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ARCHITECTS

ACTON TOWN-WIDE FACILITY STUDY

CLIENT

Town of Acton, MA
472 Main St.
Acton, MA

CONSULTANTS

Consulting Engineering Services
811 Middle St.
Middletown, CT

A. M. Fogarty & Associates, Inc.
175 Derby St.
Hingham, MA

Updated

23 June 2015

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1 June 2015

MR. DEAN CHARTER

Director of Municipal Properties

TOWN OF ACTON

472 Main Street
Acton, MA 01720

Re: Final Report for the Town of
Acton Town-Wide Facility Study

Dear Mr. Charter,

We are proud to submit the final iteration of the Town-wide Facility Study for the Town of Acton. All of our team members found the time spent at the buildings and working with The Town of Acton's staff to be quite enjoyable. The Town of Acton can be justifiably proud of sense pride and responsibility shown by Town staff and apparent in the condition of each of the buildings we visited.

We were warmly received by staff wherever we went and were provided with candid insight and full access to each of the buildings. We extend a heart-felt thanks to you, Andrea Ristine, Dayle MacGillivray, and Corey York for providing an unmatched level of assistance and guidance throughout the effort.

Sincerely,

A handwritten signature in black ink, appearing to read 'R. Drayton Fair'.

R. Drayton Fair, AIA, ALA, LEED AP
Principal

A handwritten signature in black ink, appearing to read 'Gregory J. Smolley'.

Gregory J. Smolley, AIA, AICP, REFP,
LEED AP
Principal



INTRODUCTION

In April of 2015 the Town of Acton retained LLB Architects to conduct a town-wide facility study. Our team included Consulting Engineering Services, who provided expertise with mechanical, electrical, plumbing, fire protection systems, and cost estimating consultants A. M. Fogarty.

Team members reviewed historical data and files for each property and then visited each of the 19 buildings that the study covers. This report is the culmination and written documentation of the study's methodology and findings. In the future use of this document and database, the assumptions and exclusions contained herein are as important as the recommendations and conclusions. This study's guidance is a composite of the available data, conclusions gained through visual observation, and knowledge of the construction market conditions at the time of writing. No destructive investigation or testing was conducted, thus concealed conditions and similar circumstances are necessarily part of subsequent investigations into individual buildings. There must also be recognition that design issues are beyond the scope of the study, and that there is volatility inherent in forecasting construction pricing.

This survey involves documentation of 19 buildings. The resulting analysis is a distillation of broad-range and detailed observations made by a team comprised of multiple professional disciplines. The primary objective of the study is to provide a database and methodology by which the Town of Acton may better plan for work at its facilities through a uniform rating system and independent cost projections. In most cases the data and forecasts developed through this study will form the basis for more intensive investigation of a particular facility prior to undertaking repairs or making alterations.

Overall the team found all of the buildings we studied to be well cared for and in good condition. With the exception of ADA / MAAB concerns at one facility, there were no identified code compliance or life-safety issues that would warrant immediate action or closing of a facility. Similarly, there were no deficiencies or needs common to all of the buildings. Those issues that were deemed to be of concern within the next three years were, to a great extent, known to the Town staff already. From the point the Town is at now, this study should allow forecasting for the fiscal and physical needs of the facilities stock for the next twenty years. It is recommended that the buildings be revisited and the database and cost projections updated annually.

LLB Architects wishes to thank Dean Charter, Andrea Ristine, Dayle MacGillivray, Corey York, and all of staff of the Town of Acton for their expertise, time, and technical contributions to the content of this study.

PROJECT TERMINOLOGY

This section includes terms, definitions, and abbreviations that are used within this report and the database. The section includes terminology unique to this project and are incorporated with relevant terminology from the ASTM Standard E 2018, 2008, "Standard Guide for Property Condition Studies: Baseline Property Condition Study Process," ASTM International, West Conshohocken, PA, 2008, DOI: 10.1520/E2018-08, www.astm.org. This section does not constitute an exhaustive list.

DEFINITIONS

Accessibility, n.— the ability to use, enter, or reach as related to the The Americans With Disabilities Act.

assessed value, n.— value of all building assets on the same parcel as taken from the city building department record.

study, n.— the process of performing an analysis of the condition of a single or group of facilities, primarily to identify, observe, and estimate costs for buildings elements which may have deficiencies. by a group of qualified of trained industry professionals and skilled trade-technicians.

study database, n.— the large set of structured study, facilities, and cost data stored in a single location

asset preservation, n.— the act of preserving existing building or property resources to avoid further deterioration.

association, n.— the institution's description of the building's primary use.

baseline, n.— the minimum level of observations, due diligence, inquiry/research, documentation review, and preparation of opinions of probable costs to remedy material physical deficiencies for conducting a building study as described in this guide.

building codes, n.— rules and regulations adopted by the governmental authority having jurisdiction over the commercial real estate, which govern the design, construction, alteration, and repair of such commercial real estate. In some jurisdictions, trade or industry standards may have been incorporated into, and made a part of, such building codes by the governmental authority. Building codes are interpreted to include structural, HVAC, plumbing, electrical, life-safety, fire, health, and vertical transportation codes.

building department records, n.— records maintained by or in possession of the local government authority with jurisdiction over the construction, alteration, use, or demolition of improvements on the subject property, and that are readily available for use by the consultant within the time frame required for production of the study report and are practically reviewable by exercising appropriate inquiry.

building envelope, n.— the enclosure of the building that protects the building's interior from outside elements, namely the exterior walls, roof, windows, and curtain walls.

building systems, n.— interacting or independent components or assemblies, which form single integrated units that comprise a building and its site work, such as, pavement and flatwork, structural frame, roofing, exterior walls, plumbing, HVAC, electrical, etc.

component, n.— a fully functional portion of a building system, piece of equipment, or building element.

conformance, n.— compliance with certain regulatory requirements related to Life Safety Code or RI State Building Code.

construction type, n.— description of the type of construction as researched from the building department record.

correction, n.— See *suggested remedy*.

deferred maintenance, n.— physical deficiencies that could have been remedied with routine maintenance, normal operating maintenance, etc., excluding de minimis conditions that generally do not present a material physical deficiency to the subject property.

deferred maintenance deficiencies, n.— the total dollar amount of existing major maintenance repairs and replacements, identified by a comprehensive facilities condition audit of buildings, grounds, fixed equipment, and infrastructure needs. It does not include projected maintenance and replacements or other types of work, such as program improvements or new construction; these items are viewed, as separate capital needs.

de minimis condition, n.— a description of deficiencies that are not material to the condition of the property or do not require significant costs to correct, but nevertheless may be noted in the study report, in the opinion of the field observer or study report reviewer.

design specification, n.— written essential qualitative and quantitative characteristics that set criteria (such as performance requirements, dimensions, weight, reliability, ruggedness) to be satisfied in designing a component, device, product, or system.

easily visible, adj.— describes items, components, and systems that are conspicuous, patent, and which may be observed visually during the walk-through survey without: intrusion, relocation or removal of materials, exploratory probing, use of special protective clothing, or use of any equipment (hand tools, meters of any kind, telescope instruments, stools, ladders, lighting devices, etc.).

element, n.— in the Uniformat Classification, any component, assembly, or system OR construction entity part which, in itself or in combination with other such parts, fulfils a predominating function of the construction entity.

expected useful life (EUL), n.— the average amount of time in years that an item, component or system is estimated to function when installed new and assuming routine maintenance is practiced.

facility condition index (FCI), n.— a comparative indicator of the relative condition of facilities and is expressed as a ratio of the cost of remedying maintenance deficiencies to the current replacement value. The FCI provides the facilities professional a method of measurement to determine the relative condition index of a single building, group of buildings, or the total facility (physical plant). This calculation also provides the facility professional a corresponding rule of thumb for the annual reinvestment rate (funding percentage) to prevent further accumulation of deferred maintenance deficiencies.

field observer, n.— the individual that conducts the walk-through survey.

findings, n.— the knowledge gathered by the act of observation by an individual rather than an entity. Findings, as used in this guide, is to be distinguished from knowledge provided by others, or information contained on documents obtained during the course of conducting a building study.

¹ International Organization for Standardization. ISO 12006-2:2001. Building construction -- Organization of information about construction works -- Part 2: Framework for classification of information. Geneva, Switzerland: ISO, 2001.

guide, n.— a series of options and instructions that do not recommend a specific course of action.

immediate costs, n.— opinions of probable costs that require immediate action as a result of any of the following: (1) material existing or potential unsafe conditions, (2) material building or fire code violations, or (3) conditions that if left uncorrected, have the potential to result in or contribute to critical element or system failure within one year or will result most probably in a significant escalation of its remedial cost.

improvement, n.— an enhancement or upgrade to components, assemblies, or system. A clear distinction is made between repair and replacement activities that maintain the facility in its intended design condition, versus actions that improve or reposition the facility.

institutional mission, n.— a preestablished objective or purpose which may direct the desired remedy to a deficiency

interest, n.— See *institutional mission*.

interior overview, n.— The general state of interior with consideration to fit out, finishes, and user comfort.

interviews, n.— discussions with those knowledgeable about the subject property.

observation, n.— the visual survey of items, systems, conditions, or components that are readily accessible and easily visible during a walk-through survey of the subject property.

observe, v.— to conduct an observation pursuant to this guide within the context of easily visible and readily accessible.

obvious, adj.— plain, evident, and readily accessible; a condition easily visible or fact not likely to be ignored or overlooked by a field observer when conducting a walk-through survey or that which is practically reviewable and would be understood easily by a person conducting the building study.

owner, n.— the entity holding the title to the commercial real estate that is the subject of the building study.

owner's option, n.— condition of an observed issue not required to be addressed under another institutional mission or interest but which may be of value to invest in. Examples may include modernization or energy saving initiatives.

performance, n.— to the function, operation, or execution of the material or element.

performance specification, n.— written information that describes the functional performance criteria required for a particular equipment, material, or product.

physical deficiency, n.— conspicuous defects or significant deferred maintenance of a subject property's material systems, components, or equipment as observed as a result of the field observer's walk-through survey. Included within this definition are material life-safety/building code violations and material systems, components, or equipment that are approaching, have reached, or have exceeded their typical EUL or whose RUL should not be relied upon in view of actual or effective age, abuse, excessive wear and tear, exposure to the elements, lack of proper or routine maintenance, etc. This definition specifically excludes deficiencies that may be remedied with routine maintenance, miscellaneous minor repairs, normal operating maintenance, etc., and excludes de minimis conditions that generally do not constitute a material physical deficiency of the subject property.

Point of Contact (POC), n.— owner, owner's agent, or user-identified person or persons knowledgeable about the physical characteristics, maintenance, and repair of the subject property.

practically reviewable, adj.— describes information that is provided by the source in a manner and form that, upon review, yields information relevant to the subject property without the need for significant analysis, measurements, or calculations. Records or information that feasibly cannot be retrieved by reference to the location of the subject property are not generally considered practically reviewable.

property, n.— the site improvements, which are inclusive of both site work and buildings.

recorded use, n.— use as noted on the building department record.

readily accessible, adj.— describes areas of the subject property that are promptly made available for observation by the field observer at the time of the walk-through survey and do not require the removal or relocation of materials or personal property, such as furniture, floor, wall, or ceiling coverings; and that are safely accessible in the opinion of the field observer.

readily available, adj.— describes information or records that are easily and promptly provided to the consultant upon making a request in compliance with an appropriate inquiry and without the need for the consultant to research archive files.

remaining useful life (RUL), n.— a subjective estimate based upon observations, or average estimates of similar items, components, or systems, or a combination thereof, of the number of remaining years that an item, component, or system is estimated to be able to function in accordance with its intended purpose before warranting replacement. Such period of time is affected by the initial quality of an item, component, or system, the quality of the initial installation, the quality and amount of preventive maintenance exercised, climatic conditions, extent of use, etc.

renovation, n.— a restoration of a component, assembly, or system to maintainable standards, as if to make new again.

repair, n.— a localized remedy to an existing component, assembly, or system that does not require replacement, effectively refurbishing the element to maintainable standards.

replacement, n.— a complete exchange of an existing component, assembly, or system with its new equivalent.

replacement value, n.— an insurance value representing the total amount of expenditure in current dollars required to replace the facility to its optimal condition (excluding auxiliary facilities) meeting the current acceptable standards of construction and comply with regulatory requirements.

reported information, n.— information communicated to the observer from a user, usually during an interview.

representative observations, n.— observations of a reasonable number of samples of repetitive systems, components, areas, etc., which are conducted by the field observer during the walk-through survey. The concept of representative observations extends to all conditions, areas, equipment, components, systems, buildings, etc., to the extent that they are similar and representative of one another. The extent of representative observations conducted by the field observers should be identified in the study report. A user may increase the extent of representative observations conducted to enhance the due diligence

conducted under the building study or as required in the Annex.

reviewer, n.— the individual that both exercises responsible control over the field observer and who reviews prior to delivery to the user.

routine maintenance, n.— a repair that does not require specialized equipment, professional services, or contractors, but rather can be corrected within the budget and skill set of typical property maintenance staff.

short-term costs, n.— opinions of probable costs to remedy physical deficiencies, such as deferred maintenance, that may not warrant immediate attention, but require repairs or replacements that should be undertaken on a priority basis in addition to routine preventive maintenance. Such opinions of probable costs may include costs for testing, exploratory probing, and further analysis should this be deemed warranted by the consultant. The performance of such additional services are beyond this guide. Generally, the time frame for such repairs is within one to two years.

site visit, n.— the visit to the subject property during which observations are made pursuant to the walk-through survey section of this guide.

standard, n.— as used by ASTM, a document that has been developed and established within the consensus principles of the Society and that meets the approval of the ASTM procedures and regulations.

structural frame, n.— the components or building system that supports the building's nonvariable forces or weights (dead loads) and variable forces or weights (live loads).

suggested remedy, n.— an opinion as to a course of action to remedy or repair a physical deficiency. Such an opinion may also be to conduct further research or testing for the purposes of discovery to gain a better understanding of the cause or extent of a physical deficiency (whether observed or highly probable) and the appropriate remedial or reparatory response. A suggested remedy may be preliminary and does not preclude alternate methods or schemes that may be more appropriate to remedy the physical deficiency or that may be more commensurate with the user's requirements.

survey, n.— observations made by the field observer during a walk-through survey to obtain information concerning the subject property’s readily accessible and easily visible components or systems.

system, n.— a combination of interacting or interdependent components assembled to carry out one or more functions.

user, n.— the party that retains the consultant for the preparation of a baseline building study of the subject property in accordance with this guide. A user may include, without limitation, a purchaser, potential tenant, owner, existing or potential mortgagee, lender, or property manager of the subject property.

universal accessibility or universal design, n.— the broad set of ideas meant to produce buildings, products, and environments that are inherently accessible to all people including people with disabilities.

walk-through survey, n.— conducted during the field observer’s site visit of the facility, consisting of nonintrusive visual observations, survey of readily accessible, easily visible components and systems. Concealed physical deficiencies are excluded. It is the intent that such a survey should not be considered technically exhaustive. It excludes the operation of equipment by the field observer and is to be conducted without the aid of special protective clothing, exploratory probing, removal or relocation of materials, testing, or the use of equipment, such as ladders (except as required for roof access), stools, scaffolding, metering/testing equipment, or devices of any kind, etc. It is literally the field observer’s visual observations while walking through the facility.

ABBREVIATIONS AND ACRONYMS

A/C — Air Conditioning.

Acc. — Accessible.

ACT — Acoustical Ceiling Tile.

ADA — The Americans With Disabilities Act.

Addl. — Additional.

Adj. — Adjacent.

A/E — Architect/Engineer.

A.F.F. — Above Finish Floor.

Alum. — Aluminum.

Alt. — Alternate.

Anod. — Anodized.

Arch. — Architectural.

A.p. — Access Panel.

Apt. — Apartment.

Approx. — Approximate.

ASTM — ASTM International.

Auto. — Automatic.

Aux. — Auxiliary.

BAS — Building Automation System

Bd. — Board.

Bdrm — Bedroom.

Bitum. — Bituminous.

Bldg. — Building.

Blkg. — Blocking.

Blw. — Below.

Bsmt — Basement.

Bot. — Bottom.

Btwn — Between.

Cab. — Cabinet.

Clg. — Ceiling.

CMU — Concrete Masonry Unit.

Col. — Column.

Comp. — Compress(ed), (ion). (ible).

Conc. — Concrete.

Const. — Construction.

Coord. — Coordinate.

CPT — Carpet.

C.T. — Ceramic Tile.

Dbl. — Double.

Demo — demo(lish), (lition).

Det. — Detail.

Dia. — Diameter.

Diag. — Diagonal.

Dim. — Dimension.

Dtl. — Detail.

DWG — Drawing.

Ea. — Each.

EIFS — Exterior Insulation and Finish System.

El. — Elevation.

Elec. — Electric(al).

Elev. — Elevator.

Emer. — Emergency.

EPDM — Ethylene Propylene Diene Monomer.

Eq. — Equal.

Equip. — Equipment.

Ex'g. — Existing.

Ext. — Exterior.

F.C.U. — Fan Coil Unit.

FEC — Fire Extinguisher Cabinet.

FEMA — Federal Emergency Management Agency.

FF&E — Furniture, Fixture, and Equipment.

Fin. — Finish.

Fixt. — Fixture.

Fl. — Floor.

Fluor. — Fluorescent.

FM — Factory Mutual.
F.P. — Fire Protection.
Ft. — Feet.
Furn. — Furniture.

Galv. — Galvanized.
Gl — Glass.
Glz. — Glazing.
GSF — Gross Square Feet
GWB — Gypsum Board.

HM — Hollow Metal.
Hdwr. — Hardware.
Hor. — Horizontal.
Hr — Hour.
Ht. — Height.
HVAC — Heating, Ventilating and Air Conditioning.

In. — Inches.
Incl. — Include(d),(ing).
Info. — Information.
Insul. — Insulation.
Int. — Interior.

Kit. — Kitchen.

Lab. — Laboratory.
Lav. — Lavatory.
Lb — Pound(s).
L.E.D. — Light Emitting Diode.
Lib. — Library.
Loc. — Location.
Lvr — Louver.

Mas. — Masonry.
Mat. — Material.
Max. — Maximum.
Mech. — Mechanical.
Med. — Medium.
Memb. — Membrane.
Min. — Minimum.
Misc. — Miscellaneous.
M.O. — Masonry Opening.
Mtl. — Metal.

N.A. — Not Applicable.
Nat. — Natural.
NFPA — National Fire Protection Association.
Nom. — Nominal.
N.t.s. — Not to scale.

O.C. — On Center.
Opng. — Opening.
Opp. — Opposite.

Orig. — Original.
Ovhd — Overhead.
Oz. — Ounce.

Pnt. — Paint.
Ptd. — Painted.
Ptn — Partition.
Plywd — Plywood.

R.D. — Roof Drain.
Ref. — Refer.
Req'd. — Require(d).
Res. — Resilient.
Rev. — Revision.
Rm — Room.
R.o. — Rough Opening.

Sched. — Schedule.
Sect. — Section.
SF — Square Feet.
Sim. — Similar.
Spec. — Spec (-ified) (-ification).
Sq. — Square.
S.S. — Stainless Steel.
STC — Sound Transmission Class.
Std. — Standard.
Stor. — Storage.
Stl. — Steel.
Struct. — Structural.
Susp. — Suspend(ed).
Sys. — System.

Tel. — Telephone.
Temp. — Temporary.
Thk. — Thick(ness).
Thr. — Threshold.
T.O. — Top Of.
Typ. — Typical.

Vert. — Vertical.

W/ — With.
W.C. — Water Closet.
Wd — Wood.
Win. — Window.

Z.C.C. — Zinc Coated Copper.

METHODS

This section describes an overview of the work, scope, walk-through survey processes, document review processes, conditional analysis, and data content.

