

5. Proposed Uses

Analysis

BOLA's team of architects and engineers has undertaken a review of available documentation and several preliminary on-site inspections of the building. Analysis tasks included:

- Research on the building's history, original design, original and existing materials
- Identification of significant historic features, and missing ones for reconstruction and restoration
- Collection of historic photos to serve as the basis for exterior restoration and rehabilitation
- Analysis and evaluation of existing mechanical, electrical and structural conditions and systems
- On-site sampling and laboratory testing for hazardous materials content
- Evaluation of accessibility and required code improvements, and upgrading for new functions

A Building Program for Gathering

The Carnegie Preservation Committee has worked with residents of Snohomish to identify potential new uses for the building. At its November 2004 meeting the Committee chose the word "gathering" to encompass all of the proposed functions, and articulated the following new uses for the large Upper Floor Main Room:

- Public and civic meetings, such as neighborhood and candidates' forums or city council hearings
- Classes and seminars, typically around a linear ring of tables or with rows of tables
- Receptions and parties or corporate and family retreats, with the potential for catered meals
- Art exhibits including shows of professional artists and student works
- Performances with minimal special needs. This can include music, gatherings, minimal staged theater and spoken voice and song, such as community choirs. These may be arranged in the center or at one end of the space. The future addition of "stage lighting" should be anticipated, but special theatrical lighting and audio/visual equipment is not included in the plan.
- Film presentations. The proposal provides a switch controlled, roll-down screen, inserted into the ceiling soffit at one end wall, and suggests provision of rows of chairs. This use calls for provision of a ceiling mounted projector for video and DVD projection, and/or a film projector for use with older 16 mm type film.

Many, but not all of these program events will occur in the evening or weekend days. Building circulation should allow for use of the Basement Meeting Room during the same time as the Upper Floor or independently, for classes, meetings, smaller conferences, etc. The Upper Floor will not be optimal for dramatic performances or dance, and will be finished with general rather than theatrical lighting. Power will be distributed to wall and floor outlets, and power provided for the future addition of stage lighting. The Committee suggested that the Basement be finished with more durable and easily cleaned materials, such as a resilient or concrete floor, hard surface walls, etc., for uses such as art classes. The Committee and the architects evaluated four optional designs that featured different locations for new stairs and an elevator, and selected one to refine during this planing project. The Committee agreed that a new enclosed stair should be constructed to link the two floors, and that it should be located on the back or east side of the building.

6. Code Analysis

Project Name Snohomish Carnegie Library

Location 105 Cedar Street, Snohomish, Washington

Description of Proposed Project

The Snohomish Carnegie Library is located within a designated Historic District and is a local landmark. Rehabilitation of the existing, 1910 era, concrete and wood frame Carnegie Library building to allow for a change of use for community gathering, and provide universal access. Work will include removal of an entry lobby and a portion of the addition on the south side of the Carnegie, both of which were added in 1968, and construction of a new, enclosed back exit stair. Interior spaces will be rehabilitated for community use, with provision of a new elevator and required exits, and restoration of the original main entry and exterior wall finishes. System upgrading will include heating and ventilation, plumbing and electrical, seismic and structural systems, provision of fire sprinklers and alarms, and a security system. The site will be rehabilitated with new terrace and restored landscaping. Remaining portions of the one-story 1968 south addition will be provided with a new north perimeter wall and entry. Hazardous materials will be abated as part of the necessary demolition.

Building Code and
Local Authority International Building Code, 2003 Edition
City of Snohomish Title 19

Existing Gross Areas

Current Site:	30,732	Gross Square feet (GSF)
Carnegie Library:	4,585	GSF, First Floor, Mezzanine, Basement, East Stairwell
1968 Addition:	<u>5,088</u>	GSF (lobby, office, toilet/mech., hall and gallery)
	9,673	GSF Total

Proposed Net Areas

(Areas are measured inside 10" and 12" wide concrete walls, plus 6" added for furring and insulation.)

Carnegie Library, Gross:	2,345	GSF, Footprint (35.9' x 60.3' + 19.6' x 9.1')
	4,690	GSF, Total, Two Floors
Carnegie Library, Net:	1,918	Square feet (SF), First Floor (including cabinets and elevator)
	107	SF, Mechanical Mezzanine (no occupancy)
	1,887	SF, Basement
	<u>154</u>	SF, New Stair Addition
	4,066	SF Total
Separate 1968 Addition:	3,425	SF (Entry, Hall, Toilet/Mech. Rm. and Main Space, after demolition and removal of 1,663 square feet)

Proposed Occupancy

The Carnegie Library building will have a new function, with a change of use and an occupancy group defined by the IBC: Section 303, is for Assembly Group A., "Assembly spaces for civic or social functions, recreation, food or drink consumption." A room or space used for assembly purposes for fewer than 50 persons and accessory to another occupancy shall be included in that occupancy. Assembly areas with less than 750 SF, which are accessories to another occupancy, are not assembly occupancies.

The code identifies different assembly uses in A-1, A-2, and A-3 groups:

A-1 Assembly uses, usually with fixed seating, for theaters, concerts, cinemas

A-2 Assembly uses, for food/drink consumption, such as banquet halls

A-3 Assembly uses, for recreation, art exhibits, community halls, dance halls

Section 304, B Business, may be selected for offices and classrooms above 12th grade

A-2 and A-3 Assembly Groups both describe the proposed program of community gathering space. The A-3 occupancy group is for unconcentrated use, such as with tables and chairs. However, based on reviews with the Snohomish Building Code Official, an A-2 Occupancy has been selected. An A-2 occupancy it is consistent with City Code Title 19 for the total proposed number of occupants over 100.

Required Separation

Occupancy separations are required between different uses. However, the entire building is proposed as an A-2 Occupancy.

Construction Type

Construction Type is Type V (non-rated) by virtue of its wood framed roof structure (IBC Table 601). Other materials include:

Exterior: Non-combustible, 10" and 12" reinforced concrete walls

Interior: Wood framing and posts

Roof: Wood trusses (with skipped roof sheathing and clay roof tiles)

Flooring: Wood at First Floor

Allowable Area Calculations

Table 503 indicates that A-2 occupancy is allowed in one-story buildings of up to 40' tall, and up to 6,000 SF for Construction Type V. The Carnegie Library is an estimated 37' tall, from grade to top of roof ridge. It is a one-story building with a basement, with a total proposed size of 4,690 GSF, both within the allowable limits.

Occupant Load

(IBC Table 1004.1.2. A-2 uses at First Floor includes the Main Room and two small wings, together total 1,590 SF (excluding built-in wall cabinets and the elevator, with 1,483 SF +107 SF entry). 1,590 SF/15 persons = 106 maximum occupants. There is no proposed occupancy at the Mezzanine. A-2 uses in the Basement includes the occupied Meeting or Classroom of 848 SF and a Kitchen of 107 SF = 1,055 SF/15 persons = 64 maximum occupants. (No occupants are calculated for the Basement corridor, storage and service spaces).

Total proposed occupants = 106 + 64 = 170

Req. Exits

Two exits are required for each floor with A Occupancies with more than 50 occupants (Section 1014). Thus two exits will be required at each floor. This number of exists will also allow for an increase in occupancy to 200 people.

Egress and Stair Requirements

Based on calculations using the number of occupants, the total minimum width of exits is less than 30". However, width of egress spaces will be greater than that for functionality, comfort, and to meet code and ADA requirements. The minimum width of the back exit stairway width is 48".

ADA and other exit requirements will govern door widths. (Doors may encroach up to 7" into the egress travel route, such as an exit hall.) Stair risers must be 7"h. maximum and treads 11" d. minimum. A place of refuge at each floor is provided within the back exit stairwell.

7. Architectural Conditions and Recommendations

The existing Carnegie Library is a relatively small building, containing approximately 4,600 square feet. Proposed changes to the building must be sensitive to its unique features, and enduring spatial qualities and traditional materials; provide greater flexibility and efficiency; and be responsive to the needs of the community and the City of Snohomish.

The building requires structural and seismic upgrading, and new electrical and mechanical / plumbing systems, which are described in detail in the engineers' reports in this document. Hazardous materials, which are also described in the survey and lab analysis, must be abated through appropriate and regulated methods, such as removal or encapsulation.

The proposed recommendations are based on a rehabilitation approach as described in *The Secretary of the Interior's Standards for the Treatment of Historic Properties* and *Guidelines for Preserving, Rehabilitating Restoring and Reconstructing Historic Buildings*.

Rehabilitation, according to these standards is defined as the act or process of making possible a compatible new use for a property through repair, alterations and additions, while preserving those portions or features which convey its historical, cultural or architectural features.

We recommend this approach to guide the project's design, as it is flexible in accepting required programmatic changes, while retaining important features of a historic building. The rehabilitation approach contrasts with restoration, which is the act of retaining and/or reconstructing original features that may be missing or repairing existing historic features based on original design documents or photographs. Restoration is a more rigorous or pure approach, and is usually taken with landmarks of considerable importance. With a restoration, changes are not typically made to improve the building's functionality, and thus it is somewhat restrictive.

The key to rehabilitation is sensitivity to existing features. There are accepted guidelines for new additions, repairs, and changes to exteriors and interiors that have been adopted by most design review boards for historic districts. A copy of the *Guidelines for Rehabilitating Historic Buildings* is provided in an appendix to this report.

Architectural recommendations address deficiencies. They include the following, which are categorized into three priorities:

1. Accessibility, Life Safety and Code Upgrading
 - A. Provide access to the building to meet the goals of universal access, with new curb cuts at the corners of the site sidewalk, entry ramps and elevator to meet the ADA (Americans with Disabilities Act). Provide additional exit from the Upper Floor and Basement based on code and occupancy requirements. Access routes should be designed to anticipate use patterns different from that of the original library, as people may arrive in groups, rather than individually as did the former library patrons.
 - B. Upgrade the exterior envelope with the addition of furring and insulation to the inside face of exterior walls, while maintaining the original details and windows; provide added insulation and vapor barrier at the attic (above the ceiling or below the roof); inspect and caulk at openings.
 - C. Construct new corridors and restrooms at the Basement in response to program needs and ADA requirements.

- D. Provide appropriate exit hardware at required exit doors.
- E. Provide architectural modifications and finishes at areas of structural and seismic upgrading, and as necessary for abatement of asbestos and lead.
- F. Coordinate structural upgrading recommended by the structural engineer, including seismic wall ties.
- G. Provide strobe-type alarms, Braille signage, and other features to meet universal access codes.

2. Stabilization and Restoration

- A. Selectively remove portions of the 1968 Addition from the south and west facades of the building, and the dumbwaiter and interior stair at the southeast corner
- B. Restore the original Carnegie Library building's exterior walls, window openings, and windows. Restore exterior stucco finish and reconstruct surface decoration where damaged or missing. Clean the entire exterior, patch, prep and repaint stucco and wood surfaces.
- C. Reconstruct the original front staircase and central stairs leading to the Upper Floor entry, with a planter at the front to recall the original fountain at grade level. Revise the stair design to meet current codes for width, rise and run, railing height, etc., and provide a stair and ramp to access the Basement.
- D. Remove non-original office partitions at the northwest corner and non-original wood paneling and cabinetry at the center and southwest corner of the Upper Floor. Restore the finishes in impacted areas.
- E. Remove, salvage, and securely replace the Mission style clay roof tiles; and provide a new structural plywood diaphragm below the tiles; replace gutters with aluminum gutter to replicate the form of the original wood gutters; replace downspouts with reconstructed original decorative scuppers.
- F. Repair and restore existing historic windows, and replace in-kind those that are missing. Remove storm windows over operable windows. Provide new insulated glazing at non-operating windows in the Upper Floor Mezzanine. Repair and/or replace roof skylight, and restore interior skylight above the Mezzanine to provide additional interior light.
- G. Replace exterior wood doors with new painted wood panel doors with upper glazed panels, designed to recall historic types. Provide doors with new hardware selected to meet ADA codes.
- H. Retain and restore interior stained wood window frames and trim, doors, door frames and surrounds, base molding, mezzanine balustrade, base and woodwork. (Carefully remove and salvage select trim during rehabilitation, and refinish and reinstall; replace base shoe trim.) Provide new door hardware selected to meet ADA codes.
- I. Remove non-original intrusive finishes, such as wood paneling at Basement Meeting Room, and fiberboard sheathing at Upper Floor ceilings, and provide new smooth finish walls and ceiling finishes. Provide furring and insulation at all perimeter walls to enhance energy conservation, finished with new, smooth painted gypsum wallboard. Prep and repaint all interior surfaces, except for stained wood trim, windows, doors and casework.
- J. Remove existing chimneys and retain vertical cavities for new mechanical and electrical chases.

