

JOHN STROBEL
SENSE OF COMMUNITY

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THESIS

JOHN STROBE

'SENSE OF COMMUNITY

by

John Strobel

A professional paper submitted in partial fulfillment
of the requirements for the degree

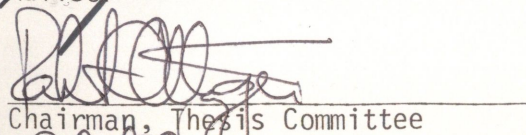
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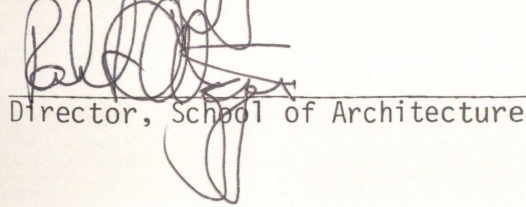
Approved:



Advisor



Chairman, Thesis Committee



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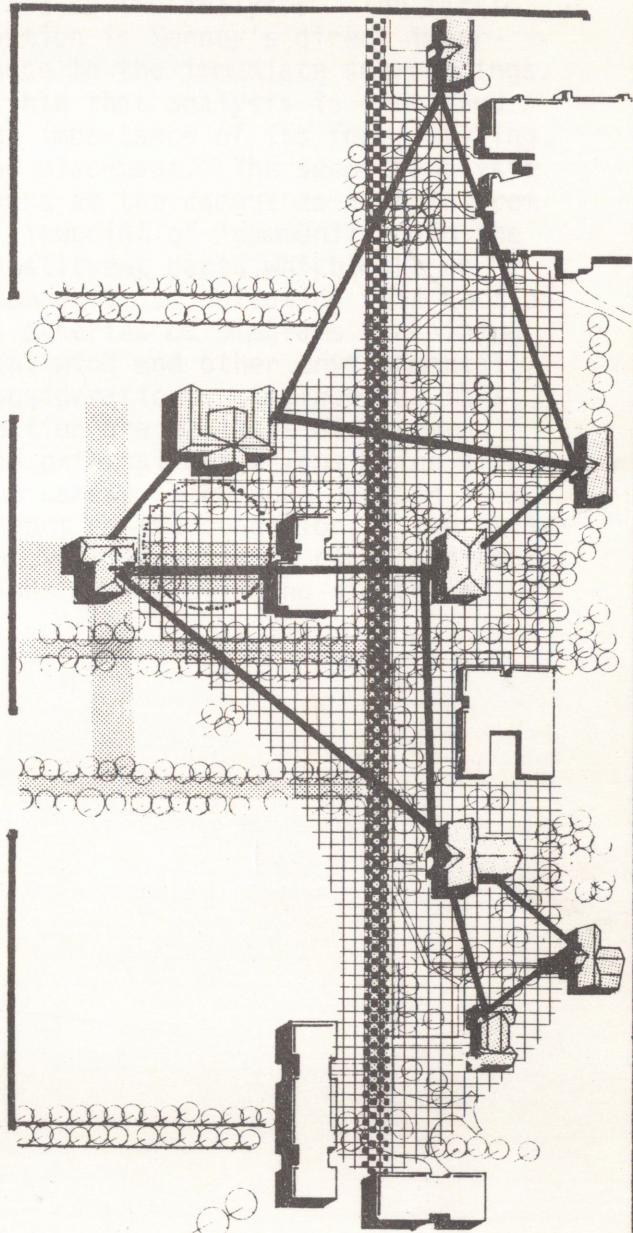
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The purpose of this thesis is to investigate the re-use of an abandoned academic building at Rocky Mountain College. The intent is to support three considerations; what are the qualities of the campus community, how is the building important to the existing campus fabric, and how can the revamping be sensitive to the existing college fabric and reintroduce the building as a viable piece of the physical plant.

The college presently suffers under a paradoxical situation of abandoned structures while experiencing a shortage of office and classroom space and inadequate laboratory facilities scattered among three buildings. The college administration desires to tear down the empty structures and build a large new science and classroom center both to meet their needs and to improve their image.

The viewpoint of my thesis is that the present sense of community is the valuable resource of the college and that it should be maintained. The atmosphere of campus is defined by two collegiate - gothic style buildings. The other stone structures relate to this image by similar stonework and styling. The stone buildings are also part of the traditional of the campus as they were built by student labor in the early part of this century. There is a very strong sense of community created by the formal and traditional ties these buildings exhibit. The proposal to destroy Kenney Hall would cause a significant gap in this carefully constructed grouping of collegiate buildings. My thesis proposes that Kenney is a significant member of



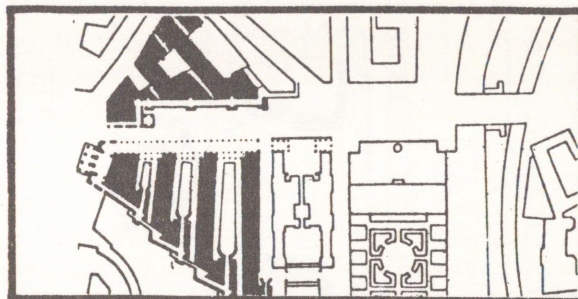
the campus grouping, which would be better served by adapting it to house the classroom - office space needed on campus. The consolidated laboratory space will be accommodated in an addition to Kenney Hall while respecting carefully the context into which it is inserted.

With this thesis there is a sense of reality however as Kenney Hall is threatened with destruction as soon as the college administrators decide to go ahead with new construction, I have become concerned with attempting to raise the consciousness of the administrators and public as to the importance of Kenney Hall. There is the possibility of federal funding if Kenney was nominated to the National Register as economic enticement in addition to the historical and environmental benefits to re-using Kenney Hall. Rehabilitating Kenney would maintain a highly visible building on the campus and reaffirm the importance of already existing fabric. I have made attempts to communicate these goals to the college administrators and to the public. In an addenda there are replies to letters written to Dr. Alton, College President which outline his position.

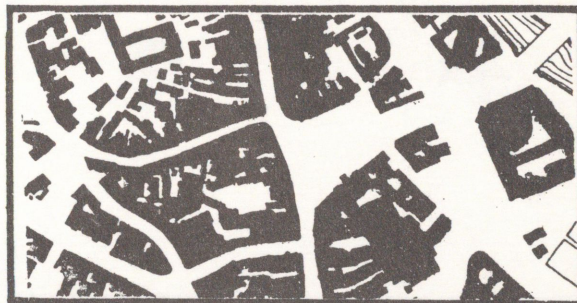
In analyzing Rocky Mountain campus there are two distinct portions to the analysis. The first portion is Kenney's direct importance to the immediate surroundings. Within that analysis is contained the importance of its form, styling, and placement. The second analysis looks at the campus as a whole from a viewpoint of 'community' and the constituent parts which make up 'community'. Following this section is a series of diagrams explaining sun, wind and other environmental considerations. Included in this section are analysis of patterns and external conditions which affect the campus. The next section is a report on the condition of the building with elevations, plans and sections of the existing structure.

Analyzing Rocky Mountain College is an attempt to understand the qualities of community that are present there now. The aspects to be especially respected are the historical association and visual correlations between the buildings. The intent of my thesis is to discover ways of preserving the fabric as it is now and how to mesh new construction into the campus community without demeaning or destroying what is already existing. The essence being; recognizing the existing structure and developing an architecture that does not willfully impose new schemes of development.

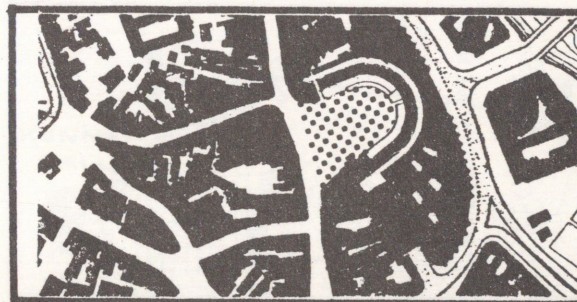
That a building represents those concerns relevant to the time of its creation is an unavoidable fact. However if the designs are not tempered by more than their own impact, we create an architecture that is 'living day to day'. I have therefore chosen to investigate Rocky Mountain College searching for the elements which result in the cohesive atmosphere. By careful investigation of the interrelationships of the buildings and the unifying landscape, significant factors can be derived which will 'qualify' the creation of new structures. Inserting new architecture into a context reaffirms the strength of the context and in turn creates a dialogue across time.



FINNISH PUBLIC INSTITUTE



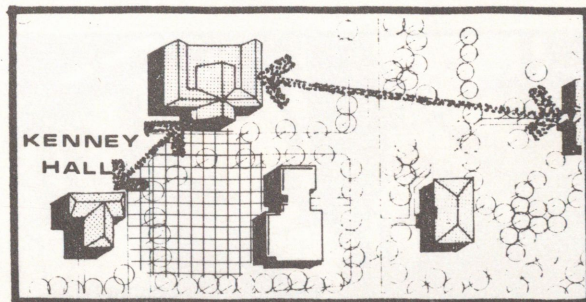
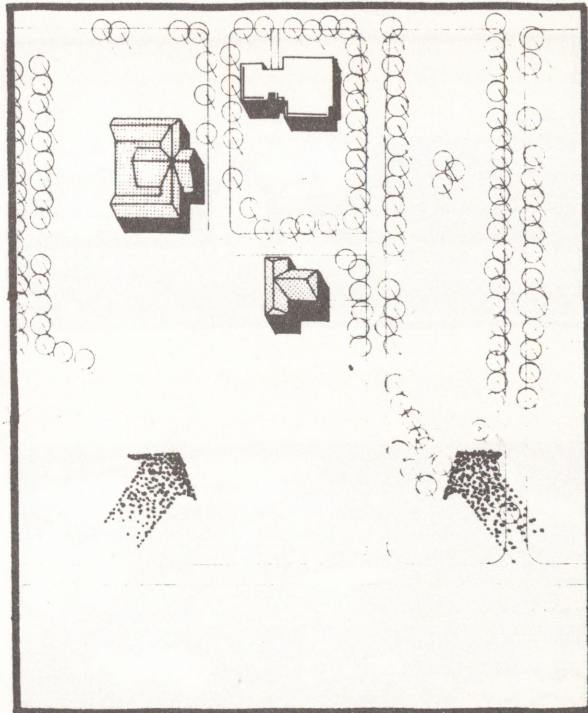
DERBY SITE



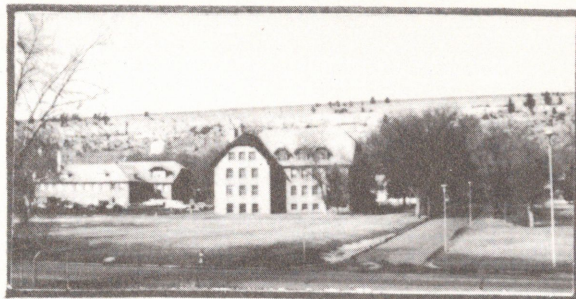
DERBY CIVIC CENTER COMPETITION

Kenney's presence is essential to the overall image of the campus. It represents the tradition of stone construction from which this campus gains much of its distinction. Kenney's bulk and prominent siting make it a landmark, yet it relates well to many of the smaller buildings as it is built of the same grey, rock faced sandstone, pitched roofs and small paned windows used throughout.

