GARRETT HALL

THE HISTORIC REFECTORY BUILDING
at the
UNIVERSITY OF VIRGINIA

A Historic Structure Report

John Milner Associates, Inc.
Alexandria, Virginia

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5250 Cherokee Avenue, Suite 300
Alexandria, Virginia 22312
(703) 354-9737

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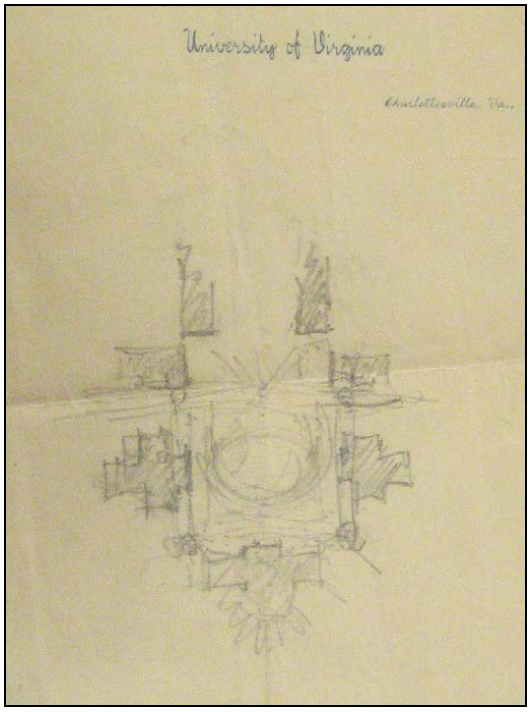
INTRODUCTION

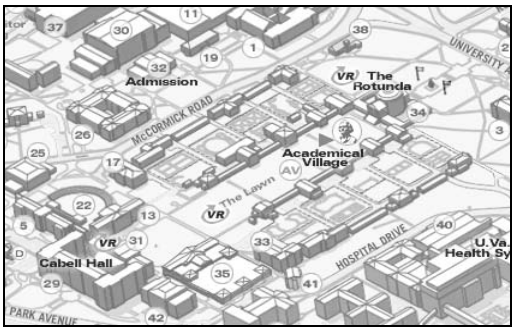
The building now known as Garrett Hall was built in 1907-08 as a dining hall for students living on the University of Virginia grounds. The purpose of the project was to provide a place where students and faculty could dine together in large enough numbers to promote democratic interaction as part of the educational experience. In addition to outfitting the building with state-of-the-art food preparation equipment and providing a variety of dining areas in a grand, lavishly detailed interior, the university set up a cooperative organization comprised of students who elected representatives to make day-to-day decisions, select menus, and manage and staff the facility. The building replaced an earlier cooperative "mess hall" that had operated until 1906 at a location on Carr's Hill, but the new facility was also intended to draw students away from the custom of joining selective dining clubs and patronizing privately owned boarding houses where there was less interaction. Originally known as the Refectory, it was one of several university buildings designed by the firm of McKim, Mead, and White between 1896 and 1908.[1] A relatively straightforward Classical Revival style design from the exterior, its interior incorporates elements derived from both the Tudor Revival style and late medieval architecture into a composition that was typical in some ways of high-profile buildings in the Edwardian era.[2] The main aesthetic attributes of the design have remained largely intact in spite of two radical changes in use, in 1959 and 1983, and loss of key elements in the southern half of the interior such as the original foyer and stairway. Corridors and new stairways were inserted into the design in 1959 when two dining rooms, a rest room, and the two-story kitchen area were divided into smaller spaces to serve as offices. Additional modifications of a similar nature were made in 1983.

The Refectory is part of an ensemble of Classical Revival style buildings added at the southern end of the Academical Village between 1897 and 1908. The 1898 construction of three academic halls at the south end of the Lawn permanently altered the design and character of the university's central space, changing circulation patterns and partially blocking the view toward the rolling hills and mountains to the south and west.[3] At a time when the student population was growing and new academic programs and faculty positions were about to be added, the university was in need of additional facilities. However, the need for space had suddenly become more urgent in 1895 when a fire badly damaged the Rotunda. The fire destroyed the large annex that extended from its north side, built in the 1850s during another period of university growth. After the fire, the decision was made not to rebuild where the annex had stood, in the area between the Rotunda and University Avenue, but rather to use the land at the south end of the Lawn for a group of large, new buildings, primarily housing functions that had been in the annex, but at an expanded scale.

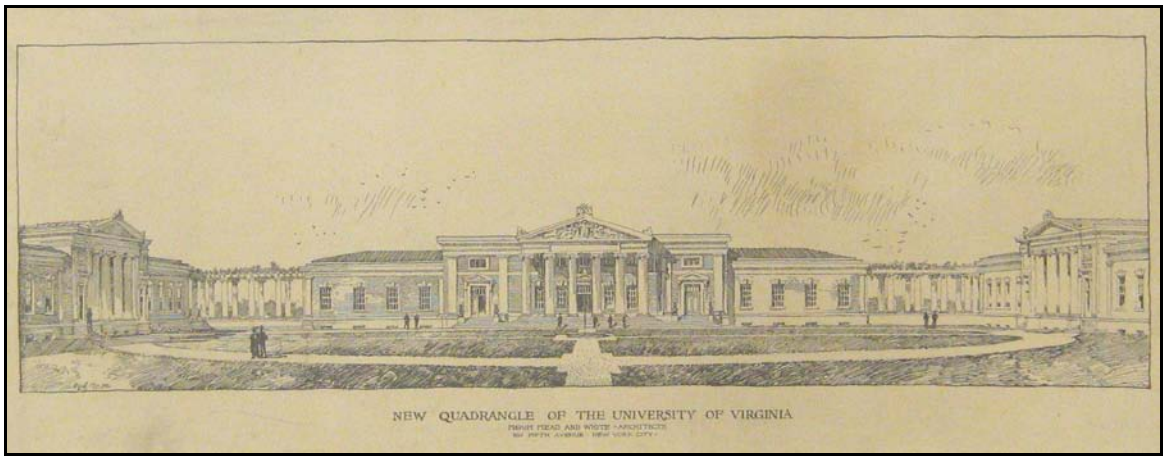
While directing the 1896 restoration of the Rotunda, Stanford White of McKim, Mead, and White[4] developed a diagrammatic sketch of a cluster of buildings that would provide the needed space.[5] One of the buildings in the sketch had a rectangular footprint and was shown in nearly the same location that was later chosen to be the site for the Refectory Building. The task of designing the three buildings that closed the south end of the Lawn was given to White and his firm.[6] A decade later, McKim, Mead, and White's Refectory Building extended the ensemble to the west and provided a southern terminus to the West Range. It counterbalanced an 1897 dormitory, Randall Hall,[7] at the south end of the East Range.



Stanford White's first sketch showing buildings at the south end of the lawn (left). Garrett Hall is actually located just west of the horizontal rectangle at the upper left corner of the figure, but its siting and design was apparently anticipated in this sketch. A handwritten note from 1942 kept at the special collections library with this sketch indicates that the successors of McKim, Mead, and White donated it in 1942 because they believed it was White's first attempt at designing the ensemble at the south end of the lawn (Special Collections, University of Virginia Library, photographed by JMA).



In the Central Grounds map above, the Refectory Building is No. 17, Cocke Hall is No. 13, and Rouss Hall is No. 35 (from the University of Virginia web site).



Rouss, Cabell, and Cocke Halls, from a rendering prepared by McKim, Mead, and White (Special Collections, University of Virginia Library, photographed by JMA). Rouss Hall is on the left and Cocke Hall is on the right. The site of the Refectory Building would be diagonally beyond the bottom right corner of the image, behind the corner of Cocke Hall.[8]

For most of the McKim, Mead, and White buildings at the university, Stanford White was the lead partner and the buildings are regarded as his work. One of the best-known architects in the country at the time, White, however, was murdered in a tragic turn of events June 1906.[9] The design for the Refectory Building appears to have been developed, at least at the schematic level, shortly before White's death. Some correspondence and a few references in the student newspaper dating from shortly before and after White died indicate that White had drawn some of the details and that he was considered at the time to have been the building's designer.[10] However, the oldest known construction drawings for the building were issued months after the murder occurred.[11]

After White's death, the project was taken over by William M. Kendall,[12] another partner at McKim, Mead, and White. Kendall was also the McKim, Mead, and White partner who completed the President's House.[13] The site selection for the Refectory was finalized in October 1906, but the design was already far enough along that Kendall brought renderings of the building with him to place on display on what may have been his first visit to Charlottesville to work on the project.[14] The two renderings that are now archived at Avery Library at Columbia University appear to match the description given in the student newspaper at the time, in the same article that announced Kendall's arrival: "A colored perspective and elevation plan of the dining hall will be on exhibit in Madison Hall today."[15] The exterior rendering (see below) shows fenestration patterns that were later changed. The description given in the student newspaper[16] refers to a service wing that was not included in the final design. As was also the case with the university President's House, the tasks of detailing the design and overseeing the project as it was completed through construction were handled by several other members of McKim, Mead, and White,[17] including Kendall, over the ensuing two years.[18]

This black and white photograph of a rendering is archived at Avery Library. The oldest known image of the design, it depicts the upper story windows as smaller than those of the first story, possibly an indication that the front first story spaces were dining rooms in this version of the scheme. The topography and the tree to the rear at the left could indicate that this design was prepared with a different site in mind. However, there is no evidence in the rendering of the rear service wing mentioned in the earliest descriptions of the design.

Some of the coverage that appeared in the student newspaper indicates that the students and others were expecting the Refectory to be built on Carr's Hill and for the president's house to be sited in closer proximity to the Academical Village buildings.[19] It is possible, therefore, that the Refectory design was initially developed for the Carr's Hill site.[20] A letter issued by McKim, Mead, and White a few days before White died acknowledges that he had fallen temporarily behind in preparing the drawings for the President's House. The letter says: "Owing to Mr. White's absence from the city for about two weeks, he has not taken the time to put the sketches in more finished shape."[21] The same letter further indicates that "the plans for the dining hall are still incomplete owing to the peculiar contour of the ground upon which it is to be placed…" and that the firm was awaiting a drawing of the contour that a faculty member had agreed to prepare.[22] The letter concludes, in reference to the dining hall project: "Upon receipt of [the contour information] we shall be able within a very few days to send you the sketches."[23] Since McKim, Mead, and White finalized their site selection in October, after the renderings had been completed, it appears likely that the design had evolved after White's death, and then again after the site had been selected. The contours of the topography could be the reason why the service wing that had been discussed early on was dropped from the final design, since the site that was selected in the end is sloped enough that the back of the building is banked into a hill. Another factor is that a rectangular footprint was more appropriate for a building that forms a terminus for an older row behind it.

The Refectory building project was initiated at approximately the same time as the President's House. President Alderman came into office as the university's first-ever president, in 1905, part of a change in the university's organizational structure after the Rotunda fire.[24] Although he lived in a rented residence for approximately three years, Dr. Alderman began the process in 1906 to build a fitting President's House on the university grounds.[25] After an attempt at choosing an architect by holding a design competition, Alderman decided to bring McKim, Mead, and White back to the university to design the house. This decision was awkward and presumptuous, since the firm in question had not entered the competition and since there appears to have been a strained relationship just a few years before, when the 1898 buildings had been completed.[26] On May 1st, 1906, President Alderman wrote to McKim, Mead, and White asking them to be the architects for the house, and in the same letter, he asked them to design "a suitable dining hall for the accommodation of 125 students." He stated that "the maximum cost for each is to be $20,000."[27] He offered a summary of the aesthetic quality he had in mind, saying that "while these structures are not to be pretentious, it is our…wish that they may harmonize with the spirit of our architectural standards." McKim, Mead, and White wrote back on May 5th, 1906 to accept the commission. Notably, Dr. Alderman's letter was addressed to the firm as a whole, and the response was signed by the name of the firm, not by the name of any particular individual.

The project to build the Refectory was an important component of President Alderman's overall vision for the university. By the time the building went under construction, he had developed a strong rhetorical argument for erecting the facility as part of a larger expansion program aimed not only at increasing the size of the university but also at re-establishing a democratic spirit. He saw the advancement of Thomas Jefferson's ideals in

a new industrial society as a noble and imminent challenge, one that left a unique and important role for this university to play.[28] As he gave speeches on the topic over and over, Dr. Alderman appears to have been searching a little for just the right angle and just the right voice to get the point across and to bring something to the surface that he understood very deeply. He spoke of his institution's role as a leader among the universities of the south and its need to keep up with the older northeastern schools, while citing statistics about universities in the west. The aggressive expansion program he was inaugurating through these speeches reinforced the advancement of democracy and education together as both symbol and reality in many different ways. He introduced new lecture venues, expanded on-campus hospital facilities, established a cooperative book store, and initiated new student and alumni publications, while also advancing the institution's influence and interaction in the Charlottesville community. His goal to encourage students to commingle at the dinner table in a facility that circumvented stratification by class was among the best and most tangible examples he could cite.

Dr. Alderman's arrival at the university was accompanied by commentary that there wasn't enough space available to house the alumni and dignitaries who attended his March 1905 installation.[29] At the beginning of 1906, the university began to make its case to the state legislature that it needed an increased annuity in order to hire additional faculty and plan for the expansion of the facilities. As the newly installed president, Dr. Alderman addressed the legislature in January asking for $154,000 (the exact amount he was asking for varied over time and from report to report). His address was reprinted, word-for-word, in *College Topics*, the student newspaper. (An editorial in the same issue of *College Topics* contains a presumption that this money would be used to construct badly needed dormitories, including ones to replace the dilapidated ones on Carr's Hill.) At this point, his strategy was to say that there was an unprecedented demand for the new academic buildings, as well as all for all the other facilities he was proposing, and that state funds were needed to build them in order for the university to stay competitive with other schools around the country. He spoke of "a great and silent revolution going on in industrial and social life. We are at the beginning of a new world as clearly as we were when Mr. Jefferson projected his noble scheme."

Dr. Alderman may have regretted not emphasizing Jeffersonian ideals even more in his initial speech. Within a week, in response to the request for a larger state appropriation, Sen. Aubrey E. Strode of Nelson County, an alumnus, had introduced a bill in the legislature to appoint a committee to examine whether the university was meeting its legal requirement of providing free education to qualifying Virginia residents. At the time, students who were residents of Virginia paid no tuition; however, they were obliged to pay an annual "University Fee," which went toward the costs of "matriculation, diplomas, gymnasium, library, etc."[30] Ultimately, to convince the legislature to make funds available for the expansion projects, the university lowered the matriculation fee from $40 to $10 per student. The legislature responded to this compromise by funding $85,000 of the $125,000 that the university had most recently requested.[31] However, the debate over the cost of attending the university threw the spotlight on the cost of dining on the grounds at a time when President Alderman could have pointed only to two cheaply built and run down "mess halls" that the university had established in the 1880s, and an otherwise a Byzantine system in which many students

took their meals at boarding houses. Although the private boarding houses were generally licensed by the university, in an effort to make service and fees uniform, the system had evolved into a network of cliques in which the students had the choice of joining any one of a variety of dining clubs, segregating themselves by location and quality of food if not entirely by wealth.

Sen. Strode specifically expressed his approval of two relatively new efforts to keep costs down on campus: a cooperative book store that a group of students was operating, and "the University Mess Hall." The latter was the result of the reorganization, about 1904, of an existing dining facility on Carr's Hill that the university had created only a few years before (in 1888), apparently by upgrading and adding onto a building that had been old when first appropriated for this use in 1888. The budget for the 1888 project was a meager sum of $1,500,[32] and by 1904, despite the refurbishing sixteen years earlier, the building was already in poor condition. In 1887, the faculty had requested that another mess hall be built at Dawson's Row, which they funded in 1888 at the same time as the Carr's Hill mess hall, apparently hoping to attract students from each half of the grounds into university-owned dining facilities.[33] Nevertheless, it was about the same time that the wealthier students had begun to show an increased preference for privately owned boarding houses.[34] By 1906, the Carr's Hill Mess Hall was a moderately successful but limited cooperative run by a student board employing students as cooks and waiters.

Concern about the fact that the boarding house system opened the student body up to stratification by wealth was part of the public dialogue that spurred the decision to build one consolidated facility. An editorial in *College Topics* on November 30th, 1904 entitled "The Carr's Hill Mess," points to how "extremely important [it is] that this attempt prove successful" at providing meals at reasonable prices through a cooperative, using student staff and thus creating jobs for students who needed employment. The editorial points out that "The comparative costliness of many University boarding houses has brought down upon us the accusation of this being a rich man's college."[35] The writer also comments that "It has often been a source of reproach to the University that she could offer no employment to a young men [sic], by which he could work his way through college. Other colleges present many such opportunities…" A related argument in favor of building a new dining hall was that students needed access to food late at night, even after midnight, when they were "burning the midnight oil" in their studies. The only place offering meals this late was a restaurant (or possibly several restaurants near one another) at the local railroad depot, a situation that placed certain students at a disadvantage because of the distance they had to travel to and from the depot at night.[36]

On February 24th, 1906, *College Topics* ran a front page piece, in an editorial voice, going into further detail on what Dr. Alderman had been asking for from the legislature. The article says that:

> "Carr's Hill, one of the most prominent spots in the University grounds, is now occupied by a dormitory and dining hall which are old and unsafe, not to mention the fact that they are entirely out of keeping with the architectural scheme of the other buildings. An up-to-date dining hall on Carr's Hill, conducted on a sound

> financial basis, would do much to lighten the expenses of a great majority of the students, and to bring even more men to the University. A sum of $30,000 was asked to reconstruct these buildings and make them serviceable and harmonious with the other buildings."

The existing Carr's Hill dining cooperative, which had only 30 members and was referred to by *College Topics* as an "experiment," closed abruptly in late April 1906.[37] The decision to close it was apparently made by the student who was serving as manager.[38] He made the move abruptly "because certain agreements weren't met" and he was in fear of being held personally liable for any financial shortfalls.[39] The move was apparently also predicated by the plans to build the President's house on Carr's Hill and to build the new Refectory Building at the same time. (The closure was tentative in a way, since President Alderman, in announcing that the Refectory Building was running behind schedule later that year, offered the old Carr's Hill building as a temporary solution to the need for dining space, "fitted in all needed equipments," with the university furnishing light and heat, if any "University clubs…care to run it"[40]). An article in *College Topics*, announcing the closure and giving the manager's financial report in detail, made a point of emphasizing that the cooperative dining hall's books had more than balanced and that the cooperative had paid dividends to its members. It appeared to be a matter of some importance to emphasize that the financial success of the experiment pointed to the viability of a new cooperative effort "when the university authorities furnish a fully equipped Mess Hall, free of rent and furnish the fuel and light."[41]

President Alderman continued to develop his thesis that the Jeffersonian concept of democracy needed to be reinstituted and reinvigorated for the emerging new industrial society where it was so badly needed. Although he did not mention the dining hall as an example, he entitled a speech he gave in October 1906 as follows: "The All-Important Question: Is There Not Room Here for Increase of Fellowship?" In a speech he gave in March 1908 to the University Club in Washington, he showed that he was thinking about how democracy and dining relate: "You may give the name democracy to anything — a mode of living, a manner of speaking, a group of men, a dollar dinner, but the thing itself is plainly a spirit…"[42] In an address he gave on Thomas Jefferson's birthday, a major annual event at the university, he said, as reported in the October 3rd, 1908, edition of *College Topics*, that the new dining hall would make living at the university more affordable "and will strengthen the growing spirit of democracy among the student body."[43] The January 1909 issue of the university's periodical known as the *Alumni Bulletin* notes that "…Dr. Alderman has made a constant and consistent effort to strengthen the social ties that bind, or should always bind, student and student, student and teacher, teacher and teacher, in the vital unity of spirit and fellowship that should characterize a great educational institution." The *Alumni Bulletin* article ties this concept directly to the Refectory Building project in saying: "Since the opening of the new college dining hall, President Alderman has made special efforts to have it meet the needs… for which it is intended. He regards it as affording a great and attractive opportunity for the development of that practical academic democracy, of which he is an untiring apostle."

Dr. Alderman's thesis about democracy and fellowship was repeatedly applied to the new dining hall project as the details of its construction were published in *College Topics* and in the *Alumni Bulletin*. The January 1908 edition of the *Alumni Bulletin* says "The new dining hall, which has been made possible for the University through the wisdom of our State legislators… will afford accommodation for 250 men at one time, and will strengthen the democratic spirit among students, while giving protection to their bank accounts." In July 1908, "mingling" and "fellowship" were emphasized as parts of the mechanism of student democracy in the summer edition of the *Alumni Bulletin*: "The new college dining hall will be ready for operation at the beginning of next session… the opportunities for the students at large to mingle easily and frequently will add much to the spirit of democracy and good fellowship that go toward making up a loyal and wholesome sentiment for the University and for the Commonwealth. True college spirit and true patriotism depend upon the intelligent acquaintance of men and their sympathetic association."

While the design for the new building appears to have been developed almost to completion either for another location or without respect for the topography and setting of a specific location, William M. Kendall came to Charlottesville to represent McKim, Mead, and White and to complete the site selection process in October 1906. His arrival occurred a few days after the Board of Visitors had reportedly taken action approving drawings that had already been submitted, apparently by mail. The design was "accepted" by the Board of Visitors at their 6 October 1906 meeting, as reported in the 10 October edition of *College Topics* (although the approval is noted in *College Topics*, it appears to be missing from the board's official minutes). The same edition of *College Topics* has a separate article saying that Kendall had:

> "…arrived in Charlottesville yesterday, and is now at work selecting the site for the dining hall.
>
> The probable location will be on West Lawn, corresponding to the Randall Building on the east.
>
> A colored perspective and elevation plan of the dining hall will be on exhibit in Madison Hall today or tomorrow, as well as one of the President's house. The [for]mer will be modeled after Harvard University and the University of Oxford Commons Halls. The dining room proper will be two stories in height in the rear of the main building, with kitchen and pantry in a wing to the rear of that. The second story front will be fitted up as suitable for faculty meetings, and will probably be used as such."

Although the article concedes that the south end of the West Range was the most likely choice, the tentative language may be an acknowledgment that some people were expecting it to be built on Carr's Hill.

Carr's Hill may have been eliminated as a choice for the dining hall site as a result of the decision to build the President's House there, an action that occurred at about the same time. After it was made, the decision was debated in at least three letters to the editor and at least one editorial in *College Topics*. The argument put forward by those opposing Carr's hill as the location of the President's House was generally that it will make the hill

unavailable for other facilities that will be needed there in the future. However, one of the letters also argues that the President's House will be "an eyesore to all students of nature for all ages" and compares the decision to "develop[ing] hills [into] castles for feudal lords…"[44] Notably (and perhaps relatedly), a letter that appeared on the topic in December, opposing the Carr's Hill location for the house, was submitted by Morgan P. Robinson, the manager of the Carr's Hill cooperative dining hall who had just closed his facility without much advance notice in April earlier that year.[45] Robinson argued against the Carr's Hill site for the president's house from the point of view of university traditions that he feared newcomers might not grasp, saying that "if future Presidents of the university are… alumni, it is probable that they would hardly choose Carr's Hill as their place of residence, for they would doubtless respect better the traditions of the Old University…"[46]

Although the October 10, 1906 *College Topics* article about William Kendall arriving to select the site was subtitled "Excavations for Building Soon to Be Started," the groundbreaking for the new dining hall did not occur until April 1907.[47] According to the March 1907 edition of the *Alumni Bulletin*, the decision was made to begin building the dining hall first and to postpone the construction of the President's House, because the funds were only adequate to build one of the two. However, contrary to the stated plan, the President's House began construction almost at exactly the same time that the *Alumni Bulletin* said this. Subsequently, construction at the President's House may have progressed more slowly than the work at the Refectory building. The university's success in raising funds from private sources ultimately made it possible to have both buildings under construction at the same time. After being accused as recently as October of having chosen the site for his house because of its suitability for a feudal castle, President Alderman was well-advised to get the Refectory, his symbol of democracy, underway as soon as he could. The word "groundbreaking," in the case of the Refectory building, appears to have referred to the actual beginning of the work of the excavation contractor, rather than to a symbolic ceremony, as there is no reference to any of the details of a special event in the contemporary newspaper coverage.

A detailed description of the building was provided to *College Topics* for their April 10th issue by Dr. W.A. Lambeth, the university faculty member who was appointed to oversee both this project and the construction of the President's House.[48] The description notes the alignment of the building's west wall with the facades of the West Range buildings, so that the sidewalk can continue past it. The article also gives many specific details about the building's exterior and interior. Dr. Lambeth notes that the building will be in an analogous position to that of Randall Hall, will have a six-column Doric portico and entablature, "and the transverse axis of the new quadrangle will be continued to this portico," a reference to the way the building will help to shape a new space in front of it, the space where the McIntire Amphitheater was later built. The cost, at this point, was estimated to be between $45,000 and $50,000.[49] The article concludes with the statement "Although the work on the building will be rushed, it will hardly be possible to have it ready to operate next session."

From the April 1907 groundbreaking until the building's completion 1909, the focus of what the university had to say about the construction process was on the complexity of the project and the quality of the work, rather than getting the building finished by any specific date or celebrating its completion. In October 1907, an article in *College Topics* indicates that the exterior work was nearly complete, the furnace had been installed, and the roof would be installed next.[50] The article indicates that the kitchen equipment costs are now estimated at $5,000 (the April 10th story on it estimated the equipment cost at $4,000) and that "the state appropriation of $22,000 "was found to be only half of the amount required." To make up the difference, President Alderman had "generously turned over an appropriation of $17,000 for the President's house and the remainder was secured through private gifts." The article describes the wainscot as Flemish oak (an earlier article had referred to it as English oak[51]), and it says that "Moulds are being cast in New York for the coffered ceiling, after designs by Stanford White." A January 25th article entitled "Work is Being Rushed"[52] relays much of the same information, except that the emphasis is on how well the exterior harmonizes with the surrounding buildings. The dining hall ceiling is described in more detail at this point, including a description of the "alternating wreaths with large 'V's' entwined with vines" cast into the plaster.

Remarkably, the building appears to have gone into use without much fanfare. Although the January 25th, 1907 coverage in *College Topics* says that "no attempt will be made to open it until next [school] year," the building was ready at least for temporary occupancy by June 1908 when the annual Alumni Luncheon was held there as part of Finals Week ("Finals Week" was then a celebratory time when alumni visited with the students). It quietly went into full service by the opening of the fall semester. To incoming freshmen reading the printed commentary that survives in *College Topics* from that semester, it may have seemed like it had always been there. However, the January 1909 issue of the *Alumni Bulletin* notes that "At the November meeting of the Board of Visitors a new feature of university life was introduced by the faculty giving a dinner to the Board of Visitors in the new University Commons, or dining hall." One reason that so little fanfare would have occasioned the initiation of the facility was that the university, by this time, had many different projects underway. Dr. Alderman, however, did speak gleefully about the buildings as a group. In his "annual statement" on the present condition of the university given as part of the Founder's Day exercises in April 1909, for instance, he seemed to glow as he reported on "the erection of five new buildings." Part of the focus of his speech was on "the ever present problem…the problem of democratization," one of what he calls the three problems or phases that the university needed to address at that time (conserving the vision on which the university was founded, democratization of the present university community, and enriching the university by increasing its financial power). The construction of the "Commons Hall" is given as the seventh out of eight examples he cites of things that have addressed the goal of "democratization."[53]

An important final step in setting up the Refectory was the creation of a cooperative organization for the students to run and staff the facility, with very limited intervention by faculty. The new organization was called "The Commons," which came to be one of the names for the facility as a whole. In its October 31st edition, *College Topics* provided all the details of the new constitution that had been adopted in time for the first election of students to the Board of Governors of the University Commons on October 28th, 1908.

By April 1909, *College Topics* began running an occasional column called "Dining Hall Notes"[54] in which a summary was given of the people who had signed the guest register at Commons Hall.[55] The column published on April 7th mentions 16 guests, three of whom were young ladies. This figure was in addition to about 20 members of the Yale Track Team. The April 24th edition of *College Topics* gives a much longer list of people who have registered there, specifically on Sunday and Monday of Easter weekend. It comments that "The activity of the Commons during Easter week has been record breaking indeed."

SYMBOLISM AND THE REFECTORY BUILDING DESIGN

In building the Refectory, the university was responding to the social dimensions of the growth that it was experiencing, as well as the longstanding tradition of students joining dining clubs and eating most of their meals in small, private boarding houses that surrounded the Academical Village. In an era when centralized services appeared to be a more logical approach, the old system was not only a lost opportunity to enhance the school's camaraderie, morale, and academic awareness through centralized dining, but it also seemed inefficient and antiquated by the standards of an increasingly industrialized and centralized modern world. At the dawn of a new era, with a growing population, the university's leaders sought to bring students together in a communal atmosphere as part of the modernization of the institution's facilities.

The university's design intentions in planning and constructing the building in 1906-1908 are evident in a 1910 article published in *The Alumni Bulletin*. The article says:

> "It…harmonizes with the style of architecture prevailing at the University… The interior arrangements are in accord with the most approved plans of modern refectories.
>
> "…the main dining-room [is] where two hundred students can be served in small groups at neatly furnished tables.
>
> "Here half our students can assemble three times a day in profitable friendly intercourse. This means much toward promoting unity and solidarity, a keener sense of comradeship and interdependence, and a deeper love for alma mater…
>
> "The new feature in our university life answers to a very real need. It marks a significant progressive step…"

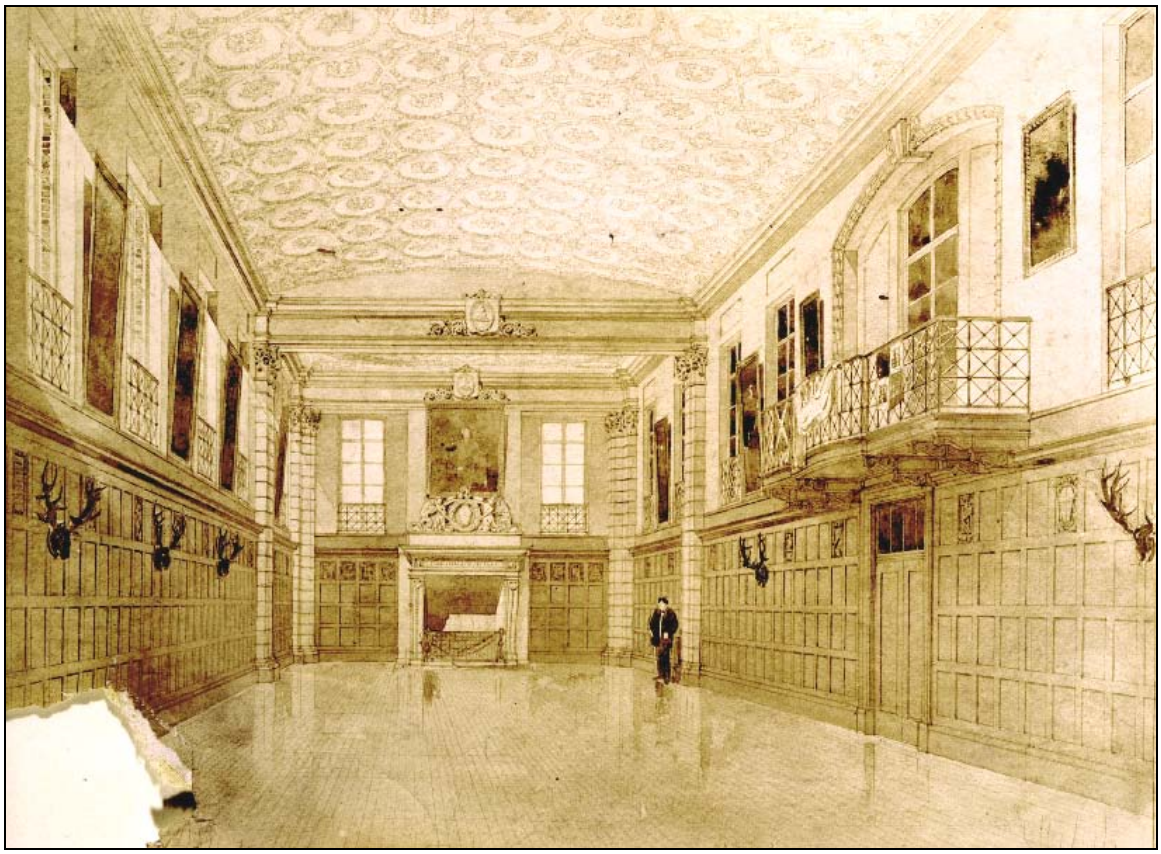
Clearly, the university saw the Refectory as a building that could achieve a certain social effect by way of carefully tailoring its architectural design.

The name that McKim, Mead, and White placed on the drawings for the new building reflects a specific style of communal dining hall, one that was also represented in the architectural design of the building's interior. The term "refectory" had been used since the 15th century to denote dining halls in monasteries, where they were sometimes built with the same desire for unity and synergy at the table. Over the years, the term had come into use as a name for a particular kind of dining facilities at schools and universities. The word was even used when the university was first planned in 1819.[56] Despite the 1819 use by the university's founders, the University of Virginia quickly became a place where dining occurred at scattered locations. By the Edwardian era, the revival of the refectory concept along with medieval imagery in the construction of dining halls at schools around the world was a combination of social engineering and the selection of an appropriate architectural vocabulary to symbolize what the schools saw as a social ideal.

When designed on the refectory model, dining halls were usually elongated rectangular spaces with high ceilings, clerestory windows, deep earth tone wall treatments, and other architectural elements that alluded to late medieval architecture and specifically to buildings of the Tudor era. They blended architectural motifs of traditional English houses and halls with those of the grand central spaces in Europe's larger residences, public buildings, and monasteries.[57]

In most refectories, an area was reserved for faculty to duplicate the communal effect at a smaller scale. In some cases, such as the University of Virginia design, architects met the challenge of providing a parallel but architecturally distinct dining area for the faculty while keeping the students and faculty within view of one another. Other dining spaces were also needed within the building as part of an interconnected system so committees could meet in the building, so athletes could share their meals together in a special room, and so seasonal parties could occur in spaces smaller than the main dining hall. The refectory concept not only gave students an opportunity to interact with one another at the dining table, but it also reflected an idealized view of the shared lifestyle of monks and scholars. The building's purpose was to symbolize a connection to history and convey the feeling that the interaction was a continuing reenactment of centuries of history in the scholastic tradition. Although the University of Virginia's Refectory was fitted out with small tables, the term "refectory table," meaning an unusually long table designed for a refectory space, came into common usage by the 1920s as part of the international trend to build this type of institutional dining hall.[58]

McKim, Mead, and White's design for the Refectory drew heavily on Tudor-era English imagery, incorporating late medieval motifs with other elements of Classical origin into a composition that was ultimately Edwardian in character and Classical Revival in style, inside and out. While clearly designed to be a new element in the ensemble of McKim, Mead, and White buildings which are otherwise just east of it, the siting and design of this building may be the result of rapidly changing circumstances at the university after the 1890s projects had been completed. The building's façade is dominated by a large portico to emphasize the southern entrance, and in the original design, it had no other point of entry save a minor service door at the basement level of the west elevation near the building's southwest corner. While the interior blends medieval and Classical details, the exterior uses a turn-of-the-century Classical Revival vocabulary to match the Jeffersonian Classicism of the building's setting. The Refectory Building blends in very effectively with the buildings of Jefferson's era. By contrast to the other McKim, Mead, and White buildings that close the south end of the Lawn, where there was a heavier use of white pilasters, friezes, architraves, and similar decorative elements, the Refectory seems almost austere and stylistically just as Georgian as it is Classical Revival in the consistent character of its four almost entirely brick elevations.

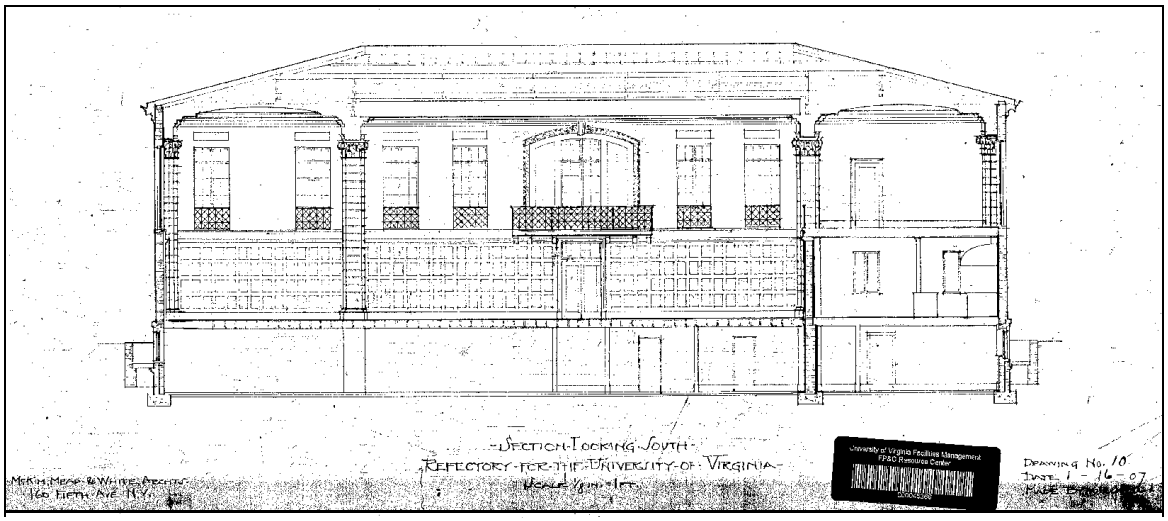


McKim, Mead, & White's original rendering of the interior of the Refectory Building Dining Hall, from the Collections of Avery Library.

The building's interior centers on a large hall that comprises approximately half of the internal volume. The hall has a monumental fireplace, oak-paneled walls finished with a dark stain contrasting with ornate details in decorative plaster or painted wood. The details include rusticated pilasters, an arched opening surrounding a musicians' gallery, unusually tall window casements, and decorative window surrounds. The room's vaulted ceiling has layers of ornamental plaster consisting of interlocking circles and many copies of the university seal surrounded by decorative cornice details and four boxed beams that are encrusted with shields. Even the light fixtures, which are electrified wheel-shaped chandeliers hung from heavy chains, were designed to convey the historic architectural themes.

While the Refectory name and the use of the space alluded to the social and architectural traditions of monasteries, the layout, proportions, and spatial volumes, as well as the surface treatment and detailing of the interior were also strongly reminiscent of the great

hall form of medieval English houses.[59] It copied the architectural form of a compartmentalized first story space (the chamber in the English medieval house) and the corresponding large, open balcony above the enclosure. Borrowing this architectural form provided a way to separate the faculty dining area from the student area, all under the same ceiling and in view of one another, without a physical connection between the students and their masters. Additionally, it provided a way of tucking part of the kitchen into a portion of the rectangular area of the great hall space by placing it beneath the faculty dining balcony, a mezzanine about one fourth the size of the room. The design, meanwhile, maintained the effect of having clerestory windows in the east and west walls and one large unified ceiling of ornamental plaster. The strategy was helpful in a layout that otherwise left little space for first story kitchen functions and placed the majority of food storage as well as some of the food preparation activities in the basement.



As its focal point, the great hall interior had a fireplace with an opening nearly ten feet high and a mantelshelf that rose more than ten feet in height above the floor. The musicians' gallery, a balcony hovering over the main entry into the great hall from the stairway, gave the room a second focal point.[60] The open design of the foyer, though very different in character from the great hall, connected the musicians' gallery to other parts of the building. On the opposite side of the wall from the music balcony, stairs swept up on the east side of the foyer to a balcony-like circulation space that ringed an open atrium. This ring of extra circulation would not have been necessary, except as a way to access the musicians' gallery, although faculty members could perchance choose it as a circuitous path to go from the top of the stairs to the faculty dining area, passing alongside the thin wall and doorway that served as a backdrop for the musicians. Placing the open atrium and the non-essential part of the stairway balcony back-to-back with the music balcony put the musicians at the very center of the building in all directions, vertically as well as horizontally, and made any music provided from the balcony potentially audible, though perhaps muted, throughout all the first and second floor circulation space and in nearly all of the building's public spaces.

At the first story level of the great hall, the dark oak walls deemphasize the four interior doorways that pierced the paneling. Doors and windows that might have provided a circulation link or visual link to the older part of the lawn are notably absent. The large clerestory casement windows, the unusually tall fireplace opening, and the ornate ceiling, however, pull the eye upward and create a feeling of institutional grandeur and hierarchy, a quality that the original 1819 design of the Academical Village had reserved for the Rotunda. By contrast to the decentralized simplicity of Jefferson's original design, the Refectory building is a self-contained medieval cosmos in a Classical Revival shell that sits quietly, matching its early American setting yet differing from it subtly, in ways that are almost imperceptible at first glance. These qualities make the great hall, musicians' gallery, foyer, and now-missing stairway all important parts of an integral design that focuses on providing grandeur, and they make the other interior parts of the building, such as the spaces designed for food preparation or as secondary dining rooms, even more subordinate in character than usual.

Creation of the Refectory had a purpose that was simple and clear in intent, to bring people together in a large space where they could socialize with others while dining together in an architectural composition that matched the university's original architecture and connected the diners to even older traditions. It alluded to and symbolized centuries of architectural precedents. At the same time, it emphasized the unity and maturity of the university in a period of expansion, and it accommodated an understated hierarchy between students, faculty, committees, and special groups such as athletic teams. It was successful in achieving this effect through rich architectural detail.

At the eye level of those seated at the dining table, however, the effect was more practical and flexible. Somewhat contrary to the other design aspects of the Refectory interior, the dining hall was furnished with small tables and bentwood chairs, rather than long rectangular tables and an older or more former style of seating. By 1910, the building was referred to as "The Commons," another word frequently used for academic dining facilities in the era (the reference was to the student-led cooperative association created by the university to run the facility, but it quickly became a name for the building itself, a thinly veiled reference to the idea that the building was really about what the students, richer and poorer, could all have in "common"). The shift in names may reflect how the student body and faculty, or the administration, saw the new dining hall, less as an allusion to medieval scholasticism, English architectural history, and the monolithic unity of the university, and more as a flexible shared space, operated cooperatively, where students could socialize. However, in a three-page article featuring the building in the January 1910 edition of the university's *Alumni Bulletin*, almost half of the text consists of a lament that the building was normally half empty despite serving quality food at minimal prices.

CHANGES IN USE AND EVOLUTION OF THE BUILDING

The Refectory building, or Commons Hall as it was more often called, remained in its original use until the closing years of the 1950s. Minor design changes were made in 1929 and 1940. The documented changes in 1929 appear to have been limited to upgrading facilities in support spaces such as storage shelving and kitchen fixtures.[61] The only known changes in the 1940 project consisted of the construction of office partitions for a limited area of the building.[62]

The greatest changes made within the original enclosure of the building occurred in 1958-1960 when the university decided to remove the building's food preparation facilities and dining functions and use it instead as a combined location for the registrar and the bursar offices. The space was no longer needed for dining after the beginning of the 1958-59 academic year when larger, more modern facilities were completed at Newcomb Hall.

In the substantial architectural transformation that followed, the stairs, the two-story open foyer and stairs, and all of the building's kitchen, food storage, and rest room spaces, as well as any other secondary and tertiary spaces were replaced by modern construction. In the eastern one-fourth of the first story of what had been the dining hall, a second balcony was added matching the original design of the faculty dining area at the western end of the room. This made it possible to create a large enclosed first story office at each end of the room, while the core area between the offices contained public circulation in the center of what had been the dining room. On axis with the foyer, this core circulation area could be shared by the users of both institutional offices (the bursar's and the registrar's). The remaining dining room area was filled with new office partitions and service counters on each side of the central spine of public circulation, thus placing the support staff of the bursar's and registrar's offices in an intermediate zone between the open corridor and the two large enclosed offices. Counters and office partitions thus divided what remained of

The 1959-60 design placed a mezzanine or balcony at the east end of the great hall matching the original one at the west end of the room and blocking the large fireplace on the east wall. Within the enclosed space was a large office which was subsequently converted to a conference room. The open space between the two mezzanines was subdivided with office partitions and counters.

the first story dining space into office areas for about eight staff members of each of the two offices. An exterior doorway was inserted at the center of the north wall of the building. In the design of the office partitions, the central circulation space was a short walkway kept open from the front entrance to this modest new doorway for the students, faculty, and others who made use of the registrar's and bursar's services.

Also in the 1958-59 project, after the original main stair was removed, a corridor was inserted just south of the south wall of the former dining room and two new staircases were constructed, one east of the foyer and one west of it. Although the new stairs were enclosed with fire-rated construction, decorative railings were fabricated for both closely resembling the original Classical Revival style railings that had been used throughout the building at stairs and balconies in the original design. The building's name was changed at that time, to "Garrett Hall," in honor of Alexander Garrett who had been appointed the first bursar of the university in 1819.

There appears to have been a discussion about the size limitations of Garrett Hall when the renovations were in the design phase, and the designers, Stainback and Scribner, Architects, of Charlottesville, suggested[63] the possibility of building a large underground wing in the space just east of the building. In 1968, the university brought Stainback and Scribner back to design the underground space they had envisioned a decade earlier. The addition was used almost immediately as a place to house complex electronic equipment for the university, including computers. Even before the addition was built, Garrett Hall had contained computers and related facilities because they were being used by the bursar's and registrar's offices. The 1958-59 project included special spaces for keypunch equipment. The heating, ventilating, and air conditioning systems were upgraded largely because of the needs of the computers. A diagram was also prepared for "Mixing Boxes" in the "Computer Room" in 1971. As minor changes were made to the building over time, and as a major change in use occurred when the registrar's and bursar's offices were moved to other buildings in 1980, Garrett Hall continued to be an electronic "nerve center" for the university's computer systems. Other small construction projects were carried out at Garrett Hall in 1972, '74, and '78, generally limited to alterations to doors, office partitions, and similar details.

In 1980-82, the building changed uses again when bursar's and registrar's offices were relocated. The counters and office partitions that had been placed in the great room in 1958-59 were removed and the room's finishes were restored. The project was part of the conversion of Garrett Hall to office spaces for academic deans, the building's use since that time.

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[1] McKim, Mead, & White's 1908 buildings include Cabell, Rouss, and Cocke Halls. They also designed a building for the heating plant installed at approximately the same time. The information summarized here is from standard historical information used by the university. Some information in this section comes from the prior report that John Milner Associates, Inc., prepared on the house McKim, Mead, and White designed as the president's residence entitled *President's House on Carr's Hill, Building Assessment and Schematic Design, Final Report*.

[2] The first description of the building to appear in *College Topics* refers to the design as "bizintine" [sic] (see: "New Dining Hall Well Appointed," *College Topics*, 10 April 1907, Vol. XVIII, No. 51).

[3] There was controversy over whether the enclosure of the south end of the lawn was appropriate from the beginning, a debate which continues down to the present. Recent comments about the inappropriateness of closing the south end of the Lawn with the McKim, Mead, and White buildings have been made by Suzannah Lessard, White's great granddaughter, as well as by Richard Guy Wilson, a professor of architectural history at the university who has written about the Academical Village and its evolution. However, on the other hand, the siting of Refectory Building was a less sensitive matter. The building is located at the end of the West Range, one of the two outer rows of buildings (dormitories and small dining halls known as "hotels") of the original Academical Village. Placed at the southern tip of the West Range, the Refectory forms a "T" shaped terminus to the older row, yet faces into a small rectangular space just west of the three academic halls McKim, Mead, and White added in 1898 (the rectangular space is formed in part by the west wall of Cocke Hall).

[4] The work of McKim, Mead, and White at the university, and specifically that of Stanford White, began shortly after the Rotunda, the centerpiece of Jefferson's Academical Village plan, burned in a disastrous fire in 1895. Rebuilding the Rotunda was a challenge for the university. Although the fire destroyed the building's domed roof and interior, it left most of the cylindrical form of the brick walls in place, but badly blackened. The initial work of stabilizing the brick walls and getting the building back under roof was conducted with the Louisville, Kentucky, firm of McDonald Brothers as architects. McDonald Brothers also prepared drawings for the restoration of the building, but the building committee (a special committee appointed by the University's Board of Visitors) decided in January 1896, two weeks after McDonald Brothers had presented their plans, to have Stanford White complete the project. White's design restored the exterior appearance of the south, east, and west sides of the Rotunda but added a north entrance. White's design for the interior of the building deviated from Jefferson's in several key aspects. In the 1970s, the interior features White had added were removed and the interior was restored back to the original design, with Frederick Nichols as architect.

[5] A pencil sketch on yellow tracing paper, presumably Stanford White's earliest sketch of the South Lawn ensemble (see illustration on page 1 – 2), was donated to the University of Virginia by the successors of McKim, Mead, and White in 1942, a year after William M. Kendall (the McKim, Mead, and White partner who oversaw the completion of the Refectory Building) died. A handwritten note, dated 1942, was included with this sketch to indicate that the successors of the firm had donated the drawing at that time because they believed it was White's first attempt at designing the ensemble at the south end of the lawn. The sketch and the attached note are now part of the collection of the Albert and Shirley Small Special Collections Library at the university.

[6] McKim, Mead, and White produced designs for three new buildings that were built in 1898. Cabell Hall (originally called the Academical Building) faced the Rotunda from the south end of the central axis of the original university grounds. While it physically blocked off the south end of the Lawn, the Cabell Hall site was far enough downhill that much of the building dropped below the horizon in the view from the Rotunda. Rouss Hall and Cocke Hall, with façades that matched that of Cabell Hall, roughly extended the lines of the original buildings that flank the lawn (although, technically, the buildings are set back a few feet from the line). The result was that the two buildings faced one another between Cabell Hall and the original southern line of the older buildings. Cocke Hall was built to serve as the university's "Mechanical Laboratory," and Rouss Hall was built as the "Physical Laboratory."("Mechanical Laboratory" and "Physical Laboratory" are the names McKim, Mead, and White used on the drawings and the names that were used in typed correspondence at the time.)

[7] Designed as a dormitory in 1897 by architect Paul J. Pelz, Randall Hall occupies a site at the southern end of the East Range, across the Lawn from the site chosen for the Refectory Building. Like the Refectory Building, the design of Randall Hall backs up to the older row forming a "T," although it differs in form. Randall Hall has an "L"-shaped floor plan with a cross-gable roof, rather than the simple rectangular footprint found at the Refectory Building. Despite the differences, adding the Refectory Building to the central grounds reinforced the symmetry of the overall layout of the grounds by counterbalancing Randall Hall.

A generation earlier, Pelz (who was 12 years older than Stanford White) had been busy designing lighthouses and life-saving stations. A German immigrant, he was Chief Draftsman for the newly-formed United States Life Saving Service (forerunner of the Coast Guard) between 1871 and 1877. He left the Life Saving Service around the time that he won the competition to design the Library of Congress, with partner

John L. Smithmeyer. The Library of Congress took decades to complete, and Pelz eventually ended up in a lawsuit over the architectural fees. He also designed the original building (Healy Building) of Georgetown University in 1879, the Hall of Christ at the Chautauqua Institution in Chautauqua, New York, in 1909, and several other prominent buildings in Washington, D.C. Randall Hall now houses the university's history department.

[8] This image was made as a digital photograph from a mounted rendering that is in the collection of the Albert and Shirley Small Special Collections Library at the university.

[9] Stanford White was murdered on 25 June 1906 in a tragic turn of events that drew national attention and led to a highly-publicized, sensational trial. He was shot to death by Harry Kendall Thaw, a resident of Pittsburgh and heir to a large industrial fortune. Thaw had married Evelyn Nesbitt, a Pennsylvania native who had been a New York City chorus girl before she met Thaw. Around the time of their marriage, Thaw learned that his wife had once been Stanford White's mistress. Nesbitt's account of the affair enraged Thaw, who eventually went to Madison Square Gardens, found White in a dining space (White also kept a private room there for his personal use), and fired a gun at him at close range, killing him instantly. Both men had unusually eccentric personal habits lurking in their backgrounds that became public knowledge in the trial that ensued. The trial was so heavily covered in the press that a number of words and phrases came into the American vocabulary as a result. In the first court proceeding ever to be widely publicized as the "trial of the century" (even though it was only 1906), Thaw was found "not guilty by reason of insanity." The story is central to the plot of the E.L. Doctorow's 1974 novel "*Ragtime*" and the 1981 movie that was based on it, as well as an earlier movie, "*The Girl in the Red Velvet Swing*" (1955).

The student newspaper and other local media apparently carried no mention of White's death until well after the fact (when the reference was merely to "the late Stanford White"), perhaps because it was a murder and had occurred as part of a personal scandal with many widely discussed salacious details.

