VERMONT

STATE HOUSE PANDEMIC RENOVATION PROJECT

DEPARTMENT OF BUILDINGS & GENERAL SERVICES

August 7, 2023

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PROJECT BACKGROUND

First occupied in 1859, the Vermont State House is one of the most picturesque statehouses in the country. It is an exquisite example of Greek Revival architecture and is one of the oldest and best-preserved legislative buildings in the United States. Today, the State House stands virtually as completed 164 years ago. It includes many of the original furnishings and architectural details. In addition to being a working statehouse, it functions as a museum having the status of the third most visited site in Vermont and is one of the State's most cherished buildings.

For over 160 years the State House has managed to balance the need to preserve its historic integrity with the functional needs of modern government. Yet the many limitations of the existing State House were brought to light during the global COVID-19 pandemic, which began in March 2020. As configured, the State House could no longer carry out necessary government functions and also keep everyone safe and physically distant during the legislative session, which typically runs from January to late spring. Many meeting rooms, office spaces, and the two legislative chambers proved to be inadequate in both physical space and environmental controls (like adequate ventilation) for legislative functions to continue unimpaired. Teleconferencing allowed the Legislature to function and carry on duties during the pandemic. However, without the access to and interactions with each other, the public, lobbyists, and others, it was very difficult for them to collaborate as they have in the past.

In response, the General Assembly enacted with Section 56 (a). Act No. 83, per the 2022 Fiscal Bill, which states that the Department of Buildings and General Services (BGS) in collaboration with the Sergeant at Arms, are to develop a plan for the safe and efficient operation of the State House during any future pandemic. In accordance with this Act, the plan is to include, but not be limited to, House and Senate committee rooms and the cafeteria serving and seating areas. The plan must also provide appropriate spatial distancing and an accessible secure entrance. The full scope of work is outlined in Section 2 of the RFP issued by BGS on May 20, 2022, and is included here as Appendix A. Per the RFP, the primary objective was to ensure for a safer working environment and efficient operation of the State House, provide a secure accessible entrance to mitigate the impact of any future pandemics and allow Legislative functions to continue unimpaired.

BGS contracted with the architectural firm of Freeman French Freeman (FFF) to develop this plan because of their expertise in historic preservation and experience at the Vermont State House. Prior work at the State House includes three separate assessments: *State of Vermont State House Space Assessment* (January 15, 2020); *State of Vermont Legislative Space & Health & Safety Study* (August 19, 2020); *and State of Vermont Medium- and Long-Term Legislative*

Space Assessment, (April 15, 2021).[1] In addition to these studies, FFF is currently working on the State House HVAC Assessment and Implementation Project and several other minor renovations at the State House.

[1] Reports are available online via the following URLs:

State of Vermont State House Space Assessment (January 15, 2020). https://ljfo.vermont.gov/assets/Subjects/Capital-Bill/d94896532e/WJesse-BeckState-House-Space-Use-Assessment1-15-2020.pdf

State of Vermont Legislative Space & Health & Safety Study (August 19, 2020). https://ljfo.vermont.gov/assets/Subjects/Capital-Bill/d88066b8a6/WJesse-BeckFreeman-French-Freeman-Legislative-Space-Health-and-Safety-Study9-1-2020.pdf

State of Vermont Medium- and Long-Term Legislative Space Assessment, (April 15, 2021). https://ljfo.vermont.gov/assets/Subjects/2021-2022-Session-FY-2022-FY-2023/278fce5bd7/Legislative-Space-Assessment-Report_FFF_-4-26-2021.pdf

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1. EXECUTIVE SUMMARY

Funding for portions of this project is from the American Rescue Plan Act (ARPA), therefore the purpose of this report is to outline the steps required to allow the Vermont State House to operate safely and efficiently under pandemic conditions. Freeman French Freeman (FFF) has considerable experience at the State House, including three recent reports: *State of Vermont State House Space Assessment*, January 15, 2020; *State of Vermont Legislative Space & Health & Safety Study*, August 19, 2020; *and State of Vermont Medium- and Long-Term Legislative Space Assessment*, April 15, 2021. These reports are summarized in Section 2 and available online.

A. Process

This study began with a review of prior reports and existing information. FFF then conducted new interviews with building users and advocates to compare with previous interview responses, which were completed prior to the covid-19 pandemic. From this information we were able to establish space criteria for pandemic and non-pandemic operations.

A code review of existing conditions was also undertaken for the State House, which was used to determine the scope of work required for code-related upgrades.

Next, we evaluated the minimum space criteria required for committee rooms to operate under pandemic conditions, with some scenarios able to accommodate all committees within the State House.

Finally, we brought on an estimator to calculate conceptual opinions of probable cost under multiple scenarios and developed the report.

B. Findings Summary

Our analysis shows that the number of user groups desiring space within the building exceeds the spatial capacity of the existing State House. Programming calculations focus on meeting expansion goals for pandemic operations of the committee rooms as outlined in the project directive. The Sergeant at Arms established model committee operating standards that provide space for committee members plus one legislative staff, one legislative counsel, and three others (testifiers, witnesses, journalists, witnesses, etc.) for small committees in operation during a pandemic. For large committees the population count was established at two legislative staff, one legislative counsel and four others (testifiers, witnesses, journalists, witnesses, etc.) during pandemic operations (see Appendix B). Minimum space sizes are

established to allow committees to function, but do not allow for the typical amount of public interaction that occurs during normal operations. During normal operations the space standards would include pandemic social distancing recommendations so the allowed number of square feet per person could be reduced, which would allow more people from the public to attend the hearings in person.

Existing conditions at the State House fall short of current codes, (Vermont Fire and Safety Building Code which references the National Fire Protection Association Life Safety Code), and accessibility requirements and standards, (ADA Standards for Accessible Design). Thus, any renovations to existing conditions will require meeting current codes. The historic nature of the building could allow variances to be granted in certain instances. However, any planned alteration cannot make an existing condition less code compliant than it currently is. This study identifies these shortfalls, which represent a significant portion of the analyzed costs.

Our structural analysis of the 1980's cafeteria addition noted deficiencies in the existing structure. This means it cannot accept additional stories without significant structural upgrades. Expanding above the cafeteria addition is more expensive than building an addition adjacent to the existing building. Using the existing footprint of the cafeteria yields a limited number of committee rooms that meet the programming calculations. However, portions of the cafeteria space unsuitable for committee rooms is suitable for additional meeting and touch-down spaces.

Within the existing historic State House, a limited number of existing committee rooms could be reused for committees due to the larger committee room sizes required by the programming calculations. This is demonstrated in Appendix C.

Significant expansion of the cafeteria seating area is not feasible. However, having additional meeting rooms & touch-down spaces elsewhere should alleviate over-crowding in the cafeteria since it is often used as a meeting space.

During the pandemic, the Legislature appropriated and occupied multiple spaces within the capital campus in order to continue functioning. As all the required functions of the Legislature do not fit within the existing State House, an addition will be necessary in or to relinquish the appropriated spaces.

A key comment that was repeated by many interviewees was that the legislators work best when they can meet in person in the same building. The existing building does not have enough space for all the legislators to meet in person together based on meeting pandemic social

distancing requirements while still maintaining accessible committee rooms. FFF recommends at least some square footage be added to the State House if all committees are to remain on site using the parameters analyzed in this study. Moving forward to a design and construction project, a single direction and program from among these programming scenarios should be selected prior to proceeding with a detailed evaluation of specific room allocations and uses.

2. REVIEW OF PREVIOUS REPORTS

Freeman French Freeman recently completed three reports: *State of Vermont Medium- and Long-Term Legislative Space Assessment*, April 15, 2021; *State of Vermont Legislative Space & Health & Safety Study*, August 19, 2020; and *State of Vermont State House Space Assessment, January 15, 2020*. Summaries are provided here.

State of Vermont Medium- and Long-Term Legislative Space Assessment, April 15, 2021

This study focused on the medium- and long-term space needs for the State House given the changing nature of how the Legislative branch operated during the Covid-19 pandemic. The medium-term recommendation was to have only the legislators and staff return to the State House and then provide public access through technology or use larger spaces available in surrounding buildings for in-person participation. The long-term recommendations were intended provide adequate space for current needs as well as future growth. These are illustrated in a master plan that anticipates growth in staff and the need to co-locate staff in buildings either connected to or immediately adjacent to the State House. These recommended solutions would take approximately 3-10 years to construct and included the following:

1. An addition to the State House that creates more public spaces, larger committee and hearing rooms, and office space. Additional space will allow controlled public access for “off-session” and “in-session” periods while maintaining the historical integrity of the State House.
2. Significant upgrades to the mechanical systems, electrical systems, and indoor environmental controls (HVAC).
3. Long-term technology improvements.
4. Improvements in physical security requirements and policies.

State of Vermont Legislative Space & Health & Safety Study, August 19, 2020

This report contains recommendations for legislative space needs in light of COVID-19 best practices and includes both short and long-term options. It examines how the State House, buildings in the Capitol Complex, and buildings in the regional vicinity of Montpelier may meet the needs of the legislature for the 2021 legislative session as well as opportunities to mitigate the need to move the legislature to remote sessions in the future.

The short-term findings were that by using multiple state-owned or leased spaces around Montpelier, it would be possible to meet the capacity requirements of the House and the Senate—without spectators and with limited press presence—and avoid the need for renovations. The report findings indicated that utilizing the available space could accommodate

committee meetings in the short term. However, these rooms are scattered around Montpelier and Waterbury, and in at least 5 different buildings which makes this scenario very inconvenient and inefficient.

The longer-term finding was that the pandemic has shown that many legislative support staff can work either remotely or within the Capitol Complex, but separate from the Legislature, and maintain a high level of service. This scenario requires using other buildings such as 133 State Street. Existing spaces within other buildings in Montpelier, such as 133 State Street, can be reconfigured into committee rooms with minimal changes, though more extensive renovations will result in spaces that better fit the Legislature's needs.

State of Vermont State House Space Assessment, January 15, 2020

This assessment determined that spaces within the State House are over-crowded during the legislative session. Shifting select programs to other buildings within the Capitol Complex would alleviate some of the over-crowding and provide program spaces lacking in the historic State House. One Baldwin Street (the Pink Lady) and other buildings are used for personnel and services that support the legislature but cannot fit in the State House. Possible solutions ranged from adding capacity to 1 Baldwin Street to building a new office building to support the state capitol building. Co-locating Senate committees or functions through schedule changes could provide more flexible spaces. Reconfiguring other areas can also provide additional flexibility.

Multiple spaces that are historic or are tailored to serve a specific purpose would be best left alone. These include the House and Senate Chambers and associated offices, ceremonial offices, and the Cedar Creek Room. Other spaces are not ADA compliant or cannot be re-purposed for other uses due to historic significance, specialized equipment, or inappropriate daylight.

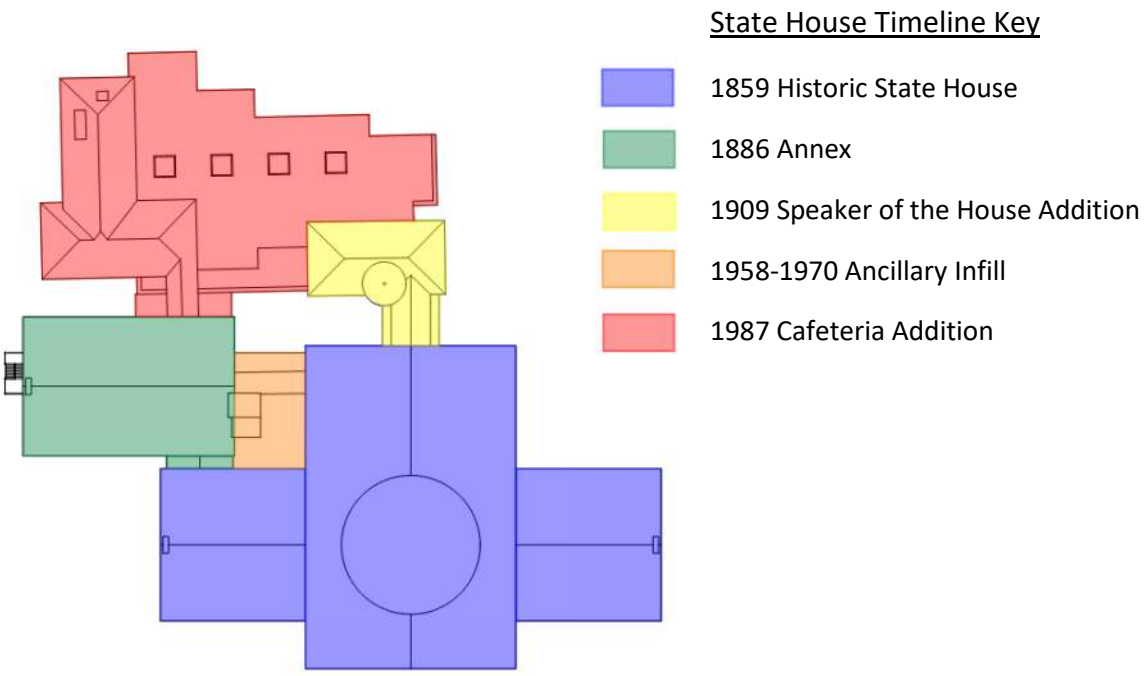
Outside of session the State House is used much less by legislators but is used heavily by tourists and outside groups for meetings. The assessment found that the lack of accessible single-use restrooms and lactation rooms impacts visitors to the building in the museum capacity. It also found that an updated HVAC system would benefit both the legislative and historic functions of the State House. (The project to update the HVAC system is currently underway.) This requires finding space on the premises for a new mechanical room.

3. EXISTING CONDITIONS & CODE FINDINGS

Existing conditions at the State House are constantly evolving because of several ongoing projects including a major HVAC upgrade, historic window restorations, backup battery relocation, renovations to east and potentially west entry steps, and Information Technology (IT) upgrades. However, these changes do not impact the overall conclusions of the space and code analyses.

Based on our review of prior studies and interviews with key stakeholders, FFF has determined that there is no underutilized space in this building that would help satisfy the unmet programmatic needs of the legislature. Many spaces are overcrowded, with more people being squeezed into rooms than NIH & OSHA health safety standards recommend.

The diagram below illustrates the layout of the existing State House, which is comprised of five main structures: The historic State House, which has been occupied continuously since 1859 and is the oldest active legislative hall in the US; the Annex, added in 1886; the Speaker of the House addition, built in 1909; and the cafeteria, completed in 1987. There is also a fifth infill building housing mechanical systems, completed in stages between 1958 and 1970.



A. Code Compliance

Due to the age of the original building and its additions, all five sets of stairs are not code compliant to varying degrees. Concerns include lack of dimensional conformance, fire-rated enclosure, and direct egress to a public way. Another concern is the lack of a code-complaint egress path from the House and Senate Chambers. The Senate Chamber only has one practical exit out of the space; the other two doors that exit the chamber are too small to be used for egress. This single larger exit leads to a non-code compliant stair. The arrangement also presents a concern if there is a security threat within the space.

The State House has two elevators and neither elevator is stretcher compliant, which is a current code requirement. Elevator 1 is located in the Annex and Elevator 2 is in the cafeteria addition.

Many rooms in the Historic State House do not have a sprinkler system. Instead, a robust smoke detection system provides occupants with early warning during an emergency, which the authority having jurisdiction (AHJ) has allowed in place of sprinklers. However, this is not code compliant nor best practice.

B. Access and Accessibility

There are several public doors on the main level that are not ADA accessible, are not protected from the elements, and are not observed by Capitol Police. During COVID-19 the northwest entrance was used for health screening, but this entry does not provide a sheltered queuing area. In addition, the current lack of a defined, secure public entrance is of significant concern to legislators. A separate entry for them would be appreciated.

There are also accessibility issues throughout the building. One major issue is safety hazards at the entrance at the northwest corner of the State House between the 1979 annex and 1987 cafeteria addition. This is the only State House entrance that is both accessible to people with disabilities and open to the public. In the wintertime this entrance does not protect the doorway from snow and ice falling from roofs above. This creates a slip hazard and at times blocks the entrance and leaves the building inaccessible to those with limited mobility.

There are less than half of the code-required plumbing fixtures in the building, and only level one and the mezzanine currently have ADA accessible toilet rooms. There are no accessible restrooms on the second or third floors. Although there is a large gang of urinals and toilets in the basement men's restroom, not all are functional and there is no

elevator access to the basement level, so they are not ADA accessible. There is no women's restroom or gender inclusive restroom equivalent at the basement level.

There are a few doors that are too narrow to meet code and accessibility guidelines. These include, but are not limited to, the exterior entrance to the cafeteria addition by Coat Room, room 136, the door at Cedar Creek Room, room 24, and the doors at either side of the Senate Chambers. The north door opening into the Cedar Creek Room is adjacent to Elevator 1, which limits accessibility to many historic rooms including the House and Senate Chambers and the Governor's Ceremonial Office.

Although some ramps meet the accessibility guidelines' slope requirements, they do not have the required landings at the tops and bottoms of the ramps, making them non-compliant. This should be addressed where possible without damaging the historic features of the State House.

Although not within the scope of work for this study, site accessibility also needs to be addressed. In the future, ADA accessible parking spaces need to be located adjacent to the State House. Currently the spaces designated as accessible exceed allowable slope for a van to set down a lift platform.

C. Committee Rooms

Per the RFP, FFF is to "evaluate the existing rooms/spaces in the State House to determine if renovation of the existing space(s) can provide some or all of the properly sized committee rooms. Include the possible relocation of any non-committee functions or committees that can be housed outside of the State House in space that is presently used/ occupied by the Legislature." Because the Committee rooms are a very important part of the study, we devote a separate section to this issue (Section 4).

D. Spaces other than Committee Rooms, Cafeteria & Servery

The information here was gathered during the interview process.

Speaker of the House and the House Clerk - The size and location of offices for the Speaker of the House and the House Clerk meet current needs, as stated during programming interviews. The Speaker's staff is conveniently located across from the speaker's office, which fosters communication.

Senate Secretary and the Senate Pro Tem - The Secretary of the Senate and staff are tight in their space. They have stated that they lack space for meeting rooms and spaces for

IT/AV equipment. The Senate Cloak Room, currently used for private meeting space, is not ideal because it is used as a circulation path to the Senate Chamber. The Senate Pro Tem is currently in one room with his staff. This arrangement does not afford privacy, space for meetings, or enhanced security.

Legislative Counsel - Currently half of the Legislative Counsel occupies the mezzanine space while the other half is located at 1 Baldwin. This creates a lot of trips back and forth between the two buildings during session. Out of session, counsel has the option to work remotely, which eliminates the back and forth. Presently there are insufficient private meeting spaces within the State House, which is the prime driver of the number of trips between the State House and 1 Baldwin. The needs of the Legislative Council are not within the project directive, such that this study does not address dedicated office space for Legislative Counsel within the State House. However, during the pandemic the Legislature subsequently appropriated 2 & 4 Governor Aiken Avenue, with the intention for future Legislative Counsel occupancy. Legislative Counsel can remain in the newly appropriated 2 & 4 Governor Aiken Avenue buildings if the Legislature does not relinquish them.

Legislative Information Technology (IT) – This group is currently located in multiple spaces, including 9 Baldwin, the first floor of the Annex, and outposts in the Legislative Lounge and Copy Room. During session IT staff must maintain a physical presence in the State House to provide technical support to legislators. There is currently a lack of sufficient IT closets (small rooms containing IT infrastructure) in the building to support recording and/or remote viewing of legislative hearings. In addition, anyone entering the building from the designated ADA accessible entrance (at the northwest corner of the State House) walks past the Copy Room, which poses confidentiality risks for private documents. Interviewees stated that the main entrance to the Historic State House should go through the Lincoln Corridor instead of past the Copy Room. Small copy rooms are needed to be available to legislators. This study does not prioritize increasing dedicated office space for IT within the State House, but does show touch down spaces and closets for IT. However, FFF recommends that no basement spaces are used for storage of electrical equipment due to flood risk.

Sergeant at Arms & Capitol Police - The Sergeant at Arms staff perform public duties by managing tourists and providing oversight at the front (south) entrance on the first floor. A window at this location provides staff with clear views to the State House lawn and people approaching the building through the front entrance. A total of three people work in this office during session, consisting of the Sergeant at Arms, Assistant Sergeant at

Arms, and one additional staff person. In the off session, this remains a full-time two person staffed office.

The command center for Capitol Police is in the link between buildings 109 & 111 State Street. They are set to have seven full-time and seven part-time police by July 2023. For security reasons, Capitol Police would prefer to have the command center in a building other than the State House. Because most officers should be walking on patrol while in the State House, only a small office with some storage is required within the building. This space should be in a location with good visibility, both for them to see and be seen.

Private Meeting Rooms – Previous reports have cited that day-to-day legislative business requires multiple private meeting spaces. These meetings could be between legislators and constituents, lobbyists, or even other legislators. There are very few small meeting rooms and the larger meeting rooms that were available before the COVID-19 pandemic have been repurposed as committee rooms. However, based on our programming calculations these larger rooms are oversized for committee use. It would be best to return Rooms 9, 10 & 11 to meeting rooms and have right-sized committee rooms. FFF recommends that small meeting rooms be made available throughout the building. A few large meeting rooms should be available to allow more people to attend hearings that are known to draw larger attendance.

Restrooms

Most public restrooms consist of multiple stalls in rooms designated as “Men” or “Women.” There are currently only four all-gender toilet rooms and three of those are in private office areas. Overall, the existing number of plumbing fixtures falls far short of the amount required by code. New restrooms should include a greater proportion of all-gender restrooms. Accessibility of restrooms to people with mobility issues should also be addressed.

Historical Context

The State House is also a museum and therefore some spaces need to be cared for as such. For this reason, there are some rooms and spaces that are not expected to have much, if any, renovation work. This is true for the House and Senate Chambers and their lobbies (work is mostly limited to a new sprinkler system), the Governor’s Ceremonial Office, the Cedar Creek Room, and other areas in the historic State House. The Sergeant at Arms has indicated that the Vermont Department of Historic Preservation will need to be consulted regarding alterations to rooms 7 and 8 if the new egress stair is constructed adjacent to room 8.

E. Cafeteria and Servery

The existing servery area lacks sufficient queuing space to avoid lengthy backups of patrons between the food service area and the check out. There are many functions happening within the limited space of the servery. The existing glass partition in the cafeteria will be removed as part of the ongoing HVAC project.

The seating area stays at capacity throughout the lunch period during session and it can be difficult to find a seat. This is partially due to many people using the cafeteria seating area for meeting space as there currently are not any small meeting spaces within the State House that can be reserved. Overcrowding is also a concern during the busy summer tourist season and when large groups visit the building.

F. Mechanical Systems (HVAC)

There is work underway to replace HVAC systems in the State House. The new systems will have the ability to serve current occupant loads and it is expected that the existing HVAC project will be adjusted to meet the space demands of any new construction that results from this study. This current project will provide the building with better environmental control. The existing windows are also proposed to be restored for this building, with new storm windows to replace aluminum storm windows and add new storm windows where none exist. This should improve thermal performance and comfort.

4. COMMITTEE ROOMS

The programming interviews showed that prior to COVID-19 some of the Senate committee rooms were too small to comfortably accommodate the desired number of people in the room. Furthermore, the House committees have larger member counts and sometimes similar sized rooms as the Senate. Despite this, people were squeezed into the rooms, and they functioned. Committee rooms need to accommodate legislative members, legal counsel, support staff, and at times members of the public testifying and observing as well as members of the press. Currently, people often occupy benches along the wall or sit on windowsills and scattered seating. The Sergeant at Arms assisted FFF with setting the occupancy count for design considerations as described below.

Space Standards

During the COVID-19 pandemic the Centers for Disease Control and Prevention (CDC) required six-foot social distancing to prevent the spread of infectious respiratory disease. As a result, the August 19, 2020, report by Freeman French Freeman*, State of Vermont Legislative Space and Health & Safety Assessment*, proposed a six-foot diameter separation zone around each person in the room, resulting in an approximately 30 square foot per person basis of design for the committee rooms. During the pandemic the legislature met remotely; however, interviewees have told us that the legislative bodies did not function as well when not in person. Therefore, FFF is proposing to calculate recommended room sizes for committees based on the committee size with an allowance for legislative staff and counsel, based on the 30 square feet separation zone used during the pandemic. If the legislature chooses to follow different guidelines or when operating under normal circumstances, the square footage allowed per occupant can vary according to committee preferences. This would yield a different occupant count per room based on the value selected. Interviewees stated that current occupancy of the committee rooms during normal operations is too dense to be comfortable for most occupants; rooms had an average of about 12 SF per person. A calculated “typical” occupant space load has resulted in an area of approximately 20 square feet per person. This value can be adjusted based on comfort level and need, recognizing that a larger or smaller number of occupants can be accommodated if the value increases or decreases.

Another issue with the existing committee rooms is the lack of maneuvering space within rooms for people in wheelchairs. Most of the smaller rooms, primarily the Senate committee rooms, are not large enough for a person in a wheelchair to turn around or move through the rooms.

The code occupancy density for "business use" is 100 square feet per person, which is not a useful guide for a committee room use given the greater density of occupancy than a business setting, even when using 50 square feet per person for "concentrated business use" is considered. Also, while the HVAC project will produce the required air flow for each room, consideration should be given to the impact occupant density has on space conditioning requirements. The existing occupant density is so high in the Committee Rooms that the heat generated by occupants is a primary contributor to space cooling requirements. With the quantity of air outlets being limited to diffusers located in existing windowsills, the large quantity of cold air that needs to come out of the limited openings has the potential to create drafts. Utilizing spaces at a reduced occupant density will reduce the quantity of air necessary to condition the space, which should improve occupant comfort due to a reduction in draft within the space. Utilizing spaces at a reduced occupant density will also reduce the cooling load required for the rooms, which should negate the need for cooling while other spaces that are less densely occupied are still calling for heat.

For the purposes of this analysis, it is more appropriate to look at an "education" occupancy. With a value of 20 square feet per person this guideline allows for a higher occupant count as it is an average of the room's entire floor area. The existing layout of the rooms with tables, chairs, desks, etc., along with room circulation means that occupants likely have much less than 20 square feet of separation space.

Working with the Sergeant at Arms, FFF developed guidelines for the maximum number of people allowed in committee rooms that includes committee members, staff, and guests:

- Small committee rooms should accommodate 10-12 people, comprised of 5-7 committee members, 1 legislative staff member, 1 legal counsel, and 3 members of the public, such as individuals giving testimony and journalists.

- Large committee rooms should accommodate 18-19 people, comprised of 11-12 committee members, 2 legislative staff, 1 legal counsel, and 4 members of the public, such as individuals giving testimony and journalists.

In Appendix C, FFF has created plan diagrams showing how many of the existing rooms could continue to be used in a future pandemic based on the number of people above and using the 30 square feet per person size requirement. There is a second set of diagrams that shows how many of the existing rooms could be used in normal operations based on the number of people above and the 20 square feet per person size requirement.

If there are more people interested in viewing a hearing, then the committee can admit more occupants at their discretion, reserve a larger hearing room that can hold more people at the same density, and/or provide remote access. These occupant counts are general guidelines used for the purpose of analyzing the existing committee room sizes. The actual committee member count can vary from year to year with the number of non-member attendees also being variable.

During a pandemic we are recommending 30 square feet per person as the basis of design, in line with the CDC's social distancing guidelines. Because most of the existing State House committee rooms would not meet this standard, the committees would have to reduce the occupant count, move offsite, or conduct meetings virtually.

Committee rooms should be designed to have 30 SF of space per person in the event of a future pandemic: with the rooms large enough for the committee members plus 5 people for small committees and plus 7 people for large committees. As an alternate scenario during normal operation, smaller rooms may be used for committee hearings as less area per person may be required. This report shows which existing committee rooms would be able to be used for hearings based on 20 SF per person in normal operating conditions. The 20 square foot per person has been chosen as an alternate space designation during normal operations because the closest related occupancy, for a room with desks and chairs, relates to what the NFPA Life Safety Code uses for classroom occupancy.

If nothing is done and the current conditions remain, then members of the public, press, lobbyists, attorneys etc., above and beyond the number of people recommended for each room could join remotely. As stated previously, interviewees have said that remote proceedings did not work as well as having everyone participate in person.

In our review we determined that the mezzanine is inappropriate for committee rooms. Existing columns would interrupt room layouts, resulting in awkward room sizes. In addition, higher occupant counts would increase HVAC requirements, which would be difficult to accommodate given existing low (7'6") ceilings that are already at code minimum heights. The mezzanine is better suited for small offices as are there currently; if the Legislative Counsel moves out of the space, then they could still use this for touch down space and small meeting rooms when they need to confer with legislators. These small spaces could be available for other meetings also, bringing more small meetings out of the cafeteria and to the mezzanine space. This would help to ease the overcrowding of the cafeteria and allow it to fulfill its food service purpose.

The existing state house hearing rooms (rooms 10 & 11) also should not be used as committee space because there is an ongoing need for public hearing rooms and no other area in the state

house can accommodate this function. These rooms are larger than needed for standing committee hearings, they need to be available for Joint Committee hearings or when a standing committee has an issue that will bring in additional viewers and / or participants.

House of Representatives

Currently there are 11 House Committee Rooms needed, while in the recent past 13 House Committee Rooms were in constant use during the legislative session. Interviewees have said that these rooms tend to be overcrowded on a daily basis while in session. Setting a maximum number of people allowed in each room and designing each room for a higher number of square feet of space per occupant will help to alleviate the perception of overcrowding in committee rooms. For this report, we have analyzed the effects of different occupant load factors on the occupant count per committee room. During a pandemic this occupant load factor would revert to 30 square feet per person (or to whatever the CDC recommended guidelines are at the time), which means that a lower number of people would be allowed in each room.

The current House committees have 11 or 12 members. The proposed room sizes required to accommodate the committee members plus 2 legislative staff and a legislative counsel, total of 14 or 15 occupants at 30 square feet per person are 420 SF & 450 SF. This will allow at least two legislative staff persons and one legislative counsel person in each committee room in the event of a future pandemic. The larger hearing rooms could be reserved for hearings with more occupants.