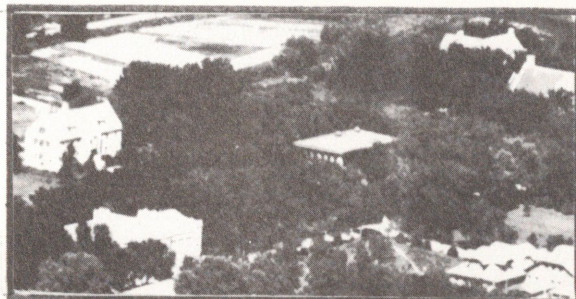
Kenney Hall's placement is essential to maintaining one of the smaller enclosed areas that are a pattern of this campus. To remove it would disrupt an area that has particular identifiability because of its closely surrounding buildings. While the enclosure is not as definite as a quadrangle, there is a similar implied sense of enclosure. Three separate buildings; Tech, Kenney and the Library, surround the small open space of lawn bordered on the east by an avenue of trees and a roadway. Each building has an entrance onto this lawn, establishing the impression that it is a forecourt. However it maintains a high degree of correspondence with the open areas of campus as it is not enclosed but with an equal amount of undefined edge thereby making it a transitional space from buildings to open campus. Removing Kenney would create a gap in the tenuous surround of the space destroying the careful balance between enclosure and openness.



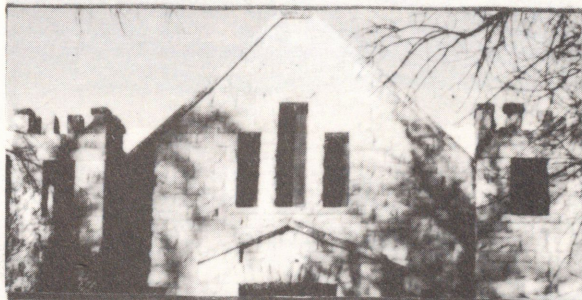
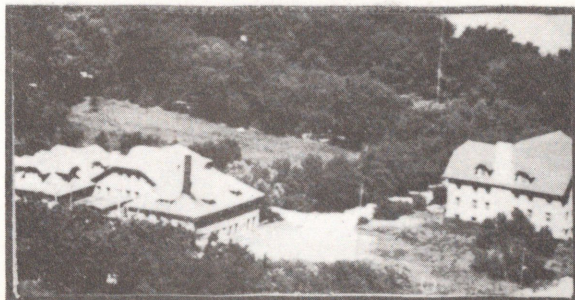
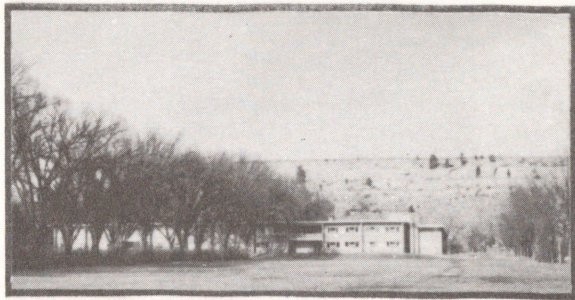
The fabric of the whole campus would suffer from removing anyone of the stone buildings. There are enough there now to maintain the image of an English or Eastern college campus. However, removing one with as high a visibility as Kenney Hall would disrupt the visual correlation between the remaining buildings.



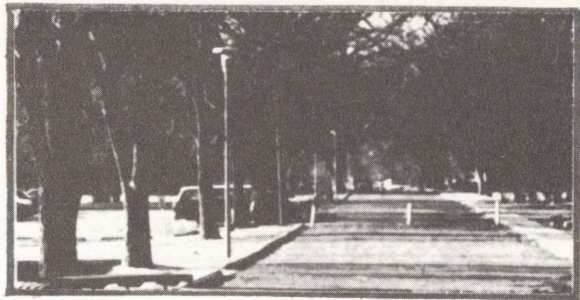
Kenney's placement on the campus should be seen against the backdrop from which it is inseparable. However important one building is to the campus, it is the campus as a whole whereby one feels the 'sense of community'. The identification one achieves with the campus comes about by drawing association from the antique derived forms. The buildings gain a romantic air by being old and patinaed by time. Their air of permanence and stability communicate clearly the quiet dignity of the old English colleges from which their forms derive. It is precisely the characteristics of history and of place long established, intuited from this campus that one feels the 'sense of community'.



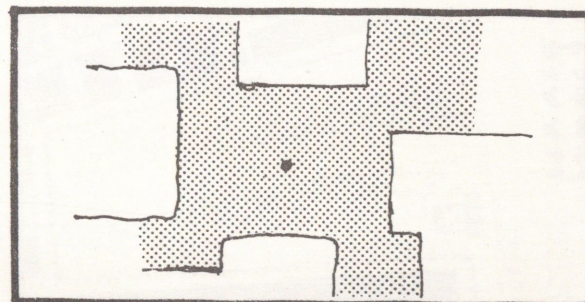
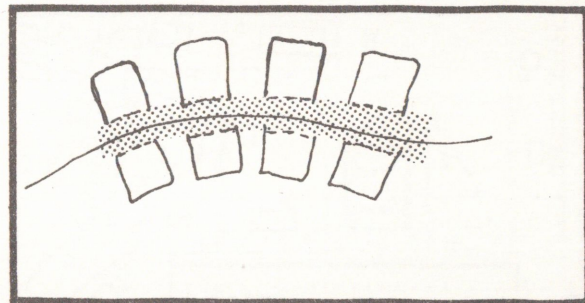
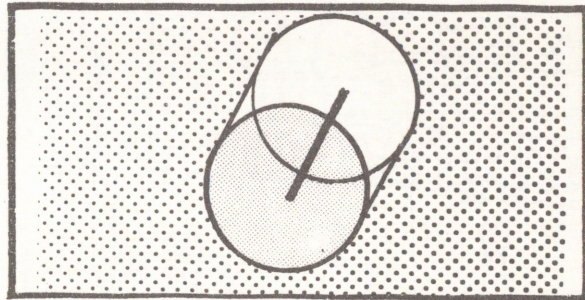
The suburban scene is like so much visual clutter that is quickly ignored. Arrival at the open expanse of the campus' broad lawns has the same impact as coming upon it in a journey across open country. The growing of the low, rectangular buildings amongst trees and viewed across a broad expanse is to be like settlements tightly clustered by circumstance. Emerging from the trees is an occasional glimpse of a stone or beige brick building, loosely arranged but with a strong visual correlation between them. In one view, the campus can be taken in as a community separate not only by distance and open space but it's strong unitary image. Advancing further into the campus is to further realize the cohesive character of the first impression. Each of the buildings share strong visual connections with the others. While only two of the buildings are of a collegiate gothic style, the other ones are of distinct historical extraction. The campus appears to have been the product of incremental growth from medieval half-timbering and castellated forms to a later collegiate gothic style. The structures are further related by their relatively small two and three story height, reduced by pitched roofs, and use of rock faced sandstone quarried on the site.



The heavily treed campus sets it apart from the open-expanse of lawn surrounding and further isolating it from the open suburbs. The trees serve as directional and boundary markers. Where there are no trees there is no campus. It becomes the open broad lawn separating the campus from the suburbs. The buildings are distinct elements woven into patterns of open and closed, within the trees. However the buildings are not a pervasive element like the trees but placed like accents throughout the landscape. Each building could be viewed separately as a sculpture on a greensward, except that the tension created by their correlating elements visually pulls the campus together. In addition to the buildings working together there is a strong relation between building and landscape, that works together towards a harmonious whole, without either element dominating. The image is very much one of large, open, green park, serenely quiet, held together in a unit by the buildings scattered about.



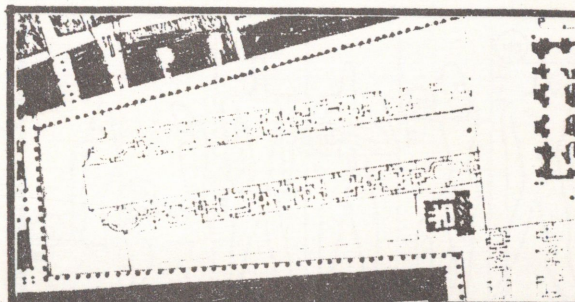
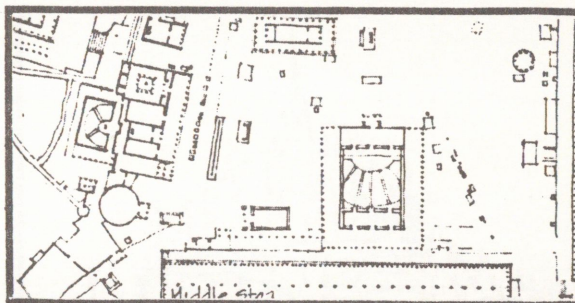
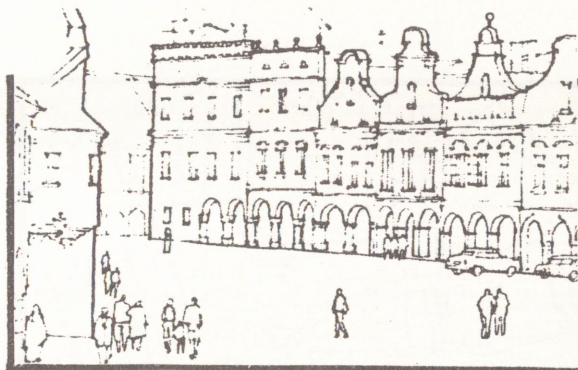
So what then is the 'sense of community'? Analyzing Rocky Mountain College is a process towards trying to identify the properties of community; those which are universal and those which are situation specific. Perhaps the most fundamental is 'placeness', that quality of separation from the surrounding. The basis of place is creating a center which is definable in terms that it is here or there. The college was established in the middle of a barren field fifty to sixty years ago when it had a need to be a place and was. Though it is engulfed by suburbia, those qualities of tight grouping and dense tree cover still differentiate it from the surrounding landscape. It is still definitely a 'place'.



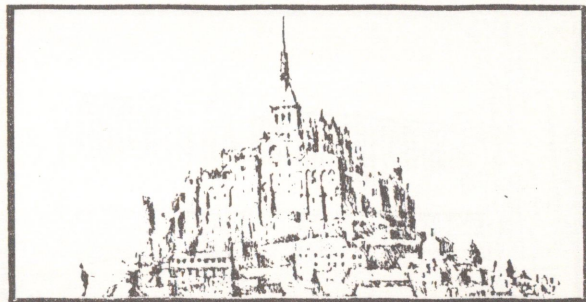
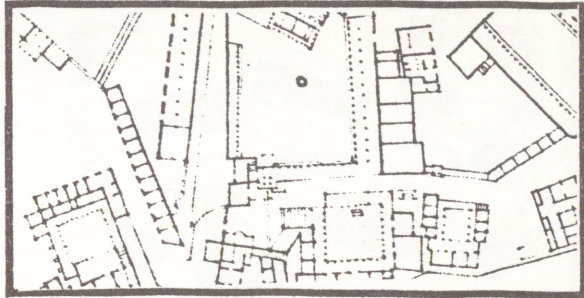
But 'place' remains too ephemeral an idea to say that it is definitely a quality that is specific to community. Place is such that it results from man's need to order the space he lives in. For community the requirements are more specific. Within the community there is a distinction between public and private space. Private spaces are for the individual, the public spaces are where the individuals interact. As community exists because of the interaction of its members, the public space is the relation between the private spaces. The open space of the campus is the relating element that binds all of the buildings together. The tree covered lawns link all of the separate elements together into a community. The linkage of the public and private realms is vital to the community. The bonds between the pieces maintains the placeness.

The 'sense of community' results from, in one part, public space and the other, the people who will use it. The places with the aspects mentioned above will induce people to use the space. The result being its greater use and subsequent identification as a significant connecting factor of the elements of community.² The 'sense of community' is then composed of factors both tangible and intangible, its qualities ranging from intimacy and familiarity to its distinct and identifiable image and the most elusive quality, the people of the community.

