OLD JAIL FEASIBILITY STUDY

Route 154 and Jail Hill Road Haddam, Connecticut

Prepared for

Town of Haddam

Prepared by

Fellner Associates Architects, LLC

Project Number 05-21

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PROJECT TEAM

Project:

Old Jail Feasibility Study

Route 154 and Jail Hill Road

Haddam, CT 06438

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SECTION 1. INTRODUCTION

A. Purpose: Fellner Associates Architects with their team of Consultants has been retained by the Town of Haddam to perform a Feasibility Study for this project. The property consists of a total of approximately 51 acres including five buildings: Jailhouse, Training Building, Pump House, Corn House/Piggery, and Shed. The Town of Haddam is presently in the process of acquiring the property from the State of Connecticut. This report serves as a vehicle for dialogue and presentation with the Town of Haddam and the community.

B. Strategy:

The scope of work is as outlined:

- 1. Evaluation of current condition of site.
- Evaluation of current condition of all buildings.
- 3. Identification of hazardous materials.
- Identification of recommended short-term repairs/renovations.
- Identification of recommended long-term repairs/renovations.
- 6. Evaluation of potential reuses for the site grounds.
- Evaluation of potential reuses for the buildings.
- 8. Development of conceptual costs of development for short-term repairs/renovations.
- 9. Development of conceptual costs of development for long-term repairs/renovations.
- 10. Town meetings and public presentation.

This Feasibility Study involves all phases of identification, analysis, evaluation, synthesis, and conclusions, as prepared by our team of Architects, Engineers, and Consultants. The following disciplines are integral parts of this Feasibility Study:

- Architecture: Overall coordination, building evaluations (field survey and plan review), base code review, identification of building repairs/renovations, evaluation of potential building reuses, develop conceptual costs (short term corrective measures and long term renovations), and Town meetings/presentations.
- Site/Civil Engineering: Site inspection and evaluation, review existing mapping, identification of site conditions requiring immediate attention, evaluation of potential site uses, develop conceptual costs in terms of short term/long term repairs and partial site development. Review will include issues of grading, spatial requirements, traffic, access, drainage, utilities, water supply, and waste disposal systems.
- Structural Engineering: Analysis of structural systems (field survey and plan review), identification of structural systems repairs/renovations, potential reuse analysis, and develop conceptual costs (short term corrective measures and long term renovations).
- Mechanical/Electrical/Plumbing/Fire Protection (MEPF) Engineering: Building systems
 evaluations (field survey and plan review), identification of building systems
 repairs/renovations, potential reuse analysis, and develop conceptual costs (short term
 corrective measures and long term renovations).

 HAZMAT Consultant: Identification of existing HAZMAT materials, including asbestos and lead paint through field survey and sample testing for all buildings, and develop removal costs (site not included).

The following outline describes the Project Team:

Architecture:

Fellner Associates Architects

Site/Civil Engineering:

Bennett and Smilas Engineering

Structural Engineering: MEPF Engineering:

Perrone and Zajda Engineers Consulting Engineering Services

HAZMAT Consultant:

EnviroScience Consultants

C. Notes: This Study is limited to the visual observation and review of construction materials; exterior building wall and roof envelope systems; interior partitions; floors and ceilings; doors/windows; and finishes. A review of structural, mechanical, electrical, plumbing and fire protection systems is included, along with an investigation of potential hazardous materials (buildings only). Inspection and study is limited to those parts that were readily accessible and on information obtained from existing documentation, as supplied by the Town of Haddam. In addition, a general review of compliance with CT State Building and Fire Codes and ADA regulations is part of this study, including size/areas, type of construction, spatial layout, and egress. The State of Connecticut, to the best of its knowledge, is not aware of any hazardous materials on the site, outside of the buildings. Thus, this Study does not include any investigation of site hazardous materials.

D. Building Areas:

Jailhouse	10,538 sf
Training Building	2,418 sf
Pump House	524 sf
Corn House/Piggery	984 sf
Shed	495 sf

E. Site Areas:

Jailhouse Parcel, Lot 51-2	4.2 acres
Parking Lot Parcel, Lot 51-3	2.3 acres
Wooded Parcel, Lot 51-1	27.5 acres
Ball Field Parcel, Lot 51	17.0 acres
Total Site Area	51.0 acres

SECTION 2: ARCHITECTURAL REVIEW

A. General Observations:

On September 7, 2005, the Project Team performed a site walk-thru of all five structures.

A.1 Jailhouse

- 1. The jailhouse consists of a 3-story structure with basement, along with a 2-story area at the Jail Cell section and a 1-story area at the kitchen. It is divided into two wings: Administrative and Cellblock. The Administrative wing consists off wood frame construction with plaster walls and ceilings with some gypsum board and the floors are wood with a variety of finishes. The Cellblock wing is primarily steel construction with concrete floors. The exterior walls are mostly stone and mortar cladding with brick veneer at the rear area. The roof consists of a combination of Mansard, gable and flat areas. The building contains a dining area, kitchen, administrative offices, jail cells and jail-community spaces.
- 2. This Section describes architectural features. For structural, mechanical/electrical, and HazMat issues, see the Sections by the respective Project Team Consultants: Perrone and Zajda Engineers, Consulting Engineering Services, and EnviroScience Consultants.

A.1.1 Basement

- The floor appears to consist of large, flat stones with joints. There are areas where a thin layer of dirt covers the stone floor, possibly seeped in through time. There is some evidence of water that has covered some parts of the floor over time, however the floor was relatively dry during this inspection.
- 2. The foundation walls consist of stone and mortar with some efflorescence and are in relatively good condition.
- The basement contains mechanical equipment, piping, electrical equipment, etc. See Section prepared by CES for specific information.
- Parts of the ceiling are exposed, revealing the wood framing system. See Section prepared by Perrone and Zajda for specific information.

A.1.2 First Floor Dining Room

- 1. The gypsum board walls are in poor condition with paint peeling off, requiring repair.
- The gypsum board ceiling is in poor condition, requiring repair. There is evidence of finish tile material that has been removed from the ceiling.
- 3. There is mold that has formed on surfaces, probably due to water migration, requiring removal.
- 4. The batt insulation is visible, dropping down from the ceiling, requiring replacement.
- The floor consists of carpet and ceramic tile, both in poor condition, requiring replacement.
- 6. The windows are in fair condition. The wood paint finish is in poor condition, requiring repair.

A.1.3 First Floor Kitchen

- 1. The ceiling has some fiberglas panels still in place and in poor condition.
- 2. There is ceramic tile in fair to poor condition over gypsum board walls.
- 3. Kitchen appliances are still in place.

A.1.4. First Floor Offices

- 1. The gypsum board/plaster walls are in fair to poor condition with paint peeling off, requiring repair.
- 2. The wood plank flooring is in fair condition; it may be possible to re-finish the wood floor.
- The ceiling has some fiberglass panels still in place and in poor condition.
- 4. The ceiling has some wood furring strips still in place.
- 5. Bathrooms are in poor condition.
- 6. The windows are in fair condition. The wood paint finish is in poor condition, requiring repair.

A.1.5 Jail Cell Area

- 1. The brick walls have paint peeling off, requiring repair.
- 2. The steel bar cell enclosures are in good to fair condition with some rust, requiring removal and repainting.
- 3. A Portion of the upper ceiling consists of fiberglass panels with missing pieces. There is also evidence of water stains from roof leaks which have damaged portions of the ceiling.
- Some of the ceiling areas are metal with paint peeling off, requiring repair. In addition, there is some mold that has formed on ceilings at corridors, probably due to water migration, requiring removal.
- 5. The concrete or gypcrete floor is in fair condition with some cracks.
- 6. The windows are in fair condition. The wood paint finish is in poor condition, requiring repair.
- See Section prepared by Perrone and Zajda for specific information on the floor and roof systems.

A.1.6 2nd and 3rd Floors

- The ceilings are in varying poor condition with missing finish; much of the areas showing furring strips.
- The gypsum board/plaster walls are in poor condition with many areas missing finishes with visible furring strips. The remaining gypsum board/plaster walls have peeling paint.

- 3. There is a mix of floor finish in poor condition including gypcrete, plywood, and particle board over wood subfloor. Many portions are missing, exposing the subfloor.
- 4. There are some wall areas with paneling in fair condition.
- 5. The windows are in fair condition with some broken panes, requiring repair. The wood paint finish is in poor condition, requiring repair.
- 6. There are many openings with missing doors. The doors still in place are in poor condition.
- 7. Bathrooms are in poor condition.
- 8. The stair is too steep and does not comply with code and the handrails are not properly extended.

A.1.7 Exterior

- The exterior walls of the 2-story and 3-story portions consist of solid stone with mortar
 joints. The 2-story portion has 15" to 24" thk. stone walls. The 3-story portion has
 approximately 20" thk. stone walls (as field-measured at one test location). The exterior
 stone appears to be in generally good condition. Nevertheless, there are numerous
 areas of mortar joints that will require re-pointing.
- The windows are in good to fair condition; the wood trim requires preparation/painting.
 Upper dormer windows at Mansard have some deteriorated wood trim and siding
 requiring replacement.
- 3. The leaders (lead and aluminum) are in good to fair condition with some low sections that are bent, requiring repair.
- 4. The entry steps are in good condition, although the rails have rust and are not ADA compliant. Furthermore, there is no ramp for wheelchair access.
- 5. The soffits and fascias are in varying degrees of good to poor condition. Some areas have deteriorated and there are some openings, requiring repair/replacement. All areas need to be scraped and painted.
- The brick facades are in good condition, with some required re-pointing.
- 7. The doors are in fair condition.
- 8. The metal stair is in good condition with some rust, requiring removal/re-painting.
- 9. The upper Mansard shingle roof is in fair to poor condition and should be replaced. The upper wood trim is in good to fair condition.
- 10. Some flashing sections on the roof have failed and need repair.
- 11. The lower, gabled shingle roof area above the jail section is in poor condition with mold on the surface, requiring replacement. There are also some warped sections that will require structural repair. See Section prepared by Perrone and Zajda for specific information.
- 12. The upper, gabled shingle roof area above the jail section is in poor condition, requiring replacement. There are also some warped sections that will require structural repair. It

appears that the rafters are only 2x4's, thereby attributing to the excessive deflection. See Section prepared by Perrone and Zajda for specific information.

 The flat membrane roof area above the kitchen is in fair condition with some bubbling, requiring replacement.

A.2 Training Building

- The Training Building is a 2-story wood framed building with a gabled roof, built into a hill.
 There is first floor access at the lower grade and second floor access at the upper grade.
 This building was originally a cow barn and was renovated into its present form around 1973-74. The first floor consists of entry area, kitchen, offices, bathrooms, mechanical room, and a stair leading upstairs. The second floor consists of two large meeting spaces.
- This Section describes architectural features. For structural, mechanical/electrical, and HazMat issues, see the Sections by the respective Project Team Consultants: Perrone and Zajda Engineers, Consulting Engineering Services, and EnviroScience Consultants.

A.2.1 First Floor

- 1. The concrete slab floor is covered with vinyl tile which is in fair to poor condition, with some staining.
- The acoustic tile ceiling is in good to fair condition with some staining. See Section on Identification of Repairs/Renovations for specific information on all finishes.
- The kitchen cabinets are in fair to poor condition. The countertop and sink are in fair condition. The refrigerator is in poor condition and should be replaced.
- The gypsum board walls are in good to fair condition.
- The mechanical room has an exposed wood joist ceiling, requiring a 1-hr fire-rated ceiling.
- There is presently storage beneath the stair, requiring removal.
- 7. The bathrooms have a vinyl tile floor, ceramic tile and gypsum board walls, both in fair condition. The vinyl tile floor in the Men's room is badly stained below the sink. The bathroom fixtures are in good to fair condition. The toilet partitions have some rust and the opening to the toilet in the Men's room is too narrow. These bathrooms are not ADA compliant.
- The doors are in fair condition and the hardware is not ADA compliant.
- 9. Windows are in good condition.
- 10. The stair is not completely compliant with present codes (treads are only 10" deep and handrails are not properly extended).

A.2.2 Second Floor

1. The vinyl tile floor is in fair to poor condition.

- 2. The acoustic tile ceiling is in good to fair condition with some staining, probably from water.
- The gypsum board walls are in good to fair condition.
- The wood wainscoting is in good condition.
- Windows are in good condition, although one of the screens requires repair.
- The plastic covers of the fluorescent light fixtures are in poor condition (stained and broken), requiring replacement.

