Brick_Wood_Stone_Land_Water_Measurement

Index to the Construction of the Academical Village from 1817 to 1828
Spencer Haynsworth

Kenan Fellowship 2004
Spencer Haynsworth would like to thank the Kenan Fellowship for the opportunity to research and explore representation methods of the reconstruction of the Academical Village. She would also like to thank Nataly Gattegno for her role as advisor to the fellowship.

The majority of research so integral to this project is credited to Frank Edgar Grizzard, Jr. and his effort in compiling the Documentary History of the Construction of the Buildings at the University of Virginia, 1817–1828, a dissertation presented to the graduate faculty of the University of Virginia in candidacy for the degree of doctor of philosophy at the Corcoran Department of History University of Virginia in August 1996.
In mid-July 1817, in a small brick kiln near a large spring on the west side of what is now known as the Lawn, bricks were being made in preparation for construction of the First Pavilion of Thomas Jefferson’s Academical Village. The lawn had been surveyed and the grid laid. The First Pavilion to be built was placed at the center of three square acres, the Lawn, and some principal building was determined to be constructed in the center of the northern most square. The law of the ground and experimentation transformed Jefferson’s rational grid and the individual pavilions and dormitories that surrounded the central square. The First Pavilion (pavilion vii) was the initial test of Jefferson’s conceptual plan and construction at the site. This pavilion became a datum for the surveying of springs and topography as well as the construction materials of the near and extended site. October 6, 1817, the cornerstone of the Academical Village was ceremoniously placed six feet within the foundation of the first pavilion, commencing the entire construction operation. And in 1828, the capstone was placed at the northern most point of the Lawn; the Rotunda was the last building constructed on the site. The documentary record that exists refers to material and building processes at and beyond the construction site. The Academical Village, its physical existence of leveled ground, brick walls and marble columns, is a living index that points to processes of making, burning and laying bricks, felling timber and sawing it into plank, quarrying and hauling rock, measuring and clearing land, piping and creating reserves of water that occurred during the initial building campaigns of 1817 to 1828.

At one moment the Academical Village reads as a hierarchical space where a central figurehead, the Rotunda, closes a swath of open space in which smaller pavilions and single-room dormitories proceed down the Lawn, flanked by a secondary series of hotels and rooms. In another way, the Academical Village, the extended site and the material construction that occurred from 1817 to 1828, pivots around the conception and realization of the First Pavilion. In this way, both the cornerstone and the capstone, the First Pavilion and the Rotunda, provide two distinct centers for the Lawn.

When the Academical Village is mapped as an index to the processes of brick making and laying, of woodworking, transporting materials and supplies, workmen’s techniques used in construction, etc., the map begins to describe a site that extends beyond the bounds of the site itself, connecting site to ground, country (the newly formed Colonies) and world (Italy and Europe). Archival and on site research
has become a series of conceptual excavations. Working from the discrete building materials of the site, e.g., brick, stone, wood, this project has attempted to reconstruct connections (or reveal latent ones) between the Academical Village and the material processes, e.g., brick making and laying, woodworking and stonecutting. By reconstructing an overview of the interactions between the workers, raw materials and processes of construction, a new map of the Academical Village materializes. 

Brick_Wood_Stone_Land_Water_Measurement maps a graphic narrative that reveals a new understanding of the Academical Village, very different from the normative representations currently available. This guidebook, map and construction timeline visually represent the origin of the material construction of the Academical Village. Visitors are able to take a self-guided tour of the Academical Village from the construction of the first pavilion to the completion of the Rotunda. This guidebook cross-references the construction sites of the Academical Village, while the attached map directs visitors to areas in the Academical Village, the Grounds, and beyond the site where various construction and manufacturing processes occurred. The construction timeline provides an overview of major construction events during the building campaigns of 1817 to 1828.

As we passed through Charlottesville, Edmund Bacon recalled, I went to old Davy Issacs’ store and got a ball of twine, Dinsmore found some shingles and made some pegs, and we all went on to the old field together. Mr Jefferson looked over the ground for some time and then struck down a peg in [the first pavilion], and then directed me where to carry the line, and I stuck the second. He carried one end of the line, and I the other, in laying off the foundation of the University. He had a little rule in his pocket that he always carried with him, and with this he measured off the ground and laid the entire foundation, and then set the men at work.

Bear, Jefferson at Monticello, 32-33.
A master brickmaker and mason, who had completed the building of Poplar Forest, constructed all the walls of the first pavilion except the front wall. A master of the brick business in Lynchburg constructed the front wall. They have [in Lynchburg] the new method of molding the stock brick in oil, and execute with it the most beautiful brick work I have ever seen.

Principal Carpenters and Brickmasons at the University of Virginia 1817-1825 by K Edward Lay, Jefferson Country.pdf
Jefferson, only briefly mentioning the [cornerstone laying ceremony for the first pavilion] in passing in his correspondence, was more concerned in fact with guaranteeing the quick arrival of a Lynchburg bricklayer so that he could commence laying the brick walls of the pavilion while the Virginia weather was still relatively hospitable.

See TJ to David Knight, 5 October 1817, DLC. TJ. Knight contracted with TJ to “Work faithfully, upon the Central College at the rate of five Dollars per Day & his Diet found,” plus traveling expenses (David Knight’s Agreement for Bricklaying, 11 October 1817, in ViU:PP):
By the middle of July 1817 in a small brick kiln near a large spring on the west side of the square (or lawn as it came to be known) bricks were being made for the new pavilion.

See TJ to Benjamin H. Latrobe, 16 July 1817, DLC:TJ, and TJ to John Hartwell Cocke, 19 July 1817, WU:JHC; see also Van Horne, Correspondence and Miscellaneous Papers of Benjamin Henry Latrobe, 3:907-10.

The process of brickmaking began in full force in the middle of June 1818 as the seasonal weather permitted in order to commence laying the bricks for the first pavilion and those that followed.

Larkin notes that during this period in American history, “few used brick and stone except for German settlers and their descendants” (The Reshaping of Everyday Life, 107).
The front walls are to be faced with oil stock bricks; the others with sand stocks, the interior mass to be of place bricks - all to be laid with good bond, to be clinkers, and not a single sammel brick to be used in any part of the work, under a penalty of five cents for every such brick, nor more than 2 bats to 9 whole bricks.


http://www.shol.com/agita/clinker.htm

clinkers:
Bricks that were originally discarded because they were discolored or distorted. The name “clinker-brick” comes from the sound that they would make when banged together, being heavier than regular bricks.
The inner mortar to be 1/3 lime and 2/3 clean gritty sand, without any mixture of earth; the outer 1/2 lime and 1/2 such sand, and the whole to be grouted with a mortar of the inner quality.

See http://www.iath.virginia.edu/wilson/uva/pavilionI/hsrpav1.body3.html
therefore 192, 248 bricks were required to build a pavilion and its 20 adjacent dormitories.

= 192, 248 bricks
The colonnade columns were originally constructed of pie-shaped bricks covered probably with unpainted brownish stucco to resemble stone and its bases and capitals were cut from stone. Jefferson himself wondered Would it not be best to make the internal columns of well-burnt brick, moulded in portions of circles adapted to the diminution of the columns?

Architect for the Lawn, Murray Howard, 26 Aug. 1996

http://www.diydoctor.org.uk/tips/images/brick%20shapes.jpg
Our walls are generally 1½ brick thick. the whole to be grouted; not a single sammel brick, and but 2. bats to be used for every 9. whole bricks. the front wall to be oil-stock brick, the other outer walls sand-stock.

TJ to Cabell, 19 December 1817, ViU:TJ.
The yard is laid off in a more regular manner than I ever saw one, and every thing seem to go on with perfect order. They do not make up their mortar as we do with Oxen but with a spade, and make it in large piles and cover it with planks a day before they use it, the hole is near a branch and they always have a good deal of water in it. they have the table near the place, that they lay down the bricks and move it as they lay them down, and the mud is rolled to it. I have not yet Seen them moulding brick as I went there just as they began to Kiln they hack all the bricks in single hacks and under a large shelter which is erected for the purpoze, which efectually keeps off the sun and rain. the kiln which I saw, was lined with a stone wall about a foot thick, about half way and the other part with brickbats.

John Hartwell Cocke, Jr., to John Hartwell Cocke, 27 August 1819, VIU-JHC.
The lime kilns are about 9 miles distant along the public road, and the price of lime has been generally about 16 cents the bushel at the kilns; but it is believed that better lime, and on better terms, may be had from more distant quarries. Good sand is two miles distant. The wood lands commence at about half a mile, and the brick yard with water is about 30 to 40 rods distant: space for the yard, earth for the bricks, sand for mortar, and water for both will be given.


...P.S. sand is 2. miles off and lime 9. or 10. miles. it’s price at the quarry 1/.

TJ to Cabell, 19 December 1817, ViU:TJ.

For the making of mortar for the bricks, lime unstacked [can be aquired] from Augusta.