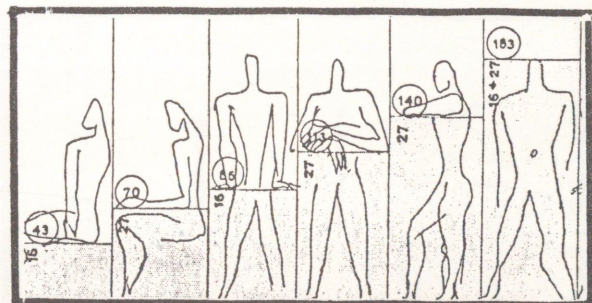
However intangible the people element is, there are places, provided some of the above aspects exist, where communities have existed for a long time with many changes. There is an added element of history and association to the antique forms that give Rocky's campus a sense of permanence. Even though the functions and programs inside might change; the facade reflect an image of college marking this as a special community. The permanence and stability suggested by the forms have a special significance which reinforces community.



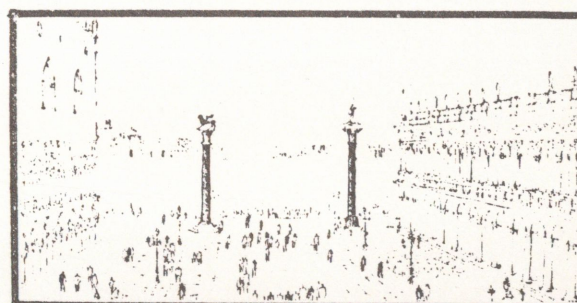
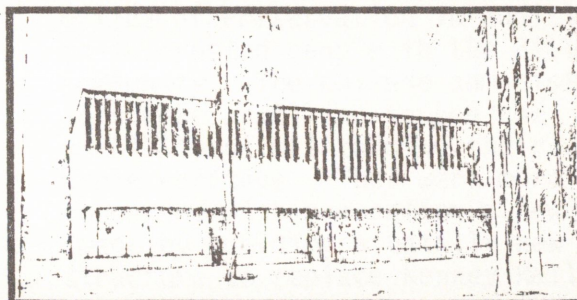
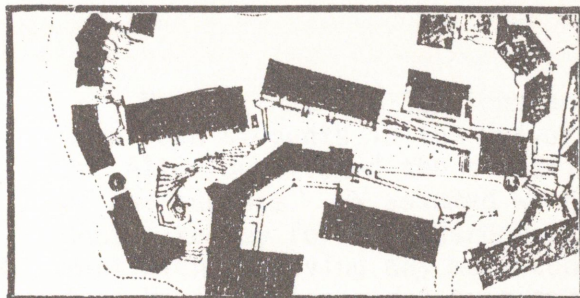
Communities are not relatively large. They depend upon familiarization with places and people for the essential interaction to occur. There is not associational contact or familiarization possible in a public space that is a crossroads.³ Community of any sort requires both familiarization with the place and the people. There is in addition a requirement of function involved. There must be a reason for the community to exist when and where it does. The campus is a highly specialized community. The singleness of purpose allows this campus to exist as a separate, almost isolate community. In turn, the qualities generate greater familiarity with both people and campus. The familiarity is further reinforced by the campus separation from its suburbs context and harking back on antique models for the buildings. The singleness of purpose and withdrawn setting reinforce the 'sense of community', while the function as a learning institution allows it.



Whatever the quality of the public space, or the reasons why people group themselves in place, people with bonds of familiarity can exist almost anywhere or in spite of almost anything. These must be additional qualities of the space which can greatly facilitate the 'sense of community'. Human scale in both the enclosures that define the public space, and the scale of the open area facilitate the greater use and identification with the public space. Within the use of human scale lies the ability



to identify with the space in human terms, that this space is adjunct to existential space.⁴ The public space of a community is not of ritualistic grandeur but, with a sense of personal fit, both in human terms and human scale. The complexity of form and orientation within Rocky's campus appeals to ones senses. The size of outdoor spaces ranges from intimate to grand, they do not lack in scale giving elements. While some central spaces are apt to be large, the edges created by trees and buildings create numerous smaller places. The buildings are small in scale also having their size further reduced by pitched roofs. The campus is essentially pedestrian in nature. The campus is too small to get even a momentary impression by other than walking speed.



The use of materials friend to man to use a quote of Corbusier's can facilitate both use of and response to the community space. The materials must delight the eye and provide responses to touch as they are as important as the scale in identification with the space. The atmosphere must also be friendly to man. The communal space must have a minimum of unpleasant qualities like chill winds or cold damp places that put a pall on activities there.

The college administrators maintained preconceptions of the utility of reusing Kenney Hall and of my sincerity in presenting a plan for rehabilitating Kenney. The administrators clung to a report of the buildings condition written by an engineer surveying all academic buildings in the state. In his report he claims Kenney has suffered severe structural and water damage and that it would be impossible to rehabilitate. My own investigation did not reveal any problems as far as structure was concerned. There was no cracking or sagging appearing anywhere in the building. All window and door lintels were in good condition with no cracks. The corners and the joint where the plan changes axes were solid and without sign of movement. The roof, windows and doors were in good condition. The floors were level and had a uniformly good surface. There was superficial water damage on the third floor but it was not widespread or severe.

Noting that Jim Sessions and I were both students in the University, Dr. Alton questioned the sincerity of our purpose. He assumed we had chosen Kenney for a classroom assignment without having any more concern than having a paper due by a certain date. There was however a significant amount of support from the School of Architecture and the State Office of Preservation in addition to interested people in the Billings community. The college administrators were unwilling to see the viability of maintaining their valuable heritage. They were more concerned with presenting a new image by building a totally new structure to replace Kenney Hall.

424½ West College
Bozeman, MT 59715
April 10, 1980

Dr. Alton
President, Rocky Mountain College
Billings, MT 59102

Dear Sirs:

In a period of rapid inflation and high interest it would be a wise decision to save Kenney Hall. The building is valuable not only because it is of sound and stable construction but also for its historical association with the rest of the campus of Rocky Mountain College. The college is the oldest institution of higher learning in the state. The first phase of sandstone buildings on campus are the tangible link with that past. It would be a significant mistake to further weaken the tenuous fabric by removing Kenney from the grouping of buildings. Material and shape are some of the associations the buildings share in addition to their handcraftmanship by the first students of Rocky. The first sandstone buildings represent that commitment to education strong enough to construct the college from the materials on site. With the maturing of the landscape, the buildings now establish a series of semi-enclosed spaces and paths directly threatened by the removal of Kenney Hall. Kenney is in close sympathy with the intimate scale of the campus while maintaining a considerable dialogue of forms, materials and associations with the other buildings on campus.

Kenney also has considerable value as reuseable space. It would be profligate to demolish excess space to replace it with new construction. Rocky's campus is not so restricted that suitable open sites could not be found nor is the college's budget so extensive as to allow the demolition of potentially useable space because it is presently not utilized. There is a moral issue to be considered of what justification there is to destroy a building merely to provide open ground for a new building. The notion that Kenney is unsalvageable is not true. Kenney Hall is of substantial construction that could be modified to continue its usefulness.

There are economic reasons for saving Kenney Hall. The building as it stands is a prime candidate for rehabilitation. While the interior is virtually characterless the converse is that reason allows it to be substantially modified or removed. The integrity of the exterior can be maintained without major restoration or rejuvenation required.

As a student of architecture, I favor new construction but not at the expense of demolishing buildings important to the heritage of the area. I have proposed in my undergraduate thesis the idea of reusing Kenney to house the portion of the program of the new science building other than the laboratory space. I realize that providing the necessary

services to lab spaces would be a difficult procedure in the older structure and probably a major obstacle. However the lab space is only half of the program. The other half is classroom and office sapce for which Kenney could be well adapted. In an interim review the proposal and work to date has met with high marks from a jury composed of historians, planners, and architects. The ideas of reusing Kenney for classroom and office space while attaching new lab spaces to the building was seen as a reasonable solution to the twofold problem of preserving a significant structure and finding appropriate uses for it.

There is available support from a number of government organizations. The M.S.U. School of Architecture supports me in my thesis endeavor realizing that the problem is very real and guiding me in a direction that will result in a solution of reasonable proportions. The State Office of Historic Preservation is willing to provide wide ranging help in reuse. To quote from a letter concerning Kenney Hall..."We would be most willing to offer advice and suggestions regarding the upgrading of the building to meet code requirements, to increase energy efficiency, and to restore the building to useful function while preserving its historical integrity...Unfortunately we have few tools to prevent the destruction of Kenney Hall other than moral persuasion."

The federal government also offers significant amounts of funds available for historic preservation and upgrading dependent upon nomination to the National Register. The funds are available as matching funds, both in direct monetary matching and soft match. My thesis and other donated labor can be considered as soft match as can other volunteer efforts directed towards saving the building. All of this support is offered to the college free, without obligation other than sensitivity to what resources the campus has now and should not be removed.

Sincerely,

John Strobel

Rocky Mountain College



Billings, Montana
59102

BRUCE T. ALTON
President

April 28, 1980

Mr. John Strobel
424½ West College
Bozeman, Montana 59715

Dear John:

Thank you for your recent letter regarding Kenney Hall. I began to suspect that there might be an assignment due in "Saving Old Buildings 101" when I received both your letter, and that of Jim Sessions, in the same mail!

In any event, I appreciate the concern that you express.

As I believe that I have indicated to you previously, the decisions that we have made concerning Kenney have not been taken lightly. It has been only after more than a year of consideration, and review by both architects and engineers, a special committee of our Board of Trustees, and the full consideration of our Executive Committee that the decision was made.

It is perhaps ironic that our entire campus was reviewed by a consulting engineer employed by the Montana University System in 1972, to review all college and university buildings in the State. His summary included the following:

Kenney Hall: This building might have been saved with major renovation at an earlier date, but now the water leaks and structural deterioration have progressed to the point that the building should be demolished.

Again, I appreciate your letter, and am sorry that we cannot agree on this matter. I invite you to the campus to observe our progress as we build the Bair Center with stone utilized from Kenney Hall. We believe that it will be a unique and adaptive use.

Sincerely,

A handwritten signature in dark ink, appearing to read "Bruce T. Alton", written over a horizontal line.

BTA/cp



BRUCE T. ALTON
President

April 28, 1980

Mr. James Sessions
714 South 8th
Bozeman, Montana 59715

Dear Jim:

Thanks so much for your recent letter on the Kenney Hall issue. It was appreciated.

I suspect that taking down an old building is somewhat like a divorce. There have been so many happy times together and one wonders whether or not there could be happy times again. But there comes that time when one faces reality and says that the break will be best for all concerned.

If Kenney was Alden, Tyler, Losekamp, or Prescott, I suspect that our decision would be different. Each has an adaptability for the needs that we have, each blends architecturally with other buildings on the campus. Kenney is different.

Rather than go into great detail on the decision-making process that has brought us to this point let me simply say this: First, our architects and engineers, our Board, and I believe that the razing of Kenney is in the institution's best interests. Second, let me share some of our reasons through a letter written to Bob Archibald several months ago on a similar topic but which outlines the concerns that we have.

I am sorry that we cannot agree on this action, but very much appreciate the concern that you have shown. I sat with your Mom at dinner last night (Awards Banquet) and she reported on your excellent academic progress. I was not surprised. I am glad that you are happy what you are doing.

Stop and see me when you are next in Billings.

