clapboard addition constructed in 1968
- Library established in 1892 and located in second floor of town hall until 1962
- Currently serves as work space for town administrator, secretary, bookkeeper, welfare officer, tax assessor, IT administrator, town clerk/tax collector and assistant and the Code Enforcement officer and secretary

Library

- Center School House, constructed in 1897. was moved from Lee Hook Road to present Town Center/Mast Road location in 1962 and remodeled for use as a library
- Gable roof, wood frame, clapboards
- Small addition constructed to rear of schoolhouse in 1972
- Small addition, featuring new main entrance, constructed in 1984
- Rear addition, featuring basement meeting room, constructed in 1996
- Collection features 25,000 +/- items
- 1 full-time library director, four part-time staff

Bricker Parcel

- 5.11 acres located on North River Road/Rte 155
- Adjacent to Little River Park, future site of town recreation fields and nature trails
- Purchase approved at March 2006 Town Meeting, for \$215,000, with up to \$5,000 for transaction costs, for a total of \$220,000
- No conservation easements or restrictions placed on property; town has full discretion as to how to develop this parcel
- Southern exposure, sloped landscape with a great view overlooking Little River Park lends itself to possible "green" construction

APPENDIX C
CONSULTANT REPORTS

Lee Town Buildings - Structural Inspection Summary

Main Rafters Ceiling Joists/Beams Shed Rafters Floor Joists Floor Beam Floor Columns

Annex	30% overstressed excessive deflection	stress ok deflection ok	unknown	n/a	n/a	n/a
<p>Gables and the front eave lines appear straight and the eave line appears level. The rear eave line is bowed outward. The ridge line appears to be level. Rear shed rafters have a noticeable permanent center span deflection.</p>						

Garage	stress ok excessive deflection	n/a	40% overstressed excessive deflection	n/a	n/a	n/a
<p>Gables and the rear eave lines appear straight and the eave line appears level. The front eave line is bowed outward. The ridge line is deflected downward. Large door headers are adequately sized. Studs are undersized with respect to wind loads. The two 4x6 ties at the top plate provide insufficient strength to support lateral forces in the main rafters. There is insufficient lateral strength in the structure's long direction.</p>						

Historical Building (50 psf live load)	unknown	unknown	n/a	stress ok excessive deflection	60% overstressed excessive deflection	170% overstressed
<p>Eave lines appear straight and level except at all four corners where deflection is noticeable. The ridge line appears to be level. Additional posts and footings will be required to support the first floor beam.</p>						

Library (150 psf live load)	stress ok (original) excessive deflection	stress ok deflection ok	n/a	overstressed (original) excessive deflection 20% overstressed (97) deflection ok	stress ok deflection ok stress ok deflection ok	stress okay (original) stress ok (97)
<p>All building lines appear straight and true. Roof framing for three additions used pre-engineered trusses. Joists and beams in the two earlier additions were not accessible.</p>						

Town Office (65 psf live)	stress ok (original) excessive deflection stress ok (addition) deflection ok	unknown unknown	n/a	stress ok excessive deflection	stress ok excessive deflection	n/a
<p>Gable lines appear straight. Eave lines appear straight and level. There is noticeable permanent deflection in the high ridge. The low ridge line appears to be level. Areas under the original floor joists will require additional support to decrease deflection.</p>						

DESIGN DAY MECHANICALS INC

10/2/09

Dennis Mires The Architects, PA
697 Union Street
Manchester, NH 03104

Attention: Dennis Mires

Re: Lee, New Hampshire Town Offices, Library, Zoning & Planning, and Historical Society Buildings – Existing Mechanical Systems

I visited the above referenced site to observe existing heating, ventilating, air conditioning and plumbing systems on Tuesday, September 22, 2009. The following was noted.

