

Preliminary Building Code Review and Structural Assessment
of the
Greensboro Town Hall
Greensboro, Vermont



Barrett Architecture, PC with Schaal Engineering. PC
July 8, 2026



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As a convenience to the reader, this report is presented in three (3) parts as follows:

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Part I
Preliminary Building Code Review
of the
Greensboro Town Hall
Greensboro, Vermont

Project Location.

81 Lauredon Avenue.
Greensboro, Vermont.
Tax Map Parcel ID #406-0081.
Map ID # 23213000.

Owner of Record.

Town of Greensboro
P. O. Box 119
Greensboro, VT 05841

Project Scope.

This report was commissioned by the Greensboro Selectboard (SB) during their regularly scheduled meeting held on April 8, 2026. The scope of this report is to provide the SB with a preliminary building code and structural analysis of the existing Greensboro Town Hall (GTH) as it presently exists and make recommendations for its continued use.

This report, while it will be in one document prepared by the Architect, will be in fact two sub-reports compiled by the following individuals:

- Frank J. Barrett, Jr., A.I.A., Architect.
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Applicable Codes and Standards.

The Greensboro Town Hall (GTH) is considered a “public building” not only because it is owned by a public entity, the Town of Greensboro, but also because its use supports municipal services for the Greensboro community and the general public. Therefore this existing public building comes under the jurisdiction of the Vermont 2025 Fire & Building Safety Code (“the Code”), effective date November 4, 2025. This code is applicable throughout the State of Vermont and is administered by the Vermont Department of

Public Safety; Division of Fire Safety, more commonly known as the “Fire Marshal’s Office”. Although the Town of Greensboro is not at this time proposing to make any alterations, additions, or change of use(s) to the building or the site upon which the building is situated, the following codes do potentially apply and are used as a basis of this report:

- NFPA 101 Life Safety Code, 2021 Edition, with state amendments.
- NFPA 1 Fire Code, 2021 Edition, with state amendments.
- International Building Code (IBC), 2021 Edition, with state amendments.
- International Existing Building Code (IEBC), 2021 Edition.
- Vermont Access Rules and 2012 ADA Standards for Accessible Design.
- NFPA 70, National Electrical Code, 2017 Edition.
- International Plumbing Code, 2018 Standards.
- NFPA 914 Code for Fire Protection of Historic Structures, 2010 Edition.

Abbreviations.

- IBC = International Building Code.
- IEBC = International Existing Building Code.
- NFPA 101 =NFPA 101 Life Safety Code.
- NFPA 1 = NFPA 1 Fire Code.
- NFPA 220 = NFPA 220 Standard on Type of Construction.

Existing Building Use.

The existing building was constructed in 1913 by the Town of Greensboro as a public school; and up until the early 1980’s it remained as such with only minor modifications to the original building. The existing building has three (3) levels, and when designed and constructed in 1913 it functioned as:

1. **The Lower Level:** Classroom, storage, and administrative space.
2. **The Main Level:** Four (4) classrooms, central hall, interior stair, and toilet rooms.
3. **The Upper Level:** Auditorium / gymnasium space with a stage and several side rooms.

About 1984 when the school vacated the building and moved into a new facility, the town took over the building for municipal office and community use, and has been using the building as follows:

1. **The Lower Level:**

Town Clerks office, records storage, and workspace related to the Town Clerk functions and uses, lavatory, and mechanical space.

2. **The Main Level:**

The four (4) existing classrooms are currently used as follows:

- One is a public meeting room for boards and commissions use.
- One is used by the “Giving Closet”, a town sponsored free thrift store for clothing, books, and the like.

- The remaining two (2) former classrooms are utilized as (1) town administrative office space and (2) as an office for the local newspaper.

3. The Upper Level:

The existing auditorium / gymnasium and stage space has remained unaltered from when the building was last used as a school, and is occasionally used for those same functions, although admittedly only lightly in recent years.

Since the Town acquired the building from the school district, it has never been intended that the use of the upper level be abandoned. There are rumors that at some point, many years ago, that because of building and fire code reasons, the building was condemned. Even many years ago, condemnation of a building or portions thereof was a specific regulatory process. There is no record of the building ever having been officially condemned.

Therefore, this writer finds that presently the building uses, as per IBC Chapter 3 *Occupancy Classification and Use*, and NFPA 101 Chapter 6 *Classification of Occupancy and Hazard of Contents*, as follows:

IBC:

- Section 304 Business Group B (civic administration).
- Section 303 Assembly Group A; sub-section 303.4 Assembly Group A-3 (community halls, dance halls with no alcohol, gymnasiums, lecture halls, exhibition halls).

NFPA 101:

- Chapter 39 Existing Business Occupancies.
- Chapter 13 Existing Assembly Occupancies.

Furthermore, NFPA 101 Chapter 3 Definitions states the following:

Business Occupancy. An occupancy used for the transaction of business other than Mercantile (Section 3.3.198.4).

Assembly Occupancy. An occupancy used for gathering of 50 or more persons for deliberation, worship, entertainment, eating, drinking, awaiting transportation, or similar uses (Section 3.3.198.2).

Incidental Uses as per IBC Table 509.1.

There are no existing *Incidental Uses* as per IBC Table 509.1.

Accessory Uses.

On the main level of the building one of the former four classrooms is presently used by the Town of Greensboro for its “Giving Closet” program, where items, primarily clothing, are donated by townspeople and then given for free by the Town to needy persons. No

money is exchanged and the operation is run by volunteers on a part-time, intermittent basis, under the direction of the Select Board and / or Town Clerk. The question therefore is: Does the Giving Closet constitute a use, other than the municipal "Business" Use, as noted above?

The IBC addresses accessory uses as "Accessory Occupancies" (Section 508.2), and states:

"Accessory occupancies are those occupancies that are ancillary to the main occupancy of the building or portion thereof."

Furthermore, Section 311.1.1 states that *"A room or space used for storage purposes that is accessory to another occupancy shall be classified as part of that occupancy."* Therefore, because this unique municipal service is only available on a limited basis, it is this writer's opinion that the *Giving Closet* is an integral part of the municipal / business use on the remainder of the lower and main level of the building. It is not, as per the code, a separate Mercantile Group M "retail" type use. Rather, it is a municipal service. Were it to be spun off and privatized, then that would be a significant change of classification.

Risk Category as per IBC Table 1604.5.