A.2.3 Exterior

- The aluminum siding and trim are in good to fair condition. There are some damaged areas, requiring repair.
- 2. The concrete foundation is in good condition.
- The asphalt shingle roof is in good condition.
- 4. The soffits and fascias are in good to fair condition. A good cleaning is needed.
- 5. The main entry is not ADA compliant and requires a ramp.
- 6. The entry doors are in good to fair condition.

A.3 Pump House

- This building is a 1-story concrete structure with a flat roof. It is divided into two spaces with a separating wall. One space contains water supply mechanical equipment with a pit. The other space serves as a storage area.
- This Section describes architectural features. For structural, mechanical/electrical, and HazMat issues, see the Sections by the respective Project Team Consultants: Perrone and Zajda Engineers, Consulting Engineering Services, and EnviroScience Consultants, as applicable.

A.3.1 Interior

- There are a series of bad horizontal cracks running through the exterior walls. See Section prepared by Perrone and Zajda for specific information.
- The stucco finish is in fair to poor condition.
- The concrete slab floor is in fair condition.
- 4. The concrete slab ceiling is in fair to poor condition.
- 5. The concrete dividing wall is in fair condition.

A.3.2 Exterior

- The exterior walls at first appear to be concrete block, however upon closer observation, they are probably formed-in-place concrete with scored joint lines (to visually match concrete block).
- 2. The doors and windows are in fair to poor condition.
- 3. The roll roofing is in good condition.

A.4 Corn House/Piggery

- This building is a 2-story barn-like structure built into a hill consisting of stone and mortar walls along with some wood framed walls, wood upper floor, concrete slab lower floor, and gabled roof framing.
- 2. This Section describes architectural features. For structural, mechanical/electrical, and HazMat issues, see the Sections by the respective Project Team Consultants: Perrone and Zajda Engineers, Consulting Engineering Services, and EnviroScience Consultants, as applicable.

A.4.1 Interior

- 1. The concrete floor at lower level is in fair to poor condition.
- 2. The stone walls are in good to fair condition.
- 3. The wood floor of upper level and wood roof construction are in fair condition. There is a large hole in the rear section of the roof and floor construction, requiring repair. See Section prepared by Perrone and Zajda for specific information.

A.4.2 Exterior

- As noted above, there is a large hole in the roof at rear side, requiring repair.
 Furthermore, there appears to be a major sag in the ridge, requiring repair. See Section prepared by Perrone and Zajda for specific information. Generally, the entire shingle roof is in poor condition, requiring repair.
- The stone and mortar walls are in good condition.
- 3. The wood framed walls are in good to fair condition.
- 4. The windows are in fair to poor condition with some broken panes requiring repair.
- The doors are in poor condition, requiring repair.
- 6. The soffits are in fair condition, requiring repair.

A.5 Shed

- This 1-story structure is a 3-sided enclosure for storage, open to the exterior and built into a hill. It consists of stone and mortar walls, upper wood framed walls and a wood framed gable roof.
- This Section describes architectural features. For structural, mechanical/electrical, and HazMat issues, see the Sections by the respective Project Team Consultants: Perrone

and Zajda Engineers, Consulting Engineering Services, and EnviroScience Consultants, as applicable.

A.5.1 Interior

- 1. The bituminous concrete floor is in poor condition requiring repair.
- The stone and mortar walls are in good to fair condition, with mortar joints requiring some re-pointing.
- The wood plank walls are in good to fair condition.
- The wood frame roof construction is in good condition with exception of the undersized outer beam at open side which has excessive deflection. See Section prepared by Perrone and Zajda for specific information.

A.5.2 Exterior

- 1. The asphalt shingle roof is in good condition.
- 2. The stone walls are in good condition.
- 3. The wood plank walls are in good to fair condition.

B. Base Code Review:

 This Base Code Review is intended to analyze each building for basic requirements of the Connecticut State Building Code and is not meant to be a full analysis of all code requirements. Prior to the implementation of actual construction/renovations, a full review would be required.

B.1 Jailhouse

- 1. This structure consists of Type 3A Construction with B, Business Use Group; A-3, Assembly (Museum) Use Group; and I-3, Institutional (restrained) Use Group for the jail portion (obsolete since no longer used as a working jail). The B, Business Use Group allows a maximum area per floor of 19,800 sf and the maximum height is 4-stories at 50'. The A-3, Assembly Use Group allows a maximum area per floor of 11,550 sf and the maximum height is 3-stories at 40'. Thus, this structure is in general compliance.
- 2. In terms of egress, the present layout will require some modifications to create the required egress paths, in order to comply with code. Furthermore, a new entry ramp is required to comply with ADA requirements.

B.2 Training Building

1. This structure consists of Type 5B Construction with B, Business Use Group. The maximum area per floor is 1,209 sf and the maximum height is 2-stories at 20'. Under the present Connecticut State Building Code, Type 5B Construction has an allowable area per floor of 7,200 sf with a maximum height of 2 stories at 30', thus this structure is in general compliance.

2. In terms of egress, a 2nd means of egress would be required from the 2nd floor to create the required egress paths, in order to comply with code. Furthermore, a new entry ramp is required to comply with ADA requirements.

B.3 Pump House

- 1. This structure consists of Type 2C Construction with S-1, Moderate Hazard Storage Use Group (storage area) and F-2, Low Hazard Factory and Industrial Use Group (water-pumping plants). The area is 524 sf and is a 1-story structure. Under the present Connecticut State Building Code, Type 2C Construction has an allowable area of 8,400 sf with a maximum height of 2-stories for Use Group S-1 and an allowable area of 14,400 sf with a maximum height of 3-stories for Use Group F-2. Furthermore, a 3-hr fire separation is required between the two Use Groups, which is attainable with the concrete separating wall. Thus, this structure is in general compliance.
- 2. This structure has adequate egress.

B.4 Corn House/Piggery

- 1. This structure consists of Type 5B Construction with S-1, Moderate Hazard Storage Use Group for barn and livestock shelters. The maximum area per floor is 492 sf and is a 2-story structure. Under the present Connecticut State Building Code, Type 5B Construction has an allowable area per floor of 4,200 sf with a maximum height of 1-story at 20', thus this structure is not in compliance (for barn/livestock shelters). However, if this structure is used for S-2, Low Hazard Storage Use Group (with permitted storage as defined in Table 311.3 of the CT State Building Code), the allowable area is 7,200 sf with a maximum height of 2-stories, which would be in general compliance.
- 2. This structure has adequate egress.

B.5 Shed

 This structure consists of Type 5B Construction with S-1, Moderate Hazard Storage Use Group. The area is 495 sf and is a 1-story structure. Under the present Connecticut State Building Code, Type 5B Construction has an allowable area per floor of 4,200 sf with a maximum height of 1-story at 20', thus this structure is in general compliance.

C. Short-Term Repairs/Renovations and Building Costs:

- Short Term Repairs/Renovations apply to items requiring immediate attention, in terms of eliminating any further deterioration and stabilizing the buildings. This work is not intended to accommodate buildings for occupancy.
- This Section describes architectural features. For structural, mechanical/electrical, and HazMat issues, see the Sections by the respective Project Team Consultants: Perrone and Zajda Engineers, Consulting Engineering Services, and EnviroScience Consultants.
- Estimated construction costs are based on values for October, 2005. Note that these
 numbers may need to be adjusted for time of actual work, due to changing and
 sometimes unpredictable nature of rising costs.

4. The jailhouse is listed on the State Register of Historic Places. Thus, adequate and appropriate measures need to be taken to assure the preservation of the building and its historical elements including doors, windows, stone walls, trim, fascias, soffits, etc. All work is required to comply with The Secretary of the Interior's Standards for Rehabilitation and Guidelines for Rehabilitating Historic Buildings, along with the National Park Service Preservation Briefs.

C.1 Jailhouse

- 1. Remove all mold from interior surfaces (Approx. cost \$10,000).
- 2. Repair all windows with broken glass panes, replacing deteriorated wood, as needed (Approx. cost \$8,000).
- Replace deteriorated wood trim and siding at upper Mansard windows (Approx. cost -\$6,000). (See Photo # 12).
- Repair/replace deteriorated sections of soffits and fascias (Approx. Cost \$18,000). (See Photo #17).
- 5. Paint soffits, fascias and misc. trim/siding (Approx. cost \$10,000).
- 6. Replace upper Mansard roof system with new asphalt shingle roofing, plywood sheathing, metal roofing (upper section), trimwork, and flashing (Approx. cost \$100,000). (See Photos # 9 and 11).
- 7. Replace upper and lower gabled roof with new asphalt shingle roofing, plywood sheathing, and flashing (Approx. cost \$52,000). (See Photos # 15 and 16).
- 8. Replace flat roof area with new EPDM membrane roofing, plywood sheathing, and flashing (Approx. cost \$18,000). (See Photo #18).
- 9. Replace roof ventilators with new galvanized ventilators (Approx. cost \$7,000). (See Photo #18).
- 10. Add/repair/replace exterior doors (Approx. cost \$6,000).

C.2 Training Building

[None]

C.3 Pump House

[None]

C.4 Corn House/Piggery

- Replace gabled roof with new asphalt shingle roofing and flashing. This work has been completed by the State of CT, after this inspection was performed. (See Photo #66).
- Repair/replace all windows with broken glass panes (Approx. cost \$3,000).

3. Repair/replace deteriorated sections of soffits and fascias (Approx. cost - \$1,000).

C.5 Shed

[None]

D. Long-Term Repairs/Renovations and Building Costs:

- Long Term Repairs/Renovations apply to items requiring eventual attention, in terms of preparing buildings for occupancy, including code updates.
- This Section describes architectural features. For structural, mechanical/electrical, and HazMat issues, see the Sections by the respective Project Team Consultants: Perrone and Zajda Engineers, Consulting Engineering Services, and EnviroScience Consultants.
- Estimated construction costs are based on values for October, 2005. Note that these
 numbers may need to be adjusted for time of actual work, due to changing and
 sometimes unpredictable nature of rising costs.
- 4. The jailhouse is listed on the State Register of Historic Places. Thus, adequate and appropriate measures need to be taken to assure the preservation of the building and its historical elements including doors, windows, stone walls, trim, fascias, soffits, etc. All work is required to comply with <u>The Secretary of the Interior's Standards for Rehabilitation and Guidelines for Rehabilitating Historic Buildings</u>, along with the <u>National Park Service Preservation Briefs</u>.

D.1 Jailhouse

- Remove all damaged and deteriorated plaster, fiberglas panels, and gypsum board walls and ceilings. Supply and install new gypsum board walls and ceilings (Approx. cost -\$110,000). Since this structure is Type 3A Construction as per Base Code Review (see Section B.1), the following elements need to be 1-hr fire-rated using Type X fire-rated gypsum board: exterior walls, interior load-bearing walls, columns, beams, floor construction and roof construction. (See Photos #29 thru 36).
- 2. Provide plan modifications to create egress paths and enclosures, in order to comply with code (Approx. cost \$40,000).
- 3. Repair/replace ceramic tile finish on walls (Approx. cost \$5,000).
- Replace deteriorated fiberglas batt insulation in dining room ceiling (Approx. cost -\$2,000). (See Photo #29).
- Replace floor finishes with appropriate new finishes (i.e. carpet, ceramic tile, gypcrete, etc.) including appropriate sub-flooring and re-finishing of wood floors, as needed (Approx. cost - \$45,000).
- Provide prep work and new paint finish for all walls and ceilings, including trim and steel bars (jail cells) (Approx. cost - \$55,000). (See Photos #29 thru 44).
- 7. Repair/replace windows and misc. repairs to window frames (Approx. cost \$45,000).
- 8. Provide new doors with ADA compliant hardware throughout (Approx. cost \$28,000).

- Bathroom modifications and replace accessories with new accessories (Approx. cost -\$5,000).
- 10. Remove kitchen appliances (Approx. cost \$3,000). (See Photo #30).
- 11. Update handrails at stairs to comply with code (Approx. cost \$2,000). (See Photo #33).
- Re-point exterior mortar joints of stone walls and brick veneer. See Section prepared by Perrone and Zajda for specific information. (See Photo #20).
- 13. Repair/replace deteriorated wood at Mansard windows and repair damaged roof leaders (Approx. cost \$4,000).
- 14. Remove rust and re-paint exterior stair. Prep all exterior wood trim and paint (Approx. cost \$18,000). (See Photos #2, 5, 8, and 11).
- 15. Add new ADA compliant ramps and lifts (Approx. cost \$55,000).
- 16. Replace basement stair hatch with new metal hatch (Approx. cost \$1,000).
- 17. Add insulation to exterior walls and roof areas (Approx. cost 23,000).