Dabney Cosby to Nelson Barksdale, 29 March 1819, ViU:TJ.
Principal Carpenters and Brickmasons
at the University of Virginia 1817-1825
by K Edward Lay, Jefferson Country.PDF

the first pavilion
The pace of the carpenters’ work on the site was determined by the amount of lumber delivered to the University for them. Wagon loads of plank from Gilmore’s, Garth’s, and Maury’s sawmills were hauled to the construction site regularly. These three mills were in Albemarle County. Gilmore’s Mill may be Gilmers Mill on Buck Island Creek which was operated by George C. Gilmer in the mid-nineteenth century. Garths Mill on Ivy Creek is sometimes called Gaths Mill. Reuben Maury’s mill, run by John Wheeler in 1814, was located on Moores Creek at Frys Spring.

See DNA: Records of the Bureau of Census, Manufactures of Fredericksville Parish, Albemarle County, 1820.
John M. Perry, the man who sold Jefferson the land for Academical Village, was insistent to do all the Carpenter’s and House joiner’s work for the first pavilion. Perry signed the first contract agreement between a builder and the University on June 23, 1817.

See http://www.iath.virginia.edu/wilson/uva/pavilionVII/History.pdf, Appendix A

Articles of Agreement made and concluded this twenty third day of June one thousand eight hundred and seventeen between Alexander Garrett as Proctor of the Central College in Albemarle on the one part and John M. Perry on the other part Witness, First, that of a Pavilion or Schoolhouse wing to be built for the said College on one of the lots of land purchased for the sd. College of the said John M Perry...
In 1818 a pine tree could be bought for $1, seven for $5, and twenty trees for $10, and a thousand feet of sawing cost from $7.50 to $9.

Documentary History of the Construction of the Buildings at the University of Virginia, 1817–1828, Frank Edgar Grizzard, Jr., Appendix B: A Note on Prices

In 1820...
1 pine tree cost $1
7 pine trees cost $5

two slaves could take two weeks to saw 1,000 board feet (12” x 12” x 1”) of lumber, for which the master could collect $9 from the buyer.
The items of house carpentry and joinery and their several prices are too numerous to be specified...Lumber is expected to be settled at its actual cost...unseasoned boards must be sufficiently kiln dried by [the carpenter].

The construction began in August 1824 on the [Rotunda] vault’s large wooden ribbed frame, the plan of which was taken, as Monticello’s dome had been, from Philibert De L’Orme’s Nouvelles Inventions pour bien bastir et a petits Fraiz (1576). I once owned the book, Jefferson recalled in the third week of May when writing to General Joseph G. Swift to borrow a copy of the volume, and understood the principles of his invention, but my recollection is not particular enough in every thing, our workmen are strangers to it, and I fear we may go wrong. if we could be accommodated with this single volume it would be of singular service to us. 

TJ to Swift, 22 May 1824, DLC:TJ. Swift loaned TJ his copy of Delorme, and TJ apparently returned it to Swift the next spring (see TJ to Swift, 21 June 1825, in ViU:TJ). Philibert Delorme (c. 1515-1570) was a French architect who, according to Sowerby, “studied in Italy, where he was employed by Pope Paul III. On his return to France he was first employed by Cardinal Du Bellay, and later by Henri II and Charles IX. Delorme built a number of chateaux in France, including those of St. Maur and Anet, and the Tuileries were built from his designs. Delorme is considered one of the great masters of the Renaissance” (Sowerby, Catalogue of the Library of Thomas Jefferson, 4:364 [4183]). TJ’s architectural detail for the wooden roofing frame is in ViU:TJ; see also O’Neal, Jefferson’s Buildings at the University of Virginia: The Rotunda, plate 9, and #17-08 in Lasala, “Thomas Jefferson’s Designs for the University of Virginia.”
The Rotunda’s roof was constructed with a Philibert de L’Orme truss like the one used for Monticello.

See http://www.iath.virginia.edu/wilson/uva/pavilionVII/History.pdf, Appendix A

http://www.culture.gouv.fr/culture/sites-sdaps/sdap14/pages%20htm%20hors%20menus/philibert.htm
On June 20, 1819, one of the carpenter’s at the site, perchas’d some timber standing, from 4 to 5½ miles distant and I expect to have all my large timber hewn this weake, the logs are redy but the water is two low to worke [the] mill...on monday last I made an inga[g]ement of 7 or 8 thousand feet of lumber 10 miles distant, the quality I have no doubt you will be satisfyed with.

Oldham to Brockenbrough, 20 June 1819, ViU:PP. William D. Meriwether delivered 3,140 feet of “1 Inch bordes and thirty feet of Scantling” to Oldham on 20 May, costing $59.45 (Loose Receipts, 6 and 12 July 1819, ViU:PP).
According to his specifications book, *Operations at & for the College*, Jefferson in laying out the site divided it into a dozen smaller and thus easier to manage rectangles of 100 by 127-1/2 feet. The place at which the theodolite was fixed being the center of the Northern square, and the point destined for some principal building in the level of the square…each square is to be level with itself with a pavilion at each end. **[Point] b is the center of the middle square, and at [point] g we propose to erect our first pavilion…locust stakes were driven at [points] l a f / g b h / i c k and at [point] d a pile of stones.**

Operations at and for the College, 18 July 1817, VIU:TJ, and TJ to Latrobe, 3 August 1817, DLC:TJ; see also ibid., 900-901, 916, and Malone, Jefferson and His Times: The Sage of Monticello, 257-61. In his letter of 3 August J
Brick _Wood_ Stone Land Water Measurement

100'x127.5'
aprox. 3 acres

first pavilion

theodolite

locust stakes

pile of rocks
We have nearly all the logs out for conveying the water & shall commence Waggoning them tomorrow.

Spooner to Brockenbrough, 13 August 1819, in ViU:PP.

Wooden pipes to transport water from the neighboring highlands were constructed in the late fall of 1919.

See Minutes of the Board of Visitors of the Central College, 26 February 1819, in ViU:TJ
By mid-June 1820 the proctor could report that our pipe borers are laying down the logs they are down for 300 yards—I have conveyed it 300 yards in a covered ditch at the end of which is a reservoir, 6 by 7 feet & 5 feet deep from whence I take water.

Brockenbrough to TJ, 7 June 1820, ViU:TJ. Jefferson later included “bringing water in pipes” in his estimate of the $10,000 cost for “numerous other contingencies” like covering with tin instead of shingles and levelling the grounds and streets. See his Statement of Probable Costs for the Buildings, 28 November 1820, ViU:TJ
The lime kilns are about 9 miles distant along the public road, and the price of lime has been generally about 16 cents the bushel at the kilns; but it is believed that better lime, and on better terms, may be had from more distant quarries. Good sand is two miles distant. The wood lands commence at about half a mile, and the brick yard with water is about 30 to 40 rods distant: space for the yard, earth for the bricks, sand for mortar, and water for both will be given.


...P.S. sand is 2. miles off and lime 9. or 10. miles. it’s price at the quarry 1/.

TJ to Cabell, 19 December 1817, ViU:TJ.

For the making of mortar for the bricks, lime unstacked [can be aquired] from Augusta.

Dabney Cosby to Nelson Barksdale, 29 March 1819, ViU:TJ.
The same commission for the six Doric bases and capitals for the first pavilion were given to both the Raggi brothers from Italy and a local stone carver. Exactly what occurred is unclear, but the Raggi brothers were paid for the same task that was most likely carried out by the local stone carver. Jefferson stated that every dollar we paid to Michael Raggi was so much sunk, as we do not profit of a single thing he did. See http://www.iath.virginia.edu/wilson/uva/pavilionVII/History.pdf, p.47.
Jefferson, only briefly mentioning the [cornerstone laying ceremony for the first pavilion] in passing in his correspondence, was more concerned in fact with guaranteeing the quick arrival of a Lynchburg bricklayer so that he could commence laying the brick walls of the pavilion while the Virginia weather was still relatively hospitable.

See TJ to David Knight, 5 October 1817, DLC. TJ contracted with TJ to “Work faithfully, upon the Central College at the rate of five Dollars per Day & his Diet found,” plus traveling expenses (David Knight’s Agreement for Bricklaying, 11 October 1817, in VIU:PP).
A Richmond merchant managed the difficult and dangerous job of loading the heavy marble capitals onboard the small vessels that would carry them by water from Rockett’s wharf on the James River in Richmond to Milton, the busy village on the Rivanna River just east of Charlottesville near Monticello.

Rockett’s Landing was a major wharf on the James River in Richmond in the vicinity of 31st and Mains streets where “various steamers plying between Richmond and Norfolk, Fortress Monroe, Baltimore, and New York” arrived and departed. Robert Rockett operated a ferry there as early as 1730 and tradition has it that Abe Lincoln walked from Rockett’s to the Davis mansion when he visited Richmond on 5 April 1865.
The Widow’s Son Masonic Lodge No. 60 and Charlottesville Lodge No. 90 conducted the cornerstone laying ceremony for the first pavilion on October 6, 1817.

See Bruce, University of Virginia, 1:183-90.
For the cornerstone laying ceremony: The grand master himself applied [the square, the plumb, and the level] to the stone. The grand master then struck the stone three times with a mallet while pronouncing, this stone [is] well formed and trusty. Immediately upon saying the band struck up Hail Columbia for 5 minutes. When the music stopped, the corn, the wine, and the oil were scattered over the throne and the grand master offered another prayer, Assist in the erection and completion of this building. Protect the workmen against every accident, and long preserve this structure from decay, and give to us all in needed supply, the corn of nourishment, the wine of refreshment and the oil of joy. Amen.