OVERVIEW

This survey includes documentation of 19 buildings. The resulting analysis is a distillation of broad-range and detailed observations made by a team comprised of multiple disciplines: architectural, civil, mechanical, electrical, plumbing, and fire protection. This study includes observations made by this team in the spring 2015. The primary objective of the study is to identify and observe systems, assemblies, or components of each building and note deficiencies by visual inspection. All observations made by the team are the result of existing document review, interviews, and walk-through surveys. Quantities and costs to remedy the deficiencies are applied to develop an order of magnitude estimate of deferred maintenance items. These estimates are then compared relative to each other, using a facility condition index, which can provide a level of severity of deficiencies per building, removing the size and significance from the comparison.

In efforts to streamline data collection and further analysis of the information, LLB Architects utilized a database to store and process the information, primarily structured by building element utilizing the Uniformat Building Element Classification.

The study database and this high-level report for use by the Facilities Department are both provided as final deliverables for the project. All collected data and observations within the database can be organized, filtered, and presented in numerous ways based upon the users' needs, providing the option for both broad analyses and detailed reporting. Furthermore, the database can be updated to rapidly recreate future studies.

OBSERVATION SCOPE

The following describes which elements were observed, how, and to what extent:

Site and Utilities: Topography for unusual or problematic access issues.

Structural Frame and Building Envelope: Visual identification of basic type of structure (steel/wood frame, etc.), substructure including foundation walls, slab-on-grade, basement enclosure, superstructure including floor and roof framing (where readily accessible), building envelope including facades, curtain wall system, glazing system, exterior sealants,

balconies, porches and other architectural features of importance or noted as deficient. Observations of the building's exterior are generally viewed from the ground and not by special conveying, unless alternative vantage points from balconies or adjacent buildings were available. A structural consultant was not retained to perform the study.

Roofing: Identification of the material of the exposed membrane/material including parapet. Observations were made to note any deficiencies in drainage, damage to the system, and leaks. Roofing was accessed directly wherever possible, with the exception of steep-sloped roofing. Where readily available, information related to the roof age or warranty was cross-referenced and verified during the walk-through survey. A roofing consultant was not retained to perform the study.

Interior Elements: Visual inspection of typical occupied spaces including lobbies, corridors, assembly spaces, rest rooms, and special or unusual areas. Observations and deficiencies are noted for typical floor, wall, and ceiling finishes, fixtures, layout, and user comfort issues.

Plumbing: Identification of the sanitary, storm, and supply piping material, fixtures, domestic hot water, and other special fixtures such as emergency wash units. Deficiencies are noted for any distribution and fixtures which are damaged or beyond apparent useful life.

Heating, Venting, and Cooling: Generation and distribution system, observed for components and assemblies past useful life or damaged. Any equipment that is shutdown or not operational is observed as an opinion of its condition or deficiency. In many cases observations were extended to special equipment such as laser cutting machines.

Electrical: Identification and observation of the service provided, size, visual of the distribution system including panels, transformers, meters, emergency generation, and exit signs. In many cases observations were extended to special equipment.

Fire Protection: Identification and observation of fire protection systems including sprinklers, standpipes, fire alarms, panels, smoke detectors, and other equipment.

Additional scope considerations: Other observations were collected on matters of environmental impact, Universal Accessibility, air and temperature quality. Although these observations and deficiencies were noted throughout the study, a thorough and detailed

study of these items was not required for this project. Code and life safety consultants were not retained to perform the study.

WALK-THROUGH SURVEY PROCESSES

Walk-through surveys were conducted for every building selected for review in this project. The purpose of each walk-through survey was to visually observe the facility to gather information on architectural, civil, mechanical, electrical, plumbing, and fire protection components and systems. Deficiencies that were visible and readily accessible were noted and entered into the study database.

Each building was thoroughly photographed at interior and exterior locations, highlighting building envelope components, roofing, structural systems (where readily accessible), representative interiors, and any unique or unusual spaces. Photographs reside directly within digital floor plans, referenced by a tag where the photo was taken. The photo documentation serves to record typical conditions, identification of materials, and deficiencies.

DOCUMENT REVIEW AND INTERVIEW PROCESSES

The purpose of including document review and interviews is to supplement the walk-through survey and to assist the team's understanding of the facility and any pre-existing deficiencies or ongoing maintenance efforts.

A variety of existing documents were obtained in the discovery stage of the project, from both the client and through publicly available documents. Information of primary interest to the study included records indicating the age of building systems and components, previously prepared study reports, studies, and historic and as-built drawings.

Collected documents included existing drawings, building historical data, systems inventories, and building department records from the city's zoning and tax's assessor's departments. These documents and data from other sources were organized, reviewed, and migrated into the study database as existing information. This information was referenced to augment and enhance the walk-through survey and is explicitly distinguished from the actual knowledge obtained by verification and observation.

Interviews were conducted prior to some walk-through surveys. Additionally, a point of contact was sometimes assigned to aid in a walk-through survey, during which an interview was conducted simultaneously.

CONDITION RATINGS

A condition rating scale, rated 1 through 5 was assigned to determine the level of necessity for a remedy to an element. These ratings determine whether a deficiency is given a and subsequently included in the deferred maintenance estimate. Condition criteria at ratings are indicated as follows:

1— Critical / Immediate (1-2 Years): Requires immediate action to correct a cited safety hazard, stop accelerated deterioration, return a facility to operation, correct an environmental hazard

2 — Potentially Critical (2-5 Years): May become Critical within a year if not corrected expeditiously. Situations include Intermittent operations, rapid deterioration, potential life safety hazards, environmental non-compliance

3 — Necessary (5-10 Years): Requires appropriate attention to preclude predictable deterioration or potential downtime and the associated damage or higher costs if deferred further.

4 — Recommended (10-20 Years): Includes items that represent a sensible improvement to existing conditions, improve overall usability and/or reduce long-term maintenance costs.

5 — Grandfathered (20+ Years): Includes items that do not conform to existing codes. No action is required at this time, but should substantial work be undertaken in contiguous areas, certain existing conditions may require correction.

DEFERRED MAINTENANCE COST ESTIMATING

Based on the walk-through survey and other information gathered during the document review and interviews, remedies for deficiencies requiring repair, replacement were assigned a quantity, cost, and location to obtain order-of-magnitude estimates for deferred maintenance. Sources of cost information are obtained through the cost estimator and may reflect unit costs from the estimator's database or files, owner's historical experience costs, or other qualified sources that the consultant determines appropriate. Opinions of probable costs are limited to construction related costs; those types of costs that commonly are provided by contractors who perform the work. Costs do not include project-related items such as design, general conditions, or contingencies. Wherever possible, a cost description details the work that is included in the cost, supplementing the remedy narrative.

Opinions of remedies and costs should only be construed as preliminary, order of magnitude budgets. Actual costs will most likely vary from the consultant's opinions on such matters as type and design of suggested remedy, quality of materials and installation, manufacturer and type of equipment or system selected, field conditions, phasing of the work, quality of contractor, quality of project management exercised, market conditions, and whether competitive pricing is solicited, etc.

ADDITIONAL STUDY COSTS

Some deficiencies suggested remedies that require further study/research or design, testing, exploratory probing, and exploration of various repair schemes, or a combination thereof, all of which are outside the scope of this guide. In these cases, the observation was flagged as an item to study, but not provided a cost to do so.

BUILDING SUMMARY DESCRIPTIONS

Structural: Findings related to the roof and floor structural frames, exterior and interior bearing walls, and foundation types are listed. General system wide or localized areas of concern observed are recommended to be further investigated by professional engineer to determine extent of deficiency.

Building Envelope: Identification of roofing, exterior wall systems and finishes, exterior windows, curtain walls, and subgrade wall systems materials and general system wide or localized deficiencies.

Mechanical: Heating, ventilation and cooling system descriptions, sizes, types, materials, special or localized services, general system-wide deficiencies, prominent localized deficiencies.

Electrical: Service, panel and fixture and fire alarm descriptions, capacity, types, materials, special or localized services, general system-wide deficiencies, prominent localized deficiencies.

Plumbing: Service, distribution, and fixture descriptions, sizes, types, materials, special or localized services, general system-wide deficiencies, prominent localized deficiencies.

Fire Protection: System, distribution, and fixture descriptions, sizes, types, materials, special or localized services, general system-wide deficiencies, prominent localized deficiencies.

NOTES, SPECIAL CONSIDERATIONS, DEVIATIONS FROM THE GENERAL METHODS

1. Assessed values of buildings were researched from building property records and transcribed into the study database. Assessed values should always be viewed in conjunction with lot information so that true values can be understood in context.
2. Building use was recorded as indicated by the building department record, and not by the International Building Code definitions of use.
3. Structure capacity/condition in question, requires engineer's professional evaluation, cost for evaluation of condition, not project.
4. Costs for HVAC systems replacement for the 3 fire stations were extracted from estimates provided by Garcia, Galuska, DeSousa Consulting Engineers, dated July 9, 2013. Design fee, general conditions and contingency were removed from these estimates in order to replicate the assessment's cost estimating methodology.

RESOURCES

American National Standard Accessible and Usable Buildings and Facilities Standard & Commentary. Country Club Hills, IL: International Code Council, 2009.

ASTM International. *Standard Guide for Property Condition Studies: Baseline Property Condition Study Process*. West Conshohocken: ASTM, 2008.

International Building Code. Country Club Hills, IL: International Code Council, 2012.

Johnson et al., *UniFormat: A Uniform Classification of Construction Systems and Assemblies*. Alexandria: The Construction Specifications Institute, 2010.

NFPA 101 Life Safety Code. Quincy, MA: National Fire Protection Association, 2003.

COST SUMMARY

The following table summarizes building needs by priority. For further clarification, refer to the project terms deferred maintenance deficiency, improvement, and facilities condition index. Methods and notes for cost estimating are found in the methods section.

2015 ACTON TOWN-WIDE FACILITY STUDY

PAGE	BUILDING	PRIORITY 1	PRIORITY 2	PRIORITY 3	PRIORITY 4	PRIORITY 5
23	CENTER FIRE	\$353,269	\$126,742	\$103,074	\$4,678	\$0
25	CIVIL DEFENSE	\$23,652	\$284,877	\$225,644	\$20	\$0
29	DPW BUILDING	\$67,975	\$745,571	\$81,840	\$52,500	\$0
33	KENNEDY SERVICE BUILDING	\$45,500	\$68,549	\$46,000	\$0	\$0
35	MEMORIAL LIBRARY	\$723,885	\$15,000	\$972,628	\$566,827	\$0
39	MORRISON HOUSE	\$46,352	\$37,797	\$30,260	\$54,958	\$0
41	MUNICIPAL PROPERTIES & VETERAN SERVICES OFFICES	\$0	\$142,031	\$78,847	\$65,930	\$17,000
43	NARA PARK AMPHITHEATER	\$2,400	\$72,400	\$5,900	\$46,000	\$0
45	NARA PARK BATHHOUSE	\$1,500	\$12,956	\$114,296	\$20,049	\$0
47	NARA PARK PICNIC PAVILION	\$0	\$0	\$0	\$149,748	\$0
49	PUBLIC SAFETY FACILITY	\$48,000	\$480	\$2,000	\$953,639	\$21,858
53	SALT SHED	\$0	\$37,571	\$0	\$182,232	\$0
55	SENIOR CENTER	\$0	\$52,620	\$127,258	\$169,156	\$6,704
59	SOUTH FIRE	\$141,132	\$445,681	\$167,157	\$5,848	\$0
61	TOWN HALL	\$174,144	\$975,980	\$813,965	\$1,171,104	\$0
65	TRANSFER STATION	\$113,250	\$51,949	\$0	\$0	\$0
67	WEST ACTON CITIZENS' LIBRARY	\$0	\$43,478	\$50,085	\$44,295	\$0
69	WEST FIRE	\$370,413	\$126,362	\$188,519	\$0	\$0
71	WINDSOR BUILDING	\$27,916	\$80,558	\$30,907	\$6,000	\$0
	TOTAL	\$2,139,388	\$3,320,602	\$3,038,380	\$3,492,984	\$45,562
	WITH 4% ESCALATION	\$2,269,026	\$3,809,198	\$4,077,483	\$6,290,667	\$99,832

NOTES

1. Opinions of probable costs are limited to construction related items; costs do not include project-related items such as design, general conditions, or contingencies.
2. Escalation is calculated at a rate of 4% compounded annually at the mid-point of each priority's time range (0-2 years, 2-5 years, 5-10 years, 10-20 years, 20+ years). Escalation is provided as a way to compare costs over the longer priority durations.
3. Actual costs to implement the work varies by building, scope of work, and project approach. Refer to the Deferred Maintenance Cost Estimating section in Methods for further information.



CENTER FIRE

7 Concord Road
Acton, MA
Plat F3A, Lot 47

ZONE R-2	CONSTRUCTION TYPE Masonry
CURRENT USAGE Fire/Emergency	GROSS AREA, SF 4,678
YEAR BUILT 1960	ARCHITECT
REPLACEMENT COST, SF \$1,637,300	ASSESSED VALUE \$768,500

SUMMARY

STRUCTURE

Slab-on-grade, reinforced concrete slab floors metal columns, wood roof deck and rafters, supporting structure unknown. Gambrel roof structure.

EXTERIOR VERTICAL ENCLOSURE

Stucco, recently repaired.

ROOF AND RAINWATER MANAGEMENT

Sloped roof is constructed of wood plywood deck, ice and water shield, asphalt shingle. Metal gutter and downspout system. Weathervane. Flat roof is an adhered EPDM system with rigid thermal insulation on gypsum board. A wood frame walkway is built directly on top of the flat roof, not on proper pads, and may impact the durability of the membrane. Both roof systems were replaced in 1997.

VERTICAL CIRCULATION AND CONVEYING

Metal construction stair with rubber treads. Adequate rise/run dimensions. Stair does not appear to be in a fire rated enclosure.

INTERIORS AND FINISHES

Wall finishes include a mixture of painted CMU and GWB in public areas, painted CMU and GWB and wainscoting in the private areas. All areas contain painted trim. Floors finishes include VCT in the public areas, a faux-wood vinyl product in the private areas. Vinyl product was recently installed. Garage is unfinished concrete. Ceiling finishes include painted concrete in the garage and painted GWB in the building. All floor finishes except the vinyl product in the private space is close to or has exceeded useful life.

PLUMBING

Water Service: 2" Water Service

Utilities: The water service is connected to a centralized

water system for the town. The sanitary waste system is connected to a septic system located on site. All utilities appear to be original to the building and appear to be past their useful life.

Water Heating Systems: This system comprises of a 50 Gallon Storage, Natural Gas Fired, 40,000 BTU Water Heater. This heater appears to be in good working condition.

Plumbing Fixtures: All plumbing fixtures appear to be original to the building and nearing the end of their useful life.

Piping System: The supply piping that was observed was copper. The drainage piping that was observed was cast iron. All piping appears to be original to the building and nearing the end of its useful life.

HVAC

Heating System: This system comprises of a Natural Gas Boiler built in 1985, boilers are atmospheric. The boilers are piped with a circulator pumps to distribute the heating water throughout the building. This system appears to be original to the building and nearing the end of its useful life

Piping System: Heating Hot Water piping is a combination of Steel and Copper, this piping appears to be original to the building and in good condition. All piping appears to be original to the building nearing the end of its useful life.

Cooling System: There are no centralized cooling systems in the building.

Ventilation System: Ventilation is achieved via windows though natural ventilation.

Ductwork System: N/A

FIRE PROTECTION

There are no Fire Protection Systems in the building.

ELECTRICAL

Electrical Service:

120/240Volt- 1Phase - 3Wire - 200Amp

Electrical Distribution:

- Direct metered
- Circuit Breaker type Panelboards

Emergency Generator:

- Manufacturer - Kohler
- Fuel Source - Diesel
- Size - 50Kw -120/240volt
- Single 200Amp Automatic Transfer Switch

Interior Lighting:

- Truck Bay Area - 1x8 enclosed and gasketed wraparound fluorescent luminaires with (4) T8 Fluorescent lamps.
- Common areas - 1x4 wraparound fluorescent

luminaires with (2) T8 Fluorescent lamps.

- Emergency - Dual Head battery units.
- Exit Signs - Thermoplastic LED - White with Red letters.

Exterior Lighting:

- Parking Area - Pole mounted HID flood lights
- Building mounted HID wall packs

Lighting Controls:

- Standard toggle switches
- Exterior lighting is controlled via time clock.

Fire Detection:

- Single station smoke detectors in common areas.
- Wired Alarm Master Box.

Security System:

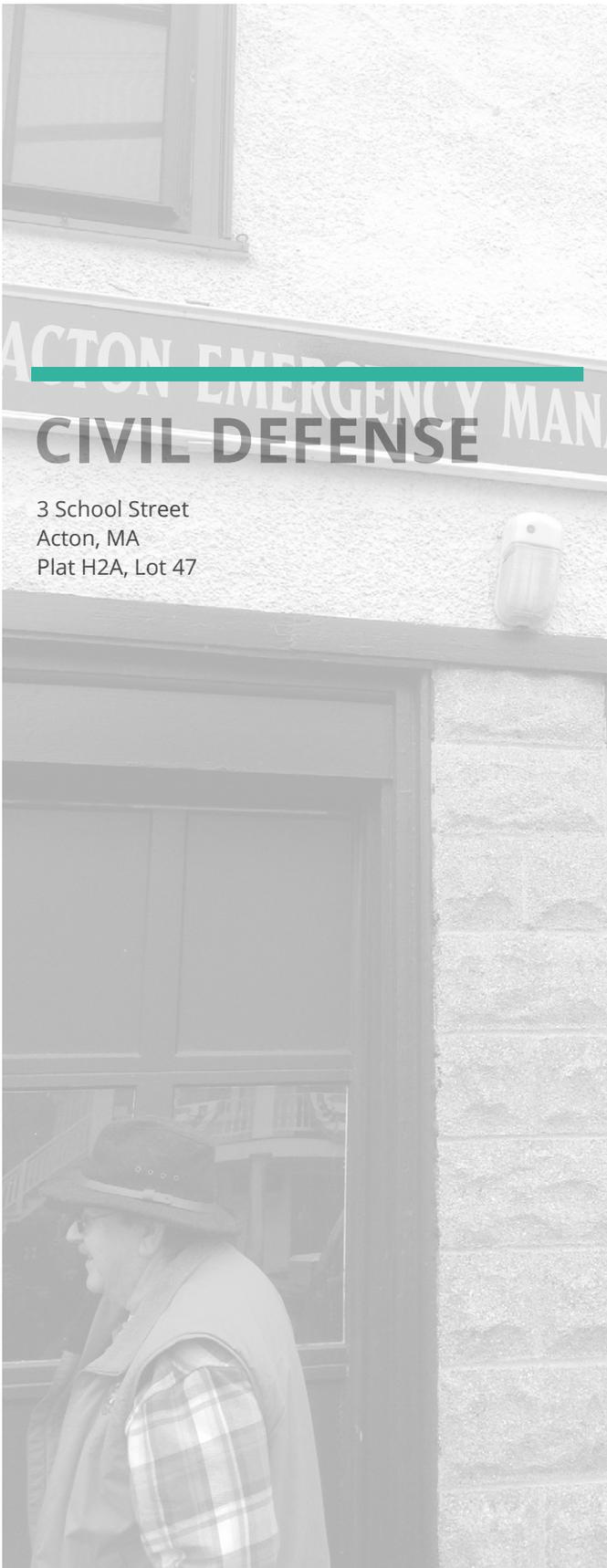
- none is present

ACCESSIBILITY

Appears to be mostly in compliance with applicable ADA and MAAB requirements.

West walkway and entry platform to apparatus bays are the main entry to the building and are not ADA / MAAB compliant due to a step up from the walk to the entry platform. No compliant entry point is designated.