- As per IBC Table 1604.5 the risk category for this existing building is IV "Designated emergency preparedness, communications and operations centers and other facilities required for emergency response."
- If the above is not the case, and the Greensboro Fire Station serves this purpose, then the risk category is III, largely because of the upper-level assembly use.
- Were the building to be used only for municipal offices, which is a business use, with no assembly use, then the risk category is only II.

Flood Hazard Risk.

- There are no flood hazard issues or concerns.

Special Detailed Requirements Based on Occupancy as per IBC Chapter 4.

- There are no special detailed requirements based on occupancy as per IBC chapter 4.

Building Area.

- Lower Level: 3,830 gross square feet.
- Main Level: 3,782 gross square feet.
- Upper level: 3,830 gross square feet.

Building Construction Type Classification.

- IBC Table 601 = Type VB (combustible / unprotected).
- NFPA 220 = V-000 (combustible / unprotected).

Is the Building Equipped with an Automatic Sprinkler System?

No.

General Building Heights and Areas.

Because the building has two (2) distinct uses, a “B” Business and an “A-3” Assembly use, for the building height and area analysis, it will be considered for each use separately, as not being sprinklered.

- Allowable Building Height in Feet Above Grade Plane, IBC Table 504.3:
 - Business “B” Occupancy, not sprinklered = 40-feet.
 - Assembly “A-3” Occupancy, not sprinklered = 40-feet.

- Allowable Number of Stories Above Grade Plane, IBC Table 504.4:
 - Business “B” Occupancy, not sprinklered = 2 stories.
 - Assembly “A-3” Occupancy, not sprinklered = 1 story.

- Allowable Area Factor, IBC Table 506.2:
 - Business “B” Occupancy, not sprinklered = 9,000 square feet.
 - Assembly “A-3” Occupancy, not sprinklered = 6,000 square feet.

Sprinkler Requirements.

The question concerning the need for an automatic sprinkler system to be installed within a building, or not, depends upon several contributing factors: building construction type; use of the building; the floor area of each story; and the number of stories above the exterior finish grade around the building. In this specific case, determining as per the building code the number of stories in relationship to the finish grade is critical.

IBC Chapter 2 *Definitions* defines Story Above Grade Plane as follows:

“Any story having its finished floor surface entirely above the grade plane, or in which the finished surface of the floor next above is:

1. More than 6 feet above the *grade plane*; or
2. More than 12 feet above the finished ground level at any point.”

And IBC defines a grade plane is defined as:

“A reference plane representing the average of finish grade level adjoining the building at *exterior walls*. Where the finish ground level slopes away from the *exterior walls*, the reference plane shall be established by the lowest points within the area between the building and the *lot line* or, where the *lot line* is more than 6 feet from the building, between the building and a point 6 feet from the building.”

NFPA 101 Chapter 3 *Definitions* defines Grade Plane as:

“A reference plane upon which vertical measurements are based representing the average of the finish ground level adjoining the building at all exterior walls.”

NFPA defines the First Story Above Grade Plane as:

“Any story having its finished floor surface entirely above grade plane, except that a basement is to be considered as a first story above grade plane where the finished surface of the floor above the basement is (1) more than 6 ft above grade plane or (2) more than 12 ft above the ground level at any point.”

Based upon the above definitions, and given the existing building configuration, it is clear that the building is two (2) stories in height with a walkout basement floor level. Therefore, it will be noted that as per IBC Table 504.4 Allowable Number of Stories Above Grade Plane, if the building were being constructed in 2026, instead of 1913, with the second-floor assembly area, the building code would require that the entire building be equipped with an NFPA Type 13 automatic sprinkler system. However, NFPA 101 Chapter 13 Existing Assembly Occupancies; Table 13.1.6 Construction Type Limitations, allows a two-story building with a second-floor assembly use providing that the assembly use has no more than a 300-person occupant load. This same requirement would apply were this a new building constructed in 2026. More about this will be said below.

Present Building Occupant Load.

Based upon the above analysis and data, the existing building has two (2) uses: “B” Business and “A-3” Assembly. Therefore, the occupant load factors of the existing building are as per IBC Table 1004.5 *Maximum Floor Area Allowances Per Occupant*:

- Business occupant load factors are based upon one (1) person per 150 gross square feet.
- Assembly occupancy loads factors are based upon the following (without fixed seats):
 - Concentrated (chairs only-not fixed) = one person per 7 net square feet.
 - Standing space = one person per 5 net square feet.
 - Unconcentrated (tables and chairs) = one person per 15 net square feet.
- Gross area = the applicable building footprint; and net area = the actual usable floor area of the applicable space.

The potential maximum occupant load factors for the existing building are as follows:

- Lower-Level Business Occupancy = 3,830 gross square feet / 150 = 26 persons.
- Main-Level Business Occupancy = 3,792 gross square feet / 150 = 25 persons.
- Upper-Level Assembly Occupancy:
 - Stage Area = 483 net square feet / 15 = 32 persons.
 - Auditorium Area = 2,462 net square feet.

- Concentrated (chairs only) = 351 persons.
- Standing = 492 persons.
- Unconcentrated (tables and chairs) = 164 persons.

Based upon the above analysis, theoretically the existing upper level of the building could by the terms of the adopted building code have a maximum occupant load of 524 persons.

At this time, the northwesterly former classroom on the Main Level is being used as a meeting room within a Business Occupancy. It is important that the room maintains a maximum occupant load of no more than 49 persons. 50 or more persons changes this space into an A-3 Assembly use (IBC Section 303.1).

Building Egress.

Based upon the fact that the building is not equipped with an automatic sprinkler system, the following applies:

- **Maximum Travel Distance to an Exit:**
 - IBC Table 1017.2 = 200 feet for both uses.
 - NFPA Section 13.2.6.2 = 200-feet.
- **Maximum Common Path of Travel:**
 - IBC Table 1006.2.1 = 75 feet for both uses.
 - NFPA Section 13.2.5.2 = 75-feet.
- **Corridors:**
 - Fire Rating IBC Section 1020.2 = 1 hour for both uses.
 - Dead End Distance:
 - IBC Section 1020.5 = 20 feet maximum for both uses.
 - NFPA Section 13.2.5.3 = 20-feet.
 - Minimum Corridor Width IBC Table 1020.3 = 44-inches.
- **Number of Exits:**
 - IBC Table 1006.3.3 = two (2) exits.
 - NFPA Section 13.2.4.2 (600 or fewer occupants) = two (2) exits.