D.2 Training Building

- 1. Replace vinyl tile flooring (Approx. cost \$14,000).
- 2. Repair/replace acoustic tile system (Approx. cost \$9,000). (See Photo #54).
- Replace kitchen cabinets, countertop and refrigerator (Approx. cost \$8,000). (See Photo #52).
- 4. Repair gypsum board walls (Approx. cost \$3,000).
- 5. Add 1-hr rated gypsum board ceiling in mechanical room (Approx. cost \$300).
- Update bathrooms with new ceramic tile walls/floors (Approx. cost \$4,000).
- Repair/replace doors and replace with new ADA compliant hardware (Approx. cost -\$6,000).
- 8. Paint interior walls and ceilings (Approx. cost \$11,000).
- 9. Update stair handrails to comply with code (Approx. cost \$1000).
- 10. Replace plastic covers on fluorescent light fixtures (Approx. cost \$2,000).
- Repair damaged exterior aluminum siding and trim and clean all surfaces including soffits and fascias (Approx. cost - \$5,000). (See Photos #49 thru 50).
- 12. Add new ADA compliant small ramps at both entries (Approx. cost \$10,000).
- 13. Add new exterior stair with roof protection from 2nd floor to comply with code (Approx. cost \$16,000).

- 14. Add additional insulation to exterior walls and roof (Approx. cost \$5000).
- 15. Add additional partitions for future use potential (Approx. cost \$5,000).

D.3 Pump House

- 1. Repair stucco finish (Approx. cost \$2,000).
- 2. Misc. repairs to concrete floor and roof systems (Approx. cost \$4,000).
- 3. Misc. repairs to doors and windows (Approx. cost \$2,000).

D.4 Corn House/Piggery

- 1. Misc. repairs to wood framed walls, windows, doors, and soffits (Approx. cost \$9,000).
- 2. Paint exterior walls and trim (Approx. cost \$2,000). (See Photo # 65).

D.5 Shed

- 1. Repair bituminous concrete floor (Approx. cost \$2,000).
- 2. Repair wood plank walls (Approx. cost \$2,000).
- 3. Paint exterior walls and trim (Approx. cost \$2,000). (See Photos #77 and 78).

SECTION 3. STRUCTURAL REVIEW (by Perrone & Zajda Engineers)

A. General Observations:

A.1 Jailhouse

A.1.1 Basement (Structural)

- 5. The floor appears to consist of large, flat stones with joints. There are areas where a thin layer of dirt covers the stone floor, possibly seeped in through time. There is some evidence of water that has covered some parts of the floor over time, however the floor was relatively dry during this inspection.
- 6. The basement foundation walls are constructed out of stone and mortar, typical type of construction during the period that the building was constructed. Random areas of efflorescence on the foundation walls indicate that water has seeped through the stone mortar joints, but there were no visible signs of serious water infiltration at the time of our visit. The north, west and south foundation walls appeared satisfactory considering age.
- 7. Structural framing supporting the main floor above the basement typically consists of wood floor planking bearing on 2½" wide by 9½" deep wood joist at 16" on center spanning north/south. The east/west center wood girder (approximately 10" deep x 7½" wide) is reinforced with two C10 structural steel channels. The floor joists are bearing on the girder.
- 8. The main floor wood planking and the supporting wood joists, as viewed from below in the basement, do not show signs of bug infestation. It appears that the underside of the planking and all of the joists had been painted at some point. The basement area has likely undergone decades of cyclic high humidity conditions, and the paint has deteriorated for the most part, but it likely offered some level of protection to the wood over the years. Random areas of prodding and visual inspection indicated that most of the wood was in satisfactory condition.
- Structural steel beams are shoring the underside of the southern existing main floor joists towards the west side of the basement. The shoring posts simply bear directly on the stone basement floor.

A.1.2 Jail Area (Structural)

- The raised floors of the jail appears to be concrete over a steel pan, supported by steel beams and steel columns. The lower level jail floor appears to be a concrete slab on grade. The slabs appear to be in satisfactory condition.
- There is some minor rust on the cell bars and the 4x4 steel column supports.
- 3. The entire raised floors of the jail appear to be concrete over a steel pan, supported by steel beams and steel columns. The lower level jail floor appears to be a concrete slab on grade. The slabs appear to be in satisfactory condition.
- 4. The roof over the jail is a wood framed gabled roof with attic space accessed from the lower roof to the west. The rafters, spanning north/south are approximately 2x4's spaced at 24" on center.

A.1.3 Main Structure (1st, 2nd and 3rd Floors)

- The 3-story portion and 2-story portion of the structure appears to have solid stone, mortared walls. The areas of wood framing partitions observed, in general, appeared to be in satisfactory condition. There were no signs of insect infestation, and the wood appeared to be dry.
- 2. The exterior west steel fire escape stairs appeared to be in satisfactory condition.
- 3. The exterior stone and mortar cladding of the main building was visually observed form outside. The conditions generally appeared fair, but deterioration of the joints was visible on all elevations. There was no way to determine the condition of the ties between the outer stone skin and the backup wall framing.
- The one-story western addition was observed from outside. The exterior wall consists of brick veneer and steel angle lintels over openings. The roof is flat.
- The eaves of the 3-story main building were visually observed from grade. The eaves appeared fair with some long-term repairs recommended where required.

A.2 Training Building (Structural)

- The existing Training Building is a two-story wood framed structure. The building is built
 into the side of a hill, where grade is higher along the west side. The main level consists
 of a concrete slab on grade, with now basement. The structure is typical of a framed
 house. The second floor is framed with 2x8 wood joists at 16" on center spanning
 east/west.
- The areas of framing observed were dry and insect-free.
- There were no signs of excessive deflection in the second floor framing.
- 4. There are visible signs of water stains in the second floor ceiling below the roof. Reroof or repair leaking areas (non-structural).

A.3 Pump House (Structural)

- The Pump House is approximately 25 ft. by 21 ft. one-story structure with a pit located inside the southeastern corner. The building is split into two sections with a north/south dividing wall.
- 2. The walls of the eastern half appear to be constructed out of approximately 23" thick concrete, while the western half concrete walls are 12" thick. The roof appears to be a poured in placed structural concrete slab, with a steel roof beam spanning eats/west in the eastern half of the building.
- The exterior face of the exterior concrete walls appear to have been impressed with a
 pattern to simulate the look of CMU block. However, it appears that the walls were in fact
 poured monolithically.
- 4. There are numerous cracks in the concrete exterior walls. There is a major horizontal crack in the north, east and south walls. The crack has opened up less than 1/8" on the outside. The continuous horizontal crack along the inside face of the eastern wall is

- approximately 3/8" wide. There are no visible signs of reinforcement in the concrete walls.
- There are additional diagonal cracks visible from outside at upper corners of door and window openings. Also, many small cracks at exterior wall corners.
- 6. Most of the cracks, including the major horizontal cracks, may have occurred during initial construction. The cracks could be related to a formwork failure or an early stress crack during hydration of the concrete. Given that the building has likely been in this condition for decades and has not shown other signs of failure, repair recommendations can fall into the long-term category (although, dependent on the future planned use of this building, short-term repair category might be considered).

A.4 Corn House/Piggery (Structural)

- 1. This structure is a two story building built into the side of a hill along the north side. The first floor of the north wall is a stone and mortar basement wall. The east and west walls are partial height stone and mortar retaining walls. And the south wall is partially a wood framed bearing wall and a partially stone and mortar wall.
- 2. A stone and mortar wall divides the east and west spaces at the lower level. There is a diagonal crack over the low opening through the wall requiring repair.
- 3. The slab on grade is cracked and not level.
- 4. The second floor is framed with 2"x7" wood joists at 16" on center spanning in the east/west direction. At least 3 of the joists on the east side are significantly split and require reinforcement. There is a large hole in the west second floor, with several joist destroyed.
- The northern half of the roof framing is significantly damaged. There are several large holes though the roof that has also damaged the framing.

A.5 Shed (Structural)

- The shed is an open structure. The roof of the shed consists of a wood truss spanning north/south and 2x6 wood rafters at 24" on center spanning east/west. A solid wood beam supports the entire open east edge of the shed. The rafter and truss wood framing appears insect-free and appears to be in satisfactory condition. However, the east solid wood beam appears undersized and is causing the roof to deflect excessively (deflection will be much greater with snow load).
- The west side in built into the side of a hill. An approximately 4 ft. high stone and mortar retaining wall creates the west edge of the shed, continuing to the piggery. Mortar joints have deteriorated in several areas.

B. Short-Term Remedial Repair Work:

B.1 Jailhouse

B.1.1 Basement (Structural)

- 1. The existing window opening along the northern portion of the east foundation wall needs to be rebuilt (Approx. Cost \$600). (See Photo #23).
- 2. Two brick masonry piers supporting the existing center wood girder reinforced with two channels needs repointing. Any loose, soft brick must be replaced (Approx. Cost \$800). (See Photo #22).

B.1.2 Jail Area (Structural)

 The sloped wood framed gabled roof of the jail is sagging significantly. The deflection is not acceptable. Remove existing roofing, roof sheathing and rafters. Install new rafters (designed to meet current code requirements for stress and deflection), exterior grade roof sheathing and architectural approved roofing (roofing costs are part of Architectural Section). All new framing to be tied to main support structure with approved connectors (Approx. Cost - \$30,000). (See Photo #15).

B.1.3 Main Structure (1st, 2nd and 3rd Floors)

Repair deteriorated sections of the 3-story main building along the north and south eaves.
 See Architectural Section.

B.2 Training Building (Structural)

[None]

B.3 Pump House (Structural)

[None]

B.4 Corn House/Piggery (Structural)

- The split second floor joists in the eastern half of the building should be reinforced with sistered LVL beams (Approx. Cost - \$1,000). (See Photo #69).
- The second floor framing west of the interior bearing wall should be demolished and rebuilt (Approx. Cost - \$3,000). Some of this work has been completes by State of CT. (See Photo #70).
- 3. The roof has significant holes and must be repaired. The existing roofing and roof planking must be removed. Replace any damaged rafters. Install new exterior grade roof sheathing (Approx. Cost \$3,000). Some of this work has been completed by State of CT. (See Photo #66).

B.5 Shed (Structural)

 Major repointing is required along the east face of the lower inside portion of the west stone and mortar retaining wall (Approx. Cost - \$2,000). (See Photo #21).

C. Long-Term Remedial Repair Work:

C.1 Jailhouse

C.1.1 Basement (Structural)

- Most of the east stone and mortar foundation wall needs repointing. Repoint the north, west and south foundation walls as needed (Approx. Cost - \$2,000). (See Photo #23).
- 2. The structural steel beams shoring the underside of the southern existing main floor joists towards the west side of the basement are rusted. It appears that the rust is superficial, and that the integrity of structural steel has not been compromised. The rust should be completely scaled off. The beam should then be inspected for any deficiencies by a qualified testing laboratory and findings reviewed by a structural engineer. If found acceptable the beam should be coated with an approved epoxy based paint (Approx. Cost \$800 to clean and repaint beam; \$700 for a testing laboratory to inspect beam and for a licensed engineer to review findings).
- All temporary shoring posts in the basement should be replaced with permanent column supports. A portion of the basement floor should be cut and excavated so that the new structural posts are bearing on a new concrete footing (Approx. Cost - \$7,000).

C.1.2 Jail Area (Structural)

 The HSS4x4 steel columns in the jail area and numerous bars for the jail cells exhibit minor signs rust. Remove all rust and loose paint. Repaint with a compatible type of epoxy paint, coordinate color with architect (Approx. Cost - \$5,500).

C.1.3 Main Structure (1st, 2nd and 3rd Floors)

- 1. The stone and mortar exterior cladding has random areas of deterioration at some of the joints. Repointing is required. The south elevation requires the most extensive repointing, including cleaning out moss and mold in some of the joints (Approx. Cost \$20,000 including staging). A few random areas of cladding should be removed during repointing operation so that a qualified person can determine condition of the ties between the stone veneer to the backup framing. If some ties are found to be unacceptable then additional testing is required, followed by repair instructions. However, there were no visible signs (such as bulging or out of plumb veneer) that would indicate failure of the ties is occurring. (See Photo #20).
- The steel angle loose lintels on the northern elevation of the western one-story addition are rusted. Scrape lintels to remove all rust and repaint with a zinc-rich exterior grade compatible paint, two coats. Some brick repointing is required at the lintels (Approx. Cost - \$2,000).