Sincerely,

BTA/cp

Enclosure



MONTANA HISTORICAL SOCIETY

HISTORIC PRESERVATION OFFICE

225 NORTH ROBERTS STREET • (406) 449-4584 • HELENA, MONTANA 59601

March 21, 1980

Jim Sessions
925 Princeton
Billings, MT 59102

Dear Stryker:

Thank you for contacting the Historical Preservation Office regarding Kenney Hall at Rocky Mountain College. We share your concern about its pending demolition. It appears to be a fine building and, in the context of the Rocky Mountain campus, a valuable part of a significant grouping of historic sandstone edifices.

The costs of rehabilitation and renovation of older buildings such as Kenney Hall, to restore them to usefulness, are often much lower than the costs of demolition and construction. It seems Kenney Hall would not be an appropriate space to house the planned science center, however, the possibilities for adaptive use of this structure extend as far as the imagination runs. We, at the Preservation Office, would be most willing to offer advice and suggestions regarding the upgrading of the building to meet code requirements, to increase energy efficiency and to restore the building to useful function while preserving its historic integrity.

Unfortunately we have few tools to prevent the destruction of Kenney Hall other than moral persuasion. I hope that your discussion with the president of the college may have yielded sympathetic understanding. I shall contact Mr. Alton and inquire about the possibility of nominating Kenney Hall to the National Register. The buildings are privately owned and the Historic Preservation Office has no jurisdiction over the use or future of the structures on the campus. We may only offer our suggestions and comments.

Since you have already conducted a survey of the Rocky Mountain Campus, perhaps you would be interested in gathering historic and architectural information on the buildings, together with photographs depicting their significance in order to prepare a district nomination. We would be pleased to aid you in whatever way with this endeavor. Nomination to the National Register of Historic Places would in no way bind the trustees to a preservationist program but would give recognition to the buildings as significant historic structures.

Thank you very much for your interest and concern in this matter. Let us know if you would like to proceed with your work on the campus by putting together a district nomination. We shall send you any further information that you may need. And Best of Luck in your next quarter at school.

March 26, 1980

Dr. Robert Archibald
Acting SHPO
Montana Historical Society
Historic Preservation Office
225 North Roberts Street
Helena, Montana 59601

Dear Bob:

Thank you for your letter of March 21, regarding the razing of Kenney Hall on the Rocky Mountain College campus. Your time and concern are appreciated.

The concerns of your letter are well-taken and have certainly been in our own thinking as we have moved through our decision-making process of the past fifteen months. The final decision of the Board of Trustees to raze Kenney was one not taken lightly. It was based upon thorough review of the building by both architect and engineer, as well as our serious consideration of other alternatives. Each course of action, however, led us to the alternative that we have taken.

As you are aware, the future for college enrollments is not bright. A 22% decrease in the number of high school graduates in the State of Montana over the next five years is a sobering but very real fact. For Rocky to expect to grow markedly in the next twenty years is, we believe, an unrealistic alternative, although we do hope to remain constant in our size.

The bottom line of the equation is the fact that very honestly for the past twenty-five years the College has been over-built. At almost any time during this period we have had at least one of two buildings standing vacant. With energy costs escalating as rapidly as they are, this alternative very quickly becomes counter-productive. While we have reduced our energy usage on the campus by 32% for electricity and 19% for gas, our costs have increased by 27% and 119% respectively. The final question becomes that of which resources does one conserve.

While Kenney will be removed from the campus there are some happy endings to its story. First, as you may be aware, the sandstone building blocks will be taken from the building and utilized in the construction of the new science center in what we believe to be a unique and creative adaptive use. Secondly, we have as an integral part of our present capital funds campaign the restoration of two of our older buildings - Losekamp Conservatory, completed in 1917, and Alden Hall. In addition we are taking an additional \$80,000 to effect energy

Dr. Robert Archibald
Montana Historical Society
Helena, Montana 59601

March 26, 1980
Page 2

conservation measures in all of our older facilities - Tyler Hall, Technology Hall, and Eaton Hall. Third, we are taking steps at this time to seek listing of Prescott Commons - a building presently vacant but with exceptional charm - on the National Register, with the hope that we might then seek funding to restore it for a purpose yet to be determined. This will then leave intact each of the "neo-Gothic" buildings of the campus - Prescott, Losekamp, Tyler, and Alden, plus the two earliest buildings of the campus - Eaton Hall and Technology Hall, and with the present exception of Preseott, will also leave each in renovated and/or energy efficient condition.

Again, my thanks for your letter.

Sincerely,

BTA/cp

bc: Mr. George Selover ✓

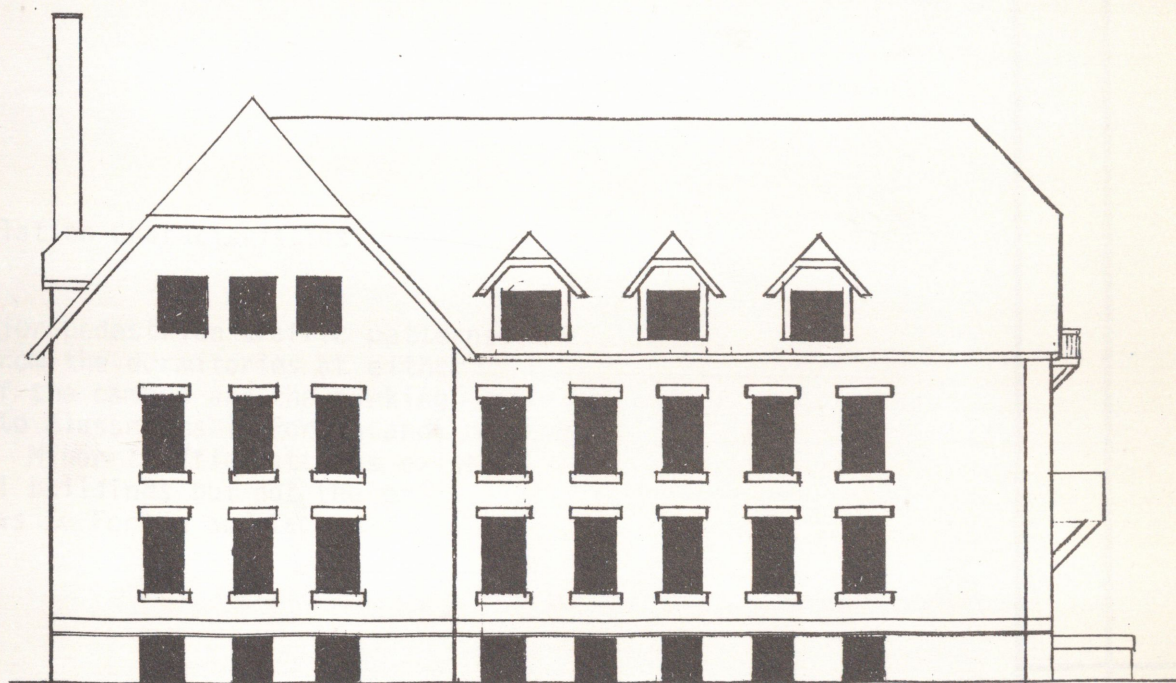
BIBLIOGRAPHY

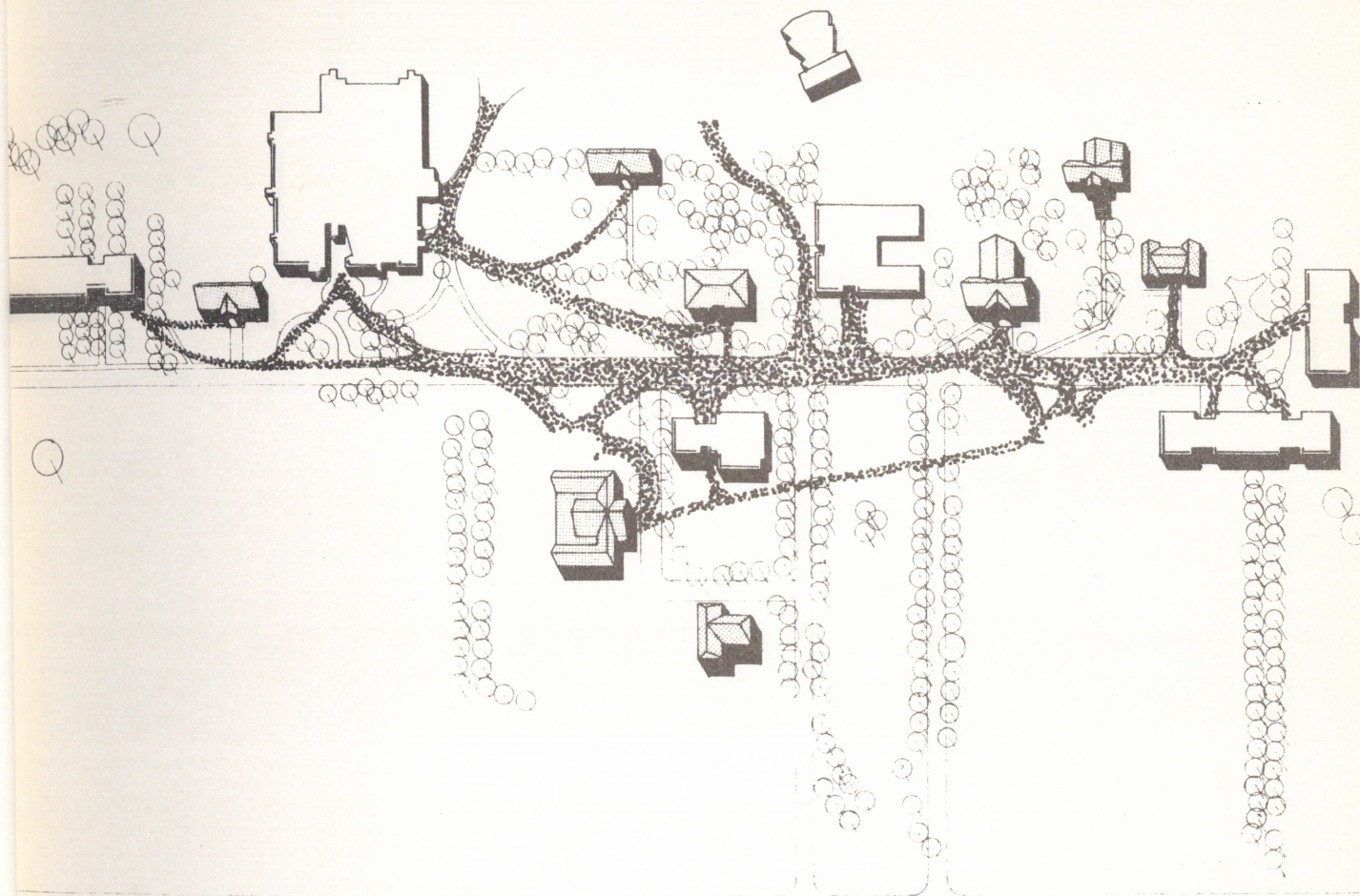
1. Bacon, Edmund. Design of Cities. New York, New York: Penguin Books, 1978.
2. Bloomer, Kent C. and Moore, Charles W. Body, Memory and Architecture. New Haven, Conneticut: Yale University Press, 1977.
3. Cullen, Gordon. Townscape. New York, New York: Van Nostrand Reinhold Company, 1961.
4. Lynch, Kevin The Image of the City. Cambridge, Massachusetts: MIT Press, 1960.
5. Moore Charles, Allen Gerald, Lyndon, Donlyn. The Place of Houses. New York, New York: Holt, Rinehart and Winston, 1974.
6. The National Trust for Historic Preservation, Americas Forgotten Architecture. New York, New York: Pantheon Press, 1976.
7. Norbert-Schulz, Christian, Meaning In Western Architecture. New York, New York: Praeger Publishers, 1975.
8. Pye, David. The Nature of Aesthetics and Design. New York, New York: Van Nostrand Reinhold Company, 1978.
9. Rowe, Colin. The Mathematics of the Ideal Villa and Other Essays. Cambridge, Massachu-
setts: MIT Press, 1976.
10. Scruton, Rober. The Aesthetics of Architecture. Princeton, New Jersey: Princeton Univer-
sity Press, 1979.