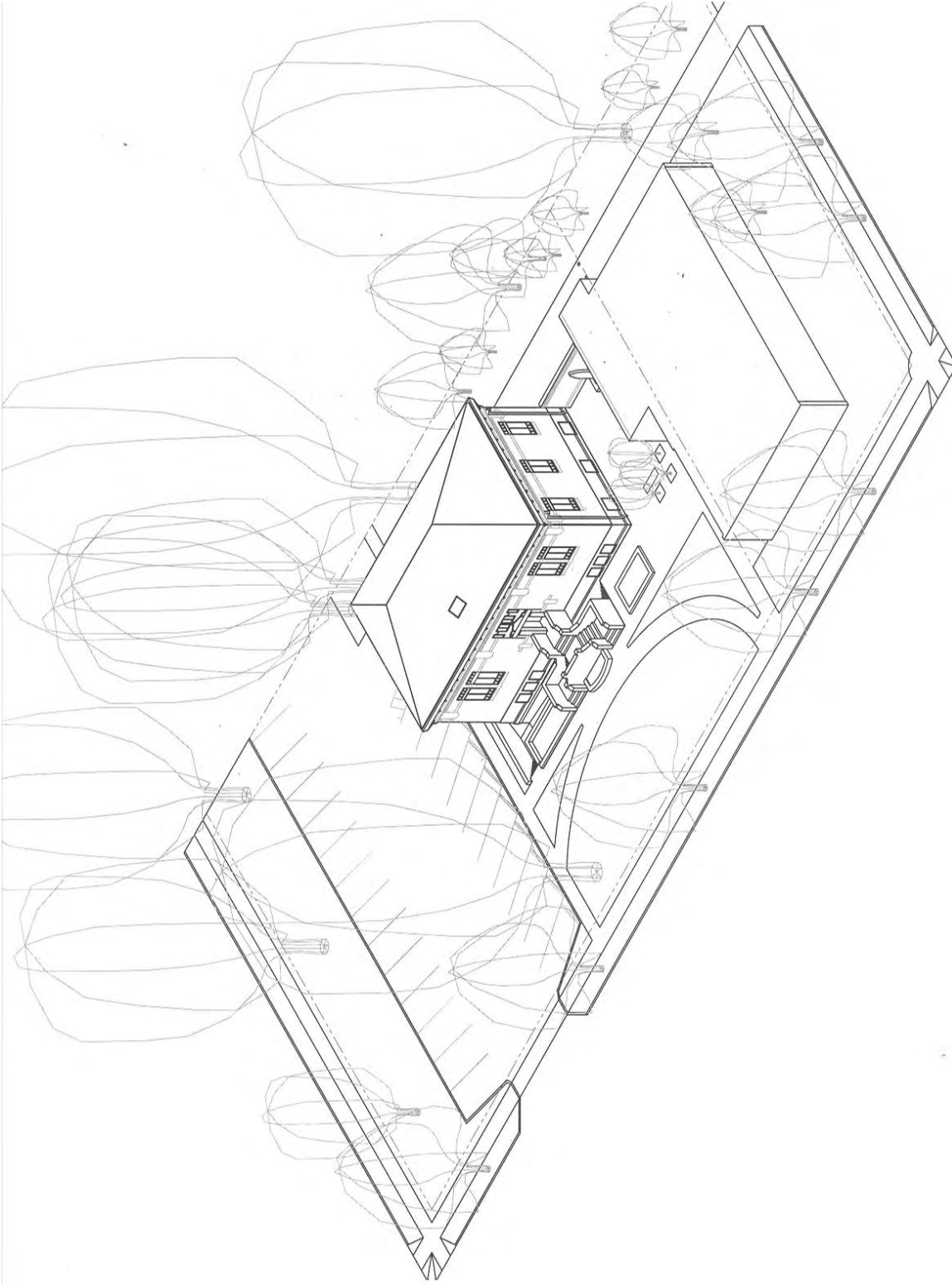
- K. Remove non-original wood framed stucco clad stair enclosure at the northeast corner. Provide an adequate drain at bottom of new ramp and stair landing.
- L. Provide temporary shoring and reconstruct roof framing as necessary at the 1968 Addition. Construct a new north facade using salvaged brick.

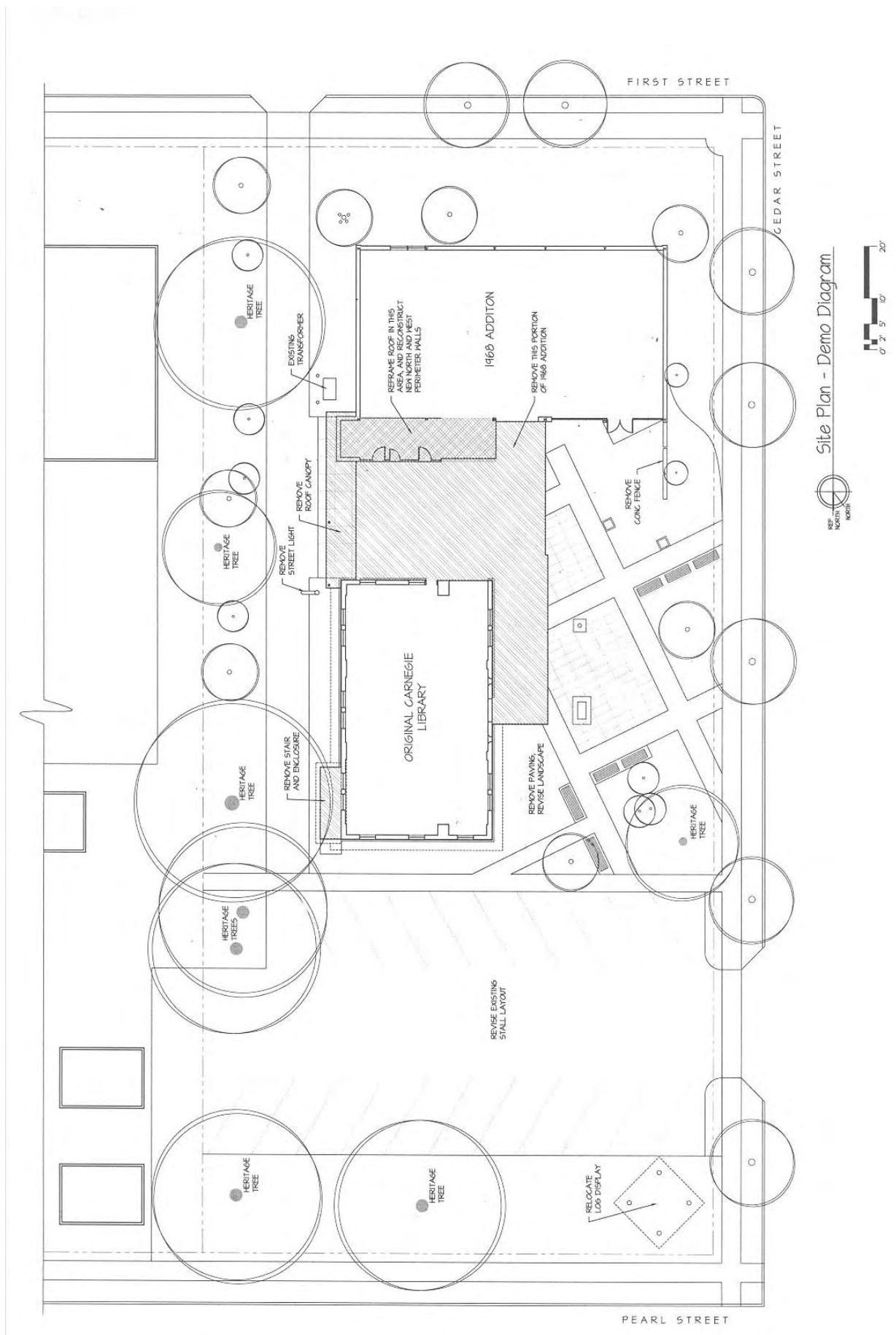
3. New Program Elements / Rehabilitation

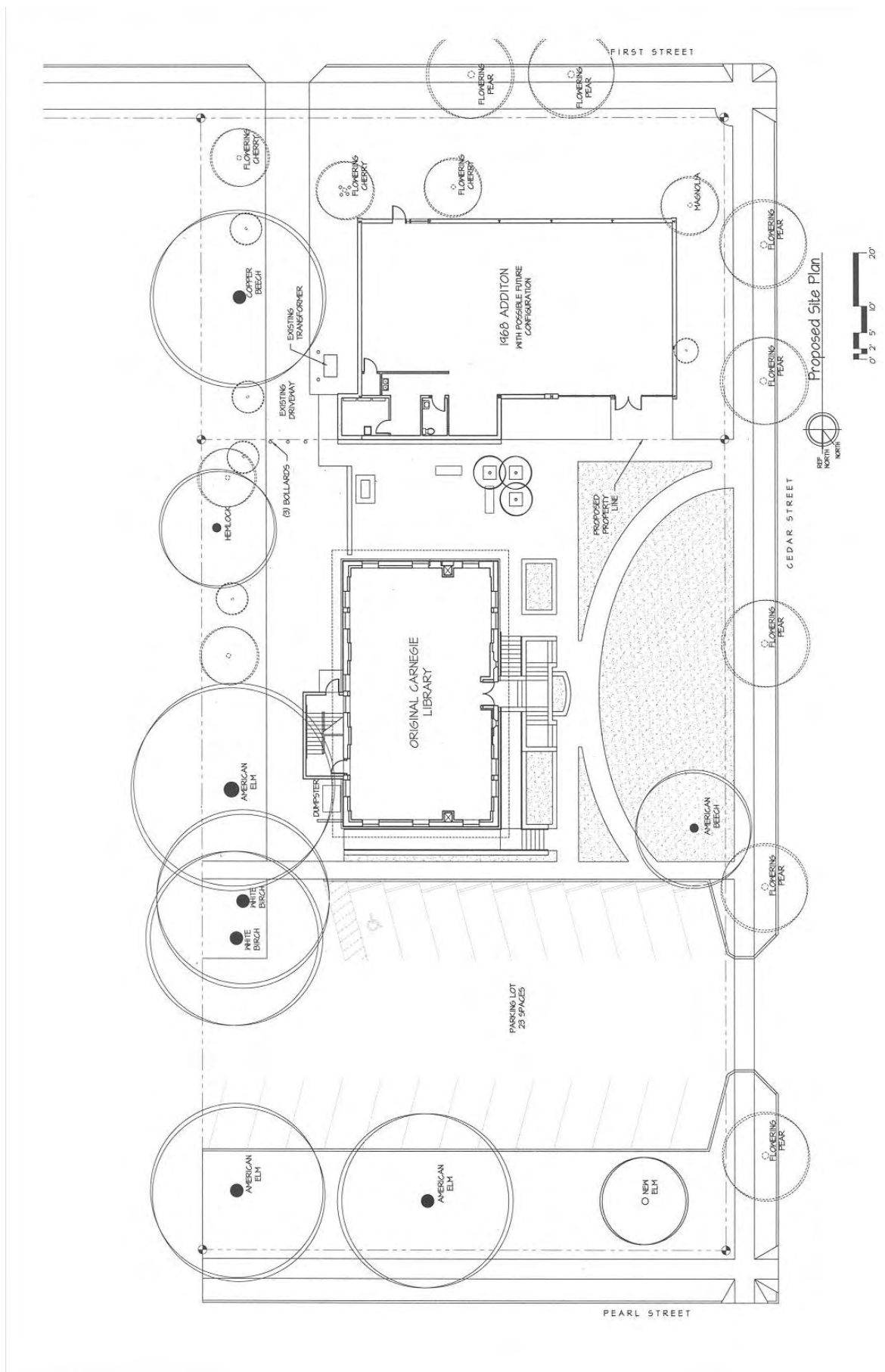
- A. Remove concrete plaza elements on the site and restore landscaping surrounding the building with new walks from the sidewalk and adjacent parking lot. Remove the historic log display to nearby Pioneer Village. Relocate the memorial to the new south courtyard.
- B. Upgrade utilities -- water, sewer, power -- as necessary for the physical and legal separation of the Carnegie Library and the 1968 Addition, and to meet new rehabilitation needs.
- C. Integrate new required mechanical ventilation and heating systems, ductwork, electrical and tel/data distribution, fire sprinklers and alarm systems into the building by concealing new elements in walls and ceilings. Remove unnecessary mechanical, ventilation, and heating equipment, non-functioning plumbing fixtures and ducts, wiring and other non-functioning electrical elements.
- D. Rehabilitate the building by constructing interior spaces for new uses, which are sympathetic with the historic spatial qualities of the building. Construct new partition walls, ceilings, built-in cabinetry and casework, mechanical and duct chases as required. Provide new interior finishes, including flooring, as required by use. Address the impacts of new occupancy groups, such as potential crowding at entries, by providing wider corridors and opening into adjacent rooms.
- E. Consider reconfiguring the remaining 1968 building as required by the City and new tenant or owner, with new access to service spaces, additional exits, and restrooms to meet ADA codes.
- F. Create a new public courtyard south of the building, between it and the remaining 1968 building, to serve as an inviting outdoor room, with seating, enclosure walls and access from the sidewalk and adjacent buildings. Relocate the historic war memorial to a location within the new courtyard. Provide new paving surfaces and landscaping consistent with the original design of the Carnegie Library.
- G. Provide a new, simple Kitchen in the Basement, with high-quality, user-friendly domestic appliances. Provide one open, cabinet-free wall with outlets to allow for operation of caterers' wheeled hot and cold food carts.
- H. Upgrade the parking lot and north-south driveway on the west side of the property. Pave and stripe the lot as necessary, and provide a designated accessible parking space and service vehicle zone. Provide bollards to protect building corners from vehicles along the driveway and establish one-way use. Identify new dumpster location to serve the building, and provide paved pad.
- I. Select sustainable materials for finishes, equipment and materials, to enhance the building's life cycle and operational costs and to meet community goals.
- J. Provide development limits on the site and remaining 1968 building to minimize scale contrasts and shadows, and assure adequate sunlight into the new courtyard between the two buildings.
- K. Reconfigure the existing parking lot to maximize on-site parking, and service access.

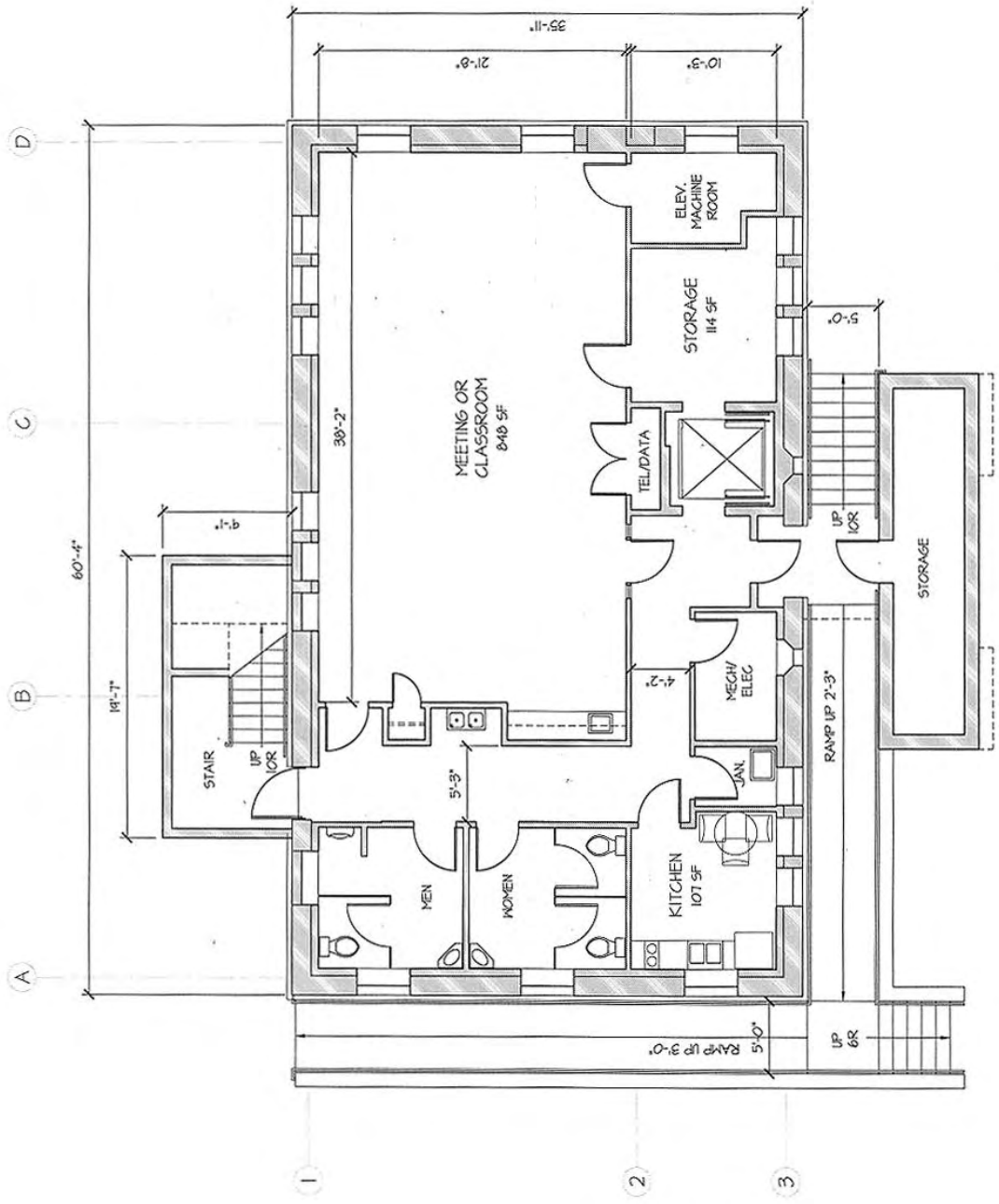
8. Proposed Plans

Below, a three-dimensional view of the proposed Carnegie building and site. Plan drawings that follow show the site and interior layout.