[10] Stanford White apparently developed the design scheme for the building and also drew some of the details. However, his exact role remains a matter of interpretation. Like most firms at the time, McKim, Mead, and White employed a team of architects and draftsmen who spent their days preparing drawings and detailing the designs that the well-known principals had sketched out without all the specifics. This building, like others that McKim, Mead, and White designed for the campus, was worked out not only in the large sheet format of the construction drawings that have survived, but also in many individual drawings prepared during the construction process to develop the building's finer points and to clarify things that do not show up well in the large-sheet format. As a result, the known drawings that remain bear the signatures of several different draftsmen. All the drawing sheets that contain dates are dated after White's death. However, an article entitled "The President's New House" published in *College Topics* on 3 October 1908, says: "The plans for the house were drawn by the late Stanford White of McKim, Mead and White of New York, who also designed the new Mess Hall…." When the ceiling plaster was being cast, a 5 October 1907 article in *College Topics*, entitled "The New Mess Hall," says that "Moulds are now being cast for the coffered ceiling, after designs by Stanford White." Although neither of these statements is phrased in a way that removes all ambiguity, each appears to reflect a general consensus that Stanford White was the designer who authored the design. It is clear from the drawings and other sources that many adjustments were made to the design, and that William M. Kendall played the leading role in the design team at this time. However, no parallel statement attributing the work as a whole to Kendall has been identified to date.

[11] Other than the renderings that were prepared by October 1906, the oldest known drawings of the building are a set of construction drawings apparently issued as contract documents between December 1906 and January 1907. The surviving Plans, Elevations, and three of the Section Drawings that were apparently prepared as construction documents bear the date December 15th, 1906. A long Section Drawing of the building drawn from a point of view looking toward Great Room Balcony was issued on January 16th 1907 and a sheet of Details was issued the following day. Two sheets of plumbing drawings and a sheet of structural drawings also bear January 1907 dates.

[12] William Michell Kendall was employed at McKim, Mead, and White from 1882 to 1941. He was a partner in the firm by the time White died. A talented designer, he became a leader in the firm after White's death and especially after the death of Charles F. McKim in 1909. In spite of Kendall's numerous significant buildings, his best-known and most memorable contribution to American culture is the phrase he wrote to be incised into the frieze of the Farley Post Office in New York City, a National Historic

Landmark: *"Neither snow nor rain nor heat nor gloom of night stays these couriers from the swift completion of their appointed rounds."*

[13] Kendall's role in carrying out the President's House may have been a more sensitive and complicated matter than his role at the Refectory Building. Stanford White had submitted preliminary plans for the President's House to President and Mrs. Alderman before he died. The Aldermans criticized the plans in a letter that was sent to White only a few days before the murder occurred. The letter's contents ranged from the Aldermans wondering what White's thinking process had been to demands that some design elements be changed to resemble more closely what the Aldermans had asked for in their initial instructions to White. In any event, some items that the Aldermans had bristled at were left in the design after White's death, while the Aldermans or later designers changed several other design elements before or after the house went under construction. No similar documentation has been found for the design of the Refectory Building; the design was apparently conceived with White's direct input, based on White's approach in general to southern expansion of the Lawn. It had been developed far enough before White died that it was attributed to him in the two sources cited above (see footnote 10), and it is possible that the renderings are an accurate reflection of the design that White had conceived, but the surviving documents from the construction process are signed by other McKim, Mead, and White personnel and dated after his death.

[14] "New Dining Hall," *College Topics*, 10 October 1906.

[15] The two renderings are in the collection at Avery Library, at Columbia University. They collection does not include other drawings or contract documents relating to the Refectory Building.

[16] "New Dining Hall," *College Topics*, 10 October 1906. The wing was mentioned again in a second article that appeared in April; see: "New Dining Hall Well Appointed," *College Topics*, 10 April 1907.

[17] The detail drawings for the building are signed by several different members of the McKim, Mead, and White staff. Although *College Topics* announced, toward the end of the construction process when the interior ceiling details were being cast, that "Moulds are now being cast for the coffered ceiling, after designs by Stanford White," the detail drawings that have survived for the plaster ceiling were drawn a year after White died and were signed by a McKim, Mead, and White staff member named Renling (or Reuling).

[18] Kendall's role in carrying out the completion of the design and construction of the President's House appears to be better documented than his role at the Refectory Building, in part because President Alderman took a direct interest in many of the particulars as his personal residence came to completion.

[19] "Need of Money at University," *College Topics*, 24 February 1906. This article is written in an editorial voice with the intention of explaining what President Alderman had in mind in asking for a greater allotment of state funds for the university. The article addresses the need for a new dining hall as follows: "Carr's Hill, one of the most prominent spots in the University grounds, is now occupied by a dormitory and dining hall which are old and unsafe, not to mention the fact that they are entirely out of keeping with the architectural scheme of the other buildings. An up-to-date dining hall on Carr's Hill, conducted on a sound financial basis, would do much to lighten the expenses of a great majority of the students, and to bring even more men to the University." After the decision was made to build the Refectory at the south end of the West Range and to built the President's House on Carr's Hill, *College Topics* published two or three letters to the editor denouncing the choice to use the hilltop site for the President's House, and the editor followed these up with an editorial on 17 November 1906 explaining the care that had gone into the site selection process.

[20] See the letter from McKim, Mead, & White to Dr. Edwin A. Alderman, LL.D., 12 June 1906. This correspondence indicates that the architects were lacking contour information that the university had apparently offered to provide through a faculty member. However, the October 1906 coverage of the site selection process in *College Topics* clearly indicates that the final site selection had not been made until that time. Therefore, the renderings that were placed on display a few days after the site selection had been finalized may have represented a design developed without regard to site or for a different site.

[21] Letter from McKim, Mead, & White to Dr. Edwin A. Alderman, LL.D., 12 June 1906.

[22] The information about the contour is from a letter from McKim, Mead, and White to Dr. Alderman, dated 12 June 1906. The complete sentence is: "The plans for the dining hall are still incomplete owing to the peculiar contour of the ground upon which it is to be placed, the contours of which Professor Thornton is to send us." This is apparently a reference to Professor William Mynn Thornton. Although Thornton came to the university in the 1880s having previously taught Greek at Davidson College, he was one of the

most versatile scholars serving among the university's faculty members. Beginning in 1904, he became the university's first Dean of Engineering, and as such, created the mechanical, electrical and chemical engineering programs. At the time of the construction of the Refectory Building, Thornton had been the university's Chairman of the Faculty for approximately 20 years. Although he may have been preoccupied with his far-reaching responsibilities in 1906, he was also a logical candidate to help with the land survey needed for the new building site.

The passage in this letter suggests that it is possible that Stanford White produced the design seen in the rendering without specifying the site and that William M. Kendall (and/or other McKim, Mead, and White staff) modified and adjusted the design to match the terrain it after the final site decision was made. Many of the differences between the early design as seen in the rendering and what was actually built relate to how the building was adjusted to the contour. For instance, the large first story windows may have been an indication that the early scheme included first story dining rooms in the southern half of the building. This is a possibility if the 1906 written description is correct and that the design contained a rear service wing so that kitchen functions would not appear at the front of the building. The rendering does not show the service wing, perhaps because it was out of view at the angle shown, or perhaps because it was intentionally left out of the drawing for aesthetic reasons. However, the site that the rendering shows does appear to be more level (despite the retaining walls shown) than the site where the building was ultimately constructed. The actual building site would not have lent itself to such a rear wing, both because of the relationship of the building to the West Range and the rise of the land in the northern half of the site. Moving the kitchen functions forward into the southern half of the building, after the design scheme had been developed on a different set of assumptions, may, therefore, have resulted in reducing the first story window size and placing all the secondary dining areas in the upper story. Similarly, the use of the basement for food preparation functions resulted in the need to have excavated wells on the west side and north side of the building, and ultimately, an asymmetrical fenestration pattern, all decisions that appear to have been driven, at least in part, by the slope of the land.

[23] Letter from McKim, Mead, and White to Dr. Alderman, 12 June 1906.

[24] In 1905, the university took a major step in revising its organizational structure by creating the office of president. Until that time, the institution had been run on a republic-based governance model set by Jefferson, with a Board of Visitors and an annually elected President of the Faculty. The decision to adopt a more hierarchical model and one with a figurehead who could represent the university was a result of the difficulties of dealing with the aftermath of the Rotunda fire, including responsibilities from fundraising to the hiring of architects and the architectural and philosophical questions that were likely to draw controversy, such as how to modify Jefferson's design for the grounds. In changing its administrative structure, the university not only embraced the more common model for academic institutions, but it also moved away from the decentralization that Jefferson had advocated, an ideal that was pivotal to his contribution to American ideology and something that was symbolized by the architecture of the Academical Village. Upon coming into office, President Alderman made frequent presentations on behalf of the university to the state legislature, to the student body and faculty, to other universities, and at similar venues. He immediately became the university's chief spokesman, and in a short period of time, it was clear that a large part of his role in his initial years would be to convey a progressive vision for the university and to use that vision to secure the funds needed for institutional expansion.

[25] In a letter, dated May 1st, 1906, President Alderman made the initial invitation to McKim, Mead, and White to design both the President's House and the new dining hall. The two projects were very different in complexity and in the way that university officials approached them. President Alderman took a personal interest in the design of his new home. At the beginning of the design project, he had asked White to model the Carr's Hill building on a house he had seen previously in New Orleans. He later took issue with several specific details where White's plans differed from those of the house he had held up as a model. In fact, President and Mrs. Alderman wrote to White critiquing the plans, and virtually rejecting them just a few days before White was murdered in June 1906. From all signs, the Refectory Building was a much simpler project with a more straightforward design process.

[26] The seven-year hiatus in which McKim, Mead, & White had no work at the university appears to be a sign of problems that may not fully be explained in the surviving written record. However, it is clear that President Alderman made a conscious decision to invite White back to the campus, a decision that is all the

more poignant in light of the fact that it negated the purported purposes of a design competition and drew protest from at least one of the architects who had participated in it.

[27] The budget and seating capacity figures for the Refectory project vary in the published accounts. A figure of $25,000 was announced in the College Topics edition of October 10th, 1906, but another article in the same publication in April 1907 said $22,000. By the time the building was under construction, it was clear that both it and the President's House were expected to cost twice what they had been budgeted at more than a year earlier, and the decision was apparently made to start the Refectory Building project first as a result. However, private funds were quickly secured, and both buildings began construction at approximately the same time. The unpredictable nature of the building costs may relate to the fact that the project was planned at the eve of a major financial panic that affected the construction industry across the United States. The variance in the seating capacity numbers quoted from time to time in College Topics and other places appears to be largely due to the fact that the smaller figures usually refer to just the main dining hall, while the larger figures apparently include the thirty to fifty seats in the smaller upper story dining spaces. The main dining hall is depicted as seating at least 200 (however, Dr. Alderman asked in his initial letter for a building that would seat 125, and, by contrast, one of the earliest articles alluding to the project says the university should build one that seats 500 — see: *College Topics*, 25 April 1906). The figure varies up to 250, apparently when all seating areas are being counted.

[28] The United States not only experienced a financial panic in 1907, leading the country into a brief depression, but there was also a tremendous social turmoil at exactly the same time as a result of decades of mechanization in major industries and a constant influx of new immigrants. Socially-focused journalists, known as "muckrakers," who made their careers criticizing major industrial companies for exploiting the poor were at their peak at this point, photo-journalists were busy photographing tenant housing and child labor conditions at exactly the same time, and social reform programs were just then taking off. Shortly before the panic, construction prices peaked, as did the social excesses, and in the aftermath of the panic, social reform movements were taken more seriously. The extreme conditions are documented, for example, in the *Pittsburgh Survey*, a series of books and magazine articles on social conditions in the industrial neighborhoods of the Pittsburgh area, published in 1907. Dr. Alderman's comments appear to be conscious references to the issues that were dominating the media around the country at the time. The turmoil that followed the Panic of 1907, bringing construction to a halt in many areas, made the physical work of Dr. Alderman's campaign to re-build the university more challenging, but they also made his rhetoric all the more timely.

[29] "The Installation," *College Topics*, 22 March 1905.

[30] "For Reduction of Expenses," *College Topics*, 3 February 1906

[31] *College Topics*, 11 May 1907.

[32] Board of Visitors Minutes, 25 June 1888 and Phillip Alexander Bruce, *History of the University of Virginia, 1819-1919*, page 73.

[33] Board of Visitors Minutes, June 25th 1888 and Phillip Alexander Bruce, *History of the University of Virginia, 1819-1919*, page 73. Dawson's Row, a group of dormitory buildings built in the 1850s (some of which are still standing) was then at the southwestern corner of the grounds, while Carr's Hill was at the north end.

[34] Professor Daniel Bluestone, director of the University of Virginia's Historic Preservation program, with the assistance of 14 students and recent graduates, has compiled a history of boarding houses at the university, in the form of a web site that is accessible at the time of this writing (spring 2008) at http://www.arch.virginia.edu/housinghistory/index.html . The economic stratification that was reflected in the choices available to students between the Civil War and World War II is not a topic addressed in Professor Bluestone's history, however it is apparent in the social commentary about the matrons who operated the better boarding houses, especially those members of wealthier families displaced by the Civil War who operated such facilities as a means of making a respectable income. There were many choices, from the point of view of the student seeking housing, a place to dine, and places to bathe (as university dormitories did not have hot water at the time, and at least one boarding facility sold hot baths to those who lived on the university grounds). Between all the various boarding houses and the various university facilities, the range of choices was broad. The university began licensing the boarding houses after first deciding not to allow students to live off grounds at the end of the Civil War (see Phillip Alexander Brice, History of the University of Virginia, 1819-1919, page 70). Shortly after this decision had been made, the

university experienced a wave of growth, while at the same time, it could not afford to build more dormitories. In the process of reversing the prohibition, the institution found a way to license and monitor the facilities. In 1873, a stipulation was added that students could only make the choice to live off the grounds after all the university facilities were in use, and as part of this stipulation, the university began charging a modest rent fee to students who chose to live in the boarding houses, making that decision more costly. While part of the university's intention was to monitor the costs, it was also to look after its own interests as an institution. However, considering the variety of houses and arrangements available, it is apparent that some students were getting more than others, a concern that is clearly reflected in the student newspaper stories covering the construction of the Refectory Building. The variety became much broader between 1890 and 1910, when a number of new boarding facilities arrived on the scene, including facilities over storefront businesses in the business district adjoining the university known as The Corner. This was also an era when boarding houses were extremely common in communities across the United States and the country was experiencing phenomenal growth. At that time, boarding house facilities around the country were operated by everyone from the most recent immigrants who sometimes rented the same room to several different individuals, sometimes by rotating shifts, to representatives of the upper class social establishment who operated boarding facilities that were considered to be "respectable" by contrast.

[35] "The Carr's Hill Mess," *College Topics*, November 30th, 1904.

[36] Several articles that appeared in *College Topics* during the course of the construction of the Refectory Building mentioned that students who worked late at night had to trudge across town to the railroad depot where there was at least one all-night restaurant. The late night trips to the depot were enough of a concern that a special section of the new Refectory was designated as a "café" and kept open until 2AM. An article that appeared in College Topics on 5 October 1907 ended with the statement: "An excellent feature is the café, where meals will be served at all hours of the day, and up until two o'clock in the morning. This means that hard students, and any others whose occupations keep them up into the small hours, will be saved many a long walk to the railroad station." At least three restaurants were advertising regularly in *College Topics* in 1906 with statements in their advertisements saying they were at or near a railroad station. Burke Brothers Restaurant, whose advertisement said it was near the C. & O. Depot, served "OYSTERS FRESH EVERY DAY IN SEASON" and "Meals at all Hours." The Daily Lunch Room had an ad saying "Near Junction / Cheapest and Best / Lunches in the City / OPEN ALL NIGHT." The advertisement for the Union Station Restaurant said "Open Day and Night / Students Patronage Solicited." The Charlottesville Restaurant, at 217-219 E. Main Street, also ran an advertisement in *College Topics* (in 1907) saying "Open All Night / Students Especially Welcome."

[37] The article "Dividends from the Mess Hall," which appeared in *College Topics* on 25 April 1906 seems to imply that the closing of the cooperative dining hall on Carr's Hill was abrupt, perhaps at the urging of the university hierarchy, due to the various building projects that were underway. In any event, it appears odd that it would have closed in April, at about the middle of the semester. It is also evident that the closing came with questions about the organization's financial solvency. The point of the *College Topics* article was to make it clear that all fears about solvency were unwarranted and the cooperative experiment should be seen as a success by all involved. The fact that the organization's manager later issued public criticism of the university over the location chosen for the President's House (*College Topics*, 8 December 1906) could indicate some lingering tension between this one individual, or his board as a whole, and the university.

[38] The cooperative dining hall and the cooperative book store appear to have been, organizationally, one and the same corporate body. The situation may have been that the book store cooperative existed as an organization first and that the group had stepped up to the plate to run the dining hall on behalf of the university, who retained ownership of the building and equipment. In any event, Morgan P. Robinson was both the manager of the cooperative dining hall when he made the decision to close it in April 1906 and the elected (or re-elected) manager of the book store cooperative in February 1906 (see *College Topics*, 10 February 1906).

[39] "Dividends from the Mess Hall," *College Topics*, 25 April 1906.

[40] "Name is Changed to Cabell Hall," *College Topics*, 10 October 1906.

[41] "Dividends from the Mess Hall," *College Topics*, 25 April 1906.

[42] "President Alderman Principal Speaker," *College Topics*, 4 March 1908.

[43] "President Alderman Principal Speaker at the University Club Banquet in Washington Last Wednesday Night," *College Topics*, 3 October, 1908.
[44] Letter to the editor from H.K. Kaprielian, *College Topics*, 27 October 1906.
[45] "Dividends from the Mess Hall," *College Topics*, 25 April 1906.
[46] (letter to) Editor of Topics, *College Topics*, 8 December 1906.
[47] "New Dining Hall Well Appointed," *College Topics*, 10 April 1907.
[48] "New Dining Hall Well Appointed," *College Topics*, 10 April 1907.
[49] The McIntire Amphitheater occupies a section of sloped lawn in front of the Refectory Building, a site that had the topographic contour to serve as an informal amphitheater before the formal facility was constructed. The site for the amphitheater was first suggested by noted landscape architect Warren H. Manning in 1911. In 1921 when Paul G. McIntire provided funding for the project, the amphitheater was built to drawings developed by Fiske Kimball.
[50] "The New Mess Hall," *College Topics*, 5 October 1907.
[51] "New Dining Hall Well Appointed," *College Topics*, 10 April 1907.
[52] "Work is Now Being Rushed" *College Topics*, 25 January 1908.
[53] "Pres. Alderman's Annual Statement" *College Topics*, 21 April 1909. See also: "Dr. Alderman's Statement" *College Topics*, 18 April 1909.
[54] *College Topics*, 7 April 1909. See also: "Dining Hall Notes" *College Topics*, 24 April 1909.
[55] At least one of the original guest registration books is archived in the Albert and Shirley Small Special Collections Library at the University of Virginia.
[56] The word "Refectory" was used in early documents about the University of Virginia. It was used, for instance, in the 1819 description of the plans to construct the first university buildings at Charlottesville. See: http://etext.virginia.edu/jefferson/grizzard/chap02.html , which gives the following citation for the excerpt: Rockfish Gap Commission Report, 4 August 1818, in Knight, *A Documentary History of Education in the South Before 1860*, 163-64; see also "Extract from the Report of the Commission for the University of Virginia, assembled at Rockfish Gap, in the County of Augusta, August 1, 1818," in Cabell, *Letter and Accompanying Documents Relative to Literary Institutions of the State: Addressed to His Constituents* (Richmond, 1825), in ViU:JCC.
[57] See: Margaret Wood, *The English Mediaeval House*, London: Bracken Books, 1983. Although the refectory concept comes down from a specific tradition in the dining halls of monasteries, the monastic refectories tend to be extremely ascetic, in keeping with monastic principles. The refectories built for school campuses drew heavily from the great halls and grand court spaces of European public buildings in their interior appointments, as well as drawing heavily from the paneled interiors of medieval residences.
[58] See Webster's Dictionary, in editions that contain dates for the first known use in print of each word.
[59] The Garrett Hall dining room is also reminiscent of one specific type of English hall house, the wealden houses. Technically, wealden houses are hall houses with jettied second stories. However, their history and evolution shed light on how open fire places (before the invention of chimneys) and framing of large rooms around them generated the earlier examples of this building form. See: Margaret Wood, *The English Mediaeval House*, London: Bracken Books, 1983.
[60] The Musicians' gallery is referred to alternately as a "musicians' balcony" and a "musician's gallery" on the drawings. Balconies of this kind represented a trendy flourish in dining halls, academic buildings, and similar high-end architecture around the country. A space designed for musicians at the center of the building, is found as a central component of the design scheme many other buildings from this period, often with circulation space and doors and windows oriented to allow the music to pass to as many parts of the building as possible.
[61] Of the Peebles and Ferguson drawings, only a few scraps of blueprint copies have survived. Peebles and Ferguson was an architectural firm located in Charlottesville at the time.
[62] The only information known about this project is a single sheet of drawings, dated 7-5-40, from the files of the University of Virginia Office of Facilities Management. The drawing shows a floor plan of a single room and details for the office partitions.
[63] See Letter from Werner Sensbach to Mr. Lewis L. Scribner, Steinback and Scribner, Architects, 20 April 1966 (Albert and Shirley Small Special Collections Library at the University of Virginia).

ARCHITECTURAL DESCRIPTION

The Refectory Building, now known as Garrett Hall, is a Classical Revival style brick building with a rectangular footprint. Located at the edge of the University's original Academical Village, at the southern terminus of the line of buildings known as the West Range, it faces south toward other Classical Revival style buildings added after 1898. In the foreground of the façade, the sloped terrain became the site of the McIntire Amphitheater in 1921, a semi-circular outdoor facility constructed of concrete, which is also detailed in the Classical Revival style. The amphitheater fills the small quadrangle of space between four of the post-1898 buildings. The Refectory Building is two stories above a raised basement. Most of its fenestration consists of large, paired casements in the upper story. In some bays, there are no corresponding windows in the first story or basement.

The interior is organized around one large room, the original dining hall. Although the dining hall has remained largely unchanged, many of the partitions and other architectural elements in the surrounding spaces were altered between 1959 and 1983. Most of the space to the south, west, and east of the center section of the dining hall was converted into a series of small offices by 1959, and the circulation pattern in the portion of the building south of the dining hall was completely redesigned at that time, with the removal of the original staircase and two story stair hall. Also in 1959, the first story of the eastern one-fourth of the dining hall was enclosed, creating a first story office (now a conference room) and a mezzanine/balcony designed to match the original kitchen enclosure and mezzanine/ balcony of the western one-fourth of the space.

Garrett Hall's façade centers on a grand portico that extends across the middle one-third of the elevation. The portico has six evenly spaced, colossal columns in the Tuscan order, supporting a tall frieze and a low-pitched pediment. The pediment is set against the backdrop of a hipped roof with standing seam roofing. The tympanum of the pediment has a stucco surface with a decorative ring formed by sailor brick at the center (the brick now appear to be covered by stucco). Dentils are found at the bottom edge of each of the mouldings that form the three sides of the pediment. Below the tympanum, the frieze has additional decorative surface treatment including symmetrically placed wreaths and similar ornaments. At the center of the frieze, a panel contains the name "GARRETT HALL" in incised letters within an ornamental border.

The portico is accessed by monumental steps, three risers in height, leading to the five-bay area defined by the columns. Each of the center three bays contains a door. The current center door is a pair of door leaves. In the flanking bays, the doorways have single-leaf doors with a sidelight on the side furthest from the center. (In the original design, the only doorway may have been at the center of the main entrance ensemble, with a grid of panels and panes designed to resemble a door in each of the flanking bays—the drawings are not clear on this point.) Each door leaf, whether paired or single, has a raised panel in the bottom one-third and six panes of glass in the upper portion. At the top of the center door is a solid panel containing information about the building. The panel covers a five-light transom which is visible from the interior, while the flanking doorways have four-light transoms. The doorway materials are all post-1950 replacements: the original design created the appearance of taller door leaves by making the transom appear to be part of the doors, yet using only about half as many panes of glass. The panes at the top of the original door design, where the transoms are now, may have been fixed in place, but this band was designed to appear to be part of tall doors. Above the doorways, in the second story, the same three-bay area contains large casement windows as found in the remaining areas of the building's four elevations.

Flanking the portico are three bays of first and second story windows. Each second story window opening has a brick jack arch of radially moulded brick voussoirs and a stone sill. The sills have been painted white. Each casement is two panes wide (for a uniform width of four panes per window opening) and five panes tall. In the first story, the window openings are smaller and vary slightly in width so that the center window in the three-bay area to each side of the portico is wider than the others. The two wider openings are three feet in width and contain 6/6 double hung sash, while the narrower openings (two within the portico and two to each side of the portico) are two feet in width and have 4/4 double hung sash.

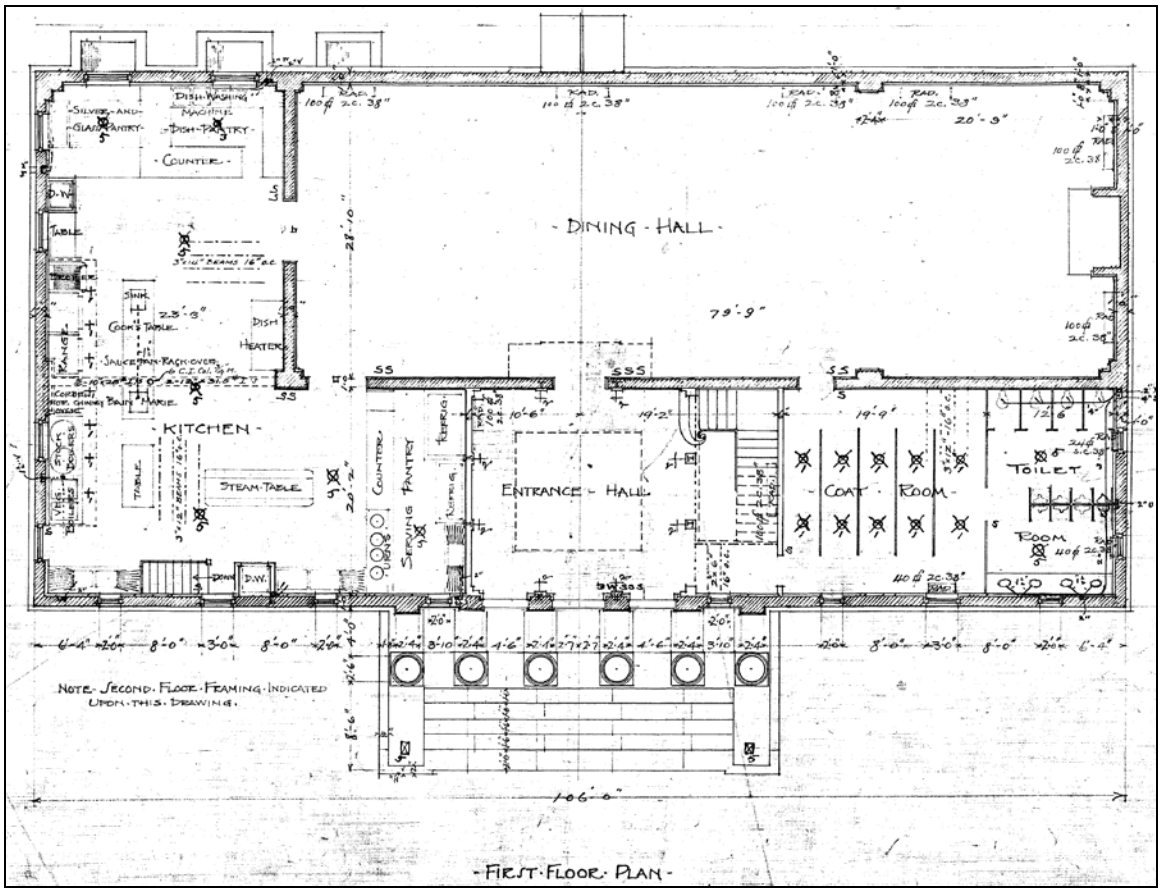
The building's remaining three elevations appear very similar to one another at first glance, mainly because of the uniformly distributed second story casement windows. The brick exterior walls are laid in Flemish bond. A prominent limestone water table course separates the basement walls from the upper portion of each elevation (the water table is not visible in the east elevation, where it is covered by the patio-like concrete pad that serves as the roof surface of part of the underground annex). Other decorative brickwork includes a tapestry pattern of protruding brick headers, in every other course, around the sides and top of each window opening. The top of each opening has a jack arch constructed of radially formed brick voussoirs. The Classical Revival character and uniformity of these patterns from elevation to elevation is further reinforced at the cornice line, where the wood mouldings are embellished with boldly proportioned and tightly packed dentils. On closer inspection, however, each elevation has slight differences in fenestration or other related characteristics.

The west elevation is five bays wide. The windows are almost evenly spaced; wider spaces between the two southernmost bays and three northern bays relates to the location of an interior bearing wall. In this part of the building, the wall divided the upper level of the dining hall and the original "faculty room" (now divided into smaller rooms) at the

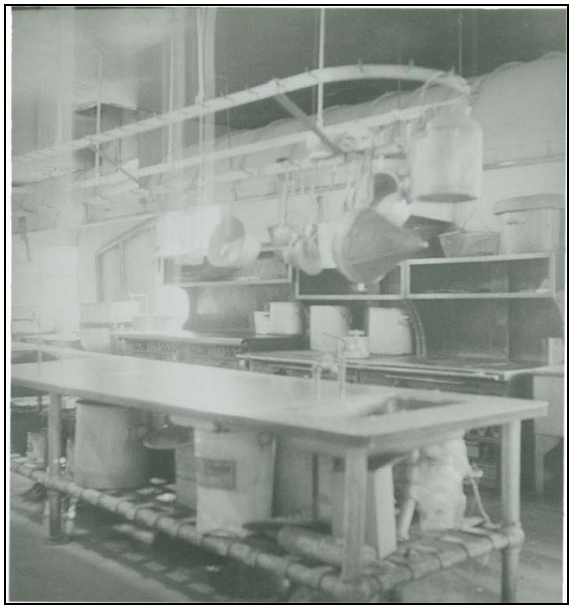
building's southwest corner. In this upper level area, where the dividing wall meets the exterior wall is a chimneybreast for a chimney that began at the second story ceiling, providing a way to vent the range hood of the kitchen.

The only real changes to the West Elevation over the years has been the removal of the stack from the chimney when the kitchen functions were removed from the building and the alteration of a basement door opening making it into a window (bottom of elevation drawing, in the far right bay — not visible in the photograph).

Another factor in the spacing of the windows was the location of the chimney, between two windows where the west exterior wall meets the dividing wall behind it. The stack of the chimney above the roofline is now missing, but the chimneybreast remains in place in the second story (according to the 1907 drawings, the chimneybreast never extended below the level of the second story floor, beginning instead as a brick corbel stepping out from the wall at the kitchen ceiling; the chimney is located directly above the kitchen range, where it served to vent the large hood over the kitchen equipment and the heat source of the range or the cooking area itself). The interior dividing wall that meets the west wall at this chimney is the wall that divides the entire interior into a north section and a south section; however, the wall was designed with a large opening at the first story level allowing the kitchen to extend across the east-west width of the building without interruption by a partition; the range and stock boilers were centered beneath the wall (as it spanned over this area), and nearby was a *bain marie*. First story windows are found in the west elevation below all but the center bay, where the window would have conflicted with the range. The first story windows are all 6/6 double hung sash.



The ell-shaped kitchen (see plan, above) extends into the area under the faculty dining mezzanine and thus under the ceiling of the great hall. In the two early interior views (below), a quarter-circular metal hood can be seen extending over the cooking appliances that occupy the west wall of the room. The west wall chimney began at the top of this hood and rose to form a stack that is now missing above the roofline. An additional ventilation opening can also be seen in the images (behind what appears to be a light fixture in the left image — it may have been a pull chain for the ventilation system). This may have been a ventilation system for the rest of the room. A separate metal flue was added to the chimney, apparently for this system.



The basement level of the west elevation is technically below the grade line but exposed by virtue of a large excavated well area (with a concrete floor and surrounded by brick retaining walls, including a small ancillary mechanical vault just west of the main building). The well area extends the length of the elevation and is accessed from the south, where it opens to the lower grade. It has windows in all five bays, although the window in the southernmost bay was originally a door. The basement level windows are paired casements with four panes each. Horizontal metal bars are fixed on the exterior side of the casements in at least two of the openings, and the bars are covered with fitted wood-frame window screens (actually "hardware cloth," a heavier gauge screen material usually used for security rather than ventilation).

The east elevation is similar to the west, except that it is only four bays wide; there is no window, above or below, in the area where the second bay from the building's northeast corner would be because the area is occupied by the chimney rising from the large first story fireplace (this is the fireplace that originally served as the focal point at the east end of the dining hall, but is now within a conference room due to the alteration in the floor plan in 1959 when the second balcony was created and the space beneath it was enclosed). Where the chimney rises above the cornice line of the roof, the brickwork of the eastern face of the stack contains a large ornamental pattern consisting of a recessed rectangle with two stages of stepped brickwork at its edges. The east elevation's first story fenestration consists of four single-sash 4/4 awning windows. The original drawings called for windows only in the two southernmost bays. However, when the east balcony was created in 1959, windows were added in the remaining two bays, and then all four windows were altered to make them shorter when the underground annex was built blocking the bottom half of each opening. The drawings also show four windows in window wells at the basement level in this elevation; however, the basement level of this elevation is now completely blocked by the underground annex.

The north (or rear) elevation contains only two first story windows, in the westernmost bays, and one basement window, in the third bay from the building's northwest corner. These are located beneath nine bays of almost equally spaced second story windows. The basement and first story windows of the north elevation are all in wells. A first story door was added at the center bay of the north elevation in the 1959 remodeling project. Because the grade line on this side is approximately five feet above the first story floor level, the door is located in a well. The well is concrete with concrete steps leading down to the door from the west side. The landing at the top step occurs at the easternmost window well, resulting in the well being covered with a metal sidewalk grate. The stair well has a welded pipe railing. The north elevation also has a five-foot-wide out-built chimney, located eleven feet from the building's northeast corner. The chimney was built to serve a boiler that was originally located in this corner of the basement.

The exterior of the building reflects a high degree of integrity, as only a few changes have been made since the 1907-08 construction. Changes, as noted above, include the replacement of the three bays of main entrance doors with a new design in the 1950s,

removal of the part of west chimney that originally rose above the roofline, and alteration of an original basement-level door in the west elevation to convert it to a window. The first story windows originally had metal grates covering each opening in its entirety, and the second story casement windows had metal railings covering the bottom two panes, a necessary safety feature when the windows were opened in the upper story dining areas where the bottoms of the windows were in line with the second story floor. The railings were composed of squares and diagonals, in a fretwork pattern that was identical to that used at stair and balcony railings and similar interior locations.

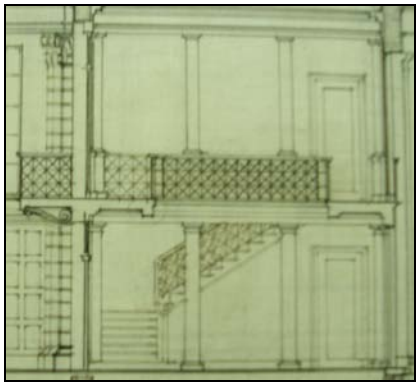
The interior of the building is marked by several bold design characteristics which were reinforced in the design by decorative features such as wainscot, mouldings, and ornamental plaster. All other aspects of the building are secondary or tertiary to these main design features. The most important design feature of the interior was the open, two-story volume of the main dining room, which emulated the characteristics of a medieval English or Tudor era great hall. A second main design element was the stair hall, an atrium-like two story space containing the building's main stair, located between the main entrance and the dining room. To the sides of the stair hall, the rest of the second story consisted of two large rooms, one for committee meetings and one for faculty use, and a balcony reserved for faculty dining, all overlooking the dining room and separated from it by large casement windows and balcony railings. The coat room and restroom were tucked into the space beneath the committee room, an area whose main features were five small windows and three doorways, in addition to plumbing fixtures and coat racks. The kitchen was placed in the corresponding space under the faculty room. An ell shape in form, the kitchen extended under the faculty dining balcony. More than half of the food preparation spaces, including a butcher shop, a bakery, and food storage areas for ice cream and vegetables, were in the basement, accessed by a small stair near the corner of the kitchen and an adjoining dumbwaiter. A second dumbwaiter was situated for sending food up to the faculty dining area on the balcony.

The building's structural system was based on the creation of this hierarchy of spaces. A bearing wall was constructed, east-west, the length of the building, about four feet south of the building's center point. Although the wall is structural, supporting the framing of the floors, ceilings, and roof, it is punctured in various ways that reflect the architects' intentions. The wall divides the building into a larger northern structural bay (three window bays of the west elevation) and a smaller southern structural bay (two window bays in either the east or west elevation). Secondary to this slightly asymmetrical division of the interior, the center area, nearly a third of the southern portion of the interior, was originally designed to be a two-story stair hall with decorative detailing characteristic of Classical Revival style buildings in the Edwardian era. The sheet of structural drawings issued by McKim Mead and White as part of their December 1906 and January 1907 set exclusively concerned three limited areas of the building: the roof trusses that bear on the center bearing wall, the framing of the stair hall balcony area, and the support brackets of the balcony that contained the faculty dining area.

The “great hall” effect of the two story volume that comprised more than 60% the northern half of the interior was heavily reinforced by layers of decorative details. A key design feature was the way the room was ringed with tall upper story casement windows. In addition to the three sides of the room where the perimeter walls are exterior walls, the pattern was completed by placing identical casement windows in the upper story of the dividing wall between the northern and southern sections of the interior space. This served an aesthetic function, part of a combination of features designed to pull the eye upward, toward the ornate, vaulted ceiling, creating a sense of lightness above the tall, dark wainscot. It also served a symbolic and practical function of connecting the dining hall with adjoining upper story dining spaces to the south, while also creating the possibility of opening all the windows on warm days to maximize cross ventilation. Similarly, the upper story spaces in the southeast (committee room) and southwest (faculty room) corners also had the same tall windows on all four sides (the windows on the north sides of these two rooms were the interior windows, as mentioned above, looking into the dining hall). The windows served to control the visibility and distribution of sound between the design’s various spaces, as the upper story rooms and the dining hall could all be easily interconnected by opening the interior windows, or segregated by closing them. The design intent of allowing for a shared aural ambiance among the dining spaces on certain occasions was also indicated by the creation of a musicians’ gallery at the very center, vertically and horizontally, of the building’s public spaces.

In the building’s original design, many layers of details reinforced the relationships between the main dining hall and the smaller dining spaces, as well as the open stair hall and the musicians’ gallery. Dark wood covering all surfaces in the bottom ten feet of the dining hall increases the dramatic effect of the large clerestory windows and plaster surfaces of the upper half of the two-story space. The smaller spaces, including the faculty dining area on the balcony of the dining hall, are made more intimate by the volumetric effect of their floor being closer to the ceiling, while their second story location places them literally and figuratively above the ordinary diners and service functions found at the ground floor level. This difference in character is reinforced by the way that the same large casement windows serve as balconies allowing the upper story diners ready access to the views, fresh air, and dramatic qualities of the operable windows and the balcony railings. While the tall fireplace and decorative ceiling pulled the eye upward in the dining hall, the best views of these features were from the faculty dining area on the balcony. Eight rusticated pilasters banded with bold quoins and crowned with Corinthian capitals give the room an added level of detail, one at each of the room’s four corners and two pairs that divide the room into three sections. Bridging the latter four pilasters, two ceiling beams visually dominate the space with their bold lines and ornate cartouches. They also create a proscenium-like line between the faculty dining balcony and the common dining area below.

Additional emphasis was given to the large scale of the dining hall by making the stair hall smaller in scale and different in style. Serving as a narthex, the stair hall was built as a double-height space with its own style of decorative pilasters and other details. The stair hall's square columns and pilasters were detailed to resemble the Tuscan order. By contrast to the ornate plasterwork of Corinthian capitals and quoin-like banding of the dining hall's two-story-tall pilasters, the stair hall pilasters had paneled faces and had capitals and bases separating them into single story elements on each level of the double height space. The stair hall's frieze had no cartouches to emphasize the center of each segment of the horizontal lines, as found in the dining hall, but rather formed a continuous band around the top of the space's first story above the pilasters. The ornamental metal railings, which matched those found throughout the building, were found here in all directions, following the stairs and encircling the open area at the top of the stairs, so that the circulation path revolves around the open atrium-like space as a ringed balcony.



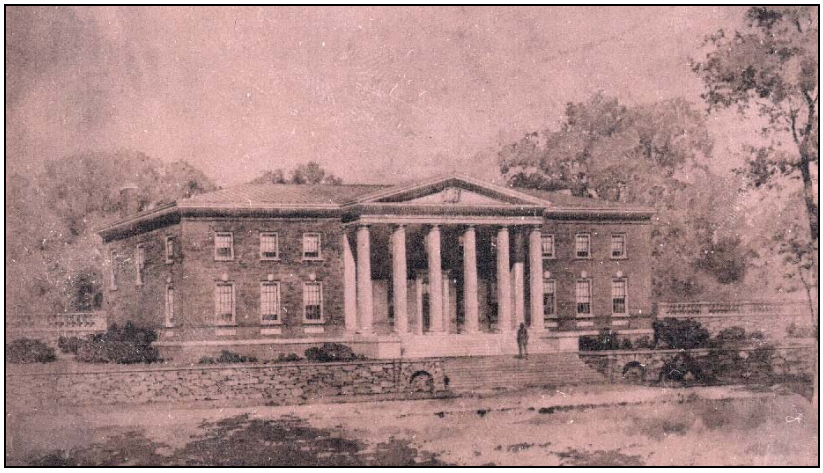
The above left excerpt from a section drawing shows the relationship between the stairs, atrium balcony, and musicians' gallery in the original design. A photograph of the stairway has not been found. The photographs of the opposite side of the space (above center and above right) are from the George C. Seward Photograph Collection at the university's Special Collections Library, as digitized in the UVA Digital Archives. They are dated 1935-36. At that time, the space was apparently used as a cashier's space with a display case from which cigarettes were sold. Note the paneled faces of the columns and the corresponding support members under the balcony.

Yet the stair hall design was a relatively cramped volume, with two decorative columns (between the open space and the stairs) and ten decorative pilasters (evenly spaced on the other three walls), repeated in each of two stories, plus approximately 65 feet of decorative railings in a 25-foot-tall tall space that has a floor area that is less than 20 feet by 30 feet. Resembling a Roman atrium, this tight space served as the only feature dedicated to connecting the building's main entrance to the four public dining areas and the coat room service area. Passing through such a whirlwind of details in a somewhat cramped space, as the only way the students and faculty had of reaching the great hall, would have intensified the grandeur and uplifting effect of the high-ceilinged dining space.

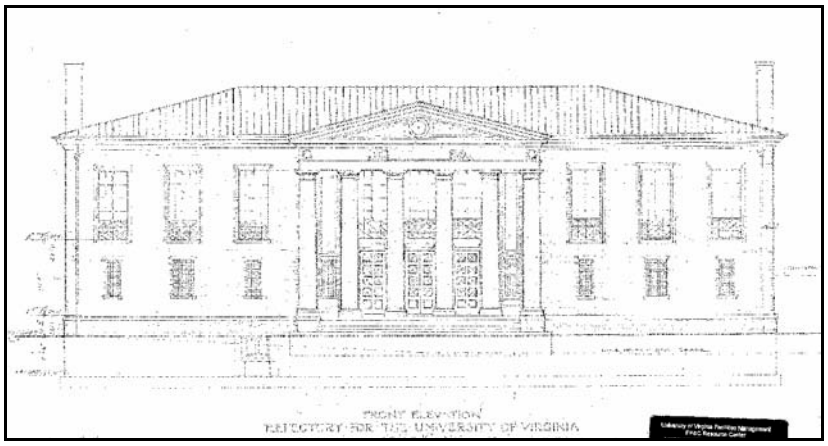
In the original design, the detailing of the committee room and faculty room was simpler than that of the dining room and stair hall. Almost all of the surface features of these two rooms were lost in the 1959 remodeling project. However, remnants of a crown moulding that encircled the committee room remain above the lowered ceiling, and trim remains at some of the windows. These spaces had a simpler treatment than that of either the dining room or the stair hall, but the treatment was still consciously ornamental in keeping with the Classical Revival style. The casings at doors and windows appear to have been mitered at the top of each opening, with angled plinths at the base where the casing met the baseboard.

The building's tertiary spaces were simple in their design and detailing and were filled with functional equipment such as work counters, pantry cabinets, heating equipment, and plumbing fixtures. All of the fixtures and cabinetry were removed in 1959 when the spaces were converted to offices. However, a few clues remain of some aesthetic elements. An example is the round iron column that was located near the center of the kitchen carrying part of the weight of the bearing wall as it spanned over the center of the kitchen.

HISTORY OF THE BUILDING IN PHOTOGRAPHS



This early rendering submitted by McKim, Mead, and White suggests that the firm may have developed an earlier scheme for the building in which large windows were to appear in the first story and smaller ones above them, at least in the front half of the building. This may be an indication that some rooms were intended to be located in the reverse order of their current locations (such as placing the rest room and coat room above and the athletic dining area below). This photograph is from the collections of Avery Library at Columbia University, New York.

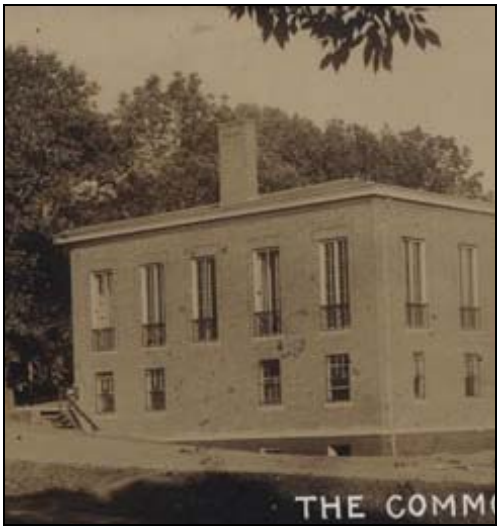


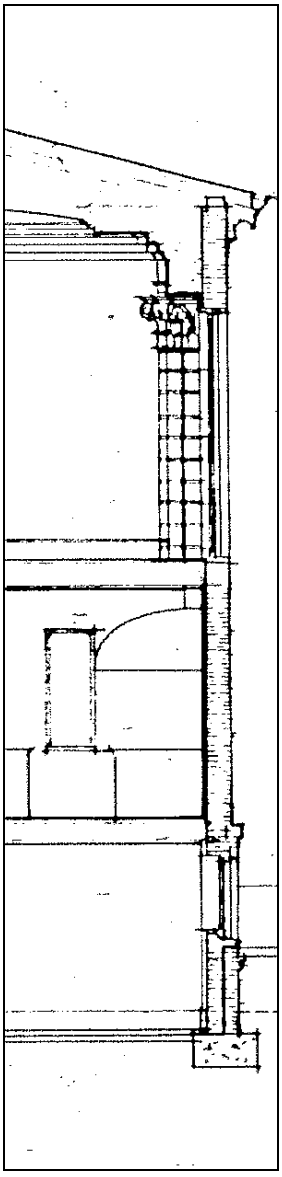
The building's façade was actually constructed as shown in the 1907 elevation drawing (left). The drawing shows the original design of the entrance doors, grates covering first story windows, balcony railings at second story casements, and both chimneys (the third chimney, in the north elevation, or rear of the building, may have omitted to emphasize symmetry, or it may have been a drafting error. One difference from what was built is in the detailing of the circular ornament in the tympanum of the pediment. The drawings are from the McKim, Mead, and White Collection, New York Historical Society, or copies which are held by the University of Virginia.

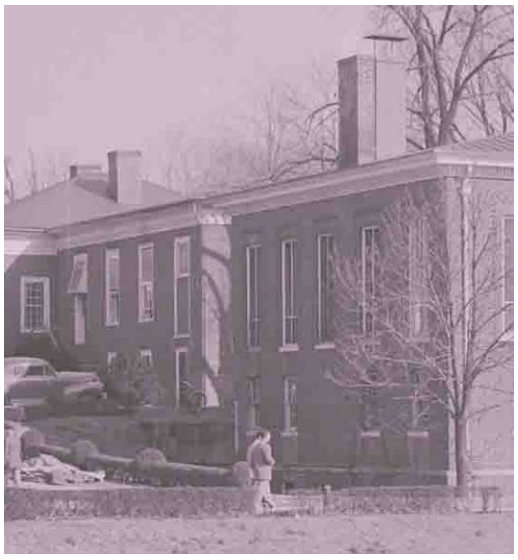
The view on the left may be the earliest view of the exterior. It was used to illustrate the article on the building in the 1910 edition of the university's *Alumni Bulletin*. The photo shows that the grates and railings were installed at the windows as shown on the drawings. Note that there is a stairway at the left apparently leading into what is now the well along the west elevation at the basement level. This photograph and other historic images that follow, below, are from the University of Virginia Library Special Collections, except where otherwise noted.

The photograph on the left dates from before 1921, when the McIntire Amphitheater was constructed. It shows that the land was graded much in the same land form that the amphitheater later formalized. The building was already old enough to have some ivy growing on it, and it had awnings (this appears to be an early spring view, based on the amount of leaf cover in the trees; the awnings were probably removed each winter, which would account for their absence in some views).

The photograph on the left dates from shortly after the McIntire Amphitheater was completed. The building has no awnings. This is the first view in which a metal flue can be seen, attached to the eastern face of the brick chimney that rises in the west elevation. This may correspond to changes in the design and/or use of the kitchen. The completed amphitheater is in use in the bottom left image taken during 1937 graduation exercises. In the bottom right view (for which UVA Digital Archives give a 1935-36 date) the metal flue is visible again, the trees are larger than in other views, the ivy is creeping across the pediment, and the awnings appear to be in place only at the windows where there is no ivy.







Evolution of the West Chimney:

The chimney that formerly rose from the west elevation served the kitchen. It began at the kitchen ceiling and rose as a chimneybreast through the second story, to a stack at the roof. The stack was removed when the kitchen functions were removed in 1959. The kitchen range hood appears in the section drawing that appears in the original 1907 drawings (far right image, above). The fact that the chimney stack is missing above the roofline appears to be a drafting error. The other four images, shown left of the section, indicate the following: (clockwise from the top left) the chimney existed without any flue extensions in the 1910 image, had a round flue extension rising directly upward from the top of the stack by 1930 (second image), and had a larger metal flue fixed on the east face of the stack in later images (bottom two images).

The early view of the façade looking northwest shows a retractable awning at each window in the retracted position. (The UVA digital archives gives a date of ca.1900 for this image—an obvious error; the image may date from about 1910.) Note the darker color of the brick in the basement wall below the stone water table. This is an indication of a lime-based red-wash coating, a common treatment at the time for brick of an uneven quality or where they were especially vulnerable to moisture. The red-wash seems to have disappeared in later photographs; however, a vestige of the coating can still be seen on the building in some areas.

In some ways, the view on the left is strikingly similar to the one above it. However, the red-wash on the basement level bricks is no longer apparent, a tree of some size has grown at the southwest corner of the portico, a pipe railing has been added along the sidewalks, and the amount of ivy found on the building suggests that at least a period of five or ten years has passed. Although the UVA Digital Archives gives a date of ca.1910 for this photograph, it probably dates from about 1920 (the automobile in the background also appears to be from the 1920s).

The original rendering of the dining hall submitted by McKim, Mead, and White shows the grandeur of the space without furnishings. The rendering shows a fireplace design that was not used (a simpler design was substituted by the time the building was constructed; elements of it are still in place), deer antlers mounted to the wall, large portraits between the windows (apparently always one of the design intensions for the room, but only the large portrait known to have been hung was that of Jefferson, as seen placed over the fireplace in the view below. Notably, the chandeliers are not shown. This photograph is from the collections of the New York Historical Society.

The only known early view of the dining hall, ca.1910. This view shows the original tables and bentwood chairs, as well as the large portrait of Jefferson that hung over the fireplace. The antlers shown in the rendering above have been replaced by small sconce lights that are barely visible. Small portraits hang on the wainscot near the lights. In keeping with the Classical Revival, large torch lights are placed at either side of the main entrance doors, beneath the musicians' gallery.

When the building was converted to office space, the fireplace was blocked by the construction of a second mezzanine designed to match the mezzanine at the west end of the room where faculty members originally dined (the fireplace is still there, within a conference room of a later design, though altered due to the ceiling having been lowered). The light bulbs in the inner ring of the chandeliers were changed in the 1959 project to point upward (the inner rings have subsequently been removed altogether). The design of the floor pattern is herringbone, as it was shown on the drawings and as it is found in the room at present.