The description of the cornerstone ceremony on October 6, 1817 is taken from Alexander Garrett’s undated Outline of Cornerstone Ceremonies, in ViU.
the first pavilion and the rotunda: the cornerstone and the capstone
The specific Doric Order Jefferson used for the protico and exterior proportions of the first pavilion is the Palladian Doric shown in Freart de Chambray’s *Parallel de l’architecture Antique avec la Moderne* (1766).
It was imperative to Jefferson that the stonecutters arrived in Leghorn. [The stonecutters arrival from] Leghorn, where they can be had of the first degree of skill, and for one third of what our [stonecutters] ask...forward them on by the stage to Charlottesville. In this case it will be essential that they be not permitted to stay in Baltimore a single day as they will learn there the wages of that place, and would not come on, or stay when come.

Appleton to TJ, 20 December 1817, DLC:TJ.
The sculptors finally arrived at the University on the last day of June 1819...this requires the Quarriers to get to work raising the stone, common stonecutters to prepare the blocks and other arrangements to get them under way.

TJ to Brockenbrough, 2 July 1819, ViU:PP; see also James Dinsmore to Brockenbrough 2 July 1819, in ViU:PP.

The Italian stone sculptors had been at the University only a few days when they examined the local quarry and, in Jefferson’s words to the Board of Visitors, pronounce it impossible to make of it an Ionic or Corinthian capitel.

TJ to James Breckenridge, Robert B. Taylor, James Madison, and Chapman Johnson, 8-26 July 1819, ViU:TJ. The quotes were written on 11 July, the day before Jefferson wanted to leave for Bedford. See TJ to Brockenbrough, 14 July 1819, in ViU:PP. In the fall, even more to Jefferson’s chagrin, the Raggis informed Jefferson that they could travel back to Italy and carve the four large Corinthian and ten Ionic capitals and their bases, well finished and crated, for half the cost of producing them in the uncertain Virginia stone.
The [Board of Visitors] also agreed that it be expedient to import Stone Cutter[s] from Italy and that Mr Jefferson be authorized and requested to take the requisite measures to effect that object.

Minutes of the Board of Visitors of the Central College, 28 July 1817, PPAmP: UVA Minutes.
In 1823, a shipment of marble arrived from Italy. Several of the capitals were so enormously heavy that the university’s commission agent in Richmond did not know what to do with them upon their arrival. They are too heavy to be transported by Drags, from Rocketts to the Basin, he informed the proctor, & the Locks are not in order to admit the passage of Boats from the Basin to Tide water, & again, I fear they are too heavy for Boats, particularly those of the North river, & when the water is low. Peyton to Brockenbrough, 7 July 1823, ViU:PP. The 16 capitals and 2 half-capitals for Pavilions II, III, IV, V, VI, and VIII. cost $3,214.04. According to Brockenbrough’s calculations, transportation, custom duties, premiums, commissions, and etc., accounted for fully one-third of the charges. See Brockenbrough’s Memorandum on Cost of Marble Capitals, 3 July to 26 August, in ViU:PP, and TJ’s Memorandum on Cost of Marble Capitals, ca 4 July 1823, in ViU:TJ.

In 1825, another shipment of marble capitals and bases arrived from Italy. Each piece was estimated to weigh 3 to 5 tons. Because of the extreme weight of the marble and delays attributed to inclimate weather, the shipment did not arrive at the University until the spring of 1826.

See Henry A. S. Dearborn to TJ, 6 September, in ViU:TJ, and 20 September, in DLC:TJ, and Jonathan Thompson to TJ, 9 September, and 3 October 1825, in ViU:PP.
By Independence Day 1823, word reached Monticello that a shipment of the Italian marble capitals intended for the pavilions was being transported to Richmond from New York, where they had arrived by barge from Leghorn, Italy on 10 June.

Peyton to Brockenbrough, 7 July 1823, ViU:PP. The 16 capitals and 2 half-capitals for Pavilions II, III, IV, V, VI, and VIII. cost $3,214.04. According to Brockenbrough’s calculations, transportation, custom duties, premiums, commissions, and etc., accounted for fully one-third of the charges. See Brockenbrough’s Memorandum on Cost of Marble Capitals, 3 July to 26 August, in ViU:PP, and TJ’s Memorandum on Cost of Marble Capitals, ca 4 July 1823, in ViU:TJ.

The marble, which had been ordered in October 1823, arrived at Boston from Leghorn, Italy in August 1825, 31 bases and 37 cases of paving squares on board one ship, and 24 capitals on board another. It was then transported from Boston to New York City, where the bases were placed on board a sloop and the capitals on a schooner, for their voyage south.

http://courses.washington.edu/sis200/
http://www.heritageresearch.com/_borders/corinthian.gif
According to his specifications book, *Operations at & for the College*, Jefferson in laying out the site divided it into a dozen smaller and thus easier to manage rectangles of 100 by 127-1/2 feet. The place at which the theodolite was fixed being the center of the Northern square, and the point destined for some principal building in the level of the square…each square is to be level with itself with a pavilion at each end. [Point] b is the center of the middle square, and at [point] g we propose to erect our first pavilion…locust stakes were driven at [points] l a f / g b h / i c k and at [point] d a pile of stones.

Operations at and for the College, 18 July 1817, VIU:TJ, and TJ to Latrobe, 3 August 1817, DLC:TJ; see also ibid., 900-901, 916, and Malone, Jefferson and His Times: The Sage of Monticello, 257-61.
100' x 127.5'  
aprox. 3 acres

first pavilion  
theodolite  
locust stakes

pile of rocks
The lime kilns are about 9 miles distant along the public road, and the price of lime has been generally about 16 cents the bushel at the kilns; but it is believed that better lime, and on better terms, may be had from more distant quarries. Good sand is two miles distant. The wood lands commence at about half a mile, and the brick yard with water is about 30 to 40 rods distant: space for the yard, earth for the bricks, sand for mortar, and water for both will be given.


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TJ to Cabell, 19 December 1817, VIU:TJ.

For the making of mortar for the bricks, lime unstacked [can be aquired] from Augusta.
Dabney Cosby to Nelson Barksdale, 29 March 1819, VIU:TJ.
Jefferson bought John M. Perry's land, a carpenter that later worked on the University construction site, for $12 per acre. It was a fallow agricultural field in a suitable location. Perry sold the college two tracts of Albemarle County land, for $1,421.25, the one containing 43 acres and three fourths about a mile above Charlottesville on the public road to Staunton, the other about five eighths of a mile from the former, containing 153 acres, comprehending the top and part of a mountain.

Land Purchase of 1817 in relation to Charlottesville
Land Purchase of 1817, 43 and 3/4 acres
On view of a plan [of pavilions and dormitories] presented to the trustees of the Albemarle Academy…the board determined that one of those pavilions shall now be erected…that the lots of the said pavilions be determined on the ground of the breadth of [an undetermined number of] feet with two parallel sides of indefinite length. That the pavilion first to be erected be placed on one of the lines so delineated. By this time, Jefferson had not yet surveyed the site in order to determine the exact width of the lawn.

Dinsmore’s Slope Survey of the Lawn overlayed on the Maverick Plan of 1825.
On July 18, 1817 Jefferson surveyed the site and discovered that the central lawn would be considerably narrower than he had previously expected in his conceptual plan of the Academical Village; it had decreased in size from 257 yards to 200 feet. He immediately indicated on his sketch that the center of the north side, which he had originally intended for three small, uniform pavilions would now become the focal point for a grand pavilion, **some principal building**.

Jefferson's original survey of the Lawn overlayed on the Maverick Plan of 1825
Jefferson’s original survey of the Lawn overlayed on the Maverick Plan of 1825.
Jefferson's original survey of the Lawn overlayed on the Maverick Plan of 1825
Latrobe suggested one variation from Jefferson’s plan that coincided with a change in the design that Jefferson himself had contemplated only since writing Latrobe in June, that of closing off the north end of the square with some principal building. This alteration in Jefferson’s conception of his architectural scheme, and its subsequent change in the appearance of the square, Jefferson later told Latrobe, was necessary because of the law of the ground.

Operations at and for the College, 18 July 1817, VI: TJ; and TJ to Latrobe, 3 August 1817, DLC: TJ; see also ibid., 900-901, 916, and Malone, Jefferson and His Times: The Sage of Monticello, 257-61. In his letter of 3 August Jefferson informed Latrobe that he would leave the north end of the square open in case the “state should establish there the University they contemplate, they may fill it up with something of the grand kind.”
Jefferson’s survey of the Lawn overlayed on the his original concept drawing of the Academical Village in 1814.