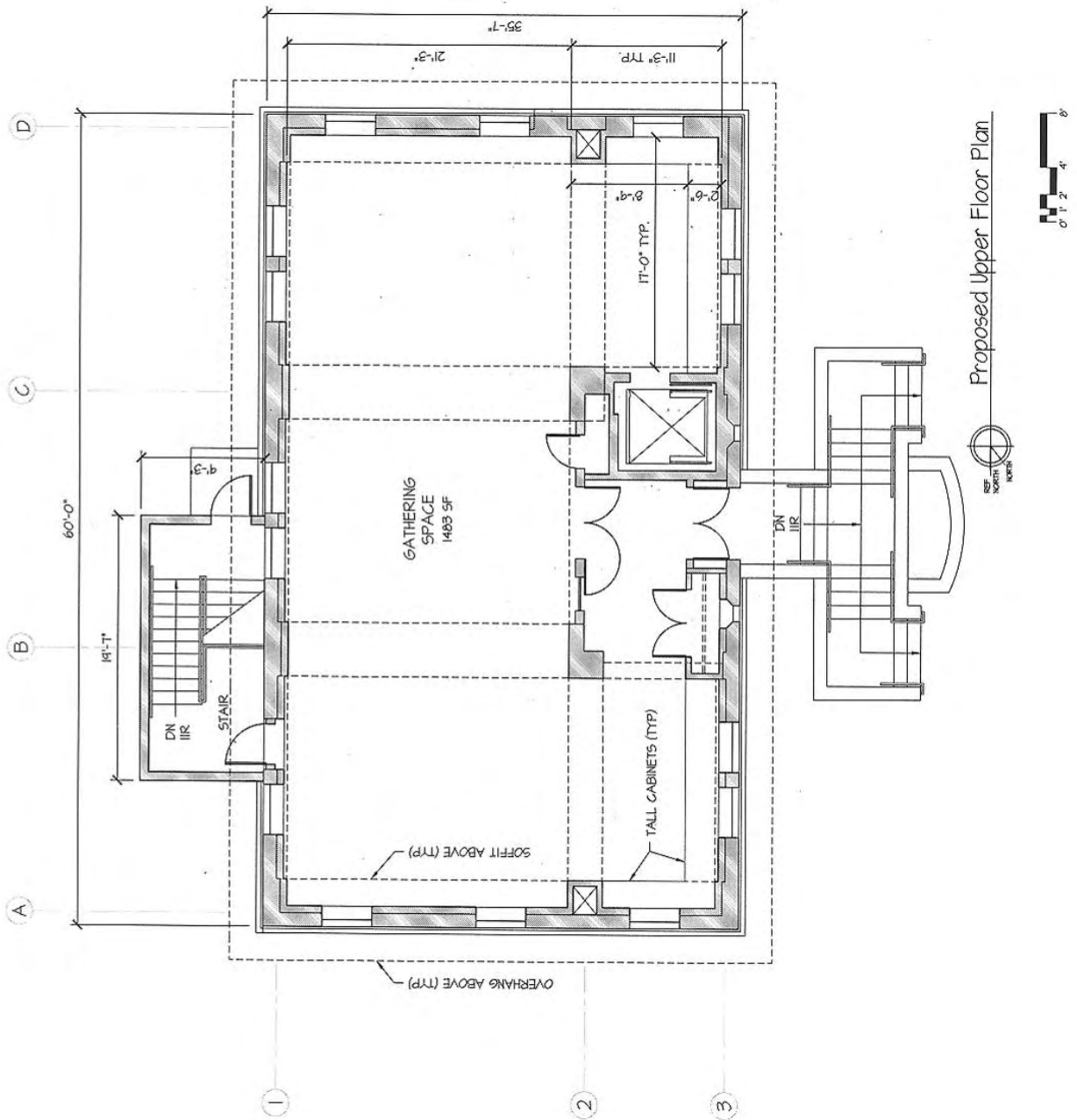




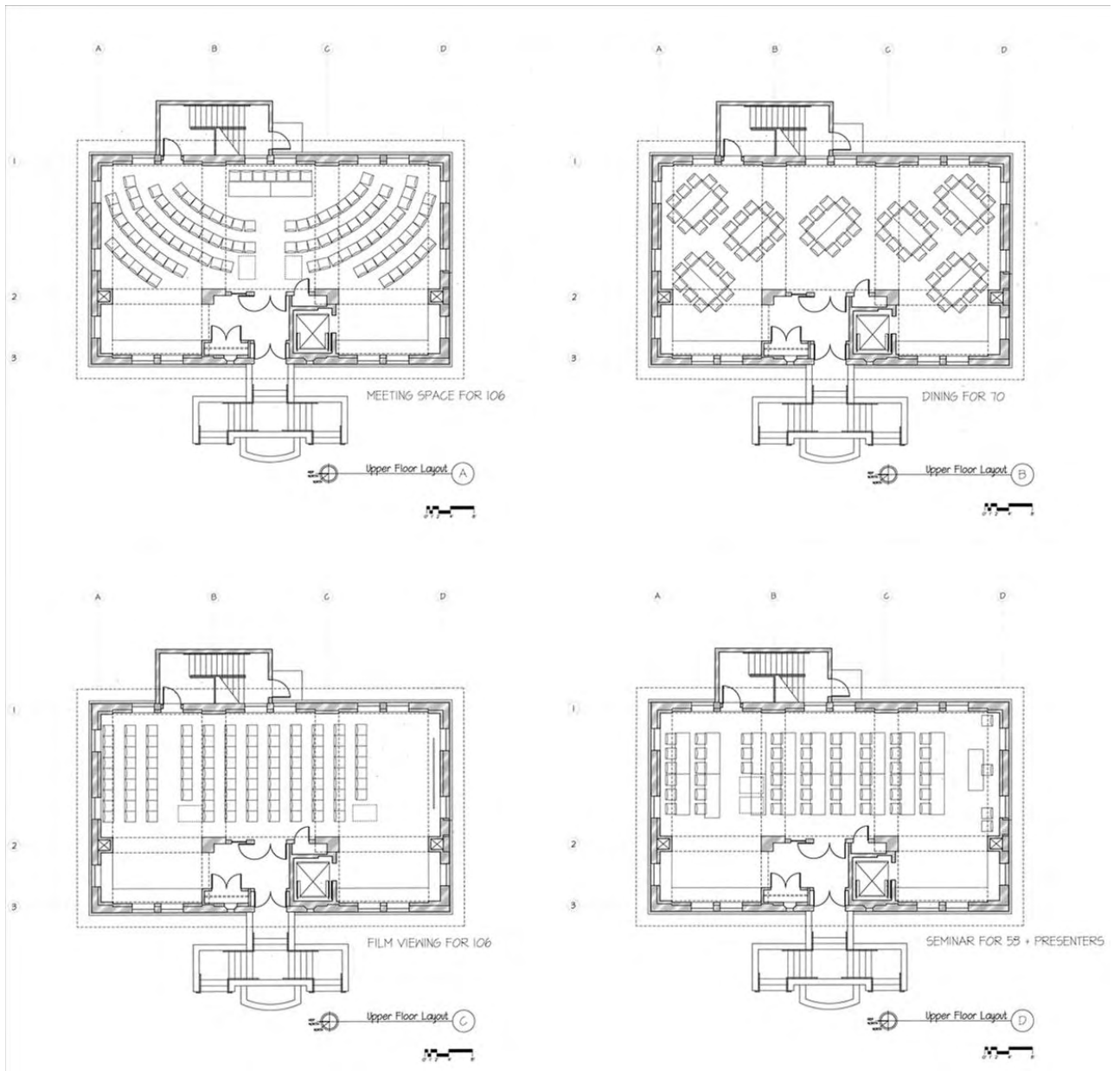




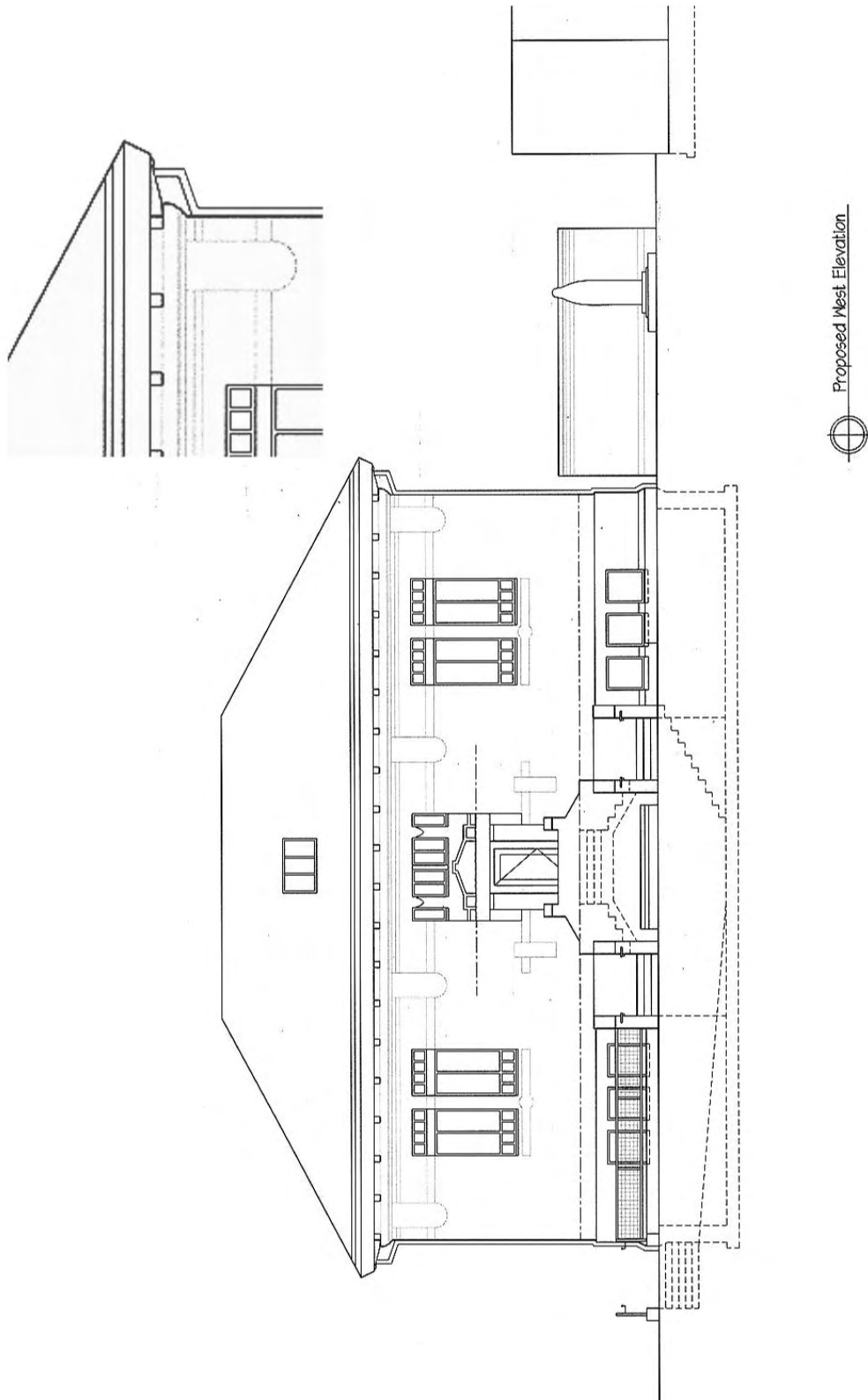
Proposed Basement Plan

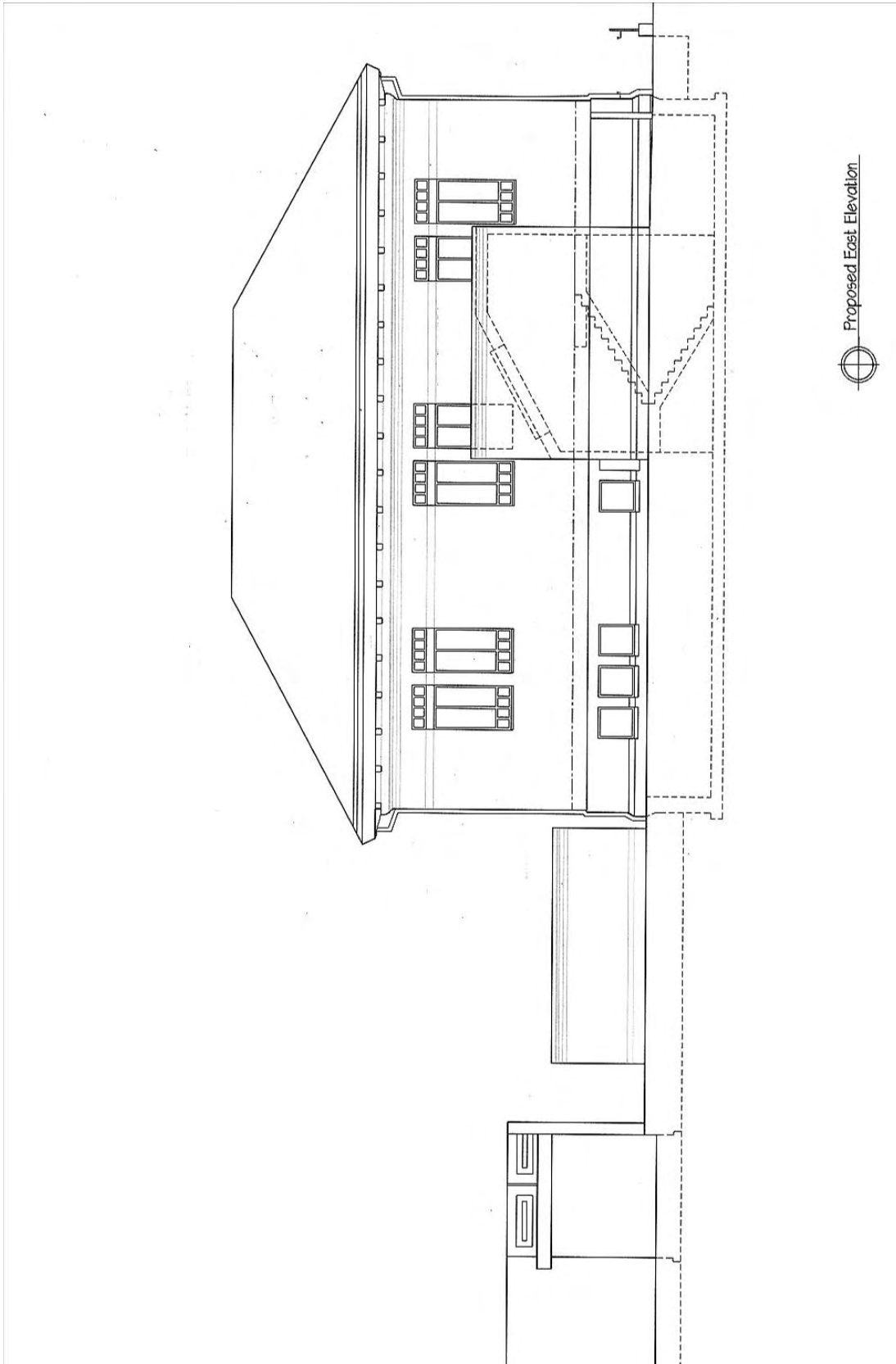


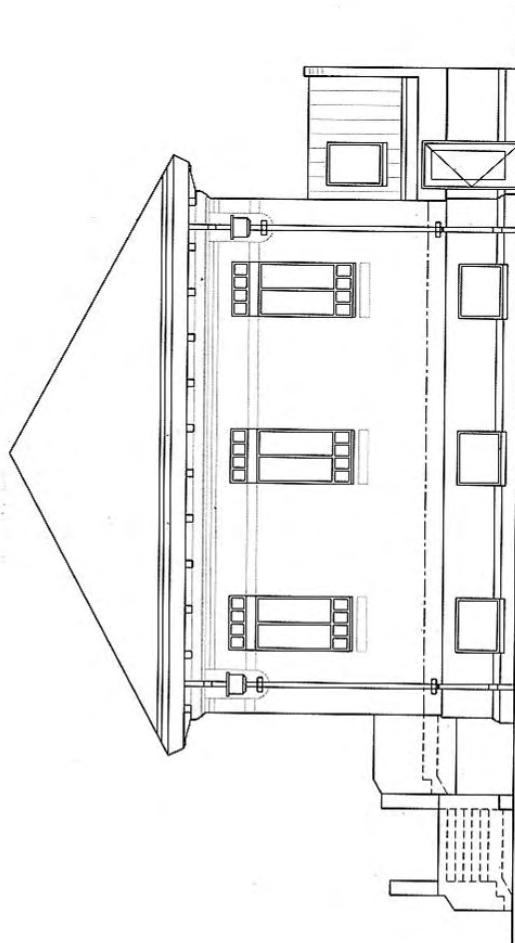
Below are four options for furniture layouts with folding tables and stacking chairs for various functions, including meetings, dining, film viewing and seminars.



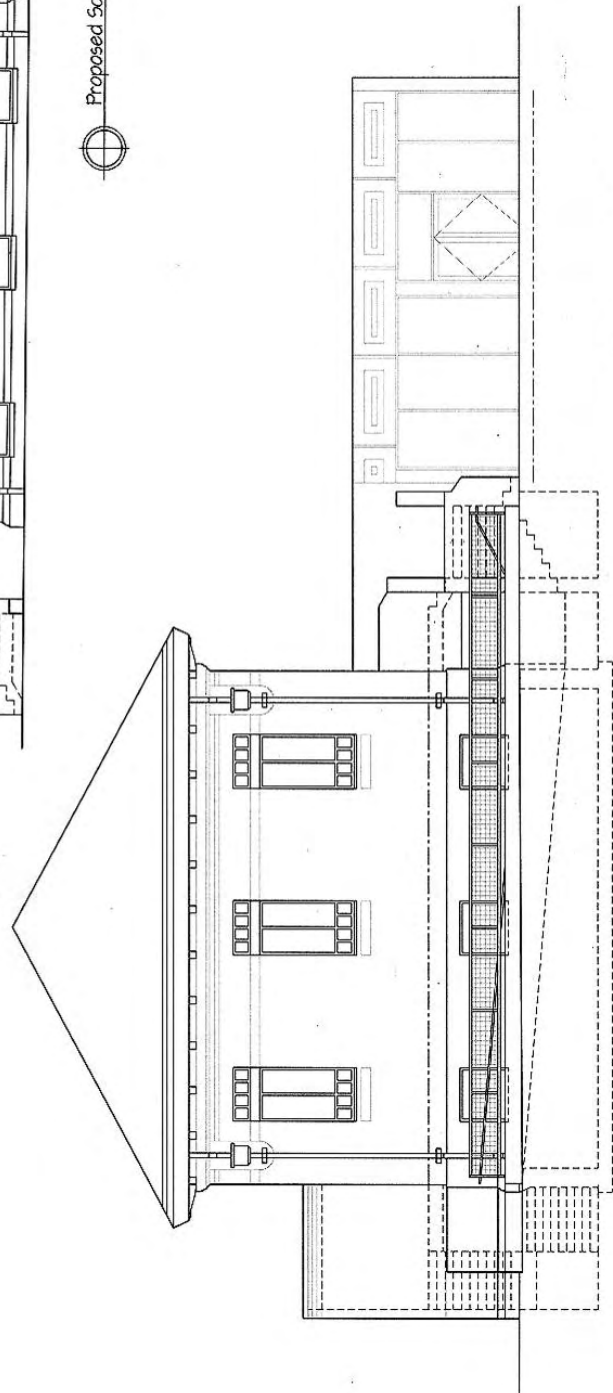
The following elevation drawings show the restored exterior with new features which as the back stairwell addition and the terrace space to the south of the building. Historic features, such as the front entry and surface decoration, are reconstructed or revealed.







Proposed South Elevation



Proposed North Elevation



Snohomish Carnegie Library
A Rehabilitation Master Plan
February 2005

BOLA Architecture + Planning

9. Structural and Seismic Assessment

The historic Carnegie building is a single story with a complete basement. The building has a wood framed roof and floor with exterior concrete walls. The building withstood the 2001 Nisqually earthquake with minor cracks in the walls and interior plaster surface. Recommendations in this report for the seismic upgrade of the building are based on a life safety performance objective in accordance with the American Society of Civil Engineers (ASCE) 31-02 Seismic Evaluation of Existing Buildings.

Stacy Bartoletti, of Degenkolb Engineers, Seattle, completed a site visit and structural investigation of the existing building. The following report that he provided, describes the existing structural system and condition of the existing structural system, identifies structural seismic concerns, and gives preliminary recommendations for an upgrade, and separation of the 1968 Addition from the original structure.

Existing Building Description

The existing Carnegie Library is a single story structure with a complete basement and a partial mezzanine level. No original drawings for the building were available for review; however, the structural system could be observed through removal of interior finishes at one location and the open attic area. The building has exterior concrete Basement and Upper Floor walls and presumably has concrete spread footings. The exterior walls at the Upper Floor appear to be approximately 8 to 10 inches thick. (See lower photo on page 27.)

The concrete walls appear to terminate at the bottom of the ceiling framing. The ceiling is framed with 2x10 joists at 16 inches on center and beams, and is supported at the exterior by the concrete wall and in the interior by two columns. The roof framing consists of wood trusses spaced at 24 inches on center that span the entire width of the building between exterior walls with $\frac{3}{4}$ inch straight sheathing. It appears as though the ceiling framing is supported completely independent of the roof framing.

The roof framing is supported by wood stud framed pony walls landing on the exterior concrete walls as shown on the upper photo on page 27. Framing for the Upper Floor consists of 2x12 wood joists spaced at 16 inches on center with wood beams and diagonal floor sheathing. Framing for the Mezzanine level was not verified in the field; however, it is presumed to be wood framed with 2x joists.

The existing structural system appears to be in good condition. No signs of settlement, concrete deterioration, or wood rot were observed.

Structural Seismic Performance and Recommendations

The seismic lateral force resisting system in the building consists of the existing perimeter concrete shear walls and the wood roof diaphragm. During an earthquake it can be expected that some amount of movement and possible separation will occur at the ceiling and roof connection at the top of the concrete walls. When subject to seismic loading perpendicular to the face of a perimeter wall, the heavy concrete wall will move in and out of plane and will need restraint at the top. The current framing system and roof diaphragm does not provide sufficient restraint at the top of the concrete walls.

Other seismic concerns include the potential for clay roof tiles to fall off the building and the potential for the existing unreinforced masonry chimneys to fall during an earthquake. Tile falling from the roof and collapse of the chimneys can cause significant life safety concerns.

As part of the Snohomish Carnegie Library renovation, it is recommended that a number of seismic upgrades be completed to provide a life safe structure. These items are identified and described below:

1. Anchor the existing perimeter concrete walls to the roof and ceiling framing. This will likely include the addition of anchor bolts into the top of the wall along with hardware for direct connection of the framing to the wall. The anchorage can be installed from the top of the wall and completely concealed within the ceiling and attic space, so that there will be no visible changes to the exterior.
2. Provide a plywood diaphragm at either the existing roof level or the existing ceiling level at the Upper Floor. If the plywood diaphragm is provided at the roof level it will require the removal, salvage, and reinstallation of the existing clay tile roofing system. Plywood could be installed over the top of the existing $\frac{3}{4}$ inch straight sheathing. Given that the ceiling framing is independent of the roof framing, the plywood diaphragm could also be located at the top side of the ceiling framing below the roof trusses, or below the ceiling framing with removal and replacement of existing ceiling finishes.