Existing Common Utilities:

- Heating fuel for the four buildings on this site is propane, supplied from a common 1000 gallon tank located behind the
- Also located behind the Zoning and Planning Building is a domestic water well head. The well water expansion tank appears to be located in the mechanical room of the Zoning and Planning Building, and distribution piping for domestic water to the other three buildings appears to originate in this same room as well.
- There is a sump tank cover also located behind the Zoning and Planning Building. I assume this houses a septic system pump that pumps sewage to a septic system settling tank and drainage field. Perhaps this can be confirmed with State approved septic system design plans that should be kept on file, if not in Lee, then at the New Hampshire DES Wastewater Engineering Bureau.

Recommendations for the Common Utilities:

- If the Town of Lee chooses to reuse any or all of these buildings, propane continues to be a cleaner fossil based fuel, though more expensive than either fuel oil natural gas, which I don't believe is available.
- If the Town would like to entertain alternative sources of energy such as biomass (wood chips or pellets), or geothermal, the relatively close proximity of these four buildings would lend itself to a district style heating plant with underground distribution of heating water, and heating and cooling water if geothermal systems are installed.

David E. Goddard, P.E. • 1 Mapleleaf Drive, Nashua, NH 03062 • (603) 888-1632, FAX (603) 888-1632 • davidegoddard@verizon.net
Douglas C. Waitt • 369 Page Hill Road, P.O. Box 447, New Ipswich, NH 03071 • (603) 291-0111, FAX (603) 258-8355 • dougwaitt@comcast.net
Richard D. Gagnon • 84 Gifford Street, Manchester, NH 03102 • (603) 668-5027, FAX (603) 668-3339 • rdgjhg@comcast.net
John L. Waitt • 148 Beaver Ridge Road, Center Barnstead, NH 03225 • (603) 269-7253, FAX (603) 269-7253 • jlwad@worldpath.net

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Existing Heating Systems:

Town Offices:

- The Town Offices are heated with a Weil McLain standard efficiency propane fired boiler with three zone circulator pumps with controlling night setback thermostats connected to fin tube radiation, two zones on the first floor, front and back, and one zone on the second floor.

Library:

- The Library is heated with two forced warm air standard efficiency propane fired furnaces each with controlling night setback thermostat, a Magic Chef unit for the original parts of the building with a ductwork system located in the basement and adjacent crawl space, and an Olsen unit with ductwork in the ceiling of the lower level reading room for the lower Reading Room level and main level of the latest Library addition. Diffusers and grilles are in the floor for the main level, and in the exposed ductwork in the lower level Reading Room

Historical Society Building:

- The Historical Society Building is heated with an Empire direct vent through the wall propane furnace .

Planning and Zoning Building:

- The Planning and Zoning Building is heated with a Burnham standard efficiency propane fired boiler with one zone circulator pump with controlling night setback thermostat connected to fin tube radiation.

Recommendations for Existing Heating Systems:

- If the Town decides to continue with the traditional propane fired heat systems they currently use, they should consider upgrading them to higher efficiency condensing type furnaces and boilers. These existing systems have a normal life expectancy of 15 years for the furnaces, and 20 years for the boilers. The Historical Building unit is relatively new and would be the last unit I would recommend replacing.
- If a centralized biomass heating plant is used, the existing systems, except for the Historical Building unit, can be retrofit to accommodate the new centrally produced hot water energy. The baseboard systems would remain essentially as they are, and the furnaces could have duct mounted hot water coils. In the case of the Library, that would allow for separate control of the lower level Reading Room, which is currently controlled by the heating thermostat located upstairs. The

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Historical Building would need a cabinet hot water unit heater to replace the through the wall furnace.

- If a centralized geothermal system is used, more extensive changes will be required for the Town Offices and Planning and Zoning Building as the existing hot water baseboard would not be sufficient to heat the buildings with the lower temperature water that a geothermal system produces. New radiant floor heating systems may be a good option, though more problematic in the Planning and Zoning Building with its concrete slab floor.

Existing Air Conditioning Systems:

Town Offices:

- The Town Offices are air conditioned in the normally occupied spaces with through the wall air conditioning units.
- The unfinished eave area of the attic houses a computer server, and is air conditioned with a free standing air conditioning unit with condenser heat air ducted to the outside through the building eave.