The Existing Upper Floor Level Fire Escape and the Number of Exits.

Presently there exists a steel fabricated, covered, exterior fire escape, located on the back side of the building that leads from the upper floor level to the finish grade. It is important to note the following concerning this existing emergency egress component.

1. Typically the traditional “fire escape” of days past is no longer allowed by building codes unless they are approved existing fire escape stairs (NFPA 101 Section 7.2.8.1.1). As will be explained below, because this existing stair is not compliant

with current building and fire code requirements, they are not approved. And the building code does not acknowledge the term “Grandfathered”.

2. Furthermore, NFPA 101 Section 7.2.8.1.2 does not permit a fire escape to be considered as a required means of egress from a building or space therein.
3. And NFPA 101 Section 7.2.8.1.2.2 only permit new fire escapes when approved by the Authority Having Jurisdiction (AHJ).
4. The present condition of the existing fire escape is in need of addition, as discussed within Part II structural evaluation of this report. Otherwise, as per the requirements the adopted building and fire codes the stair does not meet these minimal standards:
 - a. Minimum width: Required = 3'-8" minimum; existing = 2'-9".
 - b. Minimum tread width: Required = 11-inches; existing = 9 ½ - inches.
 - c. The railing height is acceptable however; the type and configuration of the railings are not code compliant.
 - d. The code allows a maximum riser height = 7-inches; existing = 7-inches.

Given the use and potential occupant load of the upper floor level the building code clearly requires two (2) exits from this floor of the building; and a fire escape such as presently exists on the building is not acceptable.

Accessibility.

On July 26, 1990, the Americans with Disabilities Act (“ADA”) became law throughout the entire country. By 2000 States were beginning to adopt a new building code known as the International Building Code (“IBC”), and in the mid-2000’s Vermont followed suite. An integral part of the new IBC was the inclusion of the building accessibility standards as contained within the ADA.

Because the ADA was and is the “law of the land”, so to say, regardless of whether or not the states adopted the new IBC or not, and the fact that the ADA was both a building code and civil rights law, the expectation was that publicly owned buildings would become compliant with the accessibility standards contained within the ADA. And for publicly owned “governmental” buildings, this requirement was not based on the question if other construction work was being done on existing building or not.

IBC Chapter 11 *Accessibility*; Section 1104.4 *Multistory Buildings and Facilities* have an exception for accessibility compliance if the floor has an aggregate area that is not more than 3,000 square feet; however, this does exception does not ably to government buildings. Other applicable accessibility code requirements are the number of accessible public entrances into the building. IBC Section 1105 *Accessible Entrances* requires that at least 60-percent of all public entrances shall be accessible. At this time this code requirement is being met.

Now, 36 years after the passage of the ADA, the Greensboro Town Hall facility is only partially compliant with the law. Certainly the lower and first floor levels are, but the upper level is not. This is a potential liability issue for the Town of Greensboro were any

use to be made of the upper floor area of the building. As will be further discussed under the section of this report titled "Recommendations", installing a chair lift within the existing interior stair is not an option.

The accessibility related deficiencies noted are:

1. Non-compliant handrails on the existing exterior entrance ramp.
2. The existing toilet room on the main level of the building that is designated as being accessible does not meet the required minimal dimensional standards. As presently configured the room is 5'-4" wide at the plumbing wall and needs to be 7'-1". This allows proper wheelchair turning and transfer space. The depth of the room exceeds the minimum requirement of 6'-11".
3. Full accessibility to the upper level by way of a lift or elevator.

Minimum Number of Plumbing Fixtures.

An integral part of the building code has to do with the number of required plumbing fixtures. Typically within an existing building, unless there is work taking place that either alters or adds space to the building, or changes its use, this is not a factor of concern. However, given the scope of this report, and the potential planning purposes that this report might be used for, the writer believes that it is important to touch upon this subject. And it is important to the discussion of building accessibility.

The *2021 International Plumbing Code*, as adopted and part of the overall state building code, dictates such matters. Chapter 4, Table 403 *Minimum Required Number of Plumbing Fixtures*, requires the following:

- Based upon the Business occupant load of 51 persons, a single male toilet room is required with one (1) water closet and one (1) lavatory; and the same is required for female occupants. And both of these toilet rooms can be uni-sex if properly indicated by appropriate signage.
- The Assembly use is not so clearly defined because the occupant load is more variable and theoretically could be as high as 524 persons. Suffice to say, the existing building does not presently have an adequate number of plumbing fixtures to satisfy the requirements of the code to support an Assembly use. However, more will be said about this below under Conclusions and Recommendations.
- And as noted above, there is the requirement for the building to have, as a minimum, one (1) accessible unisex toilet room with a single accessible water closet and a single accessible lavatory.

Other.

The suggestion of an energy audit of the building be undertaken at this time as part of this review of the building. That suggestion is beyond the scope of this report; however, the suggestion is indeed an excellent idea; and therefore, there are several things to keep in mind:

1. Concerning a public building such as this, a through energy audit is a specialized task that is generally beyond services provided by an architect.
2. It can readily be done independent of and following after this report.
3. Assuming that the Town of Greensboro chooses to undertake future improvements and upgrades to the existing building, an energy audit will be an important piece of information concerning the increase in the amount of insulation within the attic space that might be contemplated. This might have a significant impact on the existing roof structure and upgrades concerning it.

End of Building Code Review.

Part II
Preliminary Structural Evaluation
of the
Greensboro Town Hall
Greensboro, Vermont

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June 30, 2026

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281 The Bend Road
Greensboro, Vermont

**Subject: Greensboro Town Hall - Report of Preliminary Structural Evaluation
81 Lauredon Avenue, Greensboro, Vermont**

Dear Mr. Barrett:

In accordance with our discussions with Greensboro Selectboard, this letter report follows my May 21, 2026 site visit to the Greensboro Town Hall and is to serve as a preliminary structural evaluation to assess the overall structural condition of this building. Please note that this report is intended to convey the findings of observations which included very limited removal of the existing stamped tin and bead-board ceiling in two select locations and therefore was limited by what was able to be seen through these observation holes and from the attic. As such, although I have striven to make this evaluation as thorough as practical, by stating my observations and opinions herein, in no way does this report certify or imply that all deficiencies have been uncovered.