C.2 Training Building (Structural)

[None]

C.3 Pump House (Structural)

The cracks in the exterior concrete walls should be repaired. The amount of repairs
required in this relatively small structure is extensive. A testing laboratory should be
hired to determine wall rebar reinforcement size and spacing, if any (Approx. Cost \$1,000). The cracks should be repaired with a structural epoxy injection by a qualified
installer. If rebars are present, epoxy stitch new rebar dowels perpendicular through
crack at spacing to match existing rebar spacing (Approx. Cost - \$25,000). Based on our

observations, our office recommends demolishing and rebuilding the structure if to be used for any type of human occupancy or frequently accessed storage. (See Photo #63).

C.4 Corn House/Piggery (Structural)

- Significant repointing of the stone and mortar walls is required on all sides (Approx. Cost - \$2,000).
- 2. Repair crack over interior stone wall over small opening with epoxy repair mortar (Approx. Cost \$500).
- A stone and mortar wall divides the east and west spaces at the lower level. There is a diagonal crack over the low opening through the wall requiring repair (Approx. Cost -\$1,000).
- The slab on grade is cracked and not level. Cut and remove existing slab and replace with new reinforced slab (Approx. Cost - \$6,000).

C.5 Shed (Structural)

The east edge of the shed roof is deflecting excessively. A new beam is to be designed
and installed to meet current code requirements. The shed roof framing should be
shored temporarily, the existing wood beam can then be removed and the new beam can
be installed (Approx. Cost - \$3,000). (See Photo #78).

SECTION 4. FIRE PROTECTION, PLUMBING, MECHANICAL, AND ELECTRICAL REVIEW (by Consulting Engineering Services)

A. Fire Protection Systems Observations:

A.1 Jailhouse

The fire protection systems in this building are limited to a standpipe that is located in the front stairway. This standpipe has hose valve connections on the second and third floor only. Based on available existing condition drawings it appears that the standpipe is fed by a 3" water service that enters the basement in the northwest corner. This water service also feeds the domestic water for the building. The two services are separated outside of the building below grade. Access to the below grade piping was not available. The available existing condition drawings indicate that the water service originated at a water storage tank located on Jail Hill Road to the west of the jailhouse. The plans also indicate that at one point consideration was given to installing a storage tank and booster pump in the existing pump house. See the section on the pump house for additional information on this system.

This fire protection system is inadequate for continued use and is similarly not suitable for any foreseeable reuse of the building.

A.2 Training Building

There is currently no fire protection system serving this building.

A.3 Pump House

There is currently no fire protection system serving this building.

A.4 Corn House/Piggery

There is currently no fire protection system serving this building.

A.5 Shed

There is currently no fire protection system serving this building.

B. Plumbing Systems Observations:

B.1. Jailhouse

B.1.1 Water Service

The water service for this building is a 3" plastic pipe, which enters the basement in the northwest corner. Existing condition drawings indicate that this service is interconnected

with the fire protection piping and originates from a water storage tank located on Jail Hill Road west of the jailhouse. Existing condition drawings also indicate that at one point consideration was given to rerouting this piping through the pump house building and providing a storage tank and booster pump system. See the section on the pump house for further information. The service is currently disconnected in the basement.

This service is adequately sized to meet the needs of this building for most of the foreseeable reuses. However the piping in the pump house was not accessible and the exact configuration could not be considered. Any plans for reusing the existing domestic water service will require additional investigation regarding which portions of the work indicated in the various existing conditions plans have been completed.

B.1.2 Domestic Water Distribution Piping

The domestic water piping inside the jailhouse is copper. The majority is not insulated. The layout of the distribution piping will need to be revised to accommodate any architectural renovations to the building. Based on the age of the building it is possible that the solder used in the piping system could contain lead.

It will not be economically feasible to reuse the existing domestic water distribution system.

B.1.3 Waste and Vent piping

The sanitary service for the building is a 4" waste pipe that exits the building on the southwest side of the basement. The waste and vent piping, where visible, was hub and spigot type piping.

The piping shows significant evidence of corrosion and is beyond its expected useful life.

B.1.4 Domestic Water Heating

Domestic hot water for the building was originally provided by a steam to water heat exchanger. The heat exchanger is located in the basement adjacent to the boiler.

The heat exchanger is no longer functional and has been disconnected.

B.1.5 Plumbing Fixtures

There is a mix of plumbing fixtures throughout the building. The fixtures in the cell block are penal style fixtures. The remainder of the fixtures in the building are commercial style fixtures of various types.

All of the fixtures in the building are beyond their anticipated useful life. None of the plumbing fixtures in the building meet current codes regarding accessibility and water consumption.

B.2 Training Building

B.2.1 Water Service

The water service for this building comes from a well located south of the building. A 1" copper line enters the building in the mechanical room. The domestic water system then goes through an acid water neutralizer. After the acid water neutralizer a domestic water

pneumatic storage tank is installed. This tank along with the associated pressure switch is used to control the cycling of the well pump. After the storage tank the water service has a cartridge filter. From this point a 1" copper water line feeds the building and a ¾" water line feeds the water heater.

The domestic water service and associated equipment are in good condition. This service is adequately sized to meet the needs of this building for most of the foreseeable reuses.

B.2.2 Domestic Water Distribution Piping

The domestic water distribution piping for this building is run in the first floor ceiling space. The piping is copper. The majority of the piping is not insulated. There were no signs of accelerated corrosion or leaking.

The piping system is in good condition and is suitable for reuse, dependant on the extent of architectural modifications made to this building.

B.2.3 Waste and Vent piping

The building is served by a 4" sanitary service which exits the building below grade to the east of the building.

The sanitary service is below grade so its condition could no be ascertained. However based on the condition of the remainder of the plumbing systems in the building it is likely that this piping is in good condition and suitable for reuse.

B.2.4 Domestic Water Heating

Domestic hot water for the building is provided by an electric water heater located in the mechanical room. The water heater is a General Electric model PE40M9A, 4500 watt, 240/208 V, 1 Phase, 40 gallon water heater.

The water heater is in good condition and is adequately sized for the current needs of the building. If the use of the building is not changed significantly the water heater is suitable for reuse.

B.2.5 Plumbing Fixtures

The plumbing fixtures for this building consist of floor mount tank type water closets and wall hung lavatories located in the men's and women's bathrooms and a stainless steel kitchen sink located in the first floor kitchenette. A drinking fountain was installed in the first floor lobby area but has been removed.

The plumbing fixtures are in fair condition. There is some evidence of faucets leaking. The fixtures do not meet current codes for accessibility and do not meet current codes for water consumption. As part of any planned renovation these plumbing fixtures should be replaced.

B.3 Pump House

This building was originally the location of the well that served the jailhouse. At some point the well in this building was abandoned and the water service for the jailhouse was revised so that domestic water is currently provided by a storage tank located on Jail Hill

Road to the west of the jailhouse. Existing condition plans indicate that at one point consideration was given to installing a water storage tank and a domestic water booster pump in the pump house. However field investigation indicated that this work was not done.

Field investigation indicated that the plumbing systems originally located in this building are no longer in use. However portions of the existing plumbing systems are located below grade and were not accessible for inspection. Any planned renovation of the jailhouse or of the pump building should include additional investigation to verify the status of the below grade piping in this building.

B.4 Corn House/Piggery

There are currently no plumbing systems in this building.

B.5 Shed

There are currently no plumbing systems in this building.

C. Heating Ventilation and Air Conditioning (HVAC) Systems Observations:

C.1. Jailhouse

The HVAC systems serving the jailhouse consist of an oil fired steam boiler, a condensate pump, a variety of terminal heating devices, steam and condensate distribution piping, underground fuel oil storage tank, and an air-handling unit. The oil fired boiler is an H. B. Smith 20 Mills series boiler. The jacket was missing from the boiler. There was significant evidence of corrosion. No nameplate data was available for the boiler. The condensate pump serving the boiler is located in the basement adjacent to the boiler. Similarly there was a significant amount of corrosion on the pump and the pump was not operational. The steam and condensate distribution piping is steel with threaded fittings. Some of the piping is insulated with fiberglass insulation. Where the piping is not insulated there is a significant amount of corrosion evident on the visible piping. The terminal heating devices consist of cast iron radiators and fin tube radiation located in various rooms of the building. The distribution of the terminal heating devices is not uniform throughout the building. Several rooms on the west side of the second and third floor do not have any terminal heating devices. The various terminal heating devices are in poor condition. The covers are missing from most of the fin tube radiation. The fuel oil tank serving the building is located below grade at the rear (west side) of the building. The existing condition plans available do not indicate its size or age. Its exact condition cannot be determined. The air-handling unit is located in the basement. The AHU provided heating and ventilation for the cellblock area of the building. The heating source for the unit is a steam heating coil. The AHU is in poor condition and may not be operational.

The HVAC systems serving the jailhouse are beyond their useful life and the majority of the systems are non-operational. Additionally the existing systems are inadequate for the needs of the building for almost any projected reuse. If the existing underground fuel oil tank is beyond its warrantee period, by code it will need to be removed and replaced. Any renovation project for this building should include complete removal and replacement of the HVAC systems.

C.2 Training Building

The HVAC systems for the training building consists of a fan coil unit with DX cooling coil, remote air cooled condensing unit and distribution ductwork serving the first floor, electric baseboard heaters and electric wall heaters throughout the first floor and the rear stair well, exhaust fan/lights serving the first floor bathrooms, and unit ventilators with DX cooling and electric heating serving the second floor. The fan coil unit and associate appurtenances is a cooling only system with a nominal 3-ton cooling capacity. This system is provided with mechanical ventilation and serves the first floor only. The system is adequately sized for the cooling need for this building. Heating for the first floor and the rear stair well is provided by a variety of electric baseboard heaters and electric wall heaters. These heaters have sufficient capacity to meet the heating needs of this building. Heating and cooling on the second floor of the building is provided by two unit ventilators with DX cooling and electric heating. These units have a nominal cooling capacity of 27,000 Btu/hr and a nominal heating capacity of 24,600 Btu/hr. These two units have sufficient capacity to provide heating and cooling for the second floor of this building however they do not have the capacity to provide ventilation for the second floor.

The existing HVAC systems serving the training building provide sufficient heating and cooling but rely on electricity to provide the heating. This is the most expensive means of heating that could be employed for this facility. The existing systems do not provide adequate mechanical ventilation in both heating and cooling mode. The existing equipment is in fair condition and shows evidence of wear. These systems were installed in approximately 1973 and are beyond their anticipated useful life. Any planned renovation of this building should include removal and replacement of the existing HVAC systems.

C.3 Pump House

The HVAC systems serving this building consist of an electric unit heater. The unit heater appears to be in good condition and can be reused.

C.4 Corn House/Piggery

There are currently no HVAC systems serving this building.

C.5 Shed

There are currently no HVAC systems serving this building.

D. Electrical Systems Observations:

D.1 Jailhouse

D.1.1 Power

The jailhouse is provided with a 200 amp, 208V, 3ph electrical service. The electrical service is fed underground from the pump house. The service entrance is in the east side of the basement. There are several distribution panels located in the basement as

well as three distribution panels located in the lobby area of the first floor, one distribution panel located in the kitchen area of the first floor, one distribution panel located on the third floor. The distribution panels and the main service entrance equipment were manufactured by Federal Pacific Equipment. In several areas wiring has been exposed by demolition work that has taken place. The visible wiring is a mix of metal clad cable (commonly referred to as mc cable or bx cable), and nonmetallic-sheathed cable (commonly referred to as NMB cable or romex).

The main service equipment is in poor condition and beyond its useful life. The manufacturer of the equipment and the distribution panels is no longer in business and repair parts for this equipment will be difficult to obtain at best. The 200 amp main service is not sufficiently large enough to support full air conditioning for a building of this size. The wiring is in fair condition but the distribution would need to be revised significantly to accommodate any architectural revisions. Any renovations of this building should include removal and replacement of the electrical service and distribution.

D.1.2. Lighting

Lighting throughout the building is provided by a variety of types of fixtures. The majority of the fixtures are surface mounted fluorescent. Emergency lighting is provided by battery powered wall packs. Exit signs are provided at the various egress points for the building.

The existing lighting in the building is in very poor condition. Many rooms have no lighting at all. Many of the emergency lighting fixtures are non functional. The majority of the exit signs are illuminated but several are not. Any planned renovation of this facility should include removal and replacement of the existing lighting and emergency lighting with new energy efficient lighting. Any planned renovation of this facility will require removal and replacement of the existing exit signs with new exits signs as required to meet code.

D.1.3 Fire Alarm

The fire alarm system for this building consists of a zoned fire alarm panel manufactured by Gamewell. Smoke detectors and/or heat detectors are located in corridors and storage spaces throughout the building, the first floor dining room and kitchen, and the common areas of the cellblock area. The panel has a 12-zone capacity. Currently the following zones are active; prison cells, basement, first floor, second floor, and third floor/attic. The existing condition drawings indicate that the system was installed in approximately 1990.