3. Provide plywood sheathing and blocking on the existing stud pony walls from the top of the exterior perimeter concrete walls to the roof diaphragm level.
4. Provide direct anchorage for the existing clay tile roof. The existing anchorage for the clay tile roof is not known. If anchorage does not exist then it may be best to provide the plywood roof diaphragm in Item 2 at the roof level to address both conditions at one time. Investigation for clay tile roof anchorage would require roof access and removal of a predetermined number of tiles to look for wire anchorage and nails.
5. Remove or brace the existing masonry chimneys. It is assumed that both chimneys are of masonry construction above the roof line; however, this could not be confirmed. Bracing of the chimneys would require significant diagonal members back to the roof structure and perimeter walls. However, as neither chimney appears to exhaust existing systems, they may be removed. According to the architect, the north chimney appears to have little historic significance. The south chimney was once more elaborate, and clad in stucco, but it does not appear to have been an original character-providing feature.

Separation of 1968 Addition

Based on field observations and a review of the 1968 Addition structural drawings, it appears as though the Addition is primarily structurally independent of the original Carnegie Library building. The Addition roof framing consists of steel bar joists, wide flange beams, and wide flange columns. It is recommended that demolition of the Addition for separation from the Carnegie Library be taken to a grid line to allow complete removal of bar joists. Should the demolition stop short of a grid line, the existing bar joists will need to be shored, cut, and re-supported.

10. Plumbing and Mechanical Assessment

The following report on the building's existing plumbing and mechanical systems is by John Greenlaw, P. E., Principal of the Greenbusch Group, Seattle. It documents conditions observed during his site visit to the Snohomish Carnegie Library on October 6, 2004:

The purpose of our visit was to determine the condition of the mechanical system and identify the scope of work of any repairs or modifications that we would recommend to condition the historic building.

Existing Plumbing Conditions

Domestic water service is indicated to be 1-1/4" and enters the Carnegie Library on the west side. The service splits just downstream from the meter to serve the original construction and 1968 Addition and is connected to the original building's water supply at 1" and the Addition at 1-1/4". The service could be separated at or near the curb by isolating the piping to each building and adding an additional water meter.

The sanitary sewer serving the Addition exits the building on the south side. The main cleanout for the existing building is located in the Men's Room in the basement of the Carnegie Library. We plan on reviewing the original sewer card to determine where the connection to the original building might occur.

Roof drainage is by external rainwater conductors drained to splashblocks. The roof drains from the south side of the original Carnegie Library onto the roof of the 1968 Addition. There is significant ponding on the flat roof of the newer construction.

Domestic water piping appears to be mostly copper piping. Sanitary waste piping appears to be cast iron hub and spigot.

Domestic hot water is heated by an electric domestic hot water heater, located in the 1968 Addition. The domestic hot water pipe is not insulated as is required now by current energy codes.

Water pressure at the fixtures was average to good. Water flowed clear at the fixtures.

The plumbing fixtures all appear to be of a modest grade in both the Carnegie Library and the 1968 Addition. The condition of most of the fixtures is average primarily due to worn finishes. Faucets and trim are a mixture of various brands and types due to repairs made over the years.

The individual drains appeared to be mostly clear. Most fixtures drained relatively freely with the faucets running for an extended period.

We estimate that the system is operational, and could remain so for some time, but has exceeded its service life.

Renovating the plumbing system should be a high priority. Some of the domestic water piping may be able to be reused, along with some of the drain piping. Drains should be rodded out, and new plumbing fixtures provided to respond to the proposed rehabilitation plan.

Fire Sprinkler

The building currently has no sprinkler fire protection system. (A fire sprinkler is not required if the building is categorized as an A-3 Occupancy, but is required under an A-2 Occupancy. - Architect's Note)

Existing Heating

Heating systems for both the original structure and the 1968 Addition building are electric. The Basement of the original building is heated by electric baseboard heaters with local wall mounted thermostats providing temperature control. Ventilation is by operable sash windows. The Restrooms and the Kitchen in the Basement of the Carnegie Library are ventilated through the operable windows; there are no exhaust fans.