In order to accommodate the original survey, the construction of the first pavilion, and the law of the ground on the east side the two end pavilions at the north shift over allowing the central north pavilion to become the prominent building of the lawn.
Transformation of Jefferson's concept drawing of the Academical Village in 1814 to correspond to the original survey of the Lawn.
The gently terraced square that resulted from the law of the ground has on either side between the pavilions an increasing number of dormitories as one moves south, creating an illusion of perspective as one stands on either end. From the closed north end the pavilions appear to be spaced evenly apart and from the south end looking northward one’s attention is forced toward the grand central building. Some historians assert that the illusion of perspective was not intentional by design but resulted from the constraints of the site and the need to provide more pavilions for the professors. See Patton, Jefferson, Cabell and the University of Virginia, 187. Wilson gives the dimensions of the spacing of the pavilions (as provided by James Murray Howard, the University of Virginia Architect for the Historic Buildings and Grounds): “The first four numbers—I–III on the west, and II–IV on the east—are 53 feet and 64 feet apart respectively. Number V on the west is 89 feet from III, and number VI on the east is 90.5 feet from IV. The next on the west, VII, is 104 feet, then IX is 122 feet, and for the east, numbers VIII and X, nearly the same dimensions hold. The small differences result from the different widths of the pavilions” (“Jefferson’s Lawn: Perceptions, Interpretations, Meanings,” in Wilson, Thomas Jefferson’s Academical Village, 90). Wilson also asserts that the illusion of perspective was not by design but resulted from the “constraints of the site and the need to provide more pavilions for the professors” (ibid., 71).
The decision to postpone executing the row of buildings on the backstreet, known as the Range, meant that Jefferson had to make the architectural drawings for the buildings of the east lawn. While Jefferson was preparing the drawings he told the proctor, the laborers could dig the foundations for the east pavilions according to the dimensions of pavilions No. I. II. III. of the Western range...trimming [the foundations] to what shall be the exact size of each will be trifling. The foundations for the dormitories were dug in 1819.

TJ to Brockenbrough, 5 June 1819, ViU:PP.
A second tract of land was bought in 1820 that bordered the Three Notch'd road and the forty-three and three quarter acres parcel that the Perrys had sold to the Central College. This second tract greatly increased the holdings of the University but its purchase contributed to the severe financial drain faced by the institution.

Alexander Garrett, Estimate of University Costs, 7 February 1820, ViU:JCC; see also Cabell, Early History of the University of Virginia, 179-80. Brockenbrough apparently adapted Garrett’s estimate when drafting an estimate to be enclosed in the university’s report to the Literary Fund in the fall of 1820.
The Three Notch’d Road ran from Charlottesville to Rockfish Gap and served as the outer boundary for the April land purchase of 1825. The 1825 land agreement permitted Jefferson to re-establish the bed of the public road along the new outlying boundary line, causing it to pass parallel to the northern side of the University, making room for an entrance to the Rotunda and Lawn.

See Brockenbrough’s agreement with Daniel A. and Mary A. Frances Piper, 22 September, Allen Dawson’s Plat of Land, 24 September, Brockenbrough’s Statement of Funds, 30 September, Brockenbrough and Daniel Piper, Contract, 8 October, Daniel A. and Mary A. Frances, Deed, 8-9 October 1824, all in ViU:PP, and Jefferson’s Plat of Land, ca 8 October 1824, in ViU:TJ; see also #20-02 in Lasala, “Thomas Jefferson’s Designs for the University of Virginia.” The visitors ratified both purchases at their meeting on 4 October (see Board of Visitors Minutes, that date, in PPAmP:UVA Minutes).
Jefferson feverishly worked to finish the architectural drawings for his Academical Village’s capstone, Jefferson would soon note with satisfaction that the Rotunda was rising nobly from the ground.

TJ to Cabell, 4 July 1823, ViU:TJ.
Our walls are generally 1½ brick thick. the whole to be grouted; not a single sammel brick, and but 2. bats to be used for every 9. whole bricks. the front wall to be oil-stock brick, the other outer walls sand-stock.

TJ to Cabell, 19 December 1817, ViU:TJ.
[James Dinsmore] and John Perry (the leading two contractors at the University construction site) submitted a report informing the Board of Visitors that they have leveled from the Doric pavilion to the Springs on the mountain-find the two first to be 6 feet above the water table—at the distance of 1,100 yards—one hundred yards further is another Spring 26 feet above the water table of pavilion—and Still further—Say about 60 yards there is another 75 feet above sd. Level—all of these are bold good Springs—the furthest Spring—1,260 yards from the pavilion—as near as we could tell by stepping it off.

Dinsmore & Perry to the Board of Visitors, 27 March 1819, ViU:TJ. Apparently Dinsmore and Perry joined Allen Dawson on 27 March as Dawson surveyed the 6¼ acre tract of land that the university had purchased from Jesse W. Garth. See Dawson’s Survey of Plot Purchased from Jesse W. Garth, 27 March 1819, in ViU:PP.
Jefferson agreed that consolidating the University’s two separate tracts of land by gaining the 132-acre interjacent tract with the **very bold spring** would be in the university’s long-term interest but withheld pressing Perry about the matter lest the carpenter ask an unreasonable price. Perry felt obliged to sell the land in the spring of 1825 and the university purchased it for $50 an acre.

See TJ to the Board of Visitors, 15 April 1825, in ViU:JHC, Joseph Carrington Cabell to TJ, 6 May 1825, in ViU:TJ, John M. and Frances T. Perry’s Land Indenture, 9 May 1825, TJ to Brockenbrough, 14 May, 27 June 1825, John Brockenbrough to Brockenbrough, 4 June 1825, and Brockenbrough to TJ, 27 June 1825, in ViU:PP. The university paid Perry for the land over a two-year period (see Loose Receipts, 10, 14 May 1825, and 4 June, 1 September, and 9 November 1827, in ViU:PP).

\[
\text{very bold spring} = \$6,600
\]
The yard is laid off in a more regular manner than I ever saw one, and every thing seem to go on with perfect order. They do not make up their mortar as we do with Oxen but with a spade, and make it in large piles and cover it with planks a day before they use it, the hole is near a branch and they always have a good deal of water in it. they have the table near the place, that they lay down the bricks and move it as they lay them down, and the mud is rolled to it. I have not yet Seen them moulding brick as I went there just as they began to Kiln they hack all the bricks in single hacks and under a large shelter which is erected for the purpose, which effectually keeps off the sun and rain. the kiln which I saw, was lined with a stone wall about a foot thick, about half way and the other part with brickbats.

John Hartwell Cocke, Jr., to John Hartwell Cocke, 27 August 1819, ViU:JHC.
According to his specifications book, *Operations at & for the College*, Jefferson in laying out the site divided it into a dozen smaller and thus easier to manage rectangles of 100 by 127-1/2 feet. The place at which the theodolite was fixed being the center of the Northern square, and the point destined for some principal building in the level of the square...each square is to be level with itself with a pavilion at each end.  

*Point b is the center of the middle square, and at [point] g we propose to erect our first pavilion...locust stakes were driven at [points] l a f / g b h / i c k and at [point] d a pile of stones.*


In his letter of 3 August J
100' x 127.5'  
aprox. 3 acres

first pavilion  
theodolite

locust stakes  
pile of rocks
We have nearly all the logs out for conveying the water & shall commence Waggoning them tomorrow.

Spooner to Brockenbrough, 13 August 1819, in ViU:PP.

Wooden pipes to transport water from the neighboring highlands were constructed in the late fall of 1919.

See Minutes of the Board of Visitors of the Central College, 26 February 1819, in ViU:TJ
By mid-June 1820 the proctor could report that our pipe borers are laying down the logs they are down for 300 yards—I have conveyed it 300 yards in a covered ditch at the end of which is a reservoir, 6 by 7 feet & 5 feet deep from whence I take water.

Brockenbrough to TJ, 7 June 1820, VIU:TJ. Jefferson later included “bringing water in pipes” in his estimate of the $10,000 cost for “numerous other contingencies” like covering with tin instead of shingles and levelling the grounds and streets. See his Statement of Probable Costs for the Buildings, 28 November 1820, VIU:TJ
Brick_Wood_Stone_Land_Water_Measurement

The lime kilns are about 9 miles distant along the public road, and the price of lime has been generally about 16 cents the bushel at the kilns; but it is believed that better lime, and on better terms, may be had from more distant quarries. Good sand is two miles distant. The wood lands commence at about half a mile, and the brick yard with water is about 30 to 40 rods distant: space for the yard, earth for the bricks, sand for mortar, and water for both will be given.

See http://www.iath.org/nina/uvapavilion/hsrpav1.body3.html

...P.S. sand is 2. miles off and lime 9. or 10. miles. it's price at the quarry 1/.
TJ to Cabell, 19 December 1817, VU:TJ.

For the making of mortar for the bricks, lime unstacked [can be aquired] from Augusta.
Dabney Cosby to Nelson Barksdale, 29 March 1819, VU:TJ.
By the middle of July 1817 in a small brick kiln near a large spring on the west side of the square (or lawn as it came to be known) bricks were being made for the new pavilion.

See TJ to Benjamin H. Latrobe, 16 July 1817, DLC:TJ, and TJ to John Hartwell Cocke, 19 July 1817, WU:JHC; see also Van Horne, Correspondence and Miscellaneous Papers of Benjamin Henry Latrobe, 3:907-10.

The process of brickmaking began in full force in the middle of June 1818 as the seasonal weather permitted in order to commence laying the bricks for the first pavilion and those that followed.

Larkin notes that during this period in American history, “few used brick and stone except for German settlers and their descendants” (The Reshaping of Everyday Life, 107).
A Richmond merchant managed the difficult and dangerous job of loading the heavy marble capitals onboard the small vessels that would carry them by water from Rockett’s wharf on the James River in Richmond to Milton, the busy village on the Rivanna River just east of Charlottesville near Monticello.