The existing fire alarm system is in fair condition but the equipment is outdated. There is no indication on the existing condition plans or from our field investigation that the fire alarm panel reports to a monitored location, i.e. the local fire department or a private security company. Any planned renovation of this facility should include removal and replacement of the existing fire alarm system with a new system.

D.1.4 Telephone/Data

Telephone service for the Jailhouse runs overhead from a utility pole located on Saybrook Road. The main telephone backboard and associated telephone service equipment is located in the basement adjacent to the electrical service equipment. Telephone and data wiring is distributed throughout the building. Telephone outlets are provided in various offices in the administrative areas of the building. A portion of the telephone wiring is run exposed but the majority is concealed in walls and ceilings.

The telephone service entrance and the distribution wiring are outdated. Additionally any renovations would require relocation of the various telephone outlets. Any planned renovation of the building should include removal and replacement of the telephone service and the telephone wiring throughout the building.

D.2 Training Building

D.2.1 Power

The Training Building is provided with a 200 amp, 208V, 3ph electrical service. The electrical service is fed underground from the pump house. The service entrance is in the mechanical room on the first floor of the building. There is a single distribution panel located in the mechanical room. The existing condition drawings indicate that this equipment was installed in approximately 1973. Wiring visible in the mechanical room was run in a mix of nonmetallic-sheathed cable (commonly referred to as NMB cable or romex) and conduit. Wiring throughout the building was not visible.

The main service equipment is in good condition. The 200 amp main service is adequate to support full the electrical needs for this building for the majority of anticipated reuses. The wiring visible wiring is in good condition. The distribution will need to be revised to accommodate any architectural revisions.

D.2.2 Lighting

Lighting throughout the building is provided by a variety of types of fixtures. The majority of the fixtures on the first floor are recessed 2' x 4' fluorescent lights with acrylic lenses. The remainder of the fixtures on the first floor are surface mounted incandescent lights located in the bathrooms and the corridor. The fixtures on the second floor are a mix of recessed 2' x 4' fluorescent lights with acrylic lenses and recessed 1' x 4' fluorescent fixtures with acrylic lenses. Emergency lighting is provided by battery powered wall packs. Exit signs are provided at the various egress points for the building.

The existing lighting in the building is in good condition but is not energy efficient. Any planned renovation of this facility should include removal and replacement of the existing lighting with new energy efficient lighting fixtures. Any planned renovation of this facility will require removal and replacement of the existing exit signs with new exits signs as required to meet code.

D.2.3 Fire Alarm

The fire alarm system for this building consists of a zoned fire alarm panel manufactured by Gamewell. On the first floor, smoke detectors are located in the offices, corridors, storage areas, entry lobby and the workroom. A heat detector is located in the first floor mechanical room. Smoke detectors are located in all areas of the second floor. The panel has a 12-zone capacity. Currently the entire building is a single zone. The existing condition drawings indicate that the system was installed in approximately 1990.

The existing fire alarm system is in fair condition but the equipment is outdated. There is no indication on the existing condition plans or from our field investigation that the fire alarm panel reports to a monitored location, i.e. the local fire department or a private security company. Any planned renovation of this facility should include removal and replacement of the existing fire alarm system with a new system.

D.2.4 Telephone/Data

The telephone service to the building runs overhead from a utility pole located on Jail Hill Road. The telephone service terminates in the mechanical room on the first floor. Telephone wiring is distributed throughout the building. Outlets are provided in the offices on the first floor, the first floor training room, the lobby/entrance area, and the training rooms on the second floor.

The telephone service entrance is in good condition and suitable for reuse, however the distribution wiring is outdated. Additionally any renovations would require relocation of the various telephone outlets. Any planned renovation of the building should include removal and replacement of the telephone wiring throughout the building.

D.3 Pump House

D.3.1 Power

The Pump House is fed by an overhead, 3 phase electrical service from a utility pole located on Jail Hill Road. The electrical service feeds a 400 amp CT cabinet with a main disconnect switch. From this CT cabinet the power runs to a 400 amp service switch. Power from this service switch runs underground to feed the electrical service in Jailhouse. Additionally power from the 400 amp service switch runs to another 400 amp service switch which in turn feeds a panel in the Pump House and a 200 amp service switch. Power form the 200 amp service switch runs underground to the Training Building electrical panel. All power to the buildings on this site is centrally metered at the Pump House. At one point a 100 kW diesel emergency generator was provided in the pump house. The generator provided emergency power to both the Jailhouse and the Training Building. The generator is not currently connected.

The main service equipment is in good condition however 400 amps may not be sufficient for power for all of the buildings on the site. Additionally there is no separate metering for the various buildings on the site. Any planned renovation of this building and this site should include revisions to the service entrance in the Pump House to increase available power and to provide separate metering, if desired, for the various buildings on the site. In addition the emergency generator should be replaced with one or more generators to support the emergency power needs of the various buildings on site.

D.3.2 Lighting

Lighting in the Pump House is provided by incandescent fixtures.

The existing lighting in the building is in good condition but is not energy efficient. Any planned renovation of this facility should include removal and replacement of the existing lighting with new energy efficient lighting fixtures.

D.4 Corn House/Piggery

At one point in time this building was provided with an overhead electrical service from the pump hose to a small fuse panel in the upper level of the corn house. The fuse panel fed the lights and several electrical outlets located throughout the building.

The overhead electrical service has been removed from this building.

D.5 Shed

There are currently no Electrical systems serving this building.

E. Short-Term Remedial Repair Work:

E.1 Jailhouse

E.1.1 Fire Protection Systems

No short-term remedial work to the fire protection systems serving this building is required.

E.1.2 Plumbing Systems

No short-term remedial work to the plumbing systems serving this building is required.

E.1 HVAC Systems

Temporary electric heat should be provided throughout the building. Provide thermostatically controlled electric unit heaters for the cell block area, kitchen/dining room and the first through third floors of the administrative area of the building (approx. cost - \$5,000 to \$6,000).

E.1.4 Electrical Systems

Verify the fire alarm system is functional. Verify that the fire alarm is monitored by either the local fire department or by a private security company (approx. cost - \$2,500 to \$3,000).

E.2 Training Building

E.2.1 Fire Protection Systems

No short-term remedial work to the fire protection systems serving this building is required.

E.2.2 Plumbing Systems

No short-term remedial work to the plumbing systems serving this building is required.

E.2.3 HVAC Systems

No short-term remedial work to the HVAC systems serving this building is required.

E.2.4 Electrical Systems

Verify the fire alarm system is functional. Verify that the fire alarm is monitored by either the local fire department or by a private security company (approx. cost - \$2,500 to \$3,000).

E.3 Pump House

There is no short-term remedial work required for this building.

E.4 Corn House/Piggery

There is no short-term remedial work required for this building.

E.5 Shed

There is no short-term remedial work required for this building.

F. Long-Term Remedial Repair Work:

The actual scope for the fire protection, plumbing, mechanical and electrical long-term remedial repair work is entirely dependent on how the buildings on the site are developed and the extent of architectural revisions made. In this portion of the report we have described what in our opinion are the minimum required systems. Additional work could be required to accommodate certain occupancies (i.e. a restaurant). Without a complete knowledge of the full scope of redevelopment it is not possible to fully detail all of the MEP systems that could be required for the final long-term remedial repair work.

F.1 Jailhouse

F.1.1 Fire Protection Systems

Provide a new fire protection service to the building. Provide a complete fire suppression system throughout the building (approx. cost - \$40,000 to \$50,000 excluding a fire pump and associated generator).

F.1.2 Plumbing Systems

Provide new fixtures throughout the facility (approx. cost - \$2,000 per fixture, total cost dependent on architectural modifications and total number of fixtures provided).

Provide a new oil fired domestic water heater (approx. cost - \$5,000 to \$6,000).

Provide new domestic water distribution piping throughout the building (approx. cost - \$30,000, final cost dependent on the quantity of fixtures required by the architectural renovations).

F.1,3 HVAC Systems

Provide a new 2,500 gallon, double wall fiberglass, underground fuel oil tank with leak detection and inventory monitoring (approx. cost - \$30,000).

Provide a new HVAC system consisting of air handling units with hot water heating coils and DX cooling coils, perimeter baseboard radiation, remote air cooled condensing units, distribution ductwork and associated controls (approx. cost - \$250,000 to \$300,000).

F.1.4 Electrical Systems

Provide a new electric service to the building from the pump house complete with separate metering (approx. cost - \$5,500 to \$6,500).

Provide a new electrical power distribution throughout the building (approx. cost - \$45,000 to \$60,000).

Provide new lighting, emergency lighting and exit signs throughout the building (approx. cost - \$45,000 to \$60,000).

Provide a new fire alarm system monitored by either the local fire department or a private security company (approx. cost - \$25,000 to \$30,000).

Provide new telephone system and distribution throughout the building (approx. cost - \$25,000 to \$30,000).

F.2 Training Building

F.2.1 Fire Protection Systems

No long-term remedial work to the fire protection systems serving this building is required.

F.2.2 Plumbing Systems

Replace the existing plumbing fixtures with new of similar kind and connect to existing piping systems (approx. cost - \$9,000).

F.2.3 HVAC Systems

Replace the existing cooling only air handling unit with a direct vent, oil fired furnace with DX cooling coil and remote air cooled condensing unit. Reuse the existing air distribution system for the first floor (approx. cost - \$7,500 to \$9,000).

Replace the existing unit ventilators with like kind (approx. cost - \$4,000 to \$5,000).

F.2.4 Electrical Systems

Provide a new electric service to the building from the pump house complete with separate metering (approx. cost - \$2,500 to \$3,500).

Provide new lighting, emergency lighting and exist signs throughout the building (approx. cost - \$15,000 to \$20,000).

Provide a new fire alarm system monitored by either the local fire department or a private security company (approx. cost - \$5,000 to \$7,500).

Provide new telephone system and distribution throughout the building (approx. cost - \$5,000 to \$7,500).

F.3 Pump House

There is no long-term remedial work required for this building.

F.4 Corn House/Piggery

There is no long-term remedial work required for this building.

F.5 Shed

There is no long-term remedial work required for this building.

SECTION 5. SITE REVIEW (by Bennett & Smilas Engineering)

A. General Observations:

- The property consists of four separate parcels of land situated in the vicinity of Saybrook Road (Connecticut Route 154), Jail Hill Road, Quarry Hill Road and Church Hill Road.
- 2. An abandoned street known as School House Lane separates the two parcels on the west side of Jail Hill Road.
- 3. For purposes of discussion, each parcel will be given a distinctive name.

A.1 Jailhouse Parcel

- The first parcel shall be referred to as the "Jailhouse Parcel". It is located at the southwest corner of Saybrook Road and Jail Hill Road.
- It is designated as Parcel 51-2 on the tax assessor's map and contains approximately 4.2 acres.
- 3. The Jailhouse Parcel contains the Old Jail Building, the Training Building, the Pump House, the Corn House/Piggery, and the Shed.
- 4. The property slopes from south to north. The area around the buildings is in lawn. The remainder of the parcel is wooded with heavy underbrush.
- 5. There is an apparent area of inland wetlands in the southern portion of the parcel.
- The severe slope and possible wetlands on this parcel limit its use for significant further development.
- This parcel may be best left for adaptive re-use of the buildings and passive recreation uses. Walking trails through the site are an option.
- 8. Additional all weather parking areas should be installed at each of the major buildings.

A.2 Parking Lot Parcel

- 1. The second parcel shall be referred to as the "Parking Lot Parcel". It is located at the southeast corner of Saybrook Road and Jail Hill Road.
- 2. It is designated as Parcel 51-3 on the tax assessor's map and contains approximately 2.3
- 3. The Parking Lot Parcel contains a paved parking lot.
- 4. The property slopes from south to north. An intermittent stream traverses the property from Jail Hill Road to Saybrook Road.
- 5. Additional parking may be developed on this parcel.

A.3 Wooded Parcel

- 1. The third parcel shall be referred to as the "Wooded Parcel". It is located at the southeast corner of Jail Hill Road and Quarry Hill Road.
- 2. It is designated as Parcel 51-1 on the tax assessor's map and contains approximately 27.5 acres.
- 3. The Wooded Parcel is entirely forested.
- 4. Driveway access from Quarry Hill Road is adequate. Sightline distances appear to be adequate, however, Quarry Hill Road is narrow. The intersections at both Jail Hill Road and Saybrook Road are substandard and dangerous.
- 5. Driveway access from Jail Hill Road would require significant earth moving to provide adequate access. Signtline distances appear to be adequate.
- 6. Depending on the ultimate use of this parcel, significant earth moving may be necessary to provide the required development footprint. Potentially, a group of smaller activities may be more easily accommodated on the parcel than a larger single facility. For example, a number of pieces of playground equipment plus small open playing fields may

be easier and less costly to construct than a larger ball field or soccer field which may require massive amounts of earth moving and ledge rock excavation.