There will be numerous references to the "Code" in the report. For structural purposes, the referenced model building code is the 2021 International Building Code and/or International Existing Building Code (IEBC), as currently adopted into the 2025 Vermont Fire and Building Safety Code.

For the purposes of this report, the side of the building which faces Lauredon Avenue is considered the EAST side of the building and the side along Craftsbury Road is considered the WEST side.

The following is my report:

SUMMARY OF OBSERVATIONS

Note: See Pages 5 and 6 a Typical Building Section and Schematic Roof Framing Plan

The Greensboro Town Hall is an approximately 55'x72', three-story building with a hip roof, constructed circa 1913 as an elementary school, and which was reportedly renovated circa 1983. The building is currently utilized at the Town Offices on the basement level, offices, retail (thrift store), and meeting space on the second floor, and a gymnasium and stage on the third floor.

Based upon the 2018 architectural plans prepared by William Gallup Architecture and Planning, LLC, though numerous interior partitions appear to have been added at the basement level, the basic structural layout for the building remains as originally constructed. The building is structured as follows:

- 8" concrete basement foundation walls around the perimeter, presumably constructed during the circa 1983 renovations, and concrete slab-on-grade basement floor
- 3½" and 4" diameter steel posts at the second floor and basement.
- 8"x8" heavy-timber beams spanning 7-12 feet and bearing on top of the steel posts
- 2"x8" floor joists spanning 8-10 feet and bearing on top of the 8"x8" beams
- Heavy-timber & steel rod roof trusses spaced at approximately 10 feet on center and clear-spanning the 55' width of the building.
- Single 2"x8" purlins providing mid-span support to the main rafters
- 2"x8" rafters spaced at 24" on center, spanning from eaves to ridge and hip, with no splice at purlins

As stated previously, structural observations were limited by the presence of finishes and the fact that the basement and second floor levels were occupied. Observations were conducted in the attic to the extent practical given the limitations of walking on the attic ceiling joists and roof truss members, and the presence of cellulose insulation. Based upon these limited observations, there were no indications of structural damage, rot, or insect damage, and no signs of significant building settlement. It is noteworthy though that the stamped-tin ceilings and walls are very forgiving to building movement as compared to lath & plaster finishes which show signs of building movement by cracking.

SUMMARY OF STRUCTURAL ANALYSIS

In accordance with the 2021 International Building Code and its referenced standard, ASCE 7-16, Minimum Design Loads for Buildings and Other Structures, the following are the **required Floor Live Loads** for new structures:

Floor Live Loads

Assembly & theatres.....	60 pounds per square foot (psf) for fixed seats 100 psf for moveable seats 150 psf for stage floors
Business Offices.....	50 psf for offices 100 psf in corridors
Retail	100 psf on 1 st floor / 75 psf on upper floors
Recreational.....	75 psf for bowling alleys, pool rooms, and sim. uses 100 psf for gymnasiums, dance halls and ballrooms
Attics (not accessed by stairs or used for storage)	10 psf

The Code prescribed sloped-roof **Snow Load is 28 psf**: This is based upon the 60 psf “Ground Snow Load” for Greensboro, a Thermal Factor of 1.0 for a heated structure, Importance Factor of 1.1 for a Risk Category III Building, and Exposure Factor of 1.0. With a roof pitch of approximately 7.5:12 “unbalanced snow loads” are NOT required to be checked. Unbalanced snow loads are a Code required loading condition that assumes that snow from one side of the roof blows and accumulates on the opposite side of the roof, and is required for gable and hip roofs with a pitch (slope) of less than 7:12.

The Roof Dead Load (weight of building materials) is approximately 17 psf; 8 psf on the rafters and 9 psf at the attic ceiling.

The Floor Dead Load is approximately 10 to 12 psf.

Using reasonable assumptions for timber species and grades, the following **Roof Snow Load and Floor Live Load Capacities were calculated**:

Basement Level:	Greater than 250 psf for the concrete slab-on-grade floor
Second Floor:	85-125 psf for 2”x8” joists, varies by span, 35-120 psf for 8”x8” beams, varies by span and spacing;
Third Floor:	85-125 psf, for typical 2”x8” joists varies by span 65-70 psf for 2”x8” joists under the Stage +300 psf for 2”x8” Stage floor joists 35-120 psf for typical 8”x8” beams, varies by span and spacing 30-110 psf for 8”x8” beams under the Stage
2”x4” Attic Joists:	14 psf

Roof: Rafters: Less than 5 psf, with or without purlin supports
 Purlins: Less than 5 psf
 Main Trusses: Less than 5 psf, limited by both the 6"x6" top & bottom chords

Upper Floor Fire Escape:

The fire escape appears to be part of the original building and is constructed with riveted steel angles and flat plate "bar-stock," both of relatively small size; L1¼"x1¼" x 3/16" angles and 1¼"x 3/16" plate for the main structure and L1½"x1½" x 3/16" angles for the stair treads. The steel angles and bar-stock were fabricated in a manner to create a simple truss on each side of the stair which form both the stair "stringers" and railing assembly. These stair stringer "trusses" are supported on an at-grade concrete foundation, a mid-span post & beam assembly, and at a bracketed upper platform. See the photographs on Page 7.

The stairs rise approximately 14 feet to the upper floor with a 7"/10" step rise/run. The clear width between the hand rails is 33 ½" and the railing height is 34" above the stair "nose." The mid-span support is comprised of two 3" diameter steel posts and a 3"x3"x1/4" steel angle beam across the posts. The upper landing platform is of similar construction to the stairs, but is bracketed off from the building wall.

Though the structure appears to have been fairly well maintained by painting, it has numerous structural concerns:

- Splices of the stair stringer truss members at know "weak points."
- Obvious failures/buckling in the stair stringer truss
- When loaded in its weak axis (across the 3/16" dimension) the 1¼"x3/16" railing posts have an extremely low allowable load capacity of less than 25 pounds. The Code required loading is 200 pounds, applied in any direction at the top of the post.

Note: A detailed analysis of the stair stringer "truss" was outside of the scope of this preliminary structural evaluation. However, based upon observation and professional judgement, an analysis will likely show that the existing trusses are inadequate for the Code required 100 psf Live Load for Fire Escapes and Means of Egress.