CHRONOLOGY OF MODIFICATIONS TO THE BUILDING & ITS USE

27 October 1895—The Rotunda Fire occurs.

October 1895-January 1896—MacDonald Brothers, Architects of Louisville prepare the first drawings for getting the Rotunda walls back under roof. They present plans for restoration of the building to the Board of Visitors on 4 January 1896, but the board instead, two weeks later, hires Stanford White of McKim, Mead, and White.

ca.1896—Stanford White prepares the first sketch showing the possibility of closing off the end of the lawn with new buildings.

1898—Three academic halls are built to designs by Stanford White/McKim, Mead, and White: Cabell Hall, Rouss Hall, Cocke Hall.

1905—UV brings in Edwin Alderman as the university's first president and within the year, Alderman brings Stanford White back to design the new President's House on Carr's Hill.

15 December 1906—Plans, Elevations, and three of the Section Drawings drawn for McKim, Mead, & White's original set of drawings bear this date.

16 January 1907—Long Section Drawing of the building; drawn looking toward Great Room Balcony.

17 January 1907-14 November 1907—Large-Sheet Format Detail Drawings issued.

18 January 1907—Two sheets of plumbing drawings were issued.

21 January 1907—One sheet of structural drawings was issued.

20 April-26 November 1907—Detail sketches issued for mantelpiece design alternatives.

11 November (1907?)—One sheet of millwork drawings issued.

4 September 1907-30 November 1907—Detail drawings and key for coffers in ceiling issued.

10 February 1908—Detail drawing issued for herringbone floor pattern.

3 January 1908—Detail drawing issued for Lavatory and Coat Room.

24 March 1908—Detail drawings issued for Dining Room tables and chandeliers.

January 1910—Description of "The University Commons" (Garrett Hall) featured in *Alumni Bulletin of the University of Virginia.*

1911—Warren H. Manning drew the initial plan for McIntire Amphitheater

1921—The McIntire Amphitheater was completed to a design by Warren H. Manning and Fiske Kimball with funds from Paul G. McIntire.

ca.1925—Garret Hall foyer photographed by George Seward.

June-July 1929—Peebles and Ferguson, Architects, of Charlottesville produce designs (in small sheets, like submittals) for modifications to Kitchen cabinets, kitchen layout, refrigerated spaces, and related basement areas.

1940—One sheet of drawings issued for office partition alterations.

1959-1960—Major remodeling project undertaken and renaming of the building as "Garrett Hall." (Also, underground wing was conceived at this time, but not built until later.)

28 April 1959—Stainback and Scribner, Architects, of Charlottesville, issued detail drawings.

February 1960—Recent work at Garrett Hall is cover photograph of UVA's *Alumni News* and an article about the building by Edward W. Lautenschlager appears on page 12.

6 March 1964—Hankins and Anderson, Engineers, of Richmond, issue drawings for air conditioning system for computer room.

1965-1968—Construction of Underground wing to design of Stainback and Scribner, Architects, of Charlottesville, following through on an idea they had posed in 1959.

19 August 1968—Stainback and Scribner, Architects, of Charlottesville, issue a complete set of drawings for underground addition.

18 November 1971—Diagram prepared for "*Mixing Boxes—Computer Room*."

6 March 1972—One sheet of drawings issued for alterations to electrical/lighting and ductwork.

29 November 1972—One sheet of drawings issued for "Main Entrance" office partitions.

3 May 1974—Two sheets of drawings issued for alterations of doors (most were replaced with new doors and some were just removed) in the Garrett Hall Computer Center (underground addition).

11 May 1978—One sheet of drawings issued for "Alterations to Existing Counter in Room B002."

24 January-16 April 1980—Time period covered in timeline of "*High Points*" on Garrett Hall Project, on file in Special Collection library.

9 January 1981—Garrett Hall [Building] Program [report] is completed by graduate students.

August 1981—Photograph of grading behind building &/or over underground addition.

23 February-2 June 1981—Drawings issued by "Office of University Planning" (16 sheets with about 7 different dates) for "Summer Session / Garret Hall Renovation." (The university dated

the folder they sent us of electronic copies: June 29, 1981.) The foyer walls and built-in furnishings were reconfigured in this project, and changes were made to office partitions, built-in furnishings, and finishes in various other parts of the building.

October 1981—Office of University Planning issued a two-sheet set of site plan drawings for "Garret Hall Bus Stop Phase II."

15 November 1981—"Garrett Hall Refurbished: College Offices to have New Home," *Inside UVA* (newsletter "For the Faculty and Staff of the University of Virginia.")

7 January 1982—One sheet of drawings issued by Office of University Planning for removal of partitions in what is now the conference room (room with fireplace).

12 April 1982—Discussion of building at a meeting includes "The large hall is almost complete. A new floor (an oak in herringbone design) will be installed.

17 May 1982—Two-sheet of drawings issued by Burgh Associates, Architects, of Charlottesville, for alterations to the underground addition.

26 May 1982—One sheet of drawings for accessible toilets alteration issued by the Office of University Planning.

6 October-27 October 1982—Four sheets of drawings for interior design alterations to "Recruiter's Lounge" issued by the Office of University Planning.

28 June-24 August 1982—Eleven-sheet of drawings issued by Burgh Associates, Architects, of Charlottesville, for "Proposed Renovation" to the underground addition (Building was Office of Career Planning and Placement [OCPP] by this time). (The university attached the following date to the folder for an electronic copy of these drawings: May 17, 1982.)

12 January 1983—Two sheets of drawings for interior design "Miscellaneous Items" issued by Office of University Planning.

1 February 1984—One sheet of drawings issued by the Department of Physical Plant (new name for Office of University Planning?), Division of Architectural & Engineering Services, for minor modifications to first floor (a copy of the original interior image of the great room was included on the drawing).

7 June 1984—One sheet of drawings issued by the Department of Physical Plant for minor modifications to basement lighting, shelving, and HVAC.

22 January 1985—One sheet of drawings issued by the Department of Physical Plant for minor modifications to basement partitions.

2 May 1985 (6 June 1985)—One sheet of drawings issued by the Department of Physical Plant for minor modifications to "Renovate West Section of Basement…."

May 1986 (17 June 1986)—Three sheets of drawings issued "Renovation of 101" (basement room located roughly under the stairwell that leads to the back of the Great Room).

4 January 1994-15 December 1997—Four sheets of drawings issued by "Richard P. Hankins, Jr. / Consulting Engineer" of Richmond to "Replace HVAC System.

6 June 1999—Three sheets of drawings issued by Osteen Phillips, Architects, of Charlottesville, for "Renovation of Room 210" (subdivision of corner second story room with partitions).

28 February 2001—Six sheets of drawings issued by Osteen Phillips, Architects, of Charlottesville, for re-roofing project.

16 July 2001—Nine sheets of drawings issued by The DePasquale Gentilhomme Group, architects, and 2RW Consultants, Inc., mechanical/electrical engineers as "Electrical As-Built Documentation."

EXISTING CONDITIONS SURVEY

ARCHITECTURAL

BUILDING EXTERIOR

SUMMARY

02 Site

Description: Garrett Hall is set into a steep slope. Grade at the west side was modified, originally to permit entrance to the basement level, and subsequently to give access to an added mechanical vault. A large areaway is located on the west side and a smaller stair and areaway is located on the north side. The majority of the building perimeter is composed of hard concrete paving abutting the building.

Existing Conditions: Site conditions are such that they discourage positive drainage away from the building perimeter. Two large magnolia trees are located at the front of the building flanking the main portico. These are not visible in any of the historic photos and have grown to the point that they obscure much of the building year-round. While they provide much needed shade, they also cause a number of maintenance headaches including very slippery leaf debris, microbial staining of masonry, and clogging of downspouts. This type of tree is known to have a limited life span and consideration should be given to how they should be treated over the long term.

The South plaza is an uninviting concrete pad with little site furnishing.

It is flanked by two large planting areas with very large trees.

Flanking the portico to the east is a wheelchair ramp concealed by a low brick wall. Note the low window that is now concealed by a metal grate and the significant alterations to the grading to accommodate the ramp as shown in the historic photo at right.

Flanking the portico to the west is a low areaway and drainage swale that was cut into the site

The west side is steeply sloped and is graded to cover an underground mechanical vault. The current site arrangement is a significant alteration from the original site plan and creates an awkward arrangement of low walls and sub-grade structures.

The west side is dominated by a narrow areaway between the west façade and the mechanical vault added in 1959. The function of this area has significantly changed since its original construction.

The areaway is an inhospitable zone with most of the equipment that once occupied it long since removed.

The east side of the building is entirely dominated by the concrete paved roof of the underground addition. This area was outside the scope of this study.

Recommendations: Site drainage system requires redesign and additional capacity to handle existing downspout discharge and provide for general site drainage at paved areas. The location of trees and plantings must be carefully reconsidered.

03 – Concrete Foundation

Description: Foundation walls are of concrete construction and are generally concealed by grading.

Existing Conditions: In general, foundations were found to be stable and in excellent condition. The absence of appropriate rainwater management at the base of the building is cause for concern as this will result in extensive damage over time. Foundation waterproofing appears to be compromised along the north wall. Wetting and continual ground contact has resulted in biological soiling of most visible masonry surfaces near grade.

Recommendation: Install new subsurface drainage system to handle site water and roof runoff. Later construction and grading conceals a large portion of the foundation so

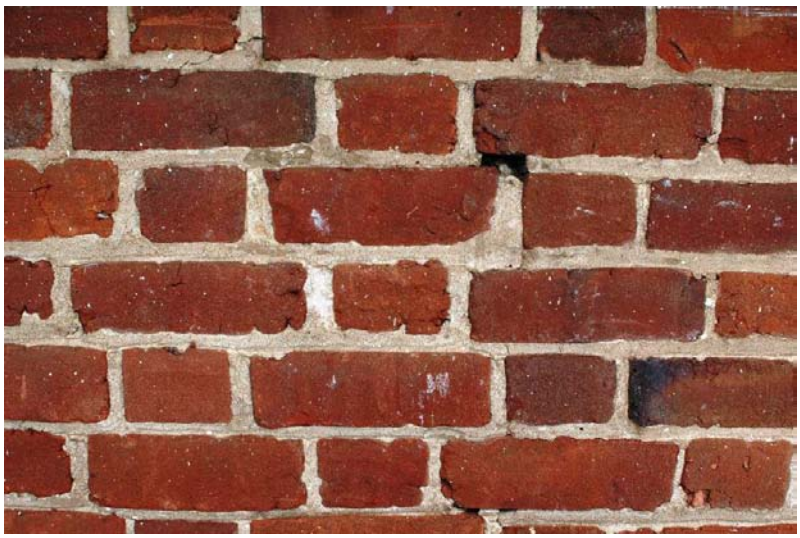
additional investigation will be required to address these areas. All exposed masonry should be treated with a biocide and cleaned.

05 – Masonry Exterior Walls

Description: Exterior walls are brick with a soft lime/cement mortar.

Existing Conditions: Examination of the exterior envelope revealed some significant issues. The north wall is unrestrained given its height and thickness and may require strengthening and reinforcement. Mortar is extremely soft and can be scratched away by hand. Two areas of displacement were observed corresponding to interior truss movement (see Structural Assessment below).

Rusticated artistic brick surrounds are typical at all principal windows. Note minor displacement of brick voussoirs at jack arch.



Mortar is an extremely soft lime mortar with frequent voids and cracks.

Typical staining beneath the windows.

Scar from a previous retaining wall at the rear of the building.

Recommendations: See structural evaluation. 100% repointing is advisable due to poor past pointing, mortar loss and mortar weakness.

06 - Wood

Description: Exterior wood trim is limited to the full wood cornice with built-in gutter at the roof edge.

Existing Conditions: Examination of the exterior cornice suggests that the upper moldings were replaced when the roof was installed. Paint on these moldings was very thin, and perhaps only primed. Paint has failed in some locations. The lower denticulated

moldings are in good condition with minor over painting typical. A few small localized areas exhibited rot and paint failure.

Localized paint failure may be due to gutter seam problems in the built-in gutter above.

Upper cornice moldings were replaced as part of the gutter repair and were not adequately painted at that time (appears to have a single coat of primer and no finish coat).

Ornamental features including molded ornament and dentils have been repainted many times without proper removal of previous, alligatored layers, resulting in loss of detail.

A few locations exhibited rot or other damage; such deterioration will escalate if left untreated.

Recommendations: Cornice requires general minor refurbishment to replace damaged areas, replace perimeter caulking, and restore painted finishes.

07 - Roof

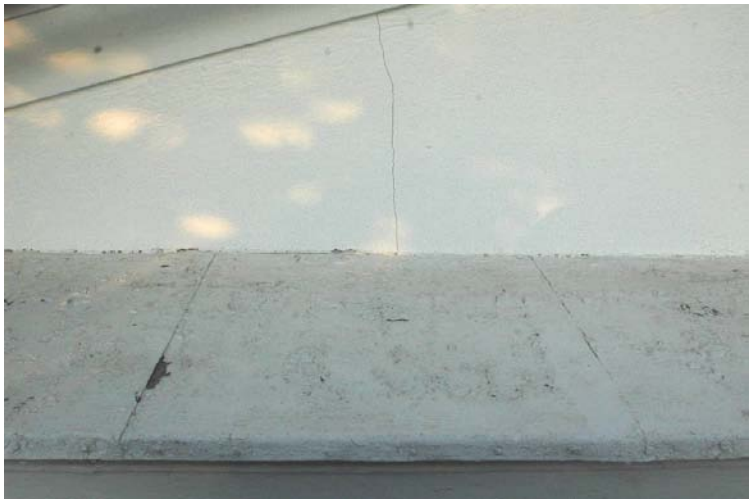
Description: The existing roof is standing seam terne coated stainless steel and was installed in 2001.

View of roof from south side.

View from Southeast showing built-in gutter.

Existing Conditions: The roof is in good condition with no active leaks observed. Soldered seams at the metal gutter liner were typically cracked along the seams, which often indicate that joints were not properly soldered.

Soldered seams at the roof perimeter and in the gutter liner have failed.



The pediment cornice flashing was not replaced during the 2001 re-roofing, has open seams, and is heavily over painted (note also crack in the stucco above).

Recommendation: All seams in the gutter liners should be examined (including cutting one or two seams) to see whether or not the cracking is superficial and if the gutter is water-tight. Assume re-soldering of all seams is required. Remove coatings from the pediment cornice flashing and assess the underlying copper flashing (it may be more cost effective to simply replace the flashing during any future renovations)

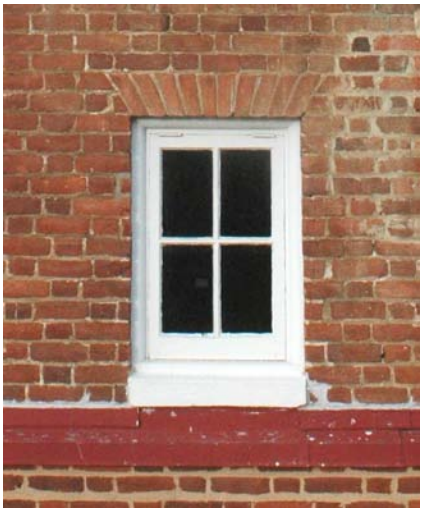
08 – Doors & Windows

Description: The exterior windows are predominantly wood casement windows that are original to the building. Many have full height bronze screens with wood frames. There are six basic window types with a few minor variations. The typical large casement (Type I) often has obscure glass in the lower eight panes for privacy. Most are covered in bronze screen with wood divider bars separating the screen into four or six segments. Other window types are also screened with the smaller windows having a course galvanized mesh.

Type I: 10-pane Casement Window

Type II: 4/4 Double Hung Window

Type III: 6/6 Double Hung Window



Type IV: 4-Pane Awning Window

Type V: 8/8 Double Hung Window Type VI: 4-Pane Casement Windows

Existing Conditions: Examination of the exterior face of the windows revealed a number of typical deficiencies. In general painted finishes on the south and east sides are poor. Windows with screens are in better condition as the screen provides some measure of shading and protection. Window sills are wood on top of a painted masonry sill. Paint on wood and masonry sills is universally in poor condition. Sealant around the perimeter of all windows has typically failed. The bottom of the astragal and the bottom rail are rotted on many of the large casements making it difficult to close them properly. Many of the muntins are severely deteriorated as well. In general, at least one or two panes of glass on each window were cracked. No obvious pattern was determined for the cracking.

Window sills have a wood sill over a painted masonry sill (paint has typically failed).

Most of the larger casements have at least one or two broken panes of glass and rot at rails and muntins in selected locations.

Bronze screens are generally excellent, but a few are missing moldings.

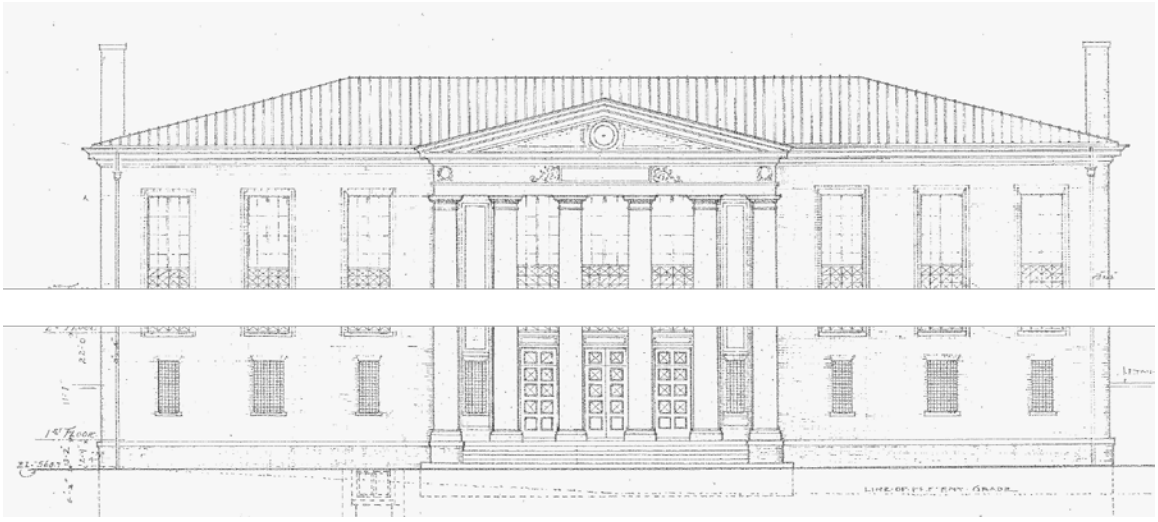
Recommendations: Many of the large windows require removal, stripping of painted finishes, selective repair/replacement of rotted rails and muntins, and refinishing. All windows require general refurbishment to replace cracked panes, replace perimeter caulking, and restore painted finishes.

ELEVATION BY ELEVATION ASSESSMENT

SOUTH FAÇADE

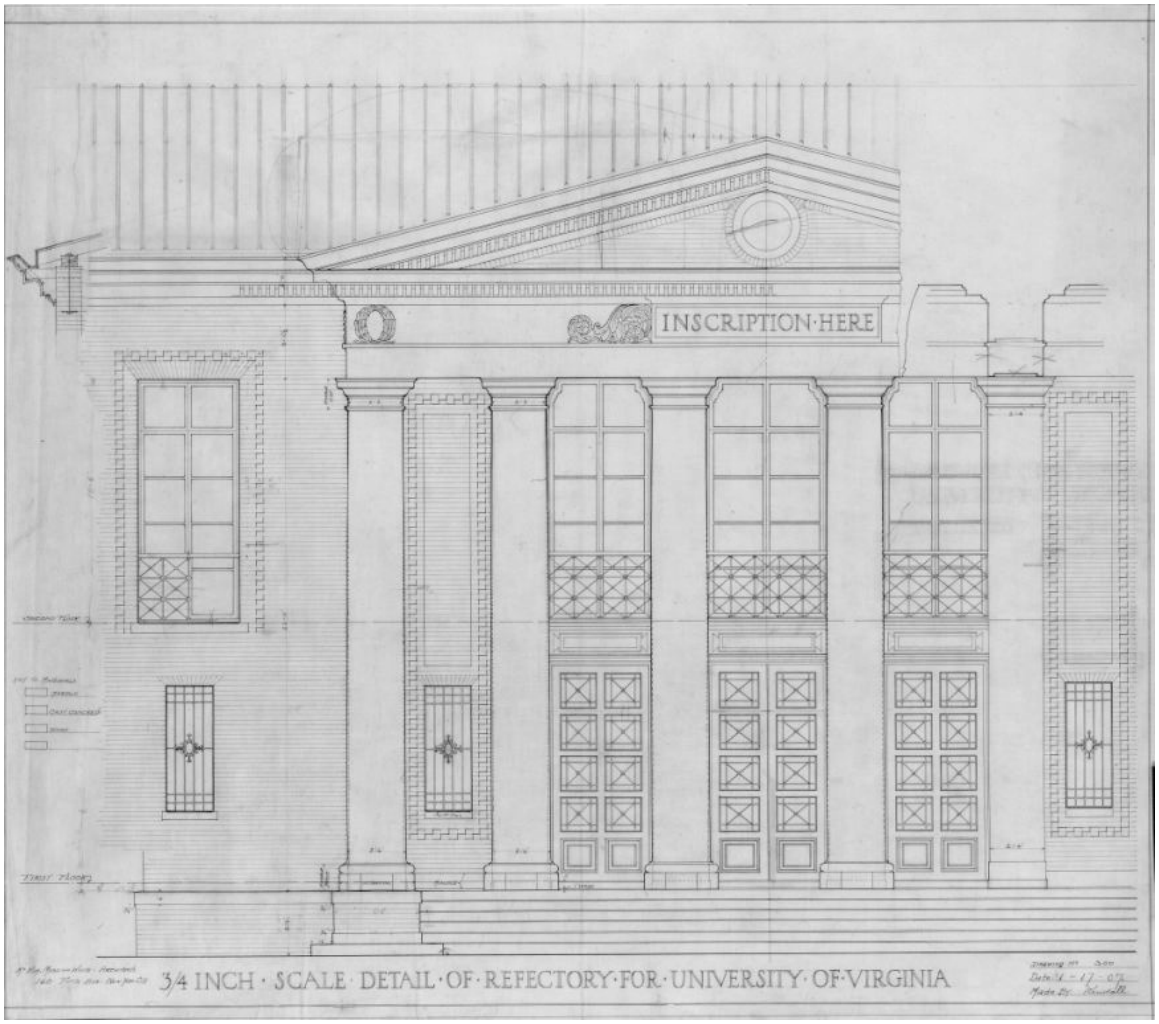
Description: The South façade is the principal entrance façade. It is dominated by a large portico and concrete plaza. The south side has undergone significant changes, to the site and landscaping. Two large trees now flank the portico. The main entry doors are the most visually prominent change, along with the flanking handicapped ramp. Window awnings and iron grills appear in early photographs (only the grills are shown on the original drawings) but have been removed.

Central portico and main entrance today



Contrast the original South Façade drawing above with photographs of the existing doors below

The three original nine and half feet high fenestration panels originally appear to have included two, ten-light fixed panel side panels with a pair of four light doors under a two light transom at the center. The current configuration includes a completely different pair of six over one paneled central doors beneath a five lit transom, and the two side panels changed to one door with a side light under a four light transom. The western-most panel is fixed in place.



A recently discovered original detail drawing (courtesy of the New York Historical Society) appears to indicate that only the central doors were actually operable; as the sides are drawn as single panels.

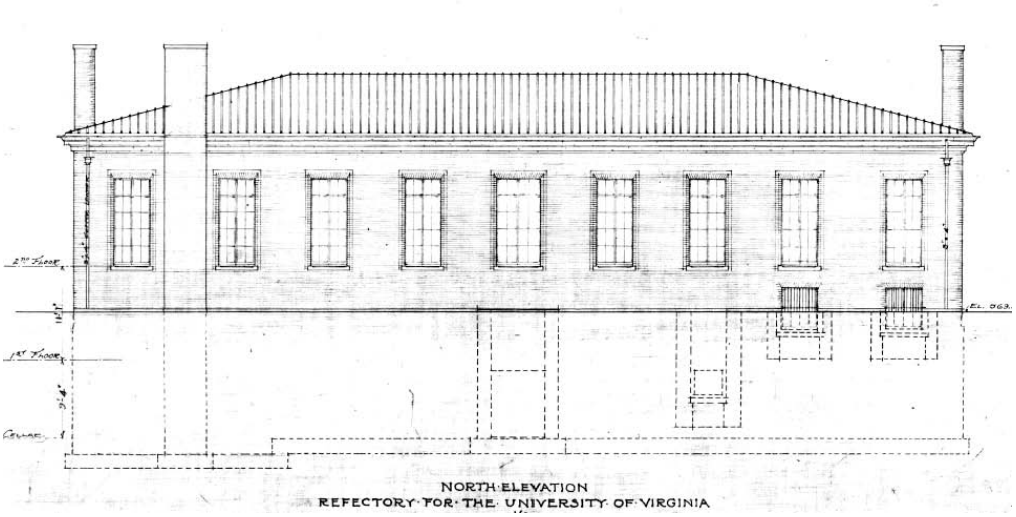
WEST ELEVATION

Description: The West Façade is clearly secondary in nature and yet prominent visually when approaching the building. Principal alterations include the removal of the large chimney (date?), the loss of window grills and awnings, and the significant alterations to the site to accommodate the underground mechanical vault. The areaway along the west façade originally contained a stairway servicing the basement kitchen door (altered to a window). Basement windows were originally shown on the drawings as set in low wells however the c1910 photo above shows a stair to the left so it may not have been constructed as shown.

West Elevation

Condition: In addition to the alterations noted, the west elevation has been poorly repointed and basement level masonry has numerous deficiencies.

NORTH ELEVATION



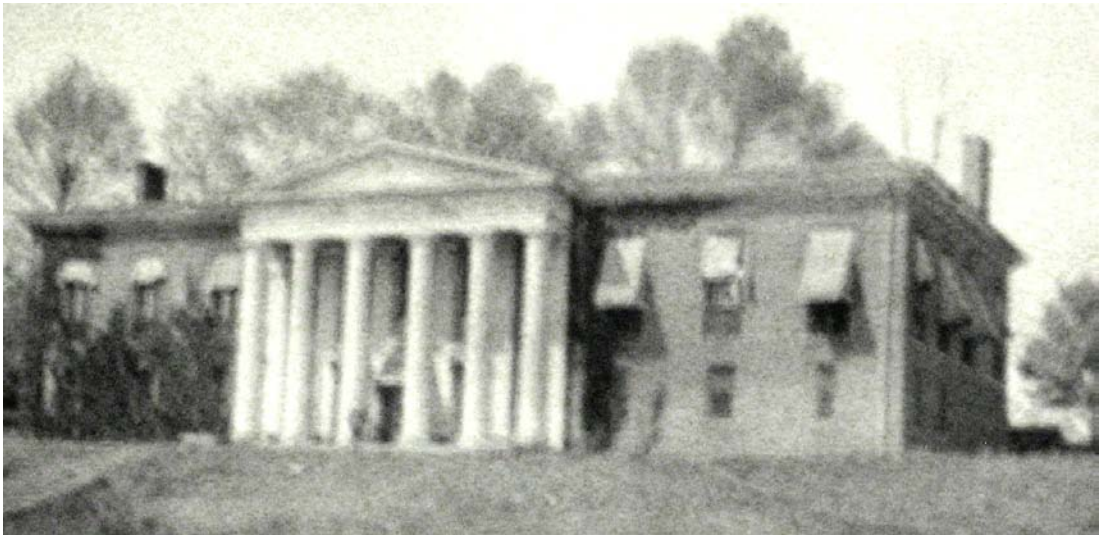
North Elevation original drawing

Description: The north elevation is predominantly unaltered with the exception of the rear entrance and stairway that was cut in.

Rear entrance at north elevation

Condition: The north façade has significantly displaced masonry associated with the interior truss deficiencies (see structural section) and extensive microbial staining.

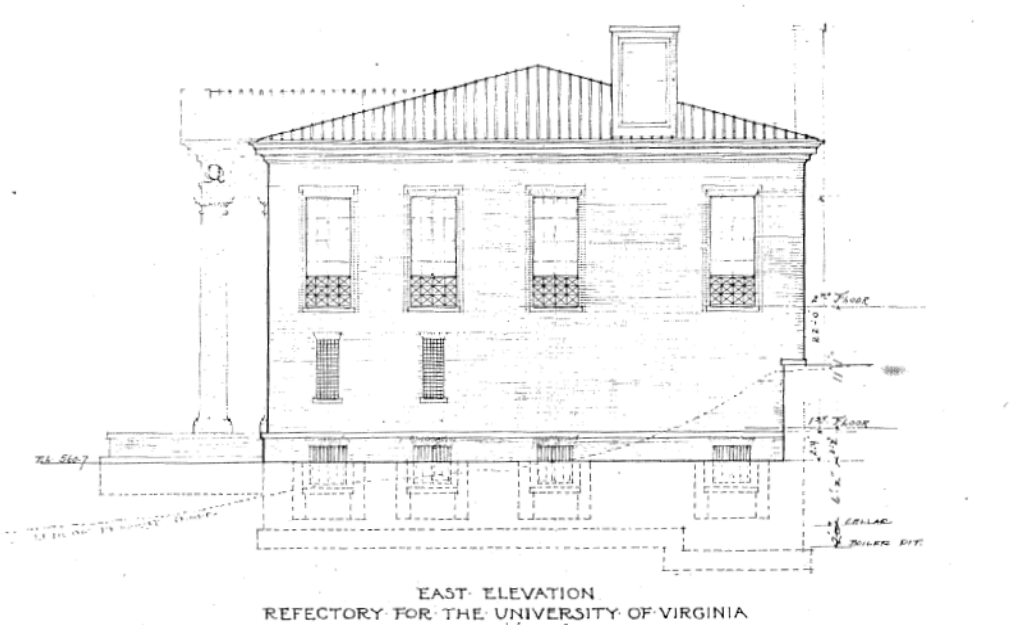
EAST ELEVATION



Historic photograph shows that the east side originally had only two windows at the first floor level.

Description: The east side of Garrett Hall has been altered by the installation of the Annex. The partially underground east addition resulted in the loss and alteration of basement and first floor windows and the creation of a raised plaza and related retaining walls. This has reduced the visibility of the east wall and altered the proportions of the façade significantly. Note the two large windows at the first floor level in the photo above

and the drawing below were removed and during the installation of the East Addition and replaced by four smaller awning windows.



Original East Elevation drawing

This photo shows a current view of the East Elevation from the roof of the adjoining Annex. Note small windows at plaza level are not original.

BUILDING INTERIOR

Although the exterior of this building remains largely intact, there have been many modifications to the interior over the years. With the exception of the exterior rear wall, most condition issues relate to these changes, especially those modifications which have removed or obscured character defining building elements.

BASEMENT

Originally designed as the preparatory kitchens and store rooms for the refectory, the basement is the most altered of all the extant levels in this building. In addition to the core of new stairways and restrooms built into the building in 1959, the basement has been much subdivided to create private offices.

OFFICES

Head height in the basement is only 7'- 11 ¾" from the finished floor to the bottom of the first floor joists. The HVAC ductwork and piping is distributed and exposed below the ceiling tiles attached to the bottom of the joists. Consequently many of the partition walls between offices are not full height to the ceiling, making privacy minimal in these areas.

Typical Basement offices with partial height walls and exposed utilities at the ceiling

Many of the Basement office spaces have partial height walls because of the exposed utility piping and HVAC ducts runs. This makes it difficult to maintain privacy between offices. In other basement spaces ceilings have been dropped slightly below the joists with an acoustical tile system and recessed fluorescent light fixtures; or a finish is directly applied to the bottom of the structure and lighting is surface mounted.

In a few spaces the ceiling structure has
been painted and light fixtures surface mounted

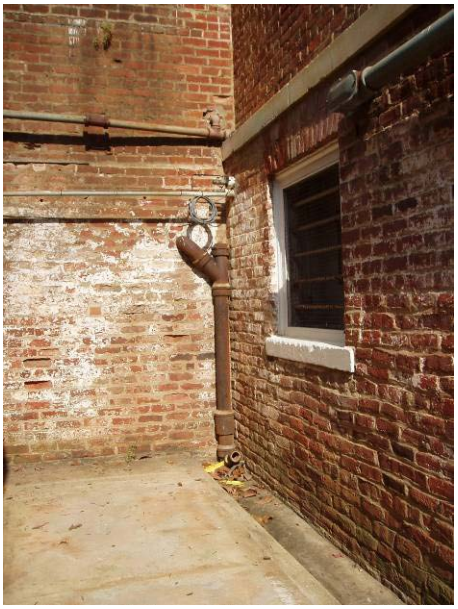
Typical spaces with dropped ceilings, recessed lighting and vinyl composition tile floors

Flooring throughout the basement is either vinyl composition tile or carpet. The former is in relatively good condition, but carpeting is old and worn especially in areas that are taking on moisture. This is especially true at the west end of the building where the walls have evidence of significant rising damp. The plaster is blooming and bubbled up all along the lower interior part of the wall at the west end and the northwest corner. Another area where moisture penetration is obvious is under the exterior stair at the rear of the building in what is now a closet. It is obvious that subgrade drains at the back of

the building are not draining as they should. Water is backing up and penetrating the structure.

Floor drain and downspout at the exterior stair on the north side of the building

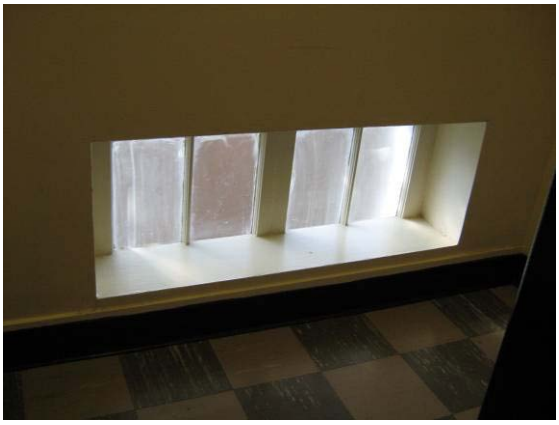
Plaster deterioration on closet walls below the exterior north stair



Poor drainage at the northwest corner of the building has caused deterioration in the walls

The one original basement window on the north side of the building was blocked up during the 1959 remodeling, and the windows on the east side were all eliminated by the construction of the Annex in 1970. Therefore only offices at the west end of the basement have windows. These are four-light casement windows in fair condition, some of which also have security bars across the exterior. There is also one basement window

in what is now a stairwell on the south side of the building. All existing basement windows still have intact trim and sills; even at the northern most window opening on the west side, where the sash have been eliminated and the opening mostly blocked up with a vent filling part of it.



The southern-most window on the west side was originally a door to the exterior, but was altered in the 1959 renovation. There do not appear to be any historic interior doors at this level. All existing doors are modern slab doors of wood in hollow metal frames or simple modern, wood frames.

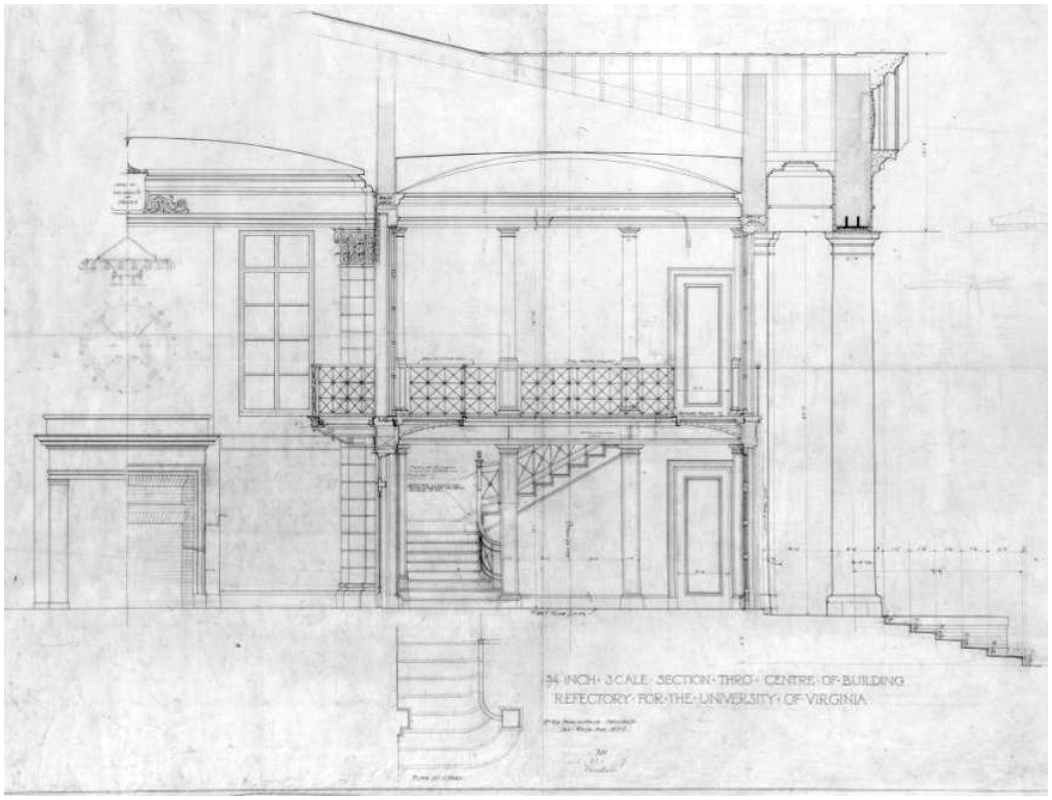
Neither of the restrooms on this level meets handicap accessible requirements.

As the basement of this building was designed to house servant functions, it was never intended to present an architecturally significant image, thus the modifications to this level should not be seen as detrimental to the integrity of this historic structure. Alterations on the two upper floors, however, have been more injurious to the architectural character of the building.

FIRST FLOOR

ENTRY LOBBY

A series of modifications to the main entry lobby has significantly changed the intended arrival experience. Originally the lobby was entered through a central pair of operable doors and their flanking fenestration were fixed panels. The current configuration includes a two single operable doors and the western-most opening is now fixed in place. An interior air lock has been fabricated out of aluminum store front components and installed just a few feet inside the exterior doors, instantly closing down what was once a double height space.



Original drawing (courtesy of the New York Historical Society) shows the open stairway and balcony

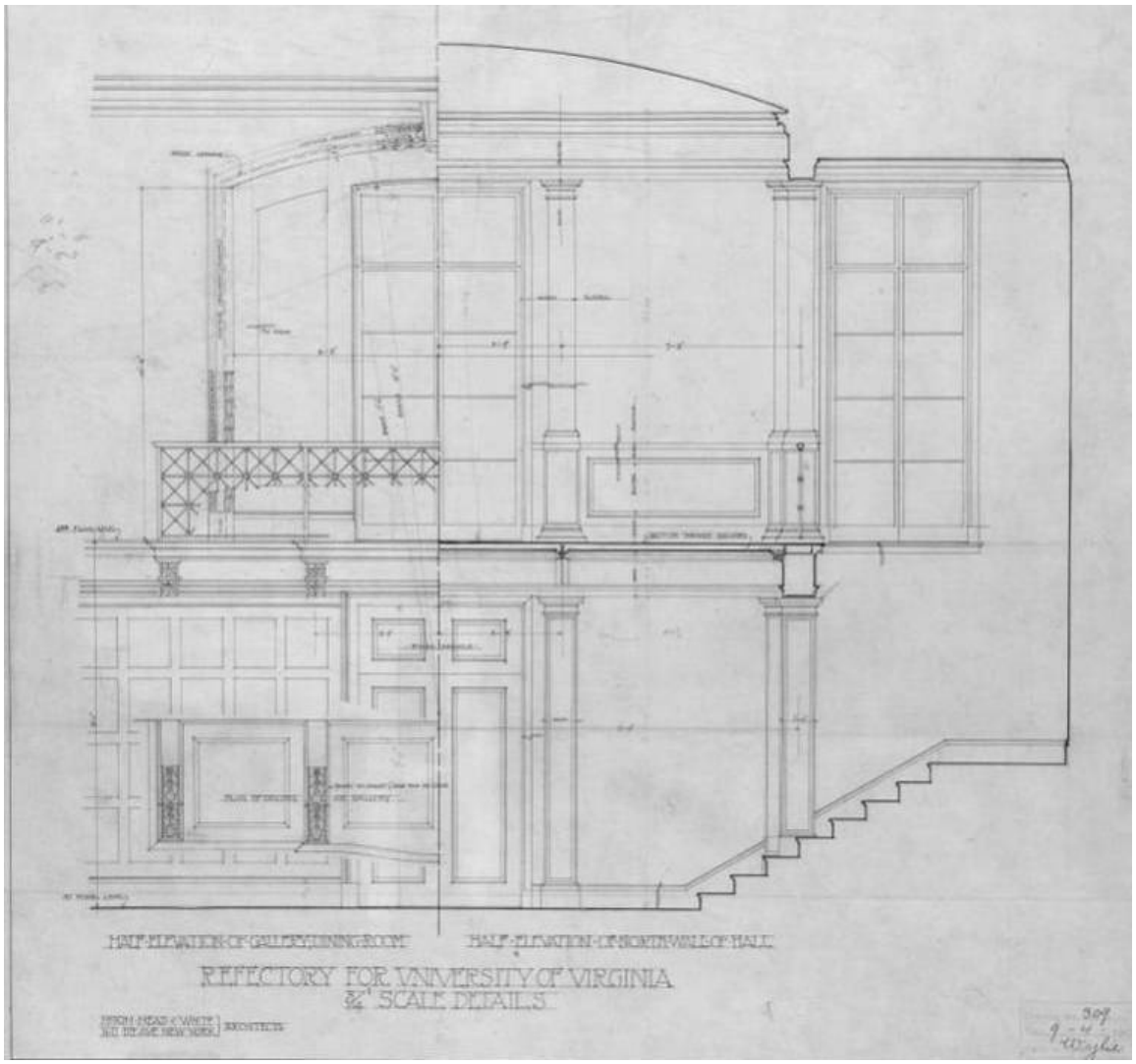
Historic photograph of the open Entrance Hall looking west; note the pilasters, cornice, and the balcony brackets and railing above.

Addition of an internal air lock further diminished the once open Entrance Hall

When two new enclosed stairways were added in 1959 the original open stair was eliminated and the open balcony which surrounded and looked down onto the first floor lobby from the second floor above was floored over, further closing down this space.

Fortunately some of the original structure for that balcony still remains between the added floor-ceiling assembly and within the east wall.

Also remaining is some, though not all of the original architectural detailing in this space. Wood pilasters originally defined this almost square space and concealed the structural columns. Four of the twelve original pilasters still remain, fully intact, at the south wall just inside the main entry doors. It also appears that two of the original columns supporting the east side of the upper balcony were retained and furred around during the 1959 work which eliminated the original open stair.



Original drawing (courtesy of the New York Historical Society) shows the wood trim at both first and second floor levels.

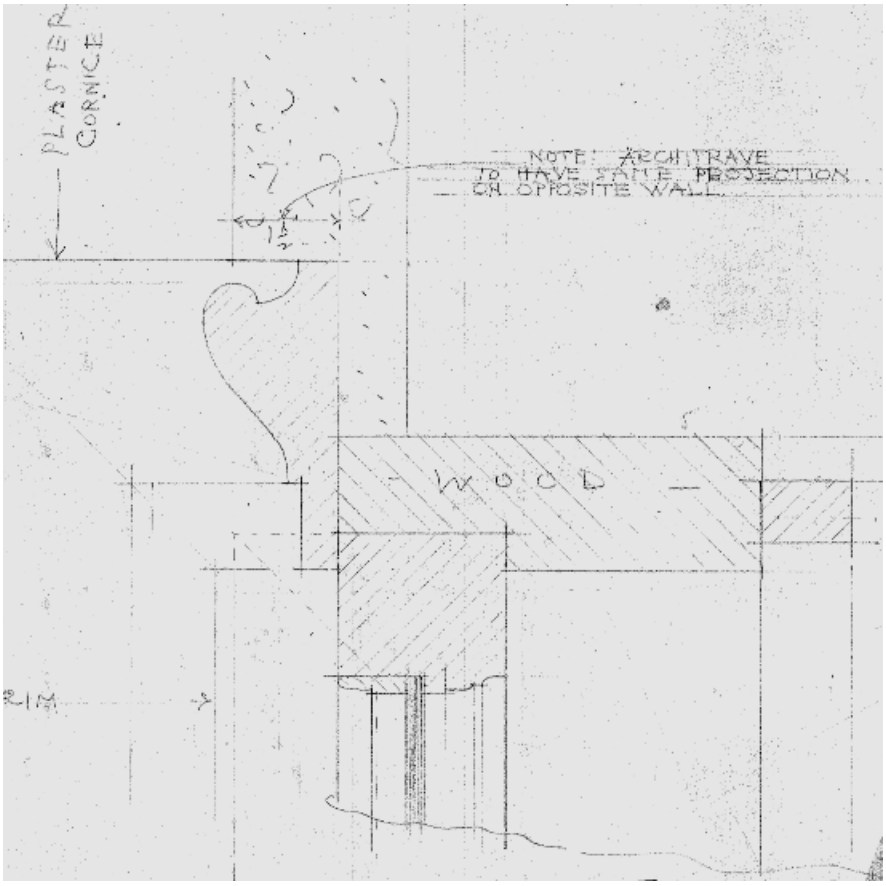
The full extent of at least two original pilasters still remains at the south wall of the Entrance Hall; it also indicates that the First Floor baseboard followed the same profile as the base of the pilaster.

CENTRAL HALL

When the open stair was removed a new central hall was created causing the two south bays of both floors to be subdivided into a series of smaller spaces accessed from this central inner hall. This significantly changed the original circulation pattern of the building. Today the first floor hall is very utilitarian in character. Although the door opening to the Great Room was retained and still has its panel jamb and historic profiled trim; all but one of the extant door openings onto this hallway are new, and have hollow metal frames and modern slab doors. The Entrance/Stair Lobby originally had wood floors and the wood baseboard appears to have had a dark stain. The new Central halls now are carpeted and have modern resilient baseboards at the new partition wall as well as the wall separating it from the Great Hall.

This historic photograph documents the original door and transom leading from the Entrance Hall into the Great Hall, as well as the pilasters, baseboard and cornice trim.

Now all that remains is the paneled jamb and profiled casing.



Detail from historic drawing, courtesy of the New York Historical Society

The photographs above show existing trim with historic profile at the Hall side of the western-most door into the Great Room. This opening was altered from the original configuration which included a pair of double acting doors for service between the kitchen and the dining room. This surround may be original fabric moved from another location, or it may have been replicated and installed in 1959. The 1959 drawings include a detail for wood door trim which include "wood trim to match existing" and "wood plinth to match existing in shape, size and height".

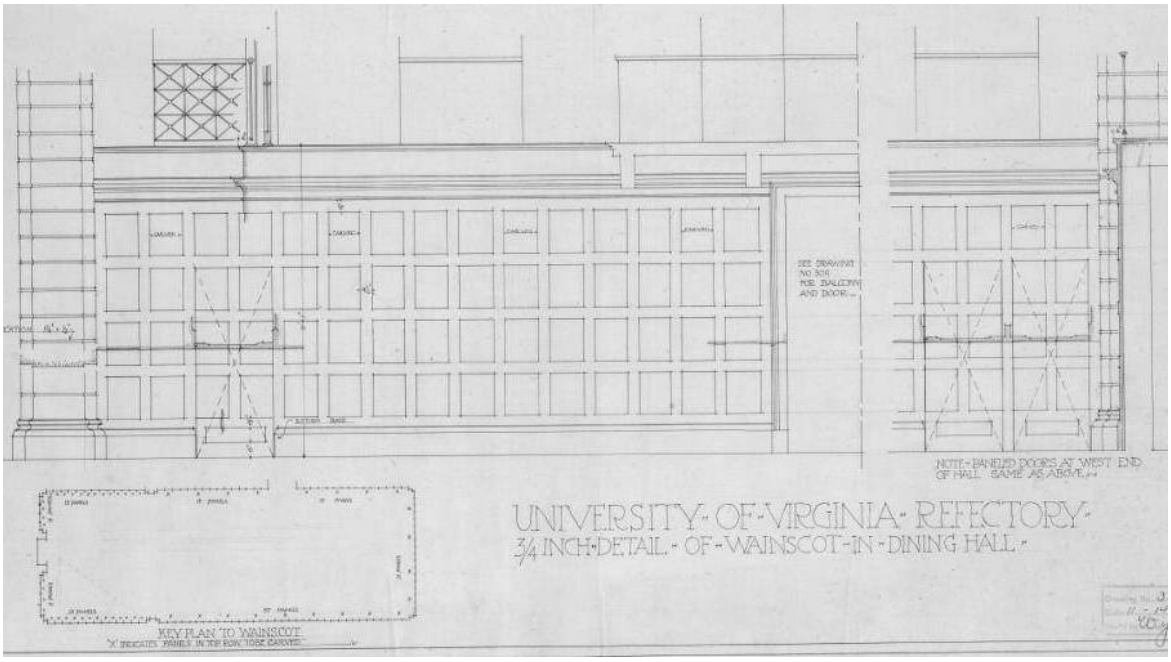
GREAT HALL

Though somewhat altered today, the former Dining Hall or Refectory is the *piece de resistance* in this building. All of its surfaces received a much higher level of decorative treatment than any of the others in this building; and happily, most of the historic fabric remains today. The biggest change in this space is the creation of a mezzanine at the east end of the room and the enclosing of the space beneath it to create a conference room. Not only did this diminish the volume of this large room, it concealed the over-sized fireplace at the center of its east wall; which was the focal point of the room as originally designed.

The west mezzanine is part of the original design, but an intermediary partition wall has been added within the main Refectory space to hide folding chairs and tables when not in use.

The east mezzanine obscures the Great Fireplace centrally located on the far east building wall

The addition of the east mezzanine can be fairly easily reversed. The 1959 drawings indicate that the wood wainscot from the north and south walls at this end of the original space was re-used on the new east wall of the Great Room. This historic fabric should be able to be pieced back into its original location. In general the wainscoting has been altered, patched and repaired in numerous places throughout the years. As wood is a very forgiving material, this too can be reversed by good carpentry craftsmanship. The original wood flooring in a herring bone pattern is still in place and in relatively good condition. Historic photographs show that this floor was originally stained a darker color to complement the rest of the wood in the space.

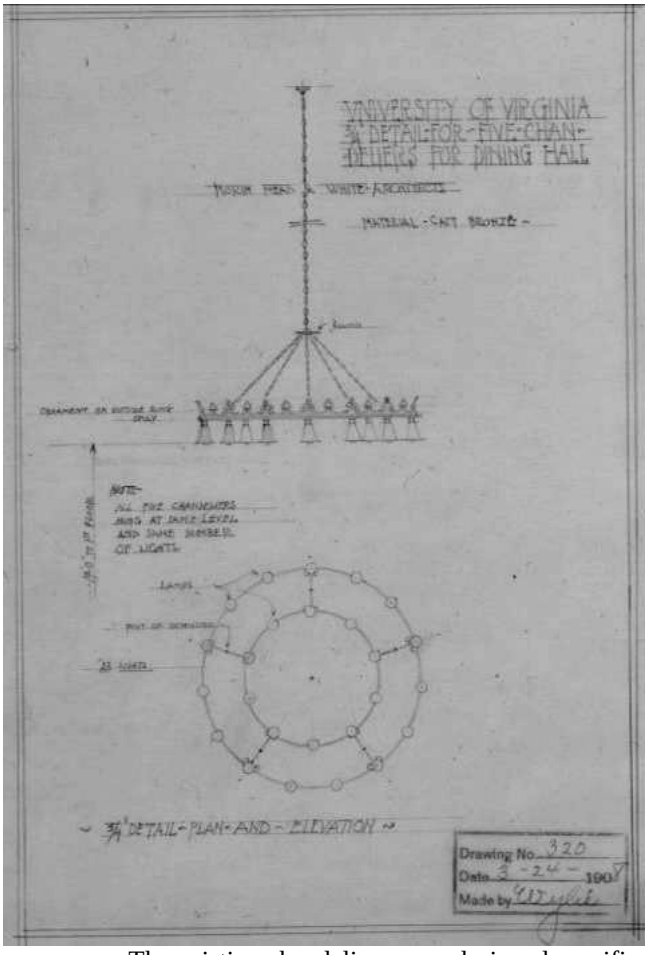


An historic drawing (courtesy of the New York Historical Society) shows the original location of doors on the south wall

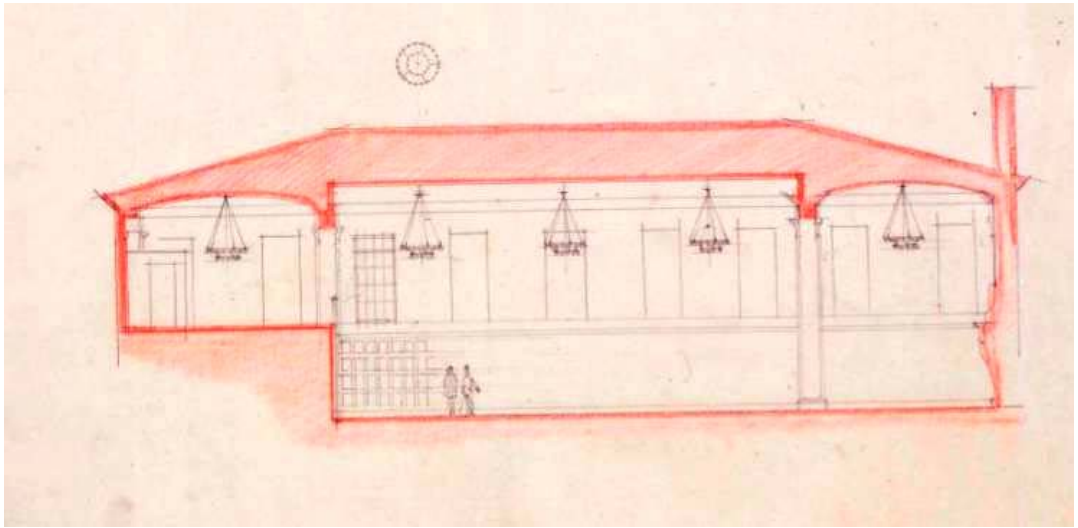
The majority of the over-sized historic wainscot is still intact but does show signs of previous repairs and patching. Electrical accessories have been installed in a random fashion over the years and should be consolidated to more discrete locations.