7. Jail Hill Road is a major thoroughfare that handles a large volume of traffic.

8. Other potential uses for the parcel include re-locating the transfer station and/or the Town garage in the central portion of the parcel. The facilities would need to be kept at least 200 feet distant from any property line to provide a significant buffer to neighboring properties.

A.4 Ball Field Parcel

- 1. The fourth parcel shall be referred to as the "Ball Field Parcel". It is located between Jail Hill Road and Church Hill Road west of the Jailhouse Parcel.
- 2. It is designated as Parcel 51 on the tax assessor's map and contains approximately 17 acres.
- 3. The Ball Field Parcel contains two Little League baseball fields, a soccer field, a playscape, a cistern and parking area.

4. There is an apparent area of inland wetlands in the northern portion of the parcel.

Future potential development on this parcel such as additional bleachers, toilet facilities, storage building, playground equipment, etc. would further complement the existing uses.

B. Utilities:

 Maps and plans of record indicate a variety of underground utilities servicing the several parcels. A visual inspection of the parcels also indicates a number of subsurface features. Additionally, other such features may exist, the existence of which are unknown to the author.

B.1 Water

- 1. There is an existing well on the Ball Field Parcel immediately north of the cistern.
- A 6" Asbestos Cement pipe and a 2" PVC pipe extend downhill parallel to Jail Hill Road according to existing drawings prepared in 1985.
- 3. Maps dated March 23, 1972 indicate numerous buried water lines on the Jailhouse Parcel extending between the various buildings.
- Numerous dug and drilled wells are indicated on maps dated 1955, 1962 and 1985.
 Wells are situated on the Jailhouse Parcel, the Ball Field Parcel and the Wooded Parcel.
- 5. A complete survey must be undertaken to determine the well(s) yield and water quality.
- A permit from the State Department of Health would be required in order to operate as a community water system.

B.2 Wastewater

- 1. The Old Jail Building and the Training Building are connected to a sewage tank located between the Old Jail Building and Jail Hill Road.
- 2. A pipe extends from the sewage tank under Saybrook Road along what was called Station Hill Road to a presumed leaching field located adjacent to the railroad right of way.
- 3. The sewage tank should be pumped and inspected by a licensed individual.
- 4. The leaching system across Saybrook Road should be inspected.
- 5. The Health Department should be contacted regarding the location of the leaching system on property that is owned by others. If this arrangement is acceptable to the Health Department then a formal agreement should be entered into with the State of Connecticut for continuing to use their property for wastewater disposal.

B.3 Electricity

1. Underground feeder cables extend from the Pump House to the Training Building.

C. Storm Drainage:

- 1. An intermittent watercourse flows underground through the Jailhouse Parcel from the north to the south under Jail Hill Road to the Parking Lot Parcel.
- 2. Several storm drainage inlets are visible on the Jailhouse Parcel.
- 3. The Ball Field Parcel was designed with on site detention facilities.
- 4. Any future development of the parcels should incorporate an area-wide drainage analysis to insure a coordinated design.

D. Short-Term Remedial Repair Work:

- The grounds surrounding the buildings on the Jailhouse Parcel must be maintained. The lawn must be mowed and raked. The driveways and pedestrian access to the buildings must be kept free of snow in the winter. These requirements would be the responsibility of Town staff.
- 2. The parking area on the Parking Lot Parcel must be plowed in the winter. This requirement would be the responsibility of Town staff.
- 3. Maintenance of the Ball Field Parcel is the ongoing responsibility of the organizations using the fields.

E. Long-Term Remedial Repair Work:

- All site maintenance work as described in Short-Term Remedial Repair Work would also apply here.
- 2. Expansion of parking lot with drives on the Jailhouse Parcel, including walks, landscaping, storm drainage, lighting, etc. (approx. cost \$110,000).
- 3. Sewage tank pumping/leaching field updating (approx. cost \$15,000).
- 4. Expansion of parking lot with drives on the Parking Lot Parcel, including walks, landscaping, storm drainage, lighting, etc. (approx. cost \$40,000).
- Miscellaneous engineering (area-wide storm drainage analysis, area-wide survey of well(s) yield/water quality (approx. cost - \$20,000).
- The Long-Term development costs for potential work at the Wooded Parcel (i.e. recreation areas, Town garage, etc.) and for the Ball Field Parcel (i.e. bleachers, storage, playground equipment, etc.) are not included in this Study.

SECTION 6. COST SUMMARIES FOR ARCHITECTURAL, STRUCTURAL, MEP, HAZMAT, AND SITE COSTS

A. Summary of Short-Term Building Repairs/Renovations and Costs:

Note: Estimated construction costs are based on values for October, 2005. Note that these numbers may need to be adjusted for time of actual work, due to changing and sometimes unpredictable nature of rising costs.

A.1 Jailhouse

Architectural Work:

\$174,000

New roofing, flashing, sheathing, and accessories

\$37,000

Repair/replace/paint soffits, fascias, siding, trim, and accessories

\$23,000

Misc. (add/replace exterior doors, repair windows, and remove mold)

\$234,000

Subtotal

Structural Work:

\$31,400

Replace roof framing and misc. structural repairs

Mechanical/Electrical/Plumbing Work:

lechanio \$6,000

HVAC (temporary electric heat)

\$3,000

Fire alarm review/monitoring

\$9,000

Subtotal

\$274,400

Total Jailhouse

A.2 Training Building

Mechanical/Electrical/Plumbing Work:

\$3,000

Fire alarm review/monitoring

A.3 Pump House

None

A.4 Corn House/Piggery

Architectural Work:

\$4,000

Misc. (repair/replace soffits/fascias and repair windows)

Structural Work:

\$7,000

Roof and floor framing repairs (in addition to recent work done by State of CT)

\$11,000

Total Corn House/Piggery

A.5 Shed

Structural Work:

\$2,000

Masonry repointing

B. Summary of Short-Term Total Building Project Costs:

B.1 Jailhouse

\$274,400	Subtotal Construction
\$54,880	20% Contingency
\$329,280	Total Construction
\$49,392	15% Contractor Overhead
\$378,672	Total w/ Contractor Overhead
\$37,867	10% Contractor Profit
\$416,539	Total Construction w/ Contractor O/P
\$41,654	10% A/E Fees
\$458,193	Total Project Cost

B.2 Training Building

ቀ2 ሰበስ	Subtotal Construction
\$3,000	
\$600	20% Contingency
\$3,600	Total Construction
\$540	15% Contractor Overhead
\$4,140	Total w/ Contractor Overhead
\$414	10% Contractor Profit
\$4,554	Total Construction w/ Contractor O/P
\$4 <u>55</u> _	10% A/E Fees
\$5,009	Total Project Cost

B.3 Pump House

None

B.4 Corn House/Piggery

Subtotal Construction
20% Contingency
Total Construction
15% Contractor Overhead
Total w/ Contractor Overhead
10% Contractor Profit
Total Construction w/ Contractor O/P
10% A/E Fees
Total Project Cost

B.5 Shed

	2,000 \$400	Subtotal Construction 20% Contingency
\$2	2,400	Total Construction
	\$360	15% Contractor Overhead
\$2	2,760	Total w/ Contractor Overhead
,	\$276	10% Contractor Profit
\$:	3,036	Total Construction w/ Contractor O/P

\$304 10% A/E Fees \$3,340 Total Project Cost

C. Summary of Long-Term Building Repairs/Renovations and Costs:

Note: While every effort was made to consider the accommodation for future uses, it is impossible to totally consider every possibility. Thus, costs may need to be adjusted in the future once the actual uses are decided for each building. Furthermore, estimated construction costs are based on values for October, 2005. Note that these numbers may need to be adjusted for time of actual work, due to changing and sometimes unpredictable nature of rising costs. These costs do not include furniture, furnishings, or exhibit displays.

C.1 Jailhouse

Architectural Work:

\$255,000 Interior modifications, floor/wall/ceiling finishes, and painting

\$135,000 Misc. repairs/replace (insulation, doors/windows, hardware, exterior, etc.)

\$55,000 New entry ramps/lifts

\$445,000 Subtotal

Structural Work:

Olluctural krom	" I de la maintina
\$18,000	Structural repairs (column supports, rust removal, and foundation re-pointing).
\$20,000	Re-pointing of stone and mortar exterior walls

\$20,000 Re-point \$38,000 Subtotal

Mechanical/Electrical/Plumbing Work:

MICOLIGINGER	21.001.11-11.1
\$50,000	Fire protection system
\$64,000	Plumbing system (including fixtures)
\$300,030	HVAC system
\$181,500	Electrical system (including fire alarm and telephone)
\$595,530	Subtotal

Hazardous Materials Abatement:

\$7,000	Asbestos abatement
\$14,000	Lead Abatement
\$21,000	Subtotal *

* This amount has been increased from the values supplied by EnviroScience Consultants Inc. in order to allow for additional areas that may not have been tested.

\$1,099,530 Total Jailhouse

C.2 Training Building

Architectural Work:

ons , and misc. repairs

Mechanical/Electrical/Plumbing Work:

\$9,000	Plumbing system
\$14,000	HVAC system
\$38,500	Electrical system (including fire alarm and telephone)

\$61,500

Subtotal

Hazardous Materials Abatement:

\$23,000

Asbestos Abatement

\$179,800

Total Training Building

C.3 Pump House

Architectural Work:

\$8,000

Repair concrete floor/roof, stucco finish, and doors/windows

Structural Work:

\$26,000

Structural repairs to walls

Hazardous Materials Abatement:

\$2,200

Lead abatement.

\$36,200

Total Pump House

C.4 Corn House/Piggery

Architectural Work:

\$11,000

Repairs to walls, windows, doors, soffits, and exterior paint

Structural Work:

\$9,500

Repair stone walls, re-pointing, and new concrete slab

Hazardous Materials Abatement:

\$1,200

Lead abatement

\$21,700

Total Corn House/Piggery

C.5 Shed

Architectural Work:

\$6,000

Repair walls and floor, and paint

Structural Work:

\$3,000

New beam

Hazardous Materials Abatement:

\$1,000

Lead abatement

\$10,000

Total Shed

D. Summary of Long-Term Total Building Project Costs:

D.1 Jailhouse

\$1,099,530

Subtotal Construction

\$219,906

20% Contingency

\$1,319,436	Total Construction
\$197,915	15% Contractor Overhead
\$1,517,351	Total w/ Contractor Overhead
\$151 <u>,735</u>	10% Contractor Profit
\$1,669,086	Total Construction w/ Contractor O/P
\$166,909	10% A/E Fees
\$1,835,995	Total Project Cost

D.2 Training Building

\$179,800	Subtotal Construction
\$35,960	20% Contingency
\$215,760	Total Construction
\$32,36 <u>4</u>	15% Contractor Overhead
\$248,124	Total w/ Contractor Overhead
\$24,812	10% Contractor Profit
\$272,936	Total Construction w/ Contractor O/P
\$27,294	10% A/E Fees
\$300,230	Total Project Cost

D.3 Pump House

\$36,200	Subtotal Construction
\$7,240	20% Contingency
\$43,440	Total Construction
\$6,516	15% Contractor Overhead
\$49,956	Total w/ Contractor Overhead
\$4,996	10% Contractor Profit
\$54,952	Total Construction w/ Contractor O/P
\$5,495	10% A/E Fees
\$60,447	Total Project Cost

D.4 Corn House/Piggery

\$21,700	Subtotal Construction
\$4,340	20% Contingency
\$26,040	Total Construction
\$3,906	15% Contractor Overhead
\$29,946	Total w/ Contractor Overhead
\$2,995	10% Contractor Profit
\$32,941	Total Construction w/ Contractor O/P
\$3,294	10% A/E Fees
\$36,235	Total Project Cost

D.5 Shed

\$10,000	Subtotal Construction
\$2,000	20% Contingency
\$12,000	Total Construction
\$1,800	15% Contractor Overhead
\$13,800	Total w/ Contractor Overhead
\$1.380	10% Contractor Profit

\$15,180	Total Construction w/ Contractor O/P
\$1,518	10% A/E Fees
\$16,698	Total Project Cost

E. Summary of Short-Term Site Repairs/Renovations and Costs:

Maintenance costs for the various Parcels, as described in Section 5, are not included in this Summary.