Library:

- The original parts of the Library that are heated with the Magic Chef propane furnace, are also cooled with a Lennox packaged air conditioning unit located on the ground immediately outside the basement area that houses the furnace. This unit is connected with ductwork that runs through the basement wall and connects to the supply and return ductwork system for the furnace. There are two sets of dampers, one set on the supply and one set on the return, that are opened and closed depending on whether the building is using heat or cooling.
- There are also two supplementary through the wall air conditioning unit for the upper level Library addition.

Historical Society Building:

- The Historical Society Building has no occupied space air conditioning, but does have a stand-alone dehumidifier for the basement.

Planning and Zoning Building:

- The Planning and Zoning Building is heated with a Burnham standard efficiency propane fired boiler with one zone circulator pump with controlling night setback thermostat connected to fin tube radiation.

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Recommendations for Existing Air Conditioning Systems:

- The existing Library packaged air conditioning unit appears to be relatively old. If it fails, or requires significant service, and new higher efficiency unit should be installed. Rebates are available from the electric utilities for higher efficiency air conditioning unit.
- The through the wall units are hard to beat for inexpensive air conditioning for short periods of the year. If more permanent air conditioning systems are desired, ones that do not need to be taken in and out of windows every season, either for aesthetic or efficiency reasons, ductless split systems are available with higher efficiency ratings that are also eligible for utility company rebates.

Existing Ventilation and Exhaust Systems:

- There is no apparent mechanical ventilation for any of the buildings. Outside air requirements are provided, or not, by opening windows, or relying on uncontrolled building outside air infiltration.
- Toilet exhaust is required for code compliance in toilet rooms, and appear to be operable in the toilet rooms in the Town Offices, Library, and Planning and Zoning. There is no toilet in the Historic Building.

Recommendations for Ventilation and Exhaust Systems:

- With the current building envelopes in these four buildings, there is probably sufficient uncontrolled infiltration to provide sufficient minimum required amounts outside air for the occupants. If however the building envelopes are tightened as a part of energy saving measures, as they should be, the amount of infiltration would hopefully be reduced so that mechanically provided outside air would be required for a healthful inside environment. Outside air can be provide with energy recovery ventilators, or, in the case of the Library that has ducted heating systems, with direct connections from the return air ductwork system to the outside with motor operated dampers that open and close in response to carbon dioxide levels within the occupied spaces.

Existing Plumbing Systems:

- Domestic hot water is provided by a propane fired water heater in the Town Offices, and by electric heaters in the Library and Planning and Zoning Building. There is not domestic water hot or cold in the Historical Society Building.
- The only toilet facility that appears to be fully ADA compliant is in the Library.

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Recommendations for Plumbing Systems:

- If high efficiency boilers are used to replace the existing boilers in the Town Offices and Planning and Zoning Building, indirect fired water storage tanks could be used to replace the existing standard efficiency propane and electric water heaters in these buildings. High efficiency propane fired domestic water heaters are available to replace the electric water heater in the Library. However, due to the limited usage of domestic hot water in all these facilities, significant expenditure on new domestic water heating systems would have a relatively long economic payback.
- Instantaneous electric water heaters are also a good consideration to standard electric water heater storage tanks as they have no standby losses. These should only be considered when the current systems fail.
- New ADA accessible plumbing fixtures should be included as a part of new additions and renovations.

Respectfully submitted,

DESIGN DAY MECHANICALS, INC.



Douglas C. Waitt

October 4, 2009

TOWN OF LEE, NH – TOWN CENTER STUDY OF EXISTING ELECTRICAL SYSTEMS

INTRODUCTION

On September 22, 2009, we visited the Lee Town Center site, talked with Town officials and examined the five Town Buildings; the Town Hall/Offices, the Garage/Barn, the Library, the Historical Society Building and the Town Hall Annex. Most of these buildings are older, historic structures. I believe the Town Hall was a school house from 1766, the Library had also been a school and the Historical Society building had been the railroad depot train station. All were moved to this site. The Annex is a relatively new building. We examined each buildings electrical systems and the following report documents our findings.