The following is a sample calculation showing occupant counts for the rooms sized per the description above. The first calculation follows COVID-19 guidelines, whereas the second illustrates how the occupant count increases as the area per occupant factor decreases.

- Eight 540 SF House Committee rooms @ 18 occupants during a pandemic (30 SF/person), 540 SF = 27 occupants during normal operation (20 SF/ person).
- Five 570 SF House Committee rooms @ 19 occupants during a pandemic (30 SF/person), 570 =28 occupants during normal operation (20 SF/ person).
- Total 13 House Committee rooms.

Senate

There are currently 11 Senate Committee Rooms in use during the legislative session. As with the House, interviewees said that these rooms tend to be overcrowded on a daily basis. Setting a maximum number of people allowed in each room and designing each room to provide more square feet of space per person will help alleviate the perception of overcrowding.

The current Senate committees have between 5 and 7 members. The proposed room sizes required to accommodate this number of occupants at 30 square feet per person are 300 SF, 330 SF & 360 SF. This will allow at least 1 staff person and 1 legislative counsel in each committee room in the case of a future pandemic. During non-pandemic times each committee would have room for 3 additional people, for total of either 10, 11, or 12 persons per room. The larger hearing rooms will be available to reserve for hearings that attract more occupants. If the committee decides to reduce the required square footage per person (for example to 20 SF/ person), then the number of occupants per room will increase proportionately.

- Eight 300 SF Senate Committee rooms @ 10 occupants during a pandemic (30 SF/person), 30 SF = 15 occupants during normal operation (20 SF/ person)
- One 330 SF Senate Committee rooms @ 11 occupants during a pandemic (30 SF/person), 330 SF = 16 occupants during normal operation (20 SF/ person)
- Two 360 SF Senate Committee rooms @ 12 occupants during a pandemic (30 SF/person), 360 Sf = 18 occupants during normal operation (20 SF/ person)
- Total 11 Senate Committee rooms

Summary

If the Legislature chooses to follow the CDC's social distancing guidelines during a future pandemic, then existing committee rooms are too small to operate with the current number of participants. While remote participation is one solution to this problem, committee members have stated that this solution is suboptimal based on their experience during the COVID-19 pandemic.

During the recent pandemic the Legislature appropriated other state-owned spaces in order to have committee rooms large enough to meet the CDC guidelines. This is unsustainable as some of those spaces are still needed for their previous uses and some of those spaces are currently unusable due to recent flooding. The preference would be to relinquish the spaces taken in other buildings and create spaces within (or attached) to the State House to enable the Legislators to work together again.

With these goals in mind, several programming scenarios were analyzed, which are presented in the next section, "Findings and Recommendations".

5. FINDINGS AND RECOMMENDATIONS

Freeman French Freeman reviewed existing site conditions, interviewed building user groups, and worked directly with the Sergeant at Arms to understand current occupancy concerns as well as future goals at the Vermont State House. Four programmatic scenarios have been created based on this research. All four scenarios provide for a new accessible entry with adequate queuing space for health screening at the location preferred by the Legislature.

These main scenarios are based on the CDC guidelines of allocating 30 square feet per person for each committee room during a pandemic. As a second option, based on conditions during normal operations, an occupant load factor of 20 square feet per occupant was selected because it met the expressed desire of committee members to have the committee rooms less densely occupied than they currently are, (about 15 SF per person), while still allowing a substantial number of existing committee rooms to continue to be used. Space requirements for scenarios based on a different allocation of floor area per occupant would result in either a greater or fewer number of existing committee rooms being usable, depending on if the area per occupant was decreased or increased respectively. This is illustrated in our plan diagrams, which are included as Appendix B. These diagrams were used to determine an order of magnitude Opinion of Probable Cost (OPC) for each scenario as well.

The study directive, attached as Appendix A, seeks “to ensure a safe working environment”. This report has not considered renovations to certain historic rooms of the State House. Instead, the focus is mainly on the committee rooms. The diagrammatic scenarios described below are based on the recommended number of people in each committee room during a pandemic and during normal operations. Our suggested room sizes provide space for legislative staff and counsel in each committee room rather than requiring them to work remotely during a future pandemic.

The Programmatic Space Use diagrams in Appendix B show ideal committee room layouts based on the sizes FFF has recommended. The proposed square footage of rooms has been calculated based on the following space requirements for pandemic conditions first, and then normal operations:

- 5-member committee + 5 other participants = 10 people X 30 SF/person = 300 SF
- 300 SF / 20 SF/person = 15 people = 5-member committee + 10 other participants

- 6-member committee + 5 other participants = 11 people X 30 SF/person = 330 SF
- 330 SF / 20 SF/person = 16 people = 6-member committee + 10 other participants

- 7-member committee + 5 other participants = 12 people X 30 SF/person = 360 SF
- 360 SF / 20 SF/person = 18 people = 7-member committee + 11 other participants

- 11-member committee + 7 other participants = 18 people X 30 SF/person = 540 SF
- 540 SF / 20 SF/person = 27 people = 11-member committee + 16 other participants

- 12-member committee + 7 other participants = 19 people X 30 SF/person = 570 SF
- 570 SF / 20 SF/person = 28 people = 12-member committee + 16 other participants

Since the rooms will be sized large enough for use during a pandemic, (using the CDC recommended 30 square footage number for the base design), the end result of the room sizes will allow more people in the rooms during normal operation, based on 20 square feet per person. The reuse of existing committee room based on these calculations are shown in Appendix C. Appendix D provides the current and past density for these rooms for comparison purposes.

The four programmatic scenarios used to develop the Opinion of Probable Cost (OPC) begin with the base level of code requirements outlined in Appendix C, and then build upon that scope to include program area added to the State House to maximize the amount of committee rooms on site.

The interview questions shown in Appendix D are the same as those used by Freeman French Freeman in the State House Space Assessment report dated January 15, 2020. We used the same questions for this study to see if interviewees' answers changed after the COVID-19 pandemic.

The committee room count was a top priority in the RFP, so this study does not address dedicated program space for support functions such as the Legislative Counsel. Support spaces and shared spaces were only added as space allowed. See Appendix E for interview results from this study.

Multiple stakeholders told our team that the cafeteria addition was constructed with adequate structural capacity to accept a future one-story addition. However, the structural review of the cafeteria conducted for this study noted several deficiencies in the current structure and concluded that it cannot accept additional stories without significant structural upgrades. The structural review is included as Appendix F and was used to create estimates for the programmatic options.

A statement from the Mechanical/Electrical/Plumbing/Fire Protection consultant has been included as Appendix G, with recommendations on the systems required for any renovation/ addition project. In addition to a revision of the upgrade to the HVAC, (which is currently underway), any renovations or additions to the building will require a review of the existing electrical capacity, fire alarm system, and integration of telecommunication and security systems.

SCENARIO ONE

The following program was used to develop the Opinion of Probable Cost and Project Schedules for Scenarios 1 and 1A.

Scenario 1 is comprised of the minimum amount of work required to bring the State House building up to code and address the building entry requirements for screening during a pandemic and accommodate program areas such as committee rooms and the cafeteria within the existing spaces. This option includes a new entry vestibule on the west side of the State House to the north of the Annex. The vestibule leads to a public lobby that will occupy the existing courtyard, connect the buildings and continues to a vestibule on the east side of the State House that connects to the Lincoln Corridor in the historic State House. This connection will be made possible by removing the existing stair to the mezzanine. The west entry will access a new code compliant egress stair and a stretcher compliant elevator. The new stair and elevator will have a connection to the Annex to the south, allowing the removal of the existing external fire escape located in the west façade of the Annex. One the east side of the historic State House a new code compliant egress stair will be added outside of the corner between the Senate and House Chambers to provide and exit directly to the outside. This will require addressing the 1909 duct that is under that area, unless the duct is removed and the hole filled during the ongoing HVAC project. The proposed elements of this scenario are as follows:

A. <u>New entry at NW & infill lobby</u>

The new vestibule will extend past the west corner of the Annex to provide wayfinding visibility to the public as the accessible entrance with a canopy to protect people from the elements. Specifically, the canopy will catch and reroute the ice and snow that currently falls into the entrance way from the three different roof levels above. The vestibule space will allow for health screening and security screening when required. The vestibule will open to a public lobby infilling the space between the cafeteria addition, the Annex, and the historic State House. The large space will allow for health screening and security screening when required. The lobby will allow large groups to gather without disturbing committee rooms and will connect the public to the Lincoln Corridor. This corridor is the primary circulation path into the historic State House's main lobby, which will lead visitors to meet with the Sergeant at Arms located off that lobby. The new Public Lobby will abut the current committee rooms on the north side of the Annex such that the current exterior windows will now look into to the new lobby. To provide natural light to these rooms the new lobby will have a glass roof. This new entry vestibule will also help comply

with the Vermont energy code requirement that entries have a tempered vestibule. The new addition will need to be separated from the historic State House by a fire rated assembly.

B. New egress stair at NE corner for Senate Chamber

A new fire rated stair will provide the Senate Chamber with one code compliant means of egress that exits directly to the exterior on level one. The Chamber balconies will egress through a new path connected to the stair as their means of egress. This new egress stair will be ADA compliant with the required area of refuge at the landings and the Vermont Department of Historic Preservation will be required to review the design.

C. New egress site path from the east

The current exterior egress path from the northeast corner of the cafeteria will be widened and better defined as required by code. There will be new site stairs from the existing vestibule and the mezzanine level connecting to the path. The bottom of the path will have a new retaining wall and site stairs that will exit onto the public way, which is the parking lot to the east.

D. New egress stairs & elevator at NW corner

A new fire rated stair and stretcher compliant elevator will connect the historic State House and Annex to the new entry. A new exterior egress path will be added as described in Section C above.

E. Sprinklers

A fully compliant NFPA 13 sprinkler system will be installed in all new areas. A mist sprinkler system will be added to the Chambers to limit water damage in the event the system is used.

F. Mechanical Concerns

The new public lobby will encompass the 2023 mechanical room expansion on level one, requiring the louvers for intake and exhaust air to be extended through the new addition to reach outside air.

G. Restrooms

Restrooms are added throughout the building to bring the plumbing fixture count to the number required by code. The calculations for the plumbing fixture count will be based on the actual use pattern of the State House, not with the expectation that both the

Chambers and committee rooms will be used to capacity at the same time. All-gender restrooms are provided on all levels.

H. Doorways to be widened

Existing doorways that are less than the code required clear width will be widened. This includes, but is not limited to, the door to the Staff Coatroom 136 and the north doorway from the Cedar Creek Room 24. The Vermont Department of Historic Preservation will be in discussions for solutions to this problem.

I. Committee Rooms

Any room that was too small to accommodate a committee would be backfilled with support program such as small meeting rooms and touchdown workspaces that are currently lacking. Scenario 1 provides space for all eleven smaller committees on site. None of the larger committees will fit in the existing committee rooms and will need to be relocated to other spaces within the capital complex.

J. Cafeteria & Servery

The cafeteria is currently used as a work area and meeting space which contributes to its lack of seating for dining during busy periods. Rather than enlarging the cafeteria seating area it makes sense to create small meeting spaces elsewhere so that the cafeteria program can use the entire space as intended. Providing small meeting rooms and touchdown workstations as noted previously should alleviate that condition. No alterations or expansion to the cafeteria or servery will be provided in this base option.

Pros:

1. Secure entrance and screening area.
2. Life safety and accessibility issues addressed.
3. Larger accessibility issue of building entrance addressed.
4. Least amount of work, least cost associated.
5. All eleven small committees are on site.
6. Hearing rooms remain.
7. Legislative Lounge remains.
8. Public will have a defined entrance and connection to the Main Lobby in the historic building.
9. Legislative Counsel stays on the mezzanine level.
10. Cafeteria can stay open during much of the construction.
11. Least amount of ledge removal.

12. Pro Tem has an anteroom for security and staff support. The former office will become a small meeting room, as well as support the Lieutenant Governor's office.
13. Mailroom is near the Sergeant at Arms in a secure space out of its current location in the lobby.
14. Capital Police moved to a space with a direct view to the public lobby and new main entrance.
15. Reconfiguration of ramp from Card Room to Cafeteria will have code required landings and sit within the new addition.
16. Additional code compliant restrooms, as well as all-gender restrooms.
17. Staff coatroom and lockers, and public coatroom are located off the new lobby.
18. Touchdown workstations and small meeting rooms are placed throughout the building withing backfill spaces.

Cons:

1. All the large committees are off site.
2. Many support functions cannot consolidate their teams and move on site such as Legislative Operations. Some groups need to fully move offsite and use touchdown spaces only.
3. Limited spaces added on level one for storage or custodial and maintenance use.
4. Cafeteria maintains small servery and point of sale space.
5. Supply & exhaust stacks from the mechanical room will need to be extended up above new roof.
6. Ledge removal required for the added elevator and stairs.
7. Committee rooms are dispersed throughout the building.

Scenario 1 Opinion of Probable Cost:

The cost estimates do not include the following: hazardous materials testing & abatement, builder's risk insurance, or relocation costs.

Description	Scenario 1
Construction Costs	
General Conditions	$725,000
Demolition	$160,000
Structural	$525,000
Vertical Circulation	$705,000
Main Entry Vestibule	$50,000
Level 1	$1,494,500
Mezzanine	$568,000
Level 2	$939,000
Level 3	$845,325
Level 4	$383,750
Subtotal	$6,395,575
Overhead & Profit 15%	$959,336
Subtotal of Construction Costs	**$7,354,911**
Owner's Items	
Contingency - 25% construction	$1,838,728
Material Escalation 6% (2% '24'25'26)	$661,942
A&E Design Fees	$1,618,080
Clerk of The Works	$147,098
Subtotal of Owner's Costs	**$4,265,849**
Total Budget	**$11,620,760**

Scenario 1 Project Schedule

	Duration	Start	Finish
Project Start	Milestone	9/5/2023	-
Schematic Design	3.5 months	9/6/2023	**12/15/2023**
Develop SD	4 weeks	9/6/2023	10/4/2023
SD Estimate	4 weeks	10/5/2023	11/2/2023
Schematic Design (6-week BGS Review)	6 weeks	11/3/2023	12/15/2023
Design Development	6 months	12/18/2023	**6/10/2024**
Initiate DD and Hold for legislative approval	2 weeks	12/18/2023	1/2/2024
General Assembly Approval of the Project during Session	4 weeks	1/3/2024	**1/31/2024**
Develop DD per Assembly Approval	8 weeks	2/1/2024	3/28/2024
DD Estimate	4 weeks	3/29/2024	4/26/2024
Design Development (6-week BGS Review)	6 weeks	4/29/2024	6/10/2024
Construction Documents	5 months	6/11/2024	**11/16/2024**
Develop 90% Construction Documents	10 weeks	6/11/2024	8/12/2024
90% CD Estimate	4 weeks	8/13/2024	9/10/2024
Construction Documents 90% (6-week BGS Review)	6 weeks	9/11/2024	10/23/2024
Complete Construction Documents	2 weeks	12/2/2024	12/16/2024
Bidding and Negotiation	2.5 months	10/24/2024	**1/13/2025**
Construction through Substantial Completion (2 summer/ fall construction sessions)	1 year (nonconsecutive)	6/1/2025	**12/25/2027**
Contract Completion (includes 12-month construction warranty period)	1 year + 2 months	12/26/2027	**2/27/2029**

Scenario 1A consists of construction the entry vestibule only on the west side of the building. It does not include continuing the public lobby through to the Lincoln Corridor. The current stairs to the Mezzanine would remain and the entry area would end when it reached the existing connector from the Annex of the building to the 1980's addition. It also does not include any of the upgrades described in Scenario 1.

Scenario 1A Opinion of Probable Cost

The cost estimates do not include the following: hazardous materials testing & abatement, builder's risk insurance, or relocation costs.

Description	**Scenario 1A**
Construction Costs	
General Conditions	$352,500
Demolition	$20,000
Structural	$0
Vertical Circulation	$0
Main Entry Vestibule	$50,000
Level 1	$454,000
Mezzanine	$0
Level 2	$0
Level 3	$0
Level 4	$37,500
Subtotal	$914,000
Overhead & Profit 15%	$137,100
Subtotal of Construction Costs	**$1,051,100**
Owner's Items	
Contingency - 25% construction	$262,775
Material Escalation 6% (2% '24'25'26)	$54,840
A&E Design Fees	$231,242
Clerk of The Works	$31,533
Subtotal of Owner's Costs	**$580,390**
Total Budget	**$1,631,490**

Scenario 1A Project Schedule

	Duration	Start	Finish
Project Start	Milestone	9/5/2023	-
Schematic Design	3 months	9/6/2023	**12/4/2023**
Develop SD	4 weeks	9/6/2023	10/4/2023
SD Estimate	2 weeks	10/5/2023	10/19/2023
Schematic Design (6-week BGS Review)	6 weeks	10/20/2023	12/4/2023
Design Development	4 months	12/5/2023	**4/15/2024**
Initiate DD and Hold for legislative approval	4 weeks	12/5/2023	1/2/2024
General Assembly Approval of the Project during Session	4 weeks	1/3/2024	**1/31/2024**
Develop DD per Assembly Approval	4 weeks	2/1/2024	2/29/2024
DD Estimate	2 weeks	3/1/2024	3/15/2024
Design Development (4-week BGS Review)	4 weeks	3/18/2024	4/15/2024
Construction Documents	3.5 months	4/16/2024	**9/1/2024**
Develop 90% Construction Documents	6 weeks	4/16/2024	5/29/2024
90% CD Estimate	2 weeks	5/30/2024	6/13/2024
Construction Documents 90% (4-week BGS Review)	4 weeks	6/14/2024	7/15/2024
Complete Construction Documents	2 weeks	7/16/2024	7/30/2024
Bidding and Negotiation	2 months	7/31/2024	**9/30/2024**
Construction through Substantial Completion (1 fall & 1 summer/ fall construction session)	9 months (nonconsecutive)	10/1/2025	**12/24/2026**
Contract Completion (includes 12-month construction warranty period)	1 year + 2 months	12/26/2026	**2/26/2027**

SCENARIO TWO

The following program was used to develop the Opinion of Probable Cost and Project Schedule for Scenario 2.

Scenario 2 is comprised of previous entry vestibule, public lobby, and code required work described in Scenario 1. It also includes constructing a 9,200 square foot addition above the cafeteria for committee rooms so that some of the large committee rooms can be located within the State House. Portions of this addition are used to connect to the Annex to the south in order to create a second exit and allow the fire escape to be removed from the building. This option provides room for all eleven small committee rooms plus an additional small committee room, and five of the thirteen large committee rooms. The following issues are addressed:

A. <u>New entry at NW & infill lobby</u>

The new vestibule will extend past the west corner of the Annex to provide wayfinding visibility to the public as the accessible entrance with a canopy to protect people from the elements. Specifically, the canopy will catch and reroute the ice and snow that currently falls into the entrance way from the three different roof levels above. The vestibule space will allow for health screening and security screening when required. The vestibule will open to a public lobby infilling the space between the cafeteria addition, the Annex, and the historic State House. The large space will allow for health screening and security screening when required. The lobby will allow large groups to gather without disturbing committee rooms and will connect the public to the Lincoln Corridor. This corridor is the primary circulation path into the historic State House's main lobby, which will lead visitors to meet with the Sergeant at Arms located off that lobby. The new Public Lobby will abut the current committee rooms on the north side of the Annex such that the current exterior windows will now look into to the new lobby. To provide natural light to these rooms the new lobby will have a glass roof. This new entry vestibule will also help comply with the Vermont energy code requirement that entries have a tempered vestibule. The new addition will need to be separated from the historic State House by a fire rated assembly.

B. <u>New egress stair at NE corner for Senate Chamber</u>

A new fire rated stair will provide the Senate Chamber with one code compliant means of egress that exits directly to the exterior on level one. The Chamber balconies will egress through a new path connected to the stair as their means of egress. This new egress stair

will be ADA compliant with the required area of refuge at the landings and the Vermont Department of Historic Preservation will be required to review the design.

C. New egress site path from the East

The current exterior egress path from the northeast corner of the cafeteria will be widened and better defined as required by code. There will be new site stairs from the existing vestibule and the mezzanine level connecting to the path. The bottom of the path will have a new retaining wall and site stairs that will exit onto the public way, which is the parking lot to the east.

D. New egress stairs & elevator at NW corner

A new fire rated stair and stretcher compliant elevator will connect the historic State House and Annex to the new entry. A new exterior egress path will be added as described in Section C above.

E. Sprinklers

A fully compliant NFPA 13 sprinkler system will be installed in all new areas. A mist sprinkler system will be added to the Chambers to limit water damage in the event the system is used.

F. Mechanical Concerns

The new public lobby will encompass the 2023 mechanical room expansion on level one, requiring the louvers for intake and exhaust air to be extended through the new addition to reach outside air.

G. Restrooms

Restrooms are added throughout the building to bring the plumbing fixture count to the number required by code. The calculations for the plumbing fixture count will be based on the actual use pattern of the State House, not with the expectation that both the Chambers and committee rooms will be used to capacity at the same time. All-gender restrooms are provided on all levels.

H. Doorways to be widened

Existing doorways that are less than the code required clear width will be widened. This includes, but is not limited to, the door to the Staff Coatroom 136 and the north doorway from the Cedar Creek Room 24. The Vermont Department of Historic Preservation will be in discussions for solutions to this.

I. Annex renovation for small committees

The three smaller rooms on levels two and three of the Annex are not large enough to accommodate committees. The area of the three rooms could be combined into two rooms that would then be large enough to accommodate committees.

J. Addition over cafeteria for large committees

An addition will be constructed over the existing Kitchen, Servery and Cafeteria seating area to create five of the thirteen large committee rooms, support functions such as a copy room, and infrastructure such as electrical/ mechanical rooms. In addition, there is a kitchenette, a custodial sink and storage room. This addition will expand over the Speaker of the House addition for a more efficient layout. For efficiency, the level three restrooms will stack above the level two restrooms. This addition will require structural rework of the existing cafeteria as the structural analysis conducted as part of this study found that it has insufficient capacity to support an additional floor.

K. New egress site path & stair from the east

There is a new egress stair to the east required by the third level expansion.

L. Structural work for existing Cafeteria Addition

The existing Kitchen, Servery and Cafeteria seating area would be extensively renovated to provide support for the addition above.

M. Infill area of existing north stair & elevator

The existing Stair and Elevator at the cafeteria addition will be infilled on level one and the mezzanine level with ancillary program spaces, such as needed storage space and janitor's closets.

Pros:

1. Secure entrance and screening area.
2. Life safety & accessibility issues addressed.
3. Larger accessibility issue of building entrance addressed.
4. All eleven small committee rooms are on site plus one additional room.
5. Five of the thirteen large committee rooms will be onsite.
6. Hearing rooms remain.
7. Legislative Lounge remains.
8. Public will have a defined entrance and connection to the Main Lobby in the historic State House.

9. Pro Tem has an anteroom for security and staff support. The former office will become a small meeting room, as well as support the Lieutenant Governor's office.
10. Mailroom is near the Sergeant at Arms and in a secure space out of the lobby.
11. Capital Police moved to a space with a direct view to the Public Lobby and new main entrance.
12. Reconfiguration of ramp from Card Room to Cafeteria will have proper landings as required and sit within the new addition.
13. Additional code compliant restrooms, as well as non-gender restrooms.
14. Staff coatroom and lockers, and public coatroom are located off the new lobby.
15. Touchdown workstations and small meeting rooms are placed throughout the building withing backfill spaces.
16. Legislative Council stays on the mezzanine level.
17. Lactation room is larger than the existing and has room for a refrigerator, counter, and sink.
18. Infirmary included in plan and could have a counter and sink.
19. Added storage rooms on all levels to address current deficiency.
20. Added custodial closets on all levels to address current deficiency.

Cons:

1. Eight large committee rooms will need to move offsite.
2. Many support functions cannot consolidate their teams and move on site such as Legislative Operations. Some groups need to fully move offsite and use touchdown spaces only.
3. Cost of new kitchen, servery and cafeteria. During construction these spaces will not be fully available.
4. Cost of upgrading the structure in the existing kitchen, servery and cafeteria space to be brought up to the current code due to the additional floor.
5. More people will now potentially be exiting at the north side of the building in the case of an emergency so safer egress paths will be required to exist the site.
6. Cafeteria will be closed during code required upgrades.
7. Supply & exhaust stacks from the mechanical room will need to be extended up above new roof.
8. Ledge removal required for the new elevator and stairs.

Scenario 2 Opinion of Probable Cost:

The cost estimate does not include the following: hazardous materials testing & abatement, builder's risk insurance, or relocation costs.

Description	Scenario 2
Construction Costs	
General Conditions	$1,085,000
Demolition	$348,000
Structural (improvements at cafeteria)	$1,102,500
Vertical Circulation	$620,000
Main Entry Vestibule	$50,000
Level 1	$1,459,250
Mezzanine	$430,250
Level 2	$3,649,500
Level 3	$6,312,575
Level 4	$379,750
Subtotal	$15,436,825
Overhead & Profit 15%	$2,315,524
Subtotal of Construction Costs	**$17,752,349**
Owner's Items	
Contingency - 25% construction	$4,438,087
Material Escalation 6% (2% '24'25'26)	$1,389,314
A&E Design Fees	$3,905,517
Clerk of The Works	$355,047
Subtotal of Owner's Costs	**$10,087,965**
Total Budget	**$27,840,314**

Scenario 2 Project Schedule

	Duration	Start	Finish
Project Start	Milestone	9/5/2023	-
Schematic Design	4.5 months	9/6/2023	**1/19/2024**
Develop SD	8 weeks	9/6/2023	11/1/2023
SD Estimate	4 weeks	11/2/2023	12/5/2023
Schematic Design (6-week BGS Review)	6 weeks	12/6/2023	1/19/2024
Design Development	7 months	1/22/2024	**8/9/2024**
Initiate DD and Hold for legislative approval	1 week	1/22/2024	1/29/2024
General Assembly Approval of the Project during Session	4 weeks	1/30/2024	**2/28/2024**
Develop DD per Assembly Approval	12 weeks	2/29/2024	5/24/2024
DD Estimate	4 weeks	5/28/2024	6/25/2024
Design Development (6-week BGS Review)	6 weeks	6/26/2024	8/9/2024
Construction Documents	6 months	8/12/2024	**2/7/2025**
Develop 90% Construction Documents	12 weeks	8/12/2024	11/4/2024
90% CD Estimate	4 weeks	11/6/2024	12/4/2024
Construction Documents 90% (6-week BGS Review)	7 weeks	12/5/2024	1/23/2025
Complete Construction Documents	2 weeks	1/24/2025	2/7/2025
Bidding and Negotiation	2.5 months	2/10/2025	**4/25/2025**
Construction through Substantial Completion (5 summer/ fall construction sessions)	2.5 years (nonconsecutive)	6/1/2025	**12/31/2029**
Contract Completion (includes 12-month construction warranty period)	1 year + 2 months	1/2/2030	**3/2/2031**

SCENARIO THREE

The following program was used to develop the Opinion of Probable Cost and Project Schedule for Scenario 3.

Scenario 3 is comprised of previous code required work in Scenario 1 and includes a two-story addition above the existing Cafeteria to house the large committees within the building. This option provides room for all eleven small committees plus two additional rooms and all thirteen large committees plus one additional room. The following issues are addressed:

A. <u>New entry at NW & infill lobby</u>

The new vestibule will extend past the west corner of the Annex to provide wayfinding visibility to the public as the accessible entrance with a canopy to protect people from the elements. Specifically, the canopy will catch and reroute the ice and snow that currently falls into the entrance way from the three different roof levels above. The vestibule space will allow for health screening and security screening when required. The vestibule will open to a public lobby infilling the space between the cafeteria addition, the Annex, and the historic State House. The large space will allow for health screening and security screening when required. The lobby will allow large groups to gather without disturbing committee rooms and will connect the public to the Lincoln Corridor. This corridor is the primary circulation path into the historic State House's main lobby, which will lead visitors to meet with the Sergeant at Arms located off that lobby. The new Public Lobby will abut the current committee rooms on the north side of the Annex such that the current exterior windows will now look into to the new lobby. To provide natural light to these rooms the new lobby will have a glass roof. This new entry vestibule will also help comply with the Vermont energy code requirement that entries have a tempered vestibule. The new addition will need to be separated from the historic State House by a fire rated assembly.

B. <u>New egress stair at NE corner for Senate Chamber</u>

A new fire rated stair will provide the Senate Chamber with one code compliant means of egress that exits directly to the exterior on level one. The Chamber balconies will egress through a new path connected to the stair as their means of egress. This new egress stair will be ADA compliant with the required area of refuge at the landings and the Vermont Department of Historic Preservation will be required to review the design.

C. New egress site path from the East

The current exterior egress path from the northeast corner of the cafeteria will be widened and better defined as required by code. There will be new site stairs from the existing vestibule and the mezzanine level connecting to the path. The bottom of the path will have a new retaining wall and site stairs that will exit onto the public way, which is the parking lot to the east.

D. New egress stairs & elevator at NW corner

A new fire rated stair and stretcher compliant elevator will connect the historic State House and Annex to the new entry. A new exterior egress path will be added as described in Section C above.

E. Sprinklers

A fully compliant NFPA 13 sprinkler system will be installed in all new areas. A mist sprinkler system will be added to the Chambers to limit water damage in the event the system is used.

F. Mechanical Concerns

The new public lobby will encompass the 2023 mechanical room expansion on level one, requiring the louvers for intake and exhaust air to be extended through the new addition to reach outside air.

G. Restrooms

Restrooms are added throughout the building to bring the plumbing fixture count to the number required by code. The calculations for the plumbing fixture count will be based on the actual use pattern of the State House, not with the expectation that both the Chambers and committee rooms will be used to capacity at the same time. All-gender restrooms are provided on all levels.