The Upper Floor of the original building is heated by an electric fan coil heating system. The fan coil unit and ductwork are located in the attic and supply heated air to an arrangement of ceiling diffusers. The fan coil was recently replaced; the inspection tag indicates it was inspected in 2002, which would make this unit only two years old. Heating capacity appears to be adequate for the Upper Floor. However, the arrangement of the system is not ideal for air conditioning the space. Providing heated air through ceiling diffusers in this 17' tall space provides an opportunity for the air to stratify and remain at the ceiling without providing useful heating at the floor level. Ceiling fans have been installed to help push the heated air down to the floor level.

The current enclosed Work Space/Office under the Mezzanine does not receive any direct heat or ventilation.

The 1968 Addition is served by three electric fan coil units, which are located over the Restroom/Electrical Room core area. The 1968 Addition is separated into three temperature control zones served by each fan coil unit. These are the Work Room area on the north side of the Restrooms, the west side of the display area, and the east side. Heated air from the fan coil units is ducted to a system of ceiling diffusers. The equipment is in reasonable condition considering its age and appears to have been regularly maintained. The location above the Restrooms is not optimum for maintenance because access is restricted.

The does not appear to be an outside air connection to the fan coil units to provide ventilation air. Although required by present code, it was fairly common in the 1968 era of construction to omit this.

Window glazing is thermally fairly inefficient in both the original and Addition.

Recommendations for Heating and Ventilation:

The following recommendations are intended to improve the building comfort, function and energy utilization.

General Recommendations

There are no major obstacles to separating the original Carnegie Library building from the 1968 Addition from a mechanical engineering standpoint. The two buildings share a water service that may be separated at the street. Domestic hot water is generated in the Addition, and a heater could easily be added to the existing building to make it stand alone. None of the heating and ventilation systems are combined between the buildings.

Plumbing

We recommend replacement of the building plumbing systems in both buildings after their separation. Domestic water piping should be replaced in the Carnegie Library to respond to a new arrangement of fixtures in insulated copper including the service entrance and piping throughout the building. The domestic water heater should be replaced during this rehabilitation, and a water heater added to the original building.

Site sanitary sewer piping should be snaked to insure that there are no major root blocks or breaks. Some of the site sanitary piping may be clay tile which is prone to settlement cracking. Intermittent blockage may be anticipated in a building of this age. We will need to review original sewer records or have a locate performed to determine if the sewer connections need to be separated to create separate buildings.

The 1-1/4" service line is adequate to serve the newer Addition as long as a similar number and style of plumbing fixtures are utilized. The proposed rehabilitation calls for additional fixtures, however. A one inch service to the original building would support tank style fixtures. Flush valve fixtures would require an upgrade to 1-1/4" service.

Heating Recommendations

There are several options for modernization of the existing building heating systems.

1. After separation the systems in each building can remain as-is and repairs performed on-going and as required to maintain system operation.
2. Either one or both building systems could be upgraded and made more energy efficient by replacing the electric fan coil units with air to air electric heatpumps. Duct systems would remain the same and the fan coil units would be replaced by heatpump indoor units. Heatpump outdoor units would need to be situated within about 100 feet of the indoor units with this option. This option would also provide air conditioning but would not be optimized for it because of utilizing the existing heating distribution ductwork. Air to air heatpumps would reduce yearly energy consumption.
3. The heating system in the original building could be replaced with a system of hot water radiation for a more original appearance. A boiler could be situated in the original or new boiler room, and supply heated water to a system of cast iron radiators located under each window. This would be similar to style and appearance to the original system. However, the architect has indicated that historic style radiators are not necessarily a character-providing feature, and thus simpler, wall-mounted radiators could be provided. The boiler would be smaller and more efficient than the original and parasitic losses would be significantly reduced by using insulation. Radiant heating systems perform better than air systems in spaces with tall ceilings since radiation heats surfaces and not the air, but the ceiling fans should probably still be utilized with this alternative to reduce stratification.
4. New HVAC systems designed and optimized for both heating and air conditioning could be provided for both the original building and Addition. We anticipate the fan coils and ductwork would be replaced to respond to the anticipated cooling loads. The original building would be zoned for the Upper Floor and Basement, and served by separate systems. The Basement would be served by an arrangement of ceiling diffusers. The Upper Floor would probably be more optimally served by perimeter floor diffusers. Ductwork would be routed through the Basement in soffits to an equipment room on the north side housing air handlers for the Upper Floor and Basement respectively.
5. New mechanical equipment could be placed in the Basement or, with additional modifications, on the Mezzanine level of the Carnegie Library. Two new units would be adequate for the 1968 Addition and these could be located in the existing ceiling space above the service core in the 1968 Addition, to replace the current three units.

Acoustics

The Upper Floor conforms to a classic "shoebox" shaped performance space. Typical acoustical treatments for conventional theater are comprised of an acoustically absorptive back wall, and reflective

clouds to reinforce stage program material. A shell is frequently added to reinforce vocal performances or electronic amplification is sometimes also used. A performance space can generate significant cooling loads due to lighting and patrons, and would argue for an air conditioning system to condition the space. AC will require additional electrical power and a ducted air moving system.

Miscellaneous

Power exhaust ventilation should be provided for the Restrooms.

The chimneys, if retained and reused by the heating system, should be relined. If abandoned and removed, the former vertical space could be reused for vertical chases.

The building insulation envelope should be improved wherever and to the greatest extent possible.

Any new suspended equipment and hot water tanks should be braced or strapped for seismic resistance.

Once the final program and architectural plan are selected we will provide more specific recommendations.

Mechanical record drawings can be found in the Appendix.

11. Electrical Assessment

This report was developed by Electrical Engineer Jim Redding, P.E., of Sparling. It was based on his observations on-site from a tour of the property on October 6, 2004, and was finalized after a review of the proposed rehabilitation design and program on December 23, 2004:

The Snohomish Carnegie Library is a historic 1910 library building with a Basement, Upper Floor and small Mezzanine that received a large single story addition in 1968. The subjects of this report are the condition of electrical systems in the original part of the Carnegie Library building and an assessment of what would be required electrically to separate the original building from the 1968 Addition and restore the original library as a stand alone building on the original footprint. In the report, I will refer to the original part of the building as "the Carnegie Library" and the part of the building added in 1968 as "the 1968 Addition".

Power System

There is a fusible 208/120 volt three phase service switchboard and several 208/120 volt three phase branch power panelboards located in the main Electrical Room of the Addition. The Carnegie Library is powered by three circuits, all derived from the switchboard and panels in this main Electrical Room. There is an old Square D 120/208-volt, single-phase circuit breaker load center located in the Hall outside of the Kitchen in the Basement of the Carnegie Library. This load center is fed from a 100 amp, two pole switch in the service switchboard in the Addition. This load center subfeeds another old Square D 120/208 volt, single phase circuit breaker load center located in the east Storage Room of the Carnegie Library Basement. There is a third, newer Square D 120/208-volt, single-phase circuit breaker load center, which is located in the west Storage Room of the Basement. This third load center is fed from a 50 amp, two pole breaker in one of the branch panels located in the main Electrical Room of the 1968 Addition.

The three load centers in the Carnegie Library Basement feed all of the power loads in the original building except for a 208 volt, three phase mechanical unit located in the attic above the Mezzanine. This mechanical unit gets its power from a 100-amp three-pole breaker in another of the branch panels, which is located in the main Mechanical/Electrical Room of the 1968 Addition. Removing these three circuits feeding into the Carnegie Building from the main Electrical Room of the Addition will disconnect the Carnegie Library from the 1968 Addition's power system.

The existing power circuiting in the Carnegie Library is a combination of old knob and tube circuits and newer circuits in surface mounted EMT conduit. Neither the old knob and tube wiring nor the later wiring, in surface-mounted EMT conduit, violates the electrical code. But older knob and tube wiring such as this building has is a known fire hazard. The newer circuits routed in surface mounted EMT are entirely functional but they are not aesthetically compatible with the historic building.

There are not many power receptacles in the building and most of them were added later and fed via the surface mounted EMT.

The Basement is heated by several lengths of electric baseboard heater.

Lighting

The lighting in the Basement is a motley collection of old incandescent and fluorescent fixtures including keyless porcelain sockets, small suspended globes and industrial T12 fluorescents. The lighting on the Upper Floor is by direct/indirect T12 fluorescent lighting in pendant hung rows. These are relatively old

and unattractive louvered fixtures which light the room effectively but which do not contribute aesthetically. The current small Upper Floor workroom, at the northwest corner, is lit by two old 2' x 4' surface mounted T12 fluorescent fixtures and there are two 1' x 4' surface mounted T12 fluorescent fixtures in the former periodical area under the Mezzanine. There are two pull string incandescent porcelain socket fixtures on the Mezzanine.

Low Voltage Systems

Tele/data wiring for the former periodicals area on the Upper Floor, which has been converted into a small Office, routes into the Carnegie Library in plastic surface mounted raceway through the opening that leads from the Addition. The tele/data wiring is distributed to the handful of communications outlets in the Carnegie Building via this plastic raceway. Removing the tele/data wiring coming into the Carnegie Library from the 1968 Addition will disconnect the original building from the 1968 era communications system.

There are no security system devices or fire alarm devices in the Carnegie Library.

General Recommendations for the Carnegie Library

1. Provide separate power to serve the new systems, equipment and elevator in the Carnegie Library.
2. Provide new power distribution throughout the interiors, including perimeter wall and floor outlets at the Upper Floor. Conceal conduits in new walls, joist spaces and furred-out wall cavities.
3. Replace lighting throughout. Suggested interior fixtures include indirect type lighting in the Upper Floor, using wall mounted, aimable, linear fluorescent cove fixtures with T5, high output lamps for general lighting, and suspended fixtures and scone fixtures selected for their compatibility with the historic character of the room. Provide new lighting to the Basement and exterior lighting at the entries and exterior stairs and trash collection area.
4. Provide automatic smoke alarms and power for automatic door operations, and an intrusion/motion detector intrusion system as requested by the Owner.
5. If a performance function is proposed for the building, provide additional built-in lighting and projection system, and controls for roll-down projection screen at the Upper Floor Main Room.
6. Provide data/tele distribution for contemporary uses.

General Recommendations for the 1968 Addition

Revise lighting and power distribution in the impacted areas of the building once it is separated from the Carnegie Library.

Lighting for performances in the Upper Floor Main Room:

Stage lighting for small scale performances could be provided by a theatrical lighting system with pipe mounted theatrical lighting instruments and a fully programmable dimming system. However, this system would be very expensive and probably not needed. A simple system of ceiling mounted lighting track that had a number of sticks of track with separate dimmer control would be much less expensive and would probably be sufficient for the scale of performances that are likely to be held in this space. Such a system is included in the cost estimate. The controls for a small scale system like this could be as simple as a bank of wall box dimmers. Such a control system would not be programmable and would require that each dimmer be individually adjusted each time that it was used.

If a more programmable dimming control system is required, a scene preset dimmer system could be used. This system would allow six preprogrammed "scenes" to be selected, with each scene consisting of a

preset dimmer level for each of the lighting control zones. (Such a system is not included in the estimated electrical costs.)

Film and Video projection in the Upper Floor Main Room:

Projection of 16mm film onto a projection screen mounted at one end of the room would be best done from a projector mounted at the opposite end of the room. Since the projector needs to be mounted no lower than the top of the projection screen, a portable location in the middle of the room is not practical. While it is possible to use a ceiling mounted projector in the middle of the room, it is not practical in this application. Such a projector would be large and expensive. Permanently installing it would leave a large, visually disruptive object on the ceiling when the projector was not in use. Loading it high in the room would be potentially problematic. A more practical projector would project from a permanent cabinet portable position high at the other end of the room.

Projection of DVD and VHS could also be done with a ceiling mounted projector or a projector mounted at the other end of the room. As in the case of a film projector, the projector needs to be mounted no lower than the top of the projection screen and so a portable location in the middle of the room is not practical. A ceiling mounted location is more practical for a video projector than for a film projector because the projector is smaller and does not have to be physically accessed for use. But there would still be a relatively large object in the middle of the ceiling that might be visually disruptive when the projector is not in use.

The design and pricing of any film projection system will require a more extensive study than the current feasibility study because of price differences between the different lensing systems and brightness levels that are required for various shapes and sizes of room. Audio, film and video equipment is not included in the electrical cost estimate.

12. Hazardous Materials Assessment

Executive Summary

At the request of BOLA Architecture and Planning (BOLA), a limited asbestos and lead survey was performed of the Snohomish Carnegie Library located at 105 Cedar Street in Snohomish, Washington. The purpose of the survey was to determine the asbestos and/or lead content of suspect asbestos or lead-containing materials that may be impacted by the separation of the original Carnegie Library from a newer Addition section of the building. An ATC Technician conducted this survey on October 6, 2004.

The report below is a summary of the findings. Before undertaking design, review the entire report, including Bulk Sampling Lab Results, located in the Appendix of this report.

The materials sampled for asbestos as part of this survey are included in the following list.

- Ceiling tiles (2'x3', 1'x1' and 2'x4')
- Plaster Composite
- Tan Sealant on Skylight
- Gray, Blown-in Insulation
- Gray HVAC Ducting Putty
- Gray Roofing Felt
- Black Sink Undercoatings
- Laminate Glue (Countertops)
- Wallboard Composite
- Brown Cork Board and Butterscotch Mastic
- Carpet Mastics (Butterscotch, Tan and Brown)
- Paper Flooring
- White Leveling Compound
- Slipsheeting
- Brown Tile Sheet Flooring
- Window Putty (Brittle and Soft)
- Addition Roofing Materials
- Exterior Stucco
- Pressed Board Siding
- Cove Base Mastics (White and Brown)
- White Mastic Behind Vinyl Wall Sheeting
- Gray Ceramic Tile Grout
- 12"x12" Beige Vinyl Floor Tile and Black Mastic
- Brown Pebble Patterns Vinyl Sheeting on Countertop
- Gray Felt Inside of Fuse Box
- Exterior/Interior Brick Mortar
- Flush Mount Can Lighting Paper

The materials sampled for lead as part of this survey are included in the following list.

- Red Paint on Wood Stairs and Floor
- Beige Paint on Plaster Walls
- Brown Paint on Wood Roof Supports
- Beige and Brown Paint on Wood Roof Supports
- Gray and Beige Paint on Exterior Stone Work
- Brick and Mortar on Exterior of Addition

Limited Asbestos and Lead Survey Report

Sampling and Analysis

There were 41 suspect asbestos-containing materials and 6 suspect lead-containing materials collected during this limited survey throughout the original Carnegie Library and in the areas where the separation is planned to occur. All of the suspect building materials listed above were sampled and analyzed for asbestos or lead content. Twelve of the forty-one samples collected for analysis were found to contain regulated levels of asbestos or were found to contain <1% (trace amounts) of asbestos. Five of the different types of suspect lead-containing materials tested positive for lead.