11. Scully, Vincent. American Architecture and Urbanism. New York, New York: Praeger Publishers, 1976.

FOOTNOTES:

1. Norberg-Schulz, Christian. Existence, Space & Architecture pg. 9
2. Lynch, Kevin . The Image of the City pg. 4
3. Lynch, Kevin . The Image of the City pg. 4
4. Norberg-Schulz, Christian. Existence, Space & Architecture pg.16



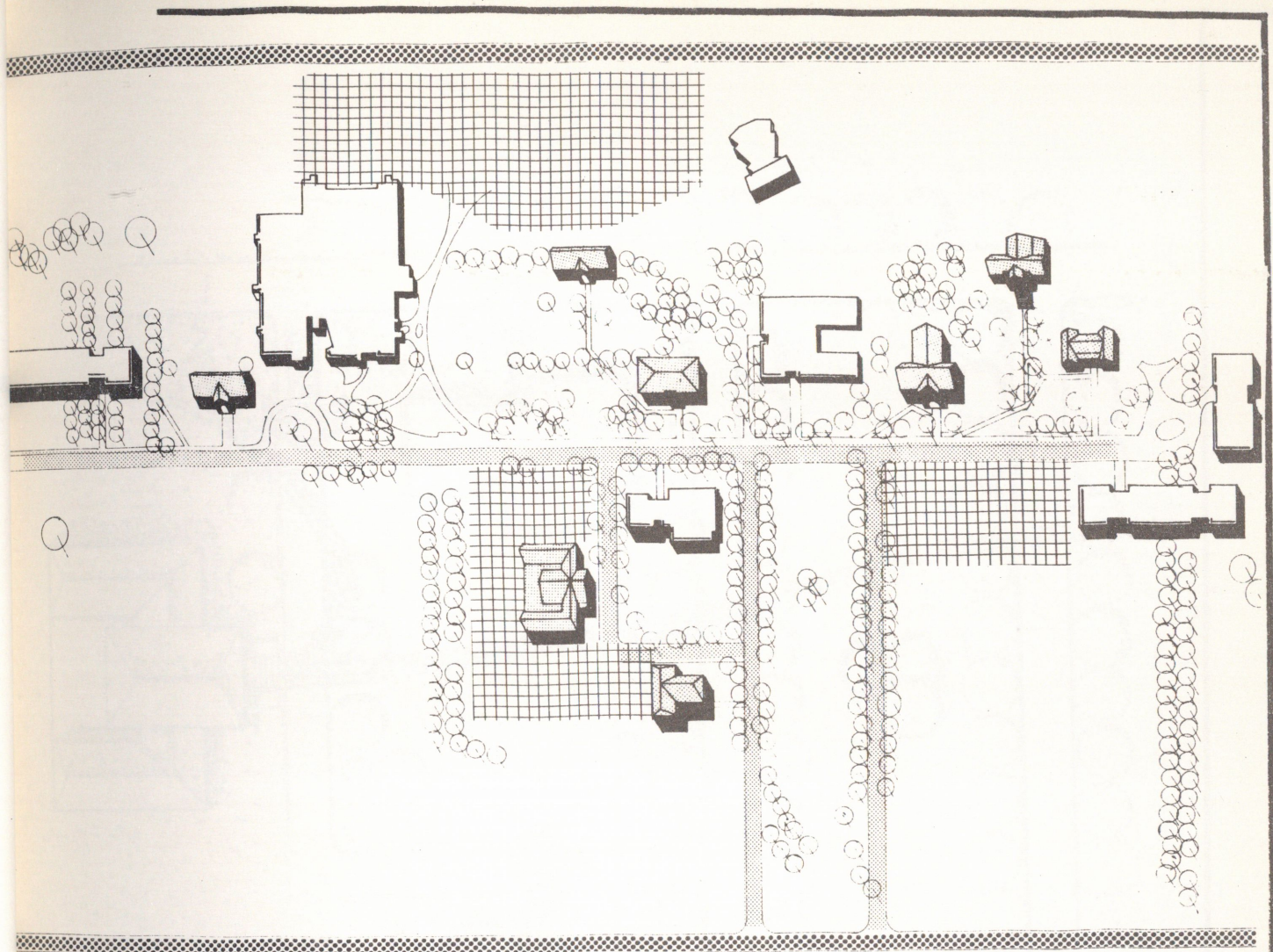


PEDESTRIAN CIRCULATION

ROCKY MOUNTAIN
COLLEGE

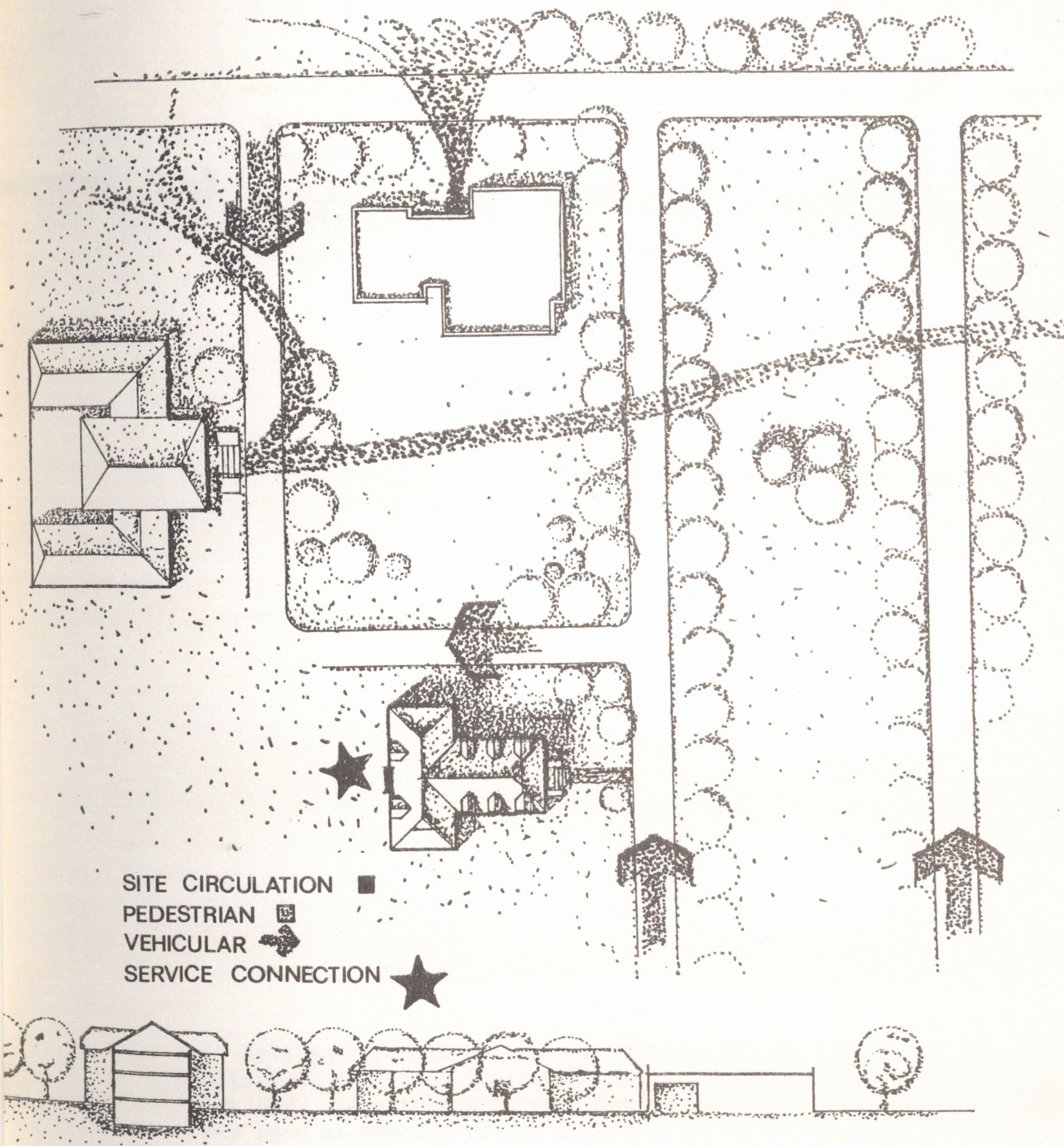
Circulation Characteristics

Major pedestrian traffic patterns are from the dormitories at either end of the campus and the parking lots to classrooms in Fortin and Tech. Minor traffic patterns exist to all buildings but not the extent as to Fortin and Tech.



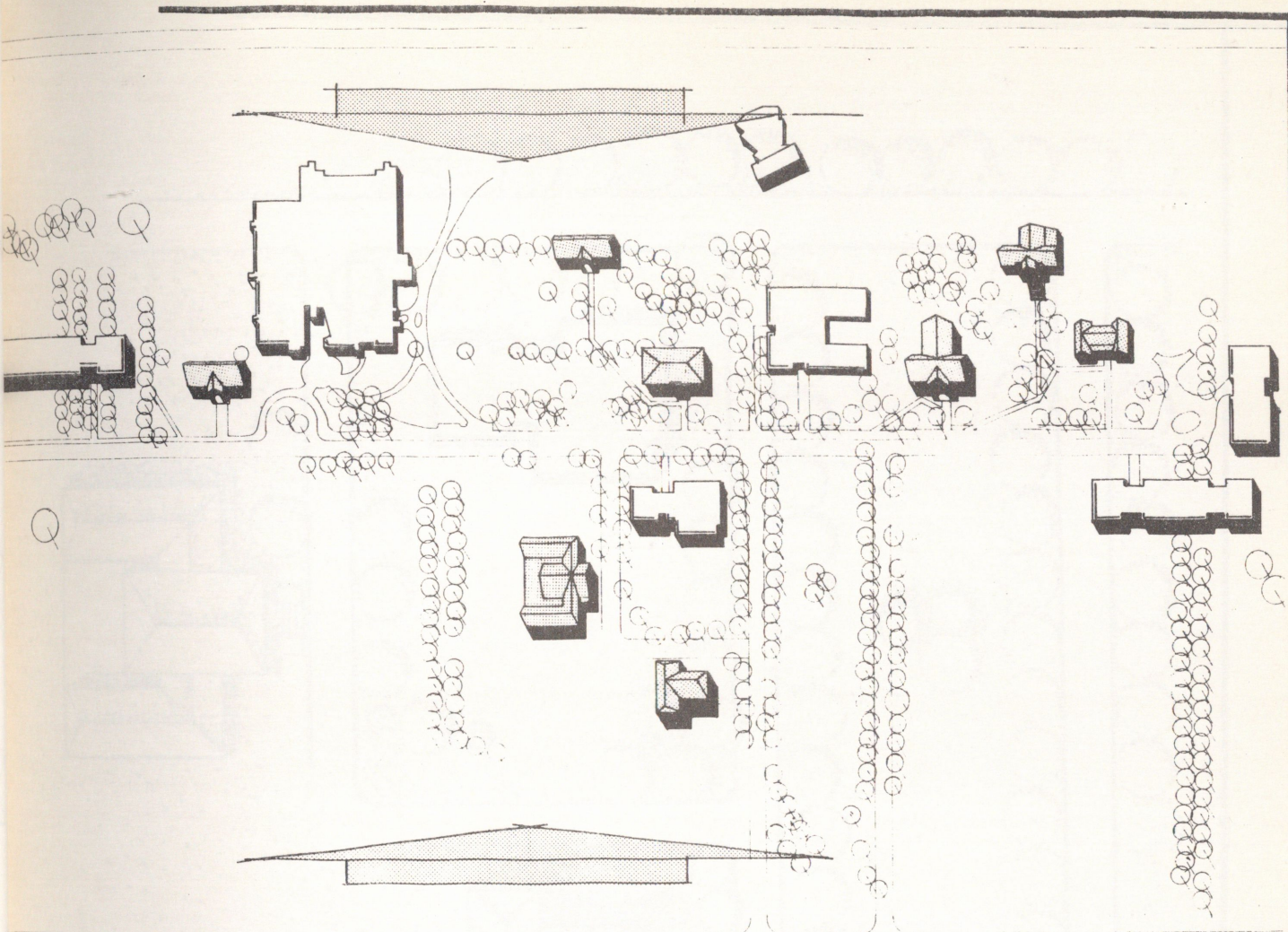
VEHICULAR CIRCULATION  ROCKY MOUNTAIN
PARKING LOTS  COLLEGE

Vehicular circulation is from surrounding streets onto campus via parallel roadways from the south, one roadway from the west and entrances to the north. There is also significant car movement on the central axis of the campus.