Rockett’s Landing was a major wharf on the James River in Richmond in the vicinity of 31st and Mains streets where “various steamers plying between Richmond and Norfolk, Fortress Monroe, Baltimore, and New York” arrived and departed. Robert Rockett operated a ferry there as early as 1730 and tradition has it that Abe Lincoln walked from Rockett’s to the Davis mansion when he visited Richmond on 5 April 1865.

marble was quarried and carved in carrara, italy for the corinthian columns of the rotunda
The construction manager suggested in the spring of 1824 that reservoirs nearly the depth of the Attic and as large in diameter as the space will admit of be placed in the two north corners of the attic so that in case of fire water could be thrown by pipes or hose to any part of the building beneath the dome. These reservoirs were never built.

Brockenbrough to Jefferson, 4 June 1824, ViU:PP; see also O’Neal, Jefferson’s Buildings at the University of Virginia: The Rotunda, 31. An undated and unsigned faculty member memorandum in ViU: JHC listing the “Cares devolved upon the executive Committee” indicates that the faculty communicated its concerns about the university’s water supply and lack of protection against fire.
On June 20, 1819, one of the carpenter’s at the site, perchas’d some timber standing, from 4 to 5½ miles distant and I expect to have all my large timber hewn this weake, the logs are redy but the water is two low to worke [the] mill...on monday last I made an inga[g]ement of 7 or 8 thousand feet of lumber 10 miles distant, the quality I have no doubt you will be satisfyed with.

Oldham to Brockenbrough, 20 June 1819, ViU:PP. William D. Meriwether delivered 3,140 feet of “1 Inch bordes and thirty feet of Scantling” to Oldham on 20 May, costing $59.45 (Loose Receipts, 6 and 12 July 1819, ViU:PP).
The [Board of Visitors] also agreed that it be expedient to import Stone Cutter[s] from Italy and that Mr Jefferson be authorized and requested to take the requisite measures to effect that object.

Minutes of the Board of Visitors of the Central College, 28 July 1817, PPAmpP: UVA Minutes.
In 1825, another shipment of marble capitals and bases arrived from Italy. Several of the capitals were so enormously heavy that the university’s commission agent in Richmond did not know what to do with them upon their arrival. They are too heavy to be transported by Drags, from Rocketts to the Basin, he informed the proctor, & the Locks are not in order to admit the passage of Boats from the Basin to Tide water, & again, I fear they are too heavy for Boats, particularly those of the North river, & when the water is low. Peyton to Brockenbrough, 7 July 1823, ViU:PP. The 16 capitals and 2 half-capitals for Pavilions II, III, IV, V, VI, and VIII. cost $3,214.04. According to Brockenbrough’s calculations, transportation, custom duties, premiums, commissions, and etc., accounted for fully one-third of the charges. See Brockenbrough’s Memorandum on Cost of Marble Capitals, 3 July to 26 August, in ViU:PP, and TJ’s Memorandum on Cost of Marble Capitals, ca 4 July 1823, in ViU:TJ.

In 1825, another shipment of marble capitals and bases arrived from Italy. Each piece was estimated to weigh 3 to 5 tons. Because of the extreme weight of the marble and delays attributed to inclimate weather, the shipment did not arrive at the University until the spring of 1826.

See Henry A. S. Dearborn to TJ, 6 September, in ViU:TJ, and 20 September, in DLC:TJ, and Jonathan Thompson to TJ, 9 September, and 3 October 1825, in ViU:PP.
By Independence Day 1823, word reached Monticello that a shipment of the Italian marble capitals intended for the pavilions was being transported to Richmond from New York, where they had arrived by barge from Leghorn, Italy on 10 June.

Peyton to Brockenbrough, 7 July 1823, ViU:PP. The 16 capitals and 2 half-capitals for Pavilions II, III, IV, V, VI, and VIII. cost $3,214.04. According to Brockenbrough’s calculations, transportation, custom duties, premiums, commissions, and etc., accounted for fully one-third of the charges. See Brockenbrough’s Memorandum on Cost of Marble Capitals, 3 July to 26 August, in ViU:PP, and TJ’s Memorandum on Cost of Marble Capitals, ca 4 July 1823, in ViU:TJ.

The marble, which had been ordered in October 1823, arrived at Boston from Leghorn, Italy in August 1825, 31 bases and 37 cases of paving squares on board one ship, and 24 capitals on board another. It was then transported from Boston to New York City, where the bases were placed on board a sloop and the capitals on a schooner, for their voyage south.
[James Dinsmore] and John Perry (the leading two contractors at the University construction site) submitted a report informing the Board of Visitors that they haveing leveled from the doric pavilion to the Springs on the mountain-find the two first to be 6. feet above the water table-at the distance of 1,100 yards-one hundred yards further is another Spring 26. feet above the water table of pavilion-and Still further-Say ab[o]ut 60 yards there is another 75 feet above sd. Level-all of these are bold good Springs-the furthest Spring-1,260. yards from the pavilion-as near as we Could tell by Steping it off.

Dinsmore & Perry to the Board of Visitors, 27 March 1819, VIU:TJ. Apparently Dinsmore and Perry joined Allen Dawson on 27 March as Dawson surveyed the 6¼ acre tract of land that the university had purchased from Jesse W. Garth. See Dawson’s Survey of Plot Purchased from Jesse W. Garth, 27 March 1819, in VIU:PP.
The yard is laid off in a more regular manner than I ever saw one, and every thing seem to go on with perfect order. They do not make up their mortar as we do with Oxen but with a spade, and make it in large piles and cover it with planks a day before they use it, the hole is near a branch and they always have a good deal of water in it. they have the table near the place, that they lay down the bricks and move it as they lay them down, and the mud is rolled to it. I have not yet Seen them moulding brick as I went there just as they began to Kiln they hack all the bricks in single hacks and under a large shelter which is erected for the purpose, which effectually keeps off the sun and rain. the kiln which I saw, was lined with a stone wall about a foot thick, about half way and the other part with brickbats.

John Hartwell Cocke, Jr., to John Hartwell Cocke, 27 August 1819, VIU:JHC.
We have nearly all the logs out for conveying the water & shall commence Waggoning them tomorrow.
Spooner to Brockenbrough, 13 August 1819, in ViU:PP.

Wooden pipes to transport water from the neighboring highlands were constructed in the late fall of 1919.
See Minutes of the Board of Visitors of the Central College, 26 February 1819, in ViU:TJ
By mid-June 1820 the proctor could report that our pipe borers are laying down the logs they are down for 300 yards—I have conveyed it 300 yards in a covered ditch at the end of which is a reservoir, 6 by 7 feet & 5 feet deep from whence I take water.

Brockenbrough to TJ, 7 June 1820, VIU:TJ. Jefferson later included “bringing water in pipes” in his estimate of the $10,000 cost for “numerous other contingencies” like covering with tin instead of shingles and levelling the grounds and streets. See his Statement of Probable Costs for the Buildings, 28 November 1820, VIU:TJ
The lime kilns are about 9 miles distant along the public road, and the price of lime has been generally about 16 cents the bushel at the kilns; but it is believed that better lime, and on better terms, may be had from more distant quarries. Good sand is two miles distant. The wood lands commence at about half a mile, and the brick yard with water is about 30 to 40 rods distant: space for the yard, earth for the bricks, sand for mortar, and water for both will be given.


...P.S. sand is 2 miles off and lime 9. or 10. miles. it’s price at the quarry 1/.

TJ to Cabell, 19 December 1817, ViU:TJ.

For the making of mortar for the bricks, lime unstacked [can be aquired] from Augusta.

Dabney Cosby to Nelson Barksdale, 29 March 1819, ViU:TJ.
For Jefferson, Architecture was an experimental process, **architecture is my delight, and putting up and pulling down one of my favorite amusements**. In 1805, Jefferson envisioned the model of the Academical Village as a continuous module consisting of a single pavilion and dormitories. He spoke of this module as a **germ from which a great tree may spread itself**. The first pavilion and its twenty adjacent dormitories could be thought of as an experimental prototype from which the entire Academical Village sprung.

We shall build one [pavilion] only in the latter end of this year, and go on with others year after year, as our funds increase.

TJ to James Dinsmore, 13 April 1817, ViU:TJ.

...the intention of the Visitors is, not to erect a single and expensive building, which would at once exhaust their funds; but to make it rather an Academical village. a small box, or Pavilion, is to be erected for each school and it’s professor separately, with chambers, or dormitories for the students, all united by a covered colonnade, and arranged on each side of a lawn of 200. feet wide. besides the security which this arrangement gives against fire and infection, it has the great convenience of admitting building after building to be erected successively as their funds come in, and as their professorships are subdivided.

one of these pavilions is now in progress, and will be ready, by the 1st. of April next . . .