H. Doorways to be widened

Existing doorways that are less than the code required clear width will be widened. This includes, but is not limited to, the door to the Staff Coatroom 136 and the north doorway from the Cedar Creek Room 24. The Vermont Department of Historic Preservation will be in discussions for solutions to this.

I. Annex renovation for small committees

The three smaller rooms on levels two and three of the Annex are not large enough to accommodate committees. The area of the three rooms could be combined into two rooms that would then be large enough to accommodate committees.

J. <u>New small committee rooms at Level 3</u>

Two new, small committee rooms can be placed on level three instead of the new restrooms as noted in Scenario 2; new restrooms will be placed in the addition over the existing Cafeteria.

K. <u>Two story large committee addition over cafeteria</u>

The two- story addition over the existing cafeteria will house all thirteen large committee rooms plus one additional room. This will involve the cost of reinforcing the structure of the existing cafeteria below, which will keep the cafeteria closed during construction. Additional structural reinforcing may take space away from the existing Kitchen, Servery, & Cafeteria area. Support spaces such as restrooms, copy room and storage will be included on levels three and four. This addition will expand over the Speaker of the House addition for a more efficient layout. For efficiency, the level three & four restrooms will stack above the level two restrooms.

L. <u>New egress site path & stair from east</u>

There is a new egress stair to the east required by the level three and four additions.

M. <u>Cafeteria & servery</u>

The existing Kitchen, Servery and Cafeteria seating area would be extensively renovated to provide support for the addition above. The point of sale will be moved outside the servery and a second point of sale will be added to address the lack of queuing area between the servery and check out. The existing kitchen, servery and cafeteria seating area would be renovated to provide support for an addition above. This addition will require structural rework of the existing cafeteria as the structural analysis conducted as part of this study found that it has insufficient capacity to support an additional floor.

N. <u>Infill area of existing north stair & elevator</u>

Remove the existing Stair and Elevator at the cafeteria addition and infill on level one and the mezzanine level with ancillary program spaces, such as needed storage space and janitor's closets.

<u>Pros:</u>

1. Secure entrance and screening area.

2. Life safety & accessibility issues addressed.
3. Larger accessibility issue of building entrance addressed.
4. All eleven small committee rooms are on site, plus two additional rooms.
5. All thirteen large committee rooms are on site, plus one additional room.
6. Hearing rooms remain.
7. Legislative Lounge remains.
8. Public will have a defined entrance and connection to the new public lobby in the historic State House.
9. Pro Tem has an anteroom for security and staff support. The former office will become a small meeting room, as well as support the Lieutenant Governor's office.
10. Ethan Allen room at the rear of the cafeteria to convert back to additional cafeteria seating.
11. Mailroom is near the Sergeant at Arms and in a secure space out of the lobby.
12. Capital Police moved to a space with a direct view to the Public Lobby and new main entrance.
13. Reconfiguration of ramp from Card Room to Cafeteria will have code required landings and sit within the new addition.
14. Additional code compliant restrooms, as well as non-gender restrooms.
15. Staff coatroom and lockers, and public coatroom are located off the new lobby.
16. Touchdown workstations and small meeting rooms are placed throughout the building within backfill spaces.
17. Legislative Counsel stays on the mezzanine level.
18. Lactation room is larger than the existing and has room for a refrigerator, counter, and sink.
19. Infirmary included in plan and could have a counter and sink.
20. Added storage rooms on all levels.
21. Added custodial closets on all levels.

Cons:

1. Cost of building two-story addition above the cafeteria addition.
2. Cost of upgrading the structure in the existing Cafeteria, Kitchen and Servery space to be brought up to the current code due to the additional floors.
3. More people will now potentially be exiting at the north side of the building in the case of an emergency so safer egress paths will be required to exist the site.
4. Cafeteria will be closed during code required upgrades.
5. Supply & exhaust stacks from the mechanical room will need to be extended up above new roof.
6. Ledge removal required for the new elevator and stairs.

Scenario 3 Opinion of Probable Cost

The cost estimates do not include the following: hazardous materials testing & abatement, builder's risk insurance, or relocation costs.

Description	Scenario 3
Construction Costs	
General Conditions	$641,000
Demolition	$348,000
Structural (improvements at cafeteria)	$1,980,000
Vertical Circulation	$620,000
Main Entry Vestibule	$50,000
Level 1	$1,459,250
Mezzanine	$430,250
Level 2	$3,649,500
Level 3	$6,312,575
Level 4	$5,659,750
Subtotal	$21,150,325
Overhead & Profit 15%	$3,172,549
Subtotal of Construction Costs	**$24,322,874**
Owner's Items	
Contingency - 25% construction	$6,080,718
Material Escalation 6% (2% '24'25'26)	$1,903,529
A&E Design Fees	$5,351,032
Clerk of The Works	$486,457
Subtotal of Owner's Costs	**$13,821,736**
Total Budget	**$38,144,611**

Scenario 3 Project Schedule

	Duration	Start	Finish
Project Start	Milestone	9/5/2023	-
Schematic Design	4.5 months	9/6/2023	**1/19/2024**
Develop SD	8 weeks	9/6/2023	11/1/2023
SD Estimate	4 weeks	11/2/2023	12/5/2023
Schematic Design (6-week BGS Review)	6 weeks	12/6/2023	1/19/2024
Design Development	7 months	1/22/2024	**8/9/2024**
Initiate DD and Hold for legislative approval	1 week	1/22/2024	1/29/2024
General Assembly Approval of the Project during Session	4 weeks	1/30/2024	**2/28/2024**
Develop DD per Assembly Approval	12 weeks	2/29/2024	5/24/2024
DD Estimate	4 weeks	5/28/2024	6/25/2024
Design Development (6-week BGS Review)	6 weeks	6/26/2024	8/9/2024
Construction Documents	6 months	8/12/2024	**2/7/2025**
Develop 90% Construction Documents	12 weeks	8/12/2024	11/4/2024
90% CD Estimate	4 weeks	11/6/2024	12/4/2024
Construction Documents 90% (6-week BGS Review)	7 weeks	12/5/2024	1/23/2025
Complete Construction Documents	2 weeks	1/24/2025	2/7/2025
Bidding and Negotiation	2.5 months	2/10/2025	**4/25/2025**
Construction through Substantial Completion (6 summer/ fall construction sessions)	3 years (nonconsecutive)	6/1/2025	**12/31/2030**
Contract Completion (includes 12-month construction warranty period)	1 year + 2 months	1/2/2031	**3/2/2032**

SCENARIO FOUR

'The following program was used to develop the Opinion of Probable Cost and Project Schedule for Scenario 4.

Scenario 4 is also comprised of previous code required work shown in Scenario 1 and also includes a two and a half story addition to the west of the cafeteria addition to house the large committee rooms. The second floor would be a 6,400 square foot addition to the west of the existing cafeteria; this area includes the connector space between the Annex and the building to the north. The third floor would have a 5,600 square foot addition and would also connect on the north side of the Annex. This option provides room for all eleven small committee rooms plus one additional room and all thirteen large committee rooms. The following issues are addressed:

A. <u>New entry at NW & infill lobby</u>

The new vestibule will extend past the west corner of the Annex to provide wayfinding visibility to the public as the accessible entrance with a canopy to protect people from the elements. Specifically, the canopy will catch and reroute the ice and snow that currently falls into the entrance way from the three different roof levels above. The vestibule space will allow for health screening and security screening when required. The vestibule will open to a public lobby infilling the space between the cafeteria addition, the Annex, and the historic State House. The large space will allow for health screening and security screening when required. The lobby will allow large groups to gather without disturbing committee rooms and will connect the public to the Lincoln Corridor. This corridor is the primary circulation path into the historic State House's main lobby, which will lead visitors to meet with the Sergeant at Arms located off that lobby. The new Public Lobby will abut the current committee rooms on the north side of the Annex such that the current exterior windows will now look into to the new lobby. To provide natural light to these rooms the new lobby will have a glass roof. This new entry vestibule will also help comply with the Vermont energy code requirement that entries have a tempered vestibule. The new addition will need to be separated from the historic State House by a fire rated assembly.

B. <u>New egress stair at NE corner for Senate Chamber</u>

A new fire rated stair will provide the Senate Chamber with one code compliant means of egress that exits directly to the exterior on level one. The Chamber balconies will egress through a new path connected to the stair as their means of egress. This new egress stair will be ADA compliant with the required area of refuge at the

landings and the Vermont Department of Historic Preservation will be required to review the design.

C. New egress site path from the East

The current exterior egress path from the northeast corner of the cafeteria will be widened and better defined as required by code. There will be new site stairs from the existing vestibule and the mezzanine level connecting to the path. The bottom of the path will have a new retaining wall and site stairs that will exit onto the public way, which is the parking lot to the east.

D. New egress stairs & elevator at NW corner

A new fire rated stair and stretcher compliant elevator will connect the historic State House and Annex to the new entry. A new exterior egress path will be added as described in Section C above.

E. Sprinklers

A fully compliant NFPA 13 sprinkler system will be installed in all new areas. A mist sprinkler system will be added to the Chambers to limit water damage in the event the system is used.

F. Mechanical Concerns

The new public lobby will encompass the 2023 mechanical room expansion on level one, requiring the louvers for intake and exhaust air to be extended through the new addition to reach outside air.

G. Restrooms

Restrooms are added throughout the building to bring the plumbing fixture count to the number required by code. The calculations for the plumbing fixture count will be based on the actual use pattern of the State House, not with the expectation that both the Chambers and committee rooms will be used to capacity at the same time. All-gender restrooms are provided on all levels.

H. Doorways to be widened

Existing doorways that are less than the code required clear width will be widened. This includes, but is not limited to, the door to the Staff Coatroom 136 and the north doorway from the Cedar Creek Room 24. The Vermont Department of Historic Preservation will be in discussions for solutions to this.

I. Annex renovation for small Committees

The three smaller rooms on levels two and three of the Annex are not large enough to accommodate committees. The area of the three rooms could be combined into two rooms that would then be large enough to accommodate committees.

J. New egress site path & stair at NW corner of Cafeteria addition

The current exterior path of egress from the northwest Cafeteria corner connecting down to the parking lot will be widened and better defined. There will be a new egress stair from the inside of the addition exiting out onto the path. The path will wrap the addition and then site stairs will exit at the public way.

K. Two and a half story addition to the west

A two and a half-story addition to the west of the cafeteria will house all thirteen large committee rooms and support electrical and telecom spaces. A copy room and kitchenette will be located on level two. This addition location will require some blasting of existing ledge, although the configuration of the addition can minimize this to the greatest extent possible.

L. Cafeteria & Servery

The cafeteria is currently used as a work area and meeting space which contributes to its lack of seating for dining during busy periods. Rather than enlarging the cafeteria seating area it makes sense to create small meeting spaces elsewhere so that the cafeteria program can use the entire space as intended. Providing small meeting rooms and touchdown workstations as noted previously should alleviate that condition. In addition, this scenario proposed to move the full-service point of sale outside the servery, and add a self-service point of sale, opposite from the ramp. This will add length to the queuing area between the servery and check out. Some rearrangements of the serving area will also be undertaken, however, only equipment and casework will be redone, no walls or structure will be altered.

M. Infill area of existing stair & elevator in northwest portion of building

Remove the existing Stair and Elevator at the cafeteria addition and infill on level one and the mezzanine level with ancillary program spaces, such as needed storage space and janitor's closets.

Pros:

1. Secure entrance and screening area.
2. Life safety & accessibility issues addressed.

3. Larger accessibility issue of building entrance addressed.
4. All eleven small committee rooms are on site plus one additional room.
5. All thirteen large committee rooms are on site.
6. Hearing rooms remain.
7. Legislative Lounge remains.
8. Public will have a defined entrance and connection to the Main Lobby in the historic building.
9. Pro Tem has an anteroom for security and staff support. The former office will become a small meeting room, as well as support the Lieutenant Governor's office.
10. Ethan Allen room at the rear of the cafeteria to convert back to additional cafeteria seating.
11. Mailroom is near the Sergeant at Arms and in a secure space out of the lobby.
12. Capital Police moved to a space with a direct view to the Public Lobby and new main entrance.
13. Reconfiguration of ramp from card room to cafeteria will have proper landings as required and sit within the new addition.
14. Additional code compliant restrooms, as well as non-gender restrooms.
15. Staff coatroom and lockers, and public coatroom are located off the new lobby.
16. Touchdown workstations and small meeting rooms are placed throughout the building within backfill spaces.
17. Legislative Council stays on the mezzanine level.
18. Lactation room is larger than the existing and has room for a refrigerator, counter, and sink.
19. Infirmary included in plan and could have a counter and sink.
20. Added storage rooms on all levels.
21. Added custodial closets on all levels.
22. Space for servery to be reconfigured.
23. No structure upgrades required for Cafeteria addition, minimizing cafeteria downtime.
24. Location of the new west addition means that no costly structural upgrades will be required in the existing Cafeteria addition.
25. Construction of the new addition will not cause a Cafeteria closure.

Cons:

1. Cost of building 2 1/2 story addition.
2. New west addition visible to some degree from State Street.
3. Addition will be closer to 1 Baldwin and other neighboring buildings than the additions in Options 2 & 3.

4. Supply & exhaust stacks from the mechanical room will need to be extended up above new roof.
5. Ledge removal required for the new elevator and stairs.

Scenario 4 Opinion of Probable Cost

The cost estimates do not include the following: hazardous materials testing & abatement, builder's risk insurance, or relocation costs.

Description	Scenario 4
Construction Costs	
General Conditions	$725,000
Demolition	$160,000
Structural	$0
Vertical Circulation	$535,000
Main Entry Vestibule	$50,000
Level 1	$2,491,250
Mezzanine	$480,250
Level 2	$4,223,750
Level 3	$4,114,825
Level 4	$379,750
Subtotal	$13,159,825
Overhead & Profit 15%	$1,973,974
Subtotal of Construction Costs	**$15,133,799**
Owner's Items	
Contingency - 25% construction	$3,783,450
Material Escalation 6% (2% '24'25'26)	$1,184,398
Design - Architect, prints	$3,329,474
Clerk of The Works	$302,679
Subtotal of Owner's Costs	**$8,600,000**
Total Budget	**$23,733,799**

Scenario 4 Project Schedule

	Duration	Start	Finish
Project Start	Milestone	9/5/2023	-
Schematic Design	4.5 months	9/6/2023	**1/19/2024**
Develop SD	8 weeks	9/6/2023	11/1/2023
SD Estimate	4 weeks	11/2/2023	12/5/2023
Schematic Design (6-week BGS Review)	6 weeks	12/6/2023	1/19/2024
Design Development	7 months	1/22/2024	**8/9/2024**
Initiate DD and Hold for legislative approval	1 week	1/22/2024	1/29/2024
General Assembly Approval of the Project during Session	4 weeks	1/30/2024	**2/28/2024**
Develop DD per Assembly Approval	12 weeks	2/29/2024	5/24/2024
DD Estimate	4 weeks	5/28/2024	6/25/2024
Design Development (6-week BGS Review)	6 weeks	6/26/2024	8/9/2024
Construction Documents	6 months	8/12/2024	**2/7/2025**
Develop 90% Construction Documents	12 weeks	8/12/2024	11/4/2024
90% CD Estimate	4 weeks	11/6/2024	12/4/2024
Construction Documents 90% (7-week BGS Review)	7 weeks	12/5/2024	1/23/2025
Complete Construction Documents	2 weeks	1/24/2025	2/7/2025
Bidding and Negotiation	2.5 months	2/10/2025	**4/25/2025**
Construction through Substantial Completion (2 summer/ fall construction sessions plus 1 full year)	2 years (nonconsecutive)	6/1/2025	**6/29/2028**
Contract Completion (includes 12-month construction warranty period)	1 year + 2 months	6/30/2028	**8/31/2029**

APPENDIX A: STUDY DIRECTIVE

2. **DETAILED REQUIREMENTS/DESIRED OUTCOMES:**

2.1. The primary objective of this project is to ensure for a safer working environment and efficient operation of the State House, provide a secure accessible entrance to mitigate the impact of any future pandemics and allow Legislative functions to continue unimpaired. The following shall be included in the architectural/engineering design firm's scope of work:

2.1.1. The consultant shall review the previous studies to understand the needs and complexities of the State House.

2.1.2. Develop a Basis of Design and update as the design evolves with approval from the State at each phase.

2.1.3. Provide an executive summary of the work and process highlighting the recommended solution, major risks, probable cost of construction and related work and schedule.

2.1.4. Address related requirements in the current BGS Design Guidelines and 2022 BGS Space Management Standards and other referenced standards therein.

2.1.5. Evaluate the rooms in the State House to provide the proper spatial distancing for the function of the room. See the attached spreadsheet: "Existing vs. New Committee Room Square Feet (SF)-Based on Occupancy for Design Program Consideration presented on 11/4/21 to the Legislative Advisory on the State House.

2.1.5.1. Based on the results, evaluate the existing rooms/spaces in the State House to determine if renovation of the existing space(s) can provide some or all of the properly sized committee rooms. Include the possible relocation of any non-committee functions or committees that can be housed outside of the State House in space that is presently used/occupied by the Legislature.

2.1.6. Evaluate the cafeteria serving and seating areas to provide the proper spatial distancing for the legislature, staff, people required to testify, visitors and others who eat or purchase food from the State House cafeteria during the legislative session.

2.1.6.1. Based on the results, evaluate the most cost-effective option to alter the service area and increase the seating area.

2.1.7. The 1987 Cafeteria Addition designed by Architect Robert Burley was designed to add an addition floor above the cafeteria. If the evaluations validate that an addition is required, the addition should be another floor above the cafeteria. However, the contractor shall provide alternative options; good, better, best for evaluation and consideration, include cost estimates for each.

2.1.8. During the pandemic, only the loading dock entrance, on the westside of the building, was used. This entrance is fully accessible and the vestibule provided an area for the health screening all people entering the building. However, the vestibule is not large enough for this function. It does allow for the proper spatial distancing of people entering and exiting the building and does not have any storage for pandemic supplies or furnishings for the Capital Police to provide proper health or security screening of people entering the State House. During screenings, a line would form with the stacking of people out into the loading dock area. This area has idling trucks and three sloped roofs that allow snow to fall from, possibly on waiting people.

2.1.8.1. Develop a solution(s) for an entrance the correct amount of space to provide the proper spatial distancing for people entering and exiting the building, a safe waiting area, storage for pandemic supplies and furnishings for screening.

2.1.9. The 2nd Floor of the 1859 State House: Senate Chamber, House of Representatives Chamber, Governor's Ceremonial Office, Cedar Creek Room, Flag Hall and adjacent stair corridors are not covered by a water suppression system. Provide an automatic high-pressure, wet-pipe water mist fire suppression system in accordance with the National Fire Protecting Association for these areas. (**State Funded**)

2.1.10. All options are to include the infrastructure needs for any future phases of expansion. (**State Funded**)

2.1.11. With the renovation of the State House, installation of a mist sprinkler system and possible modification to the west entrance, provide a code review by a code specialist. (**State Funded**)

2.1.12. The design shall continue to maintain an attractive, user-friendly interior work environment, including full accessibility for the physically impaired and shall continue to be perceived as a symbol of government. The design shall continue to maintain the natural building surrounds and to preserve the historic integrity of the State House, its previous additions, and grounds.

2.1.13. It is the responsibility of the contractor to determine the need for any federal, state and local permits, provide all necessary information required and complete all applications for BGS to submit.

2.1.13.1. Attendance and development of presentation materials for all public (The Vermont Legislature, Vermont State Historic Preservation Office (SHPO), The Capital Complex Commission, General Public, Public Safety, etc.) meetings/hearings shall be required. A possible of three meetings/hearings per group, during or at the end of each phase, will be required. Due the unknown number of contracted attendees and presentation materials will be required for each meeting/hearing, an allowance of $20,000.00 is included in the Price Schedule. The contractor is to include the $20,000.00 Allowance in the Total Project Cost. The amount of the work in the Allowance will be adjusted via change order for the actual time and material cost to prepare any required meeting/hearing materials and the actual time spent at the meetings/hearings.

2.1.14. The upgrades for the HVAC system for the entire building is in design. Three phases have been developed with phase I beginning in the summer of 2002. Phase I replaces the air handling unit (AHU) that serves the Senate committee rooms and offices on the east end of the first and second floors of the original 1858 building. Phase II is anticipated to start in the summer of 2023, replaces the AHUs that serves the remainder of the first floor of the original 1858 building, the balance of the second floor, and the 3rd floor and includes the installation of the heat source for humidity control, pumps and controls. Phase II may also include the replacement of the fin tube radiation under the window wells in the House and Senate Chambers. Phase III replaces the AHUs that serves the Legislative Council, Mezzanine, Cafeteria, Speaker and Clerk of the House. Depending on the status of any renovations from this RFP, supply chains and project scope. Phase III may be completed at the same time as Phase II, summer of 2023 or will be completed in the summer of 2024. Coordination with the HVAC design team and construction contractor will be required.

2.1.15. Develop a menu of scope and cost choices for the design of good, better, and best building and site design approaches for the State to review and consider at the Programming Phase. Break out the cost for each major component: renovation of existing State House, renovation of space outside of the State House, an addition, reconfigured/renovated cafeteria, addition of a mist sprinkler system and reconfigured/renovated west entrance, etc.

2.1.16. Construction is limited to when the Legislature is not in session, assume June 1 through December 25. The design will need to consider the space needs for the Legislature to assemble and be fully functional when construction is stopped for the Legislative session(s).

2.1.17. It is anticipated that a construction manager (CM) will be under contract during the Design Development phase; however, the bid process and contracting cannot begin until approval and funding by the General Assembly. **(State Funded)**

2.1.17.1. At the end of each phase of design a detailed estimate for the probable cost of construction shall be required. If and when a CM is under contract, the CM will complete the estimate and the cost of the estimate provided by the contractor will be credited back to the State. The CM will review the latest contractor's estimate and the contractor shall work with the CM to mitigate any cost difference.

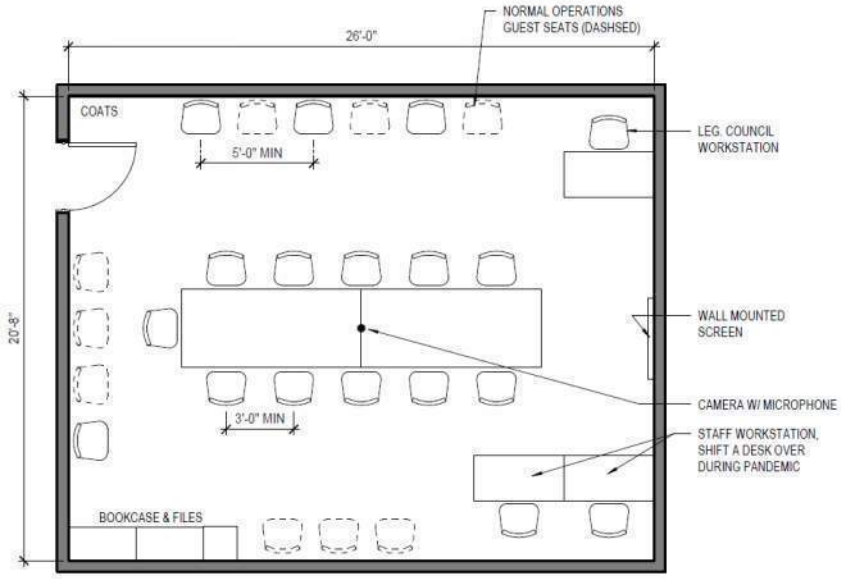
2.1.18. BGS will contract with a third-party commissioning agent, this contractor will be required to work with the commissioning agent. The commission agent will be under contract during the Design Development phase. **(State Funded)**

APPENDIX B: PROGRAM SPACE USE

Typical Large Committee Rooms:

The people in the room in addition to committee members represent legislative staff, legislative counsel, and testifiers, witnesses, media, etc.

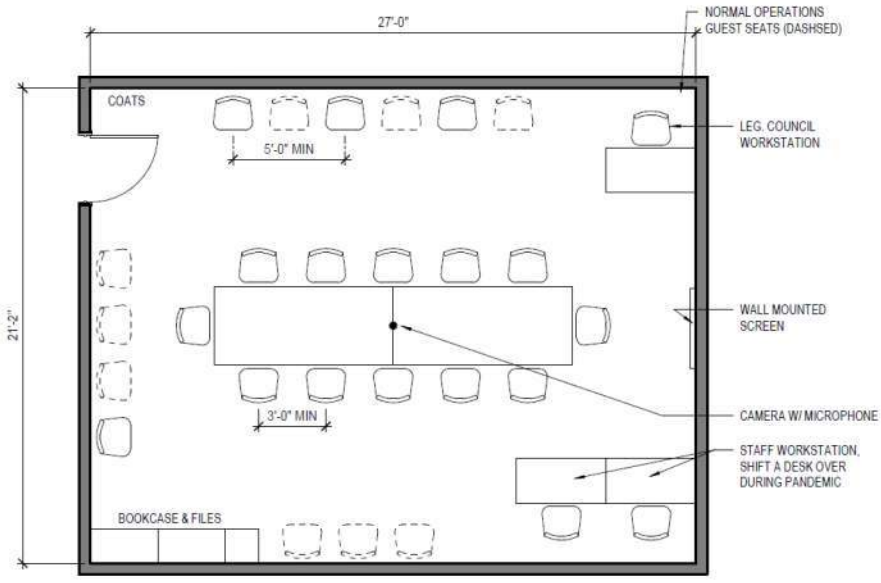
11-member committee + 7 = 18
18 people X 30 SF/person = 540 SF



30 SF PER PERSON = PANDEMIC
11 COMMITTEE MEMBERS
2 COMMITTEE STAFF
1 LEGAL COUNCIL
4 ADDITIONAL SEATS (TESTIMOY, ATTORNEY, MEDIA)
18 OCCUPANTS
18 X 30 SF = 540 SF

20 SF PER PERSON = NORMAL OPERATIONS
11 COMMITTEE MEMBERS
2 COMMITTEE STAFF
1 LEGAL COUNCIL
13 ADDITIONAL SEATS (TESTIMOY, ATTORNEY, MEDIA)
27 OCCUPANTS
27 X 20 SF = 540 SF

12-member committee + 7 = 19
19 people X 30 SF/person = 570 SF



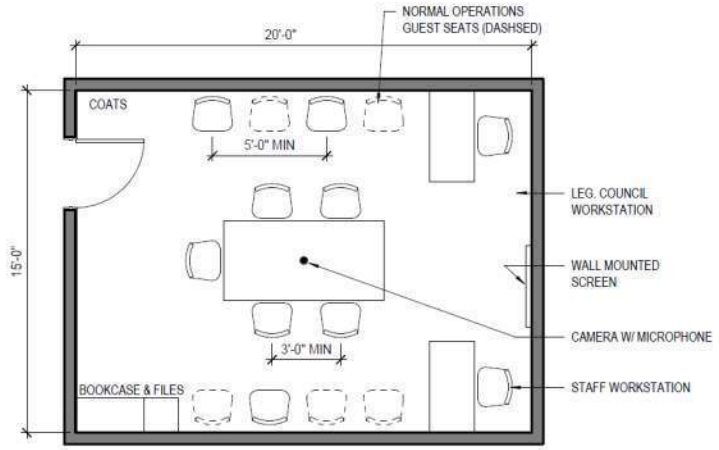
30 SF PER PERSON = PANDEMIC
12 COMMITTEE MEMBERS
2 COMMITTEE STAFF
1 LEGAL COUNCIL
4 ADDITIONAL SEATS (TESTIMOY, ATTORNEY, MEDIA)
19 OCCUPANTS
19 X 30 SF = 570 SF

20 SF PER PERSON = NORMAL OPERATIONS
12 COMMITTEE MEMBERS
2 COMMITTEE STAFF
1 LEGAL COUNCIL
13 ADDITIONAL SEATS (TESTIMOY, ATTORNEY, MEDIA)
28 OCCUPANTS
28 X 20 SF = 560 SF MIN

Typical Small Committee Rooms:

The people in the room in addition to committee members represent legislative staff, legislative counsel, and testifiers, witnesses, media, etc.