The doorway at the west end of the Great Hall originally contained double swinging doors; but has been altered to accommodate a single door.

These photographs show the base board at the bottom of the wood wainscot in the Great Hall; taller than the remaining piece in the Entrance Hall but with a similar profile. Also visible is the historic wood, herringbone flooring; now stripped to a much lighter color than what is visible in historic photographs.

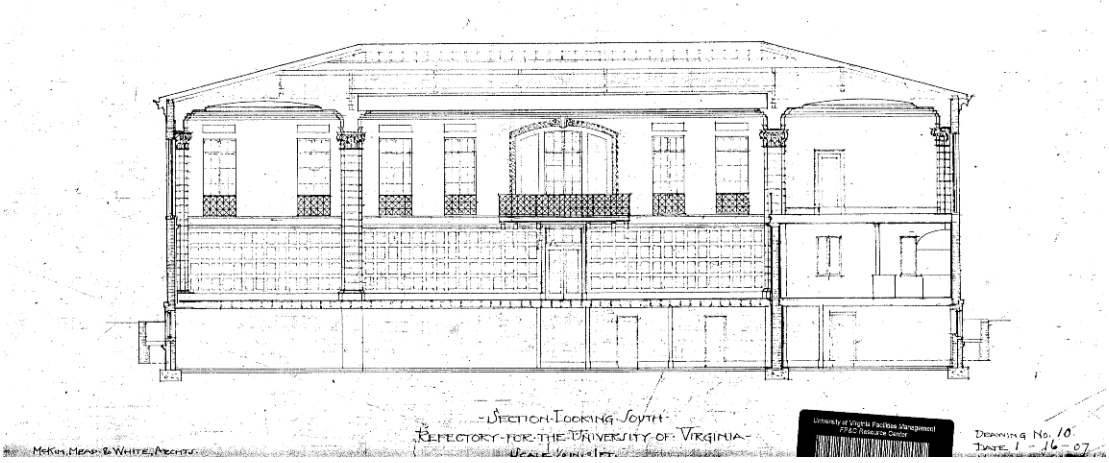


The existing chandeliers were designed specifically for this space (historic drawing courtesy of the New York Historical Society), but have been altered over time, turning the inner tier of lamps into up-lights with spot lamps in them.



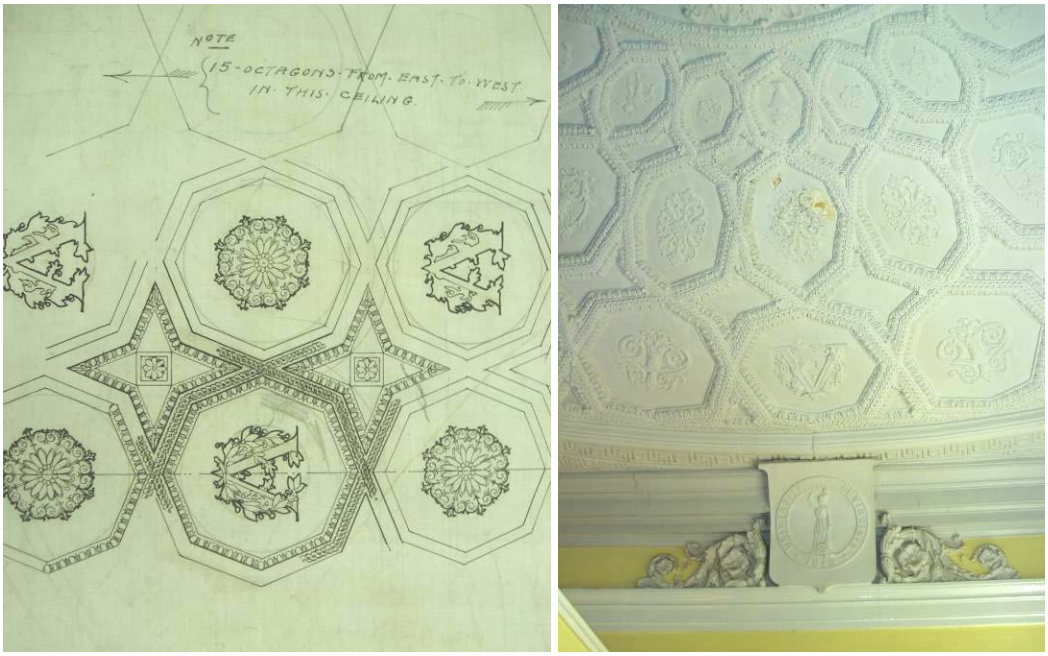
An original drawing (courtesy of the New York Historical Society) calls for five of these; currently only three remain.

Another significant loss to the character of this great space is the repetitive rhythm of the grill work which used to fill the lower part of all the clerestory windows around the room. Today only the balcony and the mezzanine retain their original wrought iron railings with the repetitive "X" pattern.



The most striking feature of this space is the ornamental plasterwork. From the four pairs of colossal Corinthian pilasters, to the deep beams with the University seal at the center, to the Classical molded cornice and finally the ceiling itself, this space was designed to draw the eye and the spirits of the beholder up. Today all of this ornamental plaster is in remarkably good condition. Significant cracks in the columns on the north wall and the large cracks in areas of the ceiling all appear to relate to the movement of the north wall (see structural section of this report). As the ceiling system appears to still be very well attached and supported, our assessment at this stage would indicate that only cosmetic repairs will be required. Prior to doing any work in the proximity of this ceiling, we

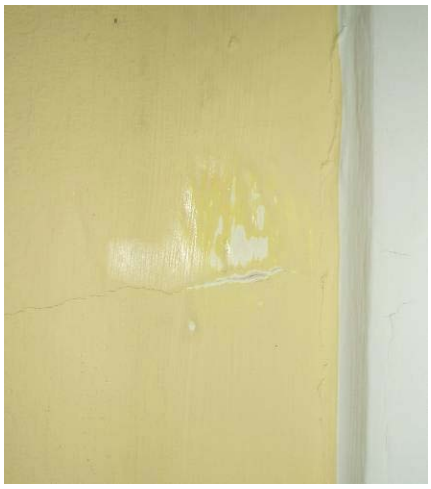
recommend having it investigated by craftsmen experienced in historic plaster restoration.



The ornate plaster ceiling as originally designed (historic detail drawing courtesy of the New York Historical Society) remains completely intact

Although the ornamental plaster in the Great Room is currently painted a monochromatic white; preliminary investigation reveals that it was not always white. Scrapings indicate a coherent pallet of complimentary ochres, beiges and cream colors was originally applied throughout the building. One very intact original sample of the second floor wall and cornice can be found above the currently dropped ceiling in the attic space at the southeast end of the building (see Second Floor description below).

Scrapings at the Great Room cornice and on of the column capitals



Scrapings at the wall of the Musician's Balcony and at one wall of the original mezzanine

OFFICES

With the exception of the windows, all of which still retail their original sash and trim, the first floor offices currently reflect little or nothing of the historic character of the building. Floors are universally carpeted and trimmed with a four inch high resilient base. Doors are all the modern slab variety in a hollow metal frame. Walls are painted plaster or gypsum board and ceilings are dropped acoustical tile systems with recessed fluorescent lighting.

No original interior doors remain.

Offices are finished out with dropped acoustical ceilings and recessed fluorescent lighting fixtures

Original wood windows and trim remain throughout the floor, but are sometimes partially concealed by dropped ceilings.

CONFERENCE ROOM

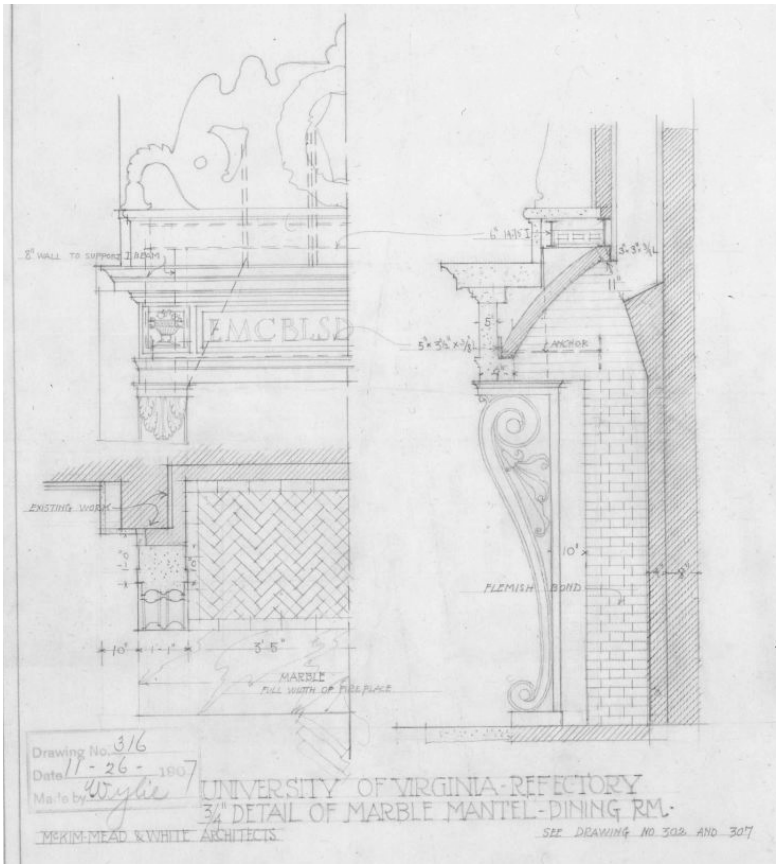
When a mezzanine was added at the west end of the great room in 1959, the space beneath it originally included a small inner office and a larger records area. In the early 1980's this whole space was renovated to create a new conference room with cove lighting around the perimeter of an even lower dropped ceiling.

Both doors into this added room have new trim designed to replicate the historic profile/

A probe in the ceiling just to the left of the main fireplace was made to investigate what remains of the historic hearth surround behind the current furring. A number of different sketches for the treatment of this surround exist; indicating more than one design was

contemplated. Historic photographs seem to indicate that none of the decorative schemes was ever installed. What is currently in place behind the furr-out is simply more wood panel treatment similar to the historic wainscot on the walls. Despite the extant collection of decorative study sketches, this corresponds with what is visible in historic photographs.

The dropped ceiling under the added west mezzanine obscures the upper part of the Fireplace Surround. The photo on the right shows what remains above the ceiling.



None of the ornate studies were ever carried out (sketches courtesy of the New York Historical Society)

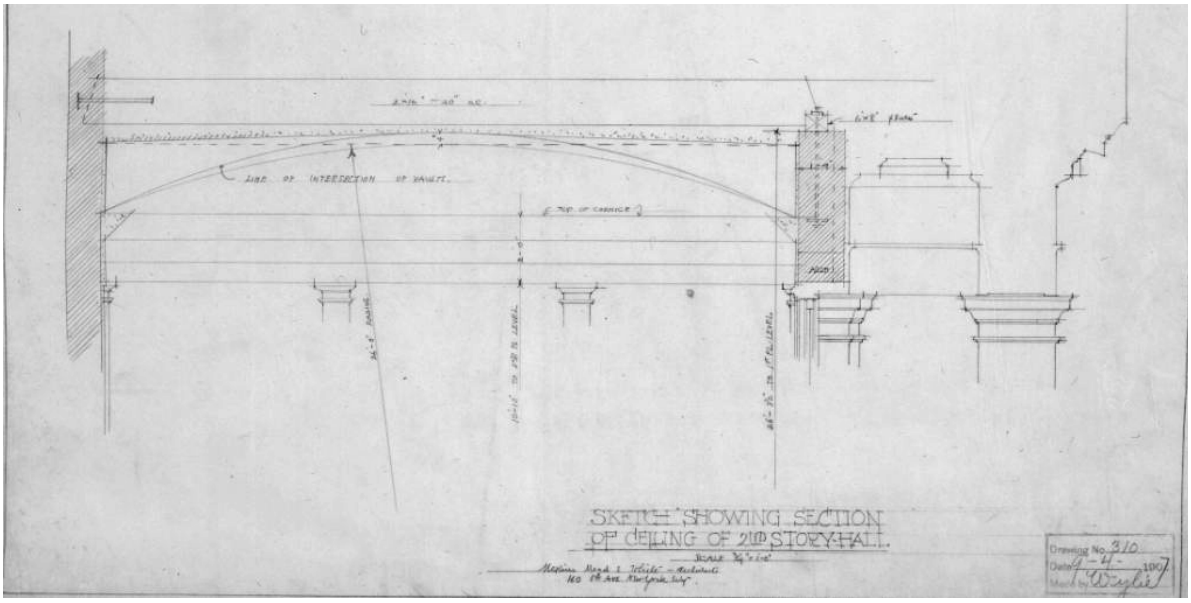
This photograph was published in the January 1910 of the Alumni Bulletin

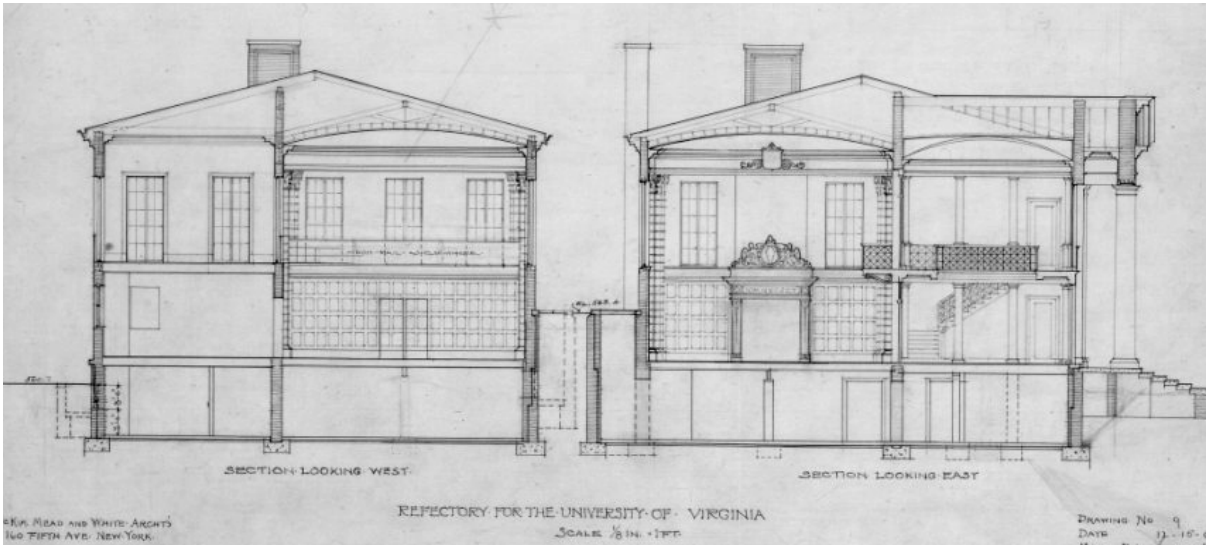
SECOND FLOOR

Although the dignity of the second floor spaces at the south side of the building has been largely lost by their subdivision into many smaller spaces and by the closing off of the interior windows to the Great Room, a surprising amount of historic evidence still exists. The combination of recently discovered original drawings and remnants of physical evidence still within the building reveal that the second floor originally had an elegance all its own.


Existing trim at the upper level of the entry lobby, note that the base is extended to a chair rail height

The central bay corresponding to the original open stair and upper lobby has a barrel-shaped ceiling which is still partially in place. It does not read well today because of the added partial height wall, but its structure is very visible from the attic and contrasts with the east and west ends where the second floor ceilings have been significantly dropped to create space for mechanical equipment and ductwork.



Historic drawings courtesy of the New York Historical Society

Original drawings indicate that the second floor rooms to the east and west of the central, vaulted bay had full height ceilings making them fairly grand spaces in their own right. Over the dropped ceiling of the west end room only the cornice form work is still in place, but buy lying on top of the attic joists at the east end we found a section of the original cornice and wall still in place. This remnant appears to still exhibit the original paint colors and wall glaze.

Southeast corner office at the Second Floor

Space above the southwest corner offices

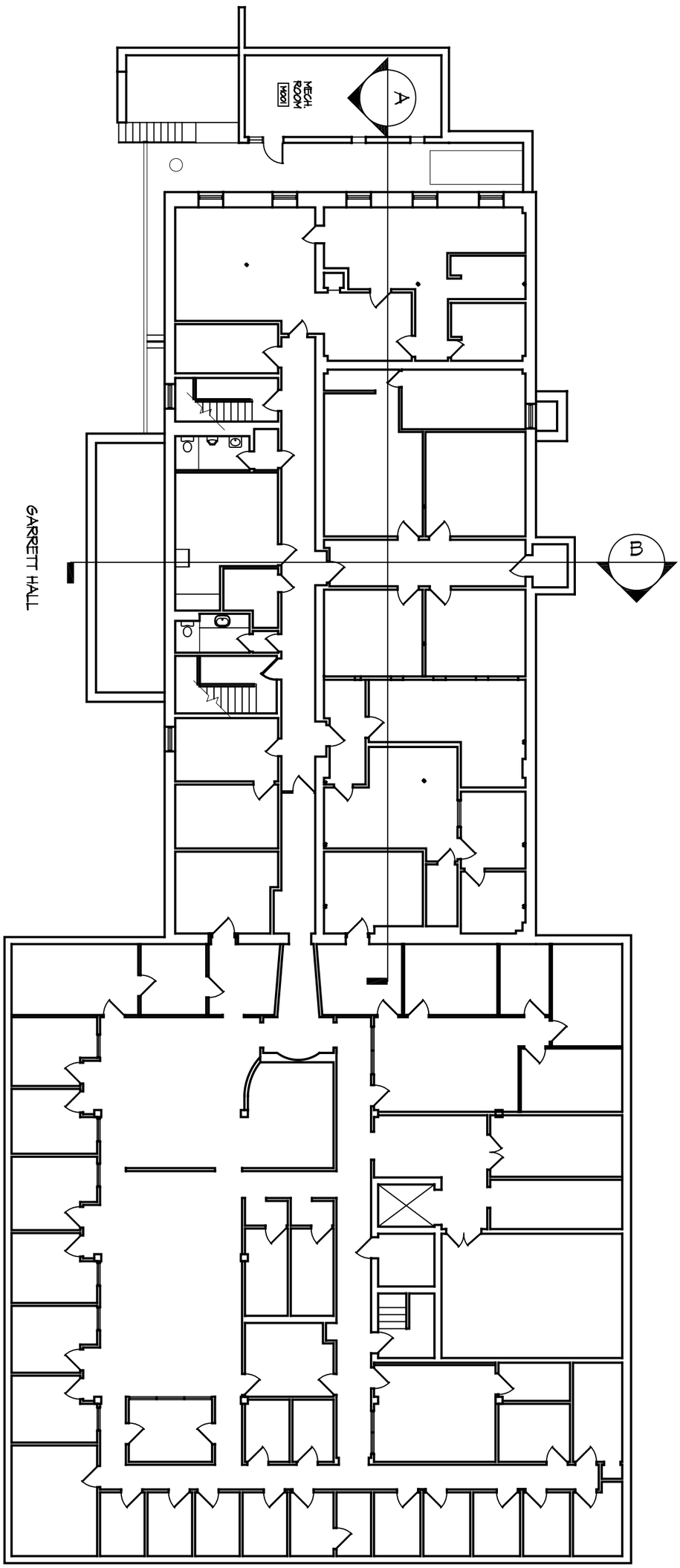
Form work for the historic plaster cornice above the now dropped ceiling over the southwest corner

Remnant of original second floor wall and plaster cornice above the southeast part of the building

All of the full height casement windows along the south wall and at the east and west ends of the south bay still have their full interior profiled trim. This is the same profile as that used on the historic interior doorways. Originally both end rooms and the central lobby with stair also had visual and auditory contact with the great dining hall through full height casement windows which have now been closed over on the south side of that wall. As is evident from the north side of that wall, these windows still exist and could be easily re-exposed on the south side. At that time evidence of the original dado should also be exposed.

The openness of the original east mezzanine overlooking the dining hall has been lost by its subdivision into three smaller offices with modern slab doors in a partial height wall. This can easily be removed and the space restored.

Finishes throughout the second floor are similar to those on the first floor, with carpet and resilient bases predominant and solid gypsum board ceilings in the office spaces.



KEY PLAN

0 2 4 8 16

JOHN MILNER ASSOCIATES, INC.
ARCHITECTS ■ ARCHEOLOGISTS ■ PLANNERS
5250 Cherokee Ave., Suite 300 Alexandria, VA 22312

STRUCTURAL ENGINEERING
ROBERT SILMAN ASSOCIATES, PLC
1053 31st Street, NW Washington, DC 20007

MECHANICAL/ELECTRICAL ENGINEER
2rw Consultants Inc.
100 10st Street NE, Suite 202, Charlottesville, VA 22902

DRAWING TITLE: KEY PLAN

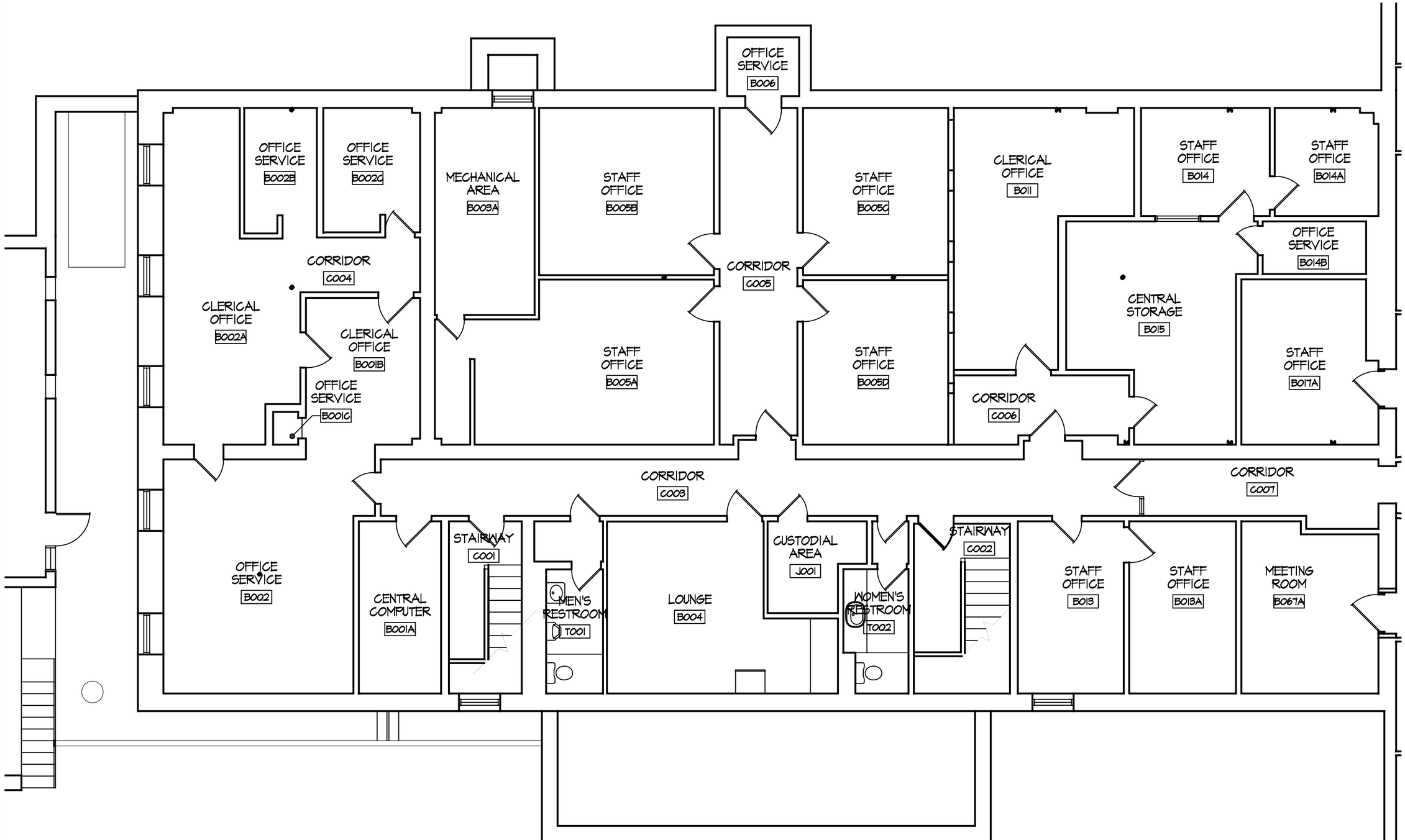
DRAWING NUMBER: A100

DATE: March 2008

SCALE: 1/16"=1'-0"

UNIVERSITY OF VIRGINIA

GARRETT HALL



BASEMENT FLOOR PLAN

UNIVERSITY OF VIRGINIA
GARRETT HALL

DRAWING TITLE: BASEMENT FLOOR PLAN
DRAWING NUMBER: A101
SCALE: 1/8"=1'-0"
DATE: March 2008

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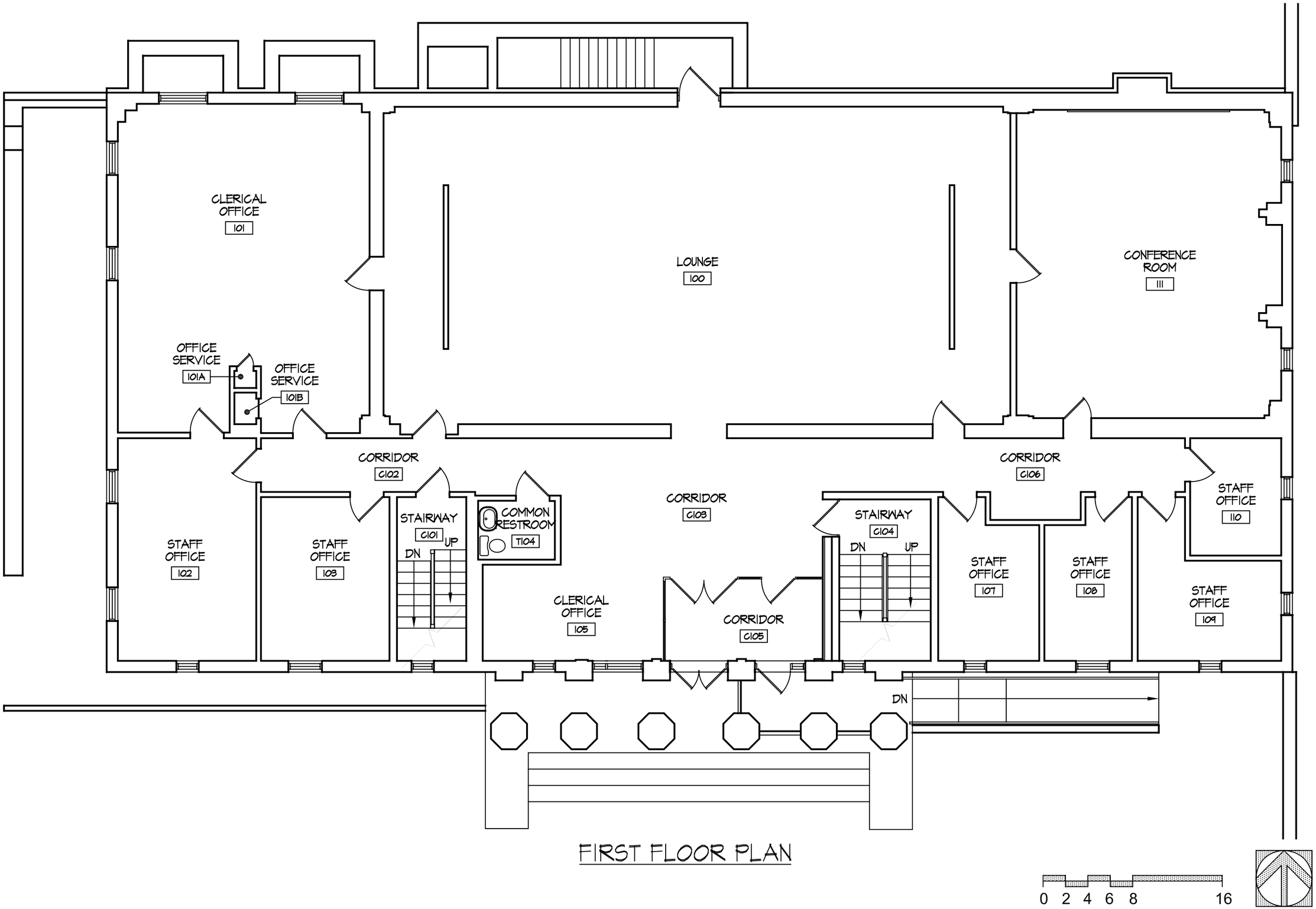
ARCHITECTS ▪ ARCHEOLOGISTS ▪ PLANNERS
5250 Cherokee Ave., Suite 300 Alexandria, VA 22312

STRUCTURAL ENGINEERING
ROBERT SILMAN ASSOCIATES, PLC
1053 31st Street, NW Washington, DC 20007

MECHANICAL/ELECTRICAL ENGINEER
2rw Consultants Inc.
100 10st Street NE, Suite 202, Charlottesville, VA 22902



FIRST FLOOR PLAN

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DRAWING TITLE: FIRST FLOOR PLAN

DRAWING NUMBER: A102

SCALE: 1/8"=1'-0"

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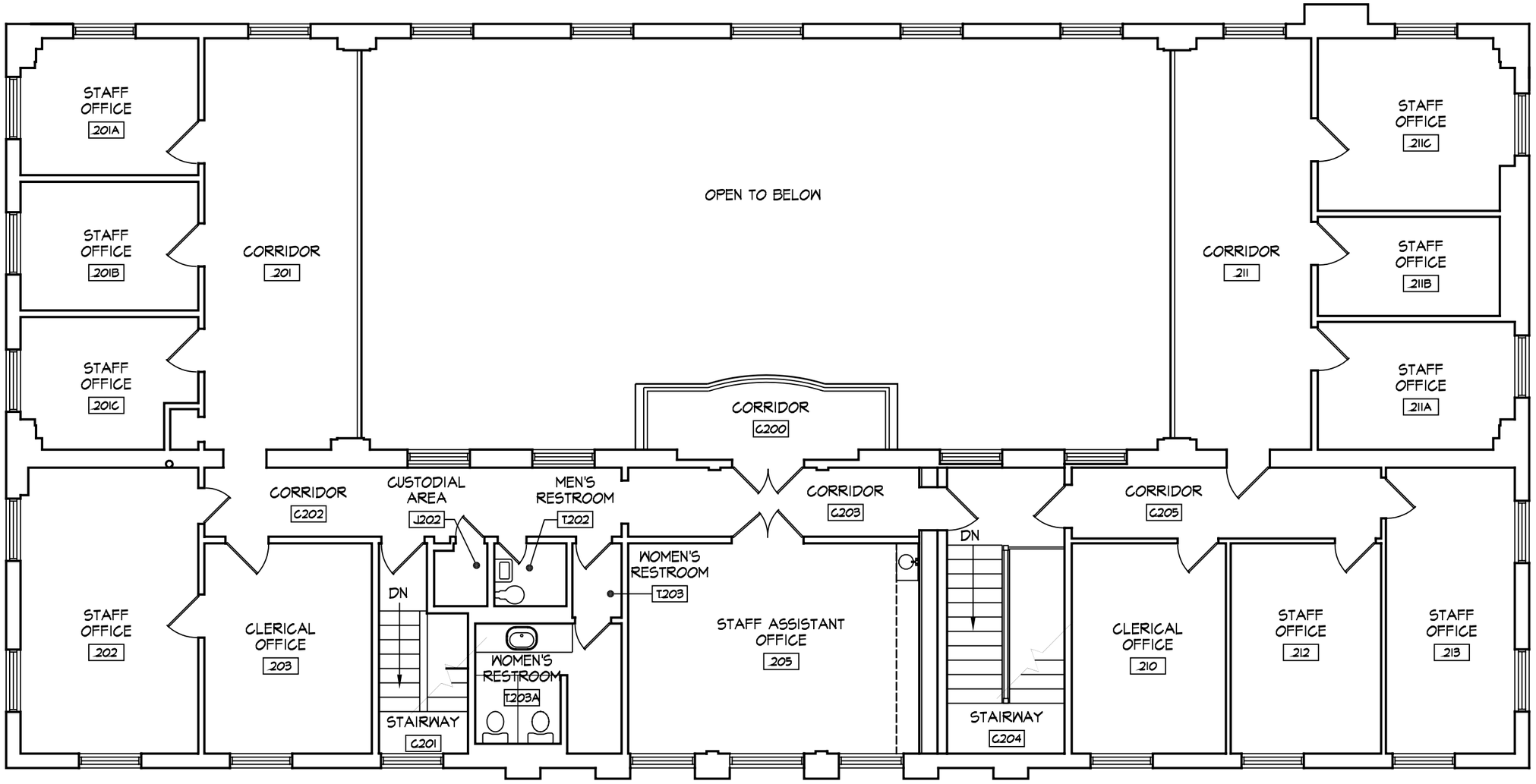
5250 Cherokee Ave., Suite 300 Alexandria, VA 22312

STRUCTURAL ENGINEERING
ROBERT SILMAN ASSOCIATES, PLC
1053 31st Street, NW Washington, DC 20007

MECHANICAL/ELECTRICAL ENGINEER
2rw Consultants Inc.
100 10st Street NE, Suite 202, Charlottesville, VA 22902



SECOND FLOOR PLAN

0 2 4 6 8 16

UNIVERSITY OF VIRGINIA
GARRETT HALL

DRAWING TITLE: SECOND FLOOR PLAN
DRAWING NUMBER: A103
SCALE: 1/8"=1'-0"
DATE: March 2008

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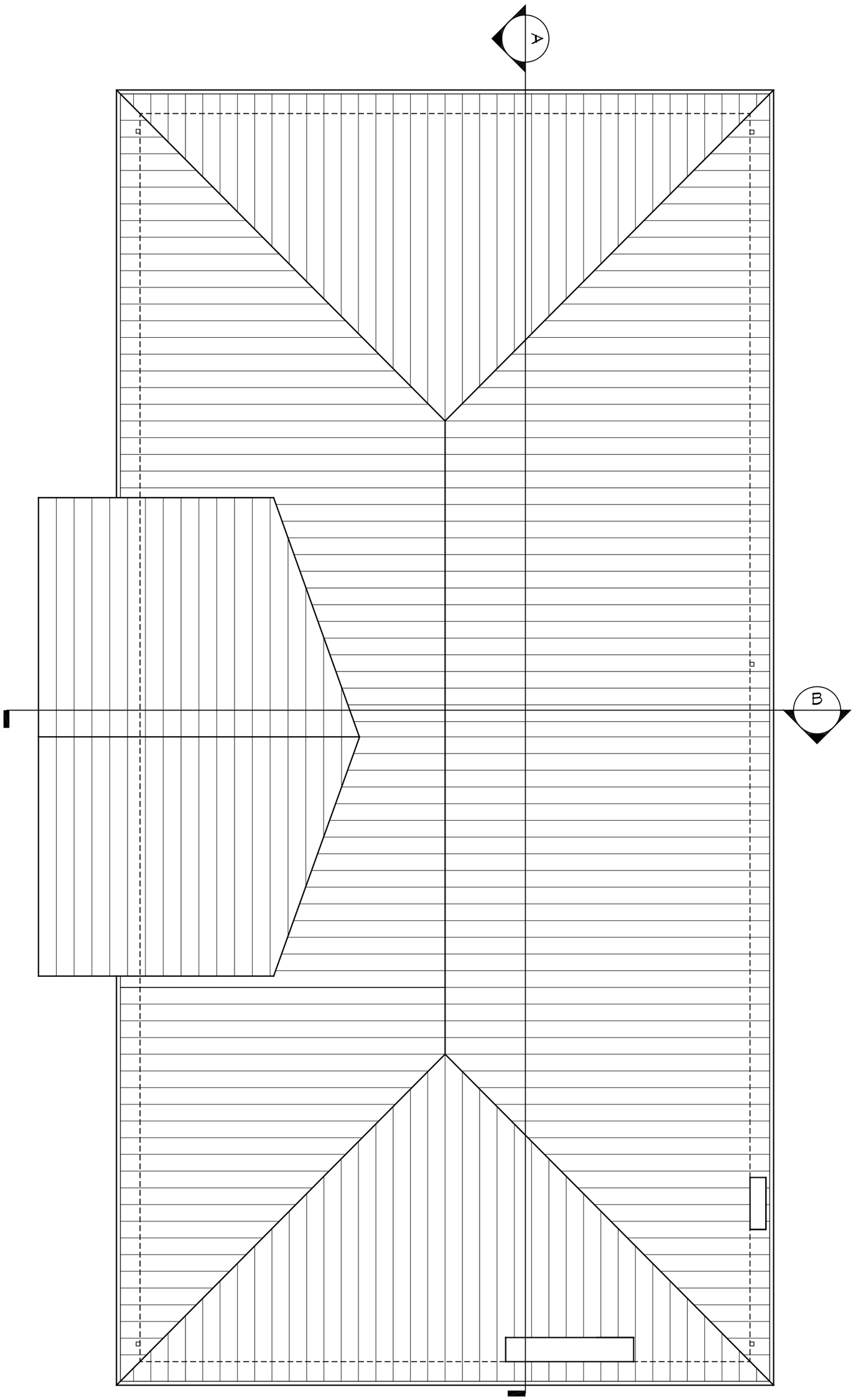
5250 Cherokee Ave., Suite 300 Alexandria, VA 22312

STRUCTURAL ENGINEERING
ROBERT SILMAN ASSOCIATES, PLC
1053 31st Street, NW Washington, DC 20007

MECHANICAL/ELECTRICAL ENGINEER
2TW Consultants Inc.
100 10st Street NE, Suite 202, Charlottesville, VA 22902



ROOF PLAN

0 2 4 6 8 16

JOHN MILNER ASSOCIATES, INC.
ARCHITECTS ■ ARCHEOLOGISTS ■ PLANNERS
5250 Cherokee Ave., Suite 300 Alexandria, VA 22312

STRUCTURAL ENGINEERING
ROBERT SILMAN ASSOCIATES, PLC
1053 31st Street, NW Washington, DC 20007

MECHANICAL/ELECTRICAL ENGINEER
2rw Consultants Inc.
100 10st Street NE, Suite 202, Charlottesville, VA 22902

DRAWING TITLE: ROOF PLAN

DRAWING NUMBER: A104

DATE: March 2008

SCALE: 1/8"=1'-0"

UNIVERSITY OF VIRGINIA

GARRETT HALL

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GARRETT HALL

SOUTH ELEVATION

0 2 4 6 8 16

JOHN MILNER ASSOCIATES, INC.
ARCHITECTS ■ ARCHEOLOGISTS ■ PLANNERS
5250 Cherokee Ave., Suite 300 Alexandria, VA 22312

STRUCTURAL ENGINEERING
ROBERT SILMAN ASSOCIATES, PLC
1053 31st Street, NW Washington, DC 20007

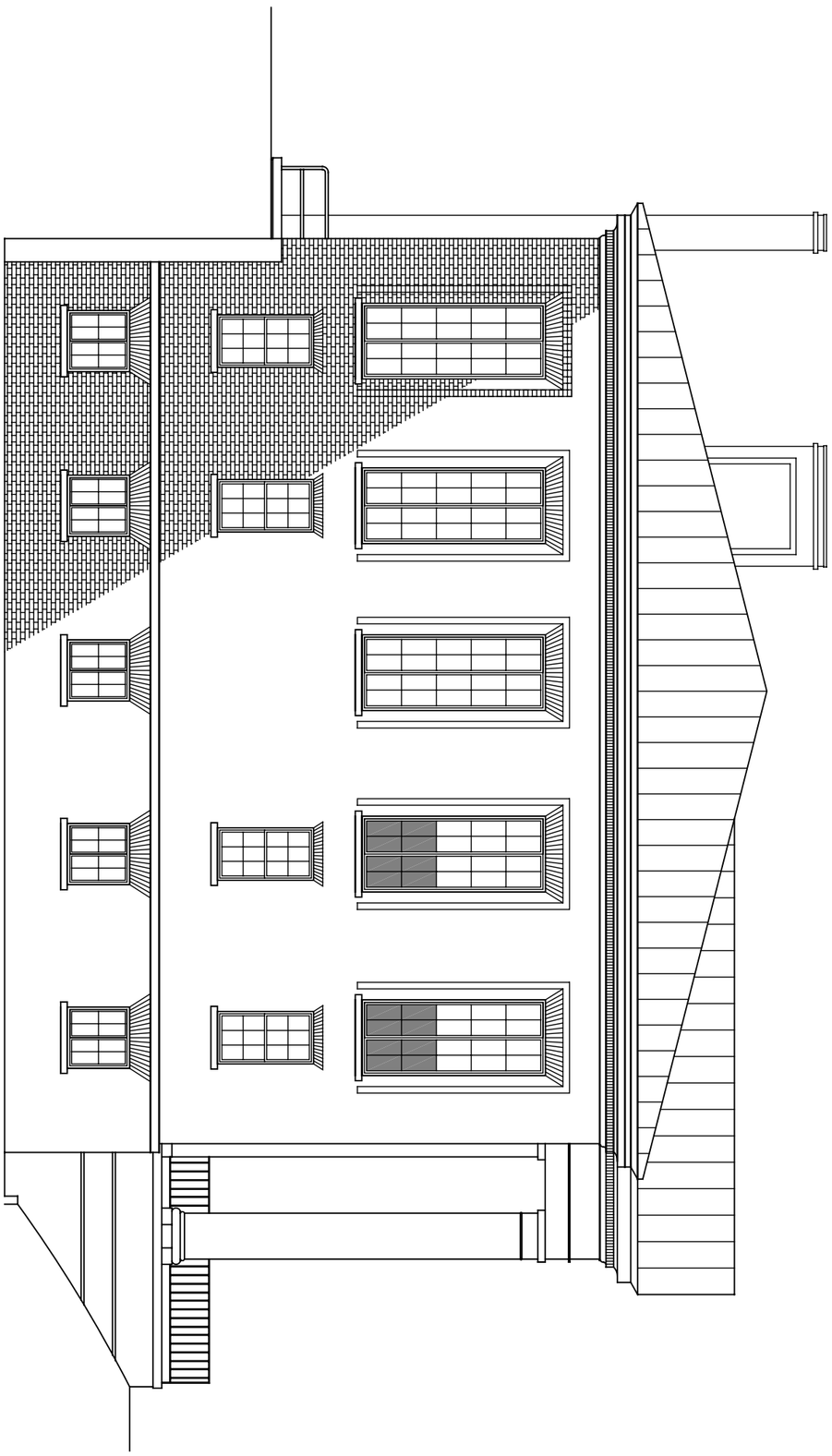
MECHANICAL/ELECTRICAL ENGINEER
2tw Consultants Inc.
100 10st Street NE, Suite 202, Charlottesville, VA 22902

DRAWING TITLE: SOUTH ELEVATION

DRAWING NUMBER: A201

DATE: March 2008

SCALE: 1/8"=1'-0"



WEST ELEVATION

0 2 4 8 16

JOHN MILNER ASSOCIATES, INC.
ARCHITECTS ■ ARCHEOLOGISTS ■ PLANNERS
5250 Cherokee Ave., Suite 300 Alexandria, VA 22312

STRUCTURAL ENGINEERING
ROBERT SILMAN ASSOCIATES, PLC
1053 31st Street, NW Washington, DC 20007

MECHANICAL/ELECTRICAL ENGINEER
2rw Consultants Inc.
100 10st Street NE, Suite 202, Charlottesville, VA 22902

DRAWING TITLE: WEST ELEVATION

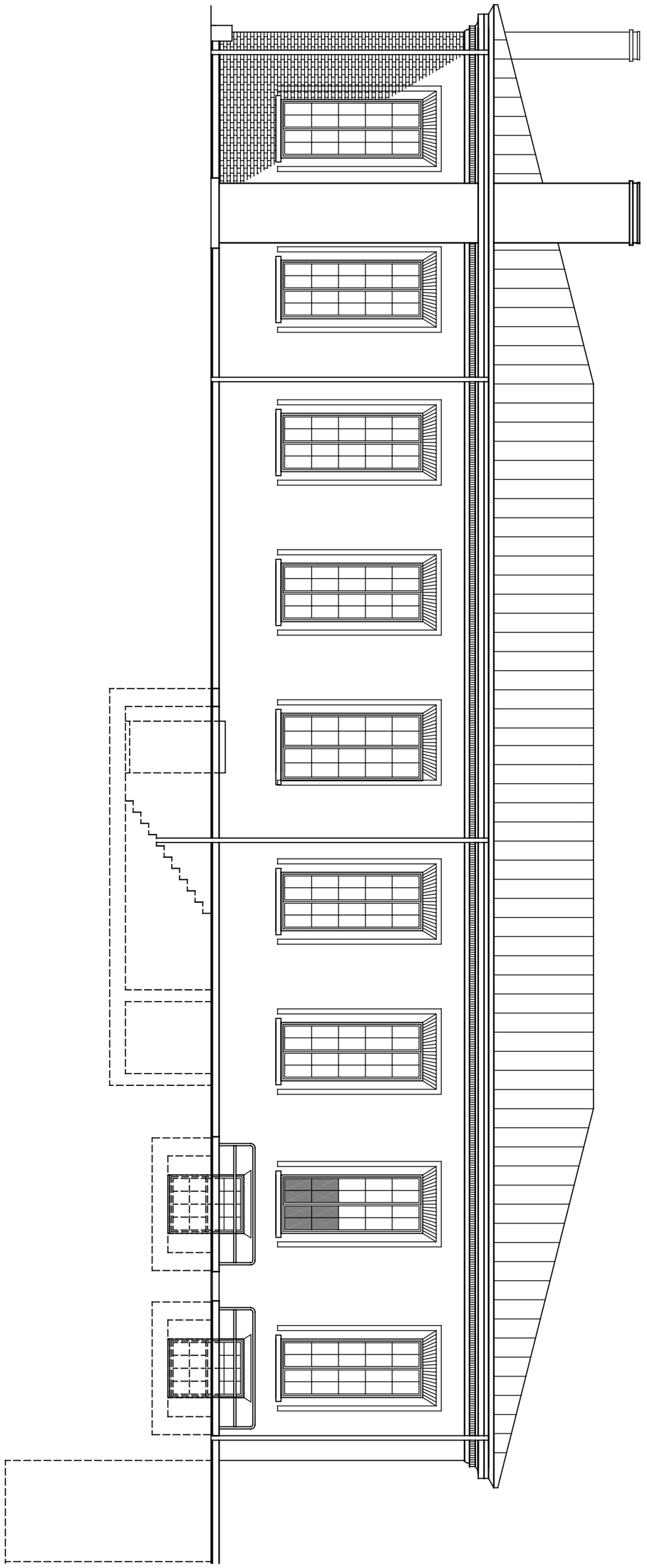
DRAWING NUMBER: A202

DATE: March 2008

SCALE: 1/8"=1'-0"

UNIVERSITY OF VIRGINIA

GARRETT HALL



NORTH ELEVATION

0 2 4 8 16

JOHN MILNER ASSOCIATES, INC.
ARCHITECTS ■ ARCHEOLOGISTS ■ PLANNERS
5250 Cherokee Ave., Suite 300 Alexandria, VA 22312

STRUCTURAL ENGINEERING
ROBERT SILMAN ASSOCIATES, PLC
1053 31st Street, NW Washington, DC 20007

MECHANICAL/ELECTRICAL ENGINEER
2rw Consultants Inc.
100 10st Street NE, Suite 202, Charlottesville, VA 22902

DRAWING TITLE: NORTH ELEVATION

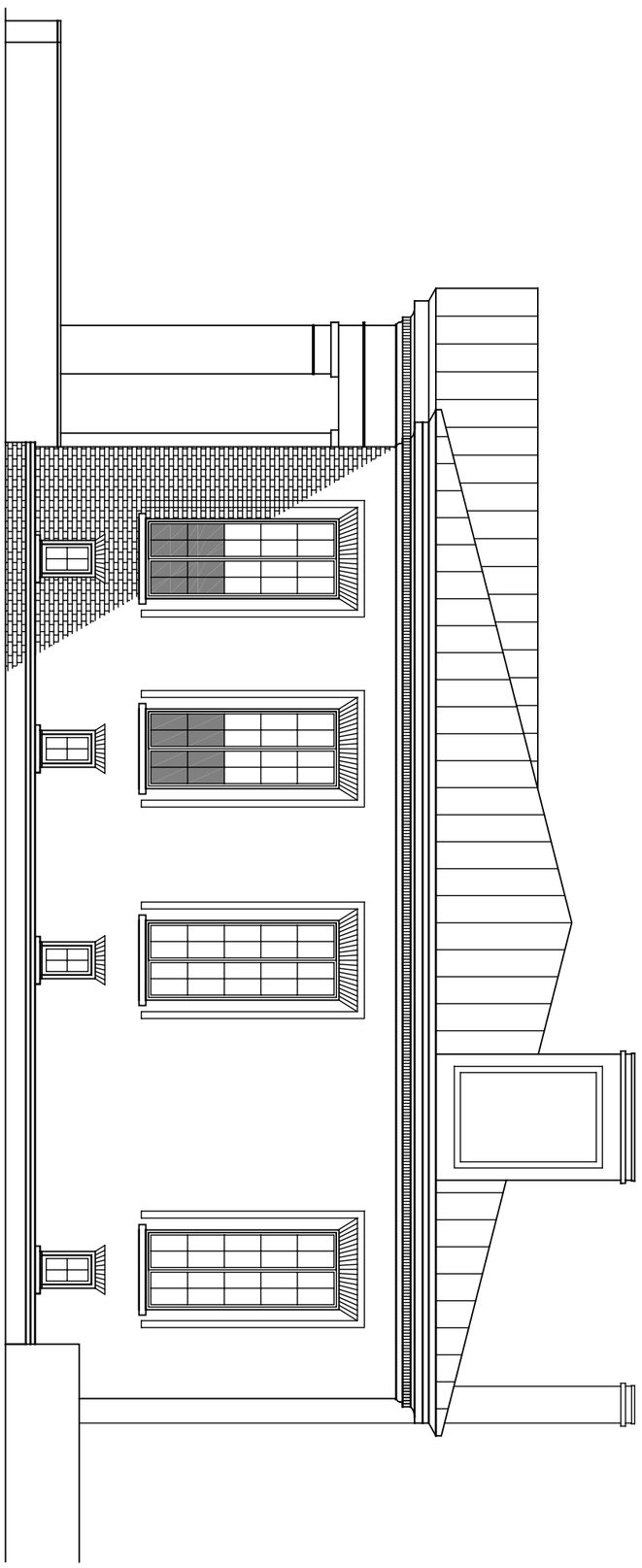
DRAWING NUMBER: A203

DATE: March 2008

SCALE: 1/8"=1'-0"

UNIVERSITY OF VIRGINIA

GARRETT HALL



EAST ELEVATION

0 2 4 6 8 16

JOHN MILNER ASSOCIATES, INC.
ARCHITECTS ■ ARCHEOLOGISTS ■ PLANNERS
5250 Cherokee Ave., Suite 300 Alexandria, VA 22312

STRUCTURAL ENGINEERING
ROBERT SILMAN ASSOCIATES, PLC
1053 31st Street, NW Washington, DC 20007

MECHANICAL/ELECTRICAL ENGINEER
2rw Consultants Inc.
100 10st Street NE, Suite 202, Charlottesville, VA 22902

DRAWING TITLE: EAST ELEVATION

DRAWING NUMBER: A204

DATE: March 2008

SCALE: 1/8"=1'-0"

UNIVERSITY OF VIRGINIA

GARRETT HALL

LONGITUDINAL SECTION (A)

(LOOKING SOUTH)

0 2 4 6 8 16

UNIVERSITY OF VIRGINIA

GARRETT HALL

DRAWING TITLE: LONGITUDINAL SECTION

DRAWING NUMBER: A301

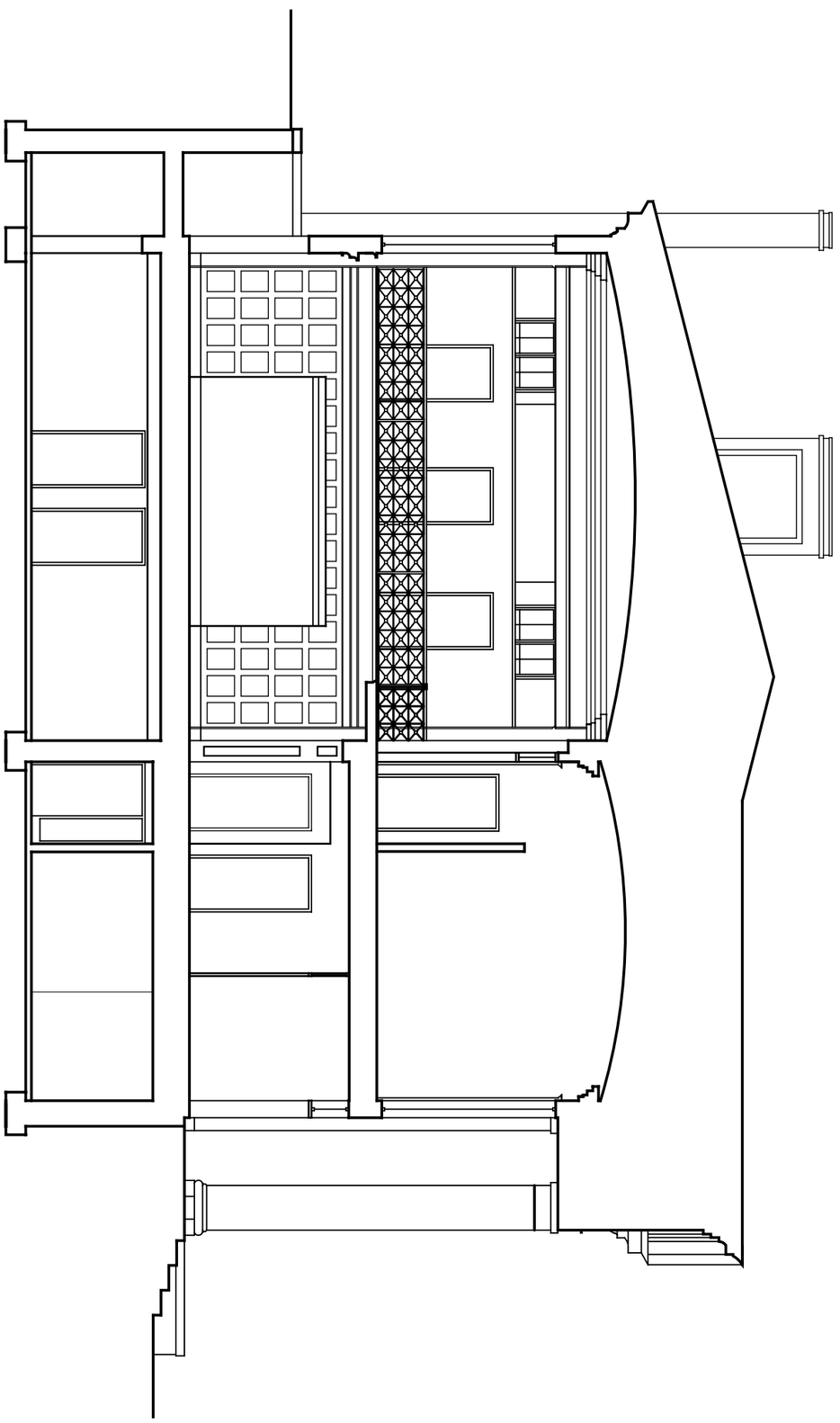
DATE: March 2008

SCALE: 1/8"=1'-0"

JOHN MILNER ASSOCIATES, INC.
ARCHITECTS ■ ARCHEOLOGISTS ■ PLANNERS
5250 Cherokee Ave., Suite 300 Alexandria, VA 22312

STRUCTURAL ENGINEERING
ROBERT SILMAN ASSOCIATES, PLC
1053 31st Street, NW Washington, DC 20007

MECHANICAL/ELECTRICAL ENGINEER
2rw Consultants Inc.
100 10st Street NE, Suite 202, Charlottesville, VA 22902



TRANSVERSE SECTION (B)

(LOOKING EAST)

0 2 4 8 16

JOHN MILNER ASSOCIATES, INC.
ARCHITECTS ■ ARCHEOLOGISTS ■ PLANNERS
5250 Cherokee Ave., Suite 300 Alexandria, VA 22312

STRUCTURAL ENGINEERING
ROBERT SILMAN ASSOCIATES, PLC
1053 31st Street, NW Washington, DC 20007

MECHANICAL/ELECTRICAL ENGINEER
2rw Consultants Inc.
100 10st Street NE, Suite 202, Charlottesville, VA 22902

DRAWING TITLE: TRANSVERSE SECTION

DRAWING NUMBER: A302

DATE: March 2008

SCALE: 1/8"=1'-0"

UNIVERSITY OF VIRGINIA

GARRETT HALL

STRUCTURAL

INTRODUCTION

Garrett Hall is classified in the University of Virginia's historic preservation framework plan as an essential historic resource (Figure 1). Garrett Hall is an unreinforced brick masonry building constructed in 1908 as a refectory, designed by McKim, Mead and White. The existing two storied structure is raised above a full-size occupied basement (Figure 2). The building framing consists primarily of wood-framed floors and roof. Some cast iron and early steel elements were used for columns, transfer girders below load-bearing walls, and an interior balcony. The building underwent a significant renovation in 1959 by Stainbeck & Scribner to transform the interior spaces into usable office spaces. Renovations included the localized replacement of wood floor framing with concrete slab and/or steel framing.