Some materials have been assumed to contain ACM or were located in areas that were not accessible and could not be sampled for ACM. Below is a table describing the assumed asbestos-containing materials found throughout the project area.

TABLE 1
ASSUMED ACM LIST

LOCATION	MATERIAL DESCRIPTION	ASBESTOS CONTENT
Throughout the project area	Electrical Wiring	Assumed
Throughout the project area	Pipe Fittings and Straight Runs	Assumed
Restrooms of the 1968 Addition	Mirror Mastic	Assumed
Exterior of 1968 Addition below windows	Cement Asbestos Board	Assumed
Dumb Waiter or Elevator	Brakes	Assumed

Findings

The laboratory analytical results for this survey are listed below. Materials in **bold** are considered positive for asbestos content or were found to contain trace amounts of asbestos.

TABLE 2
ANALYTICAL RESULTS

SAMPLE NO.	LOCATION	MATERIAL DESCRIPTION	ASBESTOS CONTENT	MATERIAL QUANTITY
105-001	Mezzanine and Upper Floor ceilings of library	2'X3' painted white ceiling tiles	ND	NA
105-002, 018, 039	Throughout the library	Plaster Composite	ND	NA
105-003	Mezzanine of library	Tan Skylight Sealant	ND	NA
105-004	Attic space of library	Gray, blown-in insulation	ND	NA
105-005	Throughout the project area	Gray HVAC ducting putty	ND	NA
105-006, 036	Library roof and fuse boxes of library	Gray felt	90% Chrysotile	3,170 SF
105-007, 035	Upper Floor and Basement Kitchens of library and Office space of 1968 Addition	Black Sink Undercoating	5% Chrysotile	4 EA in Kitchens 1 EA in 1968 Addition
105-008	Upper Floor Kitchen	Laminate Countertop Glue	ND	NA
105-009, 037, 038	Throughout the project area	Wallboard Composite	<1% Chrysotile	20000 SF
105-010	Upper Floor Reading Area	Brown Cork Board	ND	NA
105-011	Upper Floor Reading Area	Butterscotch Mastic associated with Brown Cork Board	5% Chrysotile	100 SF
105-012	Upper Floor Reading Area	Tan Carpet Mastic (Under Green Carpet)	ND	NA
105-013	Upper Floor Periodicals Area	Butterscotch Carpet Mastic (Under Brown Carpet)	ND	NA
105-014	Upper Floor Periodicals Area	Paper Flooring under Brown Carpet	ND	NA
105-015	Upper Floor Kitchen Area	White Leveling Compound	2% Chrysotile	1000 SF
105-016	Upper Floor Reading Area	Slipsheeting Under Brown Tile Sheet Flooring	ND	NA
105-017	Upper Floor Reading Area	Brown Tile Sheet Flooring (Under Green Carpet)	ND	NA
105-019	Exterior of library	Brittle Window Putty	ND	NA
105-020	Exterior of library	Soft, White Window Putty	ND	NA
105-021	1968 Addition Roof	Roofing Cut Including Slipsheeting	5% Chrysotile	5,352 SF
105-022	Exterior of library	Stucco	ND	NA
105-023	Exterior of library	Pressed Board Siding	ND	NA

SAMPLE NO.	LOCATION	MATERIAL DESCRIPTION	ASBESTOS CONTENT	MATERIAL QUANTITY
105-024	Stairs to Grade Level	Butterscotch Carpet Mastic	ND	NA
105-025	1968 Addition Restrooms, Janitor Closet and Hallway	1'X1' Ceiling Tiles and Brown Glue Dot	ND	NA
105-026	1968 Addition Restrooms	White Cove Base Mastic	ND	NA
105-027	1968 Addition Restrooms	White Mastic Behind Vinyl Wall Sheeting	ND	NA
105-028	1968 Addition Restrooms	Gray Ceramic Tile Grout	ND	NA
105-029	Entry Way Between Gallery and Hallway to Basement of Library	Brown Carpet Mastic and Black Mastic (Under Carpet)	<1% Chrysotile	510 SF
105-030, 013	Throughout the project area	Brown Cove Base Mastic	ND	NA
105-032	Basement floor Kitchen and Office area of 1968 Addition	12"X12" Beige Vinyl Tiles and Black Mastic	Tile – 2% Chrysotile Mastic – 5% Chrysotile	Tile – 360 SF Mastic – 360 SF
105-033	Basement floor Kitchen area	Brown Pebble Pattern Vinyl Sheet Countertop and Tan Mastic	30% Chrysotile	50 SF
105-034	Basement floor Kitchen and Office areas	2'X4' Fissure and Pinhole Ceiling Tiles	<1% Chrysotile and Amosite	360 SF
105-040	1968 Addition Exterior and Interior	Red Brick Mortar	ND	NA
105-041	Basement floor Kitchen, Hallway to library Basement, 1968 Addition Hallway and 1968 Addition Restrooms	Flush and Can lighting Paper	65% Chrysotile	1 EA – Basement Kitchen 20 EA – Hallway to library Basement 6 EA – 1968 Addition Hallway 3 EA – 1968 Addition Restrooms

ND – None Detect for Asbestos Fibers
SF – Square Feet, EA - Each

Materials in **bold** are considered positive for lead content. The laboratory analytical results for this survey are:

TABLE 3
ANALYTICAL RESULTS

SAMPLE NO.	LOCATION	PAINT/BULK DESCRIPTION	SUBSTRATE	LEAD CONTENT *
105L-01	Mezzanine of library	Red Paint	Wood Floor	4088
105L-02	Upper Floor Reading Room	Beige Paint	Plaster Wall	17700
105L-03	Roof of Library	Brown Paint	Wood Supports	42680
105L-04	Roof of Library	Beige and Brown Paint	Wood Supports	12230
105L-05	Roof of Library	Gray and Beige Paint	Cast Concrete	18000
105L-06	1968 Addition Exterior	Brick and Mortar Bulk	Brick and Mortar	<120

* PPM – Parts Per Million

Recommendations

Asbestos containing materials (ACM) and lead containing materials are hazardous substances. Federal, state, and local agencies regulate the condition, handling and waste disposal of both lead and ACM. Both lead and asbestos generally do not pose a health threat unless the asbestos fibers or lead paint are disturbed, become airborne and are inhaled or ingested. Contractors working in the facility must be informed of the type and location of ACM and lead products. ATC recommends that abatement of ACM, including nonfriable ACM, be performed by a licensed, certified and registered asbestos contractor with trained workers in accordance with federal, state and local regulations prior to any renovation, demolition or other activities that may disturb the ACMs. We also recommend that if lead paint is to be removed or disturbed, that the renovation or demolition is handled by a certified contractor.

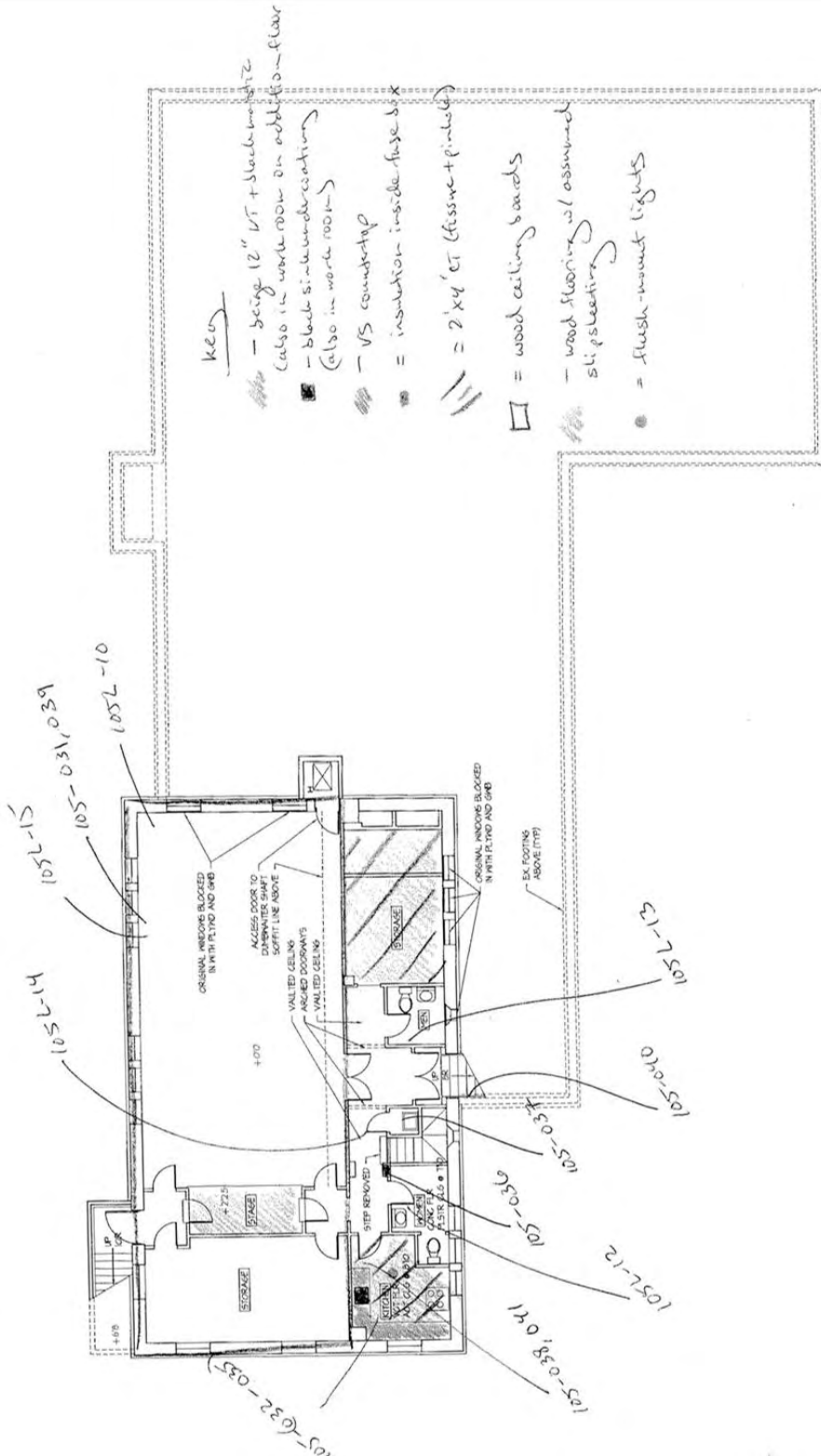
The State of Washington Labor and Industries (L&I) require employers to implement specific work practices, which protect workers from airborne lead and asbestos exposure. Building materials, which contain even low levels of lead or asbestos (trace amounts), can potentially generate significant concentrations of airborne asbestos fibers or lead dust when disturbed. Therefore, control measures should be instituted which adequately addresses worker health and safety during planned renovation or demolition activities involving these materials.

Limitations of Bulk Sampling Asbestos and Lead-Containing Materials

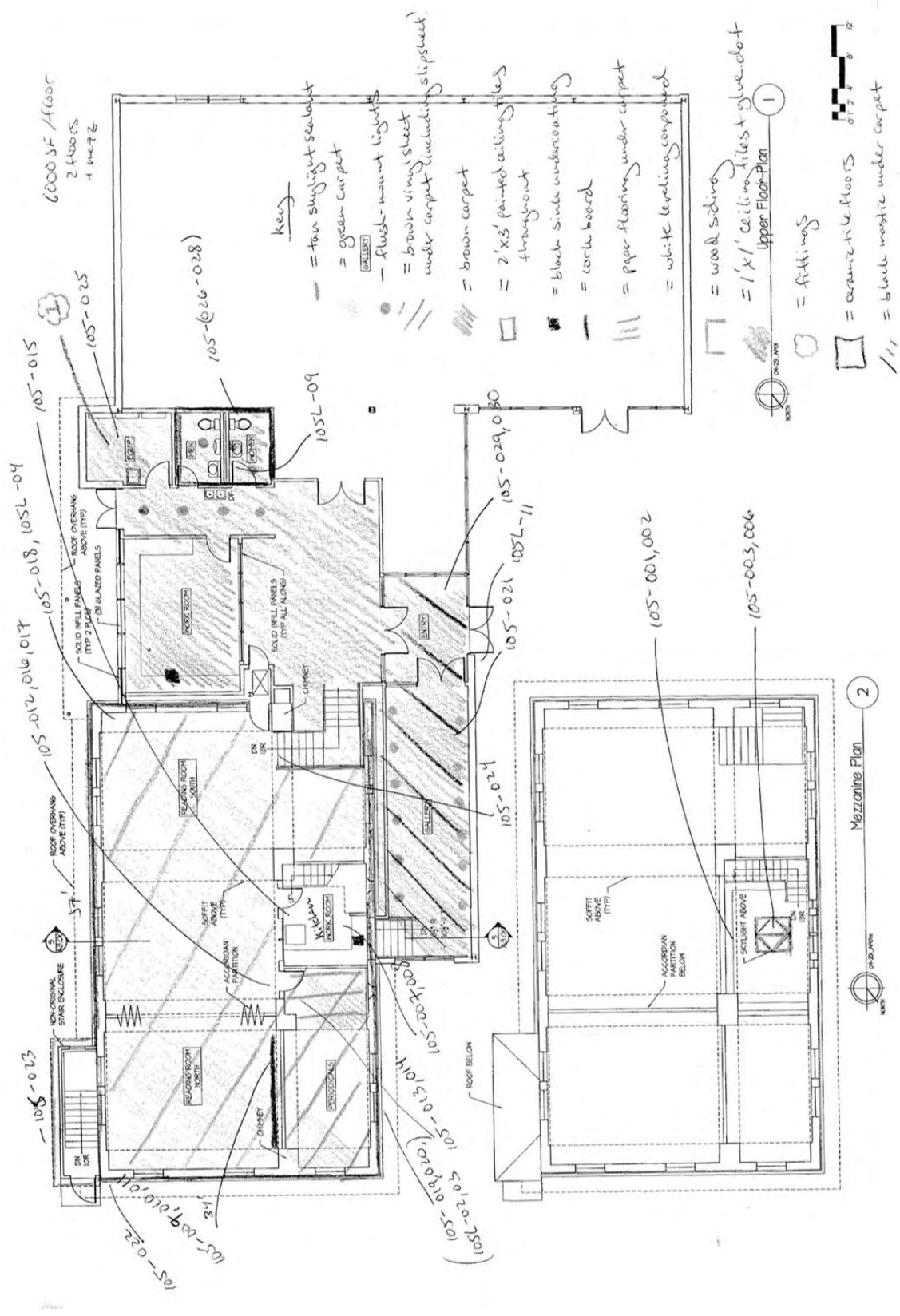
Reasonable effort is made by ATC personnel to locate and sample suspect materials. However, for any facility the existence of unique or concealed lead or asbestos-containing materials and debris is a possibility. In addition, sampling and laboratory analysis constraints typically hinder the investigation. ATC does not warrant, guarantee or profess to have the ability to locate or identify all lead or asbestos-containing materials in a facility. The intent of this report is to be used in planning for renovation or demolition.