5-member committee + 5 = 10
10 people X 30 SF/person = 300 SF

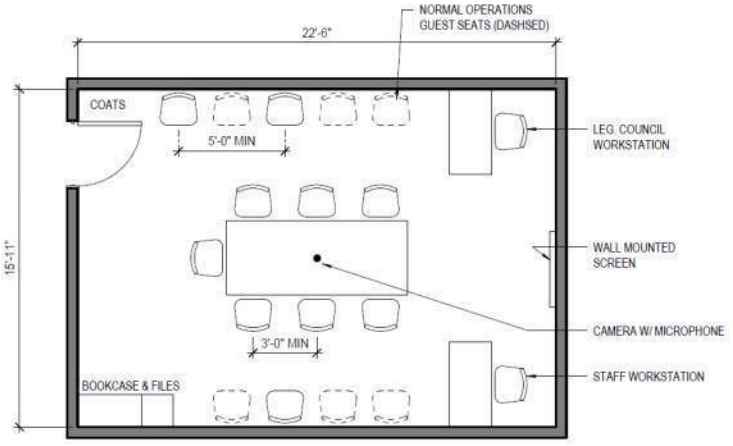


30 SF PER PERSON = PANDEMIC
5 COMMITTEE MEMBERS
1 COMMITTEE STAFF
1 LEGAL COUNCIL
3 ADDITIONAL SEATS (TESTIMOY, ATTORNEY, MEDIA)
10 OCCUPANTS
10 x 30 SF = 300 SF

20 SF PER PERSON = NORMAL OPERATIONS
5 COMMITTEE MEMBERS
1 COMMITTEE STAFF
1 LEGAL COUNCIL
8 ADDITIONAL SEATS (TESTIMOY, ATTORNEY, MEDIA)
15 OCCUPANTS
15 X 20 SF = 300 SF

6-member committee + 5 = 11
11 people X 30 SF/person = 330 SF

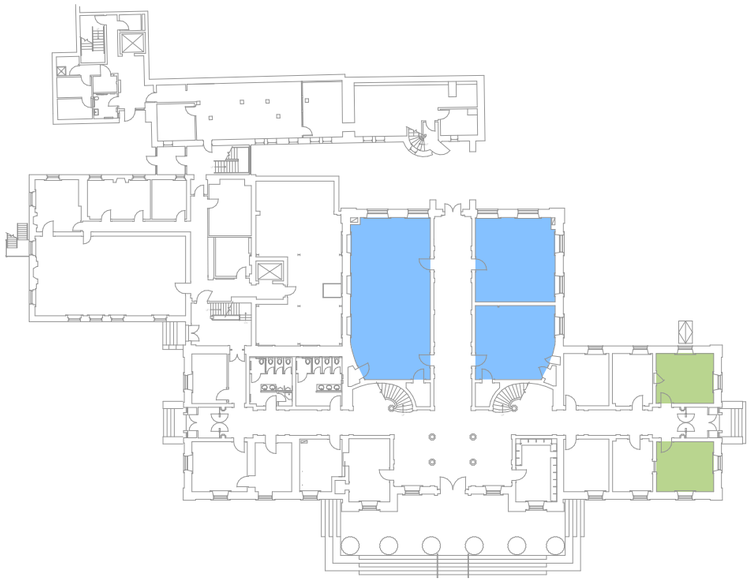
7-member committee + 5 = 12
12 people X 30 SF/person = 360 SF



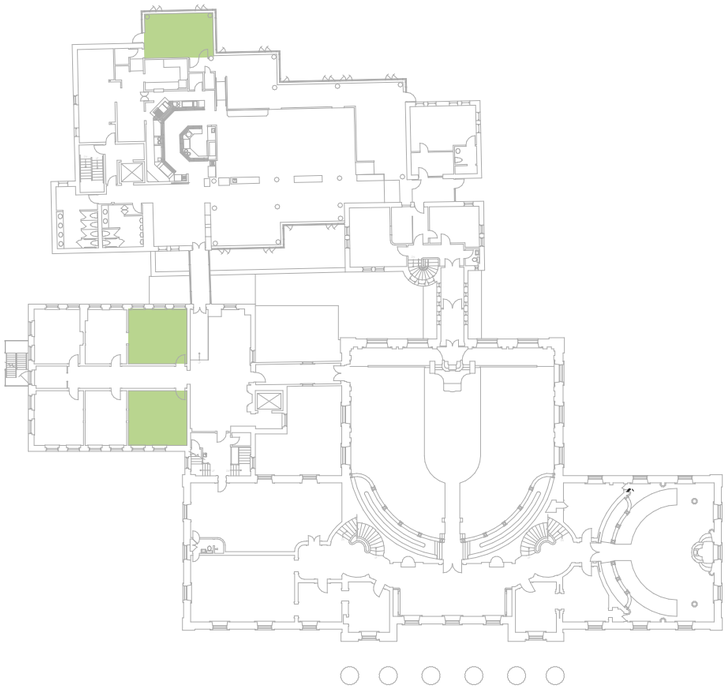
30 SF PER PERSON = PANDEMIC
7 COMMITTEE MEMBERS
1 COMMITTEE STAFF
1 LEGAL COUNCIL
3 ADDITIONAL SEATS (TESTIMOY, ATTORNEY, MEDIA)
12 OCCUPANTS
12 x 30 SF = 360 SF

20 SF PER PERSON = NORMAL OPERATIONS
7 COMMITTEE MEMBERS
1 COMMITTEE STAFF
1 LEGAL COUNCIL
9 ADDITIONAL SEATS (TESTIMOY, ATTORNEY, MEDIA)
18 OCCUPANTS
18 X 20 SF = 360 SF

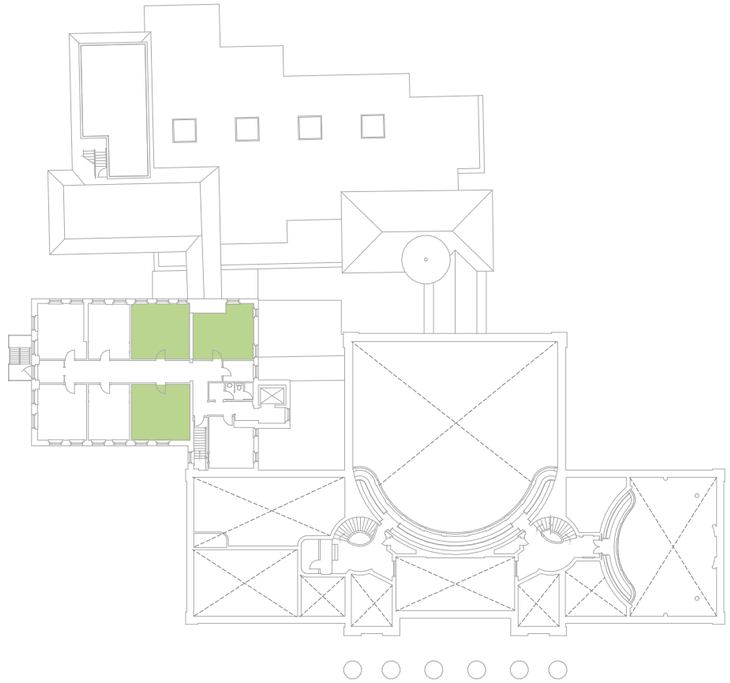
APPENDIX C: STATE HOUSE REUSE DIAGRAMS



FIRST FLOOR DIAGRAM



SECOND FLOOR DIAGRAM



THIRD FLOOR DIAGRAM

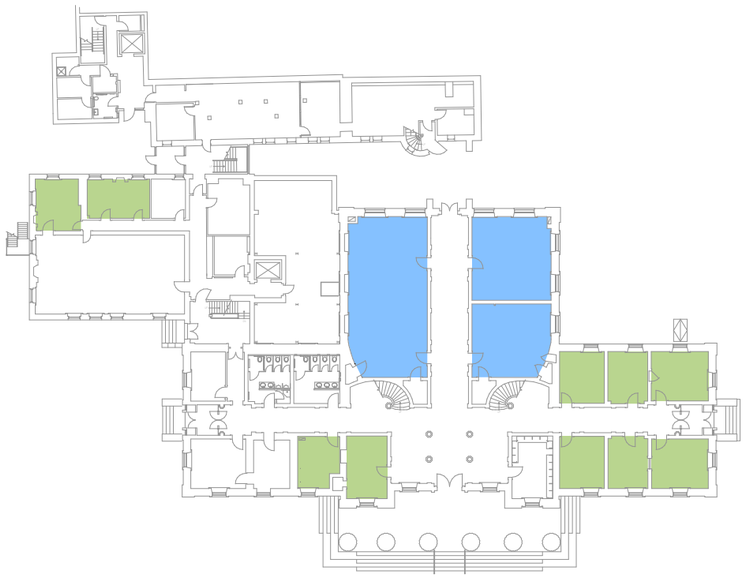
SPACE USE KEY - MINIMUM 30 SF / PERSON

- LARGE COMMITTEE ROOM - MEMBERS, SUPPORT & PUBLIC - UP TO 19 PEOPLE TOTAL
- SMALL COMMITTEE ROOM - MEMBERS, SUPPORT & PUBLIC - UP TO 12 PEOPLE TOTAL

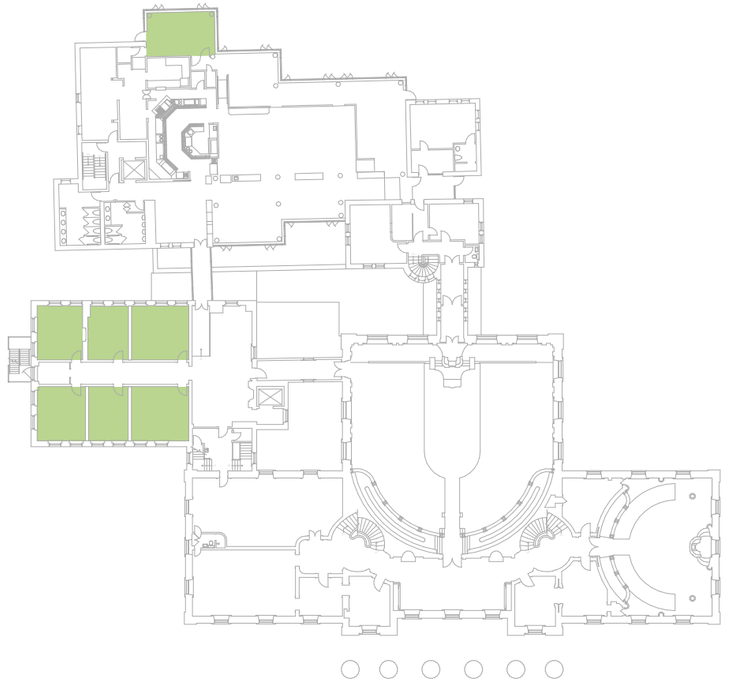
NOTE: CURRENT LEGISLATIVE COMMITTEES REQUIRE 11 SMALL & 13 LARGE ROOMS.

STATE HOUSE SPACE REUSE DIAGRAMS PANDEMIC OPERATION 30 SF / PERSON

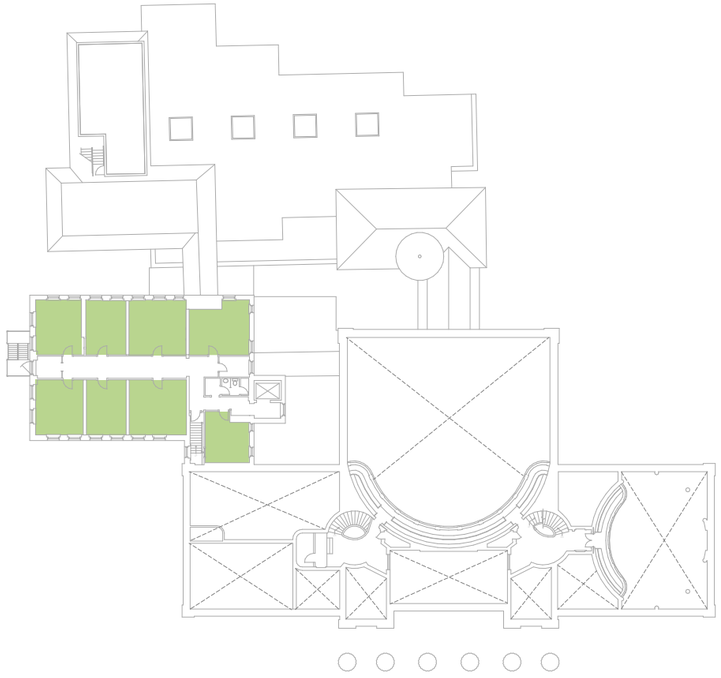
freeman | french | freeman



FIRST FLOOR DIAGRAM



SECOND FLOOR DIAGRAM



THIRD FLOOR DIAGRAM

SPACE USE KEY - MINIMUM 20 SF / PERSON

- LARGE COMMITTEE ROOM - MEMBERS, SUPPORT & PUBLIC - UP TO 19 PEOPLE TOTAL
- SMALL COMMITTEE ROOM - MEMBERS, SUPPORT & PUBLIC - UP TO 12 PEOPLE TOTAL

NOTE: CURRENT LEGISLATIVE COMMITTEES REQUIRE 11 SMALL & 13 LARGE ROOMS.

STATE HOUSE SPACE REUSE DIAGRAMS NORMAL OPERATION 20 SF / PERSON

freeman | french | freeman

APPENDIX D: COMMITTEE MEMBER SQUARE FEET/ PERSON CHART

# of Committee Members	Seat count in August 2020	Seat count in 2023	Proposed seat count during a pandemic	Proposed seat count "B" during normal operations
	(11-12 SF/ person)	(15 SF/ person)	(30 SF/ person)	(20 SF/ person)
5	16	15	10	15
6	18	15	11	16
7	25	18	12	18
11	24	18	18	27
12	25	21	19	28

This chart demonstrates the number of occupants that will fit in the ideal pandemic size committee rooms based on the varying occupant load calculations (SF/ person). Either a pandemic or normal operating condition will lead to a recommended number of people (legislative staff, legislative counsel, testifiers, observers, journalists) in the rooms in addition to the committee members.

APPENDIX E: CODE REVIEW

CODE REVIEW

Project Name: The Vermont Statehouse
Site Location: Montpelier, VT
Owner: The State of Vermont

CONTENTS

BUILDING CODE VARIANCES

BUILDING CODE VARIANCES (APPROVED BUILDING CODE VARIANCES FOR THIS PROJECT):

OTHER CODES AND STANARDS:

PLUMBING CALCULATION

2015 VERMONT COMMERCIAL BUILDING ENERGY STANDARDS

ACCESSIBILITY

2014 VT. ELEVATOR SAFETY RULES

END TABLE OF CONTENTS

EXECUTIVE SUMMARY

The purpose of this report is to present the findings of a comprehensive building code review conducted for the Vermont Statehouse. The review focused on the provisions of the Vermont Fire and Building Safety Code, and relevant portions of the 2015 NFPA 101, and 2015 International Building Code (IBC). The goal is to assess the compliance of the Statehouse with the applicable codes and standards, towards ensuring the safety, accessibility, and regulatory requirements of the building.

1. 'Codes' are based on currently adopted codes by the State of Vermont (AHJ): currently the 2015 Fire and Building Safety Code and associated codes and standards (see below). The State has said they are '*looking at the summer or fall of 2023*' to adopt the 2021 codes.
2. The building is the Vermont Statehouse. There is a planned renovation / expansion being considered, which is an opportunity to resolve many or all of the concerns outlined in this report.
3. Occupancies: Mixed and/or unseparated occupancies.
   a. Assembly (A3) 2015 NFPA 101 (Ch. 12 new; Ch. 13 existing)
   b. Business (B) 2015 NFPA 101 (Ch. 38 new; Ch. 39 existing)
4. Overall Building Occupancy Count is about 1518 total occupants (See table below). This is comprised of three (or four) buildings, constructed at different times.
5. It is our understanding that the following issues are known to the authority having jurisdiction (AHJ) as not in strict compliance with the current codes but are allowed to continue because in the opinion of the AHJ, reasonable life safety against the hazards of fire, explosion, and panic is provided and maintained.
   a. Ideally all parts of this building would have a full NFPA 13 sprinkler system. The sprinkler system is incomplete, as it does not protect the senate nor the house chambers, as well as other spaces in the main original building.
   b. There are unprotected vertical openings / stairs in the lobby (uncompliant vertical openings).
   c. The single means of egress from the senate chamber is non-compliant, and poses a life-safety and security risk.
6. There are significant issues with exiting and exit access particularly on L2 and 3 in the main original building.
7. Some of the stairs intended for exiting are non-compliant as exits. (For instance, they do not egress directly outside).
8. The main entry door to the main original building should be available as an exit as an assembly occupancy building, but it is currently not set up in that way.
9. The beautiful pair of spiral staircases in the main lobby create vertical openings which cause the possibility of fire or smoke to easily flow from one level to the other.
10. There are ADA access issues, some minor and some more significant.
    The parking and building access are a major concern, as is the lack of any 'Area of Refuge'. Minor concerns are for instance, the granite threshold into the ADA restrooms on the first floor of the main building have a greater than ½" rise, historic doorways and door hardware does not comply with current requirements.
11. The Plumbing fixture count suggest these buildings are woefully non-compliant. Women (and/or gender-neutral restrooms) are particularly egregiously underserved.
12. Modified components of this project will need to comply with the current version of the Vermont Commercial Energy Standard (2015 Vt CBES at the time of this report), with some exceptions for historic buildings. Compliance with the 'Energy Code' for existing portions of this building is beyond the scope of this report, but should be considered for any newly added or renovated component.

SUMMARY:

Building Code Compliance Assessment:

1. Means of Egress / Lack of Adequate Means of Egress:

- Concern: Upgrade the means of egress systems, including exit corridors, exit doors, and stairways, to ensure compliance with the required capacity, width, and accessibility requirements. There are currently inadequate or improperly designed means of egress, including narrow exit corridors, insufficient exit doors, or inadequate stairways.

Of particular concern is the path of travel for most exits rely on components that do not meet the intent of the code. Stairways are not properly enclosed, and/or do not lead to a public way safely. The number of means of egress is non-compliant with current code requirements. And there is not appropriate consideration of the egress needs relating to ADA.

- Code Reference: Vermont Fire and Building Safety Code, 2015 NFPA 101 – Chapter 7, 8, 12, & 38

2. Fire Protection Systems / Inadequate Fire Protection Systems:

- Concern: Ensure proper installation, maintenance, and functionality of fire protection systems, including fire alarm and detection systems, fire sprinklers, and fire extinguishers. The absence of an automatic fire sprinkler system in much of the Main building has been resolved in the past through addition of a robust smoke detections system, which provides additional time for occupant to evacuate in the case of a fire event. This does nothing for people with limited mobility where evacuation times may be much longer, and often involves waiting for assistance. Nor does it address other safety and security risks, (such as an active shooter event) in which occupants would benefit greatly from alternative exiting options.
- Code Reference: Vermont Fire and Building Safety Code, 2015 NFPA 101 - Section 9.6, 2015 IBC - Chapter 9.

3. Accessibility Features:

- Concern: Address accessibility concerns, including the provision of appropriate vertical access and areas of refuge, to ensure compliance with ADA requirements and provide safe evacuation options for individuals with disabilities. The parking capacity required by ADA is not being met (which is outside of the scope of this report). The building does not address ‘Areas of Refuge’, an important part of the egress for people with mobility issues. There does not appear to be an elevator sized to accommodate a stretcher as outlined in code. Those three items (ADA Parking, A.O.R, and a stretcher elevator) are of very high importance, and should be addressed in the near term. There were many other ADA issues found, which have been addressed in the past with non-architectural accommodations, which we understand seems to work for the time being.
- Code Reference: 2012 Vermont Access Rules, 2015 NFPA 101 - Section 4.1, ADA Accessibility Guidelines

4. Fire-Rated Construction / Inadequate Fire-Rated / Smoke-Rated Construction:

- Concern: Verify and ensure that fire-rated construction assemblies, such as walls, floors, and roofs, meet the required fire resistance ratings to prevent the spread of fire and ensure occupant safety.

This building is comprised of three parts, the Main Building, the Annex, and the Addition. (The Addition may be understood to be 2 separate parts due to the age difference of the areas constructed, but are considered a single building / area for this report). Each area of the building provides horizontal means of escape (Horizontal exits), from other adjacent parts. The lack of a full

NFPA 13 Sprinkler system in the Main building put's it out of compliance with the allowable area per code [given the assumed construction type of III(200)]. Any addition that connects the three parts (and that increases the building footprint by over about 2,000sf) would almost certainly need to be separated from the rest of the building(s) with a Fire Wall or High Challenge Fire Wall (if the IBC 'Risk Factor' so requires, per VT Amendments in the Fire and Building Safety code).

Also of concern is the open grand stairways in the main building lobby. These are understood by the code as Vertical Openings, which allow smoke and fire to travel from floor to floor unhindered. It is our belief that the egress applicability of these stair is in question and at least an alternative stairway should be added as a separate and safe means of egress from both the House and Senate chambers and balconies. This enclosed and rated exit should also provide consideration for those of us who rely on Areas of Refuge to keep us safe.

The area known as the 'mezzanine' does not comply with the code definition of a mezzanine and is understood to be a true floor or story as it related to Building codes.

- Code Reference: Vermont Fire and Building Safety Code, 2015 NFPA 101 - Section 8.2, 2015 IBC - Section 707

5. Plumbing

- Concern: Upgrade plumbing systems to meet the necessary standards, including adequate fixture requirements for occupant comfort and safety.

  The Plumbing fixture count is too low and should be addressed. There should be the necessary addition of Accessible and gender-neutral facilities at the same time as the plumbing fixture count is being brought up to code minimums.

- Code Reference: 2021 Vermont Plumbing Rules, 2021 International Plumbing Code

6. Improper Mechanical Systems and Ventilation:

- Concern: Inadequate ventilation systems that do not provide sufficient fresh air exchange or fail to remove harmful gases or pollutants.

We believe the ventilation concerns are being address by the current HVAC project being undertaken.

- Code Reference: Vermont Fire and Building Safety Code, 2015 NFPA 101 - Section 9.3, &- Section 11; 2015 IBC - Chapter 4.

7. Non-Compliant Storage & Hazardous Materials Storage:

- Concern: Improper storage or handling of combustible materials was observed to be prevalent. Of primary concern is the storage of bulk paper goods and cleaning supplies in the stairways. This is a practice that should be strongly discouraged. It is our hope that additional storage may be provided with added space for much needed storage, which will go a long way towards resolving this issue.

  Hazardous materials, which poses a risk to occupants and the environment were not reviewed as a part of this report.

- Code Reference: Vermont Fire and Building Safety; 2015 NFPA 101 - Section 9.6, 2015 IBC - Chapter 27.

8. Structural Instability or Weakness:

- Concern: Structural components that exhibit signs of deterioration, damage, or lack of structural integrity are not a part of this report, but are understood to be part of the larger investigation currently occurring.

- Code Reference: Vermont Fire and Building Safety Code, 2015 NFPA 101 - Section 6.1, 2015 IBC - Chapter 16

9. Inadequate Fire Alarm and Detection Systems:
- Concern: Insufficient or malfunctioning fire alarm and detection systems, which may delay the timely detection and response to fires. The fire alarm system was not explicitly researched as a part of this report, but it is important in this building to maintain the systems in good working order, as it is relied upon for the current code variance allowing the building to remain in use.
- Code Reference: Vermont Fire and Building Safety Code, 2015 NFPA 101 - Section 9.6, 2015 IBC - Chapter 9.

Summary Conclusion: Based on this building code review conducted for the Vermont Statehouse: The building has code challenges that are mostly understood and have addressed in the past. The approach taken in the past seems to have resolved some of the fire egress issues in the mind of the code officials at the time. But some significant occurrences have transpired since those concerns were addressed. There has been an increase in gun violence in public places, there was the Jan. 6, 2021 security breach at the US Capital, COVID 19 the worldwide pandemic, and a greater awareness of ADA and equality rights. For these reasons, and in the increased interest in the safety and security of the people that use the Statehouse, we feel that this is the right time to look with fresh eyes at how these safety concerns at the Statehouse may be re-addressed.

This assessment enumerates these building code concerns and we recommend developing a comprehensive plan for code compliance. Collaboration with the relevant authorities and obtaining the necessary permits and approvals for modifications or improvements is crucial.

The compliance of the Vermont Statehouse with the applicable codes and standards is essential to ensure the safety, accessibility, and regulatory requirements of the building. It is recommended to prioritize the necessary upgrades and modifications to achieve full compliance.

Should you require any further clarification or assistance regarding the code compliance issues raised in this review, please do not hesitate to contact me. I am available to discuss this matter in more detail and provide additional guidance as needed.

BUILDING COMPONENTS / BUILDINGS:

For the purpose of this report, we recognize this complex as three distinct, connected buildings.

The original main building constructed in 1859 (the ‘third statehouse’),
The 1886 Annex and
The 1987 Addition (including the speakers annex built in 1900).

APPLICABLE CODES AND STANDARDS:

List not inclusive of all relevant, applicable, or referenced codes.
Note: State owned buildings including those of the Capitol Complex may be exempt from some permitting requirements; however, generally each State-owned building shall be constructed or altered, to the maximum extent feasible, in compliance with the currently adopted codes and standards.

State Codes

• Vermont Fire and Building Safety Code	2015 edition
• Vermont Electrical Safety Rules	2020 edition
• Vermont Plumbing Rules	2021 edition
• Vermont Elevator Rules	2014 edition
• Vermont Access Rules (ADA)	2012 edition

• Commercial Building Energy Standards (CBES)	2020 edition

Model Codes Adopted by Inclusion or Reference

• NFPA 1 Uniform Fire Code & 101 Life Safety Code	2015 edition
• International Building Code (IBC)	2015 edition
• NFPA 70 National Electrical Code	2017 edition
• ICC International Plumbing Code	2021 edition
• The National Board Inspection Code, National Board of Boiler & Pressure Vessel Inspectors	2015 edition

Federal Guidance

• 2010 ADA Standards for Accessible Design	2010 edition

Also See:

https://firesafety.vermont.gov/buildingcode/codes

Matrix of Vermont Fire and Building Codes by Project Type

New Construction	Major Rehabilitation, Modification, Reconstruction No Additions	Building Addition	Existing Building With Change of Use/Renovation
IBC & NFPA 1 & 101 apply. All IBC Chapters apply except Chapters; 8, 10, 11, 13, 27, 28, 29, & 33 NFPA 101 Chapter 1 thru 11 and New Occupancy chapter apply, and all chapters of NFPA 1 as applicable • Purpose of IBC is to safeguard public health, safety and general welfare • Purpose of NFPA 1 & 101 is to provide an environment reasonably safe from fire	IEBC applies to structural requirements only Refer to NFPA 101 Chapter 43 for Building rehabilitation, and appropriate occupancy chapter NFPA 1 applies Refer to NFPA 220 for type of construction (NFPA 101 page 404)	IBC applies to new construction. IEBC applies to existing structural requirements only Refer to NFPA 101 Chapter 43 for Building rehabilitation, and appropriate occupancy chapter NFPA 1 applies Refer to NFPA 220 for type of construction (NFPA 101 page 404)	IEBC applies to structural requirements only Refer to NFPA 101 Chapter 43 for Building rehabilitation, and appropriate occupancy chapter NFPA 1 applies NFPA 101 chapter applies to existing building section not being altered 1- Determine occupancy use 2- Refer to NFPA 220 for type of construction (page 404)

1- Always determine occupancy type first
2- Include a code analysis with plan submittal for all new or large renovation projects
3- Vermont Fire & Building Code Amendments apply to all categories above
4- Vermont Access Rules and 2012 ADA Standards for Accessible Design applies to all categories
5- Vermont Electrical, Plumbing and Elevator Rules applies to all categories
6- NFPA 1 applies to all categories, in addition to referenced standards in IBC, NFPA 1 & 101
7- When a conflict between codes is identified, NFPA governs for all categories, or where one code or standard has a requirement and another code or standard does not have a requirement the code or standard with a requirement shall apply.
8- Some communities have adopted rules and regulations that exceed State codes. Please contact them directly to learn what their requirements are and how they may affect your project. **See Annex I**

https://firesafety.vermont.gov/sites/firesafety/files/files/rules/dfs_rules_firecode2015_current.pdf

GENERAL NOTES:

Code references are from the 2015 NFPA 101 Life Safety Code unless otherwise noted Text in *Italic* is quoted (or paraphrased) from the code text.

We have attempted to faithfully represent the code intent here, but the actual code should be referenced where a decision may come down to specific code language.

The building has not been evaluated for requirements of the Vermont Commercial Building Energy Standards (2020 CBES).

ADDITIONAL NOTES:

2015 IBC Table 1604.5 - Risk Category of buildings and other structures: This building in understood to be Risk Category IV (as a designated emergency preparedness operation center). If not, and all else is the same and hazardous materials are minimal, then it is a Type III as including public assembly with over 300 occupants (based on area). Clarification is requested.

Fundamental requirements: The following are some of the fundamental requirements listed in 2015 NFPA 101 - the Life Safety Code.

4.5.3.1 Number of Means of Egress.
Two means of egress, as a minimum, shall be provided in every building or structure, section, and area where size, occupancy, and arrangement endanger occupants attempting to use a single means of egress that is blocked by fire or smoke. The two means of egress shall be arranged to minimize the possibility that both might be rendered impassable by the same emergency condition.

4.5.3.2 Unobstructed Egress.
In every occupied building or structure, means of egress from all parts of the building shall be maintained free and unobstructed. Means of egress shall be accessible to the extent necessary to ensure reasonable safety for occupants having impaired mobility.

4.5.3.3 Awareness of Egress System.
Every exit shall be clearly visible, or the route to reach every exit shall be conspicuously indicated. Each means of egress, in its entirety, shall be arranged or marked so that the way to a place of safety is indicated in a clear manner.

…

4.5.6 Vertical Openings.
Every vertical opening between the floors of a building shall be suitably enclosed or protected, as necessary, to afford reasonable safety to occupants while using the means of egress and to prevent the spread of fire, smoke, or fumes through vertical openings from floor to floor before occupants have entered exits.

GENERAL CODE REQUIREMENTS FOR EXISTING BUILDINGS:

Existing portions of the structure used as business occupancy shall not be required to be modified, provided that the new construction has not diminished the fire safety features of the facility. (2015 NFPA 101 38.1.1.5).

The existing portions of the building housing assembly occupancies established prior to the effective date of this Code shall be permitted to be approved for continued use if it conforms to, or is made to conform to, the provisions of this Code to the extent that, in the opinion of the authority having jurisdiction, reasonable life safety against the hazards of fire, explosion, and panic is provided and maintained. (2015 NFPA 101: 13.1.1.4).