PRIORITY 1		\$353,269
B3010	Roofing	\$720
D3020	Heating Systems	\$221,947
D3030	Cooling Systems	\$130,602
PRIORITY 2		\$126,742
B3010	Roofing	\$28,738
D2010	Domestic Water Distribution	\$23,390
D5030	General Purpose Electrical Power	\$24,092
D5040	Lighting	\$38,594
D5040	Lighting	\$1,637
D7050	Detection and Alarm	\$10,292
PRIORITY 3		\$103,074
C1030	Interior Doors	\$3,900
C2010	Wall Finishes	\$12,865
C2030	Flooring	\$32,746
C2050	Ceiling Finishes	\$32,746
D5020	Electrical Service and Distribution	\$13,800
D5040	Lighting	\$7,017
PRIORITY 4		\$4,678
D5010	Facility Power Generation	\$4,678



3 School Street
Acton, MA
Plat H2A, Lot 47

ZONE SAV	CONSTRUCTION TYPE Masonry
CURRENT USAGE Emergency Management	GROSS AREA, SF 2,628
YEAR BUILT 1940	ARCHITECT
REPLACEMENT COST, SF \$919,800	ASSESSED VALUE \$417,300

SUMMARY

STRUCTURE

Timber frame an metal column, construction, concrete foundation and basement walls. Roof structure unidentified.

Settling is apparently on the rear of the building. Major cracks are visible, though they have been filled. Parged basement walls prevent from identifying whether the settling continues to the ground. A downspout is located directly where the settling appears to be.

EXTERIOR VERTICAL ENCLOSURE

Parged concrete walls on lower (basement) level, requires reparging in some areas. Split-faced CMU on main level. Large cracks found on the rear of building was identified and appears to have been remediated, but only using an expanded foam. Upper section is stucco, no visible issues seen. Single-paned wood with metal stormfront windows. Exterior metal stair appears to be in good condition.

ROOF AND RAINWATER MANAGEMENT

Roof replaced around 2000. 3-tab asphalt shingle. No rainwater management except for one downspout located at rear where possible settlement may be. Possible redirection of water away from foundation may help to remediate structural issues seen in rear of building.

VERTICAL CIRCULATION AND CONVEYING

Wood stair construction, in fair to poor condition. Does may not meet current code requirements for egress, rise/run, etc. Handrail in poor condition in basement.

INTERIORS AND FINISHES

Unfinished concrete in basement first floor, hardwood floor on 2nd floor. Majority of walls and ceilings are made of tin. Although in fair condition, areas can be

remediated.

PLUMBING

Water Service: 1" Water Service

Utilities: The water service is connected to a centralized water system for the town. The sanitary waste system is connected to public sewer. All utilities appear to be original to the building and appear to be past their useful life.

Water Heating Systems: This system comprise of a Natural Gas Fired Water Heater. Water Heater is 30 Gallon Capacity and 37,000 BTU Input.

Plumbing Fixtures: All plumbing fixtures appear to be original to the building and nearing the end of their useful life.

Piping System: The supply piping that was observed was copper. The drainage piping that was observed was cast iron. All piping appears to be original to the building and nearing the end of its useful life.

HVAC

Heating System: Heating for the facility is achieved through a Natural Gas Fire Furnaces located in the basement. Furnace is manufactured by Trane. This unit appears to be older and nearing the end of its useful life.

Piping System: N/A

Cooling System: There are no cooling systems in the building.

Ventilation System: Ventilation is achieved via windows though natural ventilation.

Ductwork System: The Ductwork Distribution System compress of sheet metal ductwork. All ductwork is appears to be original to the building and nearing the end of its useful life.

FIRE PROTECTION

There are no Fire Protection Systems in the building.

ELECTRICAL

Electrical Service:

- Fed overhead from pole in street.
- Direct metering.
- 100Amp- 1phase- 3wire- 120/240volt

Electrical Distribution:

- (1) Circuit breaker type panelboard.
- Power distribution - 15A and 20A duplex receptacles.
- Wiring - combination of non-metallic and armored cabling.

Generator:

- Hook up for portable generator unit.

Interior Lighting:

- Surface mounted fluorescent strips.
- Porcelain Sockets with compact fluorescent lamps

Lighting Controls:

- Single pole and three-way toggle type switches.

ACCESSIBILITY

Not accessible. Confirmation should be sought to determining if the classification of this building requires it to be accessible.

PRIORITY 1 **\$23,652**

D5040 Lighting \$23,652

PRIORITY 2 **\$284,877**

A2010 Walls for Subgrade Enclosures \$75

B1080 Stairs \$32,000

B2010 Exterior Walls \$60

B2010.10 Exterior Wall Veneer \$360

C1030 Interior Doors \$12,483

C2010 Wall Finishes \$112,320

C2030 Flooring \$17,626

C2050 Ceiling Finishes \$77,760

D2010 Domestic Water Distribution \$0

D5040 Lighting \$920

D5040 Lighting \$19,710

D7050 Detection and Alarm \$11,563

PRIORITY 3 **\$225,644**

B1010 Floor Construction \$86,400

B2010.10 Exterior Wall Veneer \$150

B2020 Exterior Windows \$38,000

B2050 Exterior Doors and Grilles \$16,100

B3010 Roofing \$6,480

C2010 Wall Finishes \$7,227

D3020 Heating Systems \$0

D5010 Facility Power Generation \$50,000

D5020 Electrical Service and Distribution \$7,753

D5030 General Purpose Electrical Power \$13,534

PRIORITY 4 **\$20**

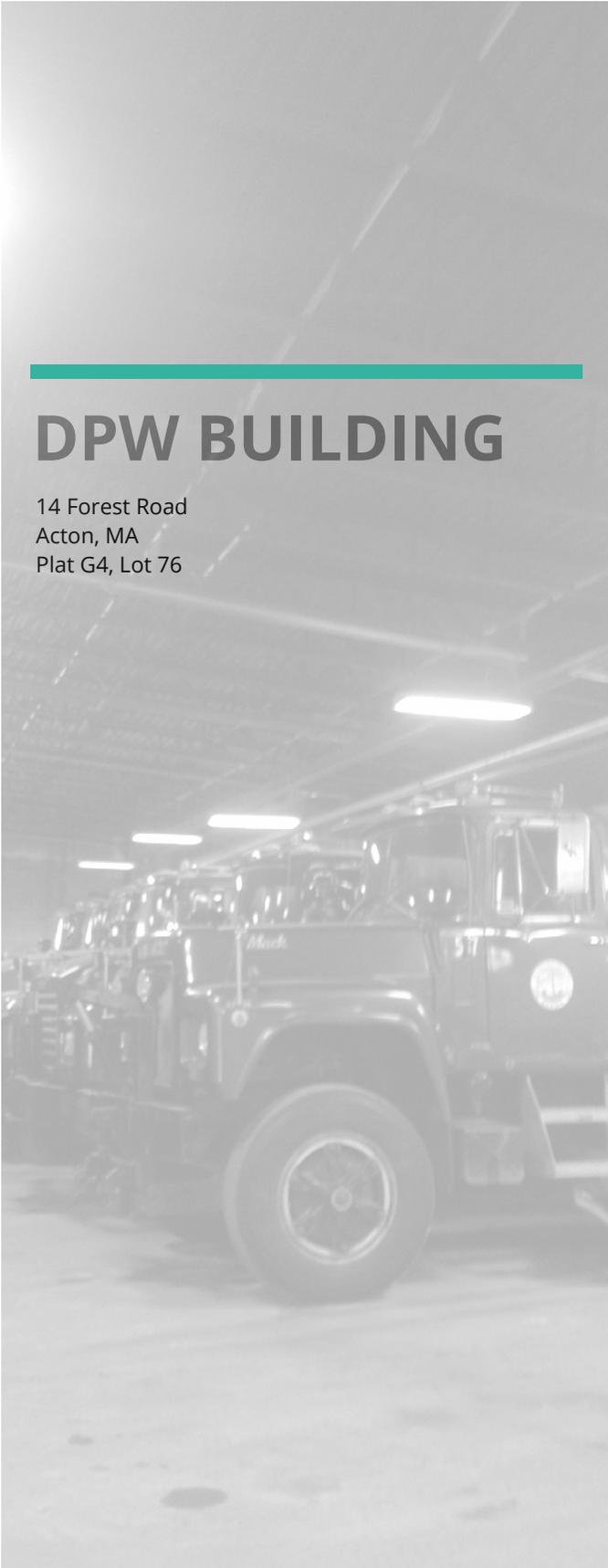
B1080 Stairs \$20

ITEMS REQUIRING FURTHER STUDY

A1010 Standard Foundations: Settlement evident

B3020.70 Rainwater Management: Storm drain tie-in issue evident

B1080 Stairs: Egress stair appears non-compliant with current regulatory standards due to width, winders, riser height and /or tread depth..



DPW BUILDING

14 Forest Road
Acton, MA
Plat G4, Lot 76

ZONE R-2	CONSTRUCTION TYPE Masonry
CURRENT USAGE DPW Offices/Equipment	GROSS AREA, SF 19,200
YEAR BUILT 1971	ARCHITECT Fenton G. Keyes
REPLACEMENT COST, SF \$6,720,000	ASSESSED VALUE \$627,700

SUMMARY

STRUCTURE

Slab-on-grade, single-story. load-bearing CMU walls and steel roof deck on steel joists. A wood-framed mezzanine exists in one area of the building. Areas of efflorescence indicate water infiltration or seeping groundwater. Lower sections of these exterior walls have been parged.

EXTERIOR VERTICAL ENCLOSURE

Painted CMU, last painted 1998. Corrugated concrete panels in front of building. Windows are single-pane metal. Entrance is a small storefront system. A mixture of metal doors with accessible and non-accessible hardware.

ROOF AND RAINWATER MANAGEMENT

Corrugated steel roof, replaced 2002. Photovoltaics installed over EPDM and 4" insulation, approximately 2000. Metal gutter and downspouts.

VERTICAL CIRCULATION AND CONVEYING

Stairs lead to lofted areas only, and is not a means of egress.

INTERIORS AND FINISHES

Shed area is mainly unfinished concrete floor, CMU and metal decking. Front office have a mixture of ACT, painted GWB, and carpet, VCT, and rolled vinyl. All finishes in the front office appear to be beyond useful life and should be replaced.

PLUMBING

Water Service: 2" Service. This system appears to be original to the building and in good working order. Utilities: The water service is connected to a centralized water system for the town. The sanitary waste system is connected to a septic system located on site. There is an oil/water separator for all the garage drains. The

building is supplied with a Natural Gas Service. All utilities appear to be original to the building and are nearing the end of their useful life.

Water Heating Systems: This system comprises of a 50 Gallon Storage, Natural Gas Fired, 40,000 BTU Water Heater. This water heater is manufactured by AO Smith. This heater was installed in 2012 and is good working condition.

Plumbing Fixtures: Fixtures in Bathrooms are vitreous China with Manual Flush Valves for Toilets and Urinals, Eye Wash Stations and Hand Wash Stations are Stainless Steel with Manual Operation. All fixtures appear to be original to the building and nearing the end of their useful life.

Piping System: The supply piping that was observed was copper. The drainage piping that was observed was cast iron. All piping appears to be original to the building and nearing the end of their useful life.

HVAC

Heating System: The Office Areas are heated by a packaged Gas Fired Rooftop Unit. This unit was installed in 2013 and is good working condition. The garage space is heated by Gas Fire Unit Heaters along with a Waste Oil Heater. Mechanical garage Pearce heating units replaced 2011 & 2013. 3rd unit heater behind mechanical bay by sign shop is 12-15 years old.

Piping System: N/A

Cooling System: The Office Areas are cooled by a packaged Gas Fired Rooftop Unit. This unit was installed in 2013 and is good working condition.

Ventilation System: Ventilation is through the Packed Heating/Cooling Rooftop Unit.

Exhaust Systems: The bathrooms are exhausted through ceiling mounted exhaust fans. The garage is exhaust by wall mounted exhaust fans. These fans appear to be original to the building and nearing the end of their useful life.

Ductwork System: The Ductwork Distribution System comprised of sheet metal ductwork. All ductwork appears to be original to the building and nearing the end of its useful life.

FIRE PROTECTION

8" Service, Dry System, Galvanized Steel Piping throughout. This system appears to be newer to the building and in good working condition.

ELECTRICAL

Electrical Service:

- 277/480Volt- 3Phase - 4Wire - 400Amp.
- Building fed underground from utility pole.

Electrical Distribution:

- Direct metered
- Circuit Breaker type Panelboards
- Power distribution - 15A and 20A duplex receptacles.
- Wiring - combination of conduit (EMT)/wiring and Metal-clad cabling.

Generator:

- Manufacturer - General
- Fuel Source - Natural gas
- Size - 60Kw -120/208volt - 3phase.
- Single 200Amp Automatic Transfer Switch
- Interior Lighting:
 - Truck Bay Area - 2x4 open high bay fixture with wire guards and (6) T8 fluorescent lamps.
 - Common areas - 1x4 wraparound fluorescent luminaires with (2) T8 fluorescent lamps.
 - Corridors - 1x4 wraparound fluorescent luminaires with (2) T8 fluorescent lamps.
 - Shop Area - 1x8 surface/pendant fluorescent strips with (4) T8 fluorescent lamps.
 - Offices - 2x4 recessed lensed fluorescent troffers with (2) T8 fluorescent lamps.
 - Shower Areas - wall mounted lensed direct/indirect fixtures with (2) T8 fluorescent lamps.
 - Emergency - Dual Head battery units.
 - Exit Signs - Thermoplastic LED - White with Red letters.

Exterior Lighting:

- Parking Area - Pole mounted HID flood lights
- Building surface mounted flood light lamps holders with LED Lamps.

Lighting Controls:

- Standard toggle switches
- Exterior lighting is controlled via time clock.

Fire Alarm System:

- Addressable type system.
- Wired Alarm Master Box.
- Smoke Detectors.
- Manual pull stations.
- Sprinkler flow and tamper switches.
- Duct mounted smoke detectors.
- Annunciator - Located in main lobby.

ACCESSIBILITY

Access to the main office is not compliant due to hardware, signage, and walkways.

PRIORITY 1		\$67,975
A2010	Walls for Subgrade Enclosures	\$18,750
B2050	Exterior Doors and Grilles	\$225
C2030	Flooring	\$49,000
PRIORITY 2		\$745,571

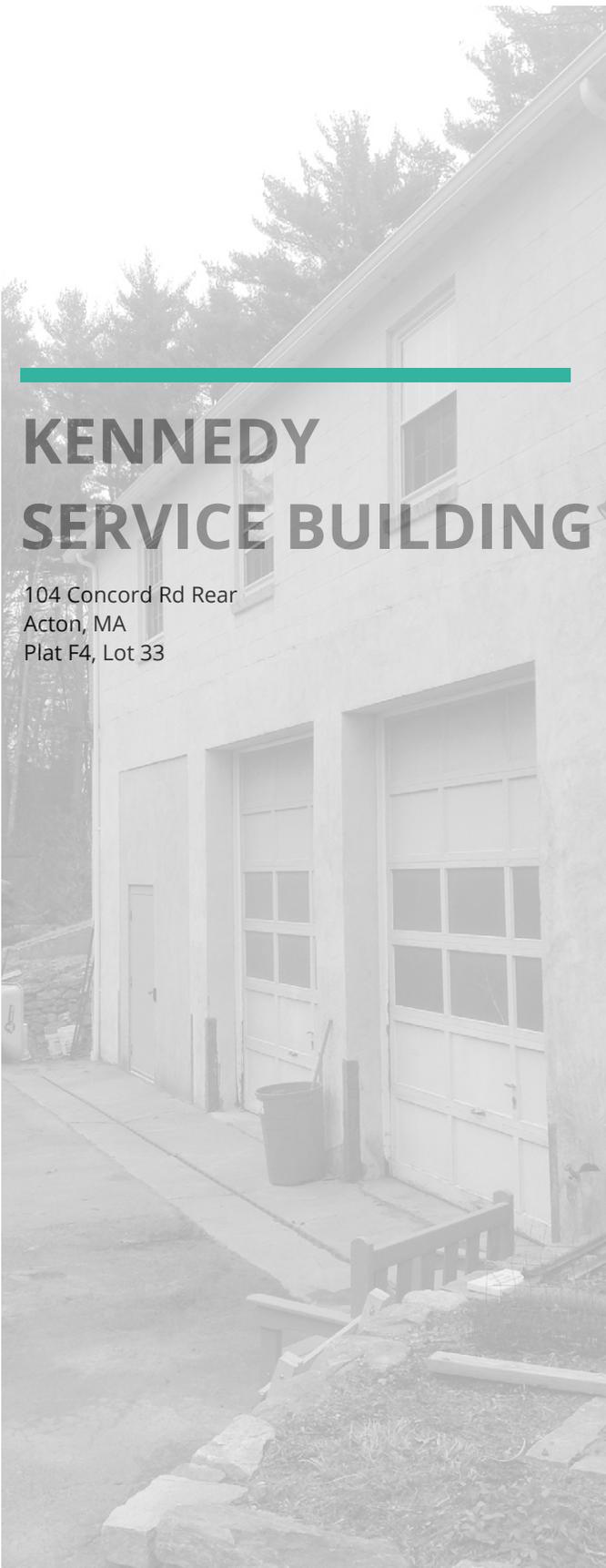
B1020	Roof Construction	\$0
B2010.10	Exterior Wall Veneer	\$18,291
B2020	Exterior Windows	\$46,000
B2050	Exterior Doors and Grilles	\$2,750
C1030	Interior Doors	\$33,250
C1070	Suspended Ceiling Construction	\$45,500
C1090	Interior Specialties	\$690
C2010	Wall Finishes	\$19,250
D2010	Domestic Water Distribution	\$96,000
D3050	Facility HVAC Distribution Systems	\$144,000
D5010	Facility Power Generation	\$19,200
D5030	General Purpose Electrical Power	\$98,880
D5040	Lighting	\$172,800
D5040	Lighting	\$6,720
D7050	Detection and Alarm	\$42,240
PRIORITY 3		\$81,840
B2050	Exterior Doors and Grilles	\$15,000
B3020	Roof Appurtenances	\$10,200
D5020	Electrical Service and Distribution	\$56,640
PRIORITY 4		\$52,500
B2050	Exterior Doors and Grilles	\$52,500

ITEMS REQUIRING FURTHER STUDY

A40 Slabs-on-Grade: Moisture issues evident

B2010 Exterior Walls: Moisture issues evident

C1010 Interior Partitions: Layout does not suit current
program requirements



KENNEDY SERVICE BUILDING

104 Concord Rd Rear
Acton, MA
Plat F4, Lot 33

ZONE R-2	CONSTRUCTION TYPE Masonry
CURRENT USAGE Office & Garage	GROSS AREA, SF 2,640
YEAR BUILT 1967	ARCHITECT
REPLACEMENT COST, SF \$924,000	ASSESSED VALUE \$75,400

SUMMARY

STRUCTURE

Parged masonry foundation walls, concrete floor deck, roof deck unknown.

EXTERIOR VERTICAL ENCLOSURE

Brick veneer, stucco in rear of building, single paned wood with storm windows in front, hollow metal exterior doors, wood oversized utility doors. Some efflorescence found on rear of building at ground.

ROOF AND RAINWATER MANAGEMENT

3-tab asphalt shingle roof replaced 2012. Aluminum gutters and downspouts.

VERTICAL CIRCULATION AND CONVEYING

Metal pan stair to basement. Guardrail not suitable for public use. and missing from exterior wall side. Door at foot of stair is in path of travel. Last tread is a tripping hazard.

INTERIORS AND FINISHES

Primarily painted CMU, some painted GWB. VCT may contain asbestos. Ceiling is painted GWB.