TJ’s undated draft of the article for the Richmond Enquirer, and the polygraph copy of the letter it was enclosed in, TJ to Ritchie, 28 August 1817, are in DLC:TJ.
Jefferson envisioned that each professor with his pupils shall have a separate Pavilion of 26’x34’ outside and 24’x32’ inside. After receiving advice that the size of the pavilions were too small Jefferson stated on the probability that such of the professors as are married will want more than 2. rooms, we leave the back side of our pavilions without windows so that we can add 2. or 3. rooms at will. When the University opened all the pavilions except Pavilion VII (the first pavilion) was occupied, because it was the smallest and the least equipped to accommodate a single professor or a professor and his family. The size of the first pavilion in relation to the others can be seen in the Maverick Plan, made ca. 1821.

The prototype of the first pavilion changed when Jefferson received the drawings from his architect friend, Benjamin Latrobe. Additional space was provided in the pavilions that followed. It was decided that the pavilions be correct in their architecture and execution, and that where the family of a professor requires it 2 additional rooms shall be added for their accommodation. Latrobe’s elevations had large order porticos, where the columns extended the full two-story height of the pavilions. In designing the pavilions that preceeding the first pavilion, Jefferson would use these porticos.

According to the best estimates of the university bursar, proctor, and rector, all the lands, buildings, and other expenditures for the University of Virginia could be expected to cost $162,364, exclusive of the library and an observatory. That included the original estimate of 10 pavilions for the professors’ accommodation ($60,000), 6 hotels for dining ($21,000), 104 dormitories ($36,400), 200 acres of land with additional buildings ($10,000), and contingencies such as leveling the grounds and streets, laying the water pipes, covering roofs with tin instead of shingles, and numerous other contingencies ($10,000), plus the actual cost above the estimates of about 18 percent ($24,964). An observatory could be built, Jefferson thought, for $10,000 to $12,000 and the Library House for $40,000 more, thus pushing up the estimate for the entire group of buildings to $214,364.

TJ, Statement of Probable Costs for the Buildings, 28 November 1820, ViU:TJ.
And when Jefferson and some Board of Visitors met at the construction site to discuss the direction of the project for the hotels and dormitories of the western range, they ended their meeting by having to decline building the hotel as first contemplated and in lieu thereof build pavilions, and Dormitories, on the opposite side of the lawn, that is to say directly opposite those already built, this arose from the difference of opinion between them relative to the plan of the hotel.

Garrett to Brockenbrough, 12 May 1819, ViU:PP.
As the Central College Board of Visitors’ last meeting in late February broke up, one of the Visitors convinced Jefferson to turn the backs of the hotels and dormitories on the backstreets (now known as the Range) to the backs of the lawn buildings, thus keeping the fronts of all the buildings from facing the rear of someone else’s living quarters.

Jefferson alluded to Cabell’s complaint and the visitors’ mounting discord in his letter to James Breckenridge, Robert B. Taylor, James Madison, and Chapman Johnson of 8-26 July 1819, located in ViU:TJ.
Jefferson described the Library House to a friend, the Library, not yet begun, is essentially wanting to give [the University] unity and consolidation as a single object. [The University] will have cost in the whole but 250,000 dollars. The library is to be on the principle of the Pantheon, a sphere within a cylinder of 70 feet diameter,—to wit, one-half only of the dimensions of the Pantheon, and of a single order only. When this is done you must come and see it.

On March 7 1825, thirty or forty students had arrived at the university, the day of its official opening, and by April 12, 1825 Jefferson boasted to his future grandson-in-law that the number had risen to sixty-five.

TJ to Coolidge, 12 April 1825, ViU:TJ. Joseph Coolidge, Jr. (d. 1879), married Jefferson’s favorite granddaughter, Eleanora Wayles Randolph (Ellen; d. 1876), in the drawing room of Monticello on 27 May 1825.
Pavilion VII (the first pavilion) was used as a book room while the Library Room (Rotunda) was being built as well as a place to hang the bell and clock that were intended for the Rotunda. The temporary bell should be placed on the ridge of the roof of the Pavilion in which the books now are, on a small gallows exactly as the tavern bells are. You will contrive how the cord may be protected from the trickish rings of the students. When the clock comes from Richmond it should be placed before a window of the book room of the same house, the face so near the window as that it’s time may be read through the window from the outside.

TJ to AS Brockenbrough, Jan 3, 1826. ViU:PP.
Through a student prank in 1886, the [Rotunda] bell was cracked, subsequently stored away, and finally lost. Some thought it had perished with its companion, the clock, in the Rotunda fire of 1895. But the mystery was solved in November when the bell was found in a subterranean hiding place [in Clark Hall] resting on a table.

http://www.wvup.edu/About_WVUP/Bell3.jpg
On October 7, 1826 (after Thomas Jefferson’s death) the Board of Visitors prepared its annual report of the recent progress of the work and what remained to be done on the Rotunda: The Libery Room in the Rotunda has been nearly completed, and the books put into it. The Portico of the Rotunda has been finished. The work remaining to be done, is the finishing of one large oval room, one small one, and the entrance Hall of the Rotunda with the unfinished parts of the Portico.

Annual Report to the President and Board of Directors of the Literary Fund, 7 October 1826, VIU:TJ.
The front walls are to be faced with oil stock bricks; the others with sand stocks, the interior mass to be of place bricks - all to be laid with good bond, to be clinkers, and not a single sammel brick to be used in any part of the work, under a penalty of five cents for every such brick, nor more than 2 bats to 9 whole bricks.


**clinkers:** Bricks that were originally discarded because they were discolored or distorted. The name “clinker-brick” comes from the sound that they would make when banged together, being heavier than regular bricks.

The inner mortar to be 1/3 lime and 2/3 clean gritty sand, without any mixture of earth; the outer 1/2 lime and 1/2 such sand, and the whole to be grouted with a mortar of the inner quality.


http://www.left-handed.com/acatalog/left-handed-brick-layers-trowel-small.jpg

http://www.slcc.edu/tech/techsp/arch/courses/ARCH1210/Photos/brickpos.jpg
therefore 192, 248 bricks were required to build a pavilion and its 20 adjacent dormitories.

= 192, 248 bricks
John M. Perry, the man who sold Jefferson the land for Academical Village, was insistent to do all the Carpenter's and House joiner's work for the first pavilion. Perry signed the first contract agreement between a builder and the University on June 23, 1817.

See http://www.iath.virginia.edu/wilson/uva/pavilionVII/History.pdf, Appendix A

*Articles of Agreement made and concluded this twenty third day of June one thousand eight hundred and seventeen between Alexander Garrett as Proctor of the Central College in Albemarle on the one part and John M. Perry on the other part Witness, First, that of a Pavilion or Schoolhouse wing to be built for the said College on one of the lots of land purchased for the sd. College of the said John M Perry...*
In 1818 a pine tree could be bought for $1, seven for $5, and twenty trees for $10, and a thousand feet of sawing cost from $7.50 to $9.

Documentary History of the Construction of the Buildings at the University of Virginia, 1817–1828, Frank Edgar Grizzard, Jr., Appendix B: A Note on Prices

In 1820...

1 pine tree cost $1

7 pine trees cost $5

Two slaves could take two weeks to saw 1,000 board feet (12"x12"x1") of lumber, for which the master could collect $9 from the buyer.
The items of house carpentry and joinery and their several prices are too numerous to be specified...Lumber is expected to be settled at its actual cost...unseasoned boards must be sufficiently kiln dried by [the carpenter].

See http://www.iath.virginia.edu/wilson/uva/pavilionI/hsrpav1.body3.html
The construction began in August 1824 on the [Rotunda] vault’s large wooden ribbed frame, the plan of which was taken, as Monticello’s dome had been, from Philibert De L’Orme’s Nouvelles Inventions pour bien bastir et a petits Fraiz (1576). I once owned the book, Jefferson recalled in the third week of May when writing to General Joseph G. Swift to borrow a copy of the volume, and understood the principles of his invention, but my recollection is not particular enough in every thing, our workmen are strangers to it, and I fear we may go wrong. if we could be accommodated with this single volume it would be of singular service to us.

TJ to Swift, 22 May 1824, DLC:TJ. Swift loaned TJ his copy of Delorme, and TJ apparently returned it to Swift the next spring (see TJ to Swift, 21 June 1825, in ViU:TJ). Philibert Delorme (c. 1515-1570) was a French architect who, according to Sowerby, “studied in Italy, where he was employed by Pope Paul III. On his return to France he was first employed by Cardinal Du Bellay, and later by Henri II and Charles IX. Delorme built a number of chateaux in France, including those of St. Maur and Anet, and the Tuileries were built from his designs. Delorme is considered one of the great masters of the Renaissance” (Sowerby, Catalogue of the Library of Thomas Jefferson, 4:364 [4183]). TJ’s architectural detail for the wooden roofing frame is in ViU:TJ; see also O’Neal, Jefferson’s Buildings at the University of Virginia: The Rotunda, plate 9, and #17-08 in Lasala, “Thomas Jefferson’s Designs for the University of Virginia.”
The Rotunda’s roof was constructed with a Philibert de L’Orme truss like the one used for Monticello. See http://www.iath.virginia.edu/wilson/uva/pavilionVII/History.pdf, Appendix A.
The Widow’s Son Masonic Lodge No. 60 and Charlottesville Lodge No. 90 conducted the cornerstone laying ceremony for the first pavilion on October 6, 1817.