The provisions of (NFPA 101) shall be permitted to be modified by the authority having jurisdiction for buildings or structures identified and classified as historic buildings or structures where it is evident that a reasonable degree of safety is provided. 2015 NFPA 101 4.6.4.2*

Modification of Requirements for Existing Buildings - Where it is evident that a reasonable degree of safety is provided, the requirements for existing buildings shall be permitted to be modified if their application would be impractical in the judgment of the authority having jurisdiction. (2015 NFPA 101 4.6.5*)

Except where another provision of this Code exempts a previously approved feature from a requirement, the resulting feature shall be not less than that required for existing buildings. (2015 NFPA 101 *4.6.7.3)*

CODE EVALUATION (BUILDING, FIRE AND LIFE-SAFETY CODES):

GENERAL REQUIREMENTS _.1		
CODE	**ARTICLE**	
2015 NFPA 101	13.1.1.6	*Existing portions of buildings shall be upgraded if the addition results in an increase in the required minimum number of separate means of egress* in accordance with 7.4.1.2*.
	13.1.1.7	*Existing portions of the structure shall not be required to be modified, provided that both of the following criteria are met:* *(1) The new construction has not diminished the fire safety features of the facility.* *(2) The addition does not result in an increase in the required minimum number of separate means of egress in accordance with 7.4.1.2*.*
	13.1.1.8	*An assembly occupancy in which an occupant load increase results in an increase in the required minimum number of separate means of egress, in accordance with 7.4.1.2*, shall meet the requirements for new construction.*
	** 7.4.1.2*	*The number of means of egress from any story or portion thereof, other than for existing buildings as Permitted in Chapters 11 through 43, shall be as follows:* *(1) Occupant load more than 500 but not more than 1000 — not less than 3* *(2) Occupant load more than 1000 — not less than 4*
	A. 8.3.1.1(4)	*Walls in good condition with lath and plaster, or gypsum board of not less than ½ in. (13 mm) on each side, can be considered as providing a minimum ½-hour fire resistance rating.*

Note:

OCCUPANCY CLASSIFICATION _.1.2 ; 6.1			
CODE	**ARTICLE**	**GROUP**	**DEFINITION**
IBC NFPA 101		**Separated & Un-Separated Mixed Use**	
IBC NFPA 101	303.4 Ch. 12 / 13	**Assembly (A3)**	
IBC NFPA 101	304 Ch. 38 / 39	**Business (B)**	

Note: Due to the office nature of portions of the building, it is treated as unseparated mixed use, where noted below. Assembly and Business. Any incidental use (storage, etc.) are treated as accessory business use.
The contents of business occupancies shall be classified as ordinary hazard. (NFPA 101 38.1.5).

EXISTING AREAS PER OCCUPANCY **A3 - Assembly / B - Business** **US - Mixed UnSeparated / S - Separated**	Main / Original Building (sf)	Annex (sf)	Addition (sf)	Sum of areas (sf)	Overall Building(s) footprint (sf)
Basement- Business (B)	-	**3,859**	-	**3,859**	**5,088**
First Floor – Assembly (A3)	4984	1275		6,259	
First Floor – Business (B)	4235	2821	2,520	9,576	
First Floor – Total (Mixed & Separated)	**9219**	**4,096**	**2,520**	**15,835**	**20,806**
'Mezzanine' - Business (B)			**2,789**	**2,789**	**3,955**
Second Floor Assembly (A3)	7,883	3260	4,379	15,522	
Second Floor – Business (B)	1,944		1,660	3,604	
Second Floor Total (Mixed / UnSeparated)	**9,827**	**3,260**	**6,039**	**19,126**	**25,055**
Third Floor- Business (B)		3042		3,042	
Third Floor / Balconies **-** Assembly (A3)	2,081			2,081	
Third Floor Total (Separated)	**2081**	**3,042**		**5,123**	**6,033**
Fourth floor - Attic (Unoccupied)	**1,462**			**1,462**	
Total Building Area (per interior space) The sum of totals above	22,589	14,257	11,348	**48,194**	
Total Building Area (per plan take-off at exterior wall line)	12,192 (largest floor footprint)	5,286 (largest floor footprint)	8,893 (largest floor footprint)		**60,937** (sum of above)

Notes:
Adding largest floor footprints of each building results in 26,371sf

Simultaneous Occupancy: Exits shall be sufficient for simultaneous occupancy of both the assembly occupancy and other parts of the building, except where the authority having jurisdiction determines that the conditions are such that simultaneous occupancy will not occur. (2015 NFPA 101 13.1.3.3*)

Where there are differences in the specific requirements in the (code chapter for new business occupancy) and provisions for mixed occupancies or separated occupancies … the requirements of the business chapter shall apply. (2015 NFPA 101 38.1.3.1.2)

'MEZZANINE'		
The term 'Mezzanine' is used in this report because that is term that has been applied to this space over time. But the space is not technically a Mezzanine by code definitions and is in fact a level or story.		
	CODE & ARTICLE	
2015 NFPA 101	3.3.178	A Mezzanine.is defined as "*An intermediate level between the floor and the ceiling of any room or space.*"
	8.6.10	**Mezzanines.** *All portions of a mezzanine, other than walls not more than 42 in. (1065 mm) high, columns, and posts, shall be open to and unobstructed from the room in which the mezzanine is located, unless the occupant load of the aggregate area of the enclosed space does not exceed 10.* (8.6.10.3.1). *A mezzanine having two or more means of egress shall not be required to open into the room in which it is located if not less than one of the means of egress provides direct access from the enclosed area to an exit at the mezzanine level.* 8.6.10.3.2

CONSTRUCTION CLASSIFICATION		
BUILDING	**CODE & ARTICLE**	**Construction type (**based on observed existing building construction)
Main / Original Building	IBC 503	Construction Type III B
Annex		Construction Type III B (based on observed existing building construction)
Addition		Construction Type III B (based on observed existing building construction) (Possibly II B – 'Unprotected Non-Combustible).

Note:

(NFPA 101) **[IBC]**
III (000) [III-B]
"Ordinary" / masonry construction (Based on existing condition casual observation by Architect)

***Additions or connected structures of different construction types (2015 NFPA 101* 8.2.1.3)**

Where the building or facility includes additions or connected structures of different construction types, the rating and classification of the structure shall be based on one of the following:

- *(1) Separate buildings, if a 2-hour or greater vertically aligned fire barrier wall in accordance with NFPA 221,* Standard for High Challenge Fire Walls, Fire Walls, and Fire Barrier Walls*, exists between the portions of the building*
- *(2) Separate buildings, if provided with previously approved separations*
- *(3) Least fire-resistive construction type of the connected portions, if separation as specified (above) is not provided.*

MINIMUM CONSTRUCTION REQUIREMENTS _.1.6; 8.2		
CODE	**ARTICLE**	
2015 NFPA 101	12/ 13.1.6	Assembly occupancies shall be limited to the building construction types specified in **Table 13.1.6**, based on the number of stories in height

2015 NFPA 101 Table 13.1.6 Construction Type Limitations for Assembly spaces: (In new and existing buildings)

Construction Type	Sprinklered[a]	Stories in Height[b]	1	2	3
			Annex (1 story above LED)		Main Building (3rd story) Addition (3rd story)
I (442)[c, d]	Yes	(Highest level of Assembly Occupancy allowed per construction type)	X	X	X
	No		X	X	X
I (332)[c, d]	Yes		X	X	X
	No		X	X	X
II (222)[c, d]	Yes		X	X	X
	No		X	X	X
II (111)[c, d]	Yes		X	X	X
	No		X	X	X3
II (000)	Yes		X	X4	NP
	No		X3	NP	NP
III (211)	Yes		X	X	X
	No		X	X	X4
III (200)	Yes		X	X4	NP
	No		X3	NP	NP

X: Permitted for assembly of any occupant load.
X1: Permitted for assembly of any occupant load, but limited to one story below the level of exit discharge.
X2: Permitted for assembly limited to an occupant load of 1000 or less, and limited to one story below the level of exit discharge.
X3: Permitted for assembly limited to an occupant load of 1000 or less.
X4: Permitted for assembly limited to an occupant load of 300 or less.
NP: Not permitted.

[a] Protected by an approved automatic sprinkler system in accordance with Section **9.7** in the following locations:
(1) Throughout the story of the assembly occupancy
(2) Throughout all stories intervening between the story of the assembly occupancy and the level of exit discharge
(3) Throughout the level of exit discharge if there are any openings between the level of exit discharge and the exits serving the assembly occupancy
[b]See **4.6.3**.- The stories in height shall be counted starting with the level of exit discharge and ending with the highest occupiable story containing the occupancy considered.

Note: An assembly space is not permitted on any level above second (above level of exit discharge – LED) in a building of IIIB / III (002) construction type with or without full sprinkler protection.

HEIGHT & AREA CALCULATION (IBC-Table 503, 504 & 506)					
BUILDING		**CODE**	**ARTICLE**	**PERMITTED**	
Main / Original Building	**NS**	IBC	T. 504.3	**Allowable Height** above grade plane = 55'	
		IBC NFPA	T. 504.4 13.1.6	**Allowable Stories** above grade plane = 2 (A3); 3(B) Construction type limitations based on construction type and presence (or lack of) full sprinkler system. III (200) construction types do not allow assembly on Level 3 or above	3 stories + Attic
		IBC	T. 506.2	**Allowable Area** = 9,500 sf (A3); 19,000 sf (B)	12,192 sf Largest floor area (SF) from CAD plan take-off
Annex	S	IBC	T. 504.3	**Allowable Height** above grade plane = 75'	
		IBC	T. 504.4	**Allowable Stories** above grade plane = 3 (A3); 4 (B)	3 stories + Basement
		IBC	T. 506.2	**Allowable Area** 28,500 sf (A3); 57,000 sf (B)	5,286 sf Largest floor area (SF) from CAD plan take-off
Addition	S	IBC	T. 504.3	**Allowable Height** above grade plane 75'	
		IBC	T. 504.4	**Allowable Stories** above grade plane 3 (A3); 4 (B)	3 stories (2 + 'Mezzanine')
		IBC	T. 506.2	**Allowable Area** 28,500 sf (A3); 57,000 sf (B	8,893 sf Largest floor area (SF) from CAD plan take-off

Notes: Frontage increase not calculated.
Assumes IIIB Construction and

Grade Plane. The grade plane shall be established by calculating the average of the finished ground level adjoining the building at all exterior walls. Where the finished ground level slopes down from the exterior walls, the grade 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 ft (1.8 m) from the building, between the building and a point 6 ft (1.8 m) from the building. (2015 NFPA 101 4.6.15)

* See the Construction type limitations on the following pages.

2015 IBC 503.1.2 Buildings on Same Lot;
Two or more buildings on the same lot shall be regulated as separate buildings or shall be considered as portions of one building where the building height, number of stories of each building and the aggregate building area of the buildings are within the limitations specified in Sections 504 and 506. The provisions of this code applicable to the aggregate building shall be applicable to each building.

TABLE 504.3[a]
ALLOWABLE BUILDING HEIGHT IN FEET ABOVE GRADE PLANE

OCCUPANCY CLASSIFICATION	SEE FOOTNOTES	TYPE OF CONSTRUCTION								
		TYPE I		TYPE II		TYPE III		TYPE IV	TYPE V	
		A	B	A	B	A	B	HT	A	B
A, B, E, F, M, S, U	NS[b]	UL	160	65	55	65	55	65	50	40
	S	UL	180	85	75	85	75	85	70	60

TABLE 504.4[a, b]
ALLOWABLE NUMBER OF STORIES ABOVE GRADE PLANE

OCCUPANCY CLASSIFICATION	SEE FOOTNOTES	TYPE OF CONSTRUCTION								
		TYPE I		TYPE II		TYPE III		TYPE IV	TYPE V	
		A	B	A	B	A	B	HT	A	B
A-3	NS	UL	11	3	2	3	2	3	2	1
	S	UL	12	4	3	4	3	4	3	2
B	NS	UL	11	5	3	5	3	5	3	2
	S	UL	12	6	4	6	4	6	4	3

TABLE 506.2[a, b]
ALLOWABLE AREA FACTOR (A_t = NS, S1, S13R, or SM, as applicable) IN SQUARE FEET

OCCUPANCY CLASSIFICATION	SEE FOOTNOTES	TYPE OF CONSTRUCTION								
		TYPE I		TYPE II		TYPE III		TYPE IV	TYPE V	
		A	B	A	B	A	B	HT	A	B
A-3	NS	UL	UL	15,500	9,500	14,000	9,500	15,000	11,500	6,000
	S1	UL	UL	62,000	38,000	56,000	38,000	60,000	46,000	24,000
	SM	UL	UL	46,500	28,500	42,000	28,500	45,000	34,500	18,000
B	NS	UL	UL	37,500	23,000	28,500	19,000	36,000	18,000	9,000
	S1	UL	UL	150,000	92,000	114,000	76,000	144,000	72,000	36,000
	SM	UL	UL	112,500	69,000	85,500	57,000	108,000	54,000	27,000

These three table snippets clipped directly from 2015 IBC.

NS = Buildings not equipped throughout with an automatic sprinkler system; S1 = Buildings a maximum of one story above grade plane equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1; SM = Buildings two or more stories above grade plane equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1; S13R = Buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.2.

2015 101 12/13.1.7.1; 38/39.1.7 Occupant Load.

The occupant load, in number of persons for whom means of egress and other provisions are required, shall be determined on the basis of the occupant load factors that are characteristic of the use of the space or shall be determined as the maximum probable population of the space under consideration, whichever is greater.

OCCUPANT LOAD CALCULATION **A3 – Assembly @ 15sf/occ. / 50 / 100** **B – Business @ 100sf/occ. / 100**	Main / Original Building (sf)	Annex (sf)	Addition (sf)	Overall Building Count (occ.)
Basement - Business (B)		**2**		**2**
First Floor – Assembly (A3)	198	39	0	237
First Floor – Business (B)	90	26	36	152
First Floor – Total (Separated)	**288**	**65**	**36**	**389**
'Mezzanine' - Business (B)			**40**	**40**
Second Floor - Assembly (A3)	470		222	692
Second Floor – Business (B)	30	61	44	135
Second Floor Total (Mixed / UnSeparated)	**500**	**61**	**266**	**827**
Third Floor- Business (B)		57		57
Third Floor - Assembly (A3)	28			28
Third Floor Balconies **-** Assembly (A3)	175			175
Third Floor Total (Separated)	**203**	**57**		**260**
Fourth floor - Attic (Unoccupied)				**0**
Total Building occupant count (per interior space) The sum of totals above	991	185	342	**1,518**

Detailed Occupancy information: Also See separate document

OCCUPANT LOAD INFORMATION - 2015 NFPA 101 Table 7.3.2.1		
CODE	**ARTICLE**	**REQUIRED**
IBC	Chapter 10	Deleted from Vermont Code, see NFPA 101
NFPA 101	Tbl. 7.3.1.2	Use (ft²/person) Assembly 15 / 50 / 100 Business 50 / 100

Many of the calculated occupancy counts have been based on the area of the space divide by the code provided area factor deemed appropriate (see below), in some cases occupancy counts have been used that had been previously established for each space.

Use	(ft^2/person)[a]
Assembly Use	
Concentrated use, without fixed seating	7 net
Less concentrated use, without fixed seating	15 net
Bench-type seating	1 person/18 linear in.
Fixed seating	Use number of fixed seats
Waiting spaces	See 12.1.7.2 and 13.1.7.2.
Kitchens	100
Library stack areas	100
Library reading rooms	50 net
Business Use (other than below)	100
Concentrated Business Use[f]	50

6.1.14.1.2 *Where exit access from an occupancy traverses another occupancy, the multiple occupancy shall be treated as a mixed occupancy.*

A.6.1.14.1.3 *Where incidental to another occupancy, areas used … shall be permitted to be considered part of the predominant occupancy and shall be subject to the provisions of the* Code *that apply to the predominant occupancy.*

EGRESS CAPACITY WIDTHS BASED ON OCCUPANT LOAD 2015 NFPA 101 7.3.3.1 **Width/ person** **Level components and ramps 0.2"** **Stairways 0.3"** **(See occupant load calculations above)**	Main / Original Building (sf) (Level & ramps / Stairs)	Annex (sf) (Level & ramps / Stairs)	Addition (sf) (Level & ramps / Stairs)
Basement - (Level & ramps / Stairs)		1" / 1"	
First Floor - (Level & ramps / Stairs)	**58" / 87"**	13" / 20"	8" / 11"
'Mezzanine' - (Level & ramps / Stairs)			8" / 12"
Second Floor - (Level & ramps / Stairs)	**100" / 150"**	13" / 19"	**54" / 80"**
Third Floor- **-** (Level & ramps / Stairs)		12" /18"	
Third Floor - (Level & ramps / Stairs)	6" / 9"		
Third Floor **-** (Level & ramps / Stairs)	35" / **53"**		
Third Floor Total - (Level & ramps / Stairs)	**41" / 61"**	12" /18"	

Note: These conditions (Width based on occupant load) likely are not the governing factor in determining egress width. 2015 NFPA 101 7.3.4.1(2) Egress width shall be *Not less than 36 in. where another part of this chapter and Chapters 11 through 43 do not specify a minimum width.*

12.2.3.2 Theater-Type Seating. Capacity factor - Clear width per (assembly area) seat served.
Minimum clear widths of aisles and other means of egress serving theater-type seating, or similar seating arranged in rows, shall be in accordance with Table 12.2.3.2.

	12.2.3.2 Clear Width per Seat Served	
	Stairs	**Passageways, Ramps, and Doorways**
No. of Seats	**in.**	**in.**
Unlimited	0.3 *AB*	0.22 *C*

REQUIRED SEPARATION OF OCCUPANCIES (Hours) From 2015 NFPA 101 Table 6.1.14.4.1 (For Separated Occupancies):		
Required Separation of Occupancies (Hrs.)	Separation between **Assembly (A3) & Business (B)** for occupancies to be considered 'separated' (Otherwise 'mixed' occupancy)	**1H FRR** With full sprinkler system and / or under 301 occupant space, otherwise **2H FRR**

Table 6.1.14.4.1(b) Required Separation of Occupancies (hours)†, Part 2

Occupancy	Business
Assembly ≤ 300	1
Assembly >300 to ≤1000	2
Assembly >1000	2

†Minimum Fire Resistance Rating. *The fire resistance rating is permitted to be reduced by 1 hour, but in no case to less than 1 hour, where the building is protected throughout by an approved automatic sprinkler system in accordance with 9.7.1.1(1) and supervised in accordance with 9.7.2.*

SEPARATED / MIXED OCCUPANCIES		
CODE	**ARTICLE**	**REQUIREMENT**
2015 NFPA 101	*6.1.14.4.1*	*Where separated occupancies are provided, each part of the building comprising a distinct occupancy… shall be completely separated from other occupancies by fire-resistive assemblies.* Where occupancies are designed as mixed and/or unseparated: ***6.1.14.3.2**** *The building (or areas) shall comply with the most restrictive requirements of the occupancies involved...*

Notes:

BUILDING REHABILITATION, CHANGE OF USE & ADDITIONS NFPA 101 Ch 43		
CODE	**ARTICLE**	**REQUIREMENT**
2015 NFPA 101	*43.1.2.1.*	Any building undergoing repair, renovation, modification, or reconstruction shall comply with both of the following: • (1) Requirements of the applicable existing occupancy chapters • (2) Requirements of the applicable … S*ections **43.3**, **43.4**, **43.5**, and **43.6**)*
		*Any building undergoing addition … shall comply with the requirements of Section **43.8**.*
		*Historic buildings undergoing rehabilitation shall comply with the requirements of Section **43.10**.*
		43.4.2 Capacity of Means of Egress. *The capacity of means of egress, determined in accordance with Section **7.3**, shall be sufficient for the occupant load thereof, unless one of the following conditions exists:* *(1) The authority having jurisdiction shall be permitted to establish the occupant load as the number of persons for which existing means of egress is adequate, provided that measures are established to prevent occupancy by a greater number of persons.* ***(2)*** *The egress capacity shall have been previously approved as being adequate.*
	43.6.4.1	*In a building with rehabilitation work areas involving over 50 percent of the aggregate building area, automatic sprinkler systems shall be provided on the highest floor containing a rehabilitation work area and on all floors below in accordance with the requirements of other sections of this Code applicable to new construction for the occupancy.*
	43.8.1.1	*Where an addition, …, is made to a building, both of the following criteria shall be met:* *(1) The addition shall comply with other sections of this Code applicable to new construction for the occupancy.* *(2) The existing portion of the building shall comply with the requirements of this Code applicable to existing buildings for the occupancy.*
	43.8.1.2	*An addition shall not create or extend any non-conformity with regard to fire safety or the means of egress in the existing building for which the addition is constructed.*
	43.10.2	***Historic Building Evaluation.*** *A historic building undergoing modification, reconstruction, or change of occupancy classification …shall be investigated and evaluated as follows:* • *(1) A written report shall be prepared for such a building and filed with the authority having jurisdiction by a registered design professional. …* • *(3) The licensed person preparing the report shall be knowledgeable in historic preservation, or the report shall be coauthored by a preservation professional.* • *(4) The report shall identify each required safety feature … and where compliance with other chapters of this Code would be damaging to the contributing historic features.* • *(5) The report shall describe each feature not in compliance with this Code and demonstrate how the intent of this Code is met in providing an equivalent level of safety.* • *(6) The local preservation official shall be permitted to review and comment on the written report or shall be permitted to request review comments on the report from the historic preservation officer. …*

Note:

Alarm requirements		
CODE	**ARTICLE**	**REQUIREMENT**
2015 NFPA 101	*13.3.4.1.1*	*Assembly occupancies with occupant loads of more than 300 … shall be provided with an approved fire alarm system in accordance with **9.6.1** and **13.3.4**,*

Note:

EXTINGUISHMENT REQUIREMENT XX.3.5		
ACTIVE SPRINKLER PROTECTION: We understand the Annex and the Addition to both be protected with what appears to be a full NFPA 13 sprinkler system. The main - original building was discussed as having a sprinkler system in 'many locations except the House and Senate Chambers'. We were told that these two chambers have been fitted with an Air Sampling Smoke Detection System. Understood to be as follows: VISION SYSTEMS (IEI) NORTH AMERICA, VESDA® E70-D air sampling smoke detection system (Dome/Attic) VESDA® E70-D Scanner air sampling smoke detection system (Public Spaces) We confirmed the code official is aware of this. It is our understanding there is a code variance allowing this condition, (at time of writing have not seen the variance). In our observation it was not readily apparent that there is sprinkler protection in other spaces in the main - original building. Many ceilings were observed and photographed with no apparent sprinkler head coverage (exposed or concealed). For the purpose of this code assessment report **we consider the main – original building NOT to have full sprinkler protection** (a full NFPA 13 system) as defined by code. The Annex and Addition buildings are considered to have fully sprinkler protection for the purposes of this report.		
CODE	**ARTICLE**	**REQUIREMENT**
NFPA 101	12.3.5.2	**FULL (NFPA 13) SPRINKLER SYSTEM REQUIRED** for new Any building containing one or more new assembly occupancies where the aggregate occupant load of the assembly occupancies exceeds 300 shall be protected by an approved, supervised automatic sprinkler system in accordance with Section 9.7 as follows (see also 12.1.6, 12.2.6, 12.3.2, and 12.3.6): (1) Throughout the story containing the assembly occupancy (2) Throughout all stories below the story containing the assembly occupancy (3) In the case of an assembly occupancy located below the level of exit discharge, throughout all stories intervening between that story and the level of exit discharge, including the level of exit discharge.
	13.3.5	A full sprinkler system is not required for existing assembly spaces with some exceptions: (specific uses, construction type, increased travel distances, and specific protection of vertical openings, among others). (Also see 46.3.4.1)
	38.3.5 Business	Business Use - Although no requirements for automatic sprinkler systems are provided in 38/39.3.5, the incentives are included in this code report, for the areas identifies as having them.
	38.3.5	**Extinguishment Requirements.** Portable fire extinguishers shall be provided in accordance with Section 9.9.

BUILDING SEPARATION, EXTERIOR WALLS, AND OPENINGS This considers the Statehouse as a single building. If Cafeteria Addition is a different building then FSD = 9'+/-				
CODE	**ARTICLE**	**REQUIRED**		**EXISTING**
IBC	P. 2-44 Fire Separation Distance	Measured from the building face to 1) Closest interior lot line 2) Center line of street, alley, or Public Way 3) Imaginary line between two buildings on lot, (typically center line, but designer's choice). The distance shall be measured at right angles from the face of the wall.		Fire Separation Distance (FSD): N: >30' E: >30' S: >30' W: >30'
IBC	*Table 602 (FDS is fire separation distance, see above)*	*Construction Type IIIB (IIIB) with Mixed Occupancy (listed elsewhere - Assembly most restrictive)*	*FSD <5': 2H. Ext. wall* *5' ≤ FSD < 10' 2H. Ext. wall* *10' ≤ FSD < 30' 1H. Ext. wall* *FSD = 30' or more 0 Hour Ext. wall*	*0 HR, all FSD's are greater than 30'-0"*
IBC	*705.8.1*	*Unlimited opening areas on first story, if facing street and FSD of greater than 15'*		
IBC	*Table 705.8 Openings in walls (FDS is fire separation distance, see above)*	*Limit to openings area (percentage) (Unprotected & Sprinklered or Protected)* *FSD=0' to less than 3': Not Permitted* *FSD=3' to less than 5': 15%* *FSD=5' to less than 10': 25%* *FSD=10' to less than 15': 45%* *FSD=15' to less than 20': 75%* *FSD=20' to less than 30': No Limit* ***30 or greater: No Limit**.*		*Unlimited Unprotected Openings (All FSD's are greater than 30'-0")*
IBC	*705.8.5(2)*	*Vertical Separation of Openings* *Openings in exterior walls in adjacent stories shall be separated vertically to protect against fire spread on the exterior of the buildings where the openings are within 5 feet (1524 mm) of each other horizontally and the opening in the lower story is not a protected opening with a fire protection rating of not less than 3/4 hour. …*		

Notes:

FIRE RESISTIVE CONSTRUCTION REQUIREMENTS			
CODE	**ARTICLE**	**REQUIRED**	
NFPA 101	NFPA 101 6.1.14.3.2	**Separated Multiple Occupancies – As described elsewhere.**	*The building shall comply with the most restrictive requirements of the occupancies involved, unless separate safeguards are approved.*
IBC Based on type IIIB construction NFPA 101 Type IIIB (200)	Table 601 403.2.1.1(1)	Structural frame (columns, girders, trusses)	0 HR
	Table 601	Bearing walls - exterior	2 HR
	Table 601	Bearing walls - interior	0 HR
	Table 601	Non-bearing walls- int.	0 HR (U.N.O.)
	Table 601 Table 602 705.2.3	Floor construction (including beams and joists)	0 HR (smoke barrier per 8.6.1)
		Roof construction (including beams and joists)	0 HR
		Exterior Walls/fire separation Distance:	0 HR if X ≥ 30' FSD
	Table 705.8	Openings: Fire Separation Distance	See table 705.8 No limit

	705.11	Parapets	Not req'd, per Exception 1 (The wall is not required to be fire-resistance rated in accordance with table 602 because of fire separation distance).
	IBC 713.4 NFPA 101 8.6.5	Shafts / Elevators	2 hours if connecting 4 or more floors; 1 HR if < 4 floors, and not less than the floor assembly penetrated (up to 2 hr.)
	713.14.1	Elevator lobby	Required if 4 or more stories.
	NFPA Ch. 38.3.6.1 (3)	Business Corridor walls	0 HR - B occupancy when fully Sprinkled. 1 hour – If not fully sprinklered
	7.2.6 7.1.3.2	Exit Enclosures	To match the exit rating requirements: (i.e., under 4 stories: 1-hour stairs)
	38.3.2.1 8.7.1.1	Protection from Hazard: i.e. Boiler Rooms	1 HR w/ sprinkler (3/4 HR openings (See table below)

Notes:

MEANS OF EGRESS COMPONENTS 7 / 12/13.3 / 38/39.3 … .2.2		
CODE	**ARTICLE**	**REQUIRED**
NFPA 101	**Means of Egress - General**	
	Doors XX.2.2.2 – Also see below	
	12.2.2.2.3	*Any door in a required means of egress from an area having an occupant load of 100 or more persons shall be permitted to be provided with a latch or lock only if the latch or lock is panic hardware or fire exit hardware complying with 7.2.1.7, unless otherwise permitted by one of the following:* *(1) This requirement shall not apply to delayed-egress locks as permitted in 12.2.2.2.5.* *(2) This requirement shall not apply to access-controlled egress doors as permitted in 12.2.2.2.6.*
	Stairs XX.2.2.3 – Also See below	
	12.2.2.3.1	*Stairs. Stairs complying with 7.2.2 shall be permitted.* (With exceptions see code)
	Smoke-proof Enclosures	
	12.2.2.4	*Smokeproof enclosures complying with 7.2.3 shall be permitted.*
	Horizontal Exits	
	12.2.2.5	Horizontal exits complying with 7.2.4 shall be permitted. 7.2.4 *Horizontal exits shall be permitted to be substituted for other exits where the total egress capacity and the total number of the other exits (stairs, ramps, door openings leading outside the building) is not less than half that required for the entire area of the building or connected buildings, and provided that none of the other exits is a horizontal exit,*
	Ramps	
	12.2.2.6	*Ramps complying with 7.2.5 shall be permitted*
	Exit Passageways	
	12.2.2.7	*Exit passageways complying with 7.2.6 shall be permitted.*
	Fire escape ladders	
	12.2.2.10.1	*Fire escape ladders complying with 7.2.9 shall be permitted.*
	Areas of Refuge	
NFPA 101	12.2.2.12	*Areas of refuge complying with 7.2.12 shall be permitted.*
	7.2.12.1	**Area of refuge***: consisting of a story in a building that is protected throughout by an approved, supervised automatic sprinkler system in accordance with Section 9.7;* and… Each elevator landing shall be provided with a two-way communication system (including both audible and visible signals) for communication between the elevator landing and the fire command center or a central control point approved by the authority having jurisdiction.

		While a horizontal exit may be considered an Area of Refuge, (if provided for by an accessible route) not more than ½ of the required exits may be horizontal exits. We interpret this to infer that not more than ½ of required AOR's may be horizontal exits.

Notes: An Area of Refuge is required on each level.

EXIT DOORS 7 / 38/39.2.2.2		
CODE	**ARTICLE**	**REQUIRED**
NFPA 101	7.2.1.2.3.2	32" Clear width min. (4) In existing buildings, the existing door leaf width shall be not less than 28 in.
	7.3.4.1 7.2.1.2.3.2(9)	Door width: 36" Min. (unless required/allowed otherwise) 2/3 of stair width *(…where another part of this chapter and Chapters 11 through 43 do not specify a minimum width…)*
	7.2.1.4.2-3	Door swing in direction of egress when serving Occupants > 50 or in Exit enclosure.