PLUMBING

Water Service: 1" Water Service

Utilities: The water service is connected to a centralized water system for the town. The sanitary waste system is connected to a septic system located on site. All utilities appear to be original to the building and appear to be past their useful life.

Water Heating Systems:

Plumbing Fixtures: All plumbing fixtures appear to be original to the building and nearing the end of their useful life.

Piping System: The supply piping that was observed was copper. The drainage piping that was observed was cast iron. All piping appears to be original to the building

and nearing the end of its useful life.

HVAC

Heating System: This system comprises of an Oil Fired Furnace located in the garage ceiling that services the first floor, replaced 10-12 years ago. There is an Oil Fired Unit Heater that heats the garage space. This unit was installed in 2012 and is in good working condition.

Piping System: N/A

Cooling System: There is a Wall Mounted Ductless Split Air Conditioner that serves the office space. This unit appears to be in good working condition.

Ventilation System: Ventilation is achieved via windows though natural ventilation.

Ductwork System: The Ductwork Distribution System compress of sheet metal ductwork. All ductwork is appears to be original to the building and nearing the end of its useful life.

FIRE PROTECTION

There are no Fire Protection Systems in the building.

ELECTRICAL

Electrical Service:

- 100amp-1phase-3wire- 120/240volt
- Direct metered.

Electrical Distribution:

- 100amp fused main switch.
- Circuit type panelboards
- General power - 15a and 20a receptacles
- Wiring - combination of MC cable and conduit with conductors.

Interior Lighting:

- Surface/ pendant mounted fluorescent strips
- Surface mounted fluorescent lensed wraparound fixtures
- Surface/ pendant mounted fluorescent industrial fixtures

Exterior Lighting:

- Wall mounted compact fluorescent wall packs.
- Wall mounted PAR Lamp Holders with CFL Lamps

Lighting Controls:

- Toggle type wall switches.

Fire Alarm System:

- ESL 1500 series control panel
- Hardwired zoned system
- manual pull stations
- smoke detection
- Horn / Strobe units

ACCESSIBILITY

As of summer 2015, a ramp is currently under construction. No accessible parking space, route to the

building, or fixtures within the building.

PRIORITY 1		\$45,500
B1080	Stairs	\$42,500
B2050	Exterior Doors and Grilles	\$500
C1030	Interior Doors	\$2,500
PRIORITY 2		\$68,549
A2010	Walls for Subgrade Enclosures	\$23
B2010.10	Exterior Wall Veneer	\$150
C2030	Flooring	\$18,480
D5020	Electrical Service and Distribution	\$3,828
D5030	General Purpose Electrical Power	\$13,596
D5040	Lighting	\$924
D5040	Lighting	\$25,740
D7050	Detection and Alarm	\$5,808
PRIORITY 3		\$46,000
B2020	Exterior Windows	\$15,200
B2050	Exterior Doors and Grilles	\$1,100
C2010	Wall Finishes	\$7,260
C2050	Ceiling Finishes	\$18,480
D2010	Domestic Water Distribution	\$0
D5020	Electrical Service and Distribution	\$3,960

ITEMS REQUIRING FURTHER STUDY



MEMORIAL LIBRARY

486 Main Street
Acton, MA
Plat F3A, Lot 22

ZONE R-2	CONSTRUCTION TYPE Masonry
CURRENT USAGE Library	GROSS AREA, SF 48,259
YEAR BUILT 1899AYB/1997R	ARCHITECT Tappe'
REPLACEMENT COST, SF \$16,890,650	ASSESSED VALUE \$8,791,000

SUMMARY

STRUCTURE

Original portion has a rubble stone foundation, brick columns, and timber framing. Newer addition's foundation is poured concrete, with steel beam and metal deck with poured concrete floor and roof decks.

EXTERIOR VERTICAL ENCLOSURE

Original portion is brick and limestone. Addition is brick veneer. Openings are a mixture of operable and fixed window units. 4 curtain wall "bay" units contain tempered glass. Entrance is a storefront sliding door entry system, reported to have opening issues especially during cold weather, due to debris falling in the track.

ROOF AND RAINWATER MANAGEMENT

Original portion slate shingle roof. Newer addition is made of built-up EPDM roof, tapered insulation, and slate shingle on exposed (visible) sides. Roof was replaced in 1996. Rainwater collects in downspouts at valleys, gutters at low eaves.

VERTICAL CIRCULATION AND CONVEYING

Atrium stair is comprised of carpeted wood treads on metal pan stair, ornamental metal handrails. A concrete metal pan stair leads to the basement. One ladder leads up to the roof hatch. Elevator stops at Upper Level, Lower Level, and Lower Level Rear (Staff only). Controls appear to be accessible and properly labeled.

INTERIORS AND FINISHES

Floors: Primarily carpet or VCT. Walls: Primarily painted GWB or painted/stained wood panel. Ceilings: Primarily ACT or painted GWB

PLUMBING

Water Service: 1 1/2" Service, This system appears to be in good working order.

Utilities: The water service is connected to a centralized water system for the town. The sanitary waste system is connected to a septic system located on site. The building is supplied with a Natural Gas Service.

Water Heating Systems: This system comprises of an electric water heater and recirculation pump. Water Heaters is 50 gallon storage and 4.5 KW Input.

Plumbing Fixtures: Fixtures in Bathrooms are vitreous China with Manual Flush Valves for Toilets and Urinals, Counter Mounted Sinks not in Bathrooms are Stainless Steel with Manual Faucets. All Fixtures appear to be in good working order.

Piping System: Domestic Water Supply Piping that was observed in the building was copper. Waste and Vent Piping that was observed was Cast Iron. All piping appears to be in good condition.

HVAC

Heating System: This system comprises of one (1) Natural Gas fired 1,300,000 BTU Boilers, Boilers are atmospheric are manufactured by Burnham. The boilers are piped with a single pair of pumps to distribute the heating water throughout the building. This system appears to be in good working order.

Piping System: Heating Hot Water piping is a combination of Steel and Copper, this piping appears to be original to the building and in good condition. All piping appears to be in good condition.

Cooling System: This system comprises of packed DX heating/cooling rooftop units. These units are manufactured by York and appear to be at the end of their useful life.

Ventilation System: Ventilation is supplied though all of the Rooftop Units that serve the building.

Exhaust Systems: The building exhaust is connected to centralized exhaust fans.

Ductwork System: The Ductwork Distribution System compress of sheet metal ductwork. The building utilizes the ceiling cavity for the return air plenum as the return to the units. There is VAV Boxes with Hot Water Reheat Coils located though the facility for Zoning Control. All ductwork is appears to be in good condition.

Auxiliary Systems: There is a computer room style cooling systems located in the basement serving the server and electrical room. This unit appears to be in good working order.

Controls: The building is controlled by a DDC controls system. This systems in Manufactured by Siemens model Apogee.

FIRE PROTECTION

6" Service, Wet & Dry System, Two (2) zone valves, this system appears to be in good working condition.

ELECTRICAL

Electrical Service:

- 120/288Volt- 3Phase - 4Wire - 1600Amp.
- Building fed underground from utility pad- mount transformer.

Electrical Distribution:

- Main Switchboard and C.T.'s and metering
- Circuit Breaker type Panelboards
- Power distribution - 15A and 20A duplex receptacles.
- Wiring - combination of conduit (EMT)/wiring and Metal-clad cabling.

Generator:

- Manufacturer - Caterpillar
- Fuel Source - Diesel
- Size - 125Kw -120/208volt - 3phase.
- (1) 400a Automatic Transfer Switch.
- (1) 100A Automatic Transfer Switch.

Interior Lighting:

- Common Areas:
 - Recessed open compact fluorescent downlights (2-CFL).
 - Vaulted Ceilings - Recessed open HID downlights and wall mounted HID indirect fixtures.
 - Track lighting for displays.
- Office - 2x2 recessed lensed troffers and (2) T8 fluorescent lamps.
- Stack Areas - Pendant direct/indirect and pendant indirect fixtures with T8 fluorescent lamps.
- Utility spaces - 1x4 surface/pendant enclosed fluorescent fixtures with T8 fluorescent lamps.
- Toilet rooms- recessed open CFL downlights and wall mounted direct/indirect fixtures.
- Stairwells - Surface wall mounted fluorescent wraparound fixtures.
- Exit Signs - LED type - thermoplastic housing with Red letters.

Exterior Lighting:

- Parking Area - Pole mounted LED full cut-off architectural area fixtures.
- Building surface mounted wall pack type fixtures with CFL Lamps.

Lighting Controls:

- Standard toggle switches with occupancy sensors.
- Lighting Control panels and low-voltage switches for common areas.
- Exterior lighting is controlled via photocell.

Fire Alarm System:

- Addressable type system.
- Wired Alarm Master Box.
- Smoke Detectors.
- Manual pull stations.
- Sprinkler flow and tamper switches.

- Duct mounted smoke detectors.
- Annunciator - Located in main lobby.

Security System:

- Access Control via card readers.
- CCTV - Camera's located inside and out.
- Intrusion Alarm System.

Miscellaneous:

- Hydraulic Elevator.
- 30kva Emerson UPS for Telecommunication System.

ACCESSIBILITY

Appears to be significantly in compliance. Attention to the outdoor walkways may be needed in the future.

PRIORITY 1		\$723,885
D3030	Cooling Systems	\$723,885
PRIORITY 2		\$15,000
B2050	Exterior Doors and Grilles	\$15,000
PRIORITY 3		\$972,628
C1070	Suspended Ceiling Construction	\$195,000
C2010	Wall Finishes	\$132,712
C2030	Flooring	\$157,500
D5040	Lighting	\$470,525
D5040	Lighting	\$16,891
PRIORITY 4		\$566,827
B1080	Stairs	\$20,000
D5010	Facility Power Generation	\$48,259
D5010	Facility Power Generation	\$1,500
D5020	Electrical Service and Distribution	\$142,364
D5030	General Purpose Electrical Power	\$248,534
D7050	Detection and Alarm	\$106,170

ITEMS REQUIRING FURTHER STUDY

B1020 Roof Construction: Active or inactive water infiltration evident



MORRISON HOUSE

116 Concord Road
Acton, MA
Plat F4, Lot 34

ZONE R108 / R-8	CONSTRUCTION TYPE Wood
CURRENT USAGE Empty	GROSS AREA, SF 2,973
YEAR BUILT 1900	ARCHITECT
REPLACEMENT COST, SF \$743,250	ASSESSED VALUE \$676,100

SUMMARY

STRUCTURE

Parged masonry foundation, wood framed floor and roof decks, lally columns in basement. Parts of rubble foundation and a collapsed bulkhead need to be repaired.

EXTERIOR VERTICAL ENCLOSURE

Painted wood shake siding, painted wood trim, single-pane wood with storm windows. Wood residential entrance doors.

ROOF AND RAINWATER MANAGEMENT

3-tab asphalt shingle, replaced in 2011. Ridge cap is curling. No gutter and downspout system on main building, one gutter at rear vestibule.

VERTICAL CIRCULATION AND CONVEYING

Wood stair to 2nd floor, basic wood stair to basement. not suitable for public use.

INTERIORS AND FINISHES

Recently painted walls and ceiling.

PLUMBING

Water Service: ¾" Water Service

Utilities: The water service is connected to a centralized water system for the town. The sanitary waste system is connected to a septic system located on site. All utilities appear to be original to the building and appear to be past their useful life.

Water Heating Systems: This system comprises of a 50 Gallon Electric Water Heater. Water Heaters is manufactured by AO Smith and is not functional.

Plumbing Fixtures: All plumbing fixtures are older and at the end of their useful life.

Piping System: The supply piping that was observed was copper. The drainage piping that was observed was cast iron. All piping appears to be original to the building

and nearing the end of its useful life.

HVAC

Heating System: This system comprises of one (1) Oil fired Furnace located in the basement. This unit was installed in 2013 and is in good working condition.

Piping System: N/A

Cooling System: There are no cooling systems in the building.

Ventilation System: Ventilation is achieved via windows though natural ventilation.

Ductwork System: The Ductwork Distribution System compress of sheet metal ductwork with wood. All ductwork is appears to be in good condition, some are disconnected.

FIRE PROTECTION

There are no Fire Protection Systems in the building

ELECTRICAL

Electrical Service:

- 100amp-1phase-120/240volt-3wire
- Fed overhead from utility pole on street.
- direct metered.

Electrical Distribution:

- Single circuit breaker type panelboard.
- general power - 15a and 20a receptacles (ungrounded type).
- branch circuit wiring - combination of NM and AC cabling.

Interior Lighting:

- wall and ceiling surface mounted incandescent fixtures.

Lighting Controls:

- toggle type wall switches

ACCESSIBILITY

Not accessible.

Given current state of use of this building, consideration must be given to accessibility when future uses are contemplated.

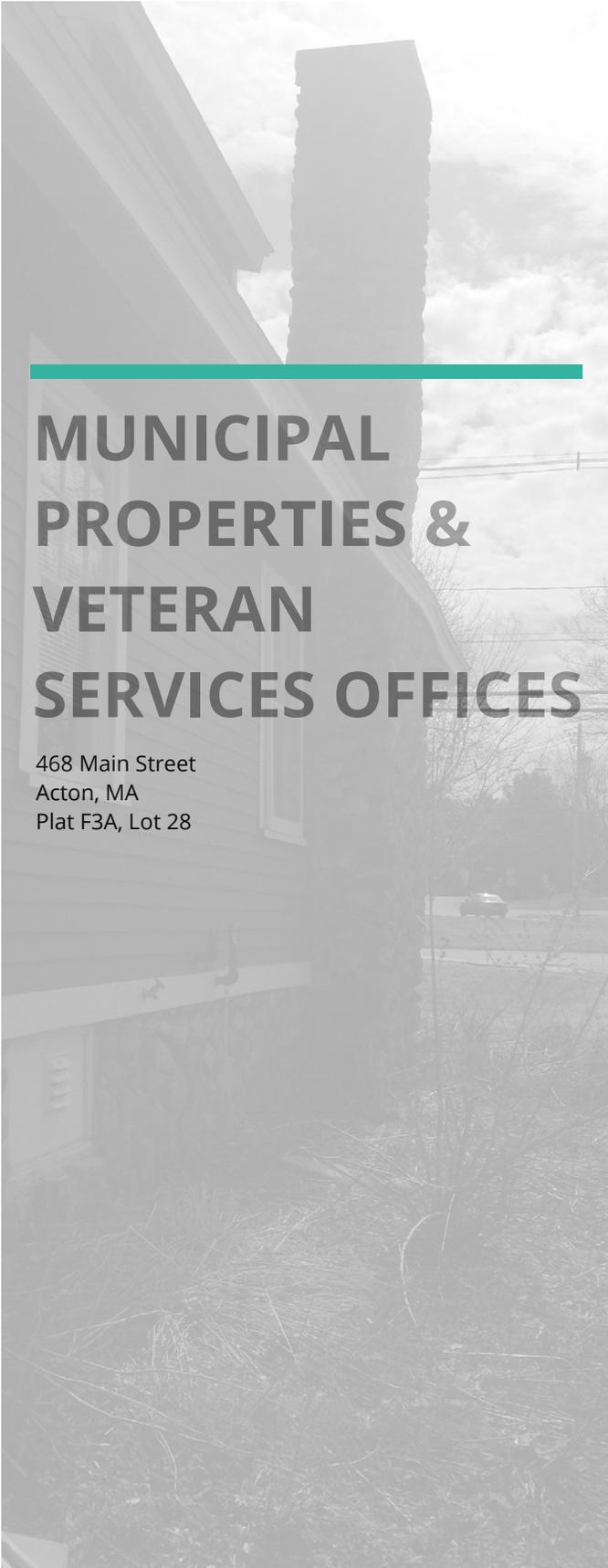
PRIORITY 2		\$37,797
B3020	Roof Appurtenances	\$11,040
D5040	Lighting	\$26,757
PRIORITY 3		\$30,260
B2010.10	Exterior Wall Veneer	\$7,554
B2050	Exterior Doors and Grilles	\$1,300
D2010	Domestic Water Distribution	\$14,865
D7050	Detection and Alarm	\$6,541
PRIORITY 4		\$54,958
B3010	Roofing	\$5,160
C2010	Wall Finishes	\$8,176
C2030	Flooring	\$20,811
C2050	Ceiling Finishes	\$20,811

ITEMS REQUIRING FURTHER STUDY

A2010 Walls for Subgrade Enclosures: Active or inactive water infiltration evident

B3020.10 Roof Accessories: Chimney issues evident

PRIORITY 1		\$46,352
B1080	Stairs	\$16,000
D2010	Domestic Water Distribution	\$3,000
D5020	Electrical Service and Distribution	\$8,770
D5030	General Purpose Electrical Power	\$15,311
D5040	Lighting	\$1,041
D5040	Lighting	\$2,230



MUNICIPAL PROPERTIES & VETERAN SERVICES OFFICES

468 Main Street
Acton, MA
Plat F3A, Lot 28

ZONE R-2	CONSTRUCTION TYPE Wood/Steel
CURRENT USAGE Offices / Maintenance	GROSS AREA, SF 5,404
YEAR BUILT 1915	ARCHITECT Sears & Roebuck
REPLACEMENT COST, SF \$1,891,400	ASSESSED VALUE \$391,400

SUMMARY

STRUCTURE

Rubble foundation wall, brick columns, wood framed floor and roof. Main beam in basement has been sistered using steel. Mortar in brick columns are crumbling, some foundation walls may need reparging to prevent further crumbling.

EXTERIOR VERTICAL ENCLOSURE

Wood siding, single-pane wood windows, wood exterior doors.

ROOF AND RAINWATER MANAGEMENT

3-tab asphalt shingle roof, metal gutters and downspouts. Evidence of water leaks in the second floor ceiling suggest active/inactive water infiltration.

VERTICAL CIRCULATION AND CONVEYING

One ADA life exists at the exterior entry of the building. External stair are satisfactory, internal stair prevent any public activity from happening on second floor.

INTERIORS AND FINISHES

All painted wall and ceiling surfaces. Note that some peeling paint possibly occurred due to incompatibility with latex and non-latex paint. All surfaces should be refinished soon.

PLUMBING

Water Service: $\frac{3}{4}$ " Water Service

Utilities: The water service is connected to a centralized water system for the town. The sanitary waste system is connected to a septic system located on site. The building is supplied with a Natural Gas Service.

Water Heating Systems: This system comprises of a natural gas fired water heater. Water Heaters is 40 gallon storage and 40,000 BTU Input. This unit appears to be newer and in good working condition.

Plumbing Fixtures: The ground floor plumbing fixtures

have been recently replaced and are in good working condition. The upper floor fixtures are older and at the end of their useful life.

Piping System: Domestic Water Supply Piping that was observed in the building was copper. Waste and Vent Piping that was observed was Cast Iron. All piping appears to be in good condition but nearing the end of its useful life.

HVAC

Heating System: This system comprises of one (1) Oil fired 145,000 BTU Boilers, Boiler is atmospheric and manufactured by Weil McLain. The boiler is piped with a single circulator pumps to distribute the heating water throughout the building. There are radiators throughout the building for heating. This system appears to be older and nearing the end of its useful life.

Piping System: Heating Hot Water piping is Copper, this piping appears to be nearing the end of its useful life.

Cooling System: This system comprises of a DX Cooled Fan Coil Unit located in the basement. This unit appears to be newer and in good working condition.

Ventilation System: Ventilation is achieved through the Fan Coil Unit.

Ductwork System: The Ductwork Distribution System compress of sheet metal ductwork. All ductwork is appears to be in good condition.

FIRE PROTECTION

There are no Fire Protection Systems in the building.

ELECTRICAL

Electrical Service:

- Building fed overhead from pole in street.
- Direct metered.
- 200Amp - 1phase - 3wire - 120/240volt.