Figure 1 (left): Garrett Hall Main South Entrance
Figure 2 (right): Garrett Hall west wall

PROJECT SCOPE

Robert Silman Associates, PLLC (RSA), was retained by John Milner Associates to provide structural engineering services in the form of a structural condition assessment for Garrett Hall on the main campus of the University of Virginia in Charlottesville. This assessment represents the structural portion of a Historic Structure Report. RSA visited the site on 12/3/2007, 12/17/2007 and 12/18/2007 to observe general conditions. Architectural drawings from John Milner Associates serve as background drawings for sketches. Original design drawings by McKim, Mead, and White (1907) as well as subsequent renovation drawings including those by Stainback & Scribner Architects (1959) were also provided.

Previous Forensic studies of Garrett Hall by RSA:

The north wall of the structure has exhibited deflection for many years. Consequently, the University has been monitoring the wall for a number of years. Until February 2006, only insignificant additional movement was observed; however, when the building was monitored in October 2006, the wall was found to have moved ¼" since the previous February. RSA was retained by the University to research and evaluate the wall displacement and make recommendations for repairs (the project documents are provided in the attached Appendix).

After an initial site investigation, RSA issued a field report on 12/22/2006 which detailed the observations and evaluated the movement of the north exterior wall. RSA noted the existing construction of the building to determine the gravity loads acting on the exterior load-bearing wall and to evaluate the ability of the first floor system to brace the wall laterally. The wall was analyzed under gravity loads as well as lateral loads in the form of wind loads and lateral soil pressure. RSA determined that the wall was overstressed due to the combination of lateral loads, as evidenced by the horizontal cracking in the masonry when the interior face of the wall was placed in tension. Vehicle surcharge load and vibration were ruled out as major contributors.

RSA provided recommendations for monitoring and reinforcement strategies to protect the historic structure and its inhabitants. Additionally, it was recommended that a subsurface geotechnical investigation be conducted to observe the waterproofing, insulation and drainage materials; determine soil characteristics (lateral earth pressures and allowable bearing) and to provide recommendations for reducing lateral earth pressures as an alternate to wall reinforcement.

After the soil investigation was completed, RSA provided a memorandum on 5/23/2007 reviewing the geotechnical report and detailing a proposed foundation wall reinforcement scheme. It was determined that wall reinforcement would be required since the lateral earth pressure could not be reduced to a sufficient level to alleviate the stresses in the existing wall.

Several reinforcement options were evaluated. These strategies included (1) a conventional solid concrete counterfort wall and (2) a series of beams supported by four concrete counterforts on a concrete mat. Both of these options were based on the preliminary assumption that the first floor diaphragm did not brace the wall adequately, but they proved to be quite massive. A third strategy which incorporated the floor diaphragm of the first floor to help resist the lateral loads was adopted. By utilizing the floor diaphragm, the concrete work of the wall reinforcement could be reduced to a reasonable size.
To date, the University has installed a ground surface cover to deflect water away from this area. Monitoring has continued to assure that no significant new movement is occurring. Long term, a reinforcement of this wall will be required, likely as part of upcoming modifications.

BASEMENT / FIRST FLOOR FRAMING (SSK-0 and SSK-1)

The structural framing as seen from within the basement spaces was found to correspond well to the existing drawings from the 1959 renovation. The first floor structure in the west end of the building was confirmed to be a 4½" concrete slab with no ceiling finish. The 1959 drawings detail the reinforcement of the one-way slab, including #5 (longitudinal) reinforcement bars in the direction of the span at 6½" (northwest bay) and at 8" (southwest bay). Additionally, #4 thermal and shrinkage reinforcement is indicated to be laid perpendicular to the span at 12½" (northwest bay) and 15" (southwest bay). The 4½" slab spans from the western exterior load-bearing masonry wall to an interior load-bearing masonry wall. The slab is intermediately supported by a single row of steel beams (12 WF 27) which span the length of the rooms. These beams are supported by 3½" outside diameter (o.d.) steel pipe columns with 6½"x8"x½" bearing plates (Figure 3). The drawings indicate that these posts bear on 2'-2"x2'-2"x11" concrete footings below. Insulated pipes (6" o.d.) run through these beams at a location near the wall. These web penetrations were reinforced in 1985. One 3"x4"x3/8" angle stiffens either side of each opening and on either side of the web (Figure 4).

Figure 3: Basement room, SW corner. Note 3½" pipe column & beam
Figure 4: Pipes run through stiffened web penetrations in steel beam.

Two pairs of smaller steel beams (W5x13) were added in 1981 to support a *Lektreiver*, a high density storage rack. These beams span from the west wall to the W12 mentioned above and are located approximately 5'4" apart.

Figure 5 shows the connection of one pair of W5's to the 12" beams. A crack spanning the width of the room was noted in the ceiling here about halfway between the pairs of W5x13 beams, as shown on SSK-1. The high density storage has since been removed.


Figure 5: W5 steel beams spanning from west wall to steel beam.
Figure 6: Plaster deterioration along exterior wall (both north and west)

Plaster deterioration was noted to be extensive in the northwest corner of the building. Moisture appears to be infiltrating the exterior masonry wall and damaging the brick and the plaster. Surface deterioration of concrete blocks also noted. The steel post at the north wall is also exhibiting corrosion at its interface with the exterior wall (Figure 7). Moisture is likely entering by rising damp and/or through the foundation wall which is below the exterior grade level. RSA recommends that this oxide formation (rust) should be removed and the post cleaned and painted with a rust inhibitor. At locations were corrosion has penetrated thru the wall of the pipe column, weld new steel patch. In addition, the moisture intrusion should be mitigated by providing adequate drainage on the exterior foundation wall.


Figure 7: Rust at steel post fully developed thru wall thickness,
also note plaster deterioration.
Figure 8: First floor joists, bridging, and diagonal subfloor boards

In the remainder of the building, the first floor framing consists of wood joists spanning north-south and spaced at 16" o.c. Figure 8 shows the typical first floor framing. Diagonal subfloor boards were also observed; this arrangement tends to offer greater stiffness than an orthogonal board layout for the floor diaphragm. In the northern portion of the building, the joists are 2"x11½" and span between masonry walls with an additional line of interior support. Per the 1907 drawings, this was originally a line of wood girders supported on masonry piers, but it was replaced with a row of 12 WF 31 steel girders supported on 3½" diameter steel pipe columns in the 1959 renovation. Steel posts and girders continue eastward along a central line of framing until the east masonry wall. Full-depth blocking between floor joists was observed at the steel girder while bridging occurs at their mid-span. Figure 9 shows the steel post in a basement office and the top plate is visible in Figure 10.


Figure 9: Steel post in basement office.
Figure 10: Close-up of post top plate

In the southern portion of the building, the joists are 3"x11¾", which matches the existing drawings. Figure 11 shows first floor framing as observed from the women's bathroom in the basement. This photo shows a significant notch in one of the joists to allow space for pipes. The notch measures 14" long by 7" deep and occurs near mid-span. No apparent adverse effects were observed related to the notching, such as excessive deflection or the propagation of cracks. Most likely, any adverse impact in the form of cracking was lessened by placing the notch at the compression (top) face rather than the tension (bottom) face of the member. RSA recommends that a sister be installed to reinforce the joist locally.

Figure 11: 1st floor framing from women's bath. Note notch in joist.

SECOND FLOOR FRAMING (SSK-2)

The northern portion of the building was originally a 2-story space with the exception of the northwest corner. At this location, the second floor is framed with 3"x14" wood joists spaced at 16" o.c. spanning east-west between load-bearing masonry walls.

During the 1959 renovation, the northeast corner was in filled at the second floor to mirror the northwest corner. Framing consists of steel bar joists spanning north-south between new steel

beams. These beams sit on wood stud walls at the first floor level, which are supported on steel beams directly below the first floor framing. These beams are supported in turn on steel posts that continue down into the basement and rest on concrete spread footings.

The southern portion of the second floor is framed with timber joists spanning north-south and indicated to be 3"x12" @ 16" o.c. per the historic documents. While RSA observed 3"x10" joists from a hatch in the common restroom (C104), this may represent a localized area of reduced joist depth.

A probe was made in the first floor Clerical Office (101) to expose second floor framing. Drawings from 1907 show a cast iron column used to support steel beams carrying a 12" masonry wall at the second floor level as well as wood floor framing to their south. To verify the existence of this column and confirm the framing, an opening was made to expose the top of the column and the bottom of the steel beams above (Figure 12).

Figure 12: Probe at cast iron column
Figure 13: Close-up of cast iron column and steel beams

This probe allowed limited access to measure second floor framing above the Staff Office (102), which was found to match the 1907 drawings at 3"x12". The floor joists were observed to be notched to fit between the steel beam flanges and bear on the bottom flange (see 1/SSK-4).

The 6" outside diameter column was found to support a pair of steel beams which span to the column from both east and west sides (see Detail 1/SSK-4). On the west side, (2) 10"x28# were exposed, measured, and found to match the original drawings. The paired beams framing in from the east side were not accessible, but are indicated on the drawings to be (2) 12" I x 31.5#. The increase in beam size corresponds to the greater span for the eastern beams. Figure 13 shows a close-up of the top of the cast iron column and the 10¾"x10¾"x1½" bearing plate which supports the steel beams.

The original floor plans showed a cantilevered balcony overlooking the historic dining hall and a "Hall" at the south central portion of the building with opening in the floor above the front corridor. The original framing plan and details indicated that the balcony and Hall were supported by ten (10) steel or wrought iron brackets which cantilevered out from eight (8) built-up steel columns, two at each side of the Hall. The northern posts supported both the balcony and the north side of the Hall. It is clear from the current floor plans that the columns at the east and west sides have since been removed below the second floor and that the floor opening has been in filled; however, there are no renovation drawings to indicate how the framing was modified. Therefore, a 12"x12" opening was cut into the ceiling of the front corridor (C108) to verify which original elements still exist as drawn and to learn as much as possible about how the area might have been reframed to accommodate the architectural changes.

Figure 14: Probe at front corridor ceiling (C108), viewed from below.
Note bottom flange of Hall north bracket.
Figure 15: Second floor Hall framing.

Figure 14Figures 14 and 15 show the exposed bracket still in place and now supporting the in filled floor. Forming the cantilevered brackets are two (2) 2½"x2"x5/16" steel angles attached to the 3/8" coped web plate with rivets. The brackets frame into posts made of 2-10"x15" steel channels placed back-to-back and connected with rivets to form an I-shape. Brackets occur on either side of the interior masonry wall and were found to match the 1907 drawings.

Figure 16 shows the ceiling framing added later below the bracket. Ceiling joists measure 1½"x5¼" @ 14" o.c. Two layers of 3/8" gypsum ceiling attach to these joists. Second floor joists in this area measure 1¾"x7" @ 12" o.c. Hangers (2x2) are used to attach the ceiling joists to the floor joists. See Detail 2 on SSK-4 for additional information. No additional information was found regarding the framing changes; however, all findings and assumptions and provided on SSK-2.

Figure 16: Ceiling and second floor framing at bracket.

ATTIC AND ROOF FRAMING (See SSK-3)

The roof is a hipped roof interrupted by a small gable over the south entrance portico. The attic is an unoccupied, unfinished space used mainly for mechanical distribution. The north and south sides of the roof are framed differently due to differing spans. The interior bearing wall is closer to the south wall than the north, causing the north side to require more substantial framing.

The roof framing consists of timber rafters supported by a ridge board or hip rafters at the high end and on a wood sill atop the exterior masonry walls at the base. Figure 17 shows the ridge board (2"x12" with a 1½"x7" sister) which spans east-west between the two sets of hip rafters, measuring

$2^{7}/_{8}$"x11½". Common rafters on the north side are spaced at 22"± o.c. and measure approximately 2"x6" with 2"x6" sisters connected with nails at 16" o.c.

These rafters have an additional support at mid-span, where a purlin spans between a series of roof trusses. The purlin is 6"x8" and has been sistered since the original construction. The trusses are typically type "Truss A" (see SSK-3 and 4) with type "Truss C" below the two ends of the roof ridge (Figure 17 & 18). Truss A is a King-Rod truss with a curved bottom chord supporting the joists for the original vaulted ceiling. The northeast and northwest corners have a different ceiling profile, discussed below. The ends of Truss A are pocketed into the north exterior and interior brick walls (see Figure 19). "Truss C" is also a King-Rod truss; however, the bottom chord is straight and there are two additional vertical tension rods at the truss quarter points. Figure 20 shows a portion of Truss form 'C' which, over the course of its life, has been outfitted with several reinforcement strategies.

Figure 17: View of attic and roof framing, facing east (Truss A at left).
Figure 18: Part of Truss C, northern partition of attic.

Figure 19: Truss 'A' top chord embedment in north load-bearing masonry wall beyond. Note timber hangers for suspended ceiling below.
Figure 20: Looking east at northern trusses 'A' and 'C'. Note ceiling Joists span between trusses and support plaster ceiling over Dining Hall (bottom). Trusses have been reinforced with sheathing boards. Additional modifications include installation of steel/iron tie rods (foreground) and diagonal braces (right).

To further reinforce the north side rafters near the purlin support point, a knee wall truss was built running in the east-west direction (Figure 21). A 5/8" diameter steel tie rod has been installed, connecting to the south rafter near the roof ridge and to the north rafter at the north eave as well as to the bottom of the knee wall truss, providing it vertical support. In addition, the knee wall has two

diagonal kickers in plane with the original trusses to stabilize it out-of-plane. This is shown in bold on section 3/SSK-4.

Figure 21: Knee wall truss, northern portion of attic.
Figure 22: Decorative plaster ceiling.

At the northeast and northwest corners of the building, decorative plaster ceilings hang from the attic framing (Figure 22). Ceiling joists in this area measure ¾"x5" at 19" o.c. with ¾"x3½" perpendicular nailers at 16" o.c. Metal lath and plaster are attached to this ceiling framing. Significant cracks were noted in the plaster ceiling, visible both from below and from above in the attic space (Figure 23). The primary crack originates at the north wall and proceeds in a southwesterly direction to the center of the plaster ceiling. This crack will likely require repair.

Figure 23: Crack as seen from attic space
Figure 24: Rafters framing into sill at top of western exterior masonry wall. Note varying levels of ceiling joists/framing.

At the west and east sides of the building, common rafters frame into hip rafters at the top and rest on a wood sill atop the exterior wall at the base. This condition is illustrated in Figures 24 and 25.

The south side of the roof is framed differently from the north side, as mentioned previously. Due to the shorter span, this framing was initially designed as a larger rafter (2"x10" @ 20" o.c. per original drawings) supported at the south end on the exterior wall and cantilevering over the interior bearing wall to meet the ridge at the north. In some locations, the interior wall stops below the original

2"x16" attic/ceiling joists and the rafter is supported by a post which sits on a sill supported by the joists. This is a changed condition from the original design documents which illustrated that the interior corridor wall was to extend upwards to the ridge line. In some areas, the ceiling joists are now buckling under the load from the posts above and the lack of lateral bracing (Fig. 26). A possible repair would be to install blocking and bridging along the ceiling joists and bottom chord of Truss 'B'.

Figure 25: Corridor load-bearing brick masonry wall (left) and western Exterior wall beyond. Note rafters spanning from hip rafter to sill plate, ceiling joists (left) and suspended plaster ceiling over Dining Hall (right).
Figure 26: Buckling ceiling joists (southern bay) at interior wall.

The roof framing on the south side was apparently found to be inadequate at some point in time, since additional wood members have been added between the original ceiling joists and rafters to create a truss. These modifications are illustrated in 3/SSK-4.

Figure 27: Hip rafter over Truss B in area above Staff Office 202.
Figure 28: Looking east at vaulted ceiling spanning southern bay, note two layers of ceiling joists.

In addition to the original rafters, three trusses of type "Truss B" also exist in the southern attic space. Two occur below the hip rafters and another to the west of the portico roof (see Figure 27). These have flat bottom chords and the rafter is truncated where the trusses intersect with the hips.

On the southern side, the central bay above the original hall has a vaulted ceiling. In the adjacent spaces, a secondary (low) flat ceiling has been installed below the original ceiling joist (see Figure 28). This is hung from the original (high) ceiling joists with wood hangers (Figure 29). The space between these ceilings is currently used for mechanical equipment and distribution systems (Figure 30).

Also visible in the upper right corner of Figure 30 are secondary wood members for ceiling attachment at the interface of historic ceiling framing and masonry wall.

Figure 29: Hangers connect upper and lower ceiling joists.
Figure 30: Mechanical unit between layers of old and new ceiling joists.

The ceiling framing, shown in Figure 31, changes as it crosses over the CMU wall defining the stairway (C201). Over the stairway, the framing consists of small steel channels with wire lath and plaster. On the other side of the wall, ceiling joists are wood. The change may have been due to different periods of construction or due to differing fire rating and combustibility requirements over the stairway.

Figure 31: Change in ceiling framing over stairwell renovation.

Two localized areas of distress were noted at bearing conditions. At one location, attic joist bearing has been compromised due to fire damage and lack of blocking (Figure 32). This condition can be repaired by splicing on new joist ends and providing blocking at the bearing. At another location, a local loss of masonry has compromised a truss bearing (Figure 33). This condition can be repaired by rebuilding the masonry locally and providing blocking at the joist end.

Figure 32: Localized joist bearing deterioration due to fire. Note lack of bridging and locking.
Figure 33: Compromised truss bearing due to loss of masonry at interior corridor wall.

STRUCTURAL ANALYSIS: DESIGN CRITERIA

The structure was originally designed as a dining facility for the University of Virginia students and staff. It served as such until 1959, when this assembly type structure was augmented to serve a different role. At that time, the building use was realigned to serve as an office building which has been retained to the present day. With the reorganization of this space and use, the live load requirements also changed.

Live load, as distinguished from dead load which is the self weight of the building materials, is the allowable moveable loading which can be placed upon a floor. Generally, occupancy type has corresponding live load requirements as prescribed by the building code. Due to the current office occupancy, the public areas (lobbies and corridors) along the first floor should have a minimum live load capacity of 100 pounds per square foot (psf), while corridors above the first floor should have a capacity of 80 psf or greater. All stairs and exits are required to have a capacity of 100 psf or greater. It is RSA's understanding that the original dining hall serves primarily as a reading room, hence requiring a live load capacity of 60 psf. For the office spaces on all floors, not including record storage areas, a minimum live load capacity of 50 psf would be acceptable. However, if file storage is anticipated, a minimal capacity of 100 psf would be required.

Per code, the second floor interior balcony overlooking the dining hall would need a minimum live load capacity of 100 psf. The attic is currently uninhabitable and utilized for light storage and mechanical systems. Typically, in residential structures an allowable live load for this type of space would be 20 psf. Though not a residential structure, this value seems adequate for the current use, since the limited head height as well as the size and layout of the mechanical systems grossly limit usable space. The roof live load requirement was determined to be 20 psf, due to the shallow pitch of the roof profile and the small tributary area of each rafter.

The procedure for developing the allowable load capacity of each individual member is a two-part iterative process. First, the system is evaluated based on strength, utilizing the bending and shear design values for the material, as provided by the National Design Specification (NDS) for Wood Construction, AISC Steel Construction Manual, and ACI Building Code Compliance for Reinforced Concrete. The lower of the allowable live loads based on bending and shear governs. After this, a second set of calculations is conducted to review the deflection requirements. Deflection limits are governed by the nature of the finishes and the architectural elements attached to the structure, where sensitive or historic finishes such as the suspended plaster ceilings require more stringent deflection limits. Thus, two allowable live loads are determined, one for strength and the second for deflection

requirements. In this study, both values will be provided; however, the lesser of these two capacities will govern, as detailed below.

calculated live load capacity of structural members

The calculated allowable live loadings of the wood structure were determined utilizing the design values for Southern Pine #2 (F_b=1500 psi and F_v= 175 psi). Southern Pine was and still is heavily utilized in the region for wood framing. The calculated live load capacities of each floor system are detailed on the attached structural drawings. Typically, strength was the governing entity.

It should be noted that the public and office areas on the first and second floors are predominantly within the advised minimum live load requirements. However, at one localized area (lobby at the southern entrance) the deflection requirements reduced the live load capacity to 85 psf due to insufficient stiffness. This area would need to be stiffened to achieve the 100 psf minimum requirement. Another viable option would be to conduct wood species identification and grade testing to see if more refined numbers would allow the engineer to obtain higher design values. A wood specialist would be able to determine the species by obtaining a sample of the wood and grade the material by reviewing the joist and its knots. After the species and grade have been determined, the more refined design values can be reintegrated into the analysis. However, RSA did not observe any signs of structural deficiency and distress or deterioration to architectural finishes. This observation of successful past performance in combination with reasonably close mathematical results leads us to find this area to be structurally adequate assuming the use, and associate live load, are not increased. RSA does not recommend testing and or reinforcement at this time.

Localized areas which need to be examined in further detail include the second floor balcony and the second floor doubled 10"and 12" I beams bearing on the cast iron column below. The wood members framing into these beams have sufficient live load capacity for corridors and office space; however the steel beams were determined to be the limiting entity and reducing the overall floor capacity. This significant loading of these members derives from their support of 2nd floor framing and the 2nd floor masonry wall which in turn supports roof load. However, similar to above, no visual signs of structural deficiency and/or deterioration were noted. RSA recommends that further investigation into the behavior of these historic beams and balcony brackets be conducted as part of a future project, particularly if the use changes. However, no immediate action appears to be warranted.

10'–10⅞"
10'–10⅞"
14'–7⅛"
8'–9¼"
3'–10¼"
RISING DAMP ALONG INTERIOR PERIMETER
EXIST. BRICK MASONRY FDN. WALL (TYP.)
EXIST. CONC. WALL FTG. (TYP.)
1'–6" X 1'–0" CONC. FTG. (TYP. 4)
3'–0" X 1'–0" CONC. FTG. (TYP. 2)
2'–2" SQ. CONC. FTG.
19'–5¾"
8" C.M.U. LINER WALL ADDED IN 1959 RENOVATION
2'–7" SQ. CONC. FTG. (TYP. 3)
3½" STL. PIPE COL. (TYP.)
8" C.M.U. WALL (1959)
2'–2" SQ. CONC. FTG.
2'–4"X1'–0" CONC. FTG. (TYP. 2)
3½"ø PIPE COL. W/ 8"x6½"x½" B.P. ¾" BOLT HEADS
PORTICO FDN. (PER DWGS)
NORTH

NOTE: FRAMING SHOWN IS AS OBSERVED AT PROBES OR WHERE FINISHES WERE NOT PRESENT. THE REMAINDER OF THE STRUCTURE IS SHOWN BASED ON INFORMATION PROVIDED IN EXISTING DRAWINGS AND SOME ASSUMPTIONS.

1 / SSK–0 BASEMENT / FOUNDATION PLAN
SCALE: 1/8" = 1'–0"

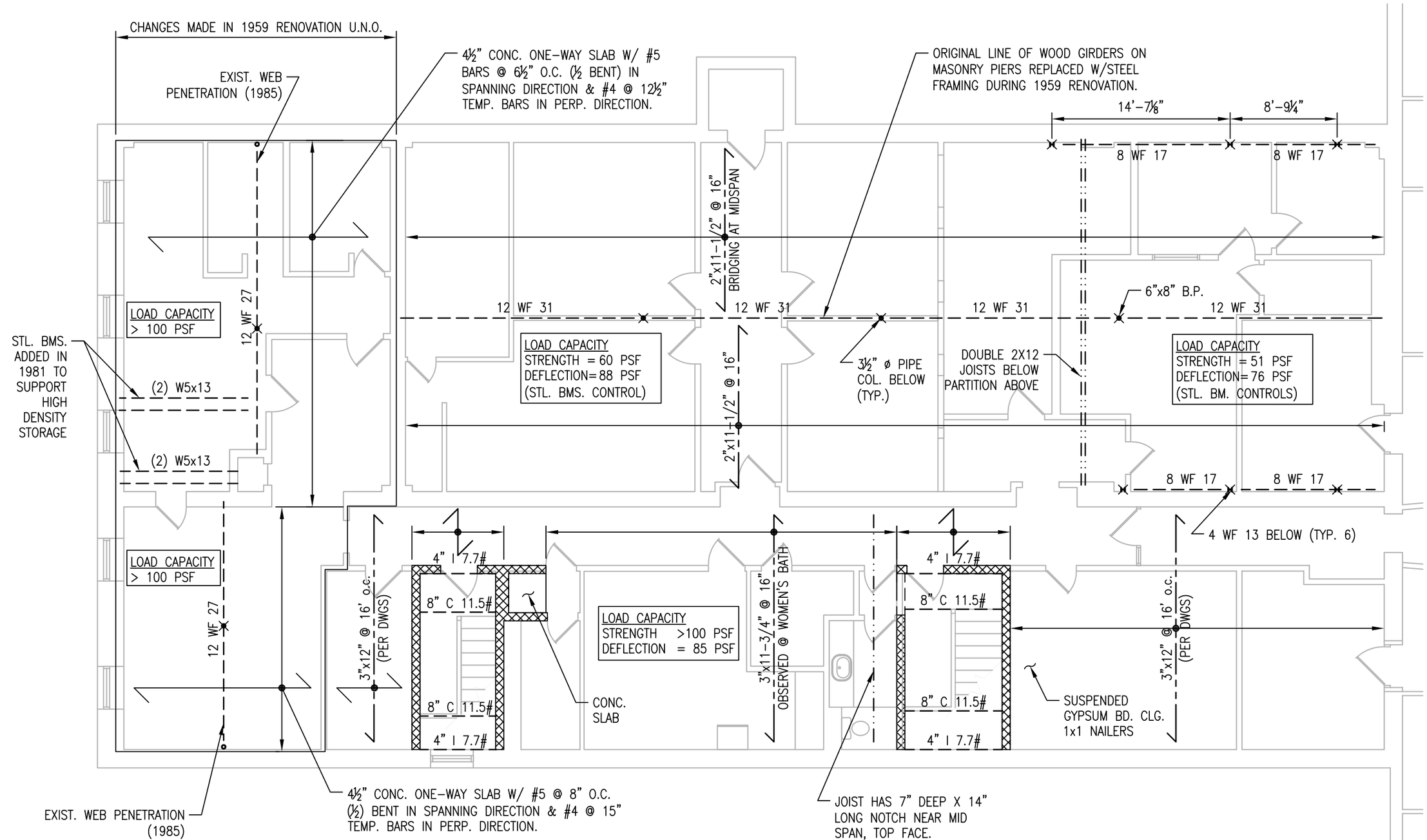
UNIVERSITY OF VIRGINIA
GARRETT HALL

DRAWING TITLE: BASEMENT / FOUNDATION PLAN
DRAWING NUMBER: SSK-0
SCALE: ⅛" = 1'-0"
DATE: 01.21.2008

JOHN MILNER ASSOCIATES, INC.
ARCHITECTS ■ ARCHEOLOGISTS ■ PLANNERS
5250 Cherokee Ave., Suite 300 Alexandria, VA 22312

STRUCTURAL ENGINEER
ROBERT SILMAN ASSOCIATES, PLLC
1053 31st Street, NW Washington, DC 20007

MECHANICAL/ELECTRICAL ENGINEER
2rw Consultants Inc.
100 10st Street NE, Suite 202, Charlottesville, VA 22902



NOTE: FRAMING SHOWN IS AS OBSERVED AT PROBES OR WHERE FINISHES WERE NOT PRESENT. THE REMAINDER OF THE STRUCTURE IS SHOWN BASED ON INFORMATION PROVIDED IN EXISTING DRAWINGS AND SOME ASSUMPTIONS.

FIRST FLOOR FRAMING ON BASEMENT PLAN

1 / SSK-1

SCALE: 1/8" = 1'-0"

UNIVERSITY OF VIRGINIA
GARRETT HALL

DRAWING TITLE: FIRST FLOOR FRAMING ON BASEMENT PLAN

DRAWING NUMBER: SSK-1

SCALE: ⅛" = 1'-0"

DATE: 01.21.2008

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ARCHITECTS ■ ARCHEOLOGISTS ■ PLANNERS
5250 Cherokee Ave., Suite 300 Alexandria, VA 22312

STRUCTURAL ENGINEER
ROBERT SILMAN ASSOCIATES, PLLC
1053 31st Street, NW Washington, DC 20007

MECHANICAL/ELECTRICAL ENGINEER
2rw Consultants Inc.
100 10st Street NE, Suite 202, Charlottesville, VA 22902

3x14 @ 16" (PER DWGS.)

LOAD CAPACITY
STRENGTH > 100 PSF
DEFLECTION> 100 PSF

1 / SSK-4

PROBE IN FIRST FLOOR CEILING BELOW.

SUSPENDED ACOUSTICAL CEILING BELOW PLASTER CEILING, TYP.

(2) 10"x25# I

(2) 12"x31.5# I

8 WF 17 OVER STUD WALL

DOUBLE 16S5 OPEN WEB STEEL JOIST (PER DWGS.)

16S5 @ 20 5/8" O.C. (PER DWGS.)

LOAD CAPACITY
STRENGTH= 74 PSF
(STEEL JOISTS GOVERN)

STEEL OR WROUGHT IRON BRACKET (TYP. 4)

(2) 10" X 15" C'S BELOW (TYP. 2)

CONT. 5" X 5/16" Z

5" X 9" C (TYP. 2)

10" X 15# C

PROBE IN CEILING BELOW

8 WF 17 OVER STUD WALL

2 / SSK-4

CMU LINTEL BELOW

8" C 11.5#

LOAD CAPACITY
STRENGTH > 100 PSF
DEFLECTION> 85 PSF

NOTE: DOUBLED STL. BMS. NEED FURTHER STUDY FOR CAPACITY

3"x11"@ 16" (OBSERVED FROM PROBE)

4" R.C. ONE-WAY SLAB W/ #4 @ 6½"

8" C 11.5#

DN

8" C 11.5#

4" I 7.7#

3"x10" @ 16" (OBSERVED FROM ENTRY BATH)

(ASSUMED)

2x10 @ 16" (ASSUMED)

DOUBLE WOOD GIRDER (ASSUMED)

(ASSUMED)

8" C 11.5#

DN UP

8" C 11.5#

4" I 7.7#

3"x12" @ 16" O.C. (PER DWGS.)

LOAD CAPACITY
STRENGTH > 100 PSF
DEFLECTION> 90 PSF

DN

STEEL COLUMNS AND STEEL OR WROUGHT IRON BRACKETS ASSUMED TO REMAIN

NOTE: FRAMING SHOWN IS AS OBSERVED AT PROBES OR WHERE FINISHES WERE NOT PRESENT. THE REMAINDER OF THE STRUCTURE IS SHOWN BASED ON INFORMATION PROVIDED IN EXISTING DRAWINGS AND SOME ASSUMPTIONS.

SECOND FLOOR FRAMING ON FIRST FLOOR PLAN

1 / SSK-2

SCALE: 1/8" = 1'-0"

NORTH

UNIVERSITY OF VIRGINIA
GARRETT HALL

DRAWING TITLE: SECOND FLOOR FRAMING PLAN ON FIRST FLOOR PLAN

DRAWING NUMBER: SSK-2

DATE: 01.21.2008

SCALE: 1/8" = 1'-0"

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ARCHITECTS ■ ARCHEOLOGISTS ■ PLANNERS
5250 Cherokee Ave., Suite 300 Alexandria, VA 22312

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ROBERT SILMAN ASSOCIATES, PLLC
1053 31st Street, NW Washington, DC 20007

MECHANICAL/ELECTRICAL ENGINEER
2rw Consultants Inc.
100 10st Street NE, Suite 202, Charlottesville, VA 22902

3
SSK-4

PERP. NAILERS
3/4"x3-1/2"@16" O.C.
METAL LATH & PLASTER

℄

TIE ROD SUPPORTS BELOW
KNEE WALL TRUSS @
ALTERNATING RAFTERS, TYP.

3"x12"

3/4"x5"@19"
CLG. JOISTS

73'-3¼"

TRUSS C

TRUSS A

2-1/4"x8-3/4" @ 20"
2"x6" SISTERS NAILED @ 16" O.C.

TRUSS A

OPEN TO BELOW

TRUSS A

PARALLEL
KNEE WALL
TRUSS

TRUSS C

TRUSS A

2-7/8"x11-1/2"

6"X8" PURLIN
W/ 1"X8¾"
SISTER

1-3/4"x6" @ 22"

1-1/2"x7" SISTER

℄
RIDGE

2"x12" RIDGE

BEARING WALL
BELOW

2"x4"
POST

TRUSS B

2-7/8"x11-1/2"

2"x7-1/2" @ 21"
CLG. JOISTS

TRUSS

2"X10" @ 20" (+/-)

DN

3"X12" VALLEY RAFTER
(PER DWGS)

3"X12" VALLEY RAFTER
(PER DWGS)

DN

TRUSS B

3"x12"

2"x6" @ 20" o.c.
(TYP., PER DWGS)

1"x2" NAILERS @ 16" O.C.
WOOD LATH & PLASTER

CLG. JOISTS
(LOW)

NOTE: FRAMING SHOWN IS AS OBSERVED AT PROBES OR WHERE FINISHES WERE NOTE PRESENT. THE REMAINDER OF THE STRUCTURE IS SHOWN BASED ON INFORMATION PROVIDED IN EXISTING DRAWINGS AND SOME ASSUMPTIONS.

ROOF FRAMING ON SECOND FLOOR PLAN

1
SSK-3
SCALE: 1/8" = 1'-0"

NORTH

UNIVERSITY OF VIRGINIA
GARRETT HALL

DRAWING TITLE: ROOF FRAMING ON SECOND FLOOR PLAN

DRAWING NUMBER: SSK-3

DATE: 01.21.2008

SCALE: 1/8" = 1'-0"

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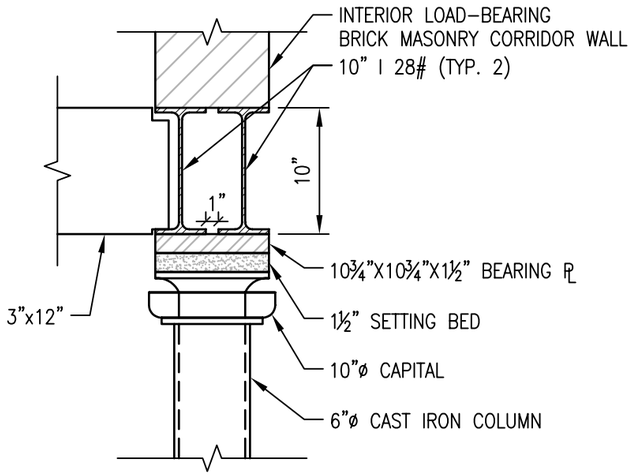
ARCHITECTS ■ ARCHEOLOGISTS ■ PLANNERS
5250 Cherokee Ave., Suite 300 Alexandria, VA 22312

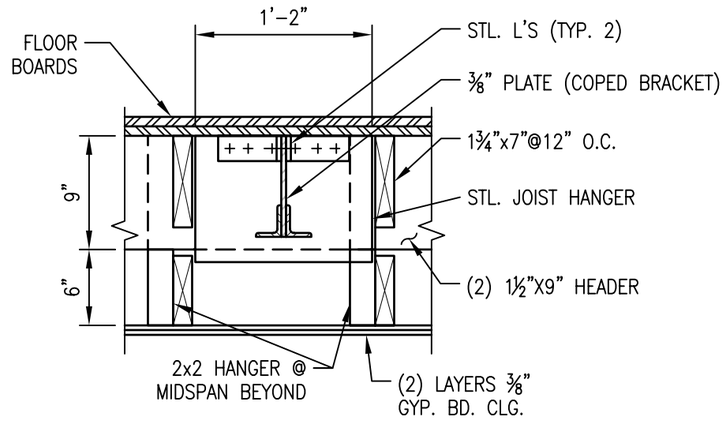
STRUCTURAL ENGINEER
ROBERT SILMAN ASSOCIATES, PLLC
1053 31st Street, NW Washington, DC 20007

MECHANICAL/ELECTRICAL ENGINEER
2rw Consultants Inc.
100 10st Street NE, Suite 202, Charlottesville, VA 22902



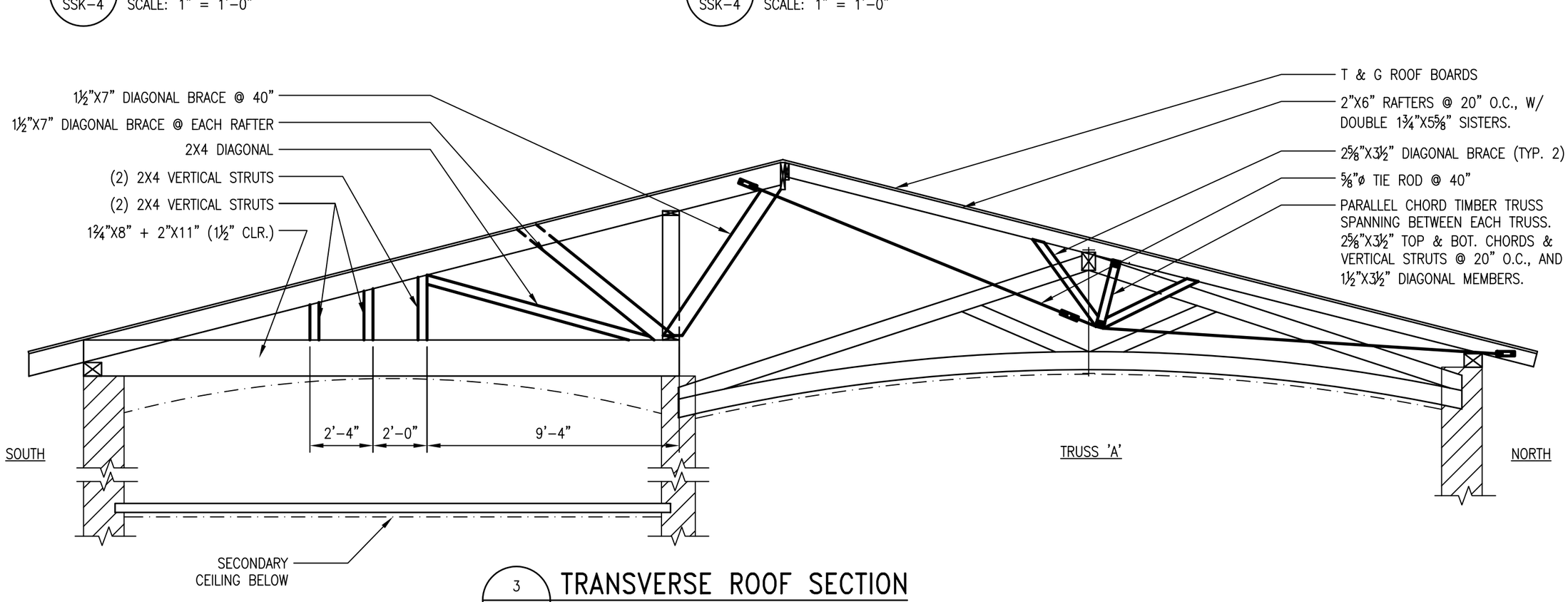
1 / SSK-4 **SECTION AT CAST IRON COLUMN**

SCALE: 1" = 1'-0"



2 / SSK-4 **SECTION AT BALCONY BRACKET**

SCALE: 1" = 1'-0"



3 / SSK-4 **TRANSVERSE ROOF SECTION**

SCALE: 1/4" = 1'-0"

UNIVERSITY OF VIRGINIA
GARRETT HALL

DRAWING TITLE: PROBE DETAILS
DRAWING NUMBER: SSK-4
SCALE: VARIES
DATE: 01.21.2008

JOHN MILNER ASSOCIATES, INC.
ARCHITECTS ■ ARCHEOLOGISTS ■ PLANNERS
5250 Cherokee Ave., Suite 300 Alexandria, VA 22312

STRUCTURAL ENGINEER
ROBERT SILMAN ASSOCIATES, PLLC
1053 31st Street, NW Washington, DC 20007

MECHANICAL/ELECTRICAL ENGINEER
2rw Consultants Inc.
100 10st Street NE, Suite 202, Charlottesville, VA 22902

BUILDING SYSTEMS

INTRODUCTION

The original Refectory building was naturally ventilated and heated only. Steam was generated by a coal-fired boiler and distributed to radiators on the first and second floors, and to food preparation equipment in the basement. Main steam piping was routed at the ceiling of the basement. The boiler breeching and an oven smoke pipe were routed vertically on the north side of the building. Central restroom facilities were located at the east end of the first floor and a toiler/locker room was located at the northwest corner in basement. The remainder of plumbing facilities supported the food service equipment. Some minimal electric lighting and switching was provided.

The first major alterations to the building systems appear to have occurred in the 1959 renovation for the Bursar's Office. At this time, the building systems were completely replaced. A vault-like addition was constructed outside and to the west of the building to house new central equipment, and two underground tunnels were constructed below the basement floor to accommodate cooling and heating water piping distribution. The new central heating and cooling plant consisted of two water-cooled chillers with a cooling tower, heating water supply from the campus distribution system, and associated pump. Chilled, heating and dual temperature water were distributed to new terminal units throughout the building. Terminal units consisted of an air handler to serve the basement, an air handler in the attic to serve the first and second floors, and fan coil units for individual spaces. Both air handlers provided 100% outside air. The basement air handler contained chilled and heating water coils; the attic air handler contained only a heating coil. The fan coils contained a single coil and received dual temperature water from the central plant. Individual restroom exhaust fans also were installed.

The original plumbing facilities were replaced with two individual restrooms and a janitor's closet in the basement, two individual restrooms and a janitor's closet at the second floor, and a drinking fountain at each level. A new electric domestic hot water was added.

The building electrical systems were completely replaced with new panels in the basement, power distribution to receptacles and equipment throughout the building, and new fluorescent lighting. A central telephone/intercom system also was installed.

In 1968 the annex addition was constructed. A new compressor-chiller with air-cooled condenser and chilled water pump was added to the existing mechanical room and chilled water piping was installed from the existing mechanical room to the annex through the existing pipe tunnel. The new chilled water equipment and piping was dedicated to a new air handler serving the annex. Steam was brought to the mechanical room in the annex from the campus steam tunnel, and piped to the new air handler and humidifiers. The air handler contained chilled water and steam heating coils and a humidifier, and provided cold and hot deck (dual duct) air supply to terminal mixing boxes. Outdoor air was introduced through a louver at the penthouse to the mixing box of the air handler. Duct

humidifiers were located in the mixed supply ducts of two terminal boxes. A main return air fan was installed in the mechanical room to pull air from the ceiling plenum and deliver it to the air handler or relieve it to the outdoors through a louver at the penthouse. The system was controlled by a pneumatic control system.

New restrooms were constructed in the core of the annex. New domestic water and sewer lines were brought into the building from the south side. An electric vertical storage type water heater was installed for domestic hot water.

New high voltage primary electrical lines were installed to a high-voltage switch and oil-filled transformers in the penthouse of the annex. Service from the transformers fed a switchboard located in the annex mechanical room via a bus duct. The switchboard fed several new sub-panels within the annex and a new panel in the existing mechanical vault. New lighting was predominantly fluorescent.

Fire sprinkler and alarm systems were installed in the annex at some point in time. It cannot be determined from record documents whether this was part of the original construction. It is evident they were installed before the 2002 renovation.

In 2002, the interior renovation of the annex was undertaken. Minor modifications were made to the fire sprinkler, HVAC, lighting, power and fire alarm systems.

Major replacement of central mechanical equipment was undertaken in 2003. This included removal of the existing chillers, cooler tower, air-cooled condenser, pumps, controls air compressor and piping within the main mechanical room. New equipment included a plate-and-frame heat exchanger for chilled water, shell-and-tube heat exchanger for heating water, chilled water pump, lead-lag dual-temperature water pumps with variable frequency drives, controls air compressor, and piping within the mechanical room. New chilled water piping and controls were added to the basement air handler. A direct digital control system was installed and is monitored by Systems Control.

At some point in time, several notable equipment replacements or additions were implemented. A central IT closet was installed in the basement to serve Garrett Hall and other surrounding buildings. A separate direct-expansion split air conditioning system, electrical panel and Halon fire extinguishing system were installed to serve this room. A service disconnect and feeder to Hotel E was added. The panels in the main building were backfed from the switchboard in the annex. The original high voltage electrical switch and oil-filled transformers were replaced fairly recently. Emergency lighting units with integral batteries are installed throughout the main building and annex.

MPE SYSTEMS

Medium temperature hot water and steam are supplied from the Main Heating Plant and heating tunnels. Chilled water is supplied from the Central Grounds chilled water loop. Heating, ventilating and air conditioning equipment are comprised of the central equipment installed in 2003, air handlers and fan coils installed in 1959, and the annex air handler and terminal boxes installed in 1968. Cooling and heating piping within the building includes that installed in 1959 (main building), 1968 (annex construction), 2003 (mechanical room renovation) and the split air conditioning system (IT closet). Much of the hydronic piping is routed at the basement ceiling. Excluding the work undertaken in 2003, the systems have outlived their expected service lives and are in poor-fair condition and unsuitable to continue servicing the building should significant renovation occur.

The annex is protected by fire sprinkler and alarm systems in accordance with University guidelines, although the main building is not. The IT closet is protected by a Halon fire extinguishing system which no longer complies with EPA regulatory requirements for ozone-depleting substances. Future renovation of the main building should incorporate fire sprinkler and addressable alarm systems in compliance with University guidelines.

Water is supplied from the University water system. Plumbing systems are comprised of those installed in 1959 and 1968, with some minor modifications. These systems have outlived their useful life and do not meet current accessibility or water consumption standards and should be replaced.

Primary electrical distribution to Garrett Hall is from the Cavalier Substation. While the electrical systems appear to provide adequate service for the functions that take place in the building, some of the wiring and fixtures / equipment are antiquated and do not meet modern efficiency standards. Parts for some of the existing electrical panels are no longer manufactured. A considerable amount of exposed conduit is routed along the basement ceilings and walls, and surface raceways are installed along walls on other floors. Major renovations should include replacement of all electrical service and distribution equipment, wiring and lighting within the main building and annex. In addition, the high-voltage switch and transformers located in the annex penthouse are not in compliance with standard University installations, and given their location pose a challenge to any renovation. Consideration should be given to replacing this equipment with a pad-mounted high-voltage switch and transformer mounted exterior to the building. Such a new installation also could provide a dedicated service to Hotel E.