See Bruce, University of Virginia, 1:183-90.
For the cornerstone laying ceremony: The grand master himself applied [the square, the plumb, and the level] to the stone. The grand master then struck the stone three times with a mallet while pronouncing, this stone [is] well formed and trusty. Immediately upon saying the band struck up Hail Columbia for 5 minutes. When the music stopped, the corn, the wine, and the oil were scattered over the throne and the grand master offered another prayer, Assist in the erection and completion of this building. Protect the workmen against every accident, and long preserve this structure from decay, and give to us all in needed supply, the corn of nourishment, the wine of refreshment and the oil of joy. Amen.

The description of the cornerstone ceremony on October 6, 1817 is taken from Alexander Garrett's undated Outline of Cornerstone Ceremonies, in ViU.
the first pavilion and the rotunda: the cornerstone and the capstone
The specific Doric Order Jefferson used for the protico and exterior proportions of the first pavilion is the Palladian Doric shown in Freart de Chambray’s *Parallel de l’architecture Antique avec la Moderne* (1766).
It was imperative to Jefferson that the stonecutters arrived in Leghorn. [The stonecutters arrival from] Leghorn, where they can be had of the first degree of skill, and for one third of what our [stonecutters] ask...forward them on by the stage to Charlottesville. In this case it will be essential that they be not permitted to stay in Baltimore a single day as they will learn there the wages of that place, and would not come on, or stay when come.

Appleton to TJ, 20 December 1817, DLC:TJ.
The sculptors finally arrived at the University on the last day of June 1819...this requires the Quarriers to get to work raising the stone, common stonecutters to prepare the blocks and other arrangements to get them under way.

TJ to Brockenbrough, 2 July 1819, ViU:PP, see also James Dinsmore to Brockenbrough 2 July 1819, in ViU:PP.

The Italian stone sculptors had been at the University only a few days when they examined the local quarry and, in Jefferson’s words to the Board of Visitors, pronounce it impossible to make of it an Ionic or Corinthian capitel.

TJ to James Breckenridge, Robert B. Taylor, James Madison, and Chapman Johnson, 8-26 July 1819, ViU:TJ. The quotes were written on 11 July, the day before Jefferson wanted to leave for Bedford. See TJ to Brockenbrough, 14 July 1819, in ViU:PP. In the fall, even more to Jefferson’s chagrin, the Raggis informed Jefferson that they could travel back to Italy and carve the four large Corinthian and ten Ionic capitals and their bases, well finished and crated, for half the cost of producing them in the uncertain Virginia stone.
Jefferson bought John M. Perry’s land, a carpenter that later worked on the University construction site, for $12 per acre. It was a fallow agricultural field in a suitable location. Perry sold the college two tracts of Albemarle County land, for $1,421.25, the one containing 43 acres and three fourths about a mile above Charlottesville on the public road to Staunton, the other about five eighths of a mile from the former, containing 153 acres, comprehending the top and part of a mountain.

Land Purchase of 1817 in relation to Charlottesville
Land Purchase of 1817, 43 and 3/4 acres
On view of a plan [of pavilions and dormitories] presented to the trustees of the Albemarle Academy...the board determined that one of those pavilions shall now be erected...that the lots of the said pavilions be determined on the ground of the breadth of [an undetermined number of] feet with two parallel sides of indefinite length. That the pavilion first to be erected be placed on one of the lines so delineated. By this time, Jefferson had not yet surveyed the site in order to determine the exact width of the lawn.

Dinsmore’s Slope Survey of the Lawn overlayed on the Maverick Plan of 1825

- first pavilion
- first rise of the ground in relation to first pavilion
On July 18, 1817 Jefferson surveyed the site and discovered that the central lawn would be considerably narrower than he had previously expected in his conceptual plan of the Academical Village; it had decreased in size from 257 yards to 200 feet. He immediately indicated on his sketch that the center of the north side, which he had originally intended for three small, uniform pavilions would now become the focal point for a grand pavilion, some principal building.

Jefferson's original survey of the Lawn overlayed on the Maverick Plan of 1825
Jefferson’s original survey of the Lawn overlayed on the Maverick Plan of 1825

- **first pavilion**
- **displacement of original center of Lawn**
- **current location of Rotunda**
Jefferson’s original survey of the Lawn overlayed on the Maverick Plan of 1825
Latrobe suggested one variation from Jefferson’s plan that coincided with a change in the design that Jefferson himself had contemplated only since writing Latrobe in June, that of closing off the north end of the square with **some principal building**. This alteration in Jefferson’s conception of his architectural scheme, and its subsequent change in the appearance of the square, Jefferson later told Latrobe, was necessary because of the **law of the ground**.

Operations at and for the College, 18 July 1817, VIU:TJ, and TJ to Latrobe, 3 August 1817, DLC:TJ; see also ibid., 900-901, 916, and Malone, Jefferson and His Times: The Sage of Monticello, 257-81. In his letter of 3 August Jefferson informed Latrobe that he would leave the north end of the square open in case the “state should establish there the University they contemplate, they may fill it up with something of the grand kind.”
Jefferson’s survey of the Lawn overlayed on the his original concept drawing of the Academical Village in 1814

In order to accommodate the original survey, the construction of the first pavilion, and the law of the ground on the east side the two end pavilions at the north shift over allowing the central north pavilion to become the prominent building of the lawn.
Transformation of Jefferson's concept drawing of the Academical Village in 1814 to correspond to the original survey of the Lawn.
The gently terraced square that resulted from the law of the ground has on either side between the pavilions an increasing number of dormitories as one moves south, creating an illusion of perspective as one stands on either end. From the closed north end the pavilions appear to be spaced evenly apart and from the south end looking northward one’s attention is forced toward the grand central building. Some historians assert that the illusion of perspective was not intentional by design but resulted from the constraints of the site and the need to provide more pavilions for the professors.

See Patton, Jefferson, Cabell and the University of Virginia, 187. Wilson gives the dimensions of the spacing of the pavilions (as provided by James Murray Howard, the University of Virginia Architect for the Historic Buildings and Grounds): “The first four numbers—I-III on the west, and II-IV on the east—are 53 feet and 64 feet apart respectively. Number V on the west is 89 feet from III, and number VI on the east is 90.5 feet from IV. The next on the west, VII, is 104 feet, then IX is 122 feet, and for the east, numbers VIII and X, nearly the same dimensions hold. The small differences result from the different widths of the pavilions” (“Jefferson’s Lawn: Perceptions, Interpretations, Meanings,” in Wilson, Thomas Jefferson’s Academical Village, 90). Wilson also asserts that the illusion of perspective was not by design but resulted from the “constraints of the site and the need to provide more pavilions for the professors” (ibid., 71).
The decision to postpone executing the row of buildings on the backstreet, known as the Range, meant that Jefferson had to make the architectural drawings for the buildings of the east lawn. While Jefferson was preparing the drawings he told the proctor, the laborers could dig the foundations for the east pavilions according to the dimensions of pavilions No. I, II, III. of the Western range...trimming [the foundations] to what shall be the exact size of each will be trifling. The foundations for the dormitories were dug in 1819.

TJ to Brockenbrough, 5 June 1819, ViU:PP.

pavilions II, IV, VI of the eastern range
A second tract of land was bought in 1820 that bordered the Three Notch’d road and the forty-three and three quarter acres parcel that the Perrys had sold to the Central College. This second tract greatly increased the holdings of the University but its purchase contributed to the severe financial drain faced by the institution.

Alexander Garrett, Estimate of University Costs, 7 February 1820, ViU:JCC; see also Cabell, Early History of the University of Virginia, 179-80. Brockenbrough apparently adapted Garrett’s estimate when drafting an estimate to be enclosed in the university’s report to the Literary Fund in the fall of 1820.
The Three Notch’d Road ran from Charlottesville to Rockfish Gap and served as the outer boundary for the April land purchase of 1825. The 1825 land agreement permitted Jefferson to re-establish the bed of the public road along the new outlying boundary line, causing it to pass parallel to the northern side of the University, making room for an entrance to the Rotunda and Lawn.

See Brockenbrough’s agreement with Daniel A. and Mary A. Frances Piper, 22 September, Allen Dawson’s Plat of Land, 24 September, Brockenbrough’s Statement of Funds, 30 September, Brockenbrough and Daniel Piper, Contract, 8 October, Daniel A. and Mary A. Frances, Deed, 8-9 October 1824, all in ViU:PP, and Jefferson’s Plat of Land, ca 8 October 1824, in ViU:TJ; see also #20-02 in Lasala, “Thomas Jefferson’s Designs for the University of Virginia.” The visitors ratified both purchases at their meeting on 4 October (see Board of Visitors Minutes, that date, in PPAmP:UVA Minutes).
Jefferson feverishly worked to finish the architectural drawings for his Academical Village’s capstone, Jefferson would soon note with satisfaction that the Rotunda was \textit{rising nobly} from the ground.

TJ to Cabell, 4 July 1823, VIU:TJ.
The construction manager suggested in the spring of 1824 that reservoirs nearly the depth of the Attic and as large in diameter as the space will admit of be placed in the two north corners of the attic so that in case of fire water could be thrown by pipes or hose to any part of the building beneath the dome. These reservoirs were never built.