Electrical Distribution:

- Circuit breaker type panelboard.
- Power distribution - 15A and 20A duplex receptacles.
- Wiring - Combination of non-metallic and armored cabling

Generator:

- 12kw- 1phase- 120/240volt (Kohler)
- Natural gas.
- Automatic Transfer Switch.

Interior Lighting:

- Surface ceiling mounted fluorescent wraparound fixtures
- Surface wall mounted incandescent sconces.
- Combination of fluorescent strips and porcelain sockets (with incandescent lamps).

Exterior Lighting:

- Surface mounted incandescent flood lights with LED

bulbs.

Lighting Controls:

- Single pole and three-way toggle type switches.

ACCESSIBILITY

Appears to be compliant with the exception of a designated parking space with appropriate signage.

PRIORITY 2		\$142,031
A2010	Walls for Subgrade Enclosures	\$750
B2020	Exterior Windows	\$28,500
C2010	Wall Finishes	\$14,861
C2030	Flooring	\$75,072
C2050	Ceiling Finishes	\$22,848
D3020	Heating Systems	\$0
PRIORITY 3		\$78,847
B2050	Exterior Doors and Grilles	\$1,300
D2010	Domestic Water Distribution	\$21,616
D5020	Electrical Service and Distribution	\$15,942
D5030	General Purpose Electrical Power	\$27,831
D5040	Lighting	\$12,159
PRIORITY 4		\$65,930
B2010.10	Exterior Wall Veneer	\$7,756
B3010	Roofing	\$12,240
D5010	Facility Power Generation	\$5,404
D5040	Lighting	\$40,530
PRIORITY 5		\$17,000
B1080	Stairs	\$17,000

ITEMS REQUIRING FURTHER STUDY

B1010 Floor Construction: Levelness issues evident

B1020 Roof Construction: Active or inactive water infiltration evident

B3020.10 Roof Accessories: Chimney issues evident



NARA PARK AMPHITHEATER

25 Ledge Rock Way
Acton, MA
Plat C5, Lot 18

ZONE
ARC

CONSTRUCTION TYPE
Wood

CURRENT USAGE
Amphitheater

GROSS AREA, SF
2,000

YEAR BUILT
1999

ARCHITECT
Thompson & Rose

REPLACEMENT COST, SF
\$500,000

ASSESSED VALUE
\$187,200

SUMMARY

STRUCTURE

Concrete slab-on-grade, concrete piers, steel pipe columns, timber construction

EXTERIOR VERTICAL ENCLOSURE

Open-air pavillion,

ROOF AND RAINWATER MANAGEMENT

Wood shingles, appear beyond useful life. Some leaders are in disrepair.

VERTICAL CIRCULATION AND CONVEYING

No vertical circulation

INTERIORS AND FINISHES

No interior finishes, trellis wall made of unfinished wood.

PLUMBING

There is no Plumbing Systems in the building.

HVAC

There is no HVAC Systems in the building.

FIRE PROTECTION

There are no Fire Protection Systems in the building.

ELECTRICAL

Electrical Service:

- Feed from pad-mount transformer
- 120/240Volt - 1Phase - 3Wire - 200Amp
- Direct Metered

Electrical Distribution:

- Circuit Breaker type Panelboard with Main Circuit Breaker.
 - General Power - distributed by 15A and 20A straight blade duplex receptacles.
- Interior and Exterior Lighting:

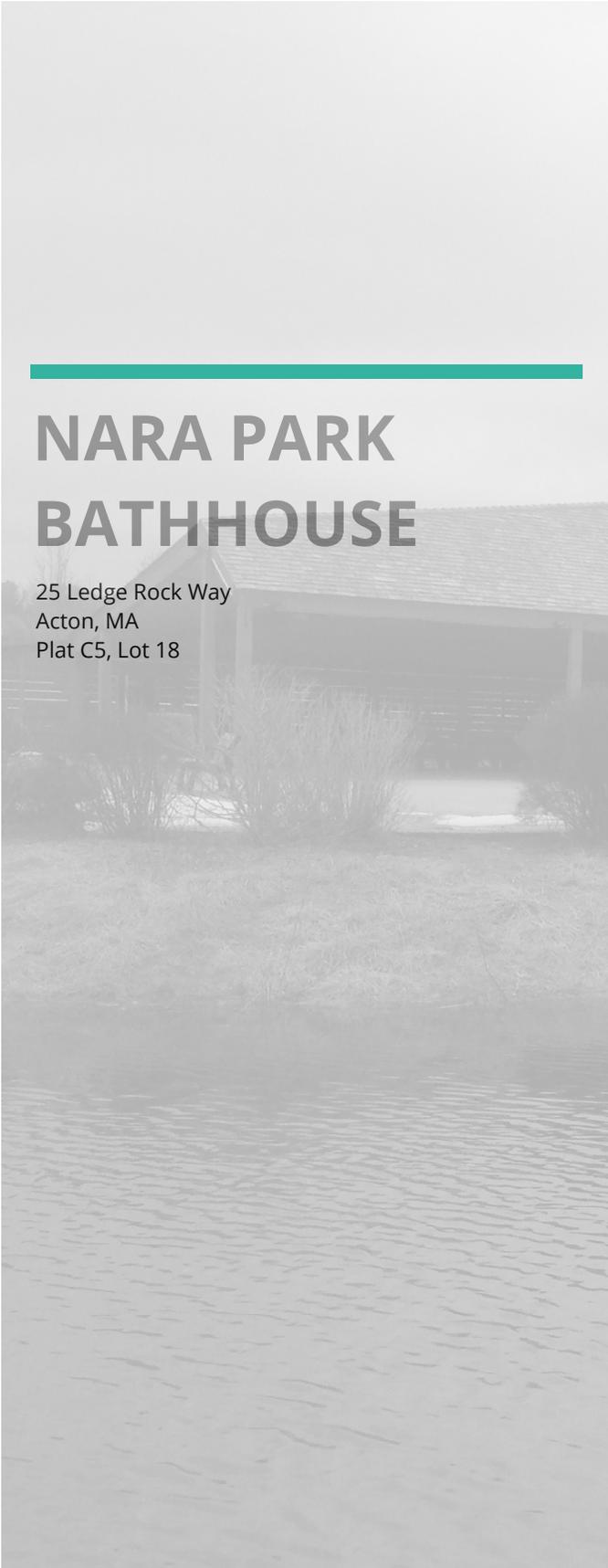
- Buildings- Surface mounted 1x4 wraparound luminaires with (2) T8 fluorescent lamps.
 - Covered Walkway - (6) flush inground luminaires.
- Lighting Controls:
- Interior building lighting is controlled by toggle type wall switches
 - Exterior Amphitheater lighting is controlled by circuit breaker.
- Raceway and Wiring:
- Exterior - Conduit and conductors
 - Panel Feeder - Conduit and conductors
 - Interior Branch Circuits - both AC and NM type wire.

ACCESSIBILITY

Appears to be fully compliant.

PRIORITY 1		\$2,400
B3020	Roof Appurtenances	\$2,400
PRIORITY 2		\$72,400
B3010	Roofing	\$57,600
D5030	General Purpose Electrical Power	\$10,300
D5040	Lighting	\$4,500
PRIORITY 3		\$5,900
D5020	Electrical Service and Distribution	\$5,900
PRIORITY 4		\$46,000
C2030	Flooring	\$46,000

ITEMS REQUIRING FURTHER STUDY



NARA PARK BATHHOUSE

25 Ledge Rock Way
Acton, MA
Plat C5, Lot 18

ZONE ARC	CONSTRUCTION TYPE Wood
CURRENT USAGE Bath/Changing	GROSS AREA, SF 5,758
YEAR BUILT 1999	ARCHITECT Thompson & Rose
REPLACEMENT COST, SF \$1,439,500	ASSESSED VALUE \$286,600

SUMMARY

STRUCTURE

Concrete slab-on-grade, concrete piers, masonry piers, timber construction. Bathhouse is CMU construction.

EXTERIOR VERTICAL ENCLOSURE

Wood ship-lap siding, single pane wood frame windows and doors.

ROOF AND RAINWATER MANAGEMENT

Wood shingle roofing, shakes appear to be curling and in need of replacement. No rainwater management.

VERTICAL CIRCULATION AND CONVEYING

No vertical circulation

INTERIORS AND FINISHES

Unfinished wood slat floors, unfinished concrete floors, unfinished cedar walls and ceilings. Bathhouse has unfinished/prefinished CMU

PLUMBING

Water Service: 1" Water Service

Utilities: The water service is connected to a centralized water system for the town. The sanitary waste system is connected to a septic system located on site. All utilities appear to be original to the building and appear to be in good condition.

Water Heating Systems: There is point of use Electric Water Heaters throughout the facility. These heaters appear to be original to the building and be in good condition but are nearing the end of their useful life.

Plumbing Fixtures: Fixtures in Bathrooms are vitreous China with Manual Flush Valves for Toilets and Urinals, Eye Wash Stations and Hand Wash Stations are Stainless Steel with Manual Operation. All fixtures appear to be original to the building and in good working condition.

Piping System: The supply piping that was observed was

copper. The drainage piping that was observed was cast iron. All piping appears to be original to the building and in good working condition.

HVAC

Heating System: The building is heated through the use of Electric Heaters. These heaters appear to be original to the building and nearing the end of their useful life.

Piping System: N/A

Cooling System: There are no cooling Systems in the building.

Ventilation System: Ventilation is achieved through operable windows via Natural Ventilation.

Exhaust System: There is localized exhaust systems for the bathrooms along with the serving area. These fans appear to be original to the building and in good working condition.

Ductwork System: N/A

FIRE PROTECTION

There are no Fire Protection Systems in the building.

ELECTRICAL

Electrical Service:

- 200amp-1phase- 3wire- 120/240volt

Electrical Distribution:

- Building is direct metered
- Circuit breaker type panelboard
- General Power - 15A and 20A duplex receptacles

Interior Lighting:

- Wall and Ceiling mounted enclosed incandescent fixtures
- Wall and Ceiling mounted enclosed fluorescent fixtures

Exterior Lighting:

- Wall and Ceiling mounted enclosed incandescent and fluorescent fixtures.

Lighting Controls:

- interior lighting is controlled by wall mounted toggle switches.
- exterior lighting is controlled by photo-cell and time clock.

Fire Alarm System:

- zoned hardwired system
- area smoke detectors
- manual pull stations

ACCESSIBILITY

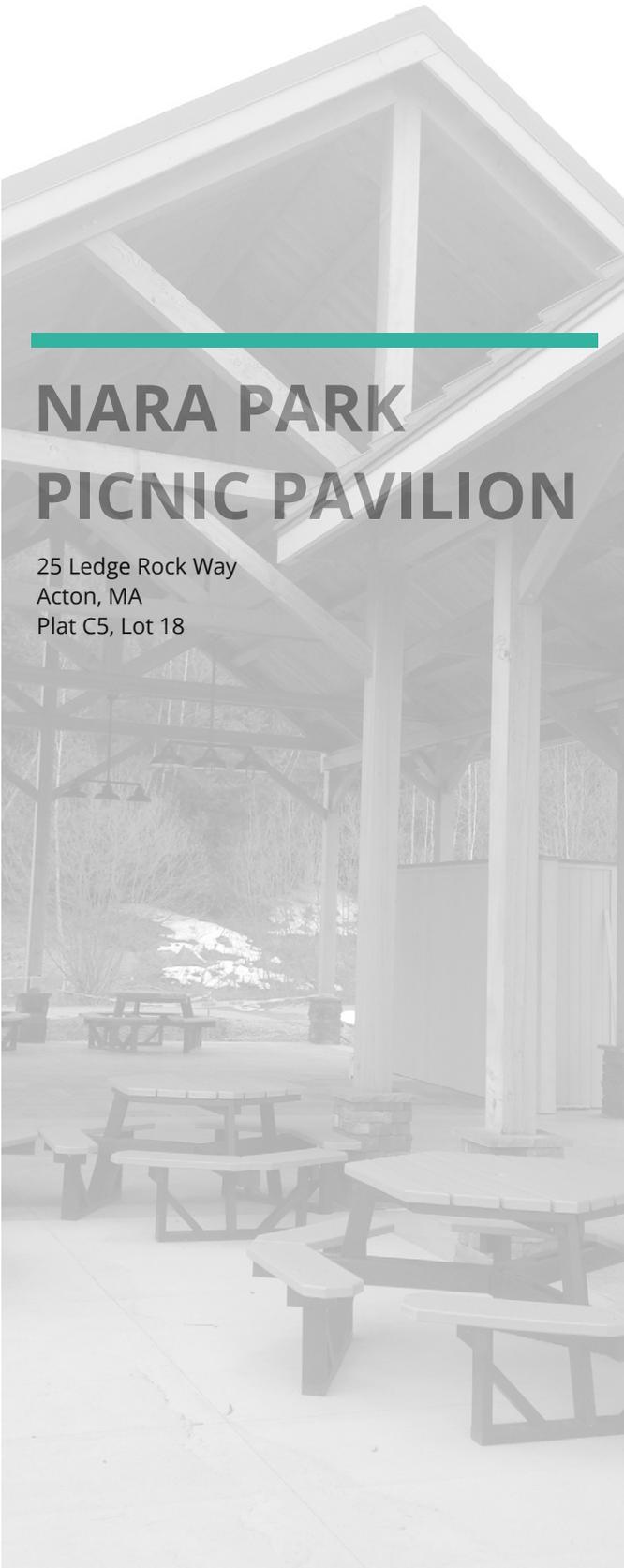
Appears to be mostly compliant.

If hot water is provided in the bathrooms the feed and waste lines for the lavatories should be insulated.

There are a number of areas in the wood deck that need to be replaced immediately.

PRIORITY 1		\$1,500
C2030	Flooring	\$1,500
PRIORITY 2		\$12,956
D2010	Domestic Water Distribution	\$0
D3020	Heating Systems	\$0
D5040	Lighting	\$12,956
PRIORITY 3		\$114,296
C2010	Wall Finishes	\$15,835
D5020	Electrical Service and Distribution	\$8,637
D5030	General Purpose Electrical Power	\$29,654
D5040	Lighting	\$47,504
D7050	Detection and Alarm	\$12,668
PRIORITY 4		\$20,049
B3010	Roofing	\$11,700
D5020	Electrical Service and Distribution	\$8,349

ITEMS REQUIRING FURTHER STUDY



NARA PARK PICNIC PAVILION

25 Ledge Rock Way
Acton, MA
Plat C5, Lot 18

ZONE ARC	CONSTRUCTION TYPE Wood
CURRENT USAGE Picnic & Event Rental	GROSS AREA, SF 3,415
YEAR BUILT 2014	ARCHITECT Kang Associates
REPLACEMENT COST, SF \$853,750	ASSESSED VALUE \$222,000

SUMMARY

STRUCTURE

Concrete slab-on-grade, concrete piers, masonry piers, timber construction

EXTERIOR VERTICAL ENCLOSURE

Open-air pavillion

ROOF AND RAINWATER MANAGEMENT

Standing seam metal roof. No rainwater management.

VERTICAL CIRCULATION AND CONVEYING

No vertical circulation

INTERIORS AND FINISHES

Unfinished concrete floor and wood deck tiles, wood unfinished.

PLUMBING

Water Service: There is a water meter located in a pit outside the Pavilion. There is 1" Pex water line from that meter that is capped in the Pavilion for future use and this also feeds a hose bib in the Pavilion. This piping appears to be new and in good condition.

HVAC

There is no HVAC Systems in the building.

FIRE PROTECTION

There are no Fire Protection Systems in the building.

ELECTRICAL

Electrical Service:

- 120/240volt -1phase - 3Wire - 100Amp
- Fed From Bathhouse.

Electrical Distribution:

- Circuit Breaker type Panelboard with M.C.B.
- General power - 15A and 20A duplex receptacles.

Lighting:

- Decorative pendant Compact Fluorescent
- Wall mounted indirect HID luminaires.

Lighting Controls:

- lighting control panel and switches.

Raceway and Wiring:

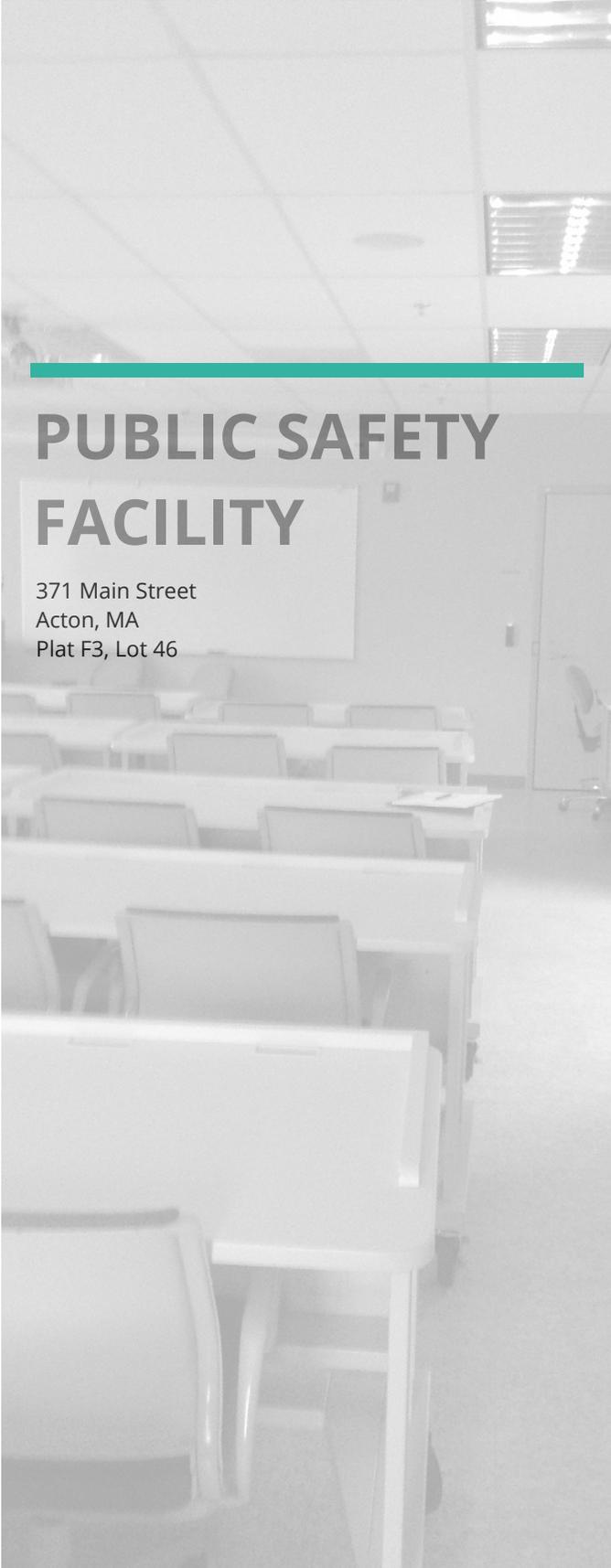
- Panel Feeder - Conduit and conductors
- Branch Circuit Wiring - Conduit and conductors.

ACCESSIBILITY

Appears to be fully compliant.

PRIORITY 4		\$149,748
B3010	Roofing	\$109,280
C2010	Wall Finishes	\$7,684
D5020	Electrical Service and Distribution	\$10,074
D5030	General Purpose Electrical Power	\$17,587
D5040	Lighting	\$5,123

ITEMS REQUIRING FURTHER STUDY



PUBLIC SAFETY FACILITY

371 Main Street
Acton, MA
Plat F3, Lot 46

ZONE R-2	CONSTRUCTION TYPE Steel
CURRENT USAGE Police/Fire	GROSS AREA, SF 21,858
YEAR BUILT 2005	ARCHITECT Jucunski Humes
REPLACEMENT COST, SF \$7,650,300	ASSESSED VALUE \$4,368,000

SUMMARY

STRUCTURE

Concrete foundation, appear to be metal columns, and corrugated metal deck.