Site Electrical Distribution

There is single phase electrical power at 120/240 volts to each building. Electrical utility primary power comes from the south overhead on utility poles. The high voltage primary power stops at the pole to the south of the Town Hall with a pole mounted transformer that provides secondary, 120/240v single phase power to all five buildings. This is done with overhead secondary power and service laterals run to each building, with the exception of the Historical Society Building which is fed underground from the Library panel. The telephone and CATV cables come overhead from the south with the secondary power. Comcast is the TV cable provider. The nearest three phase primary utility power is five poles away to the north, about 1500 feet.

TOWN HALL

The Town Hall Building was originally a school house from 1766. It has been renovated and an addition was put on the back.

- The Town Hall building has a 100 amp, 120/240 volt, single phase service coming in overhead from a pole to the south at the street.
- The main panel is an old Federal Pacific (FPE) 125 amp panel with a 100 amp main breaker and 24 single pole full size positions all full with one 30/2 (30 amp, 2 pole) breaker for the kitchen range; 60/2 breaker feeding an upstairs sub panel; a 20/2

breaker feeding something marked "Library"; a 20/2 breaker marked "A. Couttet" and the rest are 20 amp, single pole, 120 v breakers for general power and lighting.

- The upstairs sub panel is an ITE Load Center, 100 amp, 20 position panel with seven 20/1 breakers; six 15/1 breakers and seven available spaces.
- Almost all the wiring in the building is NM cable ("Romex"). There may be some problems with overloaded circuits.
- Data and telephone wiring in the building is not code compliant with wires and cables being draped over doorways and randomly in and through spaces – see pictures attached.
- The lighting is primarily fluorescent, surface "wrap" fixtures – two lamp, acrylic lensed fixtures with older T12 fluorescent lamps and magnetic ballasts. There are some older incandescent fixtures. There are exterior, HID (High Intensity Discharge) wall packs for exterior lighting.
- There are exit signs and emergency lights from self contained emergency battery units (EBU) which generally appear to meet current code requirements.
- The fire alarm system consists of pull stations at exits, and a mix of heat and smoke detectors, with relatively new horn/strobe alarm indicators. The main fire alarm control panel (FACP) is a Silent Knight 5207 addressable system and is actually located in the Annex with interconnecting cables to each building, so all buildings are on the same system with the main FACP in the Annex. There are fire alarm/security interface panels in each building. The one in the Town Hall is located in the north eave/attic space where the computer servers are located.
- There is an Ademco security system with door contacts and motion detectors. There is also an emergency call system with push buttons for initiation and automatic call to the local police.
- There is automatic notification for a fire or security alarm condition.
- Sea Coast Lock and Safe Company at 800-698-3818 appears to be the installer and service company for the fire alarm systems and the security systems.

LIBRARY

The Library has been added on to several times, in 1974, the 1980s and the 1990s. The original building was a school house from 1846.

- The Library has a 200 amp, 120/240 volt, single phase service coming in overhead to a meter on the front of the building and a relatively new main electrical panel in the basement.
- The main panel is a Siemens ITE G4040MB 1200 CU panel with a 200 amp main breaker and 42 breaker positions.
- There are the following breakers: 70/2 breaker which feeds the Historical Society Building; 30/2 breaker for the range; 100/2 feeding a sub panel in the new addition (basement); 50/2 breaker for the central air conditioning; and the rest are 20 amp and

15 amp single pole breakers for general lights and power. There are five (5) spaces for additional breakers.