Brockenbrough to Jefferson, 4 June 1824, ViU:PP; see also O’Neal, Jefferson’s Buildings at the University of Virginia: The Rotunda, 31. An undated and unsigned faculty member memorandum in ViU: JHC listing the ‘Cares devolved upon the executive Committee’ indicates that the faculty communicated its concerns about the university’s water supply and lack of protection against fire.
Our walls are generally 1½ brick thick. The whole to be grouted; not a single sammel brick, and but 2 bats to be used for every 9 whole bricks. The front wall to be oil-stock brick, the other outer walls sand-stock.

TJ to Cabell, 19 December 1817, ViU:TJ.

http://www.tpub.com/content/construction/14045/css/14045_149.htm
On June 20, 1819, one of the carpenter’s at the site, perchas’d some timber standing, from 4 to 5½ miles distant and I expect to have all my large timber hewn this weake, the logs are redy but the water is two low to worke [the] mill...on monday last I made an inga[g]ement of 7 or 8 thousand feet of lumber 10 miles distant, the quality I have no doubt you will be satisfied with.

Oldham to Brockenbrough, 20 June 1819, VIU:PP. William D. Menwether delivered 3,140 feet of “1 Inch bordes and thirty feet of Scantling” to Oldham on 20 May, costing $59.45 (Loose Receipts, 6 and 12 July 1819, VIU:PP).
The [Board of Visitors] also agreed that it be expedient to import Stone Cutter[s] from Italy and that Mr Jefferson be authorized and requested to take the requisite measures to effect that object.

Minutes of the Board of Visitors of the Central College, 28 July 1817, PPAmP: UVA Minutes.
In 1825, another shipment of marble capitals and bases arrived from Italy. Several of the capitals were so enormously heavy that the university’s commission agent in Richmond did not know what to do with them upon their arrival. They are too heavy to be transported by Drags, from Rocketts to the Basin, he informed the proctor, & the Locks are not in order to admit the passage of Boats from the Basin to Tide water, & again, I fear they are too heavy for Boats, particularly those of the North river, & when the water is low. Peyton to Brockenbrough, 7 July 1823, ViU:PP. The 16 capitals and 2 half-capitals for Pavilions II, III, IV, V, VI, and VIII. cost $3,214.04. According to Brockenbrough’s calculations, transportation, custom duties, premiums, commissions, and etc., accounted for fully one-third of the charges. See Brockenbrough’s Memorandum on Cost of Marble Capitals, 3 July to 26 August, in ViU:PP, and TJ’s Memorandum on Cost of Marble Capitals, ca 4 July 1823, in ViU:TJ.

In 1825, another shipment of marble capitals and bases arrived from Italy. Each piece was estimated to weigh 3 to 5 tons. Because of the extreme weight of the marble and delays attributed to inclimate weather, the shipment did not arrive at the University until the spring of 1826.

See Henry A. S. Dearborn to TJ, 6 September, in ViU:TJ, and 20 September, in DLC:TJ, and Jonathan Thompson to TJ, 9 September, and 3 October 1825, in ViU:PP.
By Independence Day 1823, word reached Monticello that a shipment of the Italian marble capitals intended for the pavilions was being transported to Richmond from New York, where they had arrived by barge from Leghorn, Italy on 10 June.

Peyton to Brockenbrough, 7 July 1823, ViU:PP. The 16 capitals and 2 half-capitals for Pavilions II, III, IV, V, VI, and VIII. cost $3,214.04. According to Brockenbrough’s calculations, transportation, custom duties, premiums, commissions, and etc., accounted for fully one-third of the charges. See Brockenbrough’s Memorandum on Cost of Marble Capitals, 3 July to 26 August, in ViU:PP, and TJ’s Memorandum on Cost of Marble Capitals, ca 4 July 1823, in ViU:TJ.

The marble, which had been ordered in October 1823, arrived at Boston from Leghorn, Italy in August 1825, 31 bases and 37 cases of paving squares on board one ship, and 24 capitals on board another. It was then transported from Boston to New York City, where the bases were placed on board a sloop and the capitals on a schooner, for their voyage south.
[James Dinsmore] and John Perry (the leading two contractors at the University construction site) submitted a report informing the Board of Visitors that they haveing leveled from the doric pavilion to the Springs on the mountain-find the two first to be 6. feet above the water table—at the distance of 1,100 yards—one hundred yards further is another Spring 26. feet above the water table of pavilion—and Still further—Say ab[o]ut 60 yards there is another 75 feet above sd. Level—all of these are bold good Springs—the furthest Spring—1,260. yards from the pavilion—as near as we Could tell by Steping it off.

Dinsmore & Perry to the Board of Visitors, 27 March 1819, ViU:TJ. Apparently Dinsmore and Perry joined Allen Dawson on 27 March as Dawson surveyed the 6¼ acre tract of land that the university had purchased from Jesse W. Garth. See Dawson’s Survey of Plot Purchased from Jesse W. Garth, 27 March 1819, in ViU:PP.
According to his specifications book, *Operations at & for the College*, Jefferson in laying out the site divided it into a dozen smaller and thus easier to manage rectangles of 100 by 127-1/2 feet. The place at which the theodolite was fixed being the center of the Northern square, and the point destined for some principal building in the level of the square...each square is to be level with itself with a pavilion at each end. [Point] b is the center of the middle square, and at [point] g we propose to erect our first pavilion...locust stakes were driven at [points] l a f / g b h / i c k and at [point] d a pile of stones.

Operations at and for the College, 18 July 1817, VIU:TJ, and TJ to Latrobe, 3 August 1817, DLC:TJ; see also ibid., 900-901, 916, and Malone, Jefferson and His Times: The Sage of Monticello, 257-61.

In his letter of 3 August J
Brick, Wood, Stone, Land, Water, Measurement

100' x 127.5'
aprox. 3 acres

first pavilion

theodolite

locust stakes

pile of rocks
We have nearly all the logs out for conveying the water & shall commence Waggoning them tomorrow.

Spooner to Brockenbrough, 13 August 1819, in ViU:PP.

Wooden pipes to transport water from the neighboring highlands were constructed in the late fall of 1919.

See Minutes of the Board of Visitors of the Central College, 26 February 1819, in ViU:TJ
By mid-June 1820 the proctor could report that *our pipe borers are laying down the logs they are down for 300 yards— I have conveyed it 300 yards in a covered ditch at the end of which is a reservoir, 6 by 7 feet & 5 feet deep from whence I take water.*

Brockenbrough to TJ, 7 June 1820, VIU:TJ. Jefferson later included “bringing water in pipes” in his estimate of the $10,000 cost for “numerous other contingencies” like covering with tin instead of shingles and levelling the grounds and streets. See his Statement of Probable Costs for the Buildings, 28 November 1820, VIU:TJ.
The lime kilns are about 9 miles distant along the public road, and the price of lime has been generally about 16 cents the bushel at the kilns; but it is believed that better lime, and on better terms, may be had from more distant quarries. Good sand is two miles distant. The wood lands commence at about half a mile, and the brick yard with water is about 30 to 40 rods distant: space for the yard, earth for the bricks, sand for mortar, and water for both will be given.

See http://www.iith.virginia.edu/wilson/uva/pavilion/hsrpav1.body3.html

...P.S. sand is 2. miles off and lime 9. or 10. miles. it’s price at the quarry 1/.

TJ to Cabell, 19 December 1817, ViU:TJ.

For the making of mortar for the bricks, lime unstacked [can be aquired] from Augusta.

Dabney Cosby to Nelson Barksdale, 29 March 1819, ViU:TJ.
In 1820, a pine tree cost $1
7 pine trees cost $7
20 pine trees cost $20

Two sills at 28 feet long and eight by ten inches thick and wide cost $3.36

Sill: structural member consisting of a continuous horizontal timber forming the lowest member of a framework.

In 1820, firewood could be purchased for $2 a cord

In 1820, 1,000 bricks could be purchased for $4.50

In 1820, one slave could be rented for three months to make brick at $8 per month

Two slaves could take two weeks to saw 1,000 board feet (12"x12"x1") of lumber, for which the master could collect $9 from the buyer

The stone used for the first pavilion was quarried from a local marble yard

The stone used for the corinthian columns of the rotunda were constructed of pie-shaped bricks covered in brown stucco

The rotunda's vault roof was constructed with a Philibert de L'Orme truss like the one used for Monticello.

The stone used for the first pavilion was quarried from a local marble yard

Mortar for the inner walls were made with 1/3 lime and 2/3 clean gritty sand, without any mixture of earth; the outer walls had 1/2 lime and 1/2 such sand

Mortar for the outer walls were made with 1/3 lime and 2/3 clean gritty sand, without any mixture of earth; the outer walls had 1/2 lime and 1/2 such sand

Two slaves could take two weeks to saw 1,000 board feet (12"x12"x1") of lumber, for which the master could collect $9 from the buyer

The stone used for the first pavilion was quarried from a local marble yard

The stone used for the corinthian columns of the rotunda were constructed of pie-shaped bricks covered in brown stucco

The rotunda's vault roof was constructed with a Philibert de L'Orme truss like the one used for Monticello.

The stone used for the first pavilion was quarried from a local marble yard

The stone used for the corinthian columns of the rotunda were constructed of pie-shaped bricks covered in brown stucco

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