EXTERIOR VERTICAL ENCLOSURE

Brick veneer, some spots indicate discoloration due to corrosion. A mixture of metal doors with correct accessible hardware, garage doors and storefront doors. Glass is multi-layered for blast protection.

ROOF AND RAINWATER MANAGEMENT

Asphalt shingle and EPDM roof. Rainwater management is taken of by a gutter and downspout system from the shingle roof and roof drains on the EPDM.

VERTICAL CIRCULATION AND CONVEYING

Metal pan stair, appear to be in conforming condition. Some storage was discovered in on the the wells and should be removed.

INTERIORS AND FINISHES

Standard VCT, painted wall and ACT finishes in most of the corridors and public areas. A raised floor system is located in the dispatch area. Some tiles are not fitting in appropriately and may need adjustment.

PLUMBING

Water Service: 2" Service, This system appears to be original to the building and in good working order.

Utilities: The water service is connected to a centralized water system for the town. The sanitary waste system is connected to a septic system located on site. The septic tank is 3,000 Gallons. The building is supplied with a Natural Gas Service.

Water Heating Systems: This system comprises of one (1) Natural Gas fired 150,000 BTU Boiler with an 80 Gallon Indirect Storage Tank, and recirculation pump. Boilers manufactured by Lochinvar model Armour,

Store Tank is manufactured by Lochinvar. This system was installed in 2012 and is in good working order.

Plumbing Fixtures: Fixtures in Bathrooms are vitreous China with Manual Flush Valves for Toilets and Urinals, Counter Mounted Sinks not in Bathrooms are Stainless Steel with Manual Faucets, Fixtures in the Holding Cells are Stainless Steel Institutional Fixtures with combination Toilets and Sinks. All Fixtures appear to be original to the building and in good working order.

Piping System: Domestic Water Supply Piping that was observed in the building was copper. Waste and Vent Piping that was observed was Cast Iron. All piping appears to be original to the building and is in good condition.

HVAC

Heating System: This system comprises of two (2) Natural Gas fired 1,200,000 BTU Boilers, Boilers are atmospheric are manufactured by HydroTherm. The boilers are piped with a single pair of pumps to distribute the heating water throughout the building. This system appears to be original to the building and in good working order.

Piping System: Heating Hot Water piping is a combination of Steel and Copper, this piping appears to be original to the building and in good condition. All piping appears to be original to the building and is in good condition.

Cooling System: This system comprises of four (4) Air Handling Units located throughout the building. Each one of these units has a DX Cooling Coil and Hot Water Heating Coil. This system appears to be original to the building and in good working order.

Ventilation System: Ventilation is supplied through all of the Air Handling Units throughout the building. This system appears to be original to the building and in good working order.

Exhaust Systems: The building exhaust is connected to centralized exhaust fans.

Ductwork System: The Ductwork Distribution System consists of sheet metal ductwork. There is VAV Boxes with Hot Water Reheat Coils located throughout the facility for Zoning Control. All ductwork appears to be original to the building and in good condition.

Auxiliary Systems: There are three (3) computer room style cooling systems located in the facility. These systems cool the Dispatch Center, 911 Computer Room and 2nd Floor Server Room. These systems appear to be original to the building and in good working order.

Controls: The building is controlled by a DDC controls system. This system is manufactured by Honeywell model Tridium.

FIRE PROTECTION

8" Service, Wet System Main Building, Steel Piping. This system appears to be original to the building and in good working order.

ELECTRICAL

Electrical Service:

- 120/28Volt- 3Phase - 4Wire - 1200Amp.
- Building fed underground from utility pad- mount transformer.

Electrical Distribution:

- Main Switchboard and C.T.'s and metering
- Circuit Breaker type Panelboards
- Power distribution - 15A and 20A duplex receptacles.
- Wiring - combination of conduit (EMT)/wiring and Metal-clad cabling.

Generator:

- Manufacturer - Caterpillar
- Fuel Source - Diesel
- Size - 250Kw -120/208volt - 3phase.
- Single 1200Amp Automatic Transfer Switch.
- Generator annunciator located in Dispatch.
- Auxiliary portable generator hook-up with ATS - feeds Cell Block, 911, & Dispatch Center.

Interior Lighting:

- Corridors - 2x2 recessed parabolic troffers and T8 fluorescent lamps.
 - Offices - 2x4 recessed parabolic troffers.
 - Breakroom - 2x2 recessed lensed troffers and (2) T8 fluorescent lamps.
 - Utility spaces - 1x4 surface/pendant enclosed fluorescent fixtures with T8 fluorescent lamps.
 - Lobby Area - pendant chandelier and recessed open compact fluorescent downlights.
 - Toilet rooms- recessed perimeter wall slot with parabolic louver.
 - Cell block area:
 - Cells - surface corner mount 4' high abuse detection type fluorescent fixtures.
 - Corridor - recessed lensed 2x2 and 2x4 troffers.
 - Dispatch & EOC - pendant mounted indirect fluorescent fixtures.
 - Stairwells - Surface wall mounted fluorescent wraparound fixtures.
 - Exit Signs - LED type - brushed aluminum face with black housing with Red letters.
- Exterior Lighting:
- Parking Area - Pole mounted LED full cut-off architectural area fixtures.
 - Building surface mounted wall pack type fixtures with CFL Lamps.
- Lighting Controls:
- Standard toggle switches with occupancy sensors

- Exterior lighting is controlled via time clock.
 - Corridors - Ceiling mounted occupancy sensors.
 - Cell Block Area - Standard toggle switches located at control area.
 - EOC - Architectural Lighting Control system (Crestron).
- Fire Alarm System:
- Addressable type system.
 - Wired Alarm Master Box.
 - Smoke Detectors.
 - Manual pull stations.
 - Sprinkler flow and tamper switches.
 - Duct mounted smoke detectors.
 - Annunciator - Located in main lobby.
- Security System:
- Access Control via card readers.
 - CCTV - Camera's located inside and out.
- Miscellaneous:
- Cell Block has intercom system between cell block control area and each cell.
 - Motorized doors in Sallyport.
 - Hydraulic Elevator.
 - 20kva Liebert UPS for 911 system and Dispatch.

D5040	Lighting	\$213,116
D5040	Lighting	\$7,650
D7050	Detection and Alarm	\$48,088
PRIORITY 5		\$21,858
B2020	Exterior Windows	\$0
D5010	Facility Power Generation	\$21,858

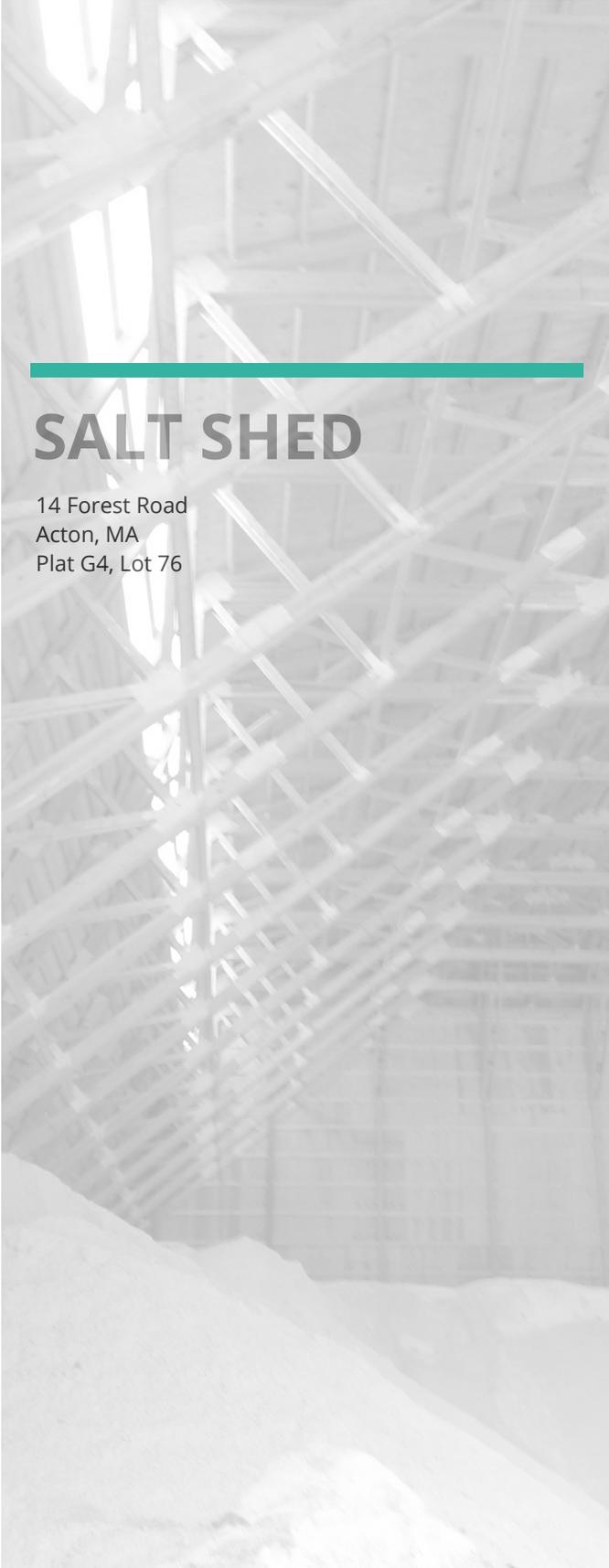
ITEMS REQUIRING FURTHER STUDY

B1080 Stairs: Storage item evident in egress stair

ACCESSIBILITY

Appears to be fully compliant.

PRIORITY 1		\$48,000
G2030	Pedestrian Plazas and Walkways	\$48,000
PRIORITY 2		\$480
B2010.10	Exterior Wall Veneer	\$230
C2030	Flooring	\$250
PRIORITY 3		\$2,000
B3020	Roof Appurtenances	\$2,000
PRIORITY 4		\$953,639
B2010.10	Exterior Wall Veneer	\$16,764
B2050	Exterior Doors and Grilles	\$3,700
B3010	Roofing	\$116,150
B3020	Roof Appurtenances	\$2,000
C2010	Wall Finishes	\$60,110
C2030	Flooring	\$153,006
C2050	Ceiling Finishes	\$153,006
D5010	Facility Power Generation	\$3,000
D5020	Electrical Service and Distribution	\$64,481
D5030	General Purpose Electrical Power	\$112,569



SALT SHED

14 Forest Road
Acton, MA
Plat G4, Lot 76

ZONE R-2	CONSTRUCTION TYPE Wood/Concrete
CURRENT USAGE Salt Storage/Disposal	GROSS AREA, SF 10,124
YEAR BUILT 2012	ARCHITECT
REPLACEMENT COST, SF \$3,543,400	ASSESSED VALUE \$393,200

SUMMARY

STRUCTURE

Precast concrete walls on concrete grade, pre-engineered truss roof framing.

EXTERIOR VERTICAL ENCLOSURE

Precast concrete walls are unfinished, wood paneling on ends of structure. Building does not contain any operable windows or doors, except at a small shed in the rear.

ROOF AND RAINWATER MANAGEMENT

Large gambrel style, metal corrugated roof on plywood sheathing. No insulation. Clear polycarbonate corrugated sheet skylights. Some small areas have minor damage due to vehicle collision.

VERTICAL CIRCULATION AND CONVEYING

No vertical circulation exists in the building.

INTERIORS AND FINISHES

Some protection to the interior side of the concrete wall is advisable to prevent long-term effects of salt interacting with the concrete.

PLUMBING

There is a water meter located in the building.

HVAC

There is no HVAC Systems in the building.

FIRE PROTECTION

There are no Fire Protection Systems in the building.

ELECTRICAL

Electrical Service:

- Fed from Main Public Works service, metered separately.

Interior Lighting:

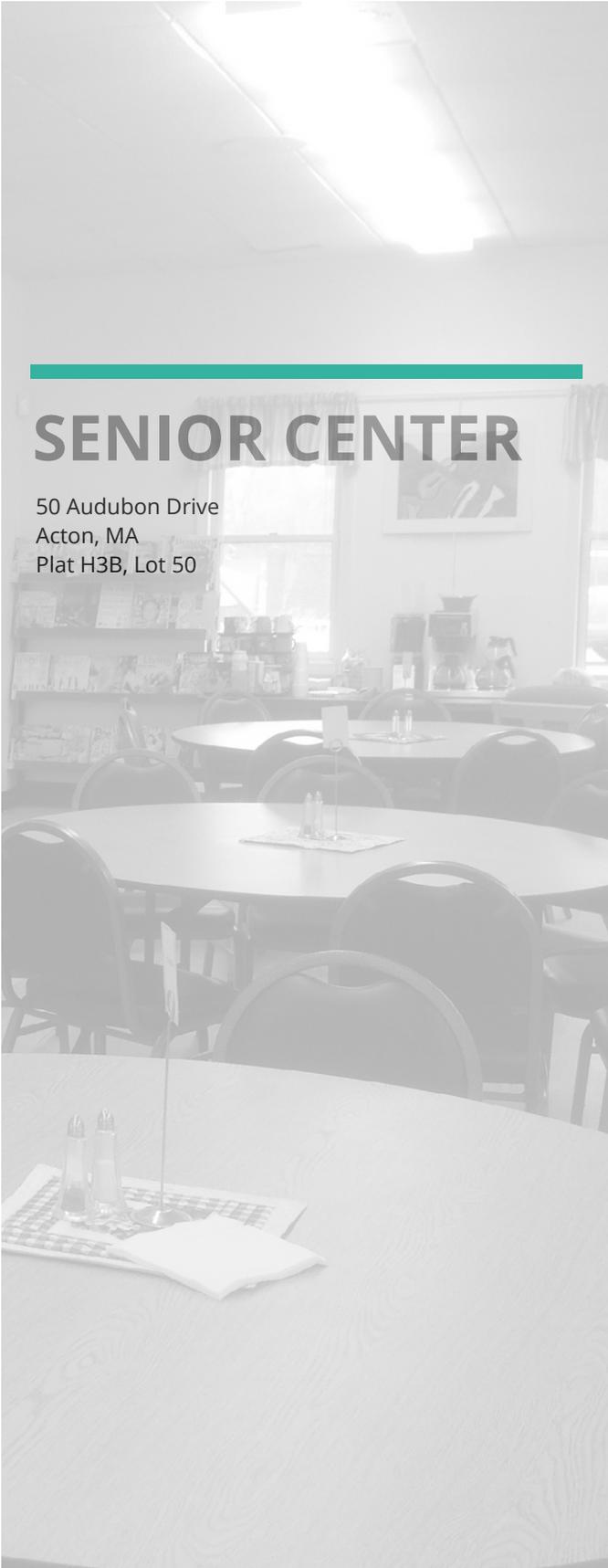
- LED Flood lights
- Exterior Lighting:
- LED Flood lights
 - Wall mounted HID wall packs
- Lighting Controls:
- interior flood lights controlled by toggle type wall switch.
- Exterior flood lights and wall packs - from DPW Garage

ACCESSIBILITY

Appears to be fully compliant for its intended uses.

PRIORITY 2		\$37,571
B2010.10	Exterior Wall Veneer	\$1,125
D5020	Electrical Service and Distribution	\$14,680
D5030	General Purpose Electrical Power	\$21,767
PRIORITY 4		\$182,232
B3010	Roofing	\$182,232

ITEMS REQUIRING FURTHER STUDY



SENIOR CENTER

50 Audubon Drive
Acton, MA
Plat H3B, Lot 50

ZONE PCRC	CONSTRUCTION TYPE Wood Frame
CURRENT USAGE Senior Center	GROSS AREA, SF 6,704
YEAR BUILT 1993	ARCHITECT
REPLACEMENT COST, SF \$1,676,000	ASSESSED VALUE \$654,200

SUMMARY

STRUCTURE

Concrete foundation, lally columns, wood frame floor and roof.

EXTERIOR VERTICAL ENCLOSURE

Wood siding, Single-pane wood windows with screen units. Exterior motorized doors installed 2013. Attic vent louvers at gable ends.

ROOF AND RAINWATER MANAGEMENT

Roof is original to building, asphalt shingle. Metal gutters and downspouts, some areas of damage.

VERTICAL CIRCULATION AND CONVEYING

Access to the basement is available only from a bulkhead outside of the building.

INTERIORS AND FINISHES

Kitchen rehab 2015. Floors are a mix of vinyl plank, carpet, and tile in restrooms. Ceiling are a mix of ACT and GWB. Walls are primarily painted GWB and have been redone as of Summer 2015.

PLUMBING

Water Service: 1" Water Service

Utilities: The water service is connected to a centralized water system for the town. The sanitary waste system is connected to a septic system located on site. All utilities appear to be original to the building and in good working condition.

Water Heating Systems: This system comprises of multiple electric water heaters throughout the facility. All heaters appear to be original to the building and in good working condition.

Plumbing Fixtures: Fixtures in Bathrooms are vitreous China with Manual Flush Valves for Toilets and Urinals, Counter Mounted Sinks not in Bathrooms are Stainless Steel with Manual Faucets. All Fixtures appear to be

original to the building and in good working order.
 Piping System: Domestic Water Supply Piping that was observed in the building was copper. Waste and Vent Piping that was observed was PVC. All piping appears to be original to the building and is in good condition.

HVAC

Heating System: Heating for the facility is achieved through Natural Gas Fire Furnaces throughout the facility. There are three (3) furnaces that serve the building. These furnaces are manufactured by Trane and were installed in 2012 and appear to be in good working condition.

Piping System: N/A

Cooling System: Cooling is achieved through DX Cooling coil attached the Furnaces. The associated condensing units for the coils are located outside on grade. The condensing units were installed in 2012 and appear to be in good working condition.

Ventilation System: Ventilation is achieved through the Furnaces.

Ductwork System: The Ductwork Distribution System compress of sheet metal ductwork. All ductwork is appears to be original to the building and in good working condition.

FIRE PROTECTION

There is a fire suppression system in the kitchen cooking area.

ELECTRICAL

Electrical Service:

- underground from utility pole
- Directed metered
- 400Amp- 1phase- 3wire- 120/240volt

Electrical Distribution:

- Circuit breaker type panelboards.
- General Power - 15A and 20A duplex receptacles
- Wiring - conduit/ wiring and metal-clad cabling.

Standby Generator:

- 100kw- 1phase - 120/240volt (Kohler).
- Natural Gas type.

Interior Lighting:

- Surface mounted 1x4 lensed wraparound fluorescent fixtures
- Lamps - T8 fluorescent and compact fluorescent lamps
- Emergency Lighting - dual head battery units
- Exit Signs - stamped housing LED type.

Exterior Lighting:

- Parking lot - Pole Mounted (10'+/-) Full-cut off LED

Architectural Area type.

- Building mounted twin head incandescent flood lights with LED bulbs.

Lighting Controls:

- Interior:
 - single and Three-way toggle type switches.
- Exterior:
 - Time clock and Photocell.

Fire Alarm:

- Zoned hardwired type system.
- Master box.
- Smoke detectors, manual pull stations.
- Audio/Visual devices.

generator: 2012

ACCESSIBILITY

Signage is lacking on accessible route from parking to building.