The IT room in the basement is a major node for the University – it serves approximately 25% of the campus. This hub is extremely important to the University and is a major consideration for renovating the building. This room should remain in its current location and expanded to allow for current and future needs. It currently does not have an emergency power source and is in dire need of backup power from an emergency generator.

RECOMMENDATIONS FOR FURTHER TESTING

SUMMARY OF RECOMMENDATIONS

In the existing conditions surveys above the following additional studies or testing have been identified for consideration, depending on the final scope of the renovation work:

- Paint & finish layer analyses
- Plaster Ceiling investigation
- Mortar analysis
- Identification of species and grade of existing wood framing members
- Structural load capacity testing in selective areas
- Scoping the sub-grade drainage system to identify its current working status

ADAPTIVE RE-USE RECOMMENDATIONS

ARCHITECTURAL RECOMMENDATIONS

APPROPRIATE TREATMENTS

It is our understanding that the intent of the Garrett Hall rehabilitation project will entail a combined philosophy. Because this building needs to continue to function as an administrative and academic facility the overall approach will be one of adaptive re-use. Nonetheless, if possible, the University would like to restore/retain as much of the original historic character as feasible while continuing to use it for these purposes.

Because a high level of historic information is available for this building, we believe that despite the many alterations, the historic character can be restored to as high a level as existing budgets and space use needs will allow. First and foremost the building should be rehabilitated to a structurally sound and water-tight condition. This includes remediation treatment to stabilize the north wall and eliminate drainage problems around the building, as well as all exterior building envelope repairs and a thorough rehabilitation of all the wood windows. The restoration of purely decorative historic features, such as the exterior window grills, would be highly recommended but this could be added at any time in the future.

At the interior of the building, the restoration of the two most public spaces, the two-story Entrance Hall and the Great Hall, should receive highest priority. If the renovation project includes the installation of a full fire suppression (sprinkler) system throughout the building, we believe the restoration of the main open stairway would be allowed. In combination with the restoration of the original main entrance fenestration and the open balcony around the upper hall, this will go a long way toward recreating the significance of the historic entry experience.

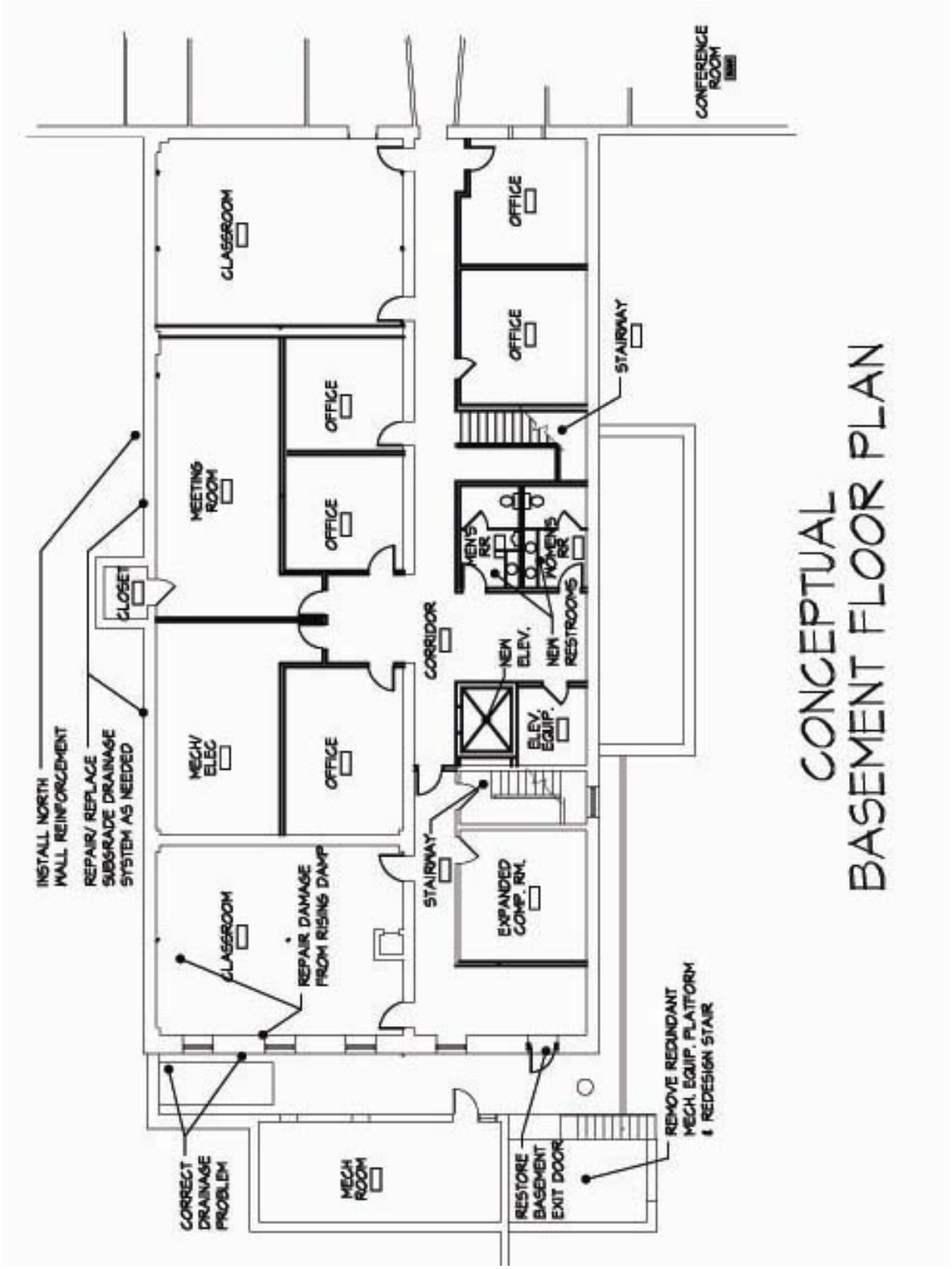
Removing the added east mezzanine to restore the open view of the fireplace, removing the added first floor windows and repairing the brick on the east wall, removing the partitions within the original (west) mezzanine and re-opening the clerestory windows along its whole south wall will restore the original spatial quality of the Great Hall. The historic chandeliers should be rehabilitated and new sconces to match those seen in early photographs installed along the north and south walls. All plaster and woodwork should be repaired, cleaned and refinished. The documentation and then replication of the historic paint scheme and wood finishes throughout the upper and lower Entrance Halls and the Great Hall would then bring these spaces very close to their original appearance.

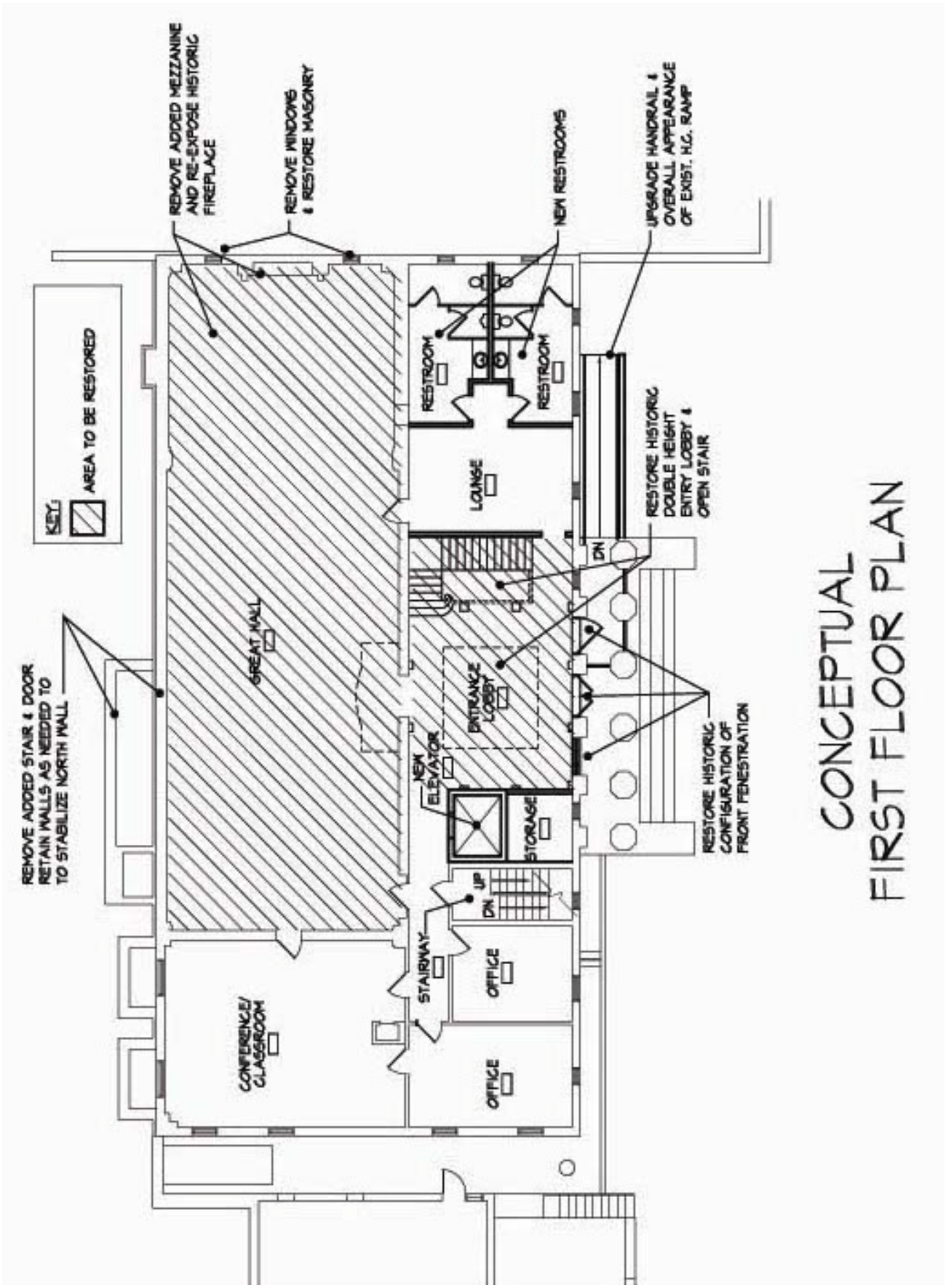
RE-USE OBJECTIVES

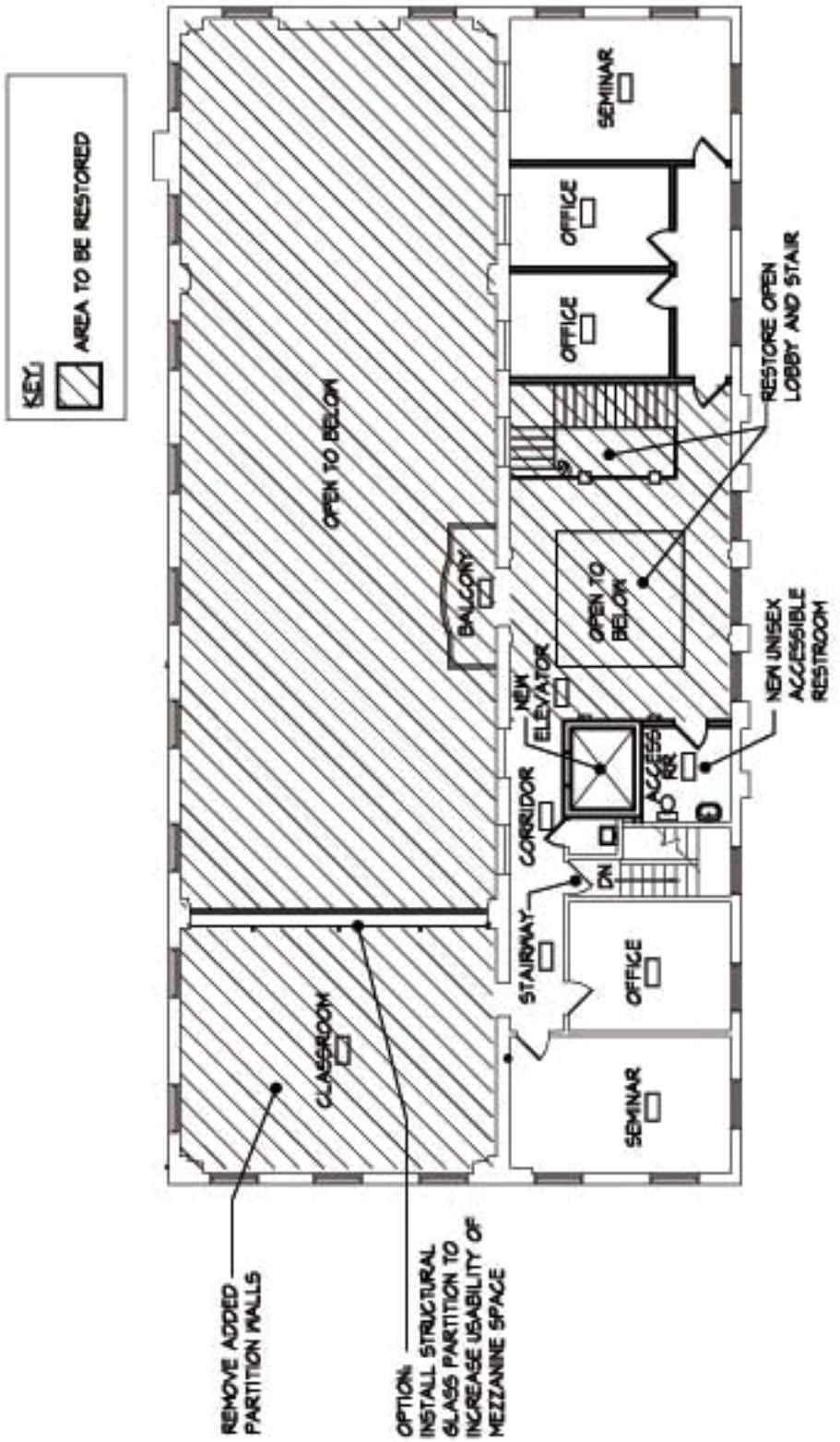
The level to which Garrett Hall is restored will depend not only on the available budget, but will also have to take into consideration the needs of the new tenant department. Several components will be required to bring the building up to current life safety and accessibility standards regardless of how it is used. At a minimum this will entail the

installation of an elevator, the restoration of a direct exit from the Basement level and all new restrooms, as well as the renewal of all building systems as outlined below.

The very schematic floor plans which follow show one way these up-grades could be achieved while still restoring the historic character of the Entrance Hall, the Open Stairway and the Great Hall. Satellite areas could be further subdivided or opened up depending on the final programmatic needs of the department. These basic layouts are meant to be generic and show a combination of office, meeting and classroom spaces.


CONCEPTUAL
BASEMENT FLOOR PLAN
CONFERENCE ROOM
CLASSROOM
OFFICE
OFFICE
OFFICE
STAIRWAY
MEETING ROOM
OFFICE
CLOSET
MEN'S RR
WOMEN'S RR
CORRIDOR
NEW ELEV.
NEW RESTROOMS
ELEV. EQUIP.
MECH/ ELEC
OFFICE
INSTALL NORTH WALL REINFORCEMENT
REPAIR/ REPLACE SUBGRADE DRAINAGE SYSTEM AS NEEDED
CLASSROOM
REPAIR DAMAGE FROM RISING DAMP
STAIRWAY
EXPANDED COMP. RM.
REMOVE REDUNDANT MECH. EQUIP. PLATFORM & REDESIGN STAIR
CORRECT DRAINAGE PROBLEM
MECH ROOM
RESTORE BASEMENT EXIT DOOR


CONCEPTUAL
FIRST FLOOR PLAN
KEY
AREA TO BE RESTORED
REMOVE ADDED MEZZANINE AND RE-EXPOSE HISTORIC FIREPLACE
REMOVE WINDOWS & RESTORE MASONRY
NEW RESTROOMS
UPGRADE HANDRAIL & OVERALL APPEARANCE OF EXIST. H.C. RAMP
RESTORE HISTORIC DOUBLE HEIGHT ENTRY LOBBY & OPEN STAIR
RESTORE HISTORIC CONFIGURATION OF FRONT FENESTRATION
REMOVE ADDED STAIR & DOOR RETAIN WALLS AS NEEDED TO TO STABILIZE NORTH WALL
RESTROOM
RESTROOM
LOUNGE
DN
GREAT HALL
ENTRANCE LOBBY
NEW ELEVATOR
STORAGE
UP
DN
STAIRWAY
OFFICE
OFFICE
CONFERENCE/ CLASSROOM



CONCEPTUAL
SECOND FLOOR PLAN

CODE & ACCESSIBILITY ISSUES

This study basically excludes any consideration of the Annex building and its effect on the extent to which Garrett Hall meets current code and accessibility requirements. Currently the Basement does not meet exiting requirements because of the length of dead end corridors. It does not appear that the ability to also exit through the Annex makes this condition any better as it too has many dead end corridors. Therefore this analysis treats Garrett Hall as though it were a free standing building for the purpose of code analysis. It should also be borne in mind that a future addition to this building would present other opportunities for meeting code and accessibility requirements.

As has been indicated in the building evaluations above, Garret Hall currently has many code and accessibility deficiencies. Our review of the International Existing Building Code indicates that this historic building will be able to meet the requirements of that code if all of this report's recommendations are incorporated into the renovation program. Of primary importance will be the installation of a fire suppression (sprinkler) system throughout the whole of the interior. This will allow certain of the historic features of the structure to be retained (e.g. longer exit corridors) and/or restored (e.g. the open stairway and two story entrance hall) which would not be allowed if required to achieve compliance with the International Building Code for new construction.

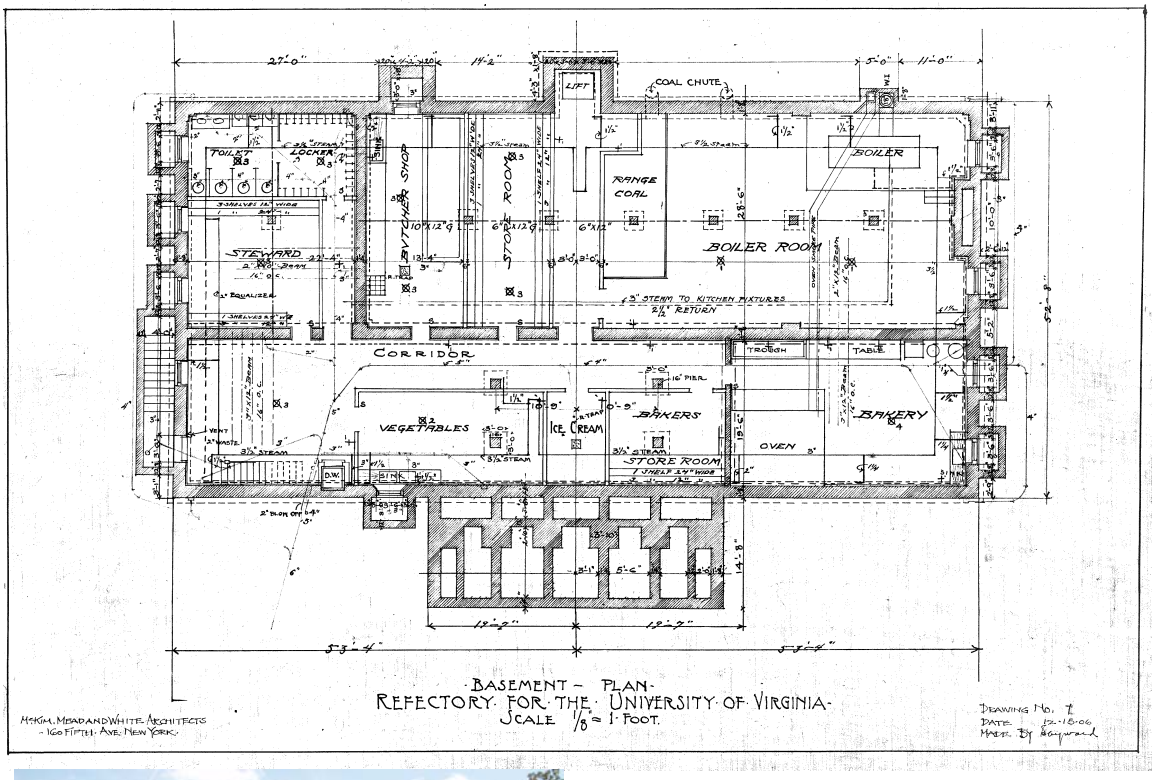
The existing ramp is an acceptable solution to achieving handicap access to the first floor of the building as it does not grossly impact the visual quality of the historic entrance façade. It could be cleaned up and a higher quality railing installed to improve its appearance.

Currently the first floor of Garrett Hall is accessible. The basement is technically accessible, but only if you enter through the Annex. The existing handicap ramp added at the front of the building is marginally acceptable. Depending on final site improvements and the University's available budget, up-grades to its appearance and slope may be desirable. Alternative solutions to achieving wheel chair access to the building might also be considered. This is especially true if improvements to the whole of the site surrounding this building will be included as part of this or subsequent projects. If and when an addition is designed it may provide further options as well.

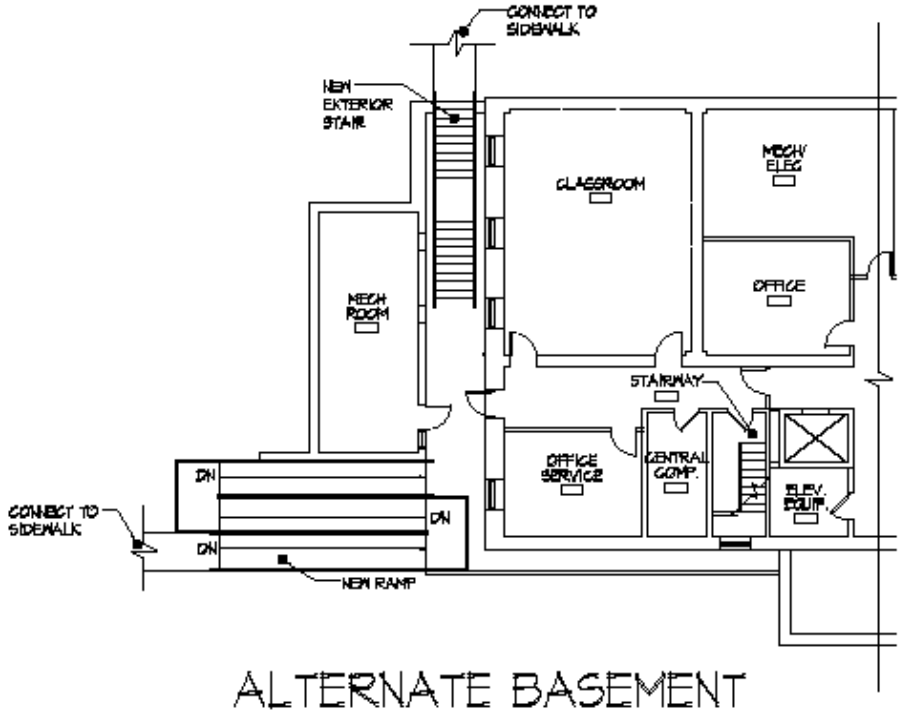
Historic photographs indicate that the west side of this site has had several different treatments over time. The current condition of this area is in critical need of improvement both to solve drainage problems and to up-grade its visual image. With the removal of concrete mechanical platforms no longer in use and the re-contouring of grades, it is possible that a new ramp could give immediate access from the street and sidewalk to a restored Basement entrance. Because a ramp in this location would slope down from the level of site sidewalks into the below-grade area-way at the west side of the building, it would not be visually intrusive to views of the historic structure. Another option would be to install a lift at this location.

We have observed a steady stream of students using the entrance which was added at the north wall of the building. As this opens directly into the Great Hall and was not part of the historic design, we recommend it be removed and the north wall restored to its original condition. As there appears to be an established circulation path from the north of Garret Hall, restoration of an exterior stair which gives access to the basement side entrance might be an option worth considering. Alternatively, depending on the solution chosen for the stabilization of the north building wall (see the following Structural Recommendations section), consideration could be given to creating a long areaway along the north wall which would include a ramp for handicap access leading to a new basement entrance at about the middle of the north wall.

This early photographs shows that a basement door exited at grade in a lowered well at the building's west side and a separate exterior stair at the north end of that well provided access to street level. This was either a very early change from its original construction (see original basement floor plan below) or the plans were changed during the original construction.



Existing pedestrian pathways should be re-designed to access the restored Basement entrance. If the redundant mechanical platforms were removed, this might include a new ramp or lift in this area.



ALTERNATE BASEMENT ACCESS PLAN

STRUCTURAL RECOMMENDATIONS

The intent of this structural report can be separated into two parts. The first goal is to assess the structure as it currently exists, providing recommendations for localized reinforcement/strengthening to repair any existing deteriorated structural members and to ensure that the structure meets current and proposed loading demands of the building. These recommendations are discussed in detail in Section 2 and are summarized briefly below.

The second goal is to evaluate the conceptual proposed modifications to the building and identify areas where new structural framing will be required or where existing structure will be affected. The conceptual diagrams provided to RSA show the following modifications that are significant in regards to the structure:

- A new elevator centrally located in the existing corridor
- Restoration of the open stairwell
- Restoration of the two-story lobby portions of the original structure.

Listed below is a comprehensive floor-by-floor summary of our structural recommendations for both the existing conditions assessment and the evaluation of the concept proposed modifications.

ROOF / ATTIC

As noted in detail above, localized repairs to assorted bearing conditions will be required. Also, localized strengthening of the existing ceiling framing will be needed to accommodate any new mechanical / electrical / plumbing (MEP) services. Where significant cracks in second floor ceilings below were observed, repairs should be made to the plaster and local reinforcement to the ceiling members should be considered.

SECOND FLOOR

The conceptual diagrams propose a new elevator centrally located in the existing corridor. This will require new floor penetrations with local framing modifications at all levels served, and any overrun requirements should be looked at carefully to determine if any framing above the highest level served will be affected.

Additionally, the proposed plan restores the two-story Entrance Hall in the central bay of the southern half of the building. The East Mezzanine construction, as previously noted, is supported by non-original steel and wood framing elements. To restore the Great Hall, the 1950 mezzanine additions can be removed at the second floor level. These removals include the second floor ceiling and floor framing members, and the load-bearing wood stud walls. The first floor framing and supporting structure must remain in their current

configuration in the basement, since the existing joists are no longer supported by the north exterior and interior corridor load-bearing masonry walls.

The concept plan also proposes to restore the original open stairwell. At this location, the investigation described in Section 2 above revealed that it was likely that four of the original supporting columns and attached brackets were removed in the course of a renovation. The recommendation was made to further investigate the framing in this area to determine how it was reframed when the central floor opening was in-filled. If, in fact, the four posts and associated framing were removed, as seems likely due to the fact that their support at the basement level was also removed, the area would require new steel framing at the second floor level.

As mentioned in Section 2, the steel transfer girders supporting the interior load-bearing brick wall at the west end of the building will need to be investigated in further detail to determine capacity and code compliance for current and proposed occupancies.

FIRST FLOOR

Localized strengthening (sistering) of existing joists is recommended at areas where joists were observed to have ill-advised notching for MEP access. An allowance for additional sistering should be included for unforeseen conditions. The repair for these joists can be implemented once a conceptual scheme has been selected as part of the new work.

Currently the walls of the exterior stairwell (providing access to the Great Hall) are serving as retaining walls which reduce the lateral soil pressure imposed on the overstressed north foundation wall. This stairwell and the associated first floor wall penetration are not original. If it is desired to return the structure to its original appearance by removing the stairwell then the north wall reinforcement would be required along the full length of the north wall system. One alternative structural scheme would be to create an areaway along the full length of the north wall. This areaway could provide an opportunity to bring natural light into the northern rooms of the basement, to improve access to the basement level through the addition of a ramped entrance, and to incorporate subsurface drainage to reduce moisture infiltration into the interior of the structure.

BASEMENT

RSA recommends that the existing steel pipe columns experiencing corrosion at the exterior wall and exhibiting loss of wall section be repaired as discussed in Section 2.

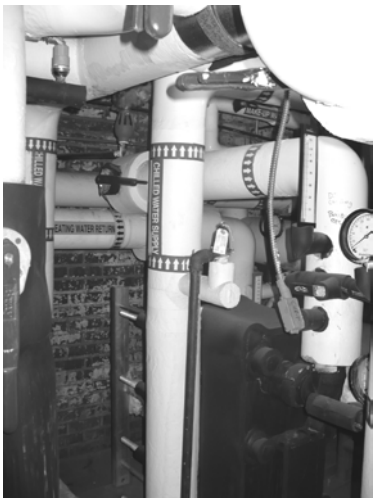
SYSTEMS RECOMMENDATIONS

HVAC

The current central equipment located in the main mechanical vault is in good condition and appropriate for serving the renovated building. The existing distribution systems (air handlers, unit ventilators, piping, ducts) have long-outlived their expected service lives and, by modern standards do not provide adequate temperature and humidity control for a historical building of academic institutional use. A comprehensive modernization of the HVAC systems throughout the building is recommended to provide more reliable space temperature and humidity conditioning with new equipment and materials, adequate outside air for occupants and service access for equipment, and rid the building of unsightly exposed mechanical equipment.

1. Rework of some piping and controls within the main mechanical room will be required.

CHW and MTHW mains in mechanical room



Heat exchanger in mechanical room

HW pump and variable frequency drives in mechanical room

2. Remove the air handler that serves the Basement. Remove air handler located above the east stairwell (originally intended to distribute conditioned outside air to occupied spaces, but is no longer functional). Remove associated ducts.

Air Handler in Basement

Air Handler above East Stairwell

3. Remove all heating / chilled and dual-temperature water piping throughout the building, excluding that in the main mechanical vault. Some of the piping within the building has ACM insulation, so asbestos abatement will be required.

HVAC piping at Basement air handler

HVAC piping at ceiling of Basement

4. Remove all unit ventilators on all floors and associated dual-temperature water piping.

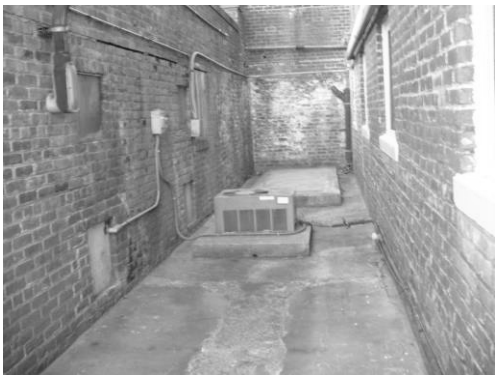
Unit ventilator in Main Hall

5. Remove all pneumatic controls for the HVAC system.

Air Compressor in main mechanical vault

Pneumatic control in main mechanical vault

6. Remove the split system air conditioner serving the IT closet.



Outdoor condensing unit for IT closet

7. Rework controls and piping within the main mechanical vault to accommodate a 4-pipe heating / chilled water piping distribution system throughout the building. Install a second (standby) base mounted pump with variable frequency drive for chilled water service (rated 168 gpm, 67 ft head, 5 hp).

8. Install 4-pipe heating / chilled water piping throughout the building to serve new air handlers and terminal units.

9. Install a new air handler (AH-1) with heating / chilled water coils and energy recovery module to serve the Basement. Estimated nominal rating of 4,000 cfm, 125 heating MBH, 10-ton cooling. Install new supply / return ducts to accommodate proposed partitioning. The air handler should be centrally located in the Basement, perhaps in the same location as the existing one.

10. Install a new air handler (AH-2) in the attic (perhaps above the east stairwell) to provide “temperature-neutral” outside air to the First and Second floors. Estimated nominal rating of 3,000 cfm, 250 heating MBH, 7.5-ton cooling. Install ducts receive pre-conditioned outside air and to distribute “temperature-neutral” air to individual rooms.

11. Install an air-to-air energy recovery unit in the attic to pre-condition outside air supply to air handler AH-2. Estimated nominal rating of 3,000 cfm supply, 2,500 cfm exhaust. Install ducts to receive exhaust air from the interior rooms, receive outside air from an intake louver, discharge air to an exhaust louver, and distribute pre-conditioned air to AH-2.

12. Install new air handler (AH-3) in the IT closet to serve this space. Nominal rating of 900 cfm, 3-ton cooling. Install ducts receive pre-conditioned outside air and to distribute “temperature-neutral” air to individual rooms.

13. Install new vertical fan coil units with heating & chilled water coils in individual rooms.

14. Install new electronic DDC control system for existing central mechanical room equipment and new equipment. System shall have capabilities for full programming and control, including but not limited to, occupancy scheduling, temperature setup / setback, optimized start / stop, outside air demand control, variable speed pumping, etc.

PLUMBING

The current plumbing systems have outlived their expected service lives and do not comply with current water consumption and accessibility standards.

1. The existing plumbing facilities should be removed – including fixtures, piping and water heater. Sub-slab drainage piping should be scoped with video equipment to evaluate its suitability for reuse in the renovation work.

Service sink in Basement

Water heater in Basement

2. Install new plumbing facilities as required to accommodate the building occupancy and comply with accessibility and water consumption standards. Water closets should be flush valve type with dual-flush operation or battery-operated automatic faucets with self-regenerating turbines. Urinals should be ultra-low flow type (pint) with battery-operated automatic faucets with self-regenerating turbines. Lavatories should utilize battery-operated automatic faucets with self-regenerating turbines. Service sinks in custodial closets should be floor mounted type, with wall mounted faucets, mop hangers, and hose. As much as possible, restrooms and custodial closets should be stacked to allow efficient pipe routing.

3. New waste piping could connect to existing sub-slab drain piping (assuming the existing piping is in good condition). Waste/vent piping should be cast iron. Water supply piping should be copper.

4. Install point-of-use or instantaneous electric water heaters at lavatories. Install small capacity (20 gallon) electric storage water heater to serve mop sinks.

5. Garrett Hall is not protected by a fire sprinkler system. It is the University's policy to protect buildings and their occupants from fire hazard, whether or not required by building codes. The renovation should include installation of a new fire service main and interior fire-protection sprinkler system to provide full coverage for the building. Since the attic above the second floor and main hall is unconditioned, a dry-pipe system may be desirable for protecting this level and the attic itself, since it is of wooden construction. Sprinkler piping should be concealed to the greatest extent possible, but may be exposed, at least partially, in the Basement. Concealed sprinkler heads should be used in historically sensitive and public spaces.

6. Remove Halon fire protection system for the IT closet and install new dry-chemical type fire protection system.

ELECTRICAL

While the electrical systems appear to provide adequate service for the functions that take place in the building, some of the wiring and fixtures / equipment are antiquated and do not meet modern efficiency standards. Parts for some of the panels are no longer manufactured. A considerable amount of exposed conduit is routed along the basement ceilings and walls, and surface raceways are installed along walls on other floors.

Wall switch in deteriorated wall

Outdated panel in Basement corridor

1. The existing electrical systems should be removed in their entirety.

2. Major renovations should include replacement of all electrical service and distribution equipment and wiring within the main building. New panels should be fed from the existing switchboard in the annex and located in the main mechanical room (200A to serve existing and new equipment loads), and on each floor level (200A to serve lighting, receptacle and equipment loads).

Chandeliers in Main Hall 100

Basement corridor

3. The existing IT room should remain in its present location in the Basement, and be expanded to create more space for IT equipment.

Underground conduits from IT closet into campus steam tunnel

4. A new generator will be installed to provide standby power for the equipment in the IT closet and circuits for egress lighting. The generator should have an estimated rating of 35 kW.

5. Install new lighting throughout. Lighting should be predominantly fluorescent with high-performance T8 or T5 lamps. The existing chandeliers in the main hall should be refurbished. Occupancy sensors should control lighting to the greatest extent possible. Where occupancy sensors are not appropriate, lighting circuits should be controlled through the building automation system for automatic shutdown.

6. New egress lighting should be provided by emergency batteries integral to light fixtures and branch circuits connected to the standby generator. Exit signs should be LED type with integral batteries and should be connected to circuits from the standby generator.

7. New receptacles and data outlets should be installed throughout the building to accommodate normal functions of the anticipated building use.

PRELIMINARY SCOPE OF WORK

Division 01 – GENERAL REQUIREMENTS

Division 02 – SITE WORK & DEMOLITION
Excavation and demolition as needed to install north wall reinforcement
Remove 2nd floor/ceiling structure as needed to restore open Entrance Hall & Staircase
Remove east mezzanine walls & floor/ceiling structure (Rm. 111)
Remove the two northern-most windows at first floor level on the east elevation
Remove non-historic interior partition walls as needed for new program
Remove Gyp. Bd. covering interior windows in 2nd floor hall (Rm. C202 thru 205)
Remove any redundant exterior mechanical slabs and/or structures
Remove existing air handlers, unit ventilators, exhaust fans & all associated ducts and heating/chilled water piping.
Remove pneumatic controls and associated air compressor.
Remove split system air conditioner for IT room.
Remove all electrical panel boards, feeders, wiring, conduit & devices
Remove existing Restrooms entire

Division 03 - CONCRETE
Option: new exterior Stairs at west end of Bldg.
Option: new ramp at west end of Bldg.

Division 04 - MASONRY
Stabilization/reinforcement of north building wall
Fill in & restore east wall where non-historic windows have been removed
Repoint exterior brick walls
After paint has been removed, repoint limestone window sills and stringcourse
Treat moisture problem at bottom of north and west wall
New CMU elevator shaft

Division 05 - METALS
Install new handrail system @ existing HC ramp
Restore Upper Hall balcony rails (may be able to reuse those currently at non-historic mezzanine over east end of the Great Hall)
Restore handrails at Open Stair
Restore exterior & interior window grills

Division 06 – WOOD & PLASTICS
Repair exterior cornice soffits where wood is rotted
Restore framing for Open Stairway and Upper Hall balcony
Replicate historic open Stair
New partition walls as needed
Restore/repair historic door and window trim as needed

Division 07 – THERMAL & MOISTURE PROTECTION

Seal open joints in metal roofing
Repair gutters & Downspouts
Repair/replace sub-grade drainage system
Install waterproofing system at building foundation as needed

Division 08 – DOORS & WINDOWS
Restore historic entry fenestration at South Façade
Restore historic interior doors at entrance Hall (1st & 2nd levels) & Great Hall
Provide other interior doors as needed
Rehabilitate all historic windows and install removable interior storm windows
New Door Hardware as needed to meet code requirements
Option: Install structural glass partition behind historic railing @ west end mezzanine (Rm. 201)

Division 09 - FINISHES
Document historic color scheme
Remove paint on limestone window sills
Paint all exterior wood trim, windows and doors
Repair/patch decorative plaster ceilings
Repair plaster walls and cornice as needed
Install new Gyp. Bd. walls and ceilings as needed
New finishes at all interior walls, ceilings, floors, trim, windows & doors

Division 10 - SPECIALTIES
New restroom Partitions & Fittings

Division 11 - EQUIPMENT

Division 12 - FURNISHINGS
New window blinds

Division 13 – SPECIAL CONSTRUCTION
Install new addressable fire alarm panel and initiating/indicating devices in Garrett Hall
Install fire protection (sprinkler) system throughout the building.
Install dry chemical fire protection system for the IT closet.
Expand IT closet

Division 14 – CONVEYING SYSTEMS
New Elevator

Division 15 - MECHANICAL
Retain newest heating/chilled water services & equipment (in exterior Mech. Vault)
Install new terminal units, distribution piping & ducts for conditioning of main building.
Install dedicated outside air / energy recovery systems.
Install five new Restrooms (two on each of the 1st & basement floors, & one on 2nd floor)

Division 16 - ELECTRICAL
Install new panel boards, feeders, wiring, conduit, devices and lighting
Install infrastructure (conduit) for new data systems throughout the bldg
Install new standby generator
Rehabilitate existing historic light fixtures
New light fixtures throughout building

Division 17 - CONTROLS
Install DDC control system with tie-in to Systems Control.

PRELIMINARY COST ESTIMATES

Division 01	$545,000
Division 02	170,000
Division 03	80,500
Division 04	500,000
Division 05	60,000
Division 06	200,000
Division 07	90,000
Division 08	250,000
Division 09	675,000
Division 10	11,500
Division 12	40,500
Division 13	186,000
Division 14	126,500
Divisions 15 & 17	762,000
Division 16	615,000
CONTINGENCY @ 15%	646,800
TOTAL PRELIMINARY CONSTRUCTION COST ESTIMATE	**$4,958,800**

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Drawings of modifications to the building after it opened in 1909, by various design firms, labeled under a variety of building names, including the Refectory Building, Commons Hall, and Garrett Hall, copies on file at the University of Virginia, at Facilities Management and/or the Albert and Shirley Small Special Collections Library.

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APPENDIX A

ROBERT SILMAN ASSOCIATES
STRUCTURAL ENGINEERS

FIELD REPORT

PRINCIPALS
Robert Silman
Joseph F. Tortorella
Kirk Mettam
Nat Oppenheimer
Edmund Meade

1053 31st Street, NW
Washington, DC 20007
P 202.333.6230
F 202.318.3015
www.silman.com

Date:	December 22, 2006	**Date(s) on Site:**	November 17, 2006
Attention:	Joseph Dye Lahendro, AIA	**Project Name:**	Garrett Hall - North Wall
Company:	University of Virginia	**RSA Project #:**	W1876
Report:	Field Report #1	**Location:**	Charlottesville, VA
Owner:	University of Virginia	**Contractor:**	
Weather:	Sunny, 70F	**Present at Site:**	RSA - John Matteo UVA - Jody Lahendro Brian Hogg Shashi Kavde
Submitted By:	John A. Matteo	**cc:**	

BACKGROUND

Garrett Hall is classified, in the University of Virginia's historic preservation framework plan, as an essential historic resource. It was constructed in 1908 as a refectory, designed by McKim, Mead and White (Photo 1). The north exterior wall at Garrett Hall has displayed deflection for many years. The wall is against McGuffey Alley and encloses a large two story space (the original refectory hall) that has one story partly below and one story above grade (Photo 2). Since 1996, the wall has been measured annually to monitor movement, with none discovered until recently – October 12, 2006. At that time, the wall was found to have moved 1/4" since last February, when it was last measured. Two University structural engineers inspected the wall and determined that a consulting structural engineer should be immediately retained to research and evaluate the wall displacement. Robert Silman Associates was retained by the University to perform this study and make recommendations on proceeding with future evaluation or repairs.

Photo 1: Garrett Hall Main South Entrance

Photo 2: Garrett Hall looking East along North wall

FINDINGS

Description of Structural Systems:

The building structure consists of load-bearing brick masonry walls with wood-frame floor and roof construction. The roof framing over the double-height space on the north side consists of regularly spaced timber trusses spanning in the north-south direction. The trusses have a gable profile top chord and curving bottom chord which supports the ceiling joists and decorative plaster finish. The original timber trusses have been significantly modified at some point in time,

Photo 3: Reinforced Roof Trusses over original refectory hall

with regular sistering of roof rafters, substantial sistering of truss members, and the addition of an intermediate truss system consisting of tension tie rods which support an east-west truss which runs over the centerline of the original double-height dining room; the east-west truss creates a central support line for the roof rafters (Photo 3 and Figure 1). The substantial sistering amounts to an increase in roof dead load from the original.

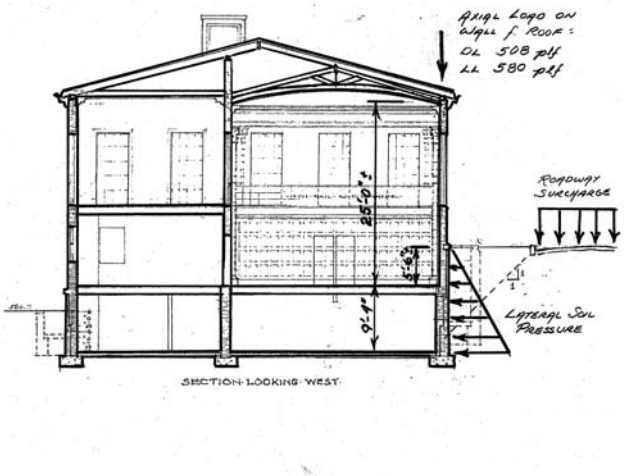


Figure 1: N-S Building Section w/ North Wall Loads

The double-height dining room amounts to an unbraced wall of approximately 25 feet. RSA measured the wall thickness to be approximately 14" in the upper window level, however the thickness increases to approximately 18" below the level of the exterior stone watertable (located approximately 13" above the existing grade level). An average thickness of 15" was used in the preliminary calculations. Observed from the exterior, the north wall is Flemish bond brick masonry above the stone watertable, and has an exterior coating of cementitious stucco below.

Conditions Assessment:

Of primary concern is the apparent inward deflection of the north wall (Photos 4 & 5). The area of most pronounced inward movement is between the chimney on the east side and the stairwell near the middle of the north elevation. Significant cracking is present on the interior finishes on the north wall, with an increased frequency of cracking toward the east side (Figure 2). Most pronounced is a pattern of horizontal cracking, which is consistent with the inward bending of the wall as the interior masonry surface would be in tension and the exterior face in compression. Photos 6 & 7 illustrate the cracking at the east pilaster, both in the

Photo 4: Interior face of North wall, with 1st floor level wood paneling – Area of inward bowing.

Photo 5: Exterior face of North wall – Area of inward bowing.

Photo 6: East Pilaster – Cracking at Capital

capital plaster as well as in the wall paneling of the first floor partition wall which abuts the pilaster. As depicted in Photo 8, some cracking was noted in the plaster ceiling, however this was not surveyed in detail during this site visit.

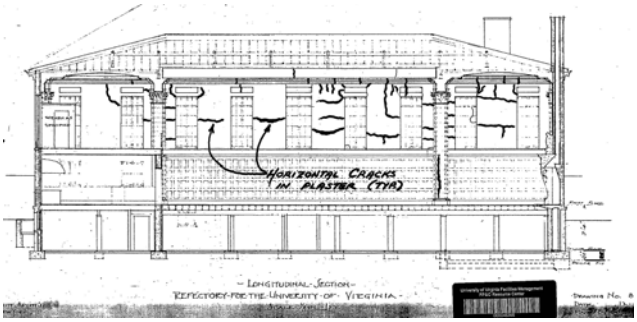


Figure 2: E-W Building Section w/ Interior Face Cracking of North Wall

The presence of sustained moisture in a masonry wall is always a concern when that wall is subjected to freeze-thaw cycling. It is apparent from observation of the basement level finishes that the north wall has been susceptible to moisture infiltration (Photo 9). The sustained presence of moisture often results in the decomposition of masonry walls by breaking down the binder in early mortar and also by imparting stresses if the wall is subjected to freeze-thaw cycling.

In addition to masonry deterioration, if water is not properly draining away from the exterior face of the wall a sustained period of soil saturation can result in increased lateral pressures on the wall. Photo 10 shows a rain downspout entering the ground on the north face of the east pilaster. In addition, the slab on grade supports a dumpster. The surcharge load of the dumpster as well as potential impacts from the garbage removal process are a concern which has been previously noted, and is herein reiterated to be a potential source of additional lateral loading.

RSA observed minimal cracking in the exterior masonry of the north wall, however some cracking and shifting was apparent on both the east and west ends of the bowing area. Photo 11 shows some cracking of masonry at the base of the east chimney, while Photo 12 shows some separation between the stairwell wall and the building wall.

<u>Preliminary Structural Calculations:</u>
As indicated in Figure 1, a portion of the roof loads from the north-south trusses bears on the north wall.

Photo 7: East Pilaster – Buckling wood paneling at inward-bowing wall

Photo 8: Cracking in decorative ceiling plaster

Photo 9: Water damage at Basement walls

Photo 10: Downspout and Dumpster North of East pilaster

The north wall loadings are listed as follows:

- Roof loads
- Lateral soil pressure
- Wind load (not depicted in Figure 1)
- Roadway surcharge loads

An estimate of the roof loading is summarized within the Preliminary Structural Calculations of Appendix A. Also included therein is the estimate of lateral soil pressures, which impart loads on the lower 5'-6" of the first floor walls as well as the basement walls. The roadway surcharge load likely has little to no influence on deflections of the first floor wall, given that the influence line through the soil results in lateral load only being applied near the base of the basement wall (Figure 1). However, as stated in earlier communications from the University of Virginia Senior Structural Engineer, it is possible that vibrations from heavy vehicle traffic could be negatively impacting the structural integrity of the wall.

Photo 11: Cracking at east chimney

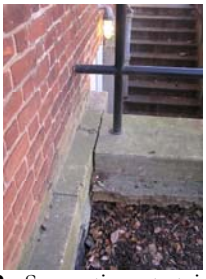


Photo 12: Separation at stairwell wall

The first floor consists of wooden joists spanning in the north-south direction. The first floor plays an important role in bracing the north wall. Given its wooden construction, the rigidity of this diaphragm may be somewhat limited, however stiffness is gained by the presence of diagonal subfloor boards (Photo 13).

Photo 13: First Floor Framing – Note cross-bridging and diagonal subfloor boards

The results of the preliminary calculations indicate that the slender masonry bearing wall is in an overstressed condition.

Monitoring:

Movement monitoring of the north wall has been taking place annually. The method of determining the magnitude of inward deformation has been to measure the differential position of the wall from a height approximately 7'-3" above the first floor level as compared to the wall position at floor level. Two screws have been secured into the wood wall paneling, serving as a reference point to suspend a plumb bob.

Summary of Recent Monitoring:

Date:	Description of Plumb Line Movement:
10/12/06	¼" inward from previous marks (1996 to Feb. 2006), both points.
10/18/06	Both points, no change from previous week.
10/25/06	West point moved back 1/8", East point unchanged from previous week.
11/02/06	Both points now very close to original

positions (marks from 1996 to Feb. 2006).

11/08/06 No change from previous week.
11/15/06 No change from previous week.
11/22/06 No change from previous week.
11/29/06 No change from previous week.
12/06/06 No change from previous week.

RECOMMENDATIONS

ASSOCIATED WITH OUR FINDINGS ABOVE, RSA RECOMMENDS THE FOLLOWING ACTIONS:

Following upon our initial review, RSA concurs with the recent recommendations from the University of Virginia's Senior Structural Engineer, noted herein for reference; these recent recommendations were preceded by a report dated March 12, 1998 (Appendix B). Beyond these, RSA recommends further investigation to provide the basis for a repair design. The following actions are recommended:

- Per UVA Senior Structural Engineer, continue weekly monitoring, with parameters for response as follows:
  - If ¼" of lateral movement is documented beyond the recent ¼" increase (therefore, an increase of ½" beyond the baseline mark established in 1996), the wall should be immediately braced from the inside.
  - If lateral movement exceeds ½" beyond the recent ¼" increase (therefore, an increase of ¾" beyond the baseline mark) the building should be evacuated and interior bracing installed.
- Per UVA Senior Structural Engineer, suspend heavy vehicular traffic in the alley which may be imparting vibrations on the north wall.
- Per UVA Senior Structural Engineer, cover the ground north of the wall (in the bowed length between the stairwell and the chimney) with heavy polyethylene sheet to minimize water intrusion in the soils north of the wall.
- Per UVA Senior Structural Engineer, find alternative dumpster location.
- In addition, RSA recommends digging a test pit on the exterior face of the north wall. The test pit will allow for visual inspection of the existing waterproofing and possible condition of brick masonry on the exterior wall face. With the test pit dug and subgrade exposed, a geotechnical engineer should be hired to visit the site to perform a visual inspection and some manual soils testing to yield the

following information:

- Soil classification and observations of moisture levels
- Soil bearing capacity
- Recommended coefficients for lateral soil pressure.

- RSA recommends that probes be opened in the basement ceiling and wall to expose the bearing area of floor joists at selected locations along the north wall.
- The information gathered from the previous actions will serve as basis for a wall stabilization design. Following structural stabilization, assumed to be implemented largely from the exterior, RSA recommends that the interior wall cracking be repaired within the context of an interior finish restoration or preservation campaign. Structurally, it would be most beneficial to remove the interior finishes on the north wall and repoint fully. Short of this full repair approach, which would result in significant impact to existing finishes, options which minimally address observable cracking should be discussed and repairs developed.

Photo 14: North side areaways and landscape

Repair concept:
Figure 3 illustrates a repair concept for consideration while information is being gathered in the next phase of investigation. In this approach, below-grade buttresses would be constructed to brace the north wall and provide sufficient increase in capacity to resist the lateral soil forces. Careful consideration must also be given to the treatment of the exterior face of the foundation wall, maximizing the ability to quickly transport water in the soil away from the foundation wall while minimizing the potential for water infiltration. The concept depicted shows buttresses down to foundation level, with bracing of the north wall along two lines -- one at the first floor level and the other just below the current grade.