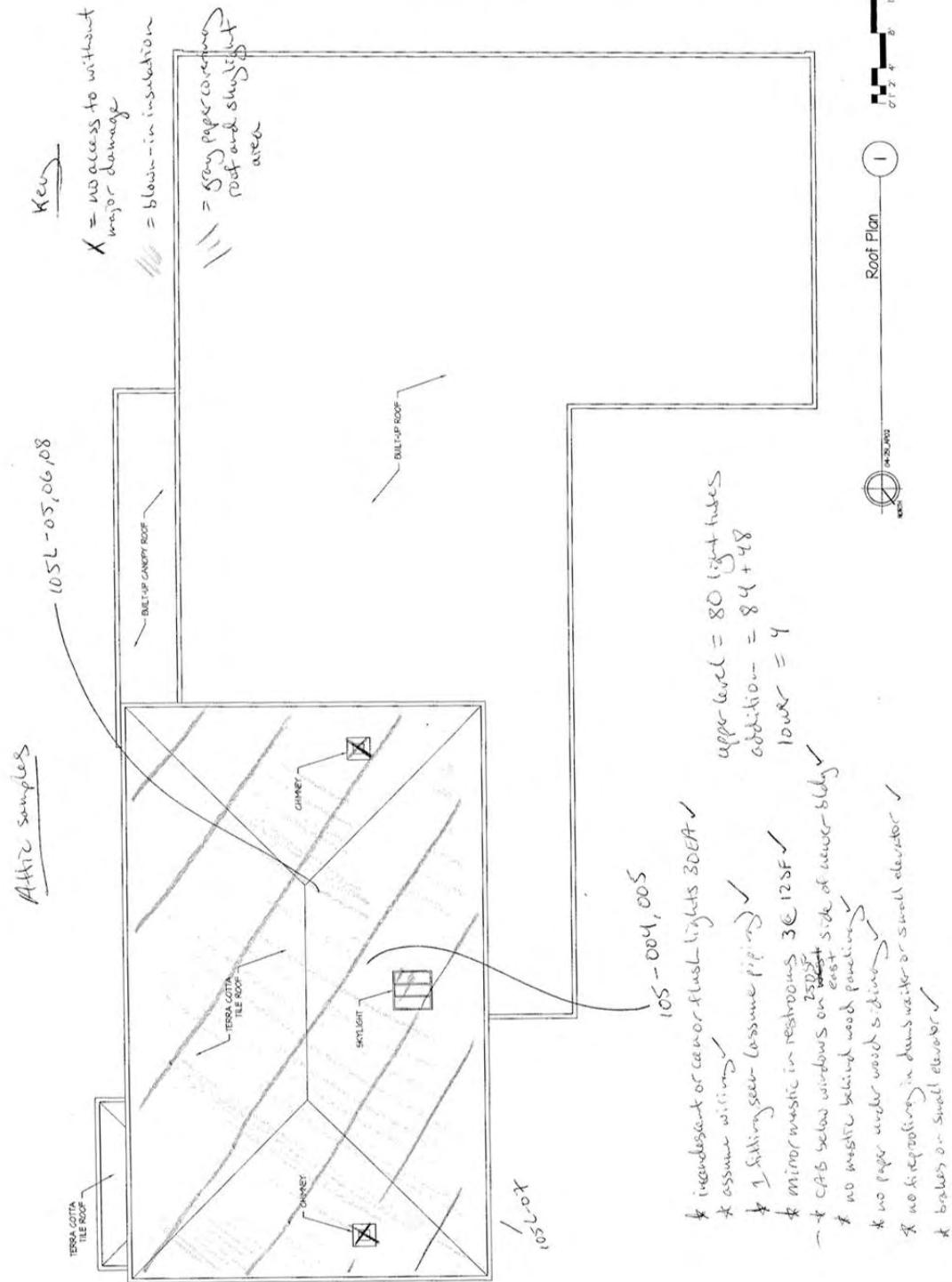
Questions about this information should be made to Terry McDunner at ATC Associates, Seattle, Washington at (206) 781-1449, or at 6347 Seaview Avenue Northwest, Seattle, WA 98107.

The following pages contain plan diagrams with sample locations identified in this report.



Lower Floor Plan 1
0 1 2 3 4 5 6 7 8 9 10 12
10-25-00





13. Building/Site, Statement of Probable Costs - Pre-Design Phase

SDB, 1.22.2005, with additions 2.22.05

Note: This statement includes both labor and materials for noted items. A Design Contingency is included at the end of the Statement to address scope items that are not yet detailed in the design. An estimate of furniture costs is provided at the end also.

The architect's statement of costs does not include the cost of surveys, property division, project management, bid and design fees, inspections, unidentified work related to subsurface conditions, such as underground tanks, drain structures or soil abatement, or sales tax. However, the City of Snohomish has provided estimates for these applicable items and a Construction Contingency, and these are noted on the last page. The Construction Contingency will be used to address unforeseen conditions and scope changes. Escalation is also added, at an estimated 4% per year from today's date to the date of construction.

Item Description	Quantity	Unit	Unit Cost	Subtotals	Subtotals
PROPERTY INFORMATION					
Existing Property Area	38,400	s.f.			
Proposed Carnegie Library Property Area	21,960	s.f.			
Proposed 1968 Building Property Area	16,440	s.f.			
DEMOLITION (See Mech. & Elect. Estimates for Additional Demo Costs)					
Selective Demolition - 1968 Addition					
Temporary site fencing	1	allow	\$ 500.00	\$ 500	
Selective demo canopy & roof/sheathing/framing/ceiling finish portion	2,364	s.f.	\$ 2.00	\$ 4,728	
Demo interior partitions/finishes (1,770 s.f.), doors/frames; cabinets, dumbwaiter; new door opening; stair up into Carnegie	20,140	c.f.	\$ 0.50	\$ 10,070	
Demo concrete slab on grade	450	s.f.	\$ 4.15	\$ 1,868	
Demo ext. walls (salvage portions of plastic cornice for future use)	8,325	s.f.	\$ 0.50	\$ 4,163	
Demo foundations	111	l.f.	\$ 12.30	\$ 1,365	
Dump fee	1	allow	\$ 2,000.00	\$ 2,000	
Temporary protection and shoring at exterior wall	1	allow	\$ 2,000.00	\$ 2,000	
			SUBTOTAL	\$ 26,693	\$ 26,693
Selective Demolition - Library					
Temporary site fencing	600	l.f.	\$ 3.00	\$ 1,800	
Temporary protection	1	allow	\$ 1,250.00	\$ 1,250	
Demo concrete slab on grade	1,564	s.f.	\$ 4.15	\$ 6,491	
Demo back stair enclosure	656	c.f.	\$ 0.50	\$ 328	
Demo front entry stairs to basement	1	allow	\$ 1,000.00	\$ 1,000	
Remove/salvage/clean clay roof tiles (with 10% contingency)	384	sq.	\$ 40.00	\$ 15,360	
Demo chimneys	2	allow	\$ 450.00	\$ 900	
Demo interior partitions/finishes, stair to mezz, upper floor	3,304	c.f.	\$ 0.50	\$ 1,652	
Demo interior partitions and finishes, basement	37,200	c.f.	\$ 0.50	\$ 18,600	
Demo interior doors and frames (maybe salvaged by others)	14	ea.	\$ 25.00	\$ 350	
Demo basement stage	1	allow	\$ 250.00	\$ 250	
Demo basement windows	12	ea.	\$ 50.00	\$ 600	
Remove carpet, resilient flooring	3,838	s.f.	\$ 0.50	\$ 1,919	
Demo ceiling finishes	3,838	s.f.	\$ 1.00	\$ 3,838	
Demo kitchen cabinets - See Haz Mat. (equipment maybe salvaged)	23	l.f.	\$ -	\$ -	
Remove window, demo /saw cut wall for new exit stair door, upper floor	52	s.f.	\$ 30.00	\$ 1,560	
Remove concrete infill at original upper floor main entry	40	s.f.	\$ 15.00	\$ 600	
Salvage/protect woodwork/doors, and trim (165 l.f.) & base (178 l.f.)	1	allow	\$ 1,000.00	\$ 1,000	
Dump fee	1	allow	\$ 6,000.00	\$ 6,000	
			SUBTOTAL	\$ 63,498	\$ 63,498
SITE PREP, UTILITIES, EARTHWORK & GRADING					
Demolish/remove concrete paving & walks	3,600	s.f.	\$ 1.25	\$ 4,500	
Demolish/remove flagpole (salvage by others)	1	allow	\$ 320.00	\$ 320	
Remove/salvage memorial	1	allow	\$ 500.00	\$ 500	
Clear and grub remaining landscape	0.18	ac.	\$ 5,700.00	\$ 1,026	
Tree removal including stumps	6	ea.	\$ 600.00	\$ 3,600	
Soil stabilization and TESC	1	allow	\$ 1,000.00	\$ 1,000	
Parking Lot & Sidewalks - paving, striping, curb & ramp		NIC			
Remove power pole	1	allow	\$ 1,000.00	\$ 1,000	
Provide underground waste/upgraded water service (separate, 2 bldgs.)	1	allow	\$ 6,000.00	\$ 6,000	
Rough grade 1968 bldg, demo footprint	2,364	s.f.	\$ 0.50	\$ 1,182	
Cut/grade for new stairwells, ramp, back stair, wall foundations	500	c.y.	\$ 32.00	\$ 16,000	
Cut for utility trenches	1	allow	\$ 2,000.00	\$ 2,000	
Fill & finish grading	1	allow	\$ 1,000.00	\$ 1,000	
Cut/fill and provide perimeter drain line	304	l.f.	\$ 15.00	\$ 4,560	
			SUBTOTAL	\$ 42,688	\$ 42,688

SITE IMPROVEMENTS AND LANDSCAPE (PARKING LOT, SIDEWALKS PARKING STRIP, & CURBS ARE NIC)

02820 Exterior Walls & Misc. (Parking Lot NIC)

New walls at south courtyard and dumpster area	1 allow	\$ 10,000.00	\$ 10,000
New paved walkways and terrace, with base course	283 c.y.	\$ 20.00	\$ 5,651
New planter beds, with raised curbs	217 l.f.	\$ 8.00	\$ 1,736
Landscape walls	264 s.f.	\$ 40.00	\$ 10,560
Salvage and relocate memorial	1 allow	\$ 1,500.00	\$ 1,500
Trench and area drains	4 ea.	\$ 1,500.00	\$ 6,000
Landscaping (preparation, soil and turf/groundcover)	2,760 s.f.	\$ 4.50	\$ 12,420
Irrigation - NIC	2,760 s.f.	\$ -	\$ -
Bollards	3 ea.	\$ 350.00	\$ 1,050
Tree protection	1 allow	\$ 1,000.00	\$ 1,000
New trees with tree grates at terrace (new street tree, NIC)	3 ea.	\$ 1,500.00	\$ 4,500
Preparation, soil and planting, plant beds	533 s.f.	\$ 5.00	\$ 2,665
(Tree pruning - NIC)			
		SUBTOTAL	\$ 57,082 \$ 57,082

LIMITED BUILDING REHABILITATION - 1968 Addition - Divisions 3 - 12

Roof framing, insulation, roofing	380 s.f.	\$ 14.10	\$ 5,358
Roof accessories, misc.	1 allow	\$ 320.00	\$ 320
Exterior wall framing, insulation, cladding	675 s.f.	\$ 28.30	\$ 19,103
Interior door to mechanical/electrical room	1 ea.	\$ 400.00	\$ 400
(Changes to 1968 Bldg, interiors, restrooms, new exit doors & heating units, etc. - NIC)			
		SUBTOTAL	\$ 25,181 \$ 25,181

BUILDING REHABILITATION - Library - Divisions 4 - 14

New footings/foundations, back stairs and exterior storage room additions	168 l.f.	\$ 45.00	\$ 7,560
Cast in place concrete front storage and stair	240 s.f.	\$ 55.00	\$ 13,200
Accessible ramp	340 s.f.	\$ 30.00	\$ 10,200
Exterior handrails, and handrails in back exit stairwell	220 l.f.	\$ 12.00	\$ 2,640
Ramp guard railing	70 l.f.	\$ 65.00	\$ 4,550
Roofing, back stairwell	18 sq.	\$ 100.00	\$ 1,800
Skylight in back stairwell	1 ea.	\$ 1,250.00	\$ 1,250
Framing and cladding, back stairwell addition	585 s.f.	\$ 9.50	\$ 5,558
Concrete infill, 3 former basement windows	41 s.f.	\$ 45.00	\$ 1,823
Insulation, GWB, back stairwell and basement window infill	700 s.f.	\$ 2.60	\$ 1,820
Structural roof diaphragm	3,840 s.f.	\$ 7.00	\$ 26,880
Structural seismic roof ties	665 s.f.	\$ 10.00	\$ 6,650
Roofing, salvaged, cleaned roof tiles, 5% allowance for replacement	384 sq.	\$ 138.60	\$ 53,222
Refurbish exterior skylight	1 allow	\$ 850.00	\$ 850
Refurbish interior skylight, new glazing and caulk	1 allow	\$ 275.00	\$ 275
Refurbish integral gutters	315 l.f.	\$ 7.50	\$ 2,363
New decorative sheet metal scuppers and downspouts	4 ea.	\$ 400.00	\$ 1,600
Furring at upper floor walls	3,026 s.f.	\$ 2.50	\$ 7,565
Framing at upper floor ceiling (area + 30% for height)	2,190 s.f.	\$ 4.55	\$ 9,965
Furring at basement	1,956 s.f.	\$ 2.50	\$ 4,890
Insulation, perimeter walls, upper and basement	4,981 s.f.	\$ 1.60	\$ 7,970
Insulation, attic	1,824 s.f.	\$ 2.25	\$ 4,104
Acoustic insulation, basement ceiling & restrooms/kitchen walls	2,490 s.f.	\$ 1.25	\$ 3,113
Refurbish windows at upper floor, 32 s.f. ea. (8'-6"x 3'-9" typ. dim.)	16 ea.	\$ 880.00	\$ 14,080
Refurbish windows @ mezzanine (4 windows, 5 sash total)	5 ea.	\$ 125.00	\$ 625
Replacement windows at basement (metal clad wood, typ. 13 s.f.)	15 ea.	\$ 472.50	\$ 7,088
Small specialty windows, restoration on west façade	3 allow	\$ 400.00	\$ 1,200
Exterior wall infill at stair/dumbwaiter opening	130 s.f.	\$ 16.00	\$ 2,080
Repair, prep and repaint ext., and restore decoration (550 s.f.)	5,195 s.f.	\$ 3.00	\$ 15,585
Mfg. metal exit stair, with concrete treads	1 allow	\$ 12,000.00	\$ 12,000
New partition framing, basement (10'-7" h.)	2,064 s.f.	\$ 12.50	\$ 25,800
New partition/framing, main floor (8' h.)	320 s.f.	\$ 10.00	\$ 3,200
New exterior doors, upper and basement, front, with hardware	4 ea.	\$ 750.00	\$ 3,000
New exterior doors/hardware, back exit and storage below front stair	2 ea.	\$ 550.00	\$ 1,100
New interior doors, with hardware	16 ea.	\$ 325.00	\$ 5,200
Refurbish historic doors and hardware, upper floor	4 ea.	\$ 550.00	\$ 2,200