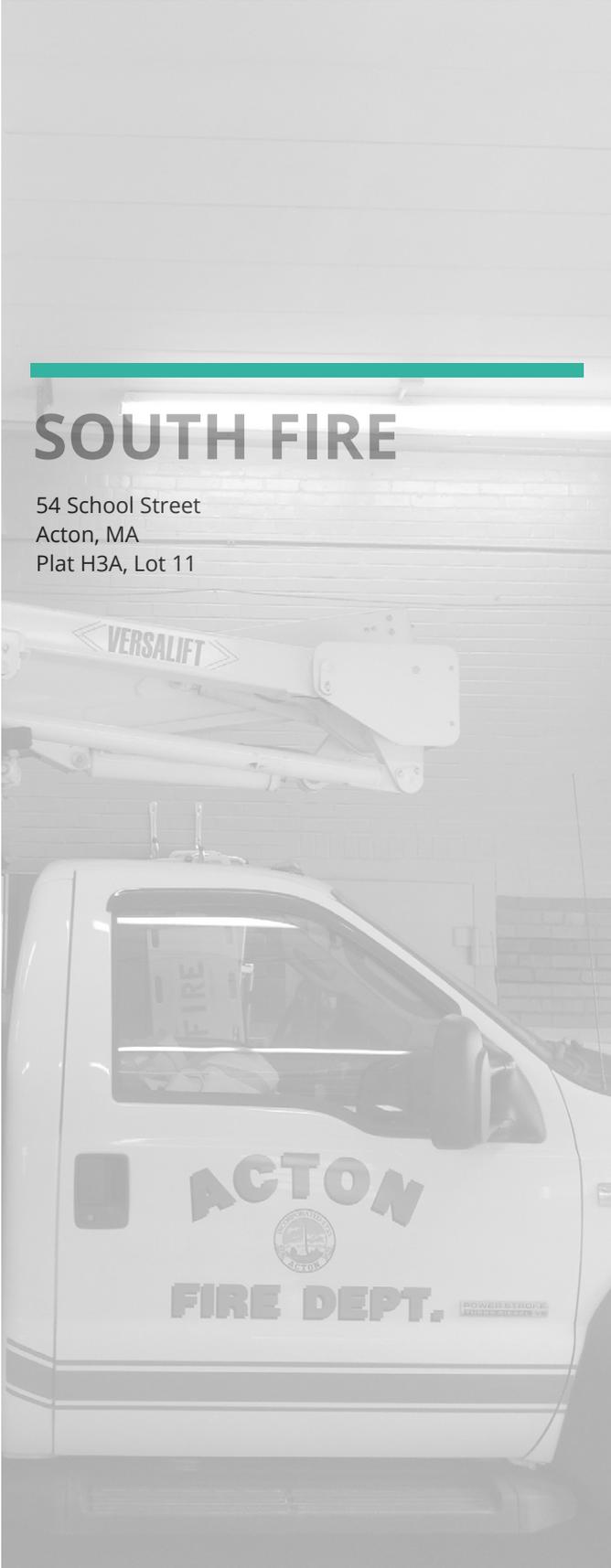
Some doors require a step up but appear to be on the accessible route.

Otherwise the facility appears to be compliant.

PRIORITY 2		\$52,620
B2070	Exterior Louvers and Vents	\$3,000
B3010	Roofing	\$38,100
B3020	Roof Appurtenances	\$11,520
PRIORITY 3		\$127,258
B2050	Exterior Doors and Grilles	\$2,200
C1030	Interior Doors	\$31,844
C2050	Ceiling Finishes	\$35,560
D5040	Lighting	\$55,308
D5040	Lighting	\$2,346
PRIORITY 4		\$169,156
B2010.10	Exterior Wall Veneer	\$8,553
B2020	Exterior Windows	\$27,500
C2010	Wall Finishes	\$18,436
C2030	Flooring	\$35,560
D5020	Electrical Service and Distribution	\$19,777
D5030	General Purpose Electrical Power	\$34,526
D5040	Lighting	\$10,056
D7050	Detection and Alarm	\$14,749
PRIORITY 5		\$6,704
D5010	Facility Power Generation	\$6,704

ITEMS REQUIRING FURTHER STUDY

B1080 Stairs: Insufficient stair landing due to door swing
or other regulatory issue



SOUTH FIRE

54 School Street
 Acton, MA
 Plat H3A, Lot 11

ZONE R-2	CONSTRUCTION TYPE Masonry
CURRENT USAGE Fire/Emergency	GROSS AREA, SF 5,848
YEAR BUILT 1961	ARCHITECT
REPLACEMENT COST, SF \$2,046,800	ASSESSED VALUE \$893,500

SUMMARY

STRUCTURE

Slab-on-grade, second floor concrete beams and insulated metal deck. Concrete plank deck on second floor. Wood roof deck.

EXTERIOR VERTICAL ENCLOSURE

Brick veneer, some vinyl siding on upper level. Single paned aluminum windows, metal exterior doors.

ROOF AND RAINWATER MANAGEMENT

EPDM roof replaced 1997. Mechanically fastened rigid insulation on GWB, fully adhered EPDM membrane. Roof drains on roof.

VERTICAL CIRCULATION AND CONVEYING

Wood stair and handrails. Does not appear to be properly enclosed as an egress stair.

INTERIORS AND FINISHES

Mainly painted CMU walls and ACT ceilings. Upper level floor has been replaced with a composite product.

PLUMBING

Water Service: 1 1/2" Water Service

Utilities: The water service is connected to a centralized water system for the town. The sanitary waste system is connected to public sewer. All utilities appear to be original to the building and appear to be past their useful life.

Water Heating Systems: This system comprises of a 50 Gallon Storage, Natural Gas Fired, 40,000 BTU Water Heater. This heater appears to be in good working condition.

Plumbing Fixtures: All plumbing fixtures appear to be original to the building and nearing the end of their useful life.

Piping System: The supply piping that was observed was copper. The drainage piping that was observed was cast

iron. All piping appears to be original to the building and nearing the end of its useful life.

HVAC

Heating System: This system comprises of a Natural Gas Boiler, Boilers are atmospheric. The boilers are piped with a circulator pumps to distribute the heating water throughout the building. This system appears to be original to the building and nearing the end of its useful life

Piping System: Heating Hot Water piping is a combination of Steel and Copper, this piping appears to be original to the building and in good condition. All piping appears to be original to the building nearing the end of its useful life.

Cooling System: The upstairs common room is serviced by a Wall Mounted Ductless Split Cooling Unit. This unit was installed in 2014 and is in good working condition.

Ventilation System: Ventilation is achieved via windows though natural ventilation.

Ductwork System: N/A

FIRE PROTECTION

There are no Fire Protection Systems in the building.

ELECTRICAL

Electrical Service:

120/240Volt- 1Phase - 3Wire - 200Amp

Electrical Distribution:

- Direct metered
- Circuit Breaker type Panelboards
- Power distribution - 15A and 20A duplex receptacles.
- Wiring - combination of conduit (EMT)/wiring and Metal-clad cabling.

Emergency Generator:

- Manufacturer - Kohler
- Fuel Source - Diesel
- Size - 50Kw -120/240volt
- Single 200Amp Automatic Transfer Switch
- Annunciator located on second floor common room.

Interior Lighting:

- Truck Bay Area - 1x8 enclosed and gasketed wraparound fluorescent luminaires with (4) T8 Fluorescent lamps.
- Common areas - 1x4 wraparound fluorescent luminaires with (2) T8 Fluorescent lamps.
- Emergency - Dual Head battery units.
- Exit Signs - Thermoplastic LED - White with Red letters.

Exterior Lighting:

- Parking Area - Pole mounted HID flood lights
- Building mounted HID wall packs

Lighting Controls:

- Standard toggle switches

- Exterior lighting is controlled via time clock.

Fire Detection:

- Single station smoke detectors in common areas.
- Wired Alarm Master Box.

Security System:

- none is present

ACCESSIBILITY

Designated parking and accessible route are not apparent.

PRIORITY 1 \$141,132

D3030 Cooling Systems \$141,132

PRIORITY 2 \$445,681

A4010 Standard Slabs-on-Grade \$9,000

B3010 Roofing \$61,680

C1090 Interior Specialties \$575

C2010 Wall Finishes \$16,082

D3020 Heating Systems \$256,589

D5020 Electrical Service and Distribution \$8,480

D5030 General Purpose Electrical Power \$30,117

D5040 Lighting \$48,246

D5040 Lighting \$2,047

D7050 Detection and Alarm \$12,866

PRIORITY 3 \$167,157

B2050 Exterior Doors and Grilles \$17,750

C1030 Interior Doors \$27,778

C1070 Suspended Ceiling Construction \$50,115

C2030 Flooring \$53,970

D2010 Domestic Water Distribution \$0

D5020 Electrical Service and Distribution \$8,772

D5040 Lighting \$8,772

PRIORITY 4 \$5,848

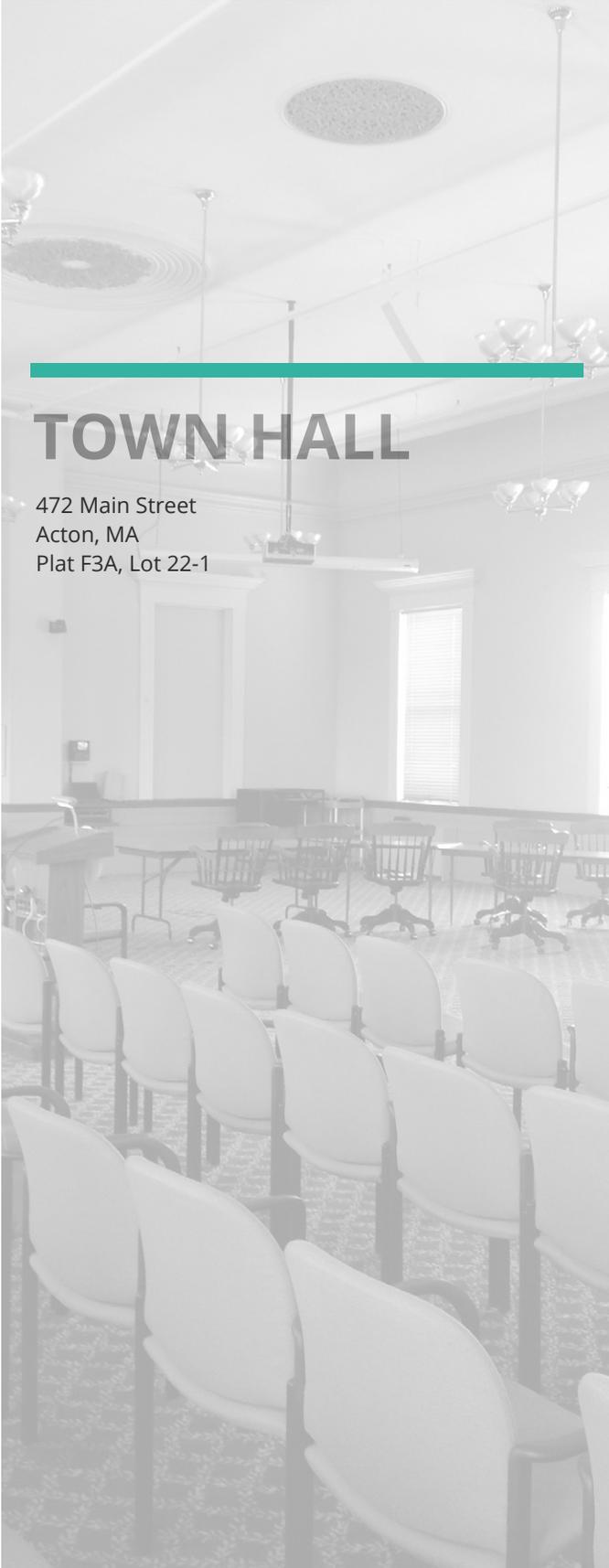
D5010 Facility Power Generation \$5,848

ITEMS REQUIRING FURTHER STUDY

B1080.60 Fire Escapes: In use as egress

B2020.10 Exterior Operating Windows: Sustainability issues evident

B1080 Stairs: All or portion of stair shaft not in a rated assembly



TOWN HALL

472 Main Street
Acton, MA
Plat F3A, Lot 22-1

ZONE R-2	CONSTRUCTION TYPE Wood Frame
CURRENT USAGE Municipal Offices	GROSS AREA, SF 24,144
YEAR BUILT 1864B/1988R	ARCHITECT Robert Neiley
REPLACEMENT COST, SF \$8,450,400	ASSESSED VALUE \$2,820,000

SUMMARY

STRUCTURE

Foundation is a combination of slab-on-grade, and subgrade walls. Foundation walls are a combination of rubble, brick and poured concrete (done in 1986). The adjacent floors are wood framed with wood deck. Roof is a combination of Type wood truss and sheathing in main building, sloped deck and tapered insulation in adjacent areas.

EXTERIOR VERTICAL ENCLOSURE

Wood siding, windows appear to be wood single-pane with storm units. Main St. door is historic wooden, rear entrance door installed in 1987.

ROOF AND RAINWATER MANAGEMENT

Wood truss and sheathing on main building, sloped deck and tapered insulation on adjacent areas. Slate shingles on main building, asphalt shingles in rear, EPDM on adjacent sides. Slate portion, 2006, Asphalt shingle portion, 2013, Flat roof, 2000. Town Hall bell equipment (\$17K) 2012

VERTICAL CIRCULATION AND CONVEYING

2 stairs serve as egress stairs. Carpet finish may not be appropriate for its use. May have egress path issues, and are not in a fire rated enclosure. Elevator serves all floors including top-most level, but is not sized for an ambulance stretcher.

INTERIORS AND FINISHES

Ceilings are mixed lath/plaster, ACT, and painted gypsum. Walls are primarily painted gypsum. Floors are mixed carpet, VCT, and wood in renovated wing. Stairs are carpeted and is 4.5 years old (from ground to 3rd floor). All other carpet is beyond useful life.

PLUMBING

Water Service: 1 1/2" Service, This system appears to be

older and nearing the end of its useful life.

Utilities: The water service is connected to a centralized water system for the town. The sanitary waste system is connected to a septic system located on site. The building is supplied with a Natural Gas Service.

Water Heating Systems: This system comprises of an electric water heater. Water Heaters is 40 gallon storage and 4.5 KW Input. This unit appears to be newer and in good working condition.

Plumbing Fixtures: Fixtures in Bathrooms are vitreous China with Manual Flush Valves for Toilets and Urinals, Counter Mounted Sinks not in Bathrooms are Stainless Steel with Manual Faucets. All Fixtures appear to be in good condition.

Piping System: Domestic Water Supply Piping that was observed in the building was copper. Waste and Vent Piping that was observed was Cast Iron. All piping appears to be in good condition but nearing the end of its useful life.

HVAC

Heating System: This system comprises of one (1) Natural Gas fired 491,000 BTU Boilers, Boilers are atmospheric. The boilers are piped with a single pair of pumps to distribute the heating water throughout the building. This system appears to be newer and in good working order. There are fan coil units throughout the building to heat the spaces. These units appear to be nearing the end of their useful life.

Piping System: Heating Hot Water and Cooling Chilled Water piping is a combination of Steel and Copper, this piping appears to be original to the building and in good condition. The chilled water piping in the mechanical room show lots of corrosion and needs to be replaced. Most of the piping in the building appears to be in good condition but nearing the end of its useful life.

Cooling System: This system comprises of a single split chiller located on the ground floor. This unit is older and past its useful life. We were told that this unit is being replaced under the renovation on this building that is occurring at the time of this report. There are fan coil units throughout the building to cool the spaces. These units appear to be nearing the end of their useful life.

Ventilation System: Ventilation is achieved through unit ventilators throughout the building.

Ductwork System: The Ductwork Distribution System compress of sheet metal ductwork. All ductwork is appears to be in good condition.

FIRE PROTECTION

6" Service, Wet System. This system appears to older and nearing the end of its useful life.

ELECTRICAL

Electrical Service:

- Building fed underground from utility pad mount transformer

- 277/480Volt- 3Phase - 4Wire - 600Amp.

Electrical Distribution:

- CT's and Metering

- Circuit Breaker type Panelboards

- Power distribution - 15A and 20A duplex receptacles.

- Wiring - combination of conduit (EMT)/wiring and Metal-clad cabling.

Generator:

- Manufacturer - Katolight

- Fuel Source - Diesel

- Size - 50Kw -120/208volt - 3phase - 4wire

- Single Automatic Transfer Switch

- Annunciator located on upper level lobby.

- Exterior above ground fuel tank.

- Day Tank.

Interior Lighting:

- Office areas - combination of 1x4 wraparound fluorescent luminaires with (2) T8 fluorescent lamps and recessed lensed troffers with (2) T8 fluorescent lamps.

- Mech./ Elec. and utility rooms - 1x4 fluorescent strip luminaires with (2) T8 fluorescent lamps

- Emergency - Dual Head battery units.

- Exit Signs - Thermoplastic LED - White with Red letters.

Exterior Lighting:

- Parking Area - Pole mounted HID flood lights

- Building mounted HID wall packs

Lighting Controls:

- Standard toggle switches

- Exterior lighting is controlled via time clock.

Fire Alarm System:

- Zoned Hardwired type system. (Simplex)

- Wired Alarm Master Box.

- Smoke Detectors.

- Manual pull stations.

- Sprinkler flow and tamper switches.

- Duct mounted smoke detectors.

- Annunciator - Located in main lobby.

ACCESSIBILITY

Appears to be significantly in compliance. Attention may be needed relative to the designated parking spaces and the slopes of the walkway to the building.

PRIORITY 1 **\$174,144**

B2010.10 Exterior Wall Veneer \$150,000

D5010 Facility Power Generation \$24,144

PRIORITY 2 **\$975,980**

B2050	Exterior Doors and Grilles	\$400,000
B3010	Roofing	\$104,000
C1030	Interior Doors	\$114,684
C2050	Ceiling Finishes	\$140,000
D2010	Domestic Water Distribution	\$96,576
D3020	Heating Systems	\$120,720

PRIORITY 3 \$813,965

A2010	Walls for Subgrade Enclosures	\$4,500
C2010	Wall Finishes	\$55,000
C2030	Flooring	\$140,000
D4010	Fire Suppression	\$156,936
D5020	Electrical Service and Distribution	\$36,216
D5030	General Purpose Electrical Power	\$124,342
D5040	Lighting	\$8,450
D5040	Lighting	\$235,404
D7050	Detection and Alarm	\$53,117

PRIORITY 4 \$1,171,104

B1010	Floor Construction	\$0
B3010	Roofing	\$764,800
B3020	Roof Appurtenances	\$17,000
D2010	Domestic Water Distribution	\$24,144
D3020	Heating Systems	\$362,160
D5010	Facility Power Generation	\$3,000
D5040	Lighting	\$0

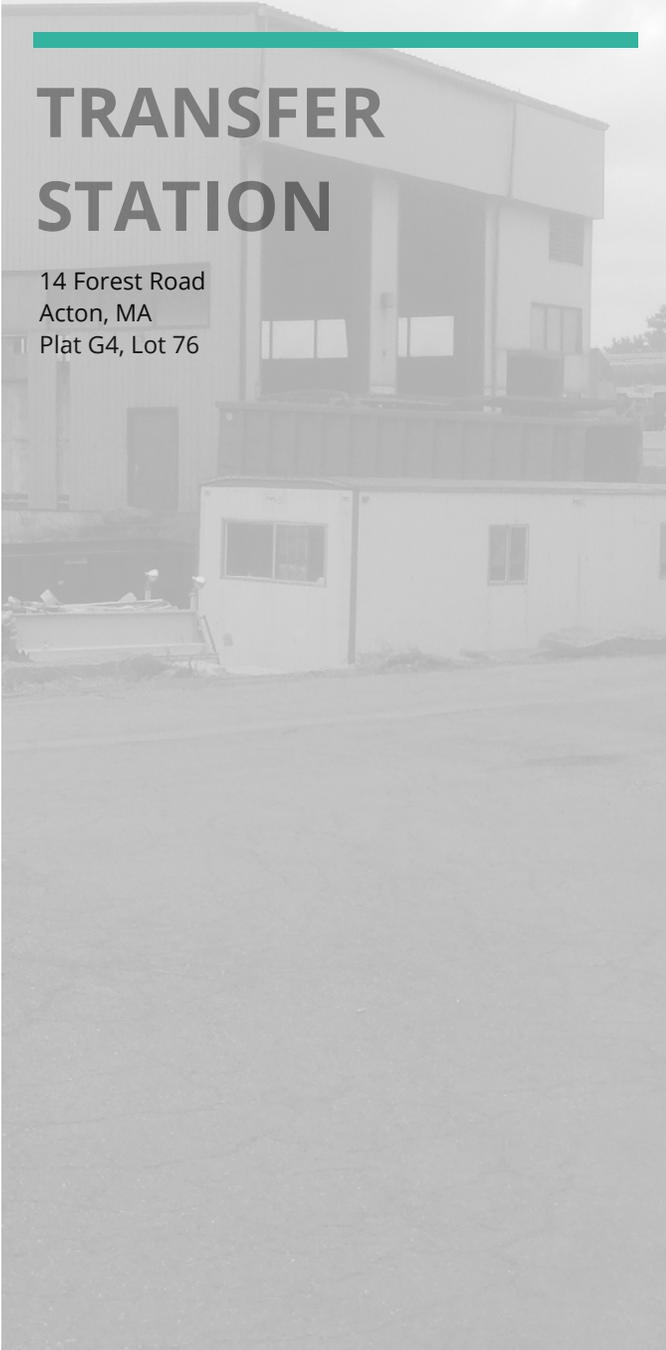
ITEMS REQUIRING FURTHER STUDY

B1010 Floor Construction: Deflection issues evident

B1080 Stairs: Egress stair appears non-compliant with current regulatory standards due to width, winders, riser height and /or tread depth..