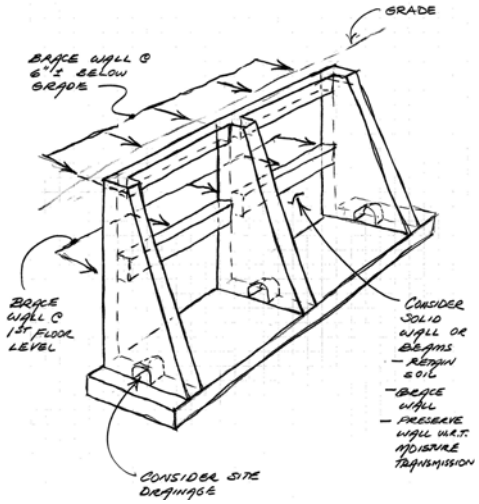


Figure 3: Schematic Below-Grade Buttress Design

If you should have any questions or concerns related to the content of this report, please feel free to contact us at (202) 333-6230.

John A. Matteo
Associate
ROBERT SILMAN ASSOCIATES

APPENDIX A

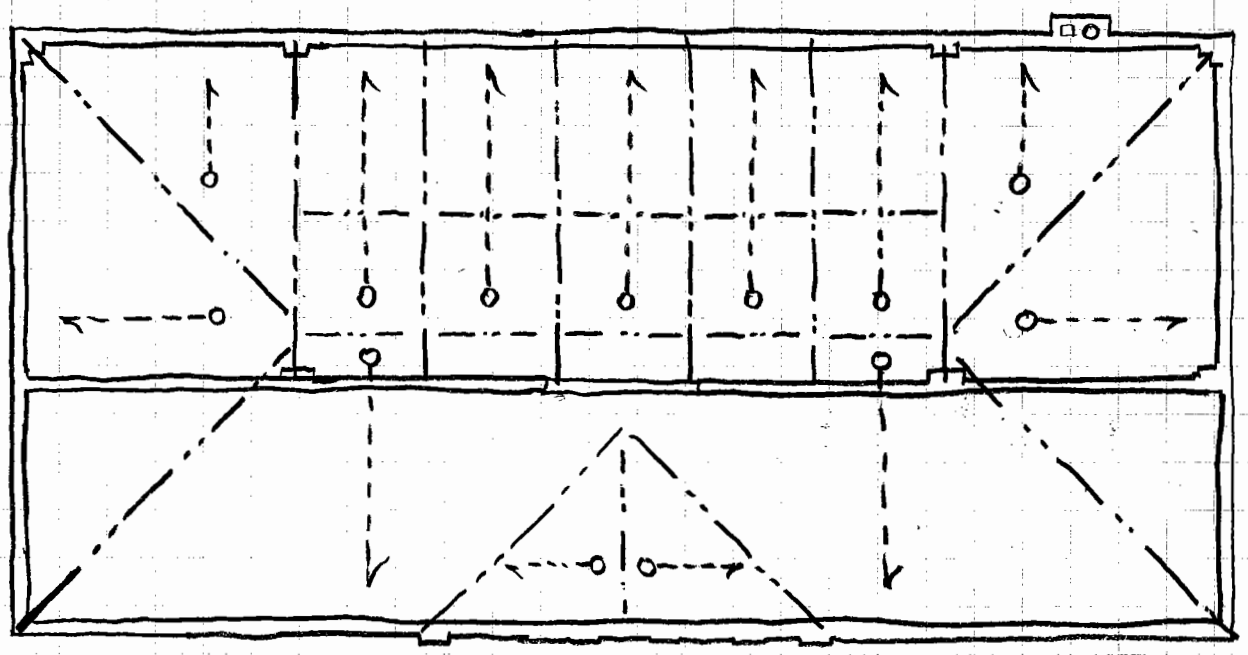
Preliminary Structural Calculations

ROBERT SILMAN ASSOCIATES, PLLC
STRUCTURAL ENGINEERS
1053 31ST NW, WASHINGTON DC 20007

PROJECT Garrett Hall - UVA JOB NO. W1876 PAGE 1/6

SUBJECT North Wall Deflection BY JAM DATE 12/10/06

Preliminary Calculations:



Calculate Roof Load on North Wall

Roof DL	Roofing		5
	Sheathing		3
	Rafters	(2) 2x6 @ 20"	5
			13 psf
LL	30 psf		
Ceiling DL	Trusses		5
	Ceiling Joists		2
	Plaster Ceiling		15
			22 psf
LL	10 psf		

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PROJECT Garrett Hall - UVA JOB NO. W1876 PAGE 2/6
SUBJECT Norm Wall Deflection BY JAM DATE 12/10/06

Using Trib Widy = 29'/2 = 14.5'

* Slightly smaller Trib Widy @ Roof due to cantilevered soffit/ridge rafters; however, given slope assume same trib widy for roof + ceiling.

$w_D = (13+22)\,14.5' = 508$ PLF

$w_L = (30+10)\,14.5 = 580$ PLF

w/ 15" thick wall & inward movement of 2.1" induced bending due to eccentricity of axial load =

$$f_D = \frac{508 \times 2.1}{\frac{12(15)^2}{6}} + \frac{\overbrace{0.6\left(120\left(\frac{15}{12}\right)18'\right)}^{\text{wall self wt.}} \times 1.05''}{\frac{12(15)^2}{6}} = 6.2 \text{ psi}$$

$$f_L = \frac{580 \times 2.1}{\frac{12(15)^2}{6}} = 2.7 \text{ psi}$$

$$f_n = 8.9 \text{ psi}$$

Consider Lateral Soil Pressure:

Use estimate soil properties for preliminary calculations → confirm w/ geotechnical investigation:

Assume silty sand, sand & gravel w/ high clay content:

$\gamma = 120$ pcf
$\phi = 30°$ $\quad C_a = 0.33$

→ assumes fully drained condition

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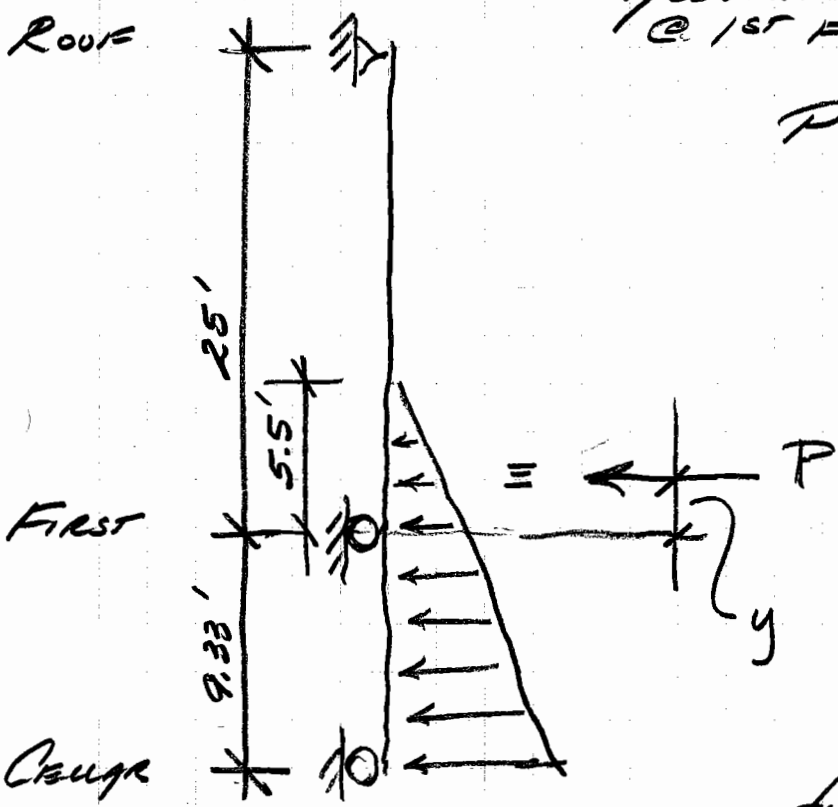
SUBJECT North Wall Deflection BY JAM DATE 12/12/06

Assume the North wall is braced at the first floor level:
⇒ wood floor w/ diagonal subfloor boards

Assuming simple support @ 1st flr & roof:



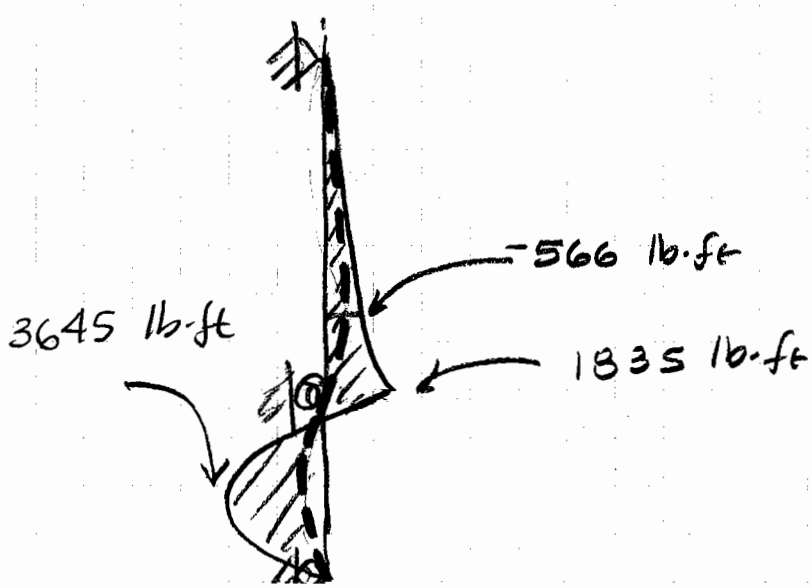
$$P = \tfrac{1}{2}(0.33)\,120\,(5.5)^2$$
$$= 599\ \#$$

$$y = \frac{5.5}{3} = 1.83'$$

$$M = \frac{599(1.83)(23.17)}{25}$$
$$= 1018\ \text{lb-ft}$$

(neglects continuity @ first floor)

$$f_b = \frac{1018 \times 12}{\frac{12(15)^2}{6}} = \pm 27.1$$



Note: w/ continuity rigid support @ 1st floor diaphragm ⇒ exg deflections not consistent w/ this model

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PROJECT GARRET HALL JOB NO. W1876 PAGE 4/6

SUBJECT NORTH WALL DEFLECTION BY JAM DATE 12/20/0

W/O CONTINUITY, MAX TENSION STRESS =

$$f_t = 6.2 + 27.1 - \left[\underbrace{\frac{508}{12\times15}}_{2.82} + 0.6 \underbrace{\left(\frac{120\left(\frac{15}{12}\right)18}{12\times15} \right)}_{9} \right]$$

(1620#)

11.8 PSI

$f_t = 21.5$ PSI $<$ 30 PSI → FOR NEW TYPE N MORTAR

* ADDING 20 PSF WIND LOAD ABOVE GRADE:

$M_{max} = 1992$ lb-ft $\quad f_b = \frac{1992\times12}{\frac{12(8)^2}{6}} = 53$ PSI

$\therefore f_t = 6.2 + 53 - 11.8 = 47.4$ PSI

FOR HISTORIC MASONRY LIKELY SUBJECTED TO MORTAR JOINT DETERIORATION DUE TO MOISTURE INFILTRATION, ALLOWABLE TENSILE STRESS SHOULD BE REDUCED → USE $F_t = 10$ PSI

SUMMARY OF PRELIM. FINDINGS:

NO WIND $\quad f_t \approx 21.5$ psi $>$ 10 PSI

W/ 20psf WIND $\quad f_t = 47.4$ psi $>>$ 10 PSI

→ EVEN ALLOWING 1/3 INCREASE FOR WIND $F_t = 13.3$ PSI

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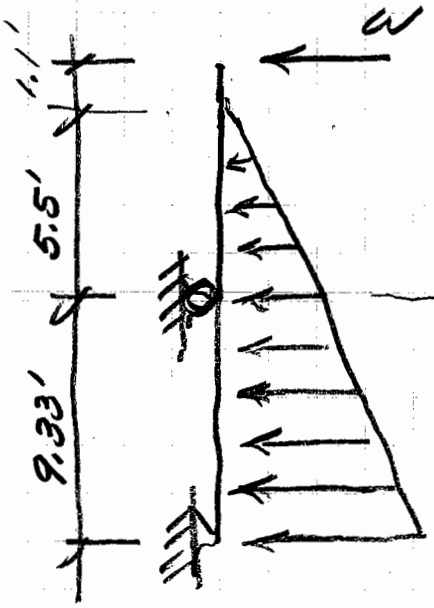
SUBJECT Norm Wall Deflection BY JAM DATE 12/20/06

ALTERNATIVE MODEL: CONSIDER NORTH WALL TO CANTILEVER ABOVE 1ST FLOOR LEVEL UP TO WATERTABLE STONE



$W = 20\left(\frac{18.4}{2}\right) = 184\ \#$

$f = .33(120)5.5 = 218\ psf$

BENDING f. SOIL: $M_s = \frac{1}{2}(218)(5.5)\frac{(5.5)}{3} = 1098$ lb.ft

$\longrightarrow f_{b_s} = \frac{1098 \times 12}{\frac{12(18)^2}{6}} = 20.3\ psi$

BENDING f. AXIAL: $M_a = 508 \times \left(2.1 + \frac{4}{2}\right) + 1620\left(1.05 + \frac{4}{2}\right) + \left(120\left(\frac{18}{12}\right)7'\right) \times 1''$

$= 8284$ lb.in

$\longrightarrow f_{b_a} = \frac{\pm 8284}{\frac{12(18)^2}{6}} = \pm 12.8\ psi$

BENDING f. WIND: $M_w = 184 \times 6.6 = 1214$ lb.ft

$\longrightarrow f_{b_w} = 22.5\ psi$

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PROJECT Garrett Hall - UVA JOB NO. W1876 PAGE 6/6

SUBJECT North Wall Deflection BY JAM DATE 12/20/06

Axial Compression:

$P = 508 + 1620 + 1260 = 3388\#$

$f_a = 3388/12\times18 = 15.7$ psi

Combined Stresses -- Max Tension:

Soil + Axial: $f_t = 20.3 + 12.8 - 15.7 = 17.4$ psi

Soil + Axial + Wind: $f_t = 20.3 + 12.8 + 22.5 - 15.7 = 39.9$ psi

→ Similar level of overstress w/ either approach

$f_t >> F_t = 10$ psi

Note: w/ Type N mortar fully intact possible to use

$F_t = \frac{4}{3}(30) = 40$ psi

which would be O.K.

However, given age, evidence of past moisture penetration, & visible cracking & deflections on interior, RSA maintains recommendation to use $F_t = 10$ psi.

∴ masonry wall overstressed.

APPENDIX B

University of Virginia Facilities Management Report
March 12, 1998

UNIVERSITY OF VIRGINIA · FACILITIES MANAGEMENT

Office of the Assistant State Building Official

MEMORANDUM

March 12, 1998

TO: **Pete Syme**

FROM: Shashi Kavde, P.E., Senior Structural/Civil Engineer

SUB: **Garrettt Hall – Lateral Deflection of North Wall**

REF: W/O # 4298189

Please recall our visit to Brooks Hall on February 13, 1998 to observe the condition of the Garrett Hall North Wall. I also visited the site with John Davis about three week's back, since he had looked at this wall about 2 years back. He only remembers observing the deflected wall status and asking carpenters to measure the deflection. He does not remember writing anything about it. I again visited the site on March 10, 1998 with John Toney. He showed me the three screws he had installed in the wall wood paneling on direction from John Davis about 2 years back to facilitate measuring the wall deflection.

My brief Report regarding the conditions observed and recommendations for this wall is in two parts as follows:

OBSERVATIONS

1 A portion of North Wall (Eastern end) in Room 100 (the Commons), has deflected (bowed inside) about 2" (measured about 7' above the floor). The measurement was performed using a plumbum from the screws in wall paneling and measuring the distance of the plumb line from the wall at the screws and at the bottom. According to John Toney, the wall has not moved in the last two years, since the plumbum was still aligned exactly over the floor marks he had made two years back. He also remembers seeing cracks on the concrete column (in the wall plane) in this area two years back. These cracks were repaired at that time and have not opened up again, confirming that the wall has not moved in the last two years after the repairs were performed.

2 Directly outside the wall (on the North side) in this area, there is a roof drain downspout, which penetrates the grade. The routing of the drain below grade is unknown at this time. It is possible that this pipe is leaking below grade and saturating the soil. A saturated soil exerts substantially greater lateral pressure, for which this wall may not be designed.

575 Alderman Road, Charlottesville, Virginia 22903-2476 TEL: 804-982-4602 FAX: 804-982-4628
E MAIL: cjc4m@virginia.edu

3 At this out side area, there is an 8' (+/-) wide slab on grade with parapet walls on the East and West side of it. A steel Dumpster is located in this area. Cracks in both side's parapet walls and the concrete slab (at the narrower widths on either side of the Dumpster) can be clearly seen, which confirms the movement of the wall (total movement, and not necessarily in the past two years). The Dumpster surcharge load (especially dynamic load, if the Dumpster is dropped on the ground after unloading onto the garbage truck) is also additional lateral load that the wall may not be designed for.

4 I have looked at the available drawings for the Garrett Hall building. None of them shows any details of the wall or the downspouts. However, scaling from the original building drawings, the following is assumed:

- Wall height = 25' (+/-)
- Wall thickness = 15" (+/-)

Based on this the wall height : thickness ratio = h/t = 25' x12/15" = 20, which is the upper allowable limit for load bearing exterior walls (this wall is also a retaining wall for partial height).

5 Maximum mid height deflection allowed = 0.007 h = 0.007 x 25' x12 = 2.1", which is approximately the current deflection of this wall.

RECOMMENDATIONS

Even though, the wall does not seem to have moved in the last two years and does not appear to be in imminent danger of failure, both h/t ratio and the maximum deflection are at the upper allowable limit as computed in items 4 & 5 under Observations. Based on this and other observation noted above, my priority-sequenced recommendations are:

1 Observe the deflection of wall and note any opening of repaired cracks or formation of new cracks on a periodic basis (every couple of months will be adequate). If the wall deflects any more or cracks are noticed, provide bracing immediately. Assign design work for repairs to an AE and perform repairs per approved repair drawings.

2 Relocate Dumpster to eliminate a probable cause for surcharge (possibly dynamic) lateral loading on the wall. This may help in holding the current deflection status and probably can be accomplished for the least cost.

3 If the routing of the (downspout fed) underground pipe can be ascertained with snake pipe cleaning method, or any other means, it may be possible to pressure test it for leaking. If leaking is discovered, repairs can be performed with limited excavation at moderate cost.

4 If underground pipe routing can not be established, the only way is to excavate and expose the pipe and check for leaking visually (or by pressure testing). Repairs to piping under this scenario will be expensive and may be disruptive.

NOTE

Please let me know if you would like me to observe the wall deflection and cracking periodically, to see if the wall movement is continuing, and at some future date reaches a point when corrective work becomes necessary.

cc: Chuck Callaghan

ROBERT SILMAN ASSOCIATES
STRUCTURAL ENGINEERS

MEMORANDUM

PRINCIPALS
Robert Silman
Joseph F. Tortorella
Kirk Mettam
Nat Oppenheimer
Edmund Meade

Date:	May 23, 2007	**RE:**	Foundation Wall Reinforcement
Attention:	Kate Meyer	**Project Name:**	UVA Garrett Hall
Company:	University of Virginia	**RSA Project #:**	W1876
From:	Nicole Ferran	**cc:**	John Matteo (RSA)

1053 31st Street, NW
Washington, DC 20007
P 202.333.6230
F 202.318.3015
www.silman.com

RSA was asked by UVA to provide an analysis of the findings in the geotechnical report as well as a discussion of the process which led to the development of the proposed wall reinforcement sketches.

Information Provided in Geotechnical Report

The geotechnical report provided the following information:

1. Observations at the north wall test pit, including a description of the waterproofing, insulation and drainage materials.
2. Information obtained from soil sampling and testing, including design parameters for wall reinforcement (lateral earth pressures and allowable bearing).
3. Recommendations for reducing lateral earth pressures as an alternate to wall reinforcement.

The observations made by the geotechnical engineer in addition to field observations from RSA were used to develop a more accurate section at the existing wall. The design parameters provided were used to calculate the lateral earth pressures on the foundation wall for the final analysis of the existing conditions as well as for the design of the reinforcement. The allowable bearing pressure was used for the design of the new concrete mat for the wall reinforcement.

Design Process

For our first pass at solving the problems at the north wall, we analyzed the wall assuming that the lateral soil pressures on the existing wall would be removed by installing a below-grade wall, but that the new wall would not be tied to the existing masonry wall and therefore would not provide any additional bracing. We found that this approach was not sufficient and that the existing wall would still need to be braced above the first floor level to be able to resist the lateral loading due to wind in combination with the added bending resulting from the current displaced shape of the wall.

In our second iteration, we used the new wall reinforcement to brace the existing wall at both the first floor level and at a higher location 6" below grade. The existing first floor diaphragm was assumed to be bypassed and the reinforcement was intended to take the entire lateral load due to the lateral earth pressure. Two reinforcement approaches were considered:

1. The first option consisted of a conventional solid concrete counterfort wall with insulation between the existing wall and the new wall and waterproofing on the outside face of the new wall. For this option, all of the soil pressure would be taken directly by the new wall. The main concern with this approach was that we would eliminate future access to the brick surface of the existing wall.
2. The second option consisted of two concrete beams at the wall bracing elevations supported by four concrete counterforts on a concrete mat. With this approach, the soil

pressure initially is exerted on the existing wall and is then transferred back into the counterfort system via the concrete beams. The insulation and waterproofing would remain in place against the existing foundation wall, so that it would remain largely accessible. This was the preferred option.

The existing wall was found to have acceptable levels of stress if braced at the first floor and just below grade. However, by assuming that the new reinforcement would take the entire load due to the soil pressures, the size of the concrete mat was becoming excessive to keep the bearing pressure below the allowable limit provided in the geotechnical report.

For our third iteration, we took a closer look at the first floor diaphragm to evaluate its ability to transfer lateral load. There was no evidence of overall floor movement, just of deflection of the wall above the first floor. Due to this and the presence of diagonal sub-floor boards and finish floor boards, it seemed reasonable to continue the use of the first floor as a bracing diaphragm.

Once the first floor diaphragm was used to help resist the lateral loads from the soil pressure, the concrete work at the wall reinforcement was able to be reduced to a reasonable size. The results of this design are represented in SSK-1 through SSK-4.

Additional Issues

The geotechnical report provided recommendations for reducing the lateral earth pressures as an alternative to wall reinforcement. These recommendations were considered; however, the reduction in lateral pressure would not be sufficient to stabilize the wall and reduce the stresses in the wall to acceptable levels.

Currently, our sketches show a foundation drain located just above the new concrete mat and penetrating through the counterforts. This will help ensure that water pressures do not build up and exert additional force on the wall. The top surfaces of the concrete beams and mat can also be sloped gently away from the wall to conduct any water that is not captured by the drain away from the building.

The current details at the concrete beams (SSK-3 and 4) show dowels through the beams and the wall to tie them together. These will need to be carefully waterproofed to avoid creating conduits for water penetration. The connection shown at the first floor level may be modified to eliminate the dowels and channel connection to the first floor framing.

APPENDIX B

Annotated Bibliography of Press Coverage by Date

(Based on *College Topics*, November 1904 - April 1909, and the Alumni Bulletin, 1907-1909)

30 November 1904—"The Carr's Hill Mess," *College Topics*, Vol. XVII, No. 20
Article about the "Carr's Hill Mess" which "is being run directly by University authorities" to provide "good, wholesome food of plain substantial variety" "at a very low rate." "It is extremely important that this attempt prove successful. It has often been a source of reproach to the University that she could offer no employment to a young men [sic], by which he could work his way through college. Other colleges present many such opportunities…" "The comparative costliness of many University boarding houses has brought down upon us the accusation of being the rich man's college" "The mess-hall has not been patroniged [sic] as it should nor as had been expected, but the presence of the foot-ball training-table has made it a marked success so far. The foot-ball season is now ended and it remains to be seen whether the students want to have cheap board accessible, or whether they will stand by and let this most praise-worthy effort fail for lack of patronage."

22 March 1905—"The Installation," *College Topics*, Vol. XVI, No. 47
Laments about lack of space for Alderman's installation, students doubled up in dorm rooms, space limitations of auditorium, etc. Banquet will be in the library, "greatest event there, since the visit of General Lafayette in 1825."

27 January 1906—"Need for Dormitories," *College Topics*, Vol. XVII, No. 30
Laments the unhealthy condition of small, poorly ventilated rooms in which students are now living. Mr. Chapman has offered a bill in the Va. Legislature to make an appropriation of $65,000 in addition to the $25,000 for buildings at the university. (He said that no money had been spent on buildings here since the Civil War, with the exception….of the Rotunda and the Academic Building after the fire.) This appropriation, if put through the Legislature, would make a total of $154,000, and would presumably used for new dormitories.

31 January 1906—"Statement of College Needs," *College Topics*, Vol. XVII, No. 31
Dr. Alderman's address to the legislature on what the university needs. He spoke of "a great and silent revolution going on in industrial and social life. We are at the beginning of a new world as clearly as we were when Mr. Jefferson projected his noble scheme."

3 February 1906—"For Reduction of Expenses," *College Topics*, Vol. XVII, No. 32
Senator (Dr.) Aubrey E. Strode questions whether the university is meeting its legal responsibility of providing free education to all Virginia students, because the university charges something called the "University Fee" to cover cost of library use, gymnasium, free medical care, etc.

7 February 1906—"A Talk on Our Present Needs," *College Topics*, Vol. XVII, No. 33
Norfolk Virginian-Pilot editorially supporting the university's request for additional appropriations… "While it is realized that the state can not afford the sum of approximately $230,000 asked for at this time, although the students have increased one hundred and fifty percent and the branches taught sixty percent…The conditions should not be allowed to continue."

10 February 1906—"Cooperative Organization," *College Topics*, Vol. XVII, No. 34
Board of directors elected for Cooperative Association that operates a store providing books and supplies at a lower price, also helping to regulate prices at other local outlets.

24 February 1906—"Need of Money at University," *College Topics*, Vol. XVII, No. 38
Begins with a review of the need to increase the annuity from the Legislature from current $50,000 to $75,000 to add badly needed faculty members. "Carr's Hill, one of the most prominent spots in the University grounds, is now occupied by a dormitory and dining hall which are old and unsafe, not to mention the fact that they are entirely out of keeping with the architectural scheme of the other buildings. An up-to-date dining hall on Carr's Hill, conducted on a sound financial basis, would do much to lighten the expenses of a great majority of the students, and to bring even more men to the University. A sum of $30,000 was asked to reconstruct these buildings and make them serviceable and harmonious with the other buildings." (Also comments on the proposed steam heating system for all buildings will be the one thing the university men will appreciate most.)

17 March 1906—"New Board of Visitors Here," *College Topics*, Vol. XVII, No. 44
Appointment of new people to the Board of Visitors---------

25 April 1906—"Dividends from the Mess Hall," *College Topics*, Vol. XVII, No. 55
This is a financial report from Morgan P. Robinson, manager of a cooperative dining facility that had to shut itself down because certain agreements weren't met (from suppliers? from stockholders/clientele?). The manager had been in fear of being held personally responsible for a shortfall, but he was able to report that stockholders were to receive a dividend (18 cents, although it would have been more like 74 cents had they stayed open for the 44 months that had already been sold. This was, in summary, "such favorable results…," "…despite the inexperience of the student-caterers and managers…" "…can we not look forward to board at this price or even lower, if the University authorities will fully equip a Mess Hall, seating, say, 500, and have it managed by competent parties?" The manager goes on to state that he feels that, through the experiment of the cooperative mess hall, "we clearly proved the two propositions originally undertaken, namely, that student-waiters are practical and feasible, and that palatable and acceptable food can be furnished for $12 per month, when the University authorities furnish a fully equipped Mess Hall, free of rent and furnish the fuel and light."

1 May 1906—Letter from Dr. Edwin A. Alderman to McKim, Mead, and White
University archives (University's letter asking McKim, Mead, and White to design the President's House and a dining hall)

5 May 1906—Letter from McKim, Mead, and White to Dr. Edwin A. Alderman
University archives (McKim, Mead, and White's letter accepting the commissions)

12 June 1906—Letter from McKim, Mead, & White to Dr. Edwin A. Alderman, LL.D.
The letter is primarily about the President's house. It acknowledges President Alderman's "criticisms" of the design for the house, but also notes that "Owing to Mr. White's absence from the city for about two weeks, he has not taken the time to put the sketches in more finished shape." Two paragraphs below that, it says: "The plans for the dining hall are still incomplete

owing to the peculiar contour of the ground upon which it is to be placed, the contours of which Professor Thornton is to send us. Upon receipt of this we shall be able within a few days to send you the sketches."

(Note: No *College Topics* editions were issued in the summer of 1906, and also — possibly as a of result the hiatus in coverage — Stanford White's assassination appears not to have been mentioned in any edition of *College Topics,* except when he is later referred to as "the late...")

10 October 1906—"Name is Changed to Cabell Hall," *College Topics*, Vol. XVIII, No. 5

- "In recognition of… Joseph Carrington Cabell, friend and ally of Thomas Jefferson,… the Academic Building now known as the Public Hall, will be hereafter styled "Cabell Hall."
- "The completed plans for the Dining Hall and the President's house were accepted. The former will be located at the south end of the West Range, and the latter on Carr's Hill."
- "While every effort is being made to have the Dining Hall built as soon as possible, it cannot be done for much use this session. In the meantime, President Alderman has offered the old dining hall, fitted in all needed equipments, and will furnish light and heat to University clubs who care to run it."
- "A committee was appointed to consider and report at an early date on the question of providing dormitories…"

(same edition as article below)

10 October 1906—"New Dining Hall," *College Topics*, Vol. XVIII, No. 5

(same edition as above article)

Excavations for Building Soon to Be started—Cost $25,000

Work on the new University dining hall, to be built at a cost of about $25,000, will soon be under way. Mr. Kendall, of the New York firm of McKim, Mead & White, who are the architects of this building and also the President's residence, arrived in Charlottesville yesterday, and is now at work selecting the site for the dining hall.

The probable location will be on West Lawn, corresponding to the Randall Building on the east.

A colored perspective and elevation plan of the dining hall will be on exhibit in Madison Hall today or tomorrow, as well as one of the President's house. The [for]mer will be modeled after Harvard University and the University of Oxford Commons Halls. The dining room proper will be two stories in height in the rear of the main building, with kitchen and pantry in a wing to the rear of that. The second story front will be fitted up as suitable for faculty meetings, and will probably be used as such.

17 October1906—Letter to the Editor, *College Topics*, Vol. XVIII, No. 7

Letter to the editor from Andrew Marvel. The letter opens as follows: "Editorial College Topics: "Sir: "According to the present plans, it is proposed to build a President's Home on Carr's Hill…" The letter complains about the decision to put the President's House on Carr's Hill because it precludes the possibility of putting other—possibly grander—things there in the future.

27 October 1906—Letter to the Editor, *College Topics*, Vol. XVIII, No. 10

Letter to the editor from H.K. Kaprielian. The letter opens as follows: "Editor of Topics: "Dear Sir: "I write this as a plea to all who favor the welfare of this University…" Arguing that placing the President's House on Carr's Hill will keep future buildings from being built there, calling it "an eyesore to all students of nature for all ages" and saying "we are no longer living in the centuries gone by, to develop hills as castles for feudal lords…"

31 October 1906—"Alderman Talks to the Students," *College Topics*, Vol. XVIII, No. 11
Text of a speech by Dr. Alderman entitled—"The All-Important Question: Is There Not Room Here for Increase of Fellowship?"—stresses how university programs build interaction (it does not specifically mention dining facilities, however).

10 November 1906—"President Alderman has been confined to his bed…" *College Topics*, Vol. XVIII, No. 14
"President Alderman has been confined to his bed since Tuesday last with neuritis."

17 November 1906—"Such a volume of adverse criticism anent the building of the President's residence on Carr's Hill…" *College Topics*, Vol. XVIII, No. 16
"…a number of sites for the building were proposed… A representative from the latter firm, McKim, Mead & White, of New York, spent much time here at work on the problem."

1 December 1906—Editorial, *College Topics*, Vol. XVIII, No. 20
Editorial about even smaller towns than Charlottesville being able to support first class hotels.

8 December 1906—Letter to the Editor, *College Topics*, Vol. XVIII, No. 22
Letter to the editor from Morgan P. Robinson (Manager of the recently closed Cooperative Mess Hall on Carr's Hill). Argues that he expects future UVA presidents, if they happen to be alumni to have more respect for the university's traditions and to object to living on Carr's Hill.

6 February 1907—Editorial, *College Topics*, Vol. XVIII, No. 34
Editorial in favor of extending city streets and streetcar lines to new residential neighborhood areas. "If this were done, a person who took the street car would be taken through the most beautiful section of Charlottesville and the University of Virginia. He would see Fourteenth Street, Preston Heights, the Athletic Grounds, the President's Mansion shortly to be erected on Carr's Hill, the Gymnasium, Madison Hall, the north view of the Rotunda, the Chapel, the new Mess Hall and Cabell Hall. No handsomer buildings in so short a space could be seen in any southern city."

March 1907—"University Changes and Improvements," *Alumni Bulletin of the University of Virginia*, New Series, Vol. VII, No. I,D, article VI, pp. 8-9.
"…the erection of the great dining hall has begun, and it is hoped that it may be completed by next March." The building is briefly described, dimensions, materials, "classic portico facing south," "…will seat 200 students, and is to be handsomely finished inside with coffered ceiling, and ornamental pilasters. The side walls are to be finished in Old English paneled oak. As the appropriations of the legislature for the dining hall and for the President's house were adequate for the construction of only one of these buildings, the construction of the latter has been postponed."

10 April 1907—"New Dining Hall Well Appointed," *College Topics*, Vol. XVIII, No. 51
"Description Given by Dr. Lambeth. Night Cafe is a Feature — Is Modern Throughout": Ground has been broken for the new Dining Hall at the South end of the West Range; Notes the following: "promises to be one of the most serviceable refectories in the country…"; "in a position analogous to that of Randall Hall on East Range"; "The western façade will finish even with the west range so that the walk of the latter will be continued past its west elevation. The

façade will have Doric portico & "The transverse axis of new quadrangle will be continued to this."; "This dining hall, bizantine (sic) in finish, has two coffered eliptical (sic) ceilings and one main ceiling coffered and oval in outline"; "in the gallery to the west there will be an auxiliary dining hall with a seating capacity of thirty people. The main dining room seats two hundred"; wainscoted & paneled in Old English oak, with large fireplace; basement will have refrigerator, steam boilers; laundry, "stewards apartments," "vegetable stores," lavatories, lockers, etc.; similar description of first story kitchen facilities—but as a wing to the rear; beautiful dining room vs. "the best modern equipped kitchen, the cooking apparatus alone of which will cost $4,000."; estimated cost: $45,000 - $50,000; architects: McKim, Mead and White; management "at hands of a committee chosen principally from the students with a few members of the faculty as advisors."; catering and general supervision "entirely in the hands of the students in so far as it is possible…"; $10 per month plus the cost of meat; "In order to prevent the tipping of waiters, books at $5 each will be sold and the students will pay in coupons instead of money."; "One special feature of the new venture will be a cafe open to the students at night."; "Although the work on the building will be rushed, it will hardly be possible to have it ready to operate next season."

11 May 1907—Editorial, *College Topics*, Vol. XVIII, No. 60
Editorial on costs and fees at UVA and keeping them within reach, especially of Virginia students.

5 October 1907—"The New Mess Hall," *College Topics*, Vol. XIX, No. 4
"Exterior work is nearly completed on the new Dining Hall designed by McKim, Mead, and White…" "the furnace has been installed…so that interior work can be carried on through the winter. The decorations and finishes, however, will be so elaborate that the hall is not expected to be ready for occupancy before the end of the present College year. "Some idea of the scale [of] construct[ion] …the state appropriation of $22,000 was formed to be only half of the amount required. President Alderman generously turned over an appropriation of $17,000 for the President's house and the remainder was secured through private gifts." Other points: L-shaped kitchen to left in entrance, $5,000 in kitchen furnishings, waiting & cloak room to right, 30x80 dining room with ceiling peak of 27 feet, Flemish oak wainscot up to 10 feet, windows begin above wainscot, portraits now in library to be hung between wdos., dining room seating capacity of 225, "elaborate table" possible for $12/mo., in the café meals will be served at all hours up to 2AM to save the long walk to the RR station. "Moulds are now being cast for the coffered ceiling, after designs by Stanford White."

6 November 1907—"The New Mess Hall," *College Topics*, Vol. XIX, No. 13
"…being rapidly pushed toward completion." "The roof is on, the columns of the front portico are in place, the building is gradually assuming the finished outlines that make it harmonize fully with the surrounding architecture."

11 December 1907—"Resolutions by the Board" *College Topics*, Vol. XIX, No. 23
Carr's Hill being laid off in lots by a Washington architect to provide land to lease almost permanently to fraternities to build chapter houses, stipulations as to the kind of house; UVA will lend some money and hold a lien.

25 January 1908—"Work is Now Being Rushed" *College Topics*, Vol. XIX, No. 30
"new dining hall is fast nearing completion …but no attempt will be made to open it until next year." Quick description of details (incl. colors), room uses (e.g., one is for "smoking"), 30-40

small tables seating eight each, "…and one of the smaller rooms will probably be fitted up as a café or ladies dining room."

January 1908—"Items of Interest, Statement of Growth" *Alumni Bulletin of the University of Virginia*, Third Series, Vol. I, No. 1, pg. 54
"The new dining hall, which has been made possible for the University through the wisdom of our State legislators… will afford accommodation for 250 men at one time, and will strengthen the democratic spirit among students, while giving protection to their bank accounts."

July 1908—"Items of Interest," *Alumni Bulletin of the University of Virginia*, Third Series, Vol. I, No. 3, pg. 292
"The new college dining hall will be ready for operation at the beginning of next session… the opportunities for the students at large to mingle easily and frequently will add much to the spirit of democracy and good fellowship that go toward making up a loyal and wholesome sentiment for the University and for the Commonwealth. True college spirit and true patriotism depend upon the intelligent acquaintance of men and their sympathetic association."

October 1908—"Finals Week," *Alumni Bulletin of the University of Virginia*, Third Series, Vol. I, No. 4, pp. 372-377
On 16 June 1908, "the annual Alumni Luncheon was held in the new University dining hall."

3 October 1908—"The President's New House" *College Topics*, Vol. XX, No. 3
"The plans for the house were drawn by the late Stanford White of McKim, Mead and White of New York, who also designed the new Mess Hall. …"

3 October 1908—"President Alderman Principal Speaker at the University Club Banquet in Washington Last Wednesday Night," *College Topics*, Vol. XX, No. 3

31 October 1908—"University Commons Adopt Constitution" *College Topics*, Vol. XX, No. 11
The article contains the entire constitution for the new organization formed so that the students can run the dining hall as they had run the prior cooperative mess hall. The three purposes of the organization were: "First, to provide a place where …members can get daily meals …at the lowest possible cost. Second, to aid in the promotion of a spirit of true democracy in the student body…. Third, to make it possible for the President of the University to more readily communicate with a large number of students whenever occasion demands." The organization was to be governed by two boards, one of faculty members appointed annually, and "a student board of seven members chosen by ballot." Only the student board, which was elected annually and was known as the "Board of Governors," could vote. The Board of Governors was to have three standing committees, the Committee on Menu, the Committee on Service, and the Committee on Form (for "suggestions looking to the improvement of the general conduct of the Organization"). Recommendations of the three committees were to be referred to the Board of Governors for approval, and then "presented to the Faculty Board for settlement." The constitution was drawn up by an organizing committee of students appointed by the university, and the first election of students to the Board of Governors occurred on 28 October 1908, the day after the constitution was submitted to the Faculty Committee by the organizing committee.

January 1909—"Items of interest, Dinner to the Board of Visitors," *Alumni Bulletin of the University of Virginia*, Third Series, Vol. II, No. 1, pp. 90-91
"At the November meeting of the Board of Visitors a new feature in the University's life was introduced by the faculty of the institution giving a dinner to the Board of Visitors in the new University Commons, or dining hall." The idea for this event "which will doubtless become permanent" was Dr. Alderman's. "…Dr. Alderman has made a constant and consistent effort to strengthen the social ties that bind, or should always bind, student and student, student and teacher, teacher and teacher, in the vital unity of spirit and fellowship that should characterize a great educational institution." "Since the opening of the new college dining hall, President Alderman has made special efforts to have it meet the needs… for which it is intended. He regards it as affording a great and attractive opportunity for the development of that practical academic democracy, of which he is an untiring apostle."

27 February 1909—"New Improvements to Be Instituted" *College Topics*, Vol. XX, No. 39
"Sweeping improvements ...under the direction of William H. Manning, the well known landscape architect of Boston." "…unsightly parts of the grounds between the Lawns and Ranges will be converted into artistic little gardens…" "The quadrangular space between the Mess Hall, Dawson's Row, and the proposed Law Building will be arranged as an open air auditorium with a band stand at the upper end."

20 March 1909—"President's Mansion Nearing Completion" *College Topics*, Vol. XX, No. 45
Interior in nearly finished, furnishings have been bought, and President and Mrs. Alderman were planning to move in around the first of April but will now wait until after Easter. At this point, the main thing still under construction was the landscaping work under the direction of Warren H. Manning ("of Boston, the noted landscape artist.")

7 April 1909—"President's Mansion Nearing Completion" *College Topics*, Vol. XX, No. 50
By this time (or earlier?—the paper indicates that they've published the list at least one time previously), guests who had signed the Manager's register (guest book) were being announced in *College Topics*. The register includes about 16 guests (including 3 young ladies listed as Miss with their last name but no first name) and about 20 members of the Yale Track Team.

18 April 1909—"Dr. Alderman's Statement" *College Topics*, Vol. XIX, No. 54
"The day we celebrate is the 165th anniversary of the birthday of Thomas Jefferson and the 89th anniversary of the foundation of the University of Virginia. …1908-'09 in the history of the University will be marked by these notable events: The building of the college dining hall; the opening of the second wing of the hospital; the establishment of the 'College Hour'; the inauguration of the Barbour-Page Lecture Foundation; and the provision of the State Legislature for a Geological Survey, with headquarters at the University.

The first [the dining hall] will cheapen living at the University, and will strengthen the growing spirit of democracy among the student body. …"

21 April 1909—"Pres. Alderman's Annual Statement" *College Topics*, Vol. XX, No. 54
In his speech, the president laid out an argument that the two "problems" that the university needed to address were "to conserve the good and eternal things …of the past" [his examples were the university's high standards] and the "ever present problem… the problem of democratization." Advancing democratization has two "phases," he said: "Expansion of inward power and scope" and "increased ability and purpose to reach and serve all the people outside the

University walls in helpful ways." Under the first "phase," he notes first that there has been an "Increase in general teaching staff," and secondly, an increase of buildings and equipment. The examples he gives of the increase in buildings and equipment are: erection of five new buildings, equipment of seven new laboratories, extension of heat and light and development of grounds, expansion of the Medical School by a three fold multiplication of its activities, expansion of the Law School to a three years' course, and the addition of a yea's technical work to the Engineering Department. [This appears to be a stray sentence, typeset out of order:] A clearer understanding of the meaning of the college side of University life. The construction of the "Commons Hall" is given as the seventh out of eight examples of things that have addressed the second "phase."

24 April 1909—"Dining Hall Notes" *College Topics*, Vol. XX, No. 55
New list of people who have registered when they ate at the Commons (long list, and it's just Sunday and Monday of Easter weekend) and comment that "The activity of the Commons during Easter week has been record breaking indeed."

APPENDIX C

prohibit; and the reopening of Charlottesville's saloons would, in my opinion, have very seriously hampered the President and Faculty in the work of developing a still stronger student public opinion against the use of intoxicants.

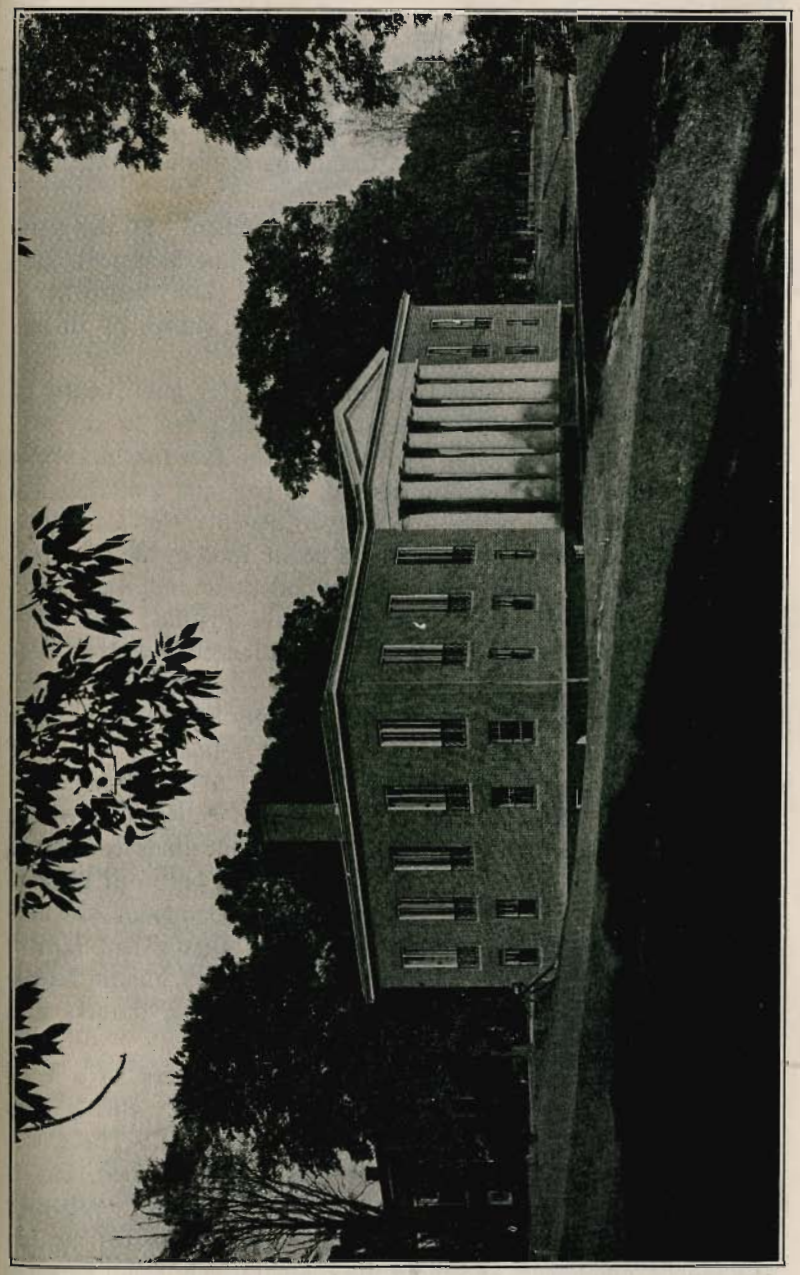
As an indication of the combined effects of the systematic campaign which has been waged at the University of recent years against drunkenness on the part of students, and of local prohibition in Charlottesville, I may say that this session only one student has been reported, on account of intoxication, to the Dean's office—that is, from September 16 to December 20—and that one entered a plea of "not guilty." Moreover, there has not been the slightest disorderly conduct of any kind on the part of the students. The attitude of the nearly 800 students towards the academic community life has been above reproach; and if sitting in judgment upon minor cases of disorderly conduct were the Dean's only duty, he would be free to close his office, and go off on an extended holiday.

THE UNIVERSITY COMMONS.

A year ago last September a beautiful new building, known as Commons Hall, was opened for the convenience and comfort of our students. It is located at the south end of West Range and faces the open space between the Engineering Building and Dawson's Row. It is built of brick and harmonizes with the style of architecture prevailing at the University of Virginia. The interior arrangements are in accord with the most approved plans of modern refectories.

One enters a spacious hall adorned with university banners and athletic trophies. This leads directly to the main dining-room where two hundred students can be served in small groups at neatly furnished tables. The ceiling is tastefully decorated with the university seal in stucco. On the walls are hung portraits of distinguished professors, benefactors and alumni. On the east wall is a full-length portrait of Thomas Jefferson.

The second floor is apportioned among several smaller dining-rooms. These look out upon the main room and are open to



THE COMMONS

students when the large room is filled. In one, many of the professors take their meals. Here students also may bring visiting parents and friends. Another accommodates the training tables of the several athletic teams during their seasons of activity. The full capacity of the Commons is about three hundred boarders.

At the west end of the main floor is the kitchen. To the right of the hall are a cloak-room and lavatory. The basement contains store-rooms, refrigerating plant, heating plant, and bakery. From the beginning the Commons has been in charge of an experienced and competent manager.

The main purpose of the Commons is to give good board to students at a rate lower than the same can be given by any private party. This is possible by reason of the fact that no profit is sought, there is neither rent nor tax to pay, and materials are bought at wholesale prices. Whatever benefits the Commons thus enjoys accrue in lower rates and better food to the students.

A considerable saving, better accommodations and wholesome food are matters which of themselves have justified the establishment of the Commons. But it serves another and no less important function. Here almost half of our students can assemble three times a day in profitable friendly intercourse. This means much toward promoting unity and solidarity, a keener sense of comradeship and interdependence, and a deeper love for alma mater. It serves also as a center of college life where announcements can be made, short business meetings conducted and college songs rehearsed. In short, it is an organ of general convenience and enjoyment. Moreover, the Commons supplies a want in providing a place and service for alumni and faculty functions, such as dinners to distinguished visitors, alumni luncheons during the week of Finals, Phi Beta Kappa dinners and other similar occasions.

This new feature in our university life answers to a very real need. It marks a significant progressive step. But it does not seem to be clearly appreciated by our students. The Commons is equipped to accommodate three hundred men, but it enjoys the patronage of only about half this number. Whether running at full or at half capacity, the major expenses remain the same. Obviously, excepting the comparatively small expense

for extra food and a few extra waiters, it costs but little more to feed three hundred men than it does to serve half that number. At present the Commons remains open at a small monthly deficit. If the student body gave it the support it so well deserves, the enterprise could be made to pay for itself and at the same time enlarge still further the variety of the food at the same reduced price.

The Commons was built with the best interests of the students solely in view. It was hoped that the men on the university grounds would find it especially useful and attractive. Any defects which may exist to give cause for a disinclination to board at the Commons would disappear at the instant of adequate patronage. Furthermore, the Commons committee and the managment invite kindly criticism and suggestions looking towards possible continual improvement. Considering the manifold advantages offered, the Commons should enlist the heartiest support of the student-body. The enterprise is the result of mature deliberation and most unselfish motives on the part of the administration and the Board of Visitors, and its welfare should appeal as an obligation to every student.

The present situation is beset with difficulties many of which are incidental to any new scheme. Circumstances and conditions are in a measure adverse to immediate success. Many of these can be permanently altered in due course of time. The plan of service can be improved. The novelty of the enterprise will disappear and to eat at Commons will become traditional as a privilege. Less than half of our students can now be housed in university dormitories. Those compelled to seek elsewhere for rooms are usually forced to take meals at the same place. Additional, and also less expensive, dormitories will provide a larger number of students available for the Commons.

In brief, our troubles are such as all new enterprises may be expected to encounter. They are more apparent than real and surely very temporary. If the Commons could do no more than simply reduce the price of board and raise the quality of food at the outside boarding-houses it would be doing a great service to the student-body. This much and more it has already accomplished. And as its purposes become better understood, and as it receives more adequate student support, it will realize in

greater measure its ideals for student welfare and the good of the University. The University Commons will undoubtedly come to be recognized as one of the most important and indispensable of the great advances of recent years.

A LIBRARY OF SOUTHERN LITERATURE.*

BY JOHN S. PATTON.

Ten of the fifteen volumes of this work have been published. The purpose achieved in them is the collection of much that Southern writers have produced and the world knows not of, and more of the best things by authors whose survival continues and whose works are on the tables of the cultivated everywhere. Edgar Allan Poe, to go back for an instance, and Thomas Nelson Page, to take a modern one, cannot be lost, and a score or so of others are secure from the obliterating touch of time. They can be seen by even the hasty and near-sighted surveyor of the American field of letters, no matter where he takes his stand, and without the aid of any publication of this day will be valued with a justice more or less exact and appeasing. But not all of the rare spirits whose gifts and achievements have given them perfect title have come into their own, and no section of our country has given birth to a larger number of those who have failed of their heritage and its just enrichment than the South. It is the saving of the least of these writers that is almost the best achievement of those who are bringing out these volumes: for it amounts to a regift of their creations and a reconsecration of their creative energies to the enrichment of our national literature.