F. Summary of Long-Term Site Repairs/Renovations and Costs:

\$110,000	Jailhouse Parcel parking lot
\$15,000	Sewage system work
\$40,000	Parking Parcel parking lot
\$20,000	Storm/water systems engineering
\$185,000	Subtotal

G. Summary of Long-Term Total Site Project Costs:

\$185,000		tal Construction
\$37,000	20%	<u>Contingency</u>
\$222,000		Construction
\$33,30		Contractor Overhead
\$255,300		w/ Contractor Overhead
\$25,53	10%	Contractor Profit
\$280,83	Total	Construction w/ Contractor O/P
\$14,042		<u>/E Fees</u>
\$294,87	. Total	Project Cost

H. Summary of Short-Term and Long-Term Total Project Costs:

H.1 Short-Term Total Building Project Costs

\$458,193	Jailhouse
\$5,009	Training Building
<u>.</u>	Pump House
\$18,368	Corn House/Piggery
\$3,340	Shed
\$484,910	Short-Term Total Building Project Costs

H.2 Long-Term Total Building Project Costs

\$1,835,995	Jailhouse
\$300,230	Training Building
\$60,447	Pump House
	Corn House/Piggery
\$36,235	
\$16,69 <u>8</u>	Shed
\$2.249.605	Long-Term Total Building Project Costs

H.3 Total Building Project Costs

\$484,910	Short-Term Total Building Project Costs
\$2,249,605	Long-Term Total Building Project Costs
\$2,734,515	Total Building Project Costs

H.4 Total Project Costs

\$2,734,515	Total Building Project Costs
\$294,872	Total Site Costs
\$3,029,387	Total Project Costs

SECTION 7. POTENTIAL BUILDING AND LAND USE CONCEPTS

A. Historical Background:

1. The Jailhouse, originally called the Haddam Gaol (Jail) and Workhouse, was constructed in three phases in 1845, 1855, and 1874. The original section is the full pedimented gable ended part with solid granite stone walls. The 3-story section, built in 1874, also consists of granite stone walls topped by a mansard roof with domered windows in the Victorian Second Empire style. The jail continued to hold prisoners until 1969. In the following year, it was converted to the Correctional Facility for the State of Connecticut and was renamed the Connecticut Justice Academy. This building is one of Haddam's most impressive and memorable architectural examples in terms of its style, form, materials, and detailing.

B. Strategy:

- The nature of the immediate site containing the existing five structures evokes the notion of a campus-like setting. There is an inherent potential of utilizing these empty buildings in a productive and positive manner with an associative strategy.
- 2. While the development of an extensive Space/Use Programming Analysis is beyond the scope of this Study, the Project Team has reviewed the existing structure of Municipal Departments and Community Programs. An analysis of this information formed the basis for the development of potential Building Use Concepts. In addition, through a series of informal interviews and discussions, a number of Haddam Municipal employees, members of organizations, and citizens were asked to comment about departments, programs, spatial issues, deficiencies, and opinions/suggestions regarding building and land uses. In turn, this raw data was synthesized and evaluated as an integral part of the planning process.
- 3. A Space/Use Programming Analysis will need to be undertaken by the Town of Haddam to thoroughly investigate the needs and goals of all Town Departments and Organizations. This would involve extensive questionnaires, interviews, analysis/synthesis of data, determination of spatial requirements, determination of a prioritization of issues, and development of a program. In turn, this information would be used to resolve the best uses for the buildings and land areas.
- 4. It is important to note that the Building Use and Land Use Concepts described in this Study are potential ideas. The intent of this Study is to examine possibilities and to ascertain that the five structures as well as the various parcels totaling 51 acres do indeed have worthwhile value in terms of potential use options for the Town of Haddam.
- 5. The jailhouse is listed on the State Register of Historic Places. Thus, adequate and appropriate measures need to be taken to assure the preservation of the building and its historical elements including doors, windows, stone walls, trim, fascias, soffits, etc. All work is required to comply with The Secretary of the Interior's Standards for Rehabilitation and Guidelines for Rehabilitating Historic Buildings, along with the National Park Service Preservation Briefs.
- See Section F., Implementation and Case Study Review Process for further information regarding Strategies.

C. Potential Goals and Needs Regarding Buildings:

The following goals and needs have been defined and/or suggested through this review and analysis (the actual value or level of importance for each item would need to be ascertained through a Space/Use Programming Analysis):

Explore the potential of the jailhouse for tourism and possible museum use.

Implement the preservation of the jailhouse's historical and architectural significance.

The Land Use Dept. and Building Dept. may need expansion/additional space for offices and storage.

Haddam Public Health agency may need additional storage space.

There is potential for re-locating the State Trooper's Offices.

There is potential for re-locating Probate Court.

There is potential for re-locating the Animal Control Officer.

Provide meeting space for Recreation Dept. and miscellaneous clubs.

Provide meeting space for community groups.

10. Provide possible storage space for Recreation Dept.

11. Possible re-location of Recreation Dept.

D. Potential Goals and Needs Regarding Land:

The following goals and needs have been defined and/or suggested through this review and analysis (the actual value or level of importance for each item would need to be ascertained through a Space/Use Programming Analysis):

- Possible general purpose recreational fields.
- 2. Possible playground space.
- 3. Possible additional parking.
- Possible establishment of nature/recreational trails.
- 5. Leaving the land in its natural state.
- 6. Possible new location for a Town Garage.
- 7. Possible new location for the Transfer Station.
- 8. Possible elderly housing.
- 9. Possible telecommunication tower.

E. Potential Building Use Concept Scenarios:

E.1 Scenario A

E.1.1 Jailhouse (mixed-use)

1. Considering the historical and architectural significance of the Jailhouse, this building can be a resource for the Town of Haddam in terms of 'Heritage Tourism' and education. While an old jail may not at first seem like a viable attraction for the public, it is important to realize that 19th century prisons can actually act as an historical lens to study culture and political issues regarding American History. It is possible to create an historical Jail Museum/Resource Center that celebrates Haddam's place in Connecticut's history. Thus, this museum can exhibit all aspects of Haddam's history. The jail can offer teaching/educational programs for social service agencies and public interest groups. It can also serve as a place for training programs, accommodating university criminal justice programs. Furthermore, it may be possible for the Haddam Historical Society to have an integral role in its development and ultimate operations, with an office presence. Specifically, there are numerous spaces within the building, particularly in the 3-story portion, that can serve as exhibit areas showing period furniture, artifacts, clothing, photographs, among other objects for display. Furthermore, the jail cell areas may also

serve as potential exhibit space for art and photographs, possibly even changing exhibits for community shows with varying themes. The parking lot across Jail Hail Road along with new parking spaces directly adjacent to the building can serve this use. Ultimately, this scenario would create a destination within the Town of Haddam.

- The Haddam Resident State Troopers' Offices can be re-located to this building. This would provide additional presence on the premises.
- 3. The Animal Control Officer can be re-located to this building.
- 4. The old dining room area on the first floor can be used as a meeting space for community groups including the Recreation Dept., recreation clubs (i.e. Little League, Soccer Club, etc.), and various organizations (i.e. Haddam Land Trust, Economic Development Commission, Youth and Family Services, Seniors, Haddam Historical Society, etc.). It can also serve as a meeting place for training/education programs for university criminal justice programs, public interest groups, social service agencies, as well as local school groups. With some modifications, including a small ramp and new entry, this space can be ADA accessible at the West end of the building. The parking lot across Jail Hail Road along with new parking spaces directly adjacent to the building can serve this use.
- 5. New ADA accessible bathrooms can be added to replace the old kitchen area.
- 6. The basement can serve as storage space (i.e. Town records, equipment, etc.).

E.1.2 Training Building

1. This building can potentially be utilized to serve as the re-located Land Use Department and Building Department. This would accommodate the expansion of these departments as well as free up space at the Town Hall for offices and/or storage. Through some minor modifications, this building can be ADA accessible. Thus, both floors would contain offices (the 2nd floor can easily be partitioned). Since the five minute distance to Town Hall is minimal, this separation should not create any significant proximity issues. Regarding future possible growth of these departments, it is possible to add a future addition to accommodate expansion needs. The parking lot across Jail Hail Road along with new parking spaces directly adjacent to the building can serve this use.

E.1.3. Pump House

 This building would continue to serve as a combination mechanical equipment space and a storage space. Building and site maintenance supplies can be stored within the storage space.

E.1.4 Corn House/Piggery

 This building can be utilized as a storage space for multiple departments (i.e. Public Health Agency equipment and supplies, recreation supplies, etc.). There is potential for splitting departments for each of the two floors with separate entries.

E.1.5 Shed

 This building can be utilized for storage of Recreation/field supplies (i.e. lime, packaged material for baseball mounds, trap rock dust for paths, etc.).

E.2 Scenario B

E.2.1 Jailhouse (mixed-use)

- This scenario would also have an historical Jail Museum/Resource Center with the jail cell/gallery idea as described in Scenario A, along with an office for the Haddam Historical Society. The parking lot across Jail Hail Road along with new parking spaces directly adjacent to the building can serve this use.
- 2. The Land Use Dept. and Building Dept. would have re-located offices in this building, utilizing the space in the old dining room as well as the old sections of the 1st floor. With some modifications, including a small ramp and new entry, this space can be ADA accessible at the West end of the building. This use would provide a presence on the premises. The parking lot across Jail Hail Road along with new parking spaces directly adjacent to the building can serve this use.
- 3. New ADA accessible bathrooms can be added to replace the old kitchen area.
- 4. The basement can serve as storage space (i.e. Town records, equipment, etc.).

E.2,2 Training Building

- This building can potentially be utilized to serve as the re-located space for the Haddam Resident State Troopers' Offices on the 1st floor. The parking lot across Jail Hail Road along with new parking spaces directly adjacent to the building can serve this use.
- 2. The Animal Control Officer can be re-located to this building on the 1st floor.
- 3. The 2nd floor would be utilized as meeting space for community groups including the Recreation Dept., recreation clubs (i.e. Little League, Soccer Club, etc.), and various organizations (i.e. Haddam Land Trust, Economic Development Commission, Youth and Family Services, Seniors, Haddam Historical Society, etc.). The parking lot across Jail Hail Road along with new parking spaces directly adjacent to the building can serve this use.

E.2.3 Pump House

1. Same as Scenario A.

E.2.4 Corn House/Piggery

Same as Scenario A.

E.2.5 Shed

Same as Scenario A.

F. Implementation and Case Study Review Process:

- 1. It is important to note that the development of the Jailhouse as an historical Jail Museum/Resource Center would involve a complex, multi-faceted process. Committees orchestrated by the Haddam Historical Society and other Town organizations would need to be formed to review, analyze, synthesize, and evaluate needs, goals, programming, concepts, subject material, and exhibit themes. Furthermore, the infrastructure of Townowned property operating as a museum/resource center would need to be researched and examined. Case studies of similar scenarios from other towns may be reviewed for potential relevant ideas, applications, and procedures. Furthermore, ideas for funding regarding development and operations would need to be researched. Some points of departure include the Connecticut Humanities Council, Small City Grants, among other potential sources. All of this would require much effort. Nevertheless, it is worth serious consideration and implementation.
- 2. There are actually at least 50 prison museums world wide. The Old New-Gate Prison and Copper Mine in East Granby, CT is a State-owned National Historic Landmark, operated by the Museum Administration Office of the Historic Preservation Museum Division. Organizations such as The Friends of New-Gate provide support for the work at this museum through fundraising for programs and exhibits among other functions.
- Other prison museums throughout the United States include the following: Eastern State Penitentiary in Philadelphia, PA; Anamosa State Penitentiary Museum Association in Anamosa, IA; San Quentin Prison Museum in San Quentin, CA; Texas Prison Museum in Huntsville, TX; Wyoming Frontier Prison in Rawlins, WY; 1897 Pauly Jail Museum in Union Springs, AL; 1859 Jail/Marshal's Home and Museum in Independence, MO, among others.
- 4. There are numerous examples of Town-owned historic structures located in Wethersfield and Fairfield among other locations. Through various arrangements, including local Historical Society involvements, these Towns have found the means for implementing the use and operation of these museums.

G. Zoning Summary:

- 1. The four parcels consisting of 51 acres are located within the R-2A, Rural Residential Zone in the Town of Haddam. In terms of permitted uses in the R-2A Zone, the following are acceptable: one and two family residences, bed and breakfast, agriculture, nursery schools/day care, public recreation, municipal parks, nursery gardening/greenhouses, cemeteries, nursing homes, outdoor recreational facilities, post office, veterinary hospital, kennels, municipal buildings, elderly housing, churches, schools, professional/business offices, communication towers, farm markets, and parking/storage for commercial vehicles and construction equipment (see Zoning Regulations for complete descriptions). Any proposed development would require compliance with the Town of Haddam Zoning Regulations in terms of application and approval processes.
- Approximately 60% of this land is within the Gateway Conservation Zone. Thus, any proposed development would require compliance with this section.