Notes:

MAIN ENTRANCE 12.2.3.6		
CODE	**ARTICLE**	**REQUIRED**
NFPA 101	12.2.3.6.1	*Every assembly occupancy shall be provided with a main entrance/exit.*
	12.2.3.6.2(2)	*…the main entrance/exit shall be of a width that accommodates one-half of the total occupant load. …(E)ach level of the assembly occupancy shall have access to the main entrance/exit, and such access shall have the capacity to accommodate one-half of the occupant load of such levels.*
	12.2.3.6.5	*Where the main entrance/exit from an assembly occupancy is through a lobby or foyer, the aggregate capacity of all exits from the lobby or foyer shall be permitted to provide the required capacity of the main entrance/exit, regardless of whether all such exits serve as entrances to the building. … In assembly occupancies where there is no well-defined main entrance/exit, exits shall be permitted to be distributed around the perimeter of the building, provided that the total exit width furnishes not less than 100 percent of the width needed to accommodate the permitted occupant load.*

Notes:

INTERIOR EXIT STAIRS 7.2.2			
CODE	**ARTICLE**	**REQUIRED**	**PLANNED**
	7.2.2.2.1.1(A) 7.2.2.2.1.2(B) & Table	Min. width = 44" (less than 2,000 people served per stair, cumulative) Stair width = Occupants served ×0.4 in. per person Rise – 4"-7" Tread – 11" w/ 1" sloped nosing Min Head room 6'-8" Max Height between landings 12'-0" Landings and Treads to be Solid without perforations Dimensional uniformity of less than 3/16"	We recommend a typical 48" stair width for new stairs. (If stairs are used for Area of refuge, then 48" width is required).
	7.2.2.4.1, 5 VtF&BSC 7.2.2.4.6.3*	**Handrails**: Both sides, 34"-38" to the top of rail to nosing With 30" of all portions of required egress width Continuous on inside of stair 1 ½" to 2 ¼" clearance from mounting surface to handrail (2015 VT Fire and Building Safety Code) Circular cross section diameter of 1¼" to 2" (Note: Some stairs had handrails in excess of 2") **Guardrails:**	

		42” From the top of rail to nosing A sphere 4 in. in diameter is not able to pass through any opening up to a height of 34 in.	

Notes:

CODE	ARTICLE	REQUIRED
NFPA 101	**Capacity of Means of Egress** _.2.3	
	12.2.3.8	*Minimum Corridor Width. The width of any exit access corridor serving 50 or more persons shall be not less than 44 in. (1120 mm).*
	38.3.2.3 & 7.3.3.1	*38.3.2.3.2 Street floor exits shall be sufficient for the occupant load of the street floor plus the required capacity of stairs and ramps discharging onto the street floor.*
	Number of Means of Egress Requirements _.2.4	
NFPA 101	12.2.4.5	*Balconies or mezzanines having an occupant load not exceeding 50 shall be permitted to be served by a single means of egress, and such means of egress shall be permitted to lead to the floor below.*
	12.2.4.6	*Balconies or mezzanines having an occupant load exceeding 50, but not exceeding 100, shall have not less than two remote means of egress, but both such means of egress shall be permitted to lead to the floor below.*
	7.4.1.1	*The number of means of egress from any balcony, mezzanine, story, or portion thereof shall be not less than two, except under one of the following conditions:* *(1) A single means of egress shall be permitted where permitted in (the occupancy chapter of the code).* *(2) A single means of egress shall be permitted for a mezzanine or balcony where the common path of travel limitations … are met.*
	7.4.1.2	*The number of means of egress from any story or portion thereof, other than for existing buildings as permitted in Chapters 11 through 43, shall be as follows:* *(1) Occupant load more than 500 but not more than 1000 - not less than 3 (means of egress) …*
	7.4.1.4	*The occupant load of each story considered individually shall be required to be used in computing the number of means of egress at each story, provided that the required number of means of egress is not decreased in the direction of egress travel.*
	38.2.4.1	*Means of egress shall comply with all of the following, except as otherwise permitted by 38.2.4.2 through 38.2.4.6:* *(1) The number of means of egress shall be in accordance with Section 7.4.* *(2) Not less than two separate exits shall be provided on every story.* *(3) Not less than two separate exits shall be accessible from every part of every story.*
	38.2.4.2	*Exit access, as required by 38.2.4.1(3), shall be permitted to include a single exit access path for the distances permitted as common paths of travel.*
	Arrangement of Means of Egress _.2.5	
NFPA 101	*12.2.5.1.1*	*Means of egress shall be arranged in accordance with Section 7.5.* (See below).
	7.5.1.2	Corridors shall provide exit access without passing through any intervening rooms other than corridors, lobbies, and other spaces permitted to be open to the corridor, unless… Approved existing corridors that require passage through a room to access an exit shall be permitted to continue to be used, provided that all of the following criteria are met: (1) The path of travel is marked in accordance with Section 7.10.

		(2) Doors to such rooms comply with 7.2.1. (3) Such arrangement is not prohibited by the applicable occupancy chapter.
	7.5.1.3.2*	Where two exits, exit accesses, or exit discharges are required, they shall be located at a distance from one another **not less than one-half the length of the maximum overall diagonal dimension** of the building or area to be served, measured in a straight line between the nearest edge of the exits, exit accesses, or exit discharges, unless otherwise provided in 7.5.1.3.3 through 7.5.1.3.5.
	7.5.1.3.3	In buildings protected throughout by an approved, supervised automatic **sprinkler** system …the minimum separation distance between two exits, exit accesses, or exit discharges, … shall be not less than **one-third the length of the maximum overall diagonal dimension** of the building or area to be served.
	12.2.5.6.3*	**Minimum Aisle Width.** The minimum clear width of aisles shall be sufficient to provide egress capacity in accordance with 12.2.3.1 but shall be not less than the following: (1) 48 in. (1220 mm) for stairs having seating on each side, or 36 in. (915 mm) where the aisle does not serve more than 50 seats (2) 36 in. (915 mm) for stairs having seating on only one side (3) 23 in. (585 mm) between a handrail and seating, or between a guardrail and seating where the aisle is subdivided by a handrail (4) 42 in. (1065 mm) for level or ramped aisles having seating on both sides, or 36 in. (915 mm) where the aisle does not serve more than 50 seats (5) 36 in. (915 mm) for level or ramped aisles having seating on only one side (6) 23 in. (585 mm) between a handrail or a guardrail and seating where the aisle does not serve more than five rows on one side.
	Discharge From Exits 12.2.7	
NFPA 101	7.7	Exits shall discharge directly to a public way or at an exterior exit discharge.
	7.7.2	**Exit Discharge Through Interior Building Areas.** *Exits shall be permitted to discharge through interior building areas, provided that all of the following are met:* *(1) Not more than 50 percent of the required number of exit stairs serving normally occupied areas of each floor, and not more than 50 percent of the exit stair capacity required for normally occupied areas of each floor, shall discharge through areas on any level of discharge, except as otherwise permitted by one of the following:* *(a) …* *(b) In existing buildings, the 50 percent limit on egress capacity shall not apply if the 50 percent limit on the required number of exits is met.* *(2) Each level of discharge shall discharge directly outside at the finished ground level or discharge directly outside and provide access to the finished ground level by outside stairs or outside ramps.* *(3) The interior exit discharge shall lead to a free and unobstructed way to the exterior of the building, and such way shall be readily visible and identifiable from the point of discharge from the exit* *(4) The interior exit discharge shall be protected by one of the following methods:*

		(a) The level of discharge shall be protected throughout by an approved automatic sprinkler system in accordance with Section 9.7, or the portion of the level of discharge used for interior exit discharge shall be protected by an approved automatic sprinkler system in accordance with Section 9.7 and shall be separated from the non-sprinklered portion of the floor by fire barriers with a fire resistance rating meeting the requirements for the enclosure of exits. (See 7.1.3.2.1.) *(b) The interior exit discharge area shall be in a vestibule or foyer that meets all of the following criteria:* *i. The depth from the exterior of the building shall be not more than 10 ft (3050 mm), and the length shall be not more than 30 ft (9.1 m).* *ii. The foyer shall be separated from the remainder of the level of discharge by fire barriers with a minimum 1-hour fire resistance rating, and existing installations of wired glass in steel frames shall be permitted to be continued in use.* *iii. The foyer shall serve only as means of egress and shall include an exit directly to the outside.* *(5) The entire area on the level of discharge shall be separated from areas below by construction having a fire resistance rating not less than that required for the exit enclosure, unless otherwise provided in 7.7.2(6).* *(6) Levels below the level of discharge in an atrium shall be permitted to be open to the level of discharge where such level of discharge is protected in accordance with 8.6.7.*
	Illumination of Means of Egress 12.2.8 **Emergency Lighting** 12.2.9 **Marking of means of Egress** 12.2.10	
NFPA 101	7.8.1.3 12.2.9.1	*Min. 1 ft-candle min. lighting required at floors and walking surfaces. (10 footcandles at Stairs, and in assembly occupancies, the illumination of the walking surfaces of exit access shall be at least 0.2 ft-candle (2.2 lux) during periods of performances).*
	12.2.9.1	*Emergency lighting shall be provided in accordance with Section 7.9.*
	Special Means of Egress Features	
NFPA 101	12.2.11.1.1*	*Sight Line–Constrained Rail Heights.* *Unless subject to the requirements of 12.2.11.1.2, a fasciae or railing system complying with the guard requirements of 7.2.2.4, and having a height of not less than 26 in. (660 mm), shall be provided where the floor or footboard elevation is more than 30 in. (760 mm) above the floor or the finished ground level below, and where the fasciae or railing system would otherwise interfere with the sight lines of immediately adjacent seating.*
	12.2.11.1.6.2*	*Where a guard is ordinarily required but not provided in accordance with 12.2.11.1.6(1) or (2), a written plan shall be developed and maintained to mitigate the fall hazards of unguarded raised floor areas and vertical openings on stages.*

Note:

ARRANGEMENT OF MEANS OF EGRESS Assembly 12.2.5 / Business 38.2.5		
CODE	**ARTICLE**	**REQUIRED**
NFPA 101	Assembly 12.2.5 / Business 38.2.5	In buildings protected throughout by an approved, supervised automatic sprinkler system in accordance with 9.7.1.1(1):
		Dead-end corridors (with full sprinkler) shall not exceed 20' (A); 50' (B sprinklered)
		Common path of travel (with full sprinkler) shall not exceed 20'/ 75' where less than 50 Occ's (A); 100' (B-sprinklered) 75' (B Unsprinklered)
		Travel Distance to Exits (with full sprinkler) shall not exceed 250' (A sprinklered) 200' (A Unsprinklered); 300' (B sprinklered), 200' (B Unsprinlered)
		A.6.1.14.3.2 *… a common path of travel that occurs wholly in a business tenant space, in a multiple occupancy building containing assembly and business occupancies, should not have to meet the assembly occupancy common path of travel limitation.*

Note:

2015 NFPA 101 Table A.7.6 Common Path of Travel, Dead End, and Travel Distance Limits (by occupancy)

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Table A.7.6 Common Path, Dead-End, and Travel Distance Limits (by occupancy)

	Common Path Limit				Dead-End Limit				Travel Distance Limit			
	Unsprinklered		Sprinklered		Unsprinklered		Sprinklered		Unsprinklered		Sprinklered	
Type of Occupancy	ft	m	ft	m	ft	m	ft	m	ft	m	ft	m
Assembly												
New	20/75	6.1/23[a]	20/75	6.1/23[a]	20	6.1[b]	20	6.1[b]	200	61[c]	250	76[c]
Existing	20/75	6.1/23[a]	20/75	6.1/23[a]	20	6.1[b]	20	6.1[b]	200	61[c]	250	76[c]
Business												
New	75	23[i]	100	30[i]	20	6.1	50	15	200	61	300	91
Existing	75	23[i]	100	30[i]	50	15	50	15	200	61	300	91

Note:

[a]For common path serving >50 persons, 20 ft (6.1 m); for common path serving ≤50 persons, 75 ft (23 m).

[b]Dead-end corridors of 20 ft (6.1 m) permitted; dead-end aisles of 20 ft (6.1 m) permitted.

PROTECTION _.3		
CODE	**ARTICLE**	**REQUIRED**
NFPA 101	Protection from Hazards. 8.7.1.1	*Protection from any area having a degree of hazard greater than that normal to the general occupancy of the building or structure shall be provided by one of the following means:* *(1) Enclosing the area with a fire barrier without windows that has a 1-hour fire resistance rating in accordance with Section 8.3* *(2) Protecting the area with automatic extinguishing systems in accordance with Section 9.7* *(3) Applying both 8.7.1.1(1) and (2) where the hazard is severe or where otherwise specified by Chapters 11 through 43* *Areas requiring special hazard protection include, but are not limited to, areas such as those used for storage of combustibles or flammables, areas housing heat-producing appliances, or areas used for maintenance purposes.*

Note:

PROTECTION OF VERTICAL OPENINGS (38.3.1.1)		
CODE	**ARTICLE**	**REQUIRED**
NFPA 101	Protection of Vertical Openings; 38.3.1	Vertical openings shall be enclosed or protected unless otherwise permitted (See notes below).
		38.3.1.1 Vertical openings shall be enclosed or protected in accordance with Section 8.6, unless otherwise permitted by any of the following: *(1) Unenclosed vertical openings in accordance with 8.6.9.1 shall be permitted.* *(2) Unenclosed vertical openings in accordance with 8.6.9.2 shall be permitted and the provisions of 8.6.9.2(5) shall not apply.* *(3) Unenclosed vertical openings in accordance with 8.6.9.7 shall be permitted and the number of contiguous stories shall not be limited.* (4) *Exit access stairs in accordance with 38.2.4.6 shall be permitted to be unenclosed.*
		8.3.5.1 Firestop Systems and Devices Required. Penetrations for cables, cable trays, conduits, pipes, tubes, combustion vents and exhaust vents, wires, and similar items to accommodate electrical, mechanical, plumbing, and communications systems that pass through a wall, floor, or floor/ceiling assembly constructed as a fire barrier shall be protected by a firestop system or device. … if the systems pass through a … smoke barrier assembly, (they) shall be protected by a system or material capable of restricting the transfer of smoke *8.6.7 Atriums. The atrium shall be separated from the adjacent spaces by fire barriers with not less than a 1-hour fire resistance rating, with opening protectives for corridor walls.* *8.6.1 Floor Smoke Barriers - Every floor that separates stories in a building shall meet the following criteria:* *(1) It shall be constructed as a smoke barrier in accordance with Section 8.5.* *(2) It shall be permitted to have openings as described by 8.6.6, 8.6.7, 8.6.8, 8.6.9, or Chapters 11 through 43.*
	38.3.2.1	***Protection from Hazards:*** *Hazardous areas including, but not limited to, areas used for general storage, boiler, or furnace rooms, shall either have:* *(1) Enclosing the area with a fire barrier without windows that has a 1-hour fire resistance rating;* *(2) Protecting the area with automatic extinguishing systems. High hazard contents areas, as classified in Section 6.2 shall have both. (6.2 High hazard contents shall be classified as those that are likely to burn with extreme rapidity or from which explosions are likely).*

Note:

INTERIOR FINISH FLAME SPREAD AND SMOKE DEVELOPMENT 38.3.3; 12.3.3				
CODE	**ARTICLE**	**REQUIRED**		**PLANNED**
NFPA 101	**38.3.3 / 12.3.3**	**Interior Wall and Ceiling Finish**		
		Enclosed Stairways	Class A	
		Exits	Class A or B	
		Exit Access Corridors	Class A or B	
		Rooms and Enclosed spaces	Class: A or B or C; (A or B if > 300occ.)	
		Interior Floor Finish	Class I or Class II	

Notes:

DETECTION ALARM AND COMMUNICATION SYSTEMS 12.3.4			
CODE	**ARTICLE**	**REQUIRED**	**PLANNED**
NFPA 101	12.3.4.1	General. A **fire alarm system** shall be provided in accordance with Section 9.6.	
	12.3.4.2	**Initiation**. The required fire alarm system shall be initiated by both of the following: (1) Manual means in accordance with 9.6.2.1(1),… (2) Where automatic sprinklers are provided, initiation of the fire alarm system by sprinkler system waterflow.	

Note:

PORTABLE FIRE EXTINGUISHERS 38.3.5			
CODE	**ARTICLE**	**REQUIRED**	**PLANNED**
NFPA 101	38.3.5	**Portable Fire Extinguishers**. Portable fire extinguishers shall be provided in accordance with Section 9.9.	

Note:

CORRIDORS 12.3.6		
NFPA 101	12.3.6	*Interior corridors and lobbies shall be constructed in accordance with 7.1.3.1 and Section 8.3, unless otherwise permitted by one of the following:* *(1) Corridor and lobby protection shall not be required where assembly rooms served by the corridor or lobby have at least 50 percent of their exit capacity discharging directly to the outside, independent of corridors and lobbies.* *(2) Corridor and lobby protection shall not be required in buildings protected throughout by an approved, supervised automatic sprinkler system in accordance with Section 9.7.* *(3) Lobbies serving only one assembly area that meet the requirements for intervening rooms (see 7.5.1.6) shall not be required to have a fire resistance rating.* *(4) Where the corridor ceiling is an assembly having a 1-hour fire resistance rating where tested as a wall, the corridor walls shall be permitted to terminate at the corridor ceiling.* (5) *Corridor and lobby protection shall not be required in buildings protected throughout by an approved, total (complete) coverage smoke detection system providing occupant notification and installed in accordance with Section 9.6.*
	38.3.6.1	*Where access to exits is provided by corridors, such corridors shall be separated from use areas by fire barriers in accordance with Section 8.3 having a minimum 1-hour fire resistance rating, unless one of the following conditions exists:* *(1) Where exits are available from an open floor area.* *(2) Within a space occupied by a single tenant* *(3) Within buildings protected throughout by an approved, supervised automatic sprinkler system in accordance with 9.7.1.1(1)*

Notes:

COOKING FACILITIES 38.3.2.3 / 12.3.2.2			
CODE	**ARTICLE**	**REQUIRED**	**PLANNED**
NFPA 101	38.3.2.3* 12.3.2.2 9.2.3	*Commercial cooking operations shall be protected in accordance with NFPA 96, Standard for Ventilation Control and Fire Protection of Commercial Cooking Operations, unless such installations are approved existing installations, which shall be permitted to be continued in service.*	

STANDPIPES		
CODE	**ARTICLE**	**REQUIRED**
NFPA 1 & 14		The Code required standpipe systems, designed, and installed in accordance with NFPA 14, in new buildings that meet any of the following conditions: (1) More than three stories above grade where the building is protected by an approved automatic sprinkler system, (2) More than two stories above grade where the building is not protected by an approved automatic sprinkler system, (3) More than 50 ft (15 m) above grade and containing intermediate stories or balconies (4) More than one story below grade (5) More than 20 ft (6.1 m) below grade

SPECIAL PROVISIONS 8.7		
CODE	**ARTICLE**	**REQUIRED**
2015 NFPA 101	8.7.3.3	Alcohol-Based Hand-Rub Dispensers. Where permitted by the occupancy chapter, alcohol-based hand-rub dispensers shall be permitted provided they meet all of the criteria in accordance with 8.7.3.3 12.4.5 Alcohol-based hand-rub dispensers in accordance with 8.7.3.3 shall be permitted (in assembly occupancies).
	38.7.2	Drills. In all business occupancy buildings occupied by more than 500 persons, or by more than 100 persons above or below the street level, employees and supervisory personnel shall be periodically instructed in accordance with Section 4.7 and shall hold drills periodically where practicable. (We were told drills are held regularly).
	38/39.7.7 & 12/13.7.1.3	Inspection of Door Openings. Door openings shall be inspected in accordance with 7.2.1.15.

BUILDING CODE VARIANCES (Approved building code variances for this project):			
Variance ID#	**Date**	**Code Section**	**Proposed Design** (summary of the resulting design)

Notes:

OTHER CODES AND STANARDS:

PLUMBING CALCULATION – Per 2021 IPC Table 403.1						
Occupancy	**Drinking Fountains**	**Water Closets**		**Lavatories**		**Other**
		Male	Female	Male	Female	
Assembly	1 per 500	1 per 125	1 per 65	1 per 200		1 service sink
Business	1 per 100	1 per 25 for the first 50 and 1 per 50 for the remainder exceeding 50		1 per 40 for the first 80 and 1 per 80 for the remainder exceeding 80		1 service sink

Note: See ADA below https://codes.iccsafe.org/content/IPC2021P1/index

Occupancy or function	**Occ. Load**	**Drinking Fountains**		**Water closets**					**Lavatories**				
Combined Plumbing Fixture Count				Male		Female		Non-gendered	Male		Female		Non-gendered
		Required	Provided	Required	Provided	Required	Provided	Provided	Required	Provided	Required	Provided	Provided
Main Blg.													
L1	288	0.58	1 ADA	4.38	4+2 ADA	5.85	4 ADA	-	3.12	2 ADA	3.12	3 ADA	-
L2	500	1.00	-	4.96	-	8.43	-	1p*	3.10	-	3.10	-	1p*
L3	203	0.41	-	1.62	-	3.12	-	-	1.02	-	1.02	-	-
Annex													
Basement	2	0.00	-	0.08	4+10 **	0.08	-	-	0.05	11	0.05	-	-
L1	65	0.13	-	1.35	-	1.64	-	-	0.85	-	0.85	-	-
L2	61	0.12	1 ADA	2.22	-	2.22	-	-	1.53	-	1.53	-	-
L3	57	0.11	-	2.14	-	2.14	-	1	1.43	-	1.43	-	1
Addition													
L1	36	0.07	-	1.44	-	1.44	-	1 ADA	0.90		0.90		1 ADA
'Mezzanine'	40	0.08	-	1.60	-	1.60	-	1 ADA	1	-	1	-	1 ADA
L2	266	0.53	1 ADA	3.54	2+2 ADA	5.18	4 ADA	2p*	2.21	4 ADA	2.21	4 ADA	2p*
Subtotal	**1518**	4		24		32			16		16		
Total number of fixtures required		4	3 H/L	25	24**	33	8	6	16	17	16	7	6

Notes: p* = Private; ** Urinals exceed the allowable ratio

Of the 58 Required WCs' there are 38, (some are private and some are urinals that exceed the allowable ratio)

Lactation room: Vermont law Act 117 (and a Federal requirement via Federal Affordable Care Act): "Employers shall make a reasonable accommodation to provide appropriate private space that is not a bathroom stall." [FFF – Our experience is that Lactation spaces that contain a lavatory (sink) and outlet are most useful].
http://healthvermont.gov/wic/food-feeding/breastfeeding/BFLaws.aspx

2015 VERMONT COMMERCIAL BUILDING ENERGY STANDARDS *** This report does not include Energy Code compliance scope. ***		
CODE	**ARTICLE**	**REQUIRED**
VTCBES	C501.2	*Except as specified in this chapter, the code shall not be used to required removal, alteration, or abandonment, nor prevent the continued use and maintenance of, an existing building or building system lawfully in existence at the time of adoption of this code.*
	C501.6	*Historic buildings. No provisions of this code relating to the construction, repair, alterations, restoration and movement of structures and change of acceptance seat shall be mandated for historic buildings provided and report has been submitted to the state historic preservation office and signed by the owner, in owner's agent, a registered design professional, or a representative of the historic preservation authority having jurisdiction, demonstrating that compliance with the provision would threaten, degrade or destroy the historic form, fabric or function of the building.*
	502.4.7	**Vestibules are required at all building entrances.** Except: 1). At doors not intended to be entrances … 3). Doors that open directly from a space less than 3000 sf. In area.

ACCESSIBILITY / ADA			
STANDARD	**ARTICLE**	**REQUIRED**	**Existing**
https://www.access-board.gov/ada/guides/			
2010 ADA	Pg. 8 & 9 'Disproportionality'	When the cost of alterations necessary to make the path of travel to the altered area fully accessible is disproportionate to the cost of the overall alteration (<20%), the path of travel shall be made accessible to the extent that it can be made accessible without incurring disproportionate costs.	
2010 ADA	201.1 Scope.	All areas of newly designed and newly constructed buildings and facilities and altered portions of existing buildings and facilities shall comply with these requirements.	
2010 ADA	206.2.1 Site Arrival Points.	Each site arrival point must be connected by an accessible route to the accessible building entrance or entrances served… In addition, the accessible routes must serve all of the accessible entrances on the site.	
2010 ADA	206.2.1 Site Arrival Points Exception 2.	Access from site arrival points may include vehicular ways. Where a vehicular way, or a portion of a vehicular way, is provided for pedestrian travel, such as within a shopping center or shopping mall parking lot, this exception does not apply.	
2010 ADA	206.2.2 Within a Site	At least one accessible route shall connect accessible buildings, accessible facilities, accessible elements, and accessible spaces that are on the same site.	
2010 ADA	206.2.3 Multi-Story Buildings and Facilities.	At least one accessible route shall connect each story and mezzanine in multi-story buildings and facilities.	
2012 VT Access Rules: -add- New elevator:		section 3002.4 as currently required by the Vermont Fire and Building Safety Code; Required Locations: An elevator car of such a size and arrangement to accommodate an ambulance stretcher (24" X 84") as specified in section 3002.4 (International Building Code) shall be provided where a passenger elevator is newly installed in a building three or more stories in height.	
2012 VT Access Rules: *–delete & replace-* 206.2.3. Exception 1, and *§36.401(d) (page 20)* Elevator, New Construction:		In public buildings, an accessible route is not required to spaces that are less than 3,000 square feet. (Storage & mechanical spaces are exempt)	
2012 VT Access Rules: *-delete- 206.2.3 Exception 2, 4, 5 & 7.*		Elevator Exemptions deleted …	
2012 VT Access Rules:			
2010 ADA	206.2.4 Spaces and Elements.	At least one accessible route shall connect accessible building or facility entrances with all accessible spaces and elements within the building or facility which are otherwise connected by a circulation path unless exempted by 206.2.3 as amended by VT Access rules	

2010 ADA	206.4 Entrances.	Entrances shall be provided in accordance with 206.4. Entrance doors, doorways, and gates shall comply with 404 and shall be on an accessible route complying with 402.	
2010 ADA	206.4.1 Public Entrances.	At least 60 percent of all public entrances shall comply with 404.	
2010 ADA	206.5.2 Rooms and Spaces	Within a building or facility, at least one door, doorway, or gate serving each room or space complying with these requirements (Accessible and providing user passage) shall comply with 404.	
2010 ADA	207 Accessible Means of Egress (IBC 1007)	Accessible spaces shall be provided with not less than one accessible means of egress. Where more than one means of egress is required from any accessible space, each accessible portion of the space shall be served by not less than two accessible means of egress.	
2010 ADA	210 Stairways	Interior and exterior stairs that are part of a means of egress shall comply with 504.	
2010 ADA	211.2 Drinking Fountains: Minimum Number	No fewer than two drinking fountains shall be provided. One drinking fountain shall comply with 602.1 through 602.6 and one drinking fountain shall comply with 602.7.	
2010 ADA	212.2 Kitchens and Kitchenettes	Kitchens and kitchenettes shall comply with 804.	
2010 ADA	212.3 Sinks.	Where sinks are provided, at least 5 percent, but no fewer than one, of each type provided in each accessible room or space shall comply with 606 (Except Mop sinks).	
2010 ADA	213 Toilet Facilities and Bathing Facilities	**213.1 General.** Where toilet facilities and bathing facilities are provided, they shall comply with 213 (and 603). **Exception 4.** Where multiple single user toilet rooms are clustered at a single location, no more than 50 percent of the single user toilet rooms for each use at each cluster shall be required to comply with 603.	
2010 ADA	213.2.1 Unisex (Single-Use or Family) Toilet and Unisex Bathing Rooms.	Unisex toilet rooms shall contain not more than one lavatory, and (*not more than*) two water closets without urinals or one water closet and one urinal. Doors to unisex toilet rooms and unisex bathing rooms shall have privacy latches.	

2010 ADA	213.3 Plumbing Fixtures and Accessories	**213.3.1 Toilet Compartments.** Where toilet compartments are provided, at least one toilet compartment shall comply with 604.8.1. In addition to the compartment required to comply with 604.8.1, at least one compartment shall comply with 604.8.2 where six or more toilet compartments are provided, or where the combination of urinals and water closets totals six or more fixtures. **213.3.2 Water Closets.** Where water closets are provided, at least one shall comply with 604. **213.3.3 Urinals.** Where more than one urinal is provided, at least one shall comply with 605. **213.3.4 Lavatories.** Where lavatories are provided, at least one shall comply with 606 and shall not be located in a toilet compartment. **213.3.5 Mirrors.** Where mirrors are provided, at least one shall comply with 603.3.	
2010 ADA	Signs 216.1 General.	Signs shall be provided in accordance with 216 and shall comply with 703	
Vt Law	2018 H.333 (Act 127)	Gender Free Restroom signage. … requires all single-user toilet facility (new and existing) in a public building or place of public accommodation shall be made available for use by persons of any gender, and designated for use by not more than one occupant at a time or family or assisted use. A single-user toilet facility shall be identified by a sign provided that the sign marks the facility as a restroom and does not indicate any specific gender.	
2010 ADA	303	Changes in Level Changes in level can be up to ¼″ without treatment or ½″ if beveled with a slope no steeper than 1:2. Changes in level above a ½″ must be treated as a ramp or curb ramp (or a walkway if a slope no steeper than 1:20 can be achieved). These specifications apply to all portions of accessible routes, including thresholds and carpet trim.	

ADA PARKING REQUIREMENTS

Parking requirements for ADA Spaces.

Minimum Number of Accessible Parking Spaces Table
*** at least 1 of every 6 accessible spaces or fraction of 6**
**** 501 to 1000: 2% of total**
***** 1001 and over: 20 + 1 for each 100 or fraction thereof over 1000**

Parking Facility Total	Minimum Number of Accessible Spaces		
	Standard	Van*	Total (Standard + Van)
1 to 25	0	1	1
26 to 50	1	1	2
51 to 75	2	1	3
76 to 100	3	1	4
101 to 150	4	1	5
151 to 200	5	1	6
201 to 300	5	2	7
301 to 400	6	2	8
401 to 500	7	2	9
501 to 550	9	2	11**
…			
1501 to 1600	21	5	26***

If a parking facility serves multiple buildings or accessible entrances, accessible parking spaces should be dispersed to enable people to park near as many accessible entrances as possible.