Lateral Force (wind & seismic loads) Resistance System:

Evaluation of the existing lateral force (wind & seismic loads) resistance system for this building is outside of the scope of this preliminary structural evaluation. However, based upon the limited observations, this building relies upon a combination of interior and exterior walls, likely with horizontal board sheathing on the exterior walls, floors, and roofs, and board sheathing on the interior walls to resist the lateral loads. Under current Codes, these construction means have no quantifiable lateral load resistance. And with unknown anchorage to the concrete foundations, the building relies heavily upon its own mass for stability, with no real means of transferring lateral loads into the foundations.

The 2021 International Existing Building Code allows "that any existing lateral load carrying element whose demand-capacity ratio with the alteration considered is no more than 10% greater than its demand capacity ratio with the alteration ignored shall be permitted to remain unaltered." In other word, as long as there are no significant changes to the interior and exterior wall that impact the lateral force (wind & seismic) resistance the building is not required to meet the current Code for these loads.

CONCLUSIONS & RECOMMENDATIONS

Based upon observation of the building and the subsequent structural calculations, this building has performed adequately up to this point and exhibits few, if any, obvious signs of structural distress. Though some

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June 30, 2026

of the floor load capacities are much lower than required by today's Codes, none are considered "dangerously low." In my professional judgement, any structural member or element which has a load capacity that is less than half of that required by Code should be considered having a "dangerously low" load capacity. Though some of the 2nd floor framing elements that support the stage floor and gym have less than half of the Code prescribed Floor Live Load capacity, the occupancy can be easily managed to prevent over loading of the structure.

The roof structure however is of significant concern. Based upon past experience in evaluating and analyzing numerous historical buildings in Vermont and New Hampshire of similar size and type, the 6"x6" members used for the roof trusses are about half of the size of that observed in other similar roof structures. Given the calculated roof snow load capacities, it is unclear to how this roof has not had significant structural issues. It is likely due to the "factors of safety" inherent in the engineering analysis and calculations for allowable load capacities for timber framing, as well as snow melting and sliding from the roof snow before it becomes problematic.

A more comprehensive structural evaluation of the roof is recommended and should include thorough observation throughout the attic area to inspect the truss joinery, and the rafter and purlin conditions. This will require proper lighting, planked access throughout the attic area, and removal of insulation at the eaves and along the truss bottom chords. Once there has been a complete assessment of the conditions, an updated analyses and design of reinforcements can be completed.

Based upon past experience with similar roof systems, it is anticipated that the following will be required to achieve the Code required roof snow load capacity and maintain the clear span across the gymnasium:

- Reinforcement to the truss chords using engineered lumber or steel (plate or channels)
- Adding plywood or steel plate gussets at the truss joints
- Reinforcement to the 2"x8" hips and purlins using engineered lumber or steel (plate or channels)
- Sistering the 2"x8" rafters with engineered lumber, adding rafters mid-spacing of the existing, adding upper collar-ties, or some combination of these.
- Reinforcement to the 2"x8" hips from below and adding corner supports.

The roof should be closely monitored and snow removed as necessary until it roof has been further evaluated and reinforcements completed. And any future alteration to this building which would compromise the lateral force resistance systems by reducing the amount of original interior and exterior walls must be carefully evaluated.

This concludes my report. In the meantime, should you have any questions, or if I can be of any additional service, please do not hesitate to give me a call.

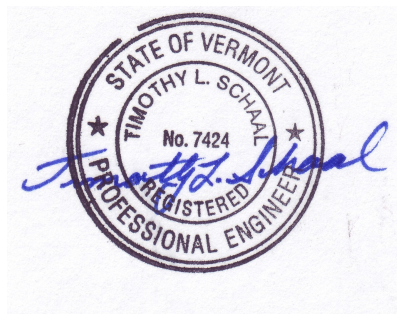
Respectfully Submitted,

Timothy L. Schaal (electronic signature)

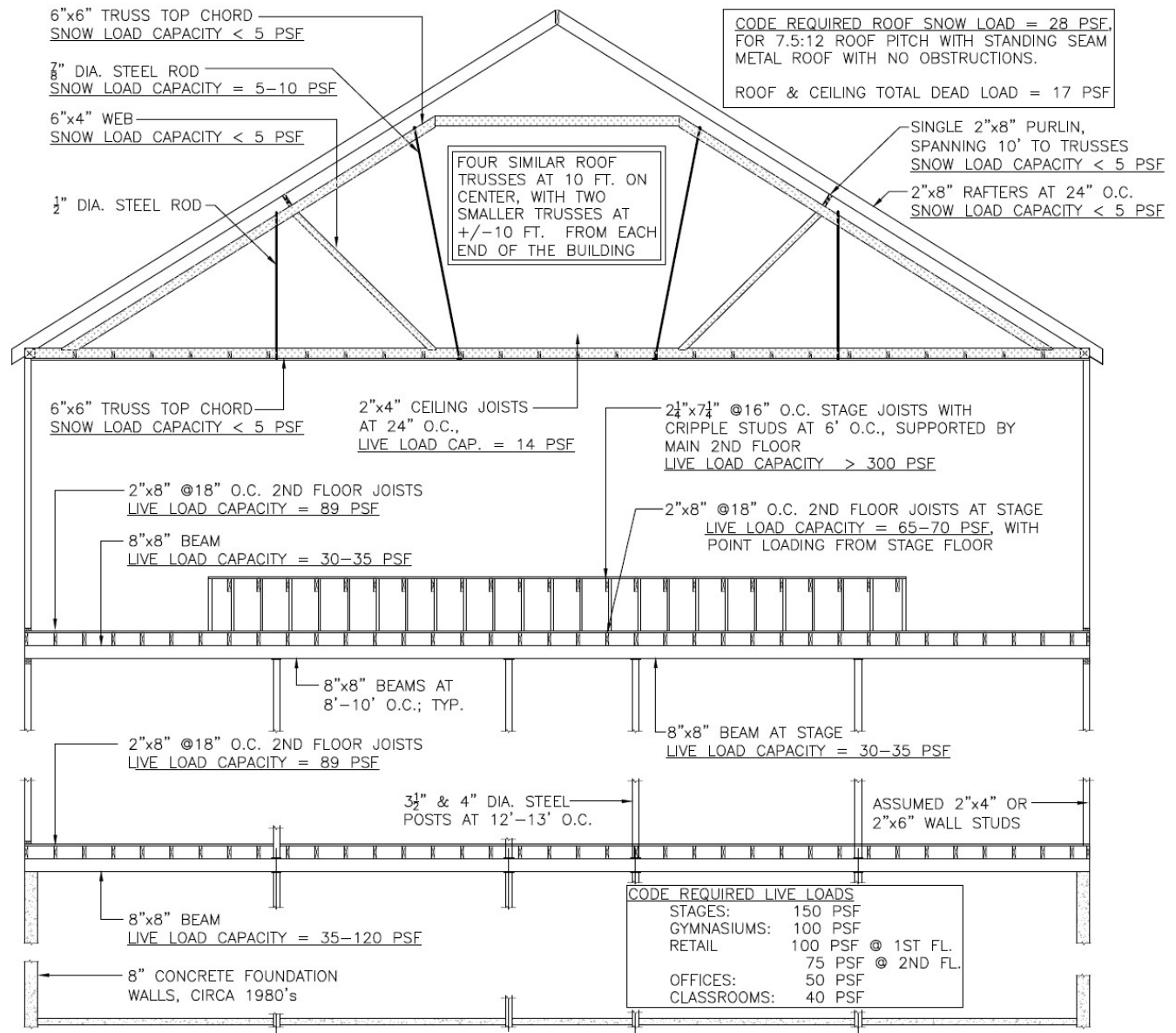
Timothy L. Schaal, P.E.