The plan is not unusual, but it is the best for an undertaking of such wide scope, and for a body of literature provided for the general reader. Perhaps the teacher would prefer a division into periods, staked off between dates, or a parcelling into fractions each of which should illustrate some impulse, tendency or condition, but the editors have wisely followed the alphabetic method, and shown the writer in his individual atmosphere, unconscious of relation, and left his productions to be judged on their merits as spontaneous results.

*"Library of Southern Literature:" Compiled under the Direct Supervision of Southern Men of Letters. Illustrated. Published under the approval and patronage of distinguished citizens of the South. Atlanta: The Martin & Hoyt Company.

Writers in every Southern State studied competently and valued discriminatingly the *literati* of their commonwealths for these volumes, and they found their fields full of riches for the strengthening of their country's esteem. They have introduced each included author by a sketch, not a biographical paragraph of vague characterizations and meager contributions of information, but an adequate and satisfying narrative of facts and a cautious deliverance of critical judgment. Several hundred writers contributed biographies, some of which are gems of the first order in literary and stylistic qualities, and many of which rank scarcely lower; but, as was inevitable, others modestly offer only the valuable results of conscientious and fruitful research.

It is not easy to resist the temptation to draw attention to certain of these sketches: to the wonderfully sympathetic one in which Alexander St. Clair Mackenzie makes Hew Ainslie a real and engrossing personage to even those who never knew him; to that of George D. Prentice who lives again under the kindly touch and skillful suggestion of Henry Watterson—near him the wraith of the great Kentucky commoner whom he worshipped in a fine intellectual frenzy of appreciation; to that of J. L. M. Curry, at once prophet and creator, wisely measured for posterity by the fine standards demanded by President Alderman's sympathy and insight, and in a prose in which the right adjective finds unerringly its place of dignity and service; to Thomas Nelson Page, the sources of whose romanticism we discern through the glasses of Dr. Kent, by whose help we realize the power and charm of the creator of Marse Chan; and to many another scarcely less sincere; but the line of immortals is too long for review in this place.

Following each biography are selections which represent characteristic excellences of the subject of the sketch as a writer and which delineate intimate phases of Southern life, Southern attitudes, and Southern habits of thought. These selections ensue upon a consensus of the best literary opinion of the South: an agreement of incalculable value never before reached or even

APPENDIX D

UNIVERSITY OF VIRGINIA ALUMNI NEWS

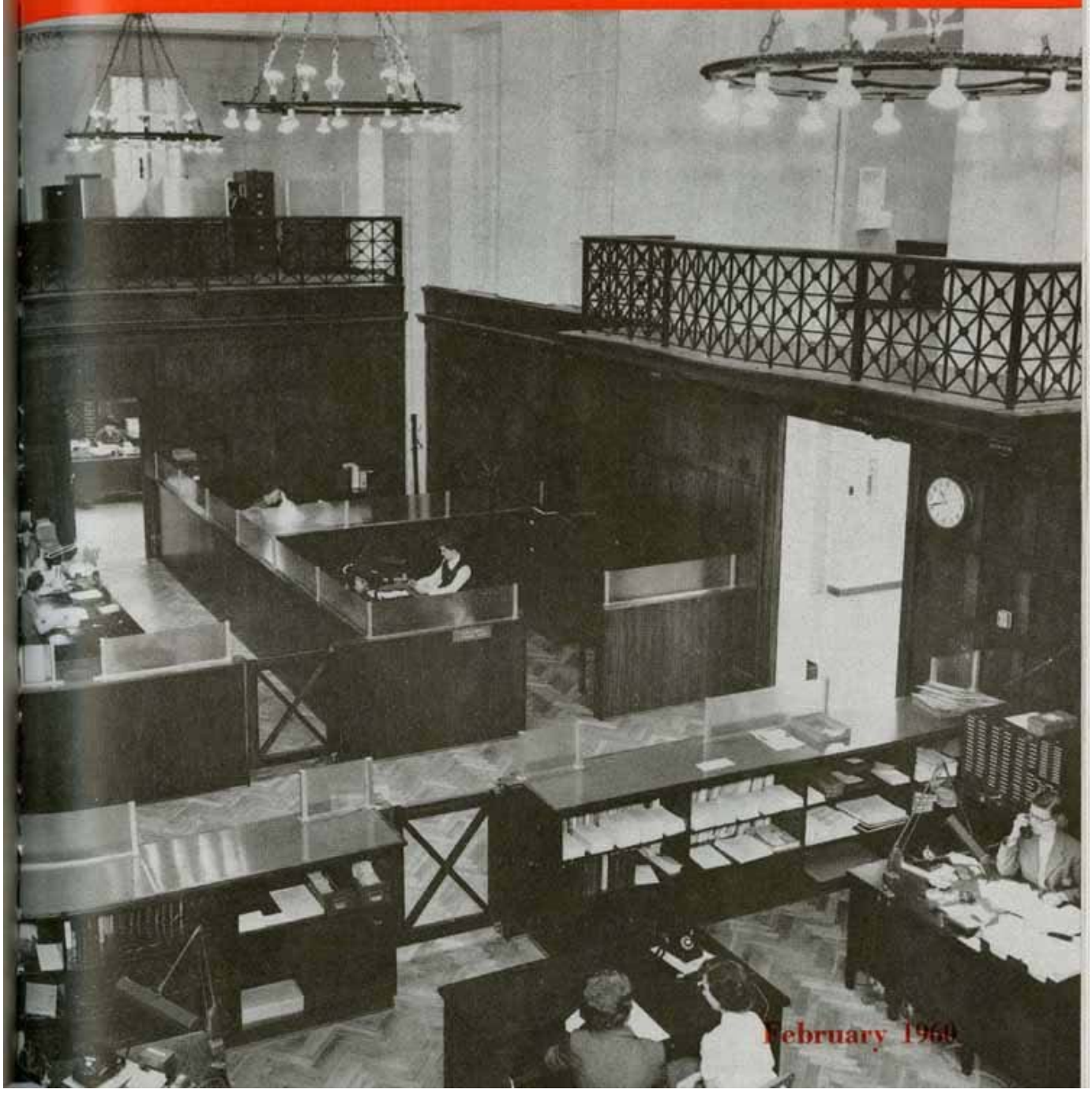
VOL. XLVIII No. 4

FEBRUARY 1960

On the Cover . . .

The main dining room of the old Commons is now the new main center of operations of the Offices of Registrar and Bursar, both recently moved from the Rotunda. The story on one of the latest major changes is on page 12.—Ralph Thompson Photo

UNIVERSITY of VIRGINIA ALUMNI NEWS



February 1960

Garrett Hall

New Name For An Old Building

The Commons, the dining hall Stanford White designed for the University of Virginia not long before he was murdered, has been given a new name, undergone an architectural transformation, and has been put back into service as quarters for the Bursar and the Registrar and their staffs.

Garrett Hall was chosen as the new name for the old building in honor of Alexander Garrett, who was retained as treasurer and bursar by the Board of Visitors at their meeting of February 1819, their last as trustees of the non-existent Central College. His appointment was confirmed when the board of the newly chartered University of Virginia held its first meeting March 29, 1819.

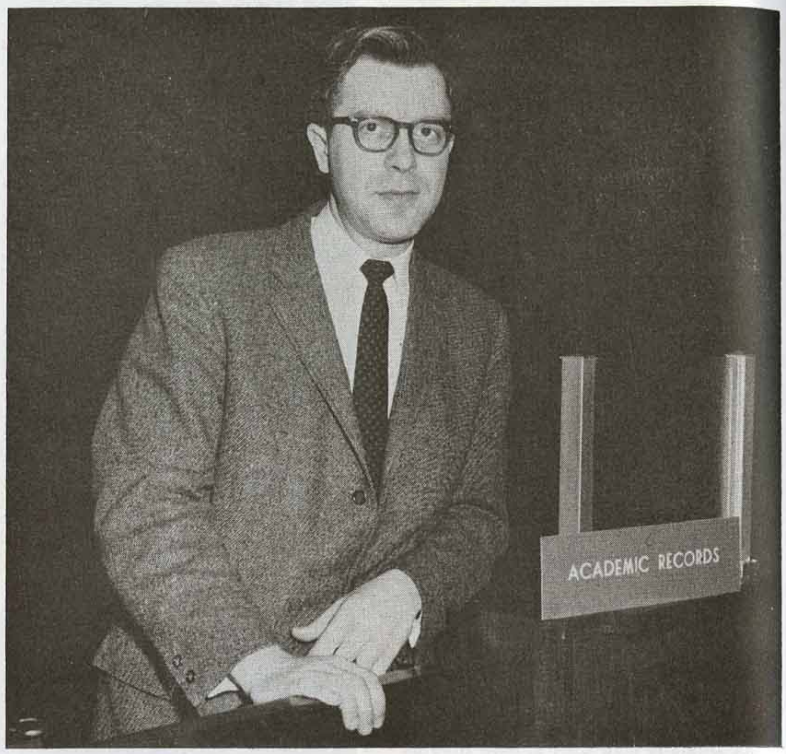
University workmen carried out the renovation under the supervision of Thomas Fitz Patrick, dean of the School of Architecture, who provided the two University administrative agencies with ample office space for those who require privacy and open working areas for the secretaries. He did this without altering the handsome proportions of what was for almost exactly half a century the University's principal dining room. The most notable alteration has been the addition of a balcony at the south end to match the one which has always been at the north end. At the balcony level there is no obstruction from one end of the building to the other.

The disastrous fire of October 27, 1895, made a shell of the Rotunda and destroyed the 100-foot long Annex which had been added as a north wing in the early 1850's. Within less than three months the Board of Visitors had negotiated with the New York architectural firm of McKim, Mead and White and had chosen its most distinguished member to direct the restoration of the Rotunda and to plan a group of buildings to close the south end of the Lawn.

During the building boom which began out of necessity, Mr. White planned five of the new structures: Cabell Hall at the end of the Lawn and named for Jefferson's friend Joseph C. Cabell; the Rouss Physical Laboratory, named for the Virginia-born philanthropist, Charles Broadway Rouss; and the Mechanical Laboratory, later named for General John H. Cocke, one of the early Visitors; the President's House on Carr's Hill; and the Commons.

The architect's work on the University's first central dining hall could not have been long completed before the night of June 25, 1906, when he was shot by Harry K. Thaw in the old Madison Square Garden he designed for Madison Square.

Ground was broken for the building in the fall of 1907 with the expectation that it would be ready in September. But it was completed by June and first used during the Summer School of 1908.



Edward W. Lautenschlager
The Registrar

It served its purpose for a few months more than half a century. The dining areas of Newcomb Hall were put in use as the 1958-59 session began.

What is now Garrett Hall was placed on an axis extending southward midway between West Lawn and West Range. In 1910 a new law building, Minor Hall, was completed to form, with the Commons and the rear of the Mechanical Laboratory, three sides of a new quadrangle. In 1911, Warren H. Manning, of Boston, drew a site plan for the enlargement of the University which included an amphitheatre for open air events with a stage to make the fourth side of this rectangular grouping. There was a slight delay, of ten years, before a gift from the late Paul G. McIntire made possible the building of the outdoor theatre which was ready to be used for the postponed Centennial Celebration in June 1921.

The Commons was built with a hope that it might help to cut student living expenses which were threatening to get out of hand. At first the charge was $10.00 a month for three meals six days a week. Students were soon complaining about the quality of the food and the only remedy was to raise the fee, which was $14.00 by 1914. By then a war was on, first in Europe, then with the United States involved, and the cost of food has not ceased to increase.

Newcomb Hall has a contract cafeteria for students who sign up to eat there regularly. The charge is $330.00 for the session for three meals five days each week, Monday through Friday, which is roughly $10.00 for a shortened week. For week-ends Newcomb Hall keeps open its regular cafeteria and its large snack-bar.

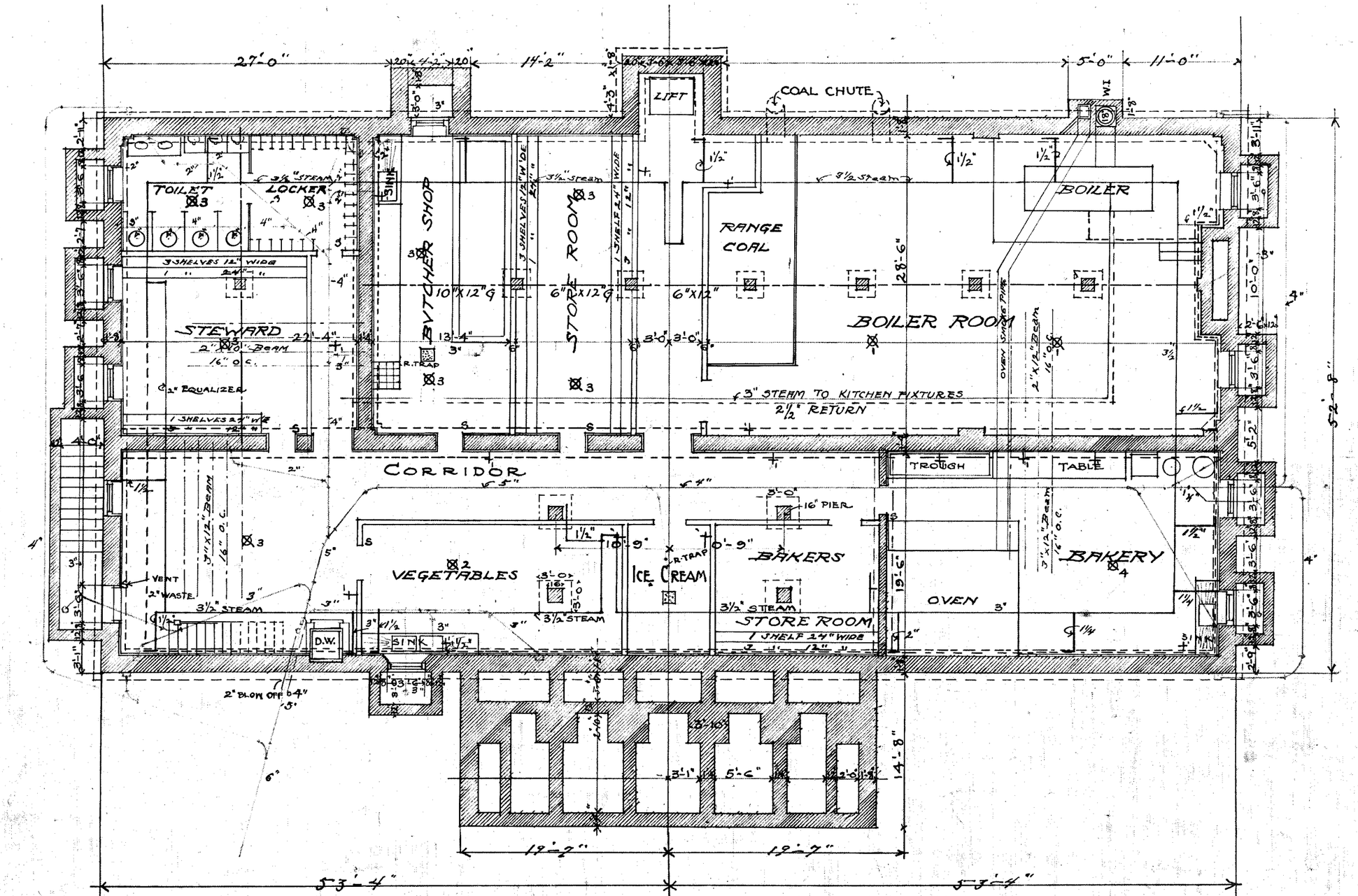
Offices of the bursar, David B. Moyer, and his staff, are in the east side of Garrett Hall, toward the Lawn, while those of the registrar, Edward B. Lautenschlager, are in the west side, where the kitchens and serving areas once were. Much of the day by day business of these two administrative departments is done in what was once the main dining hall.

A most striking feature of Garrett Hall's new lease on life is the transformation of the basement, for fifty years used for food storage and preparation. In a large and brightly lighted room is the tabulating section with IBM machines that keep punch-card records of every student. There's space to store forms, catalogs and such.

Summer Session administrative offices are to be moved into the registrar's section of Garrett Hall.

Workers in Garrett Hall will be able to enjoy something never served up in the old Commons—air conditioning.

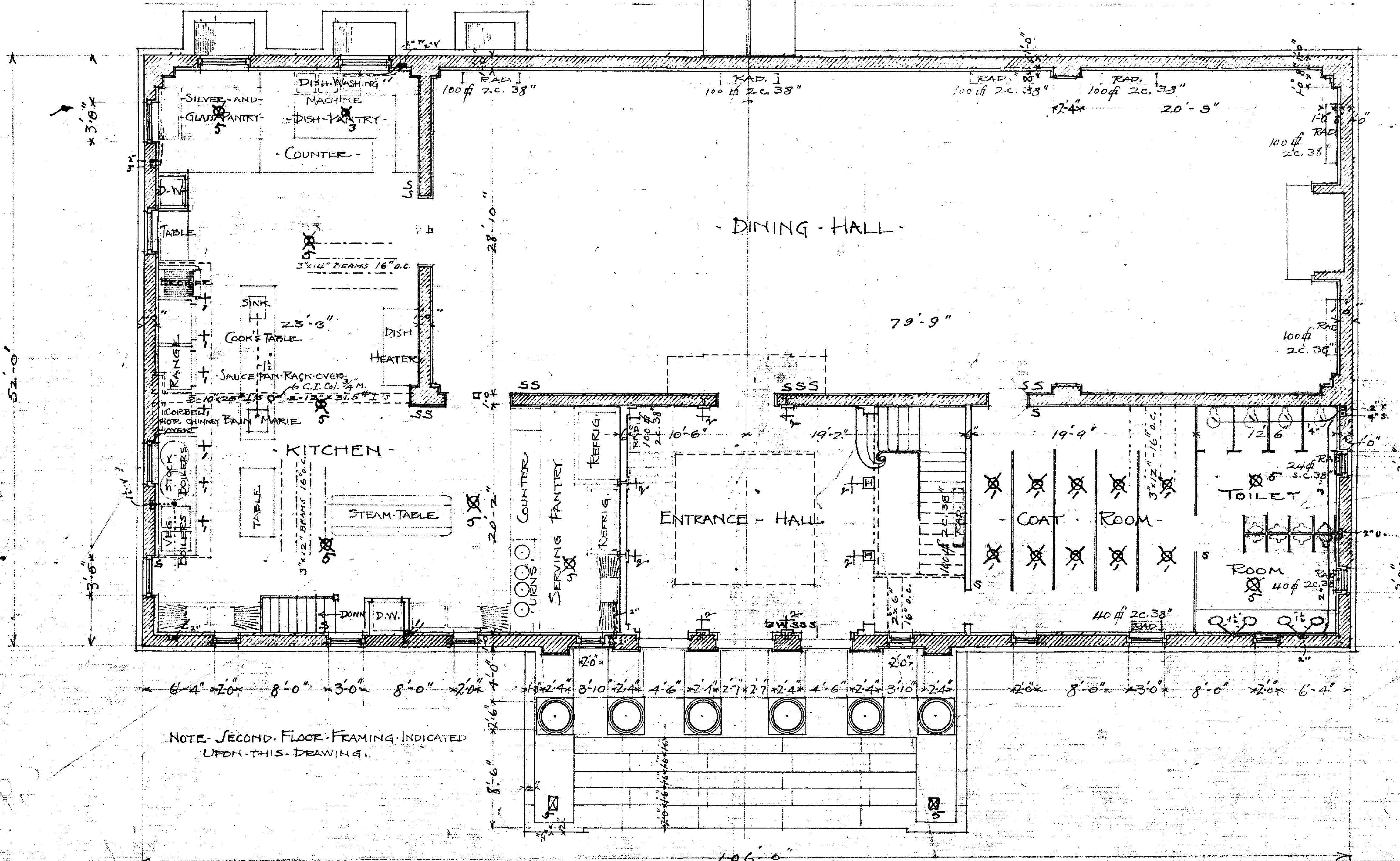
APPENDIX E



BASEMENT – PLAN.
REFECTORY FOR THE UNIVERSITY OF VIRGINIA.
SCALE 1/8" = 1 FOOT.

McKIM, MEAD AND WHITE ARCHITECTS
160 FIFTH AVE. NEW YORK.

DRAWING NO. 7
DATE 12.15.06
MADE BY Maynard



NOTE. SECOND. FLOOR. FRAMING. INDICATED UPON. THIS. DRAWING.

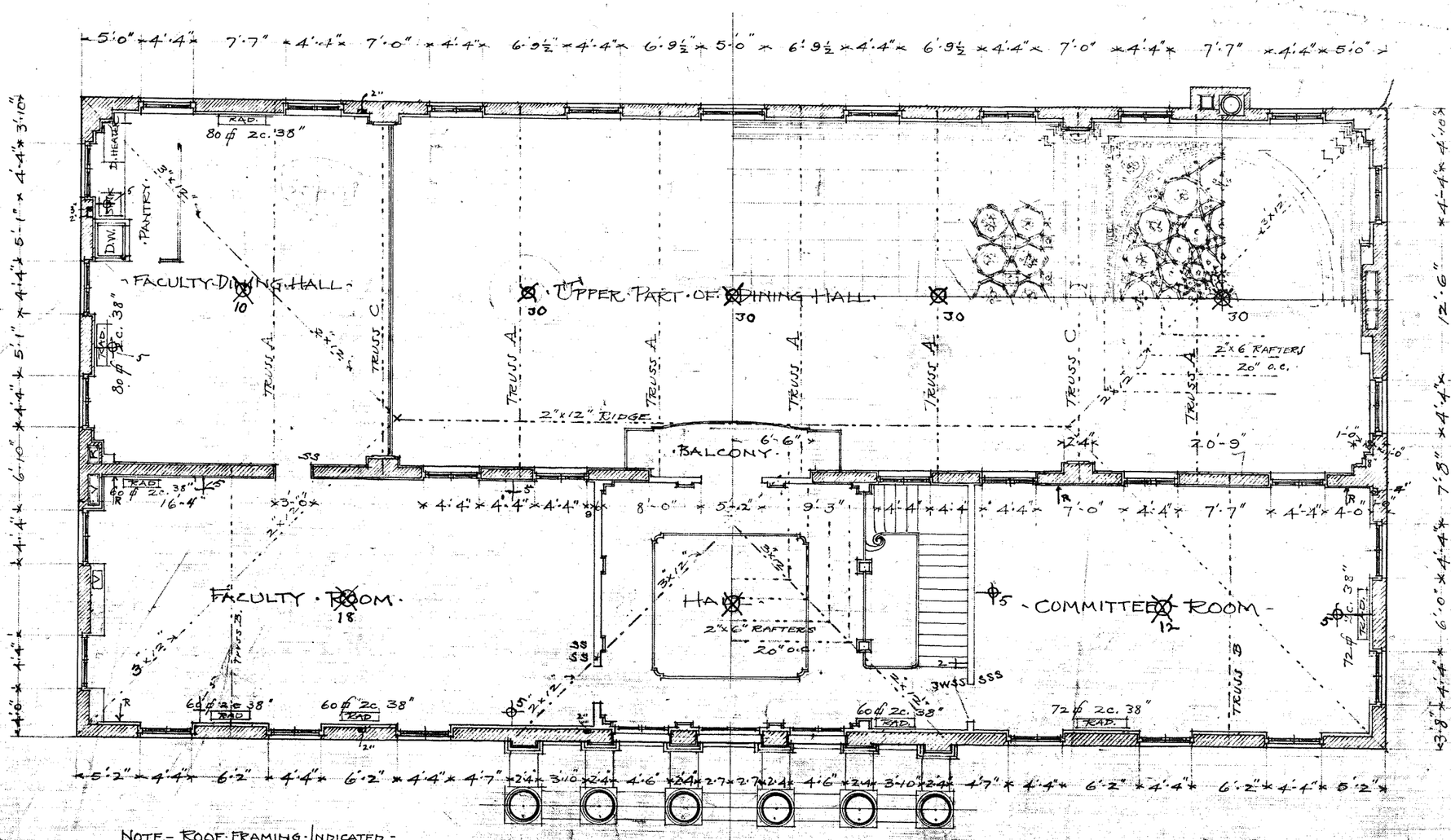
FIRST FLOOR PLAN

REFECTORY FOR THE UNIVERSITY OF VIRGINIA

SCALE 1/8 IN. = 1 FT.

McKIM, MEAD, AND WHITE ARCHITECTS
160 FIFTH AVE NEW YORK

DRAWING NO. 2
DATE 12-15-06
MADE BY Sayward



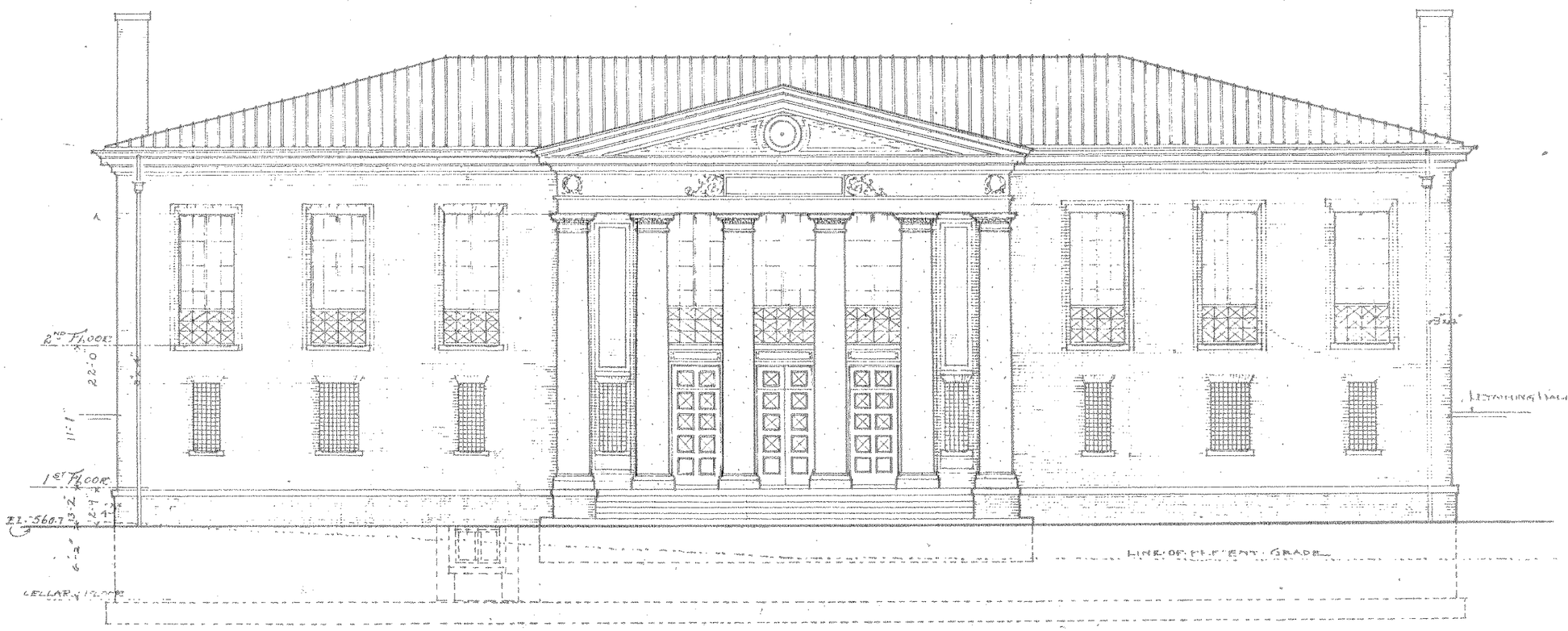
NOTE- ROOF FRAMING INDICATED UPON THIS DRAWING-

- SECOND FLOOR PLAN -
- REFECTORY FOR THE UNIVERSITY OF VIRGINIA -

SCALE ⅛ IN = 1 FT.

McKIM MEAD AND WHITE ARCHITECTS
160 FIFTH AVE NEW YORK

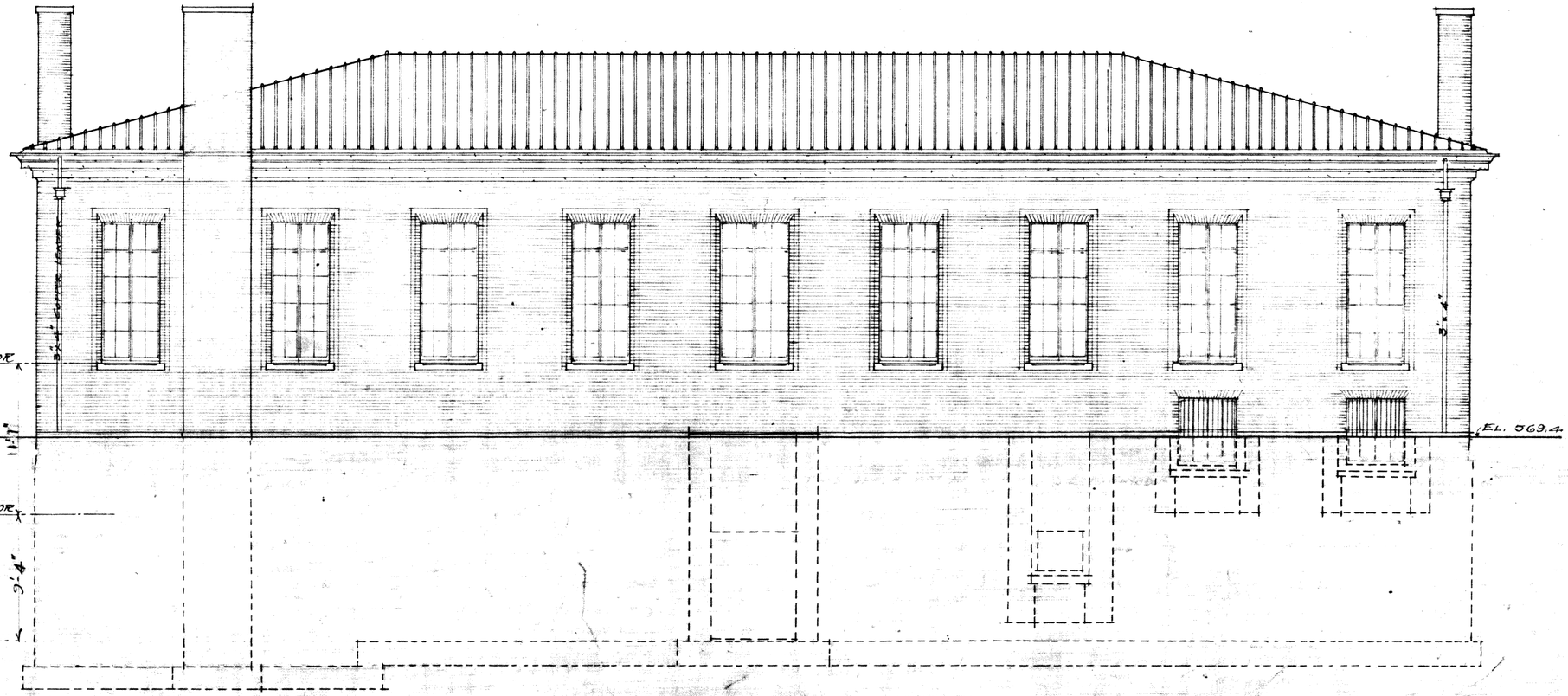
DRAWING NO. 3
DATE 12-15-06
MADE BY Sayward



FRONT ELEVATION
REFECTORY FOR THE UNIVERSITY OF VIRGINIA
SCALE 1/8" - 1'-0"

McKim Mead and White Architects
160 Fifth Ave. N.Y.C.

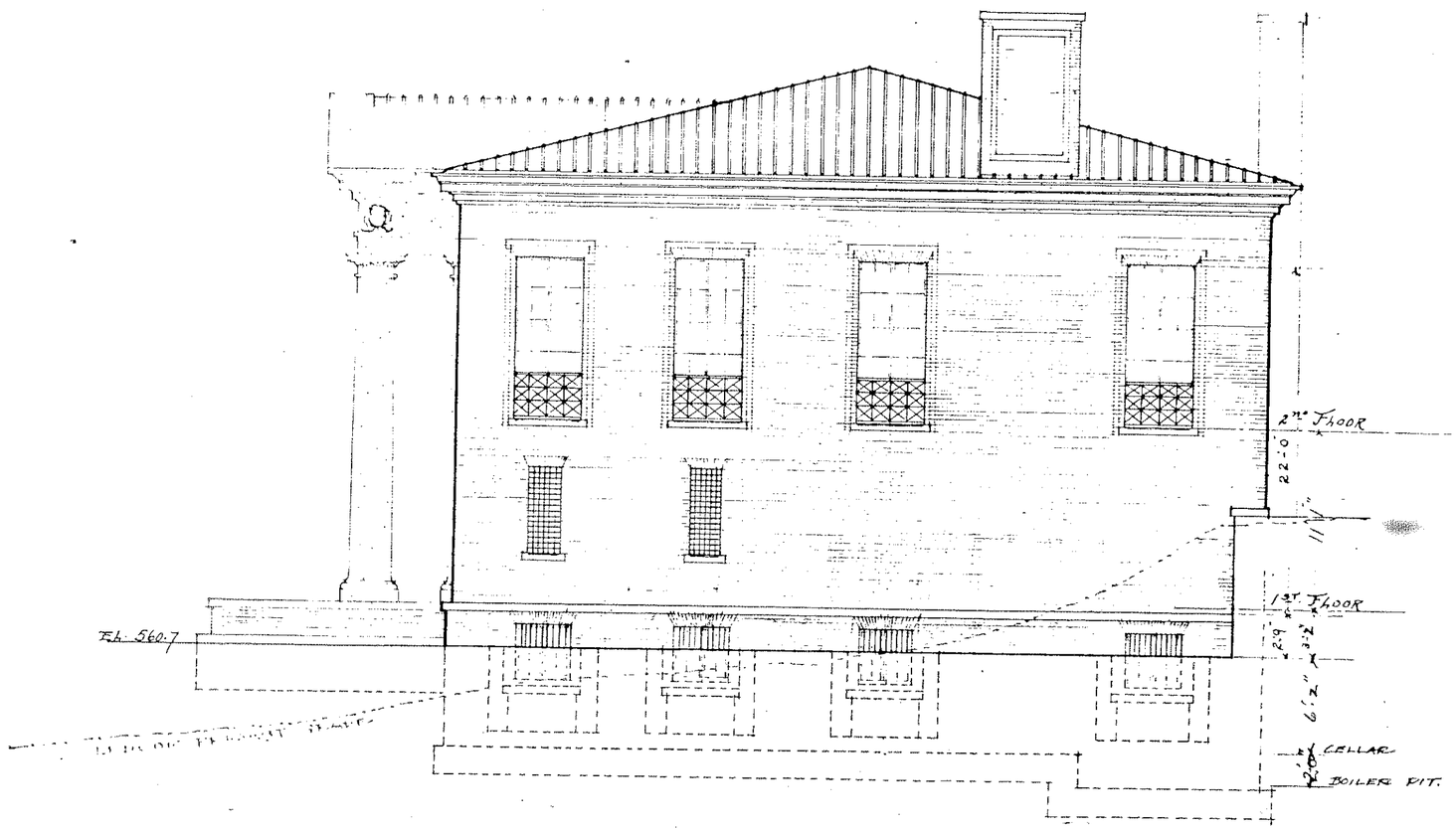
DRAWING 1934
DATE 12-15-06
MADE BY



NORTH ELEVATION
REFECTORY FOR THE UNIVERSITY OF VIRGINIA
SCALE 1/8" - 1'-0"

Mc. Kim Mead and White, Architects
160 - Fifth Ave. N.Y.C.

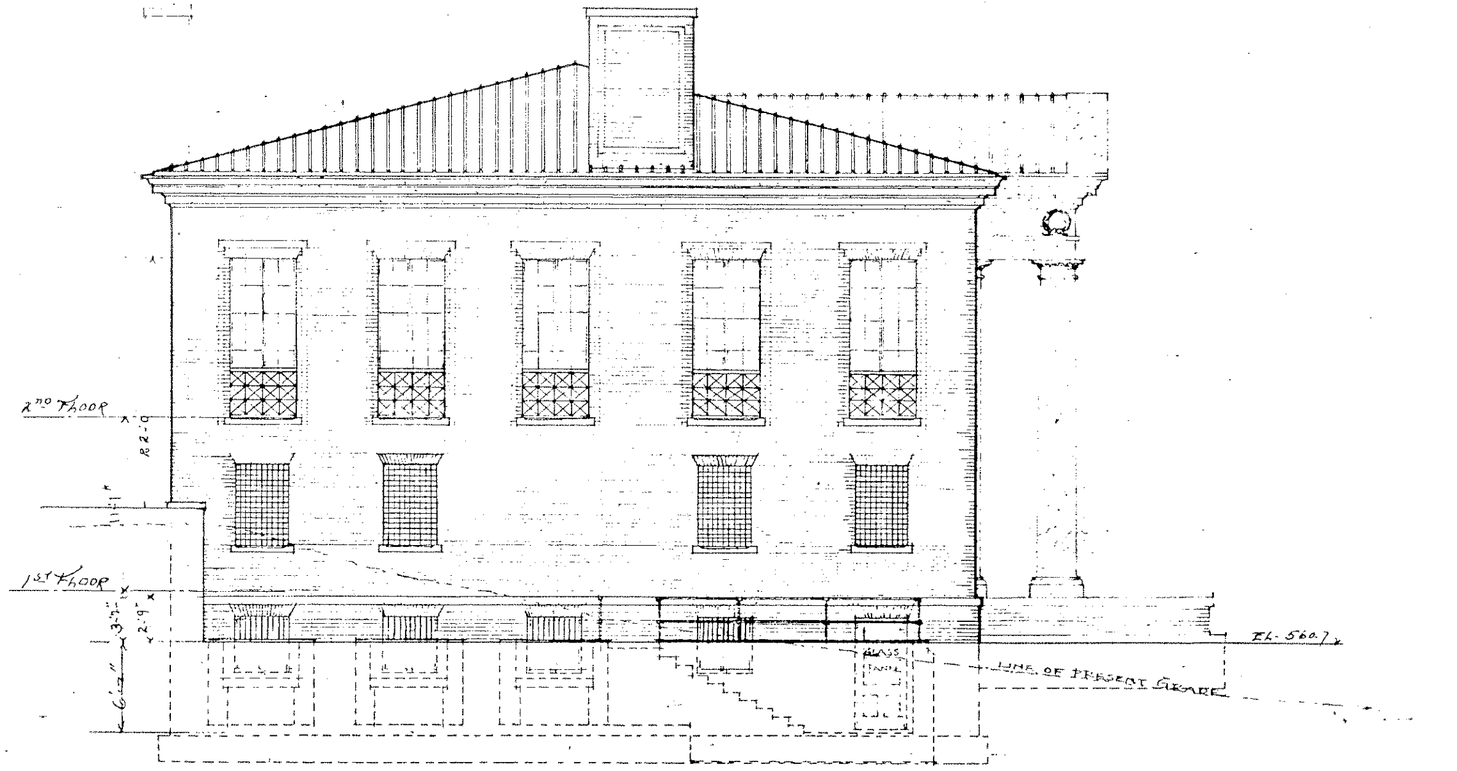
DRAWING No 5.
DATE 12 - 15 - 06.
MADE BY Kenling.



EAST ELEVATION
REFECTORY FOR THE UNIVERSITY OF VIRGINIA
SCALE 1/8" = 1'-0"

McKim Mead and White, Architects
160 - Fifth Ave. New York

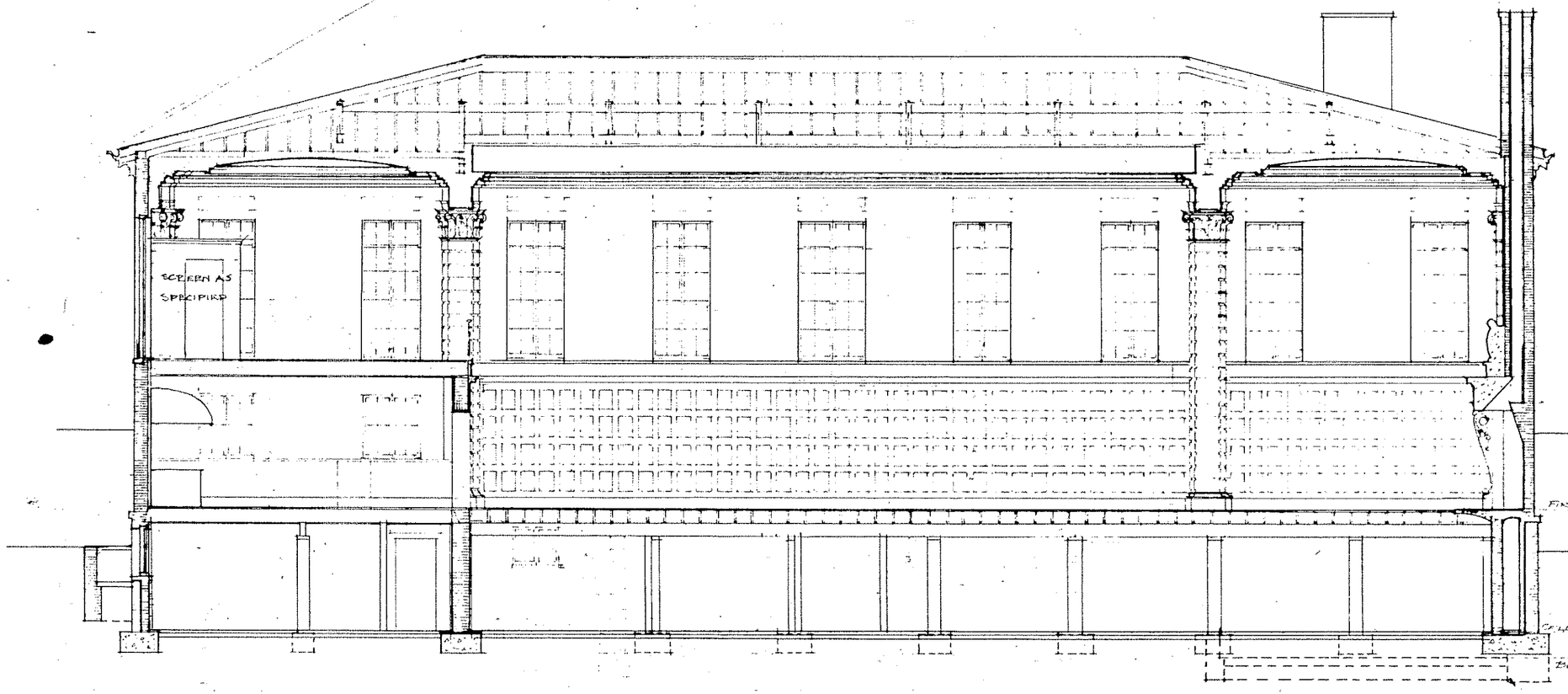
DRAWING No 6
DATE 12-15-06
BY [illegible]



WEST ELEVATION
REFECTORY FOR THE UNIVERSITY OF VIRGINIA
SCALE 1/8" = 1'-0"

McKim Mead and White, Architects.
160 - Fifth Ave. N.Y.C.

DRAWING No. 7
DATE 12-15-06.
MADE BY Perking



– LONGITUDINAL-SECTION –
REFECTORY-FOR-THE-UNIVERSITY-OF-VIRGINIA –
SCALE 1/8 IN. = 1 FT.

McKIM, MEAD, AND WHITE, ARCHTS.
160 FIFTH AVE., NEW YORK.

DRAWING No. 8
DATE 12-15-06
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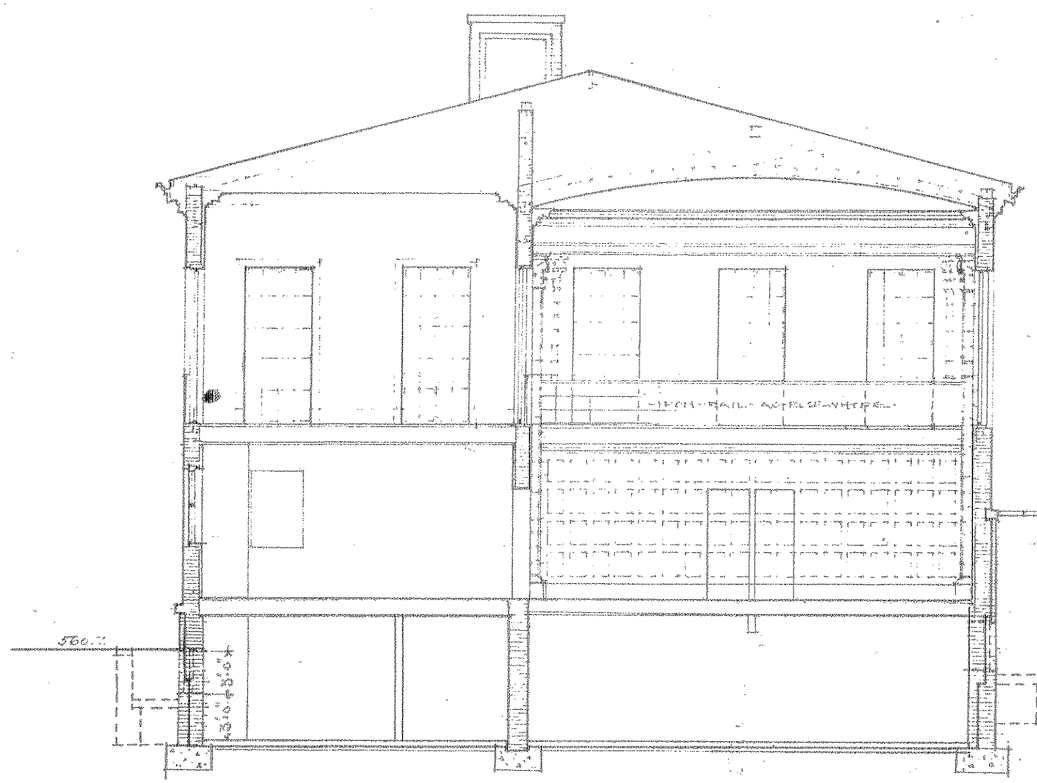
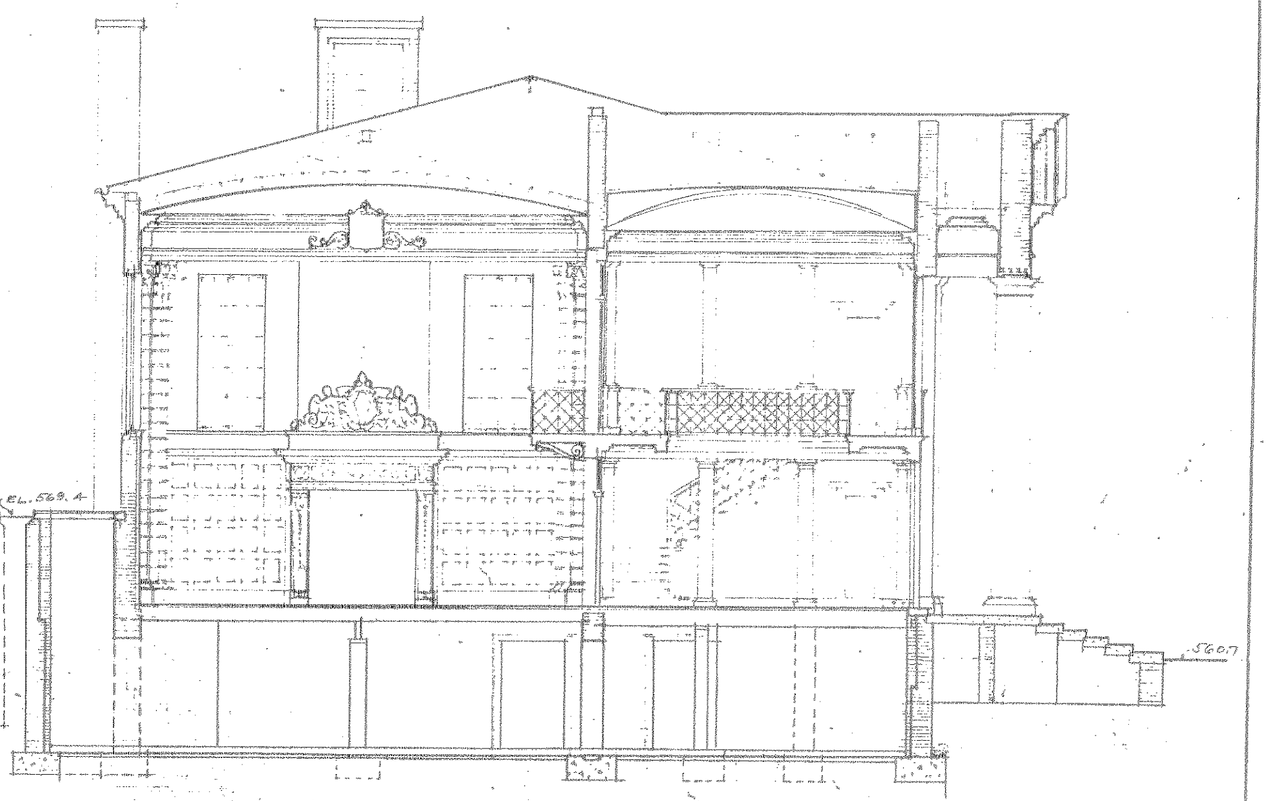


SECTION LOOKING WEST



SECTION LOOKING EAST

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REFECTORY FOR THE UNIVERSITY OF VIRGINIA

SCALE 1/8 IN. = 1FT.

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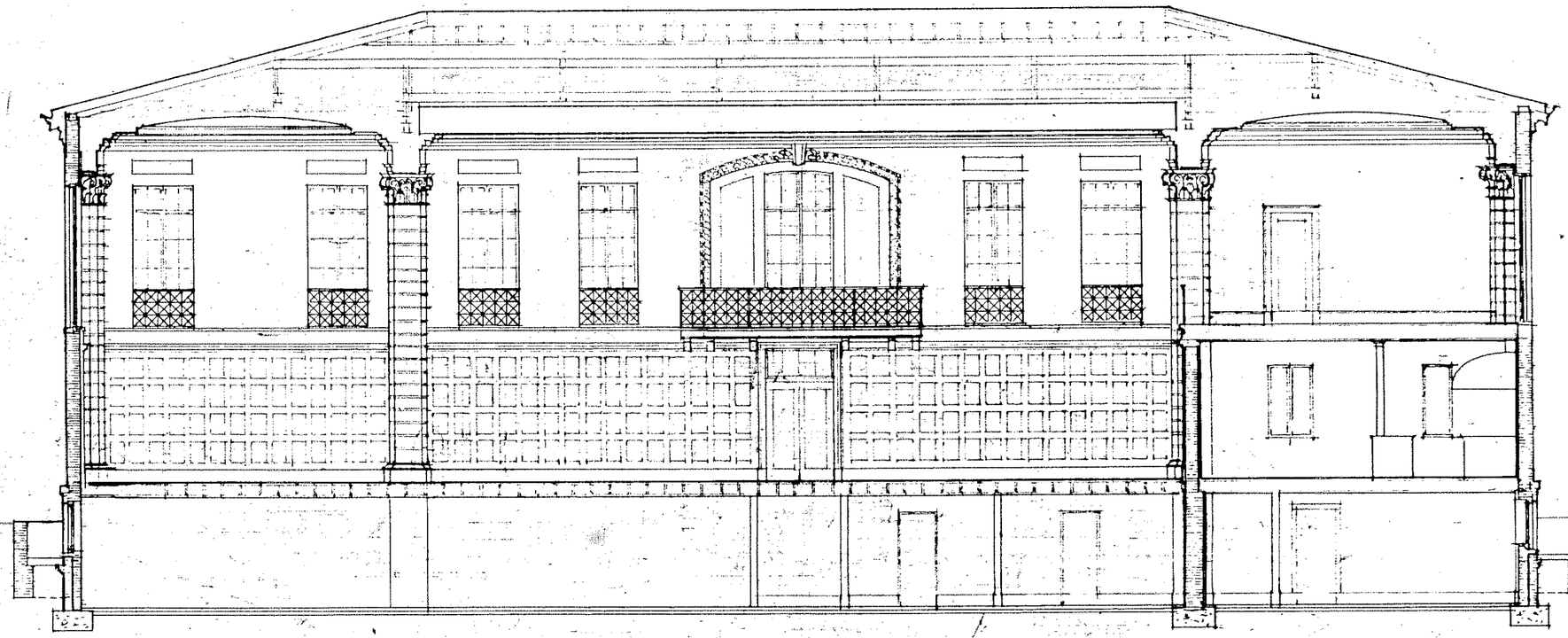

-SECTION-LOOKING-SOUTH-
REFECTORY-FOR-THE-UNIVERSITY-OF-VIRGINIA-
SCALE 1/8 IN. = 1 FT.

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