ADA Parking requirements for the existing Vt State Capital facility are as follows:

21 Standard ADA spaces and 5 Van accessible spaces for a total of **26 spaces for 1518 people**.
This may go up as the buildings and entrances are considered:
For example, by building:

Main Original Building:
17 Standard + 4 Van accessible spaces for a total of 21 spaces for 1031 people.
Annex: 5 Standard + 1 Van accessible spaces for a total of 6 spaces for 185 people.
Addition: 6 Standard + 2 Van accessible spaces for a total of 8 spaces for 302 people.
This results in **34 spaces total (20 Standard, and 18 Van Accessible spaces**)
https://www.access-board.gov/ada/guides/chapter-5-parking/

NOTE: All new construction and alterations shall be in accordance with the “2010 ADA” as amended by the “2012 Vermont Access Rules”; as adopted by the Vermont Access Board per 2015 Vermont Fire & Building Safety Code.

2014 Vt. Elevator Safety Rules			
STATUTE	**ARTICLE**	**REQUIRED**	**PLANNED**
THE SAFETY CODE FOR ELEVATORS AND ESCALATORS (ASME A17.1-2013) To meet the needs of Vermont ASME A.17.1 is amended as follows:			
- Delete & replace- 17.1 Preface:		*The Vermont Elevator Board regulations do not recognize or accept ASME A17.7, and does not allow* ***Machine Room Less (MRL)*** *Elevators, unless a variance is granted by the B*oard.	
Delete & replace – section 2.2.2.5		*In elevators provided with Firefighters' Emergency Operation, a* ***sump pit*** *shall be provided to accommodate the future installation of a sump pump if required.*	
- Delete & replace - 2.8.3.3.2		***Sprinklers/Shunt- trip Breakers*** *– Regardless of hoistway or machine room building construction type shunt trip breakers are not permitted. Where a building is protected with an automatic sprinkler system, sprinkler head protection is required within 24" of pit floor of hoistway. Sprinkler head shall be provided in machine room of a hydraulic elevator and shall be a higher temperature setting than a heat detector, or system smoke detector provided in lieu of a heat detector. Sprinkler head shall not be installed at top of elevator shaft. Sprinkler protection is not permitted in machine room of a traction elevator, but shall have a smoke detector or heat detector provided. Smoke detector in hoistway shall only be used in conjunction with a hoistway vent.*	
-delete & replace- 2.27.1.1.2(a)		***Two - way communications*** *shall be directed to a location(s) staffed by authorized personnel who can take appropriate action. Communication shall be answered by a live operator only. Interactive Voice Response is not a permitted communication under these rules.*	

---- END OF CODE EVALUATION ----

APPENDIX F: INTERVIEW QUESTIONS

State of Vermont State House Mitigation Project
Assessment Questionnaire

Office/ Position

1. Tell us about your mission, staffing, and spaces you utilize within the State House.

2. How do these spaces work well? How are they deficient?

3. Tell us about how you utilize space in each room during the legislative session and while session is adjourned.

4. Describe key adjacencies between your staff and other departments.

5. Do you have anticipated staff growth or reductions?

6. Describe technology you use today and anticipated future technology that may need to be accommodated.

7. In your opinion, which spaces are underutilized or don't work well within the State House?

8. Can you and your staff (or parts of your staff) work remotely from the State House?

APPENDIX G: INTERVIEW RESPONSES

A. Sample Questionnaire

B. Completed Questionnaires (alphabetically by office/title)

1. BGS – Teigh Southworth (Project Manager)
2. Center for Independent Living - Peter Johnke
3. Curator – David Schutz
4. Governor's Offices - Karen Pallas
5. House Clerk – BetsyAnn Wrask
6. IT – Kevin Moore
7. Joint Fiscal Committee - Catherine Benham (Chief Fiscal Officer) & Sarah Clark (deputy Fiscal Officer)
8. Legislative Council – Jennifer Carbee (Director)
9. Legislative Facility Coordinator - Tricia Harper
10. Legislative Operations – Mike Ferrant
11. Lieutenant Governor's office – David Zuckerman
12. Capital Police - Matthew Romei (Previous Chief)
13. Secretary of Senate - John Bloomer
14. Senate Pro Tempore – Philip Baruth & Chief of Staff – Ashley Moore
15. Sergeant at Arms - Janet Miller

A. Sample Questionnaire

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State of Vermont State House Mitigation Project
Assessment Questionnaire

Teigh Southworth - BGS

1. Tell us about your mission, staffing, and spaces you utilize within the State House.

   Because of the historical artifacts and paintings (many of which are on loan to the State) within the building it is desired to maintain a museum like environment within the State House in regard to temperature and humidity. The current HVAC system cannot accomplish this task because those AHU's that have heating coils have them upstream of the cooling coils, so dehumidification sequences cannot be implemented, and once the AHU's are replaced with proper ones, there is no source of heat between May 1 and October 1 because the central heat plant shuts down for the summer. A summer boiler needs to be installed within the State House to provide the necessary heat for dehumidification along with its fuel storage. We also need a source of clean humidity for the winter months when the outside air is dry, and we bring in large amounts to ventilate the building to maintain a proper breathing environment for the Legislature and guests.

2. Tell us about how you utilize space in each room during the legislative session and while session is adjourned.

   NA

3. Describe key adjacencies between your staff and other departments.

   NA

4. Do you have anticipated staff growth or reductions?

   NA

5. Describe technology you use today and anticipated future technology that may need to be accommodated.

The building currently has Barber-Coleman/Invensys/Siebe DDC controls that were installed piecemeal over the years, many are legacy controls and when they fail cannot be replaced in kind but must be upgraded to more modern versions requiring new programming, not plug- and-play. The current system was installed by Control Technologies beginning in the 1980's and is being maintained by them, as such, there may now be some Distech hardware as well.

AHU-1, 2 & 3, installed in 1970, serve the House and Senate chambers, they are essentially large fan coils, they operate well for temperature control, but not humidity control. During the colder months they appear toprovide adequate ventilation with CO2 levels approaching 1000 ppm, but toward the end of the session in May when the mechanical cooling becomes active and the units go to minimum OA damper position the CO2 levels regularly shoot up to 1400- 1500 ppm.

AHU-4 & 5, installed in 1995, serve the original main building via VAV boxes, they operate well for temperature control, but not humidity control. Adequate ventilation appears to be lacking, with the worst rooms typically well above 1000 ppm, some reaching 2000 ppm.

AHU-6, installed in 1970, serves the Annex housing the Legislative Lounge and the House committee rooms. This AHU has no heating coil, and distribution is through floor mounted induction boxes with reheat coils. The airflow out of these boxes has been compromised by the furniture layout and numerous complaints about inadequate cooling, stuffiness and cold drafts are received every legislative session. Ventilation appears marginal at best with many rooms operating at or near 1000 ppm, and the highest levels approaching 1400 ppm.

AHU-7, installed in 1987, serves the lower 2 floors of the cafeteria addition, while the airflow appears to be sufficient, the lack of zone control is apparent, at the very least a reheat coil at each floor should be considered. Depending on future layout, complete distribution with individual zone control should not be ruled out. Without zone CO2 information it is hard to decide on the level of ventilation within the spaces, the return air CO2 appears to be adequate rarely exceeding 1000 ppm, while hovering in the 800 — 900 ppm range.

AHU-8, installed in 1987, serves the 2"d floor of the cafeteria addition, dining area and Speaker of the House offices. It appears to operate well for temperature control, but not humidity control. It also appears to be lacking in ventilation many mornings during the legislative season the CO2 readings are in excess of 1400 ppm.

In the future we need:

- To replace the AHU's with ones that have heating coils downstream of the cooling coils to allow dehumidification to take place.
- Better terminal air distribution for AHU-6.
- Better zone control for AHU-7.
- Provide a summer boiler and fuel storage to provide reheat for dehumidification.
- Humidification in the winter months.
- Source of sufficient outside air to dilute the CO2 levels to acceptable levels.
- New DDC controls.

The 1st floor space in the 1909 addition under the Speakers' office has been a source of continual IAQ complaints, the back wall has water entry from the ledge behind it and should not be used for human occupation.

State of Vermont State House Mitigation Project
Assessment Questionnaire

Center for Independent Living - Peter Johnke

1. Tell us about your mission, staffing, and spaces you utilize within the state house:

   With committee rooms being expanded, the rooms would be more wheelchair accessible if tables are parallel to the hallways.

2. How do these spaces work well? How are they deficient?

   Don't think X need changes – restrooms in main building ok, will check, report has what spaces are deficient. The biggest issue is the ramp from annex to addition is too steep. Can this be reconfigured? There needs a longer run, maybe a turn on the bottom for more run space.

3. Tell us about how you utilize space in each room during the legislative session and while session is adjourned.

   NA

4. Describe key adjacencies between your staff and other departments.

   NA

5. Do you have anticipated staff growth or reductions?

   NA

7. In your opinion, which spaces are underutilized or don't work well within the State House?

   Because of covid the coat room is now in the back and the doorway is not wide enough to access.
   Parking spaces that are marked accessible are problematic, 2 on Bailey Ave don't work with lifts on vans because not level, lift won't lower. 2 spots are behind the security fence, they seem out of compliance, seemed steep front to back.

Cafeteria is working well, it's easy to move chairs and arrangement of tables and type of tables are good (no lip under).
Lighting needs to be better.
Doors into the cafeteria, glass, needs more contrast.

8. Can you and your staff (or parts of your staff) work remotely from the State House?

NA

State of Vermont State House Mitigation Renovation Project

Assessment Questionnaire

State House Curator – David Schutz

1. Tell us about your mission, staffing, and spaces you utilize within the State House.

Physical office in 6 Baldwin St, not in the State House. Needs ready access to the State House constantly every day. This is the Peoples House – all Vermonters should feel like this building belongs to them/ welcome to all groups. It should be easy to participate in the Legislative process. Museum is about Democracy & the process of Democracy.

2. How do these spaces work well? How are they deficient?

Trying to decide rooms (such as 9, 10 & 11) will go back to pre-covid designations, and if, they will then be available for other uses, tourist season, etc. In off season all committee rooms become unused spaces. Need HVAC updated to fix humidity problem. During the HVAC project construction, dehumidifiers run throughout the historic spaces. Space off main lobby should be used as galleries, and gift shop, use the rooms to address needs of museum space in the off session.

3. Tell us about how you utilize space in each room during the legislative session and while session is adjourned.

During session the building is also a museum but more oriented toward what is happening, school groups visit here more than any other museum in the state. Kids who are learning about civics, what is going on in the building and democracy, how representative democracy can let people bring their own ideas to make life better, form bills, etc. to outcome. Tour coordinator who works with the Sergeant at Arms office and Curator. Events, farmers Night, etc., exhibitions in Cafeteria and card room and committee rooms. Congested and alive with much activity.

Want to ensure ADA access to SH becomes a much better experience, would hope that access would remain in the rear of the building, improve both East and West access in the rear, want to easily find your way through the rear entrances to the Main Lobby, would probably require the court yard to be filled in as an Atrium to connect access from both sides, and give opportunity for a visitor orientation. A better main path of travel is needed, currently there is no space for this visit orientation.

4. Describe key adjacencies between your staff and other departments.

There needs to be better definition of the entrances, clearer paths of travel for visitors. Right after lock-down when the doors were open but no tours, gave people print outs to look at while not standing in the space.

Work with the Sergeant at Arms, closest relationship, so she doesn't have to worry about the museum experience of the State House. The restoration of the State House is the other part that continues to be worked on, to respect and uphold the work previously done.

5. Do you have anticipated staff growth or reductions?

No plan to have offices in the State house, if there is an opportunity for a work-related space, place to put paintings, temporary storage in the building.

6. Describe technology you use today and anticipated future technology that may need to be accommodated.

Pandemic accelerated technology and he doesn't appreciate the big screens everywhere. Want them out of major chambers, they can remain in the committee rooms. Want to get the State House back to the 19th century look. IT staff is sensitive to the condition of the State House, working to reduce the obtuse of the technology. Oldest chambers in the country that are still active use in their current condition.

7. In your opinion, which spaces are underutilized or don't work well within the State House?

The old men's room in the basement, had so many plans for future. Very few spaces that aren't being used to the max during the session. During tourist season much of the state house isn't being utilized. Card room heavily used during session but is the use key? Card room is a traffic central used by nonprofits to lobby for causes. Legislators have to walk through the space with a small exit. Demand for space use by lobbyist is higher than the amount of space available. Off season exhibitions are in there. Could be more flexible, maybe rooms 9, 10 & 11 should be flexible with gallery lighting etc.

8. Can you and your staff (or parts of your staff) work remotely from the State House?

The curator needs to be on site when moving artwork etc. around, some of their work can be remote.

State of Vermont State House Mitigation Renovation Project

Assessment Questionnaire

Governor's Office - Office Manager - Karen Pallas

1. Tell us about your mission, staffing, and space you utilize within the State House.

   The mission of the Executive Office ensures every agency and department in state government is working together with a major focus in coordinating and directing the Governor's responsibilities and priorities.
   Executive Chamber:
   Rm 21 – Governor's Staff shared office space (6-8 people)
   Rm 22 – Governor's Executive Protection Unit (EPU) and Reception (2-3 people) Rm 23 – Governor's State House Office

2. How do these spaces work well? How are they deficient?

   These spaces work well, allowing staff full functionality to perform their day-to-day duties.

3. Tell us about how you utilize space in each room during the legislative session and while session is adjourned.

   Executive Chamber:
   The executive office is utilized all year, including when the Legislature is in session. The Executive Branch is an equal branch with responsibilities in the legislative process and day-to- day operations and management of State government.
   Rm 21 – Shared work and meeting space for the Governor's staff with conference table, copier/printer/scanner and multiple docking stations.
   Rm22 – primarily used for receptionist and EPU staff with docking stations and VOIP phones Rm23 – Governor's State House Office with desk, Ol' Ironsides Chair, conference table and chairs, docking station and video/conferencing equipment.
   Again, all rooms are used throughout the year and during the legislative session. Outside of the session all rooms continue to be used by the Governor and to house staff for press events, announcements, signings, regular emergency board meetings and other miscellaneous meetings, special events, etc.

4. Describe key adjacencies between your staff and other departments.

   Office functions include budget and policy; program implementation, management and reporting; communication; coordination of Executive Cabinet and extended cabinet offices in all agencies and departments; legislative and judicial branch relations; constituent services.

5. Do you have anticipated staff growth or reductions?

   The executive office in the State House meets all current needs.

6. Describe technology you use today and anticipated future technology that may need

to be accommodated.

Laptops with docking stations (hardwire and Wi-Fi availability), copier/printer/scanner, video/conferencing equipment, VOIP phones.

7. In your Opinion, which spaces are underutilized or don't work well within the State House?

The Administration fully and efficiently utilizes its space within the State House. While the Administration does not support expansion of the State House, there is certainly space within the State House that could be reconfigured to optimize the existing space while preserving its character. There is also space provided to the Legislature in several buildings adjacent to the State House that is underutilized and could house staff and/or committee rooms to further free up space within the existing floor plan of the State House.

8. Can you and your staff (or parts of your staff) work remotely from the State House?

Yes

State of Vermont State House Mitigation Project
Assessment Questionnaire

House Clerk- BetsyAnn Wrask

1. Tell us about your mission, staffing, and spaces you utilize within the State House.

House Clerk's Office works for the 150-member House of Representatives. We help the House administer its legislative procedure and maintain the House's official records.

We have a total of five staff members. Three of us are year-round; one of us is mainly session-only, but also works usually once a week during adjournment; and one of us is session-only.

We use two main rooms as our office space: The Clerk uses the smaller room as an office; the remaining four Office members (the Assistant Clerks) share the other room as an office, each having a desk near a corner of the room (open air; no cubicles). Outside of the Assistant Clerks' office is an entry room that houses a copier/scanner, a supply and coat closet, and a refrigerator, toaster, and microwave. We share use of those machines and supplies with the Speaker's Office (as well as other legislators and staff who want to use them). We also help maintain the bathroom and hallway leading to the House Chamber, which are right outside the Clerk's office. In the hallway are two bookcases with reference books (although not often used), and we recently placed a desk and chair there, which do get used. The desk was initially placed there temporarily as surplus furniture, but it's been convenient for some members and staff to use for either Zoom meetings or to eat lunch, so we've kept it there. That hallway also seems to be a place that members like to use to have private conversations before, during, or after House sessions. The hallway also contains a water cooler used mostly by the Clerk's Office and Speaker's Office, but also by any other legislators and legislative staff who would like to use it. Extra full and empty water cooler jugs are stored mostly in the hallway, but a stack are also kept in the Assistant Clerks' office.

Our office spaces are not open to the public. There are three ways to access our offices: 1) from the spiral staircase leading from the Leg. Counsel offices and back breezeway door, each of which are badge-access; 2) from the cafeteria, which is recently badge-access due to security concerns; and 3) from the House Chamber through a (usually) open doorway, but which is known – or should be known – to be only for members and legislative staff.

During House sessions, the Clerk and two of the Assistant Clerks work in the Chamber, and the other two Assistant Clerks work in their shared office space.

2. How do these spaces work well? How are they deficient?

Overall, I think the spaces work well. Here is feedback on the spaces:

a. *Clerk's Office.* Before I was elected Clerk in January 2021, the office had six total positions, with the Clerk and another position sharing the smaller room, and the remaining four positions sharing the other room. When I was elected Clerk, we had a recent vacancy in the sixth position, and we were able to restructure office duties to maintain our current five total positions. Throughout 2021-22, I continued to share my office with the other position, while in the other room, the fourth desk remained vacant. This setup did not work well for the duties of my Clerk role because I frequently need to have confidential or otherwise private conversations and meetings with members, individual members of my staff, and other legislative staff. Therefore, starting in 2023, the position that used to share my office moved to the vacant desk in the other room. This has fundamentally helped me to better perform the duties of my role. With the extra space in my office, I was able to have an extra bookcase installed, which our office needed because we were running out of room for our required annual hardbound House Journals and other legislative records and reference materials. I also used the space for two chairs for members and staff to sit during meetings in my office. My office has two doors that I can close when necessary to have a private conversation. Using folding chairs, I can fit additional people in my office for a private meeting, which we have needed to do, as private meeting spaces are very limited in the State House during normal business hours.

b. *Assistant Clerks' Office*. I see pros and cons for the Assistant Clerks' office space. Overall, I think it is a social space: The four office members can talk freely among themselves re: work issues that frequently impact most or all of them, and members and other legislative staff pass through with questions or general conversation. The pros are that if I am not available to answer a question from a member or staffer, people know they can go to the Assistant Clerks to ask their question or to at least leave a message for me. It is also our office meeting space: I have a chair in that room I use for meetings with the rest of the office. A con is that I can imagine it might be difficult for an Assistant Clerk to concentrate on their work in the midst of other conversations happening around them. However, on that topic, there is less traffic now that non-legislators/non-legislative staff do not have open access to our space through the cafeteria. Also, it is an active office during normal business hours on a legislative day; however, after-hours work normally involves only one or two of those positions in the room, and it is usually quiet during that time; and during adjournment, the office is quiet, and there is usually only one position in that office.

c. *Entry room.* We need to maintain a copier/scanner, the closets, and the kitchen appliances; it's a common area that is used daily by our office and the Speaker's Office.

d. *Bathroom.* Our bathroom is one of several single-stall, gender-neutral restrooms in the building; I think multiple people appreciate using it for that reason. It's also convenient for our office and people either working in or attending meetings in the Speaker's office. Members use it before, during, and after House sessions; it's the closest one to the Chamber for members who do not have mobility issues. However, it is shallow in depth and not ADA-compliant.

e. *Hallway.* In our limited State House space, the hallway is actually a used space, as described above, since it is a semi-private area. When I used to work in the office from 2006-08, the water cooler was in the Assistant Clerk's office, but that meant that it got locked away when the office left for the day, which is not convenient for the Speaker's Office or anyone else wanting easy access to drinking water; it is good that it now resides in this unlocked space. Also, in the hallway, just outside the bathroom, is a coat rack that I use, and a few members appreciate being able to store their jackets and boots there. However, the hallway itself can get cluttered: The water cooler bottles stored there take up a lot of floor space, and people tend to leave random items there as a storage space, which not only takes away some useable space, but can also cause a tripping hazard; also, people prop things up against the fire doors in the hallway, which is a fire hazard.

f. *Chamber.* Our Chamber is beautiful. However, we need better access for people who use wheelchairs or other assistive devices for mobility. In particular, guests who use wheelchairs have very limited options for seating: They cannot access the Gallery because the only access point to it has steps, so they use limited spots by members in the well of the Chamber. Security is also a concern: Of the two entrances, one is through a single door; I am concerned about flow if members on that side of the Chamber needed to exit quickly. Also, I am concerned about unauthorized people accessing the hallway that connects the Chamber to our office space. (All of these Chamber issues are topics of ongoing conversation among applicable legislative staff; we are working on addressing them; I am just pointing out for reference.)

3. Tell us about how you utilize space in each room during the legislative session and while session is adjourned.

More details on this are above, but to summarize, our space is busy during session, but quiet during adjournment. Due to the nature of our work, except in cases of sickness or other extraordinary circumstances, everyone in our office must work in-person during session during normal business hours. Conversely, during adjournment, remote work is possible, but we try to structure our schedule so that at least one person is normally in-office each workday. It is

usually only a max of two people in-office during adjournment: Myself in my office (if I am not working remotely), and one of the Assistant Clerks in the other office.

4. Describe key adjacencies between your staff and other departments.

Our office needs to stay close to the Speaker's Office, with which we work closely on a daily basis during session. We also need to stay close to the House Chamber, which is an extension of our office. During a House session, I sometimes need to run (literally) from the Chamber to our office to pick up documents and bring them back to the Chamber.

5. Do you have anticipated staff growth or reductions?

No.

6. Describe technology you use today and anticipated future technology that may need to be accommodated.

I have a desktop in my office that I need to maintain. I use my laptop and a second screen in the Chamber to not only review and edit documents, but also to livestream each session. To livestream, we use cameras and microphones in the Chamber, in combination with Zoom and YouTube via my laptop. Right now, we use a camera on a stand in the Chamber; we hope to eventually replace it with a camera mounted somewhere in the Chamber. (The current camera can be a tripping hazard, and almost inevitably gets moved out of place.) I also use my laptop to work from home. The Assistant Clerks use a laptop and/or desktop, either in the Chamber and/or at their office desk. We need to maintain our copier, because paper will continue to be used for some of our documents.

7. In your opinion, which spaces are underutilized or don't work well within the State House?

We need more space everywhere in the State House! COVID of course exacerbated our already cramped spaces. Committee rooms were already cramped pre-COVID – some were way too small – so we had to convert into committee rooms some of our larger rooms that were used for other purposes. This was necessary, but we don't have enough space for large non-committee meetings now. We could also use some more storage space. I think we need a whole new floor above the cafeteria for larger committee rooms, and turn existing smaller committee rooms into meeting spaces, or potentially some new office spaces. I do not think it is a good idea to split legislative spaces with another building. For ex., right now, House parties caucus on Tuesdays in the Pavilion Building, since our former meeting rooms, Rooms 10 and 11,

were converted into House committee rooms. It takes time out of our already-limited day for members to trudge over there in the winter, and I don't think it's safe or feasible for some members with mobility issues to do so (a thank you to our Capitol Police, who offer to shuttle members over in an ATV). Also, there continue to be connectivity issues in using Pavilion IT, which our Leg. IT Dept. must contend with. With our overall workflow, I think legislative work and meeting spaces need to remain in the State House.

8. Can you or your staff (or parts of your staff) work remotely from the State House?

Currently, one of the Assistant Clerks will livestream House Rules Committee meetings – which are normally held in the Speaker's Office – remotely from the Assistant Clerks' office space. This is done out of space necessity since the Speaker's Office becomes crowded with Committee meeting attendees. Also, during House sessions, the two Assistant Clerks who remain in their office are monitoring the floor session remotely: one via Zoom, one via YouTube. Since the House now livestreams both its sessions and committee meetings, we can also monitor House committee meetings via YouTube. However, when the House is in session, the Clerk and the two Assistant Clerks need to be on the floor with the House.

State of Vermont State House Mitigation Project
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Director IT - Kevin Moore

1. Tell us about you r mission, staffing, and space you utilize within the State House.

IT designs, maintains, and supports IT for the legislature, public, media (in building), and remote workers.
Main office is at 9 Baldwin
3 Locations for staff: Leg. Lounge, with old Leg. Counsel on lower level; copy room
Server Room
Storage throughout
8 1/3 FTE

2. How do these spaces work well? How are they deficient?

Need an additional space for a staff member that is easily accessible to State House users
Prefer to consolidate staff on site; would like to locate 2-3 staff in/around the copy room.
Ideally, the copy room would not be open for people to see documents as they are printed.
Lacks adequate equipment storage within the State House
IT Server Room is not climate controlled or secure
Senate Vault – Environmental concerns related to electronic equipment in that space.
Copy room has security & confidentiality issues.
Lacking an on-site training room. We now have a space in 133.

3. Tell us about how you utilize space in each room during the legislative session and while session
is adjourned.

More staff is onsite during session.

4. Describe key adjacencies between your staff and other departments.

Work with all departments

5. Do you have anticipated staff growth or reductions?

Growth expected. AV/Customer Service. Likely to need senior technical staff additions in the future to support expanded services.

6. Describe technology you use today and anticipated future technology that may need to be accommodated.

Remote witness testimony occurs via AV.
Stand Alone AV systems upgraded in chambers.

Future – Committee Room AV; voice system; security cameras. Tech is ever expanding to meet the needs of the Legislative branch.

7. In your Opinion, which spaces are underutilized or don't work well within the State House?

All spaces are over utilized. Most, if not all, spaces serve more than one purpose.

8. Can you and your staff (or parts of your staff) work remotely from the State House?

All Leg staff and Legislators (dependent on rules) can technically work remotely. The feasibility of remote work depends on the staffer and the office's mission/work style.

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Joint Fiscal committee - Catherine Benham (Chief Fiscal Officer) & Sarah Clark (deputy Fiscal Officer)

1. Tell us about your mission, staffing, and spaces you utilize within the State House.

Provide nonpartisan fiscal analysis for legislators. Produce the budget bill, provide fiscal info on proposals for policy.
Staff 16 year-round FT and one session only and a few consultants periodically there for meetings.
1 Baldwin Street currently. During off session in offices, during session in state house, staff appropriations (2) and ways and means (1) committees, (total of 3 committees). Staff spend time around other committees. Need more permanent space for staff in the committee rooms, 3 of 5 committee assistant. Appropriations both have full time staff analysts, 1 fiscal, 1 extra or 2 extra, all 3 need dedicated desks, legal come and go, heavier staff than other committees.
During session need to be in SH for committees and also work in office for teamwork. Analysts come back to office.

2. How do these spaces work well? How are they deficient?

For analysts to go back and forth is fine. Nice to have a separation and get outside. 1 Baldwin does have some lawyers in there too, on the third floor.
Pre Covid had an office in the state house, no longer have that space, ok with not having a space in the SH because now they have a large room for appropriations. Committee rooms need to be large enough for legislators to continue without private offices.
Deficiencies are the floating committee meetings, not all rooms comfortable and not ideal, working on your own lap, not space for everyone, but making it work. Small committee rooms changed into lounges which work great for small meetings, especially since they are close to the committee rooms. Legis have no place for personal meetings. Need small meeting rooms and there is no place for staff for 17 or 18 people to meet, even then too tight, some people on zoom. Off session will take a large committee room.
109 State Street is used as a meeting place, but it is hard to get legislators back and forth.

3. Tell us about how you utilize space in each room during the legislative session and while session is adjourned.

During summer mostly in pink lady except for the large meetings. During session going to everyone in every day.

4. Describe key adjacencies between your staff and other departments.

Meeting rooms near committee rooms are useful. Work closely with lawyers during drafting, but its only 2 people so it's easy to talk to them. Place for 6 people in 1 Baldwin.
Work with editors and senate secretary also.

5. Do you have anticipated staff growth or reductions?

Not anticipated this year but possible in the future new positions

6. Describe technology you use today and anticipated future technology that may need to be accommodated.
Laptops, committee rooms are equipped and 2 spots in 1 Baldwin are equipped, most have laptops or station that can use zoom, etc.

7. In your opinion, which spaces are underutilized or don't work well within the State House?

Lack of public meeting spaces and no space for a staff meeting. Rooms 10 & 11 have given them a better place to work, for caucusing and presenting from legislators, needs to be in the building. Used to do rooms 10, 11, or House Chamber but it is good to have something less formal than using the Chamber.
Cafeteria on busy days is tight, with groups and legislators, could use to be bigger on busy days.
Walking through the Cedar Creek room to get to the cafeteria is tight to get there.

8. Can you and your staff (or parts of your staff) work remotely from the State House?

Yes, but the preference is for committees to meet in person and the staff be in person during session, it is more efficient. Mondays can be remote but otherwise prefer to be in person Tues-Fri during session. Easier to communicate quickly and efficiently. More remote off session.
Catherine says there is a super functional government and want to allow them to have conversations and group discussions to continue with the good democracy, being in person helps achieve this.

State of Vermont State House Mitigation Project
Assessment Questionnaire

Director of Legislative Council – Jennifer Carbee

1. Tell us about your mission, staffing, and spaces you utilize within the State House.

Legislative Council works with the legislators to write the bills. Currently split between the State House and 1 Baldwin, 12 attorneys are in the mezzanine, 6 attorneys and 1 Assistant in 1 Baldwin. 18 attorneys year-round, 1 – 3 law clerks during session, 2-3 law students during session, 1 paralegal with the potential to increase. Also, during session (1) Drafting Coordinator, (1) Resolution Editor and (2) Session Drafters, can share a space to collaborate and work with Legislators. Editors (3) need a quiet space, can work together but in quiet. No longer have admin and committee staff with this group. Need to have private spaces for confidential conversations with clients. Preferred to be in the State House but connected to the State House works for easier communication. Need a dedicated space large enough for staff meetings. All attorneys are on site for collaboration.