B1080 Stairs: All or portion of stair shaft not in a rated assembly

C1090.20 Information Specialties: Wayfinding signage is inadequate



TRANSFER STATION

14 Forest Road
Acton, MA
Plat G4, Lot 76

ZONE R-2	CONSTRUCTION TYPE Metal
CURRENT USAGE Trash	GROSS AREA, SF 5,525
YEAR BUILT 1985	ARCHITECT
REPLACEMENT COST, SF \$1,933,750	ASSESSED VALUE \$25,000

SUMMARY

STRUCTURE

Slab-on-grade, precast concrete foundation walls, steel framing.

EXTERIOR VERTICAL ENCLOSURE

Corrugated metal siding, fixed window band on 2 opposite exterior walls.

ROOF AND RAINWATER MANAGEMENT

Corrugated metal roof, light well opening in middle of span. Insulation has completely failed, hanging in some areas. No rainwater management.

VERTICAL CIRCULATION AND CONVEYING

No vertical circulation or conveying

INTERIORS AND FINISHES

No interior finishes.

PLUMBING

There are no Plumbing Systems in the building.

HVAC

There is an abandoned exhaust system in the building. This system is nonoperational.

FIRE PROTECTION

Building has a fire panel and master box.

ELECTRICAL

Electrical Service:

- Fed from main Public Works Garage

Lighting:

- 5 pendant mounted enclosed HID high bay fixtures

Lighting Control

- From circuit breaker in panel.

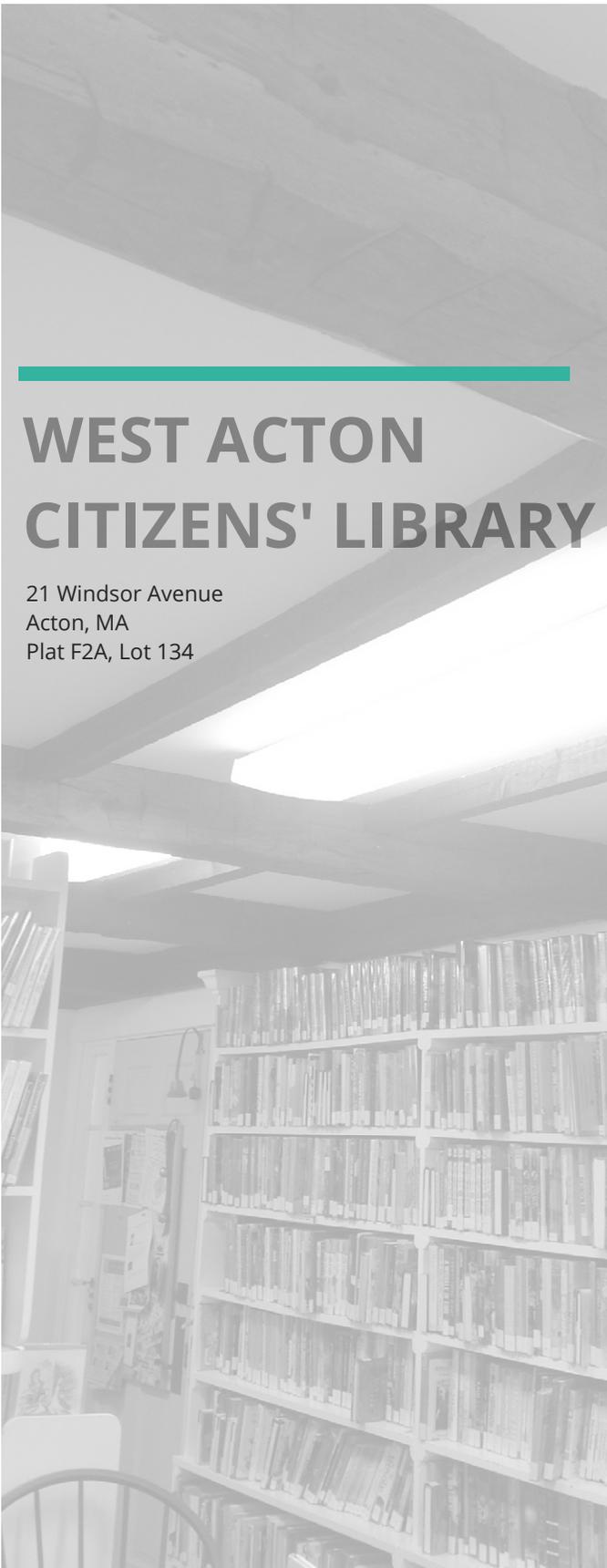
ACCESSIBILITY

Appears to be compliant for its intended use.

PRIORITY 1		\$113,250
B1020	Roof Construction	\$4,250
B2010.10	Exterior Wall Veneer	\$7,000
B2020	Exterior Windows	\$12,000
B3010	Roofing	\$90,000
PRIORITY 2		\$51,949
D5020	Electrical Service and Distribution	\$8,011
D5030	General Purpose Electrical Power	\$2,500
D5040	Lighting	\$41,438

ITEMS REQUIRING FURTHER STUDY

B1020 Roof Construction: Moisture issues evident



WEST ACTON CITIZENS' LIBRARY

21 Windsor Avenue
Acton, MA
Plat F2A, Lot 134

ZONE VR	CONSTRUCTION TYPE Wood Frame
CURRENT USAGE Library	GROSS AREA, SF 2,008
YEAR BUILT 1815	ARCHITECT
REPLACEMENT COST, SF \$502,000	ASSESSED VALUE \$477,300

SUMMARY

STRUCTURE

Rubble foundation, rough granite and lally columns in basement. Heavy timber frame construction, exposed in many locations.

EXTERIOR VERTICAL ENCLOSURE

Painted wood siding and trim, single-pane wood with storm windows. Wood exterior doors.

ROOF AND RAINWATER MANAGEMENT

Asphalt shingle roof, date of replacement unknown. No rainwater management. Chimneys appear to be properly flashed.

VERTICAL CIRCULATION AND CONVEYING

Wooden stair accesses upper attic levels and basement. Not suitable for public use. Exterior granite stairs have been reset/rebuilt at public entrances.

INTERIORS AND FINISHES

Finishes are worn. Mix of carpet and tile flooring. Exposed timber floor system, with some parts containing a GWB infill. Front meeting areas have a finished GWB ceiling.

PLUMBING

Water Service: $\frac{3}{4}$ " Water Service

Utilities: The water service is connected to a centralized water system for the town. The sanitary waste system is connected to a septic system located on site. All utilities appear to be original to the building and appear to be past their useful life.

Water Heating Systems: There is point of use Electric Water Heaters throughout the facility. These heaters appear to be original to the building and be in good condition but are nearing the end of their useful life.

Plumbing Fixtures: Plumbing fixtures are vitreous china and appear to be in good working condition.

Piping System: The supply piping that was observed was copper. The drainage piping that was observed was cast iron. All piping appears in good working condition.

HVAC

Heating System: The first floor of the building is heated through a Natural Gas Furnace located in the basement. This unit appears to be newer and in good working condition. The second floor is heated through Ductless Heat Pumps and appear to be in good working condition.

Piping System: N/A

Cooling System: The ground floor is cooled through a DX coil attached to the furnace. The condensing unit connected to this coil appears to be older and near the end of its useful life. The second floor is cooled through Ductless Air Conditioners and appear to be in good working condition.

Ventilation System: Ventilation for the first floor is achieved throughout the furnace located in the basement. Ventilation for the second floor is achieved through the windows via natural ventilation.

Ductwork System: All ductwork is sheet metal and appears to be in good condition.

FIRE PROTECTION

There are no Fire Protection Systems in the building.

ELECTRICAL

Electrical Service:

- Building fed overhead from utility pole at street.
- Direct metered.
- 100Amp - 1phase - 3wire - 120/240volt.

Electrical Distribution:

- (1) Circuit breaker type panelboard.
- Power distribution - 15A and 20A duplex receptacles.
- Wiring - combination of non-metallic and armored cabling.

Interior lighting:

- Surface mounted lensed fluorescent wraparound fixtures.
- Emergency Lighting - dual head battery units.
- Exit Signs - LED thermoplastic type.

Exterior Lighting:

- Surface mounted enclosed fixtures.

Lighting Controls:

- Single pole and three-way toggle type switches.

Fire Alarm:

- Zoned hardwired system (Fire Lite MS-50D series).
- Master box.
- Smoke Detectors
- Manual pull stations
- Horn/ strobe units.

ACCESSIBILITY

Not handicapped accessible. May not be feasible to make it so. Unconfirmed if a waiver has been requested or obtained from MAAB.

PRIORITY 2 \$43,478

B1080	Stairs	\$8,500
C1030	Interior Doors	\$1,800
C2010	Wall Finishes	\$5,522
C2030	Flooring	\$9,310
C2050	Ceiling Finishes	\$9,310
D2010	Domestic Water Distribution	\$6,024
D5020	Electrical Service and Distribution	\$3,012

PRIORITY 3 \$50,085

B2010.10	Exterior Wall Veneer	\$3,502
B2050	Exterior Doors and Grilles	\$600
D2010	Domestic Water Distribution	\$8,032
D5020	Electrical Service and Distribution	\$2,912
D5030	General Purpose Electrical Power	\$10,341
D5040	Lighting	\$703
D5040	Lighting	\$19,578
D7050	Detection and Alarm	\$4,418

PRIORITY 4 \$44,295

B2020	Exterior Windows	\$4,200
B3010	Roofing	\$9,975
D3020	Heating Systems	\$30,120

ITEMS REQUIRING FURTHER STUDY

- B1010 Floor Construction: Deflection issues evident
- B1010 Floor Construction: Levelness issues evident



WEST FIRE

256 Central Street
Acton, MA
Plat F2B, Lot 1

ZONE VR	CONSTRUCTION TYPE Masonry
CURRENT USAGE Fire/Emergency	GROSS AREA, SF 5,162
YEAR BUILT 1958	ARCHITECT
REPLACEMENT COST, SF \$1,806,700	ASSESSED VALUE \$811,600

SUMMARY

STRUCTURE

Slab-on-grade, second floor concrete beams and insulated metal deck. Concrete plank deck on second floor. Wood roof deck.

EXTERIOR VERTICAL ENCLOSURE

Brick veneer. Single paned aluminum windows, metal exterior doors.

ROOF AND RAINWATER MANAGEMENT

EPDM roof replaced 1997. Mechanically fastened rigid insulation on GWB, fully adhered EPDM membrane. Roof drains on roof.

VERTICAL CIRCULATION AND CONVEYING

Wood stair and handrails. Does not appear to be properly enclosed as an egress stair.

INTERIORS AND FINISHES

Mainly painted CMU walls, some areas with wood paneling. ACT ceilings, VCT floors.

PLUMBING

Water Service: 2" Water Service

Utilities: The water service is connected to a centralized water system for the town. The sanitary waste system is connected to a septic system located on site. All utilities appear to be original to the building and appear to be past their useful life.

Water Heating Systems: This system comprises of a 50 Gallon Storage, Natural Gas Fired, 40,000 BTU Water Heater. This heater was installed in 2009 and is good working condition.

Plumbing Fixtures: All plumbing fixtures appear to be original to the building and nearing the end of their useful life.

Piping System: The supply piping that was observed was copper. The drainage piping that was observed was cast

iron. All piping appears to be original to the building and nearing the end of its useful life.

HVAC

Heating System: This system comprises of a Natural Gas Boiler, Boilers are atmospheric. The boilers are piped with a circulator pumps to distribute the heating water throughout the building. This system appears to be original to the building and nearing the end of its useful life

Piping System: Heating Hot Water piping is a combination of Steel and Copper, this piping appears to be original to the building and in good condition. All piping appears to be original to the building nearing the end of its useful life.

Cooling System: Cooling is achieved on the second floor community room via a wall mounted Ductless Split cooling system. This system appears to be in good working condition.

Ventilation System: Ventilation is achieved via windows though natural ventilation.

Ductwork System: N/A

FIRE PROTECTION

There are no Fire Protection Systems in the building.

ELECTRICAL

Electrical Service:

120/240Volt- 1Phase - 3Wire - 200Amp

Electrical Distribution:

- Direct metered
- Circuit Breaker type Panelboards
- Power distribution - 15A and 20A duplex receptacles.
- Wiring - combination of conduit (EMT)/wiring and Metal-clad cabling.

Emergency Generator:

- Manufacturer - Kohler
- Fuel Source - Diesel
- Size - 60Kw -120/240volt
- Single 200Amp Automatic Transfer Switch
- Annunciator located on second floor common room.

Interior Lighting:

- Truck Bay Area - 1x8 enclosed and gasketed wraparound fluorescent luminaires with (4) T8 Fluorescent lamps.
- Common areas - 1x4 wraparound fluorescent luminaires with (2) T8 Fluorescent lamps.
- Emergency - Dual Head battery units.
- Exit Signs - Thermoplastic LED - White with Red letters.

Exterior Lighting:

- Parking Area - Pole mounted HID flood lights
- Building mounted HID wall packs

Lighting Controls:

- Standard toggle switches
- Exterior lighting is controlled via time clock.

Fire Detection:

- Single station smoke detectors in common areas.
- Wired Alarm Master Box.

Security System:

- none is present

ACCESSIBILITY

PRIORITY 1 \$370,413

D3020 Heating Systems \$235,455

D3030 Cooling Systems \$134,958

PRIORITY 2 \$126,362

A4010 Standard Slabs-on-Grade \$9,000

B3010 Roofing \$51,488

C1090 Interior Specialties \$575

C2010 Wall Finishes \$14,196

D2010 Domestic Water Distribution \$0

D5020 Electrical Service and Distribution \$7,485

D5030 General Purpose Electrical Power \$26,584

D5040 Lighting \$3,872

D5040 Lighting \$1,807

D7050 Detection and Alarm \$11,356

PRIORITY 3 \$188,519

B2050 Exterior Doors and Grilles \$17,750

C1030 Interior Doors \$24,520

C1070 Suspended Ceiling Construction \$41,834

C2030 Flooring \$45,052

D2010 Domestic Water Distribution \$0

D5010 Facility Power Generation \$5,162

D5020 Electrical Service and Distribution \$7,743

D5040 Lighting \$46,458

ITEMS REQUIRING FURTHER STUDY

B1080.60 Fire Escapes: In use as egress

B2020.10 Exterior Operating Windows: Sustainability issues evident

B1080 Stairs: All or portion of stair shaft not in a rated rated assembly.



WINDSOR BUILDING

18 Windsor Avenue
Acton, MA
Plat F2A, Lot 135

ZONE VR	CONSTRUCTION TYPE Wood
CURRENT USAGE Storage / Sales	GROSS AREA, SF 3,988
YEAR BUILT 1903	ARCHITECT John S. Hoar
REPLACEMENT COST, SF \$997,000	ASSESSED VALUE \$407,700

SUMMARY

STRUCTURE

Rubble foundation, lally columns and timber framing, some beams are twisting and becoming unsupported from the lally column.

EXTERIOR VERTICAL ENCLOSURE

Wood siding, painted, single paned wood windows, wood doors, wood garage doors

ROOF AND RAINWATER MANAGEMENT

Asphalt roof replacement 2010. No rainwater management.

VERTICAL CIRCULATION AND CONVEYING

Residential winder stair serves basement and second floor. An exterior metal stair serves as a second egress from the second floor. Stair is not suitable for public use.

INTERIORS AND FINISHES

Unfinished concrete floor in basement and first floor, hardwood floor on first and second. Painted plaster walls throughout. ACT ceiling on first and second floor is beyond useful life.

PLUMBING

Water Service: ¾" Water Service

Utilities: The water service is connected to a centralized water system for the town. The sanitary waste system is connected to a septic system located on site. All utilities appear to be original to the building and appear to be past their useful life.

Water Heating Systems: There is Electric Water Heaters throughout the facility. These heaters appear to be old and appear to be past their useful life.

Plumbing Fixtures: All plumbing fixtures appear to be past their useful life.

Piping System: The supply piping that was observed was copper. The drainage piping that was observed was cast

iron. All piping appears to be past its useful life.

HVAC

Heating System: The building is heated through a Natural Gas Furnace located in the basement. This unit appears to be older and past its useful life.

Piping System: N/A

Cooling System: There are no cooling systems in the building.

Ventilation System: Ventilation is achieved through the Furnace located in the basement.

Ductwork System: All ductwork is sheet metal and appears to be in good condition.

FIRE PROTECTION

There are no Fire Protection Systems in the building.

ELECTRICAL

Electrical Service:

- Fed overhead from pole in street.
- Direct metered.
- 200Amp-1phase-3wire- 120/240volt.

Electrical Distribution:

- (1) 200Amp circuit breaker type panelboard
- General power - 15a and 20a duplex receptacles.
- Wiring - non metallic type wiring with metal back boxes.

Interior lighting:

- Surface mounted fluorescent strips and fluorescent lensed wraparound fixtures
- Porcelain socket in basement.
- Emergency Lighting - individual dual head battery units.
- Exit Signs - None were present.

Exterior Lighting:

- Wall mounted incandescent sconces.

Lighting Controls:

- single and three-way toggle switches.

Fire Alarm System:

- Zoned hardwired system. (ESL 1500 series)
- Exterior master box.
- Smoke Detectors.

ACCESSIBILITY

Designated parking and accessible route are not delineated.

PRIORITY 1 **\$27,916**

C2030 Flooring \$27,916

PRIORITY 2 **\$80,558**

C2010 Wall Finishes \$10,967

C2050 Ceiling Finishes \$27,916

D3020 Heating Systems \$0

D5020 Electrical Service and Distribution \$5,783

D5040 Lighting \$35,892

PRIORITY 3 **\$30,907**

D2010 Domestic Water Distribution \$0

D2010 Domestic Water Distribution \$0

D5020 Electrical Service and Distribution \$5,982

D5030 General Purpose Electrical Power \$20,538

D5040 Lighting \$2,991

D5040 Lighting \$1,396

PRIORITY 4 **\$6,000**

B2010.10 Exterior Wall Veneer \$6,000

ITEMS REQUIRING FURTHER STUDY

B1010.10 Floor Structural Frame: Column(s) structural issues evident

A2010 Walls for Subgrade Enclosures: Moisture issues evident

B1080 Stairs: Egress stair appears non-compliant with current regulatory standards due to width, winders, riser height and /or tread depth..



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