Refurbish wood surround and mezzanine railing	1 allow	\$ 10,000.00	\$ 10,000
New GWB at walls, upper & lower floors, painted	9,501 s.f.	\$ 4.00	\$ 38,004
New GWB, ceiling, upper floor, painted, w/15% increase for coffering	2,519 s.f.	\$ 4.15	\$ 10,452
New painted GWB or suspended acoustic ceiling, basement	1,824 s.f.	\$ 3.00	\$ 5,472
Resilient flooring w/substrate, basement	1,615 s.f.	\$ 5.00	\$ 8,075
Clean, fill and level wood flooring, upper floor	1,382 s.f.	\$ 6.00	\$ 8,292
Clean, refurbish, stain, finish upper wood floor, 1' perimeter zone	221 SF	\$ 10.00	\$ 2,210
Carpet, with pad upper floor, inc. walk-off mats	251 s.y.	\$ 30.00	\$ 7,524
Refurbish/reinstall salvaged base, upper floor	178 l.f.	\$ 4.30	\$ 765
New stained base, upper floor	57 l.f.	\$ 7.50	\$ 428
New paint grade picture rail, upper floor	235 l.f.	\$ 4.50	\$ 1,058
New paint grade cast plaster crown molding at pilaster capitals	25 l.f.	\$ 40.00	\$ 1,000
New painted and resilient base, basement	430 l.f.	\$ 6.50	\$ 2,795
Ceramic tile at floors and walls (6' h.), restrooms, w/backer board	700 s.f.	\$ 10.00	\$ 7,000
Restroom stalls and screen	1 subtotal	\$ 4,250.00	\$ 4,250
Restroom accessories	2 ea.	\$ 500.00	\$ 1,000
Built-in wood cabinets, upper floor, 2.75' d. x 5.5' t., typ.	44 l.f.	\$ 450.00	\$ 19,800
Built-in cabinets with countertops, kitchen	16 l.f.	\$ 225.00	\$ 3,600
Built-in countertop in basement meeting room	8 l.f.	\$ 60.00	\$ 480
Built-in closet accessories (shelves and rods)	1 allow	\$ 2,500.00	\$ 2,500
Kitchen appliances (domestic grade d.w., refrigerator, range, microwave)	1 subtotal	\$ 3,550.00	\$ 3,550
Elevator, holeless hydraulic, 2 stop, 2,000#, three doors (2 sides)	1 ea.	\$ 47,000.00	\$ 47,000
Recessed, roll-up projection screen, upper floor, with electronic control	1 ea.	\$ 17,500.00	\$ 17,500
White/bulletin boards at upper floor, basement meeting room, kitchen	5 ea.	\$ 400.00	\$ 2,000
Window treatments, upper flr. large windows & mezz. window group	17 ea.	\$ 650.00	\$ 11,050
Window treatments, basement smaller windows	15 ea.	\$ 110.00	\$ 1,650
		SUBTOTAL	\$ 490,457 \$ 490,457

PLUMBING/MECHANICAL/FIRE SPRINKLER COSTS (Greenbusch Group Est.)

Mech. Contractor's General Conditions - Mobilization and Demolition	1 LS	\$ 6,000.00	\$ 6,000
Fire sprinkler (basement, first floor and attic)	6,204 s.f.	\$ 2.25	\$ 13,959
Plumbing, inc. plumbing fixtures, HWT, gas piping, LPG tank	1 subtotal	\$ 23,850.00	\$ 23,850
Piping and Insulation	4,011 s.f.	\$ 5.45	\$ 21,860
Radiators	25 ea.	\$ 700.00	\$ 17,500
Boilers, pump, heating equipment, ventilation	4,011 ea.	\$ 3.85	\$ 15,442
Exhaust and destratification fans (6)	1 subtotal	\$ 1,525.00	\$ 1,525
Temperature control system (6 zones)	1 LS	\$ 5,000.00	\$ 5,000
Test, Adjust, Balance	4,011 s.f.	\$ 0.25	\$ 1,003
See Utilities for Water Service			
		Subtotal	\$ 106,139
		Mech. Contractor's OH&P, 20%	21,228
		Subtotal, Est. Mech., Plumbing, Fire Sprinkler Costs	\$ 127,367
		GC's OH&P on Electrical Subcontractor, 15%	19,105
		TOTAL, MECHANICAL	\$ 146,472 \$ 146,472

ELECTRICAL COSTS (Sparling)

Electrical Demolition	\$ 6,500
Telephone service raceway	\$ 2,000
Power service	\$ 7,000
Estimated power utility charges	\$ 3,000
Mechanical connections	\$ 1,500
Devices and circuiting	\$ 8,000
Lighting and circuiting	\$ 25,000
Track lighting for theatrical use (simple systems with wall box dimmers)	\$ 4,000
Security system	\$ 3,500
Fire alarm system	\$ 6,000
Teledata cabling and terminations	\$ 3,000
Exterior wall ramp lighting, or wall-mounted light fixtures, 4 @ \$1,000 ea.	\$ 4,000
	Subtotal, Electrical \$ 73,500
	GC's OH&P on Electrical Subcontractor, 15% \$ 11,025
	Total, Electrical \$ 84,525 \$ 84,525

HAZARDOUS MATERIAL ABATEMENT (ATC)

1. This Preliminary Opinion of Cost is for removal of known asbestos-containing materials documented during our November 11, 2004 survey and assumed PCB-containing light fixtures in the building.
2. The cost for lead paint controls is for contractor personal protective equipment and materials to prepare lead painted surfaces for repainting. The cost for lead abatement is not included in this cost estimate.
3. This cost may change once a specific renovation plan has been determined and technical specification prepared.

Item No.

1	Old Library Roof, Grey Felt Paper	4,224 s.f.	\$5.00	\$	21,120
2	Sink Undercoat Material	5 ea.	\$200.00	\$	1,000
3	Mastic and Associated Cork Board	100 s.f.	\$2.00	\$	200
4	White Leveling Compound	240 s.f.	\$6.00	\$	1,440
5	Roof of 1968 Addition	2,364 s.f.	\$2.25	\$	5,319
6	12" Beige Vinyl Tile and Associated Mastic	654 s.f.	\$2.50	\$	1,635
7	Brown RSF and Associated Mastic	50 s.f.	\$6.00	\$	300
8	Light Fixtures with Asbestos Backing	36 s.f.	\$10.00	\$	36
9	Cement Asbestos Board	250 s.f.	\$3.00	\$	250
10	Wiring	750 l.f.	\$1.00	\$	750
11	Dumb Waiter Brakes	1 ea.	\$25.00	\$	25
12	Mirror Mastic	250 s.f.	\$3.00	\$	750
13	Pipe Insulation and Fittings	100 ea.	\$10.00	\$	1,000
14	Lead Paint - Negative Exposure Assessment and Monitoring	1 ea.	\$1,000.00	\$	1,000
15	Less Than<1% Asbestos - Negative Exposure Assessment/Monitoring	1 ea.	\$1,000.00	\$	1,000
16	PCB Light Ballast and Fluorescent Light Tubes	1 ea.	\$400.00	\$	400
17	Contractor Lead Controls	1 ea.	\$2,000.00	\$	2,000
18	Contractor Mobilization, Notification Fees, Insurance & Bonds	1 ea.	\$500.00	\$	500
19	Lead Removal Assessment - Walls, Wood Supports, Soffitts, Cornice	1 ea.	\$2,400.00	\$	2,400
20	Additional Survey and Investigation during Design Phase	1 ea.	\$1,500.00	\$	1,500
	Lead Abatement Contingency, Damaged Ext. for Paint Prep (25% of s.f.)	1,299 s.f.	\$22.00	\$	28,573
			Subtotal	\$	71,198
			10% Contingency Markup for Potential Unknown Materials	10%	\$ 7,120
			Abatement Contractor's Subtotal	\$	78,317
			GC Markup on Abatement Contractor	15%	\$ 11,748
			SUBTOTAL, Haz Mat Abatement	\$	90,065
			SUBTOTAL	\$	1,026,660

SUMMARY		
Demolition - 1968 Building	\$ 26,693	2.6%
Demolition - Carnegie Library	\$ 63,498	6.2%
Site Prep, Grading, Earthwork, Utilities	\$ 42,688	4.2%
Site Improvements & Landscaping	\$ 57,082	5.6%
Limited Rehab - 1968 Building	\$ 25,181	2.5%
Carnegie Rehab - Architecture & Structural	\$ 490,457	47.8%
Mechanical	\$ 146,472	14.3%
Electrical	\$ 84,525	8.2%
Hazardous Material Abatement	\$ 90,065	8.8%
	SUBTOTAL	100%
General Contractor's General Conditions & Overhead & Profit, 17%	\$ 174,532	
	SUBTOTAL	\$ 1,201,193
Design Contingency, 10%	\$ 120,119	
	TOTAL	\$ 1,321,312

ESCALATED TO DATE OF FUTURE CONSTRUCTION (at 4%/year)	
To January 2006:	\$ 1,374,164
To January 2007:	\$ 1,429,131
To January 2008:	\$ 1,486,296
To January 2000:	\$ 1,545,748

Subtotal to January 2010 Date of Estimated Construction: \$ 1,607,578

CITY OF SNOHOMISH, ESTIMATED BUDGET ITEMS, 1.31.2005	
Construction Contingency, at 10%	\$ 160,758
Drainage Improvements (Lump Sum)	\$ 50,000

CONSTRUCTION SUBTOTAL \$ 1,818,336

Design Fees, at 10%	181,834
Const. Management, Inspections and Testing, at 3.5%	63,642
Const. Administration and Bid Services, at 1.5%	27,275
Sales Tax on Construction Subtotal, at 8.7%	158,195
Furniture Estimate, Noted Below	43,206

TOTAL PLANNING STAGE ESTIMATE \$ 2,292,488

FURNITURE ESTIMATE

Upper Floor

Upholstered chairs	4 ea.	\$ 450	\$ 1,800
Upholstered 2-seat sofa	2 ea.	\$ 850	\$ 1,700
Lamps	4 ea.	\$ 200	\$ 800
Small side tables	2 ea.	\$ 150	\$ 300
Stacking chairs, including contract quantity discount	106 ea.	\$ 120	\$ 12,720
Podium, custom	1 ea.	\$ 750	\$ 750
Large side tables	2 ea.	\$ 400	\$ 800
Folding tables. 2.5' x 7'	18 ea.	\$ 350	\$ 6,300
Chair dollies, w/ 40 chair capacity ea.	4 ea.	\$ 350	\$ 1,400
Table dollies, with 5 table capacity	4 ea.	\$ 250	\$ 1,000
Movable display stands	2 ea.	\$ 300	\$ 600

Basement

Stacking chairs, including contract quantity discount	40 s.f.	\$ 120	\$ 4,800
Teaching tables, 1.5' x 6'	10 ea.	\$ 350	\$ 3,500
Chair dollies, w/ 40 chair capacity ea.	1 ea.	\$ 350	\$ 350
Table dollies, with 5 table capacity	2 ea.	\$ 250	\$ 500
Kitchen table, 2' sq.	1 ea.	\$ 250	\$ 250

SUBTOTAL	\$ 37,570
Shipping, 15%	5,636
TOTAL	\$ 43,206

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Skeen, Molly. "Library Secrets: How America's Carnegie Libraries Adapt to Survive," National Trust for Historic Preservation. *Preservation Online*, online magazine, March 5, 2004.

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Snohomish County Tribune,

Snohomish explores options for old library," June 2004.

"Denizens want Snohomish's Carnegie Library Restored," August 8, 2002.

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Snohomish Historic District Design Standards, October 21, 2003.

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Weeks, Kay D. and Anne E. Grimmer. *The Secretary of the Interior's Standards for the Treatment of Historic Properties and Guidelines for Preserving, Rehabilitating Restoring and Reconstructing Historic Buildings*. Washington, D.C.: National Park Service, 1995.

Whitfield, William, editor. *A History of Snohomish County*. Volumes 1 and 2. Chicago and Seattle: Pioneer Historical Publishing Company, 1926.

Woodbridge, Sally B. and Roger Montgomery. *Guide to Architecture in Washington State – An Environmental Perspective*. Seattle: University of Washington Press, 1972.

Reports

The following reports and documents were provided by the City of Snohomish, or as noted:

Bulk Asbestos Analysis, Asbesto-Test Incorporated, March 19, 2001.

City of Snohomish Structural Report, Structural *Investigation and Findings: Carnegie Library Building*. April 13, 2001.

City of Snohomish Public Library photograph collection

Correspondence letters between the Office of Andrew Carnegie, (via Mr. James Bertram, his personal secretary), the Honorable S.H. Piles, and the Honorable E.C. Ferguson regarding procuring funding for the construction of a new library in Snohomish.

Correspondence letters between Bigger & Warner Architects, Mr. E.C. Ferguson (Chairman of the Library Board), Mrs. Mauchlin (Secretary of the Library Board) regarding construction of the Carnegie Library in Snohomish.

Meeting minutes from the Snohomish Public Library Board of Trustees, March 27, 1909 – October 7, 1910, during the period of design and construction of the Carnegie Library.

Observation of earthquake damage to City of Snohomish Library. CWA Consultants, Sammamish, Washington, March 21, 2001.

Photographs from the family album of Father Van de Walle, care of Maurice DeLoy.

Tree Condition Summary, International Forestry Consultants, Inc. January 2002.

The Carnegie Preservation Committee also contracted the following individuals who provided comments about their memories of the original Carnegie Library:

- Joe Clayton
- June Seymour Gregory
- Annette (Rhoades) Tucker
- Lynn Klein
- Jim Spada
- Everett Olsen
- Max Weed
- Bill Blake