Circulation/Site Conditions

Presently the site is entered by an asphalt roadway between Kenney and Losekamp. The site is used for parking and garbage pickup as well as staging area for service shop activities.

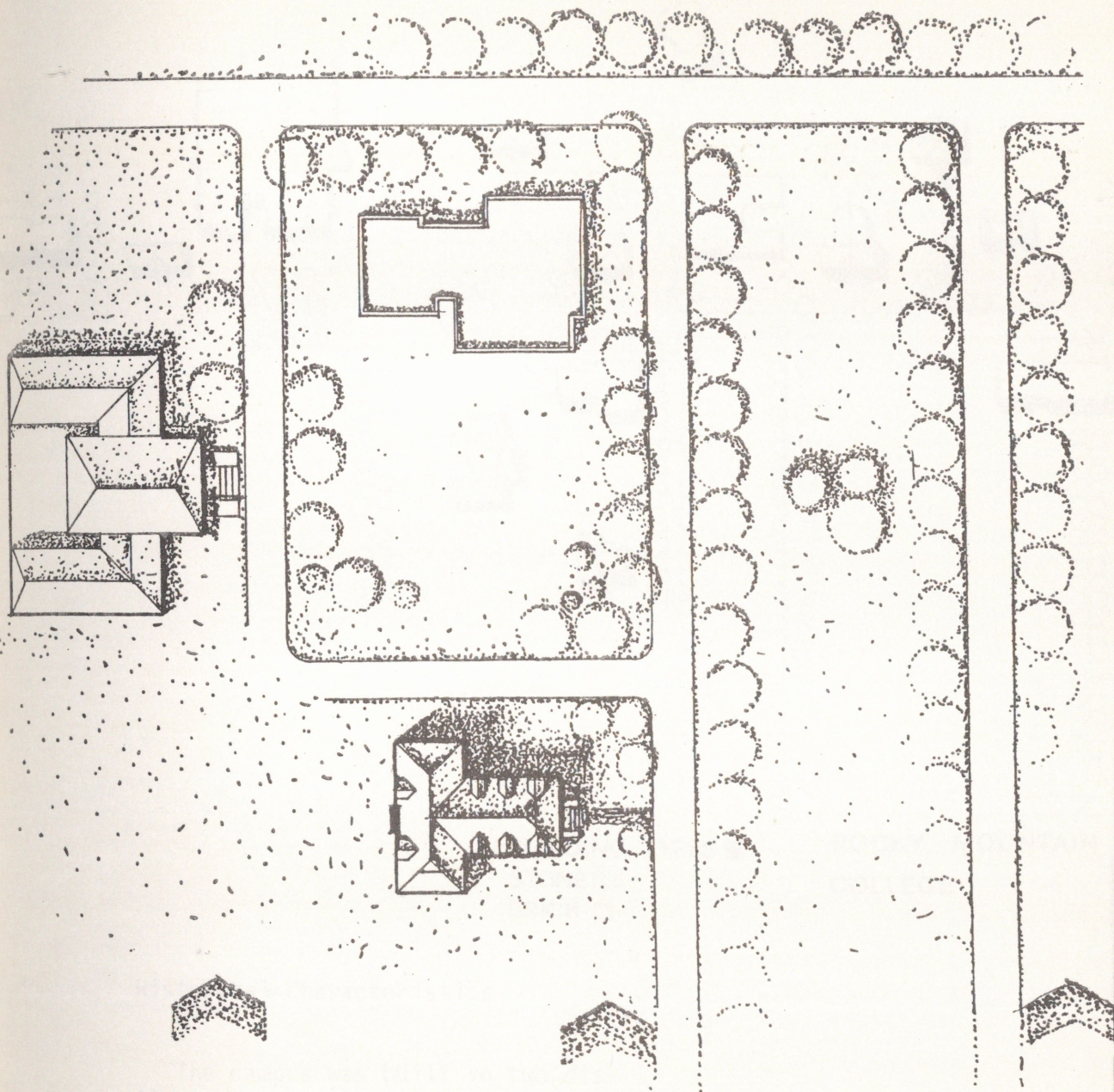


TRAFFIC NOISE PENETRATION

ROCKY MOUNTAIN COLLEGE

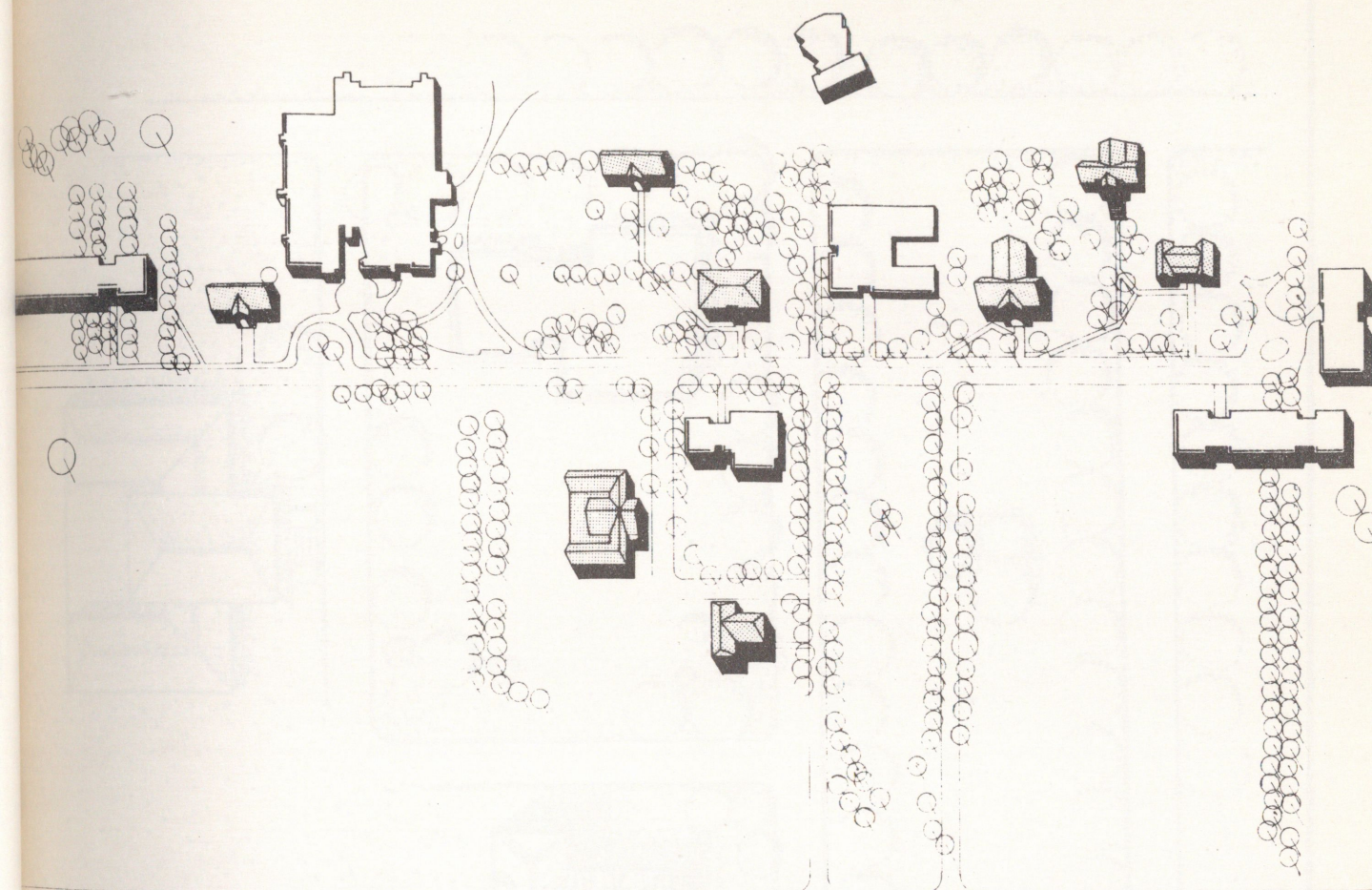
Traffic Noise Characteristics

Poly and Rimrock Drives are major arterials averaging 10-12,000 cars per day. Seventeenth Street does not have as great a volume as the other streets. On the edges of the campus, noise would be a major consideration.



Traffic Noise Analysis

Car and truck noise present considerable problem in control at the edges of the site. Attenuation by distance makes the interior campus fairly quiet. The lack of stop and go traffic except at far corners of the campus also contributes to lower traffic noise. Except for the perimeters of the site the noise control problem does not present insurmountable obstacles.