2. How do these spaces work well? How are they deficient?

The offices need to be large enough for a few attorneys and a client, 3-4 people, currently most are not large enough. They have lost the dedicated meeting space big enough for staff meetings, can use a large committee meeting room. Certain functions at the State House such as press conferences in the Cedar Creek room, etc. are disruptive, there is a need for more connections of spaces.

3. Tell us about how you utilize space in each room during the legislative session and while session is adjourned.

Out of session can work remotely. In session everyone needs to be on site except for editors, only need 1 onsite at a time. Drafting is collaborative and is better done in an open space, on supervisor and 2 drafters during session. Editors need quiet space. Law clerks and student clinicians can use a communal space during session.

4. Describe key adjacencies between your staff and other departments.

Drafting needs to be close to the attorneys, but not as close to the legislators. Attorneys need to have close to the legislators.

5. Do you have anticipated staff growth or reductions?

Yes, they have been asked if they want more attorneys, there is potential staff growth but need room for it.

6. Describe technology you use today and anticipated future technology that may need to be accommodated.

They have the technology to work remote when not in session.

7. In your opinion, which spaces are underutilized or don't work well within the State House?

The offices are too small for the size of confidential meetings required and there is no longer a large meeting space for the staff meetings. It doesn't work for legislative council to be running back and forth between the State House and 1 Baldwin during session.

8. Can you and your staff (or parts of your staff) work remotely from the State House?

During session only the editors can work remotely. Out of session most staff can work remotely.

State of Vermont State House Mitigation Project
Space Assessment Questionnaire

Legislative Facility Coordinator - Tricia Harper

1. Tell us about your mission, staffing, and space you utilize within the State House.

   As a licensed professional architect, I have been contracted with the Vermont State Legislature as their Legislative Facility Coordinator for all legislative facilities including the State House. My contract requires that I work with the Sergeant at Arms and with Legislative leadership, as well as relevant committees and staff offices, as they develop facilities plans. As the facility Coordinator I am also contracted to provide an independent review for the Legislature of proposals and plans prepared by BGS and other contractors.

2. How do these spaces work well? How are they deficient?

   Below I have provided an overview of what has been the most notable space deficiency listed in order of most deficient to less:

   a. 1858 State House Attics: The immediate deficiently is in the 1858 State House. It is critical to continue with the structural assessment of the existing 1858 wood truss system, with the intent to make these structural repairs prior to renovating the space supported by the 1858 structural system. Note that an additional snow load has been imposed on these antiquated structural members since the 1858 attics were insulated in 2014.

   b. State House West Entry ADA access for the past few years, access has been compromised by scaffolding, which has been erected to protect the entry from falling snow and ice. The building needs a main controlled entry, that functions as a security/health screening area. In addition, VAN accessible parking to the State House ADA entry is limited by number and site grade challenges.

   c. 2nd floor of the1858 State House requires a fire suppression system, a mist fire suppression system was proposed, designed, and bid in the late 1990's, but the project was put on hold due to cost. In December 1996 a Fire Protection and Life Safety Systems Option Appraisal Study was approved by Public Safety. The options included incorporating a fire suppression system on the 2nd floor of the 1858 SH; a mist system was proposed to cover the two Chambers, Vestibule, Cedar Creek Room, and Governors Executive Office. The system was selected since it is architecturally less intrusive to the historic fabric, and provides the required fire suppression coverage, with the least damage to the historic artifacts and finishes.

   d. House Committee (30's & 40's): the majority of the existing committee room spaces are too small to safely accommodate committee members, the staff assistant, Legislative Council legal staff, those called to testify, and lobbyist/visitors. When the room is at capacity, it limits accessibility for all room users, wheelchair access and maneuverability become impossible without restricting room occupancy. There is a lack of storage for staff and members, also please not that most House committee rooms have required a kitchenette type setup in their committee rooms that includes a mini- fridge, microwave, and food storage (adding to pest control issues).

   e. Cafeteria Seating/Serving line/Kitchen: At lunchtime during the legislative session the existing cafeteria seating and the serving line area a frequently exceed

capacity. The serving line limits handicap access and maneuverability due to the overcrowding. Impart space issues in dining area are due to visitors/lobbyist using the cafeteria seating space as their touchdown workspace. Another factor in the overcrowding is the State House cafeteria is that it is the only remaining cafeteria available to State employees in the Capital Complex. Add in a few bus groups visiting the State House for an event, or during peak tourist season with multiple bus groups visiting, the serving line quickly shows its deficiencies, becoming overcrowded and inaccessible.

f. House Chamber: ADA access to the House Well has limits imposed at each entry. The Vestibule public entry to the Chamber is accessible, but the narrow historic door opening between the 1858 SH, through the Cedar Creek Room to the elevator in the 1880's SH Annex restrict full access to the 2nd floor of the 1858 SH. The members/staff door access, from the Card room to the House Chamber, access is restricted to the House Well, due to the 1950's fixed desk arrangement. Another deficiency in the House Chamber is the balcony, the two historic doorways that access the House balcony, are difficult to secure. The 1858 curved sliding cast-iron door are too difficult to maneuver, in cases of an emergency and lockdown. The Sergeant at Arms has requested, a design solution for securing these balcony entries. I am currently working on a design that meets code, without damaging the building historic fabric.

g. Senate Chamber: Typically, the Senate leadership only allows members and staff onto the Senate Chamber floor (Well), the gallery and balcony are open for the public. Wheelchair access for non-member is limited to the area just inside double doors, which could impede emergency egress from the chamber due to the lack of space for wheelchairs. Further ADA access to the Chamber is restricted, due to the narrow access door through the Cedar Creek. A code compliant 2nd means of egress from the Senate Chamber doesn't exist. The two narrow doors that communicate between the Senate Cloak Room and the Secretary of the Senate Offices, are not an acceptable 2nd means of egress, especially since the Senate Office and Cloak rooms exit into the same vestibule that the Senate Chamber does.

h. Senate Committee Rooms: When the existing committee rooms are at capacity, wheelchair access and maneuverability is limits, but the rooms typically function. Overall, there is a lack of storage for members and staff. The Senate rooms typically don't have a mini-fridge or microwaves in them.

i. A space is needed for large visiting tour groups to congregate before and after visiting the State House where their coats and backpacks can be stored (out of the egress corridors).

j. Currently Room 10 &11 are temporarily being used as a committee room. The two rooms functioned well as meeting rooms, thought acoustically the rooms are tough to control. The need to return the onsite meeting spaces for 50-100 occupants, is even more apparent with

the loss of Room 10 & 11. The members have noted it takes an extra 15 (+/-) minutes to attend a meeting outside of the building.

k. Existing Coat Room: The entry doors into the coat room space are narrow, limiting ADA access, an entry door should be widened to allow easy access.

l. Space needed for seasonal Friends of the SH - Gift Shop.

m. The existing handicap restroom stalls near the cafeteria, do not comply with current ADA standards.

3. Tell us about how you utilize space in each room during the legislative session and while session is adjourned.

Works outside of Statehouse.

4. Describe key adjacencies between your staff and other departments.
   N/A

5. Do you have anticipated staff growth or reductions?
   N/A

6. Describe technology you use today and anticipated future technology that may need to be accommodated.
   The House Chamber has limited very limited access below the floors, a concealed accessible raceway system is needed for the changing AV/Data needs. Pull boxes exist in the floor in the Senate Chamber which were installed in the Senate Restoration of 2000.
7. In your Opinion, which spaces are underutilized or don't work well within the State House?
   In consideration of the legislative legal office, if the lawyers' offices were moved to 2 Aiken, could perhaps the current designate space in some committee rooms, could this space be expanded to accommodate the Legal staff during the session as a touchdown work area in the SH. In addition to the possible dual use of a space in the committee rooms, the staff will need another hotel space for those not assigned to a committee.
8. Can you and your staff (or parts of your staff) work remotely from the State House?
   As a consultant, I do work remote.

State of Vermont State House Planning Study
Space Assessment Questionnaire

Legislative Operations – Mike Ferrant

1. Tell us about your mission, staffing, and spaces you utilize within the State House.

   The Office of Legislative Operations serves the members and employees of the General Assembly with nonpartisan operational, financial, committee support, and other administrative services and supports the Joint Legislative Management Committee. Our office currently has 23 employees (4 permanent, 19 session-only). Two supervisors share an office created within the Coat Room, 2 other Admin support staff work in 2 Aiken Ave, and the rest are committee assistants that work in committee rooms.

2. How do these spaces work well? How are they deficient?

   The spaces work OK for what they're meant to but having the 4 fulltime staff split into 2 spaces has impacted our teamwork and ability to work together. Committee staff spaces are tight and "in the corner" but that is relatively expected and how they've operated for years. Pre-pandemic, the 4 fulltime were located together in the current Coat Room and it was much easier to collaborate, cover each other, and maximize our operational support of the General Assembly. It was more of a "hub of resources" that legislators and staff could go to for most needs. Now, that hub is spread out and inefficient.

3. Tell us about how you utilize space in each room during the legislative session and while session is adjourned.

   The 2 supervisors have enough space but there's no room for other workstations in our office. The 2 Aiken location is temporary, by design and intent, but works very well for the two staff there. They have quiet space to get important administrative work done that requires concentration. It's unknown what the timeframe of occupancy is though, or what the next steps are for them.

4. Describe key adjacencies between your staff and other departments.

   Legislative Operations coordinates with other offices on a daily basis. We constantly are interacting with Legislative IT, Counsel, and Sgt at Arms staff to keep day-to-day operations of the State House functional and smooth. Our committee assistants interact with legislators and executive branch and public witnesses to committee all day, every day.

5. Do you have anticipated staff growth or reductions?

As committees expand, we may need to grow that team of assistants. I do not expect administrative team growth or reduction in the near future.

6. Describe technology you use today and anticipated future technology that may need to be accommodated.

   We use technology every day, all day. Our laptop computers, Zoom-to-YouTube committee streaming, emailing capabilities and more are an essential piece of our work.

7. In your opinion, which spaces are underutilized or don't work well within the State House?

   In my opinion, the “small lounges” in the 30s and 40s could be consolidated to one per floor and the other spaces utilized for staff that need space in the State House. The LG has two large offices, when not even in use most of the time. I believe the LG chief of staff could be collocated within the LG office itself and that other office reused for a legislative committee.

8. Can you and your staff (or parts of your staff) work remotely from the State House?

   We do and have (pandemic) but it is extremely difficult if others are in person, and we are remote.

State of Vermont State House Mitigation Project
Assessment Questionnaire

Lieutenant Governor's office – David Zuckerman

1. Tell us about your mission, staffing, and spaces you utilize within the state house

   Lt. Governor's Office and Staff office (rooms 14 & 16)
   Staffing: Lt. Governor, 1 FTE (Lisa Gerlach), 1 intern
   Cafeteria for large meetings

2. How do these spaces work well? How are they deficient?

   Work well.

3. Tell us about how you utilize space in each room during the legislative session and while session is adjourned.

   Lisa is there year-round. Lt. Governor is around every day during the legislative session and some days outside of session. Office is utilized for meetings and events with constituents, legislators, and outside groups both inside and outside of session.

4. Describe key adjacencies between your staff and other departments.

   Interacts a lot with the Secretary of the Senate and the Senate Pro Tempore.

5. Do you have anticipated staff growth or reductions.

   No. Space is utilized a lot by outside groups and individuals, facilitated by staff of the office.

6. Describe technology you use today and anticipated future technology that may need to be accommodated

   IT is through executive branch, so needs separate printer, etc. Currently we have a desktop setup for CoS, Laptop for CoS and LG, and desktop for intern (could use updating). No other anticipated future technologies.

7. In your opinion, which spaces are underutilized or don't work well within the State House?

   No space seems underutilized. There is very limited space for private meetings and events within the building, so we often offer our space for groups and individuals who need private space.
   Publicly accessible gender-neutral bathroom is needed.

8. Can you and your staff (or parts of your staff) work remotely from the State House?

State of Vermont State House Mitigation Project
Assessment Questionnaire

Capital Police - Matthew Romei (Previous Chief)

1. Tell us about your mission, staffing, and space you utilize within the State House.

Capitol Police's role is to enforce laws & rules within capital complex.
Capitol Police have office space in 109 State Street, with an operational outpost in the State House (Room 29)
12 officers: 5 full-time, 7 part-time
Will increase to 14 Officers in July 2023, (7 FT, 7 PT).
Have podium that moves from main lobby to card room, depending on time of year.
Closet off Room 11 (1st floor) - storage
Officers on site varies by events, etc.

2. How do these spaces work well? How are they deficient?

A command center is required for large events – one is currently set up in temporary space in 109 State Street but would prefer dedicated command center. The CP needs backup/emergency power. It's useful for this room to overlook the lawn.
Office larger than needed in State House – better to have a small office with monitors linked to
cameras.
Staff is usually out in the State House, and a new emphasis is being placed on visibility outside the State House.
It would be best to have one or more officer stationed outside the state House in case of emergency.
Cap. Police are lacking the following spaces:
- property storage area
- interview/detaining room
- weapons vault
- shower/decontamination/changing rooms
- restroom for male and female officers
- break room
-Vehicle parking room/spaces

3. Tell us about how you utilize space in each room during the legislative session and while session is adjourned.

We try to keep an officer in Room 29 and one on the second floor during the Session. Out of session the upstairs officer relocates to the Main Lobby. Room 29 becomes the nerve center for Cameras and emergency equipment to be deployed into the State House or other locations.

4. Describe key adjacencies between your staff and other departments.

We need to be able to find leadership at a moment's notice. Other than that, we don't need to be adjacent to anywhere. Room 29 is a good central location, but HVAC control and space is limited.

5. Do you have anticipated staff growth or reductions?

We will continue to grow for the next couple of years.

6. Describe technology you use today and anticipated future technology that may need to be accommodated.

We are installing a $250K camera system in the State House right now, which will require technology to support.

7. In your Opinion, which spaces are underutilized or don't work well within the State House?

The Chambers need to be improved from a security standpoint. We do not have an adequate ability to protect the chambers.

8. Can you and your staff (or parts of your staff) work remotely from the State House?

No.

State of Vermont State House Mitigation Project
Assessment Questionnaire

Secretary of Senate - John Bloomer

1. Tell us about your mission, staffing, and spaces you utilize within the State House.

Mission is to support the Senate.
3 FT, 5 PT, plus 2 lawyers and an assistant.
John is the Legal counsel for the committees, Staffing committees, joint management…
Runs AV for events, zoom calls, broadcast for the chamber.

2. How do these spaces work well? How are they deficient?

Current space is too crowded/ in open office area. Due to limited space, he is frequently in chamber.
No current space to consult with reps and legal counsel.
Have a space across the street as a small meeting room.
Secretary's room and cloak room is used for small informal meeting area because they do not have any.
In the "vault" … can we add a bathroom to this area??
Roles of the parliamentarian – runs the sessions, acts as lawyers…. Their role expanded over the years because it had to.
Today's AV requirements makes their space even smaller! They are the informal AV team due to their role. They must set up/ run the tech in the chamber.
There is no way out of the chamber – if there was an incident there is only one way out to safety! Most of the legislatures would have no escape.
No private spaces – legal council must talk to people but ends up in the chambers (which is a public space).
Number of people in conf room depends on time of year. Today: 3-5 people. If more than would use the cloak room. Over the course of the day many of these size meetings happen.

3. Tell us about how you utilize space in each room during the legislative session and while session is adjourned.

Summer less crowded in "staff space". Filing cabs, 5 desks…
3 people year round
Chamber has been used for workspace/ meeting area, in the summer used just as workspace.
Summer and fall less cramped.
Other organizations use the chambers/ debate clubs…. Feels like a museum during the off season.

4. Describe key adjacencies between your staff and other departments.

Need to be close to senate chamber.
Need a cloak room.

Close to the clerks.

Two offices should work closely (like Clerk of the House is near Speaker of the House).

Shared workspace for legislature staff.

Senators usually in committee rooms…. Unless everyone was shuffled it is hard to move people closer due to the historic nature of the building.

5. Do you have anticipated staff growth or reductions?

I don't think so in the short term. Unknown how the AV will change things. May need more IT support or support from IT.

Future may need to have small growth.

No electronics in chamber…. So, there is no digital support in the chambers… Historic desks so can't easily modify but would like to add digital screens/ features. No immediate changes.

6. Describe technology you use today and anticipated future technology that may need to be accommodated.

Broadcast like CSPAN…. Dual cameras… technology/ how we broadcast will change over the near feature but not sure to what… The process isn't great, but it works today.

Currently don't have the staff to make changes if desired…

7. In your opinion, which spaces are underutilized or don't work well within the State House?

Only underutilized space is the courtyard area, would prefer to be enclosed and turned into a great internal space.

The Senate Chamber definitely needs a second exit from the chamber!

Post covid – space needs! No group meeting rooms are provided at this time (In the past they had rooms 10 & 11).

Will things go back/ shake out in a year or two?

Air quality is poor.

Room 10 used to be used by Senate…. but now a flex room due to size/ COVID.

Pro Tems office is a security concern, no screening into space.

Certain committee rooms don't make sense in the rooms they are in.

Speaker was threatened so their space is now locked/ more secure…. All main offices should be secure.

State House Curator who restored the building – can't move around some rooms due to push back from different groups.

Then there are the weird rooms with low ceilings.

Cafeteria is empty off season but crammed during session/ no other spaces to go. Ethan Allen room is not used for seating, just a meeting room, now a committee room.

Cafeteria is a touch down space due to lack of office areas = taking up more space. Because people use it for other uses the space is too small… If it is just for eating, then it is ok.

Security is questionable.

Legislature council outside of building… Good and bad… He is used to walking from building to building in other states.

Tunnels between buildings – underground tunnel would open up options for going between buildings in bad weather and older people.

8. Can you and your staff (or parts of your staff) work remotely from the State House?

NO.
Chamber has to be run in the chamber unless of catastrophic event (COVID). Can stagger staff due to COVID but not preferred.

State of Vermont State House Mitigation Project
Assessment Questionnaire

Senate Pro Tempore – Philip Baruth & Chief of Staff – Ashley Moore

1. Tell us about your mission, staffing, and spaces you utilize within the State House.

   Currently located in room 13, off the front hall with no outer vestibule. Both in the same office, they also work in the committee rooms and the Cloak room and with the Secretary of the Senate in the upstairs office.

2. How do these spaces work well? How are they deficient?

   Would like to have a space like the Speaker of the House, with more space and in a secure environment. Ideally would like to fit up to 15 people in the space and wants to have the outer space for an assistant, wants to be behind a secured door, same as the Speaker.

3. Tell us about how you utilize space in each room during the legislative session and while session is adjourned.

   They only have 1 dedicated room both in and out of session. During session both are in the office 8-6 pm throughout the day. Off season is intermittent with use some days. June – September much less use, November – December ramps up the start of the session with more use.

4. Describe key adjacencies between your staff and other departments.

   The Senate is only 30 members, they have many face-to-face meetings, there is constant contact with the committee chairs/ small meetings all day. Senate Secretary offices should be nearby, also they are close to the Legislative Council and Joint Fiscal Council and would like to remain close to those.

5. Do you have anticipated staff growth or reductions?

   Only 1 staff member, don't anticipate change in the future.

6. Describe technology you use today and anticipated future technology that may need to be accommodated.

   Phil has a desktop and Ashley has a laptop; both use their phones.

7. In your opinion, which spaces are underutilized or don't work well within the State House?

   Spaces tend to be overutilized. The Senate is often fighting with the House for space, especially post Covid. House occupies the main common spaces (rooms 10 & 11). The Ag committee room is too small, and they share it. Committees mostly have 5 members, except a few up to 7, the Gov Ops Committee has 6 members, and the Finance Committee has 7.

8. Can you and your staff (or parts of your staff) work remotely from the State House?

No. In person daily work is best for constant communication. There are strict rules for committees regarding zoom, for the Senate floor need to be in person to speak and vote in person.

State of Vermont State House Mitigation Project
Assessment Questionnaire

Sergeant at Arms - Janet Miller

1. Tell us about your mission, staffing, and spaces you utilize within the State House.

   2 FTE (Janet & Sid)
   1 session-only
   Building security, oversees Capitol Police, books meeting spaces, oversees pages (– they congregate outside Sgt. at Arms Office), oversees Door Keepers (in charge of keeping decorum in committee rooms)

2. How do these spaces work well? How are they deficient?

   a. It is in a good location, during the session 3 people, everyone uses their office, and public inquiries, just enough space.
   b. Could use more storage, some they have is not accessible (high up cabinets), maintenance wise things get put there, lactation fridge, storage is lacking for building in general.

3. Tell us about how you utilize space in each room during the legislative session and while session is adjourned.

   Lobby during session used by pages and door keepers, public come in, talking in lobby is very loud (hard surfaces), committees nearby are disturbed, took benches out slightly quieter, need a place for people to meet and hang and gather. Also need members mailbox space, now in the lobby. Maybe something smaller in the lounge that is protected. Coat room in general, door not wide enough for wheelchairs. Off session has a lot of tours in lobby, noise isn't as troubling.

4. Describe key adjacencies between your staff and other departments.

   We are the main reception, direct people to other departments. Need an area for the gift shop card, in summer it would be good in a committee room or room 9. Or room 1 (has most noise).

5. Do you have anticipated staff growth or reductions?

   Probably not staff growth and reduction, would like to have state house tour coordinator in the building, (32 hours a week). Currently with the curator in 6 Baldwin. May reconfigure job options for more recruiting, year-round door person.

6. Describe technology you use today and anticipated future technology that may need to be accommodated.

   Sometimes spaces have events, need a mobile screen on wheels or podium on wheels, some larger spaces have that built in. Could there be an easier way. Need new signage perhaps electronic that could show the schedule for each room (committee rooms also).

Need directional signs for accessibility. Electronic could look better than taping up the paper signs. Entrance to state house could be more welcome and accessible.

7. In your opinion, which spaces are underutilized or don't work well within the State House?

Parking accessibility for the public, the accessible door is behind a gate, would need to be let in. The ones outside the gate are not level and technically correctly accessible. Other accessible spots are far from the accessible doors.

8. Can you and your staff (or parts of your staff) work remotely from the State House?

Not really, need to interact with the public.

Senate still has same number of people on the committees currently, may change in the future.

Senate and House committees won't fit back into the same spaces they were in.

Need a display space or public space outside of the cafeteria, people sit and meet but need another space for that. (Rules "no working between 11-1:30 in cafeteria). Cafeteria not accessible especially in the serving area. Need a place for constituents and lobbyists to meet members that is not in the cafeteria at lunch time.

APPENDIX H: STRUCTURAL REVIEW

STRUCTURAL ASSESSMENT

BASIS AND SUMMARY OF ASSESSMENT

The current expansion study considers the viability of a vertical addition over the existing cafeteria building, as compared to a more conventional adjacent addition option.

For this work, an on-site walk-through and subsequent drawing review of the State House's Cafeteria Addition building was conducted in May 2023. Observations of the general conditions of the existing building and the immediate site and of the provided original design drawings were conducted to assess the Cafeteria Addition's suitability to support a vertical addition. The surrounding site was observed for the potential of an adjacent addition ("Option 4").

In general, while the existing building structure appears to be performing well, the design drawings provided do not indicate that the original building was designed with any measures to accommodate a future floor. A vertical addition would require either a whole cloth augmentation of vertical framing, bracing system and foundations within and through the current footprint; or a "flyover" type structuring. The adjacent addition option is found to be a more economical (with major rock/ledge removal operations to be avoided), and would be significantly less invasive to operations.

For consideration in renovations to the existing space, it is noted that the base structure's drawings also do not show that a lateral load and stability system for the roof has a formal, intentional design. This means that renovations to the upper level, including insulation upgrades to the roof assembly, are to be planned to require invasive site investigations of as-built conditions, design analyses, and potential resulting construction measures to improve the original lateral stability system. And, if the location above the Cafeteria Addition is mandated to be a floor, then a "fly-over" type addition that avoids the existing framing and foundation, is likely more economical than a complete "structural upgrade" to the existing framing and foundations.

EXISTING BUILDING STRUCTURAL DESCRIPTION

The cafeteria facility is a 3-story building designed around 1989 as an addition to the State House Annex. The structure is a combination of concrete retaining walls, steel framing, hollow core and slab-on-metal deck for floors; with cold-formed sloped roof framing and metal deck on steel framing for the flat roof portion. The foundations appear to be shallow spread foundations supported on ledge (rock).

The building is against a hillside with the lower level only open on one side, south towards the state house. The slope is believed to be stable rock (or stabilized by an external retaining system) as a result of the drawings showing a minimal scale building retaining system and no evidence of lateral earth pressure movement distress found. The structure is somewhat wind-protected, ensconced between the slope and the adjacent statehouse structure.

Copies of existing drawings provided to Engineering Ventures (EV) from Freeman, French, Freeman Architects (FFF) as follows: Cover, ST-1 – ST-3; D-1 – D-3; A-1 – A-18; S-1 – S-9; M-1 – M-9; E-1 – E-10; M/E-1; 1989 dates were reviewed.

The May 1. 2023 walk-through was to observe exposed conditions of finished, veneers, facades, and walls. While some weathering was observed to the facades, very little cracking that is indicative of settlement, deflections, water intrusion or building structural movement was observed. Floor slabs and walls appear to be in structurally sound condition. Elements look plumb and true, without signs of settlement damage, and with conditions better than average buildings of similar age and type. The panel and glass wall on the upper north side appeared to have some near-term maintenance needs due to weathering.

STRUCTURAL ENGINEERING FINDINGS

The existing building Architectural and Structural drawings were not found to indicate that the Cafeteria Addition structure and foundation were designed to accommodate a future level. It is understood from the "State of Vermont, Medium- and Long-Term Legislative Space Assessment" dated 4/26/21 by FFF and from previous anecdotal conversations that the Cafeteria Addition was designed to support a vertical addition. The foundations and roof framing shown on the drawings do not note or, by cursory analysis are found to have the capacity fore designed for additional gravity or lateral loads for a vertical addition.

Similar to the now demolished former Agricultural and Environmental Lab Building in Waterbury, VT; the circa 1980's structure design on the drawings was comprised of no formal lateral load resisting system. Such a system would have been (and is) required by code then for wind and stability force mechanics whether or not "seismic" load requirements were in effect "by code" at the time. As analysis indicated for the Lab, stability for wind loadings at a common service level speeds below required code levels was provided by simple (not "moment frame") beam to column connections, as well as by secondary bracing effects from exterior and partition walls.

As part of renovations for the Cafeteria Addition, a similar analytic study of the building is recommended; as augmentation to bring the structure to an original or current code state may be required. Based on experience, it is likely that renovation measures in excess of the IEBC thresholds that permit only localized structural augmentation, would require complete lateral system remedial work for the stability at the upper floor to roof framing to meet past and present applicable code requirements. If this is done as part of an overall renovation with finishes and MEP/FP removed, then overall monetary costs for that project's structural work would be significantly reduced.

Note that for the flat roof, the Snow Load was listed on the drawings as “50 psf” (pounds per square foot) with an additional aggregate dead loading of 30 psf. The roof framing may meet the current code requirements for vertical, gravity loads as-is for load increases, such as from a roof assembly insulation upgrade. Additional detailed on-site investigation to verify framing and connection sizes, with associated, is required.

The posted floor Live Loads appear suitable for adaptive re-use consistent with current use. They are shown on the drawings as 100 psf for the floors and 125 psf at the mezzanine.

With no exigent or questionable structural conditions observed and a history of adequate performance; and with the existing building design drawings not confirmed as “as-built” conditions, the building does not appear explicitly required by the current Vermont building code to be structurally “upgraded” to the current load structural requirements (without a change of use or major alteration of existing primary framing.)

OPTION DISCUSSION

For a vertical expansion, given the building relatively narrow width and solid rock subgrade, a fly-over option the employs new column and foundations around the perimeter of the building with floor and roof framing spanning over the existing structure below – is likely less monetary cost and disruption than upgrading through the current structural system. This approach allows for finishes and system in the existing building to remain; and prevents augmenting existing framing and foundations for the additional loads of new floors. The internal augmentation can often cost more, because the new work can be built faster and in a more conventional and openly accessible manner. The proximity to rock for flyover foundations can also serve the scheme economy by limiting draw-down settlement and ground shoring governing parameters. Floor and roof framing systems types may be limited to keep overall spanning weight comparatively low. The lighter systems may cost more however.

For an adjacent expansion, the economies and range of common new construction systems is broad. With the adjacent option is arranged to avoid blasting for rock/ledge removal, its construction without major disruption to the existing building is likely. The rock as direct foundation support, also serves then to limit settlement driven designs that would affect the existing building

APPENDIX I: MECHANICAL/ ELECTRICAL/ PLUMBING/FIRE PROTECTION STATEMENT

Memorandum

Date: June 28, 2023

RFS Job No.: 22-9971.001

To: Colleen Perron
Freeman French Freeman

From: James T. Boudreau
RFS Engineering

Re: Vermont State House Pandemic Mitigation Project

RFS has provided a high-level review of the proposed building addition/renovation options for the Pandemic Mitigation project and notes the following impacts related to MEP systems:

- Provisions will need to be made to accommodate existing MEP systems such as intake/exhaust pathways for AHU-5&6 and AHU-7&8. Provisions could include architectural concessions to maintain existing pathways or MEP modifications could be made to utilize new pathways.
- The capacity of existing mechanical and electrical systems will also need to be reviewed with upgrades provided as required.
- New fire alarm systems will be provided at addition and renovated areas and will be integrated with the existing head end system. RFS assumes that the project will not trigger a larger system upgrade and that the project is less than 50% of total building area. The existing FACP will remain.
- Telecommunication and Security systems will be required in all renovated areas. Consideration of existing head-end systems will be reviewed with Vermont to confirm integration requirements.

JTB/jgb

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