- The main panel has surge protection.
- There is a remote plug connection for connecting a mobile generator during a power outage to maintain heat.
- Most of the wiring is NM cable (“Romex”)
- The sub panel in the basement is located in a boxed in enclosure which does not allow adequate, code required access and clearance.
- The lighting is primarily fluorescent, surface “wrap” fixtures – two lamp, acrylic lensed fixtures with older T12 fluorescent lamps and magnetic ballasts. There are exterior, HID wall packs for exterior lighting.
- There are exit signs and emergency lights from self contained emergency battery units (EBU) which generally appear to meet current code requirements.
- The fire alarm system consists of pull stations at exits, and a mix of heat and smoke detectors, with relatively new horn/strobe alarm indicators. The main fire alarm control panel (FACP) is a Silent Knight 5207 addressable system and is actually located in the Annex with interconnecting cables to each building, so all buildings are on the same system with the main FACP in the Annex. There are fire alarm/security interface panels in each building. The one in the Library is located in the basement under the original building.
- There is an Ademco security system with door contacts and motion detectors.
- There is automatic notification for a fire or security alarm condition.
- Sea Coast Lock and Safe Company at 800-698-3818 appears to be the installer and service company for the fire alarm systems and the security systems.

ANNEX

The Annex is a relatively new one story building.

- The Library has a 200 amp, 120/240 volt, single phase service coming in overhead to a meter on the south end of the building and a relatively new main electrical panel in the utility room – see photos.
- The lighting consists primarily of fluorescent fixtures – most are 2’x4’ 3 and 4 lamp recessed “troffers” which have older T12 lamps and magnetic ballasts.
- The Silent Knight main fire alarm control panel is located here in the Utility Room – see photos.

HISTORICAL SOCIETY BUILDING

This building was originally the train station depot.

- The electrical service and panel here is a 100 amp, 120/240 volt panel fed from the Library with a 70 amp, 2 pole breaker. There is a main breaker and six single pole breakers for general power and lights. There are 18 or 20 spaces for additional breakers.
- The lighting consists of residential fixtures and some track with incandescent lamps.
- There is really minimal electrical wiring in this building.

GARAGE/BARN (Behind the Town Hall)

There is very minimal wiring to this building coming over from the Town Hall. There are a few lights and outlets. The wiring does not meet current National Electric Code (NEC) requirements.

GENERAL DISCUSSION AND CONCLUSIONS

These are old, historic buildings that have been renovated and fitted out with electrical power, lights, exit and emergency lights and fire alarm systems to serve as office space, Library and other spaces for Town operations.

There are some limits to what can be done with these buildings electrically. Currently, there is no three phase electrical service easily available and it could cost tens of thousands of dollars to get it to the site. This means that there are very limited options for elevators and larger HVAC systems with only single phase power available.

If these buildings are to remain in use, the lighting in the buildings could and should be upgraded and improved. The use of more modern, linear indirect/direct fixtures in some of the spaces, like the Town Hall main floor, with the new T8 “High Performance” lamps and electronic ballasts would save operating costs while providing much improved lighting quality.

If these buildings remain in use, it would be worth considering “cleaning up” the electrical and telephone site services to the buildings by putting these services underground to the buildings, and a permanent emergency generator system to power all or some of the buildings automatically.

Other than that, there are no major problems or hazards, and the Life Safety systems that have been added (fire alarm, exit and emergency lighting) are essentially code compliant.

End of Preliminary Report

LEE TOWN CENTER

ELECTRICAL REPORT – PHOTOS

OVERHEAD SERVICE TO TOWN HALL – LAST PRIMARY LINE AND TRANSFORMER





LIBRARY SERVICE ENTRANCE AND METER

TOWN HALL DATA/TEL AND CATV HEAD END IN ATTIC



TOWN HALL ILLEGAL WIRING TO RECEPTACLE



TOWN HALL ILLEGAL WIRING AND CABLING BEHIND AIR GRILLE



TOWN HALL ILLEGAL WIRING AND CABLING ALONG HEAT PIPES EXPOSED



LIBRARY MAIN PANEL WITH TRANSFER SWITCH ON LEFT FOR
EMERGENCY GENERATOR TO HEATING CIRCUIT



LIBRARY BASEMENT SUB PANEL



HISTORICAL SOCIETY UPSTAIRS LIGHTING



ANNEX FIRE ALARM MAIN PANEL AND ELECTRICAL SERVICE PANEL (AND QUESTIONABLE WIRING)