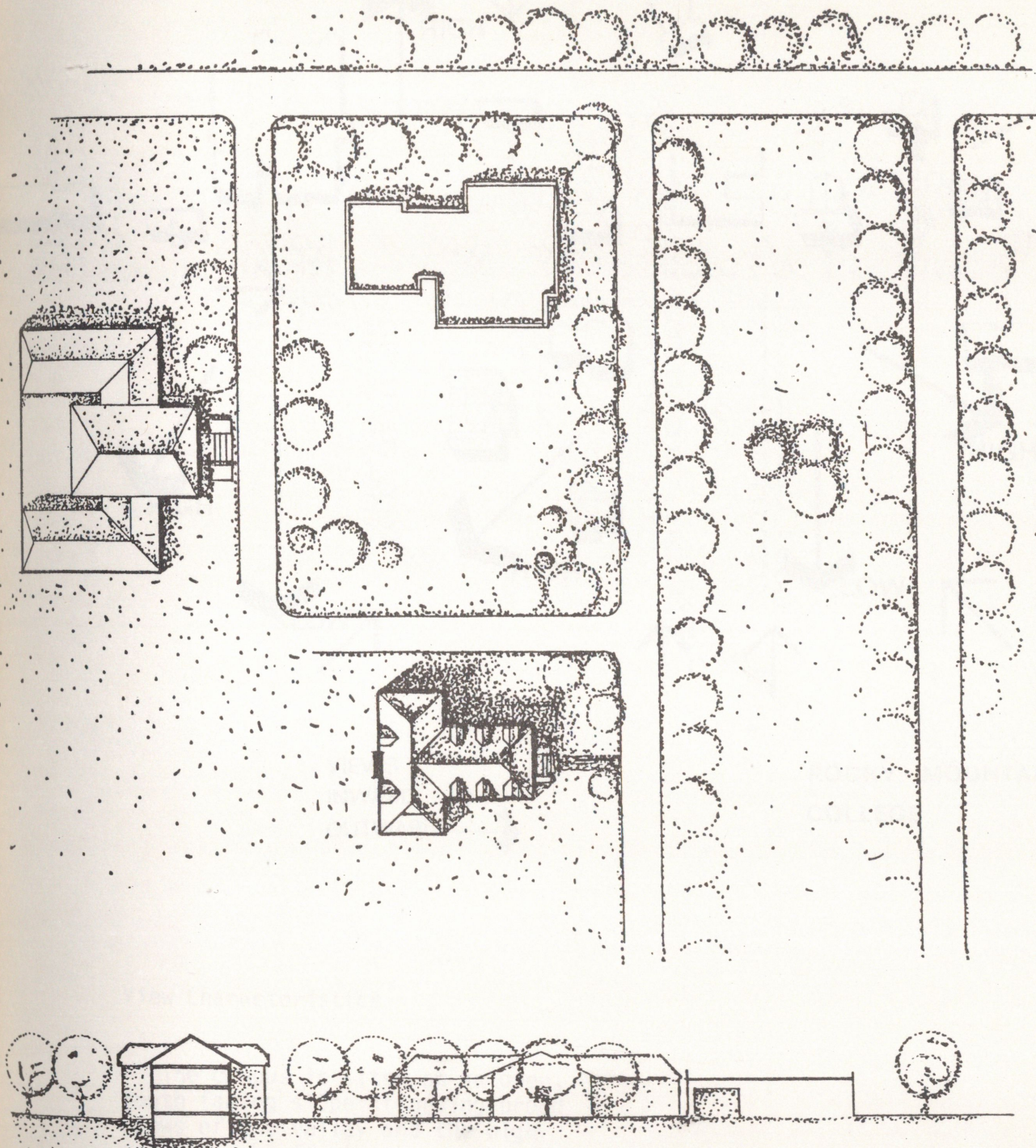


BUILDING TYPES ■
 STONE ■
 BRICK □

ROCKY MOUNTAIN
 COLLEGE

Historical Characteristics

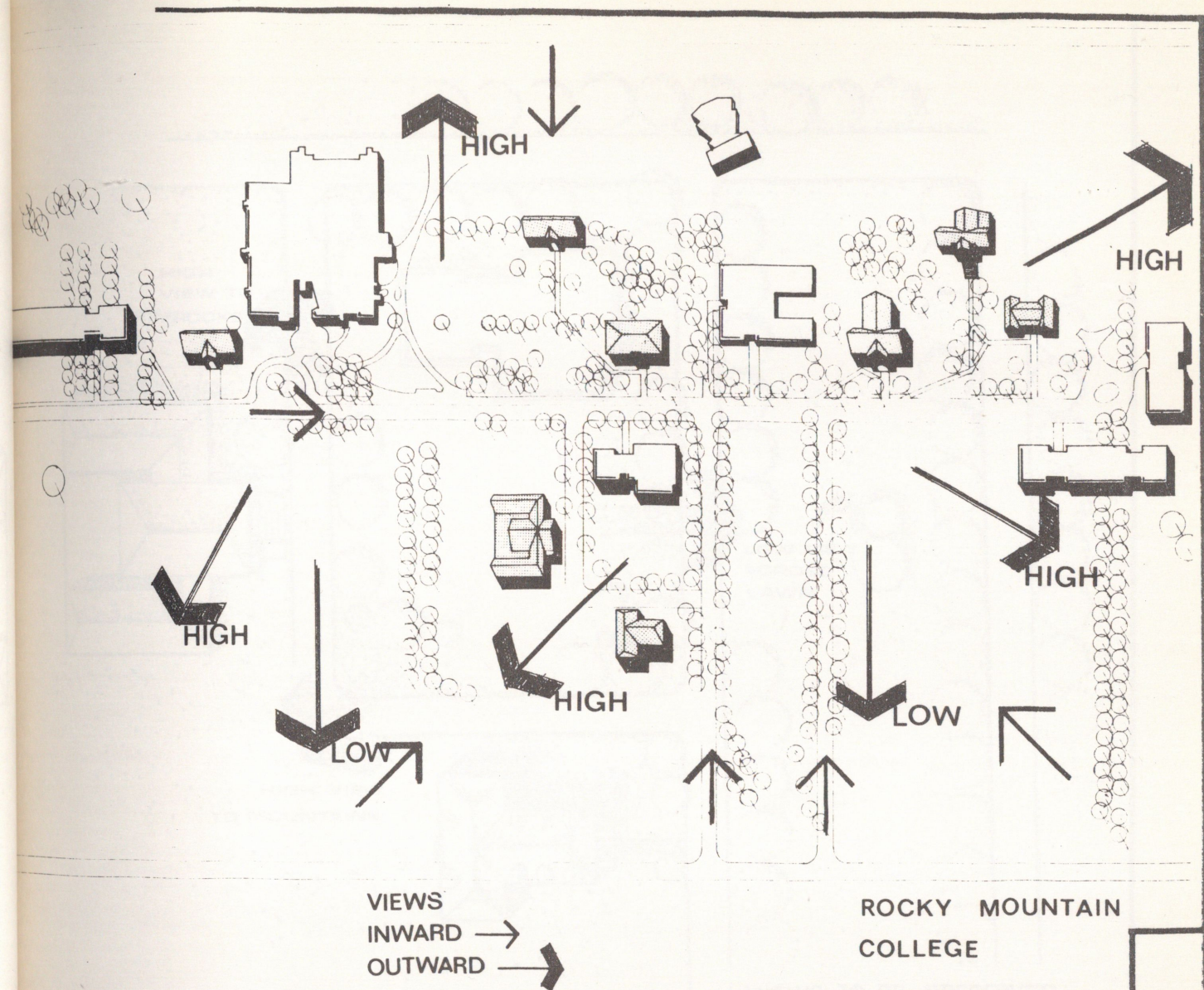
The campus was built in two distinct phases. Phase one includes all of the grey sandstone buildings which were begun about 1916 and extended into the 1920's. The second phase is characterized by beige colored brick and erected from the late 1950's to the early 1960's. The buildings of the second phase located in the central portion of the campus fit in well to the overall texture. The outlying dormitory seems out of place within the context of the strong centrality of the campus.



Historical Analysis

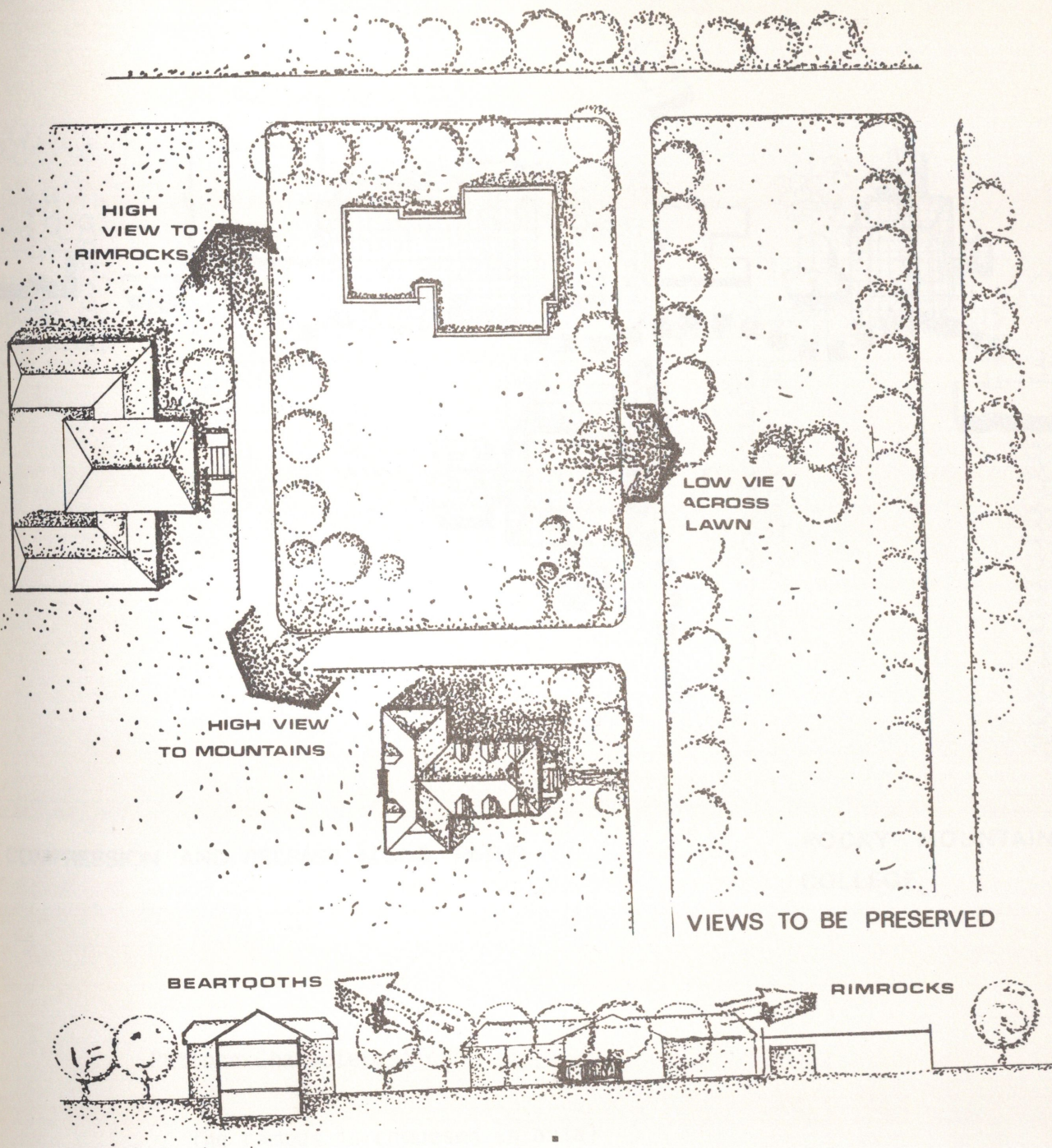
Kenney Hall maintains strong linkages in material and shape to other first phase sandstone buildings. All efforts should be directed towards maintaining existing campus cohesiveness. Additions to Kenney should

respect its integrity as a building yet make it a viable structure on campus. Kenney's importance is not one of interior characteristics but its exterior. There is possibly a greater flexibility in reuse if the present interior is not important or considered to be highly important.