H. Potential Land Use Concept Scenarios:

H.1 Jailhouse Parcel Concepts

 Parking Lot: The adaptive re-use of the existing buildings would require a site infrastructure consisting of a parking lot including drives, pedestrian walks, lawn and landscaping, sitting areas, lighting, etc. As described in the Potential Building Use Concept Scenarios, this campus-like setting would accommodate the mixed uses of the historical Jail Museum/Resource Center, meeting spaces, Town offices, etc. The remaining portion at the south end of the parcel is wooded with heavy underbrush with some severe slopes and outcroppings along with some apparent wetlands. This area is not suitable for any further significant development. Nevertheless, it may be possible to add some walking trails through this area, connecting to the Ball Field Parcel. While museums are not specifically listed as a permitted use within the R-2A Zone, the concepts described in this Study involve a mixed use facility including municipal offices which is a permitted use. Furthermore, since the jail is an existing historical structure, it may be possible to define this building as pre-existing zoning and as an accessory use to the municipal permitted use.

H.2 Parking Lot Parcel Concepts

Parking Lot: As on the Jailhouse Parcel, the adaptive re-use of the existing buildings
would require a site infrastructure consisting of an expanded parking lot including drives,
pedestrian walks, landscaping, lighting, etc.

H.3 Wooded Parcel Concepts

- 1. General Purpose Recreational Field: This concept would accommodate an assortment of recreational uses including soccer, lacrosse, and other similar sports. Nevertheless, since the terrain of this parcel is generally sloped without any large expanses of flat areas, a relatively large General Purpose Recreational Field near the Southeastern portion of the parcel would be relatively expensive to develop. Significant earth moving including probable ledge excavation would be required. Nevertheless, due to the size of this heavily wooded lot, it is possible to develop a site design while maintaining the general rural character of the site and its surrounding context. In terms of access, placing the driveway entrance on Jail Hill Road would require extensive earth moving due to the steep slopes. Nevertheless, there appears to be an old path running up from Jail Hill Road that can potentially serve as a workable road bed. An alternate driveway entrance on Quarry Hill Road would involve less earth moving, however this road is very narrow. In either driveway options, there would be pockets of parking placed near the activity areas. This use appears to be complementary to the surrounding neighborhood including residential properties and recreation fields.
 - Multi-Purpose Recreational Playfields: Since the terrain of this parcel is generally sloped without any large expanses of flat areas, this concept of small groupings of activity uses may be relatively simpler to develop in a stepped terrain configuration. Thus, a group of small recreational field activity areas is possible in the Southeastern portions of the parcel. The open playing fields may accommodate an assortment of uses including informal sports, volleyball, bocce ball, picnic areas, etc. In addition, informal children's playground space is also possible. Consequently, the earth moving required for development would be relatively less costly to accomplish than a larger recreational field. Due to the heavily wooded nature of this parcel, it is possible to create sensitive and welldesigned Multi-Purpose Recreational Playfields while maintaining the general rural character of the site and its surrounding context. In terms of access, placing the driveway entrance on Jail Hill Road would require extensive earth moving due to the steep slopes. Nevertheless, there appears to be an old path running up from Jail Hill Road that can potentially serve as a workable road bed. An alternate driveway entrance on Quarry Hill Road would involve less earth moving, however this road is very narrow. In either driveway options, there would be pockets of parking placed near the activity areas. This use appears to be complementary to the surrounding neighborhood including residential properties and recreation fields.

- 3. Nature Trails: This concept would allow most of the site to remain in its natural state, while accommodating recreation and environmental appreciation in the form of hiking, jogging, horse-back riding, and cross country skiing trails. A series of display plaques can be used to describe trees, birds, mammals, insects and other various inhabitants. In addition, a small outdoor amphitheater for groups of 15 people or less can be constructed for the purpose of environmental talks. Minimal development would be required to create the Nature Trails through the site as well as the small amphitheater. Thus, the natural, wooded rural character of this parcel would be kept intact. An access driveway would enter from Quarry Hill Road leading to an immediate small parking area. This potential use would involve a relatively small volume of people using the trails. Furthermore, this use would require the least amount of development costs. This use appears to be complementary to the surrounding neighborhood including residential properties and recreation fields.
- Town Garage: This concept would involve a re-located Town Garage with exterior storage areas. Since the terrain of this parcel is generally sloped without any large expanses of flat areas, the area required for a Town Garage along with the driveway needs would be relatively expensive to develop. Significant earth moving including probable ledge excavation would be required. According to the Zoning Regulations, a Town Garage may not be permitted in the Gateway Conservation Zone (due to potential dumping/storing of refuse). Since only the south end of this parcel is not within the Gateway Conservation Zone, a potential Town Garage would be limited to the south end which would also limit the amount of possible wooded buffer from the adjacent residential property. Furthermore, there may not be sufficient land outside the Gateway Conservation Zone to accommodate a Town Garage. In terms of access, placing the driveway entrance on Jail Hill Road would require extensive earth moving due to the steep slopes. Nevertheless, there appears to be an old path running up from Jail Hill Road that can potentially serve as a workable road bed. An alternate driveway entrance on Quarry Hill Road would involve less earth moving, however this road is very narrow. In either case, the sloped driveways may be hazardous for vehicles for this use. Furthermore, the intersections of Quarry Hill Road at both Jail Hill Road and Saybrook Road are substandard and potentially dangerous for vehicles, particularly involving trucks. This use may not be complementary to the surrounding neighborhood including residential properties and recreation fields. Furthermore, it would be important to study the implications of this potential site in terms of accessing the surrounding areas within the Town of Haddam for Public Works activities.
 - 5. Transfer Station: This concept would involve a re-located Transfer Station. Since the terrain of this parcel is generally sloped without any large expanses of flat areas, the area required for a Transfer Station along with the driveway needs would be relatively expensive to develop. Significant earth moving including probable ledge excavation would be required. According to the Zoning Regulations, a Transfer Station is not permitted in the Gateway Conservation Zone. Since only the south end of this parcel is not within the Gateway Conservation Zone, a potential Transfer Station would be limited to the south end which would also limit the amount of possible wooded buffer from the adjacent residential property. Furthermore, there may not be sufficient land outside the Gateway Conservation Zone to accommodate a Transfer Station. In terms of access, placing the driveway entrance on Jail Hill Road would require extensive earth moving due to the steep slopes. Nevertheless, there appears to be an old path running up from Jail Hill Road that can potentially serve as a workable road bed. An alternate driveway entrance on Quarry Hill Road would involve less earth moving, however this road is very narrow. In either case, the sloped driveways may be hazardous for vehicles for this use. Furthermore, the intersections of Quarry Hill Road at both Jail Hill Road and Saybrook Road are substandard and potentially dangerous for vehicles, particularly involving trucks. This use may not be complementary to the surrounding neighborhood including

- residential properties and recreation fields. Furthermore, it would be important to study the implications of this potential site in terms of both public use and commercial use of the Transfer Station for dumping/recycling and storage of refuse activities.
- 6. Outdoor Amphitheater: This concept would accommodate an Outdoor Amphitheater for groups of up to 100 people. This multi-purpose structure can be a place for concerts, plays, nature/environmental programs, seminars, historical presentations, awards ceremonies, among other functions. Since the terrain of this parcel is generally sloped without any large expanses of flat areas, a relatively large area near the Southeastern portion of the parcel would be relatively expensive to develop. Significant earth moving including probable ledge excavation would be required. Nevertheless, due to the size of this heavily wooded lot, it is possible to develop a site design while maintaining the general rural character of the site and its surrounding context. In terms of access, placing the driveway entrance on Jail Hill Road would require extensive earth moving due to the steep slopes. Nevertheless, there appears to be an old path running up from Jail Hill Road that can potentially serve as a workable road bed. An alternate driveway entrance on Quarry Hill Road would involve less earth moving, however this road is very narrow. In either driveway options, there would be pockets of parking placed near the amphitheater. This use appears to be complementary to the surrounding neighborhood including residential properties and recreation fields.
- Preserved Wooded Land: This concept would involve no development, leaving the Wooded Parcel in its natural state.
- 8. Elderly Housing: This concept would involve Elderly Housing units owned by the Town for rental. Since the terrain of this parcel is generally sloped without any large expanses of flat areas, the areas required for housing units would be relatively expensive to develop in terms of earth moving. Due to the heavily wooded nature of this parcel, it is possible to create sensitive and well-designed site designs while maintaining the general rural character of the site and its surrounding context. In terms of access, placing the driveway entrance on Jail Hill Road would require extensive earth moving due to the steep slopes. Nevertheless, there appears to be an old path running up from Jail Hill Road that can potentially serve as a workable road bed. An alternate driveway entrance on Quarry Hill Road would involve less earth moving, however this road is very narrow. In either driveway options, there would be pockets of parking placed near the housing units. This use appears to be complementary to the surrounding neighborhood including residential properties and recreation fields.
 - 9. Telecommunication Tower: This concept would involve the construction of a Telecommunication Tower on the Wooded Parcel. This would allow the Town to earn income while bridging the cellular gaps within the community. Due to the size of this heavily wooded lot, it is possible to develop a site design while maintaining the general rural character of the site and its surrounding context. In addition, this use may possibly co-exist with one of the other described uses.

H.4 Ball Field Parcel Concepts:

1. This parcel is substantially developed as a recreational field including two Little League baseball fields, a soccer field, a playscape, and miscellaneous structures (i.e. dugouts). There is also a cistern structure. Future potential development may include additional storage and other possible features. The remaining portion at the north end of the parcel is wooded with heavy underbrush with some severe slopes and outcroppings along with some apparent wetlands. This area is not suitable for any further significant development. Nevertheless, it may be possible to add some walking trails through this area, connecting to the Jailhouse Parcel.

I. Conclusion:

- Through an integrated process of observation and analysis, architectural, structural, fire
 protection, plumbing, mechanical, electrical systems, along with site systems have been
 reviewed and documented. In addition, hazardous materials have been identified within
 the buildings. In turn, short-term and Long-term remedial work have been identified
 along with the associated costs. Furthermore, potential building and land use concepts
 have been identified.
- 2. The short-term cost for remedial repairs for the purpose of stabilizing the buildings is \$484,910 or \$485K. This phase one work should be performed within the next 1-2 years. The long-term cost for remedial repairs and renovations for the purpose of transforming the buildings and immediate site for occupancy is \$2,544,477 or \$2.54M. This phase two work can be performed over a longer period. Although, these costs can increase in time due to inflation. The total project cost is \$3,029,387 or \$3.03M. Note that these costs do not include museum exhibition/display features nor the future development of the Wooded Parcel and the Ball Field Parcel.
- 3. While numerous building concepts have been identified in this Feasibility Study, it is important to note that these ideas are intended to be points of departure for presentation, discussion, and feedback. As described in detail in Section 7.E, there is potential for a mixed use adaptive re-use of the jail into a Jail Museum/Resource Center with Municipal offices, along with various combinations of space use with the Training Building for Municipal offices and meeting spaces. There are also provisions for storage space in the remaining buildings.
- 4. Considering the historical and architectural significance of the jailhouse, the development of a Jail Museum/Resource Center would be a great asset for the Town of Haddam in terms of Heritage Tourism and education. While resolving the means for implementation of an infrastructure for Town-owned property operating as a museum/resource center would be complex, the rewards are worth the effort.
- 5. While numerous land use concepts have been identified in this Feasibility Study, it is important to note that these ideas are intended to be points of departure for presentation, discussion, and feedback. As described in Section 7.H, there is potential for additional parking, sidewalks, landscaping, etc. on the Jailhouse Parcel and the Parking Lot Parcel. There is potential for additional elements including storage and other possible features on the Ball Field Parcel. As for the Wooded Parcel, there is potential for a number of different uses including: General Purpose Recreational Field, Multi-Purpose Recreational Playfields, Nature Trails, Outdoor Amphitheater, Elderly Housing, or a Telecommunication Tower. There are other ideas included that may not be compatible for this site. Nevertheless, it is healthy to consider all options.
- 6. The Town of Haddam is presently in the process of considering all aspects dealing with the acquisition of this property from the State of Connecticut. Thus, it is important to review and evaluate potential use concepts for the buildings and land. As described in detail, a wide range of benefits are possible. The ultimate purpose of this Feasibility Study is to serve as a vehicle for analysis, documentation, concept generation, presentation, and dialogue for the Town of Haddam and the community.