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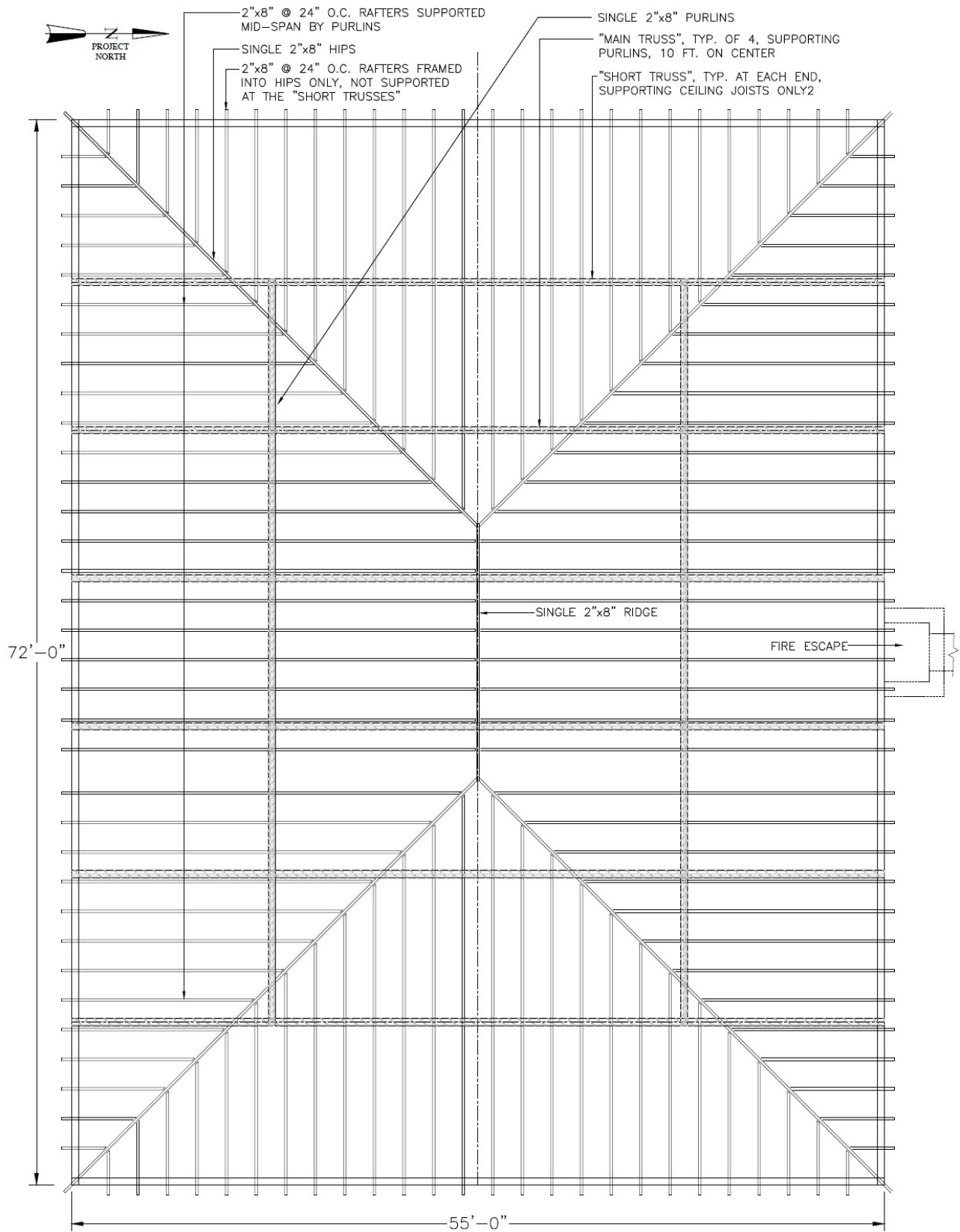
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Typical Building Section (Not To Scale)



Schematic Roof Framing Plan (Not To Scale)



Frank J. Barrett, Jr., A.I.A.
June 30, 2026

Roof Structure



Fire Escape



Buckled Stair Stringer/Truss

1 1/4" x 3/16" Bar-Stock Railing Posts

End of Part II Structural Evaluation.

Part III

Conclusions and Recommendations

for the

Greensboro Town Hall

Greensboro, Vermont

This preliminary building code & structural review report of the Greensboro Town Hall was authorized by the Greensboro Selectboard (SB) in response to past concerns expressed by the Vermont State Fire Marshal's office, and a group of citizens who are wanting to make use of the existing upper level of the building for playing pickle ball.

Frank J. Barrett, Jr. A.I.A., the author of this report, was authorized by the SB to prepare the report, including any necessary site verifications and investigations. In turn, Mr. Barrett hired a consulting structural engineer, Timothy L. Schaal, P.E., to make a preliminary structural investigation of the building, and provide a report of his initial findings. Mr. Schaal's report is an integral part of this document.