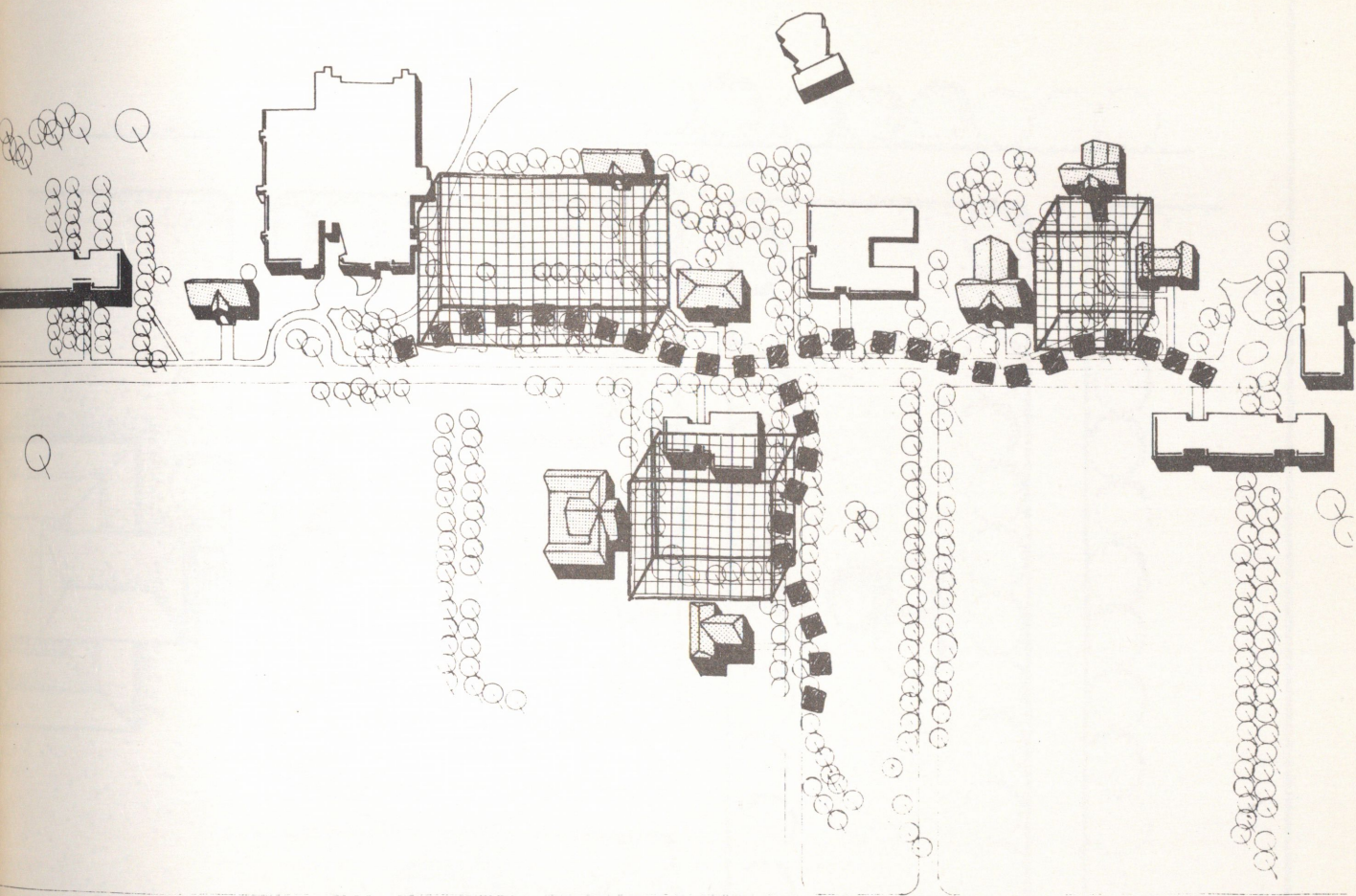
View Characteristics

The campus is sited on an open, south facing slope affording broad views of the valley and the high sandstone bluffs to the north. The foreground is the broad expanse of the campus lawns, the middle ground being that of suburban development with the far expanse being the sandstone bluffs to the north, mountains to the west, and the river valley to the south and east.



View Analysis

The view to the east should be preserved intact, as it is the one with the least middleground obstruction. Other views are obstructed or framed by existing buildings. Some amount of outlook should be maintained towards the southwest to preserve the open characteristics of the enclosed space.

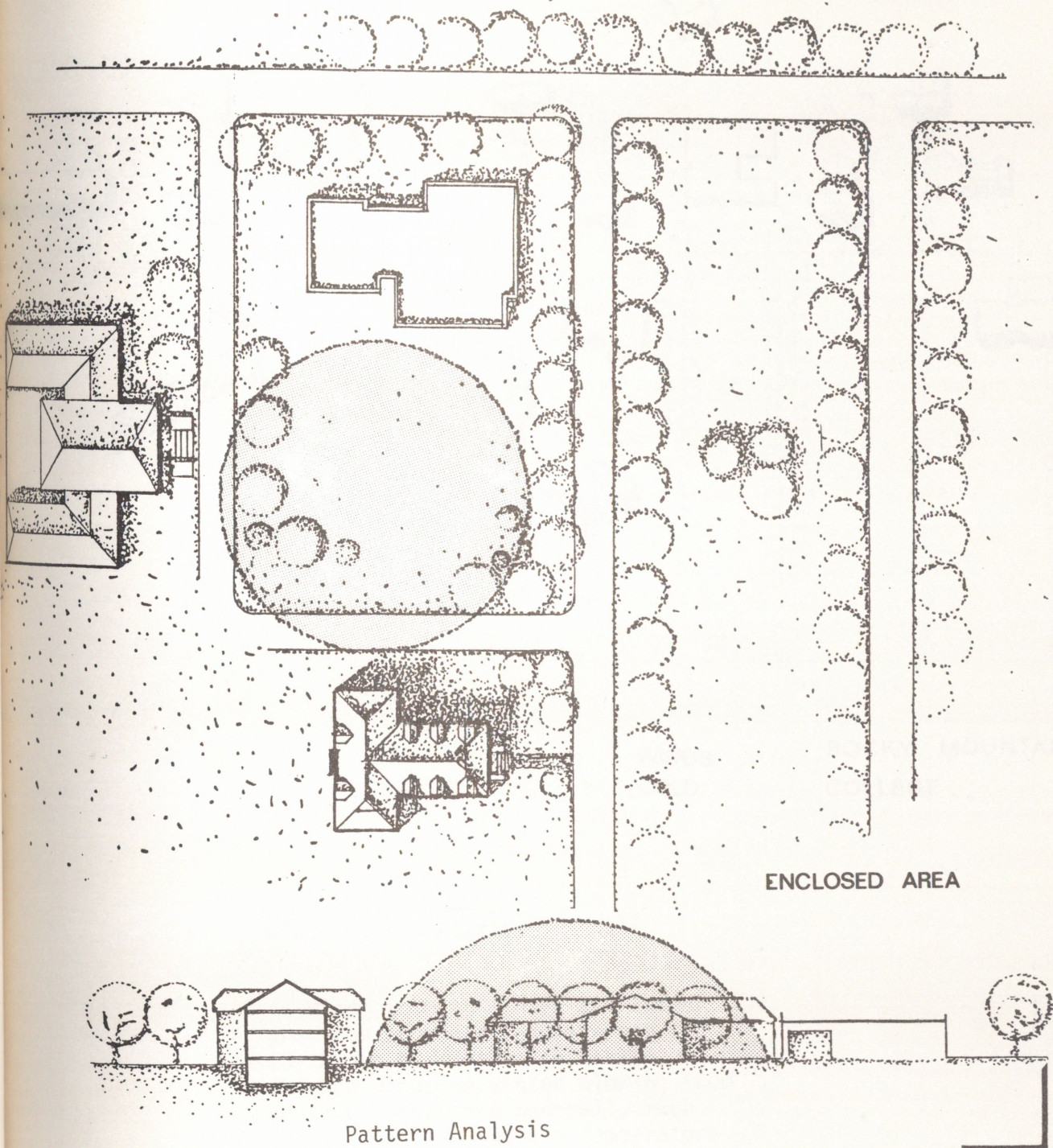


COMPRESSION AND RELEASE ALONG PATHS

ROCKY MOUNTAIN
COLLEGE

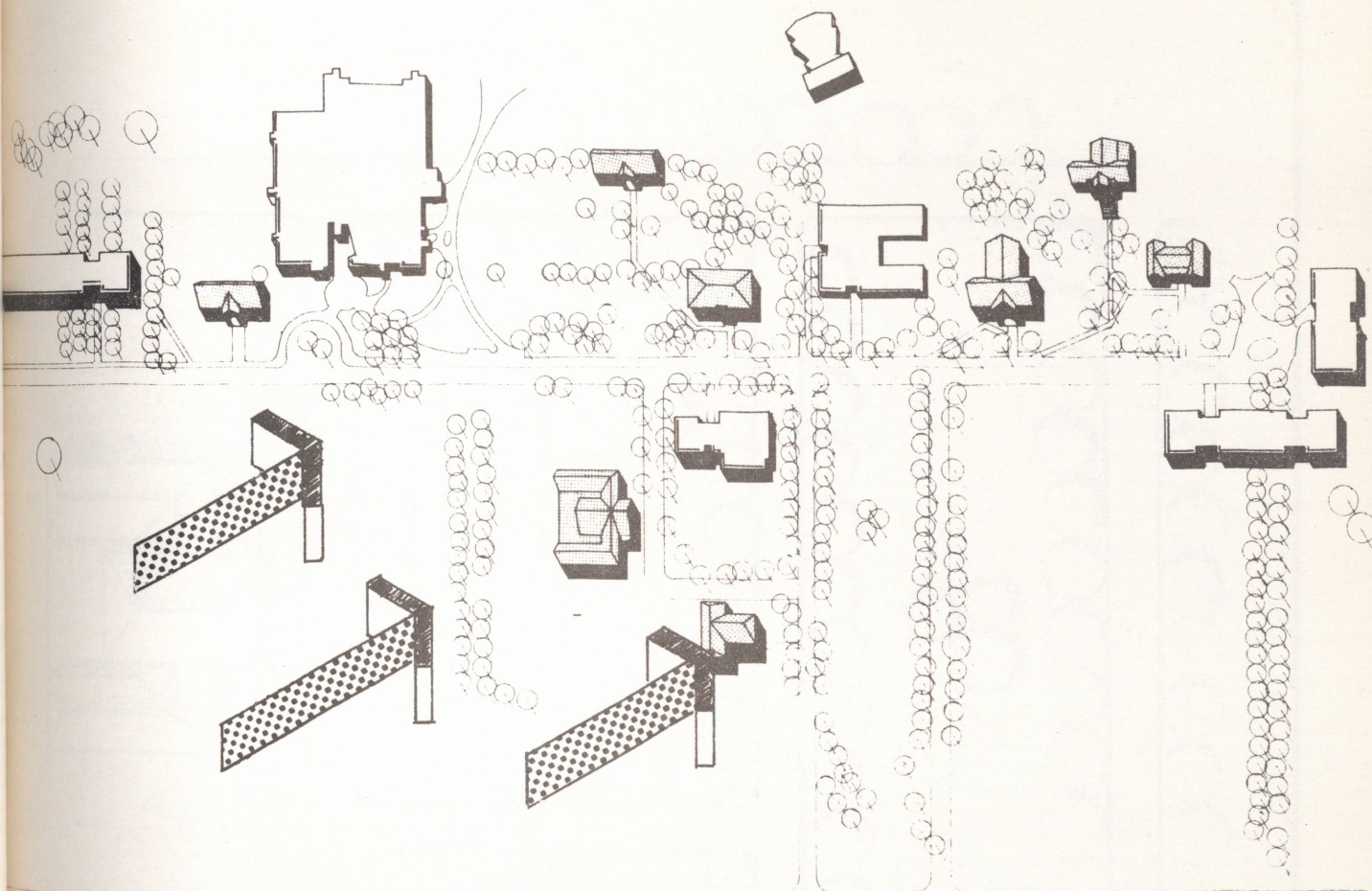
Pattern Characteristics

The campus is composed on axial avenues defined by trees and small semi-enclosed areas directly connected to them. The enclosure consists of three independent buildings on three sides, the fourth side being defined by the avenue and row of trees. The spaces are by no means completely surrounded by structures but only enough definition by buildings and landscape to make a space.



Pattern Analysis

Kenney is essential to maintaining one of the remaining small spaces. The addition to Kenney should serve to further strengthen the enclosure of the space. However, the characteristics of the existing campus require the enclosure not be complete but made up of discrete parts.