During Masseur Barrett and Schaal's investigative work use was made of an earlier accessibility and life safety report made to the town concerning this building by William Gallup Architecture and Planning, LLC, dated September 12, 2018. The Gallup document includes some well-prepared existing conditions floor plans and exterior elevations drawings of the existing building. However, at this time these drawings are only available in PDF format. The electronic drawing files are not available.

It is interesting to note that not only have masseurs Barrett and Schaal successfully worked together on a wide variety of projects over the past twenty-five or so years, but have worked closely on two (2) very similar projects:

1. Revitalization, stabilization, and restoration of the 1862 historic town hall in Bradford, New Hampshire; completed in 2023.
2. Revitalization, stabilization, and restoration of the historic 1915 town hall in Fairlee, Vermont; completed in 2019.

Both of these were, by necessity, phased projects, of historic buildings listed on the National Register of Historic Places. Both buildings are of very similar layout to the Greensboro Town Hall: First floor level administrative space with a second-floor large auditorium - assembly space including a stage. In the case of the Fairlee facility there is a third level balcony. Both of these buildings faced the same issues as will be discussed concerning the Greensboro facility.

In 2019 Barrett and Schaal did a very similar preliminary evaluation of the historic two-story town hall facility owned by the Town of Wentworth, New Hampshire. The Town of Wentworth has yet to move forward on the necessary work required to make this historic 1909 building usable once again. Over the course of Mr. Barrett's career as a practicing architect a large volume of his work has involved historic preservation projects, as well as adding numerous buildings and structures to the National Register of Historic Places, in both Vermont and New Hampshire.

In 2004 the Barrett office, with Mr. Schaal as the consulting structural engineer, designed a new town hall and police facility for the town of Grantham, New Hampshire.

1. Overall Building Assessment.

Generally speaking, considering the building's age and period of construction (1913), the overall condition of the building is in good order. Viewing the building from the exterior, the structure appears straight and plumb, with no visible sags or bowing out of walls suggesting spreading movement within the exterior shell of the structure. Likewise, viewed from the exterior, the roof appears to not have any sags or otherwise indications of movement or structural distress. Inside the building, all floor levels have a strong feel to them, with no noticeable pitching or spring-like characteristics that would indicate apparent structural inadequacies that have become manifest over the past one-hundred years of continuous use.

With this said, the Schaal structural report calls attention to the very important matter of the overall roof structure. As preliminarily mapped out on the attached Schaal drawing titled *Schematic Roof Framing Plan*, dated June 30, 2026, and further described by Mr. Schaal within the pages of his report, the existing, original, roof framing is unlike anything that, simply stated, either of us have ever seen before. And again, simply stated, the roof structure is, and has long been, noticeably under-framed. Does this mean that the roof is on the verge of failure and collapse, probably not. But, if the building is going to be in continuous in the years to come, this issue must be addressed. More will be further said of this below.

In the meantime, there is nothing in this writer's opinion that presents an immediate risk to the public, or otherwise urgently requires attention. However, with that said, very similar to the Fairlee and Bradford historic town hall facilities, the attention that the Greensboro Town Hall requires, broadly speaking, falls, in no specific order, under the categories of:

- Handi-cap accessibility.
- Fire egress safety.
- Structural repair and upgrading.
- Energy Conservation.

And, like these two past projects noted above, following some additional amount of study, at this time this writer believes that much of this work can be accomplished in phases; however, as to exactly how, that is beyond the scope of this preliminary report.

Assuming that the Greensboro community were to at this time tentatively make the collective decision to keep the existing town hall facility, and within reason invest in its longevity and

better utility, then this writer recommends a two-pronged approach to providing for the building's future: Immediate short-term steps and actions, and slightly longer-term actions. This is in part to allow at this time limited use of the upper floor level, as well as gathering the necessary momentum and where withal for the building's eventual necessary revitalization.

2. Immediate Short Term – by the end of 2027.

This report makes it clear that although this 113-year-old former school building does not meet all of the applicable codes and standards required were the building constructed in this day and age, it is still nonetheless a very good serviceable building in an acceptable state of condition. And over the years the town has invested in making the building suit the town's needs like the records vault and other office amenities in the lower level. The question is how to, at this time, make use of the upper floor in a manner that is permissible with the State Fire Marshals office, and provides for a reasonable level of safety.

1. Have this writer and the local fire chief, and other interested parties, meet with a representative of the Fire Marshal's office (FM) and review this report and its findings. This will establish a starting point, as it were, for then moving matters concerning the building forward with an established point of reference. It is important to move beyond the point of misinformation and false here say.
2. For the short term post the occupant load for the entire upper floor, including the stage and side room areas, for no more than 49 persons total occupant load. By doing this, the space is for the time being then classified as a Business Occupancy, as allowed by the building code.
3. Not only does this temporary posting greatly decrease the occupant load at both the third-floor level, but within the building whole as well, and therefor lowers the risk factor for the building, the occupants, and the Town of Greensboro (the building owner), while allowing modest and reasonable use of the third-floor space.
4. Contract with Mr. Schaal undertake two (2) tasks:
 - a) To make further, more specific and detailed investigations concerning the existing roof structure.
 - b) Based upon the above, to then prepare comprehensive construction drawings such that the necessary repair and reinforcing work can be properly permitted, priced, and contracted for.
 - c) Note that Mr. Barrett will donate his time and expertise to continue working with Mr. Schaal and the town of Greensboro.
5. Test all existing fire alarm equipment within the building, and add additional code compliant detection if deemed advisable by the local fire chief or the state FM. Also verify

that there is proper fire extinguishers located throughout the building. Both of these features should be as per applicable NFPA codes and standards.

6. Make necessary maintenance and repairs to the existing third floor steel fire escape to ensure its adequacy and safety in an emergency (see attached structural report).
7. Appoint a citizen working committee, with a single Select Board representative, tasked with the following:
 - a) Obtain from William Gallup Architecture and Planning, LLC the electronic drawing ("CAD") files that that office prepared as part of its 2018 report to the Town. If those drawing files cannot be had, then commission the existing building to be measured and drawings in electronic CAD formative be made by a licensed architect.
 - b) Determine with structural engineer Tim Schaal the next level of structural engineering evaluation and recommendations.
 - c) Retain the services of a qualified architectural historian work with the Vermont Division for Historic Preservation prepare the nomination for adding the building to the National Register of Historic Places.
 - d) Retain the services of a qualified architect licensed in the State of Vermont to prepare preliminary architectural plans to address the following:
 - a. Overall building accessibility to all three (3) levels of the current building as required by law.
 - b. Accessible plumbing fixtures as required by law.
 - c. A one (1) hour fire rated stair that properly exits the upper floor level.
 - e) Have a comprehensive energy audit of the entire building done, including evaluation of the current HVAC mechanical and electrical systems.
 - f) Establish a tentative timetable for accomplishing the work that long term needs to be undertaken and completed on the building.

As a resident of the Town of Greensboro, Mr. Barrett will be willing to serve on this committee as a concerned citizen, licensed architect, and historian.

The most important and over arching goal is to by the end of 2027 to have the roof repair and reinforcement work completed.

3. Longer Term – By the end of 2030.

In the long term, to make safe and legal use of the building, certain things need to be addressed in a coherent and thoughtful manner. Therefore, this writer recommends the following:

- A. Have the fore-mentioned citizens committee, with a representative from the SB, formulate a plan of improvements to the building, with cost analysis, and time schedule. Mr. Barrett is willing to work out an arrangement with the Town for gifting some amount of his time as the project architect licensed in the State of Vermont.**
- B. Examine potential funding sources, grant programs, and the like. Determine if there are potential advantages to listing the building on the National Register of Historic Places.**
- C. Prepare preliminary architectural plans showing proposed work to make the building compliant with applicable building, fire, and accessibility codes. Work with the FM's office should waivers be necessary.**

At this time this writer believes that in broad terms, as a minimum, the following areas of concern need to be addressed:

- 1. Overall building accessibility to all three (3) levels of the current building as required by law.**
- 2. Accessible plumbing fixtures as required by law.**
- 3. A one (1) hour fire rated stair that properly exits the upper floor level.**
- 4. Have a comprehensive energy audit of the entire building done, including HVAC mechanical and electrical systems.**

Should the Town of Greensboro commit to these two (2) schedules of tasks and goals, as outlined above, the end result will be to have a Town Hall facility that is safe, compliant with all applicable building and fire codes, fully usable by the Greensboro community and others, and a historic building that is the pride of the community.

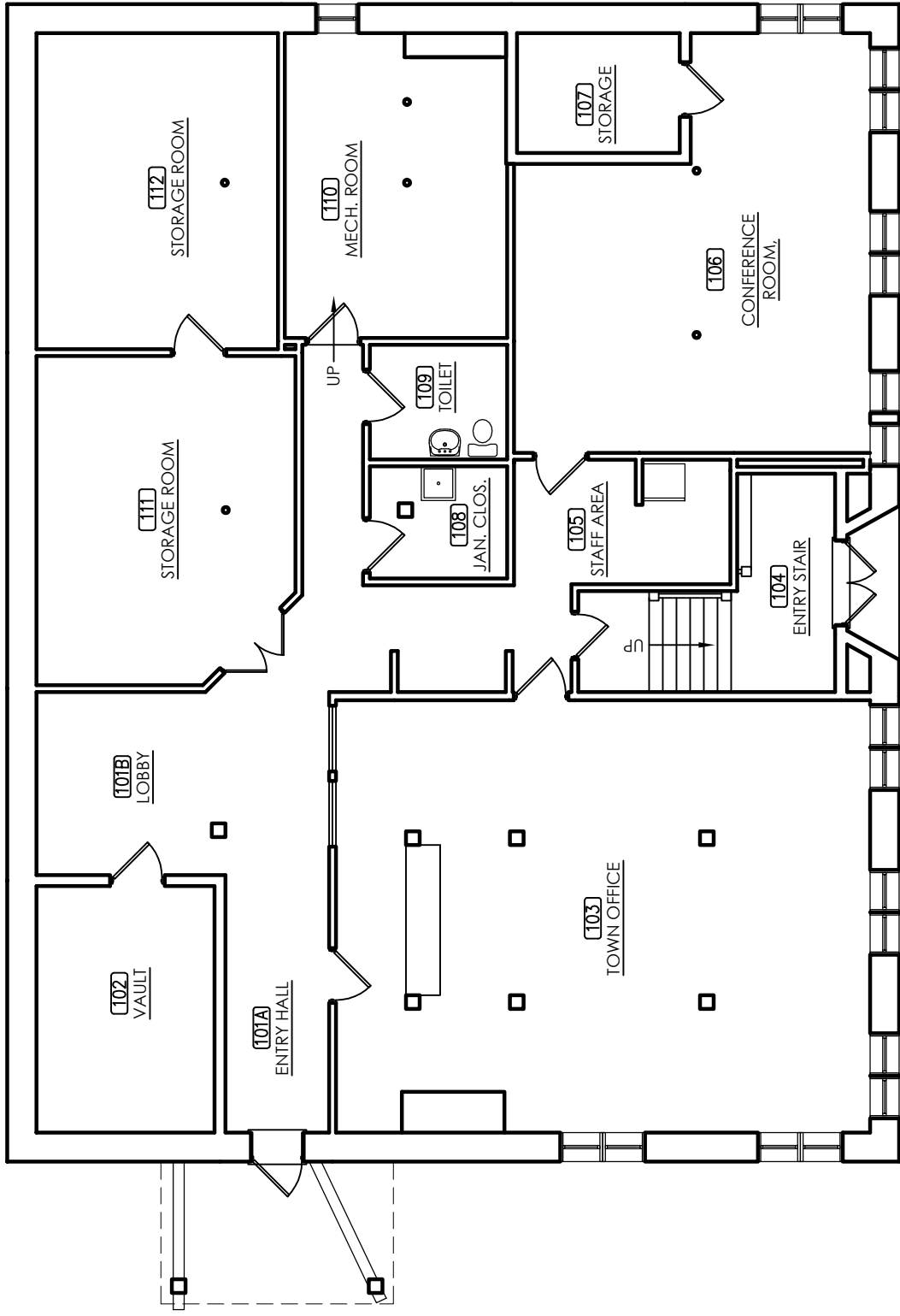
End of Part III Conclusions and Recommendations.

Frank J. Barrett, JR., A.I.A.

Architect
July 8, 2026

Appendix I
Existing Conditions Architectural Drawings
of the
Greensboro Town Hall
Greensboro, Vermont

NOTE: These seven (7) existing conditions drawings were originally prepared by William Gallup Architecture and Planning LLC as part of a building accessibility report, commissioned by the Town of Greensboro, Vermont, dated September 12, 2018.



3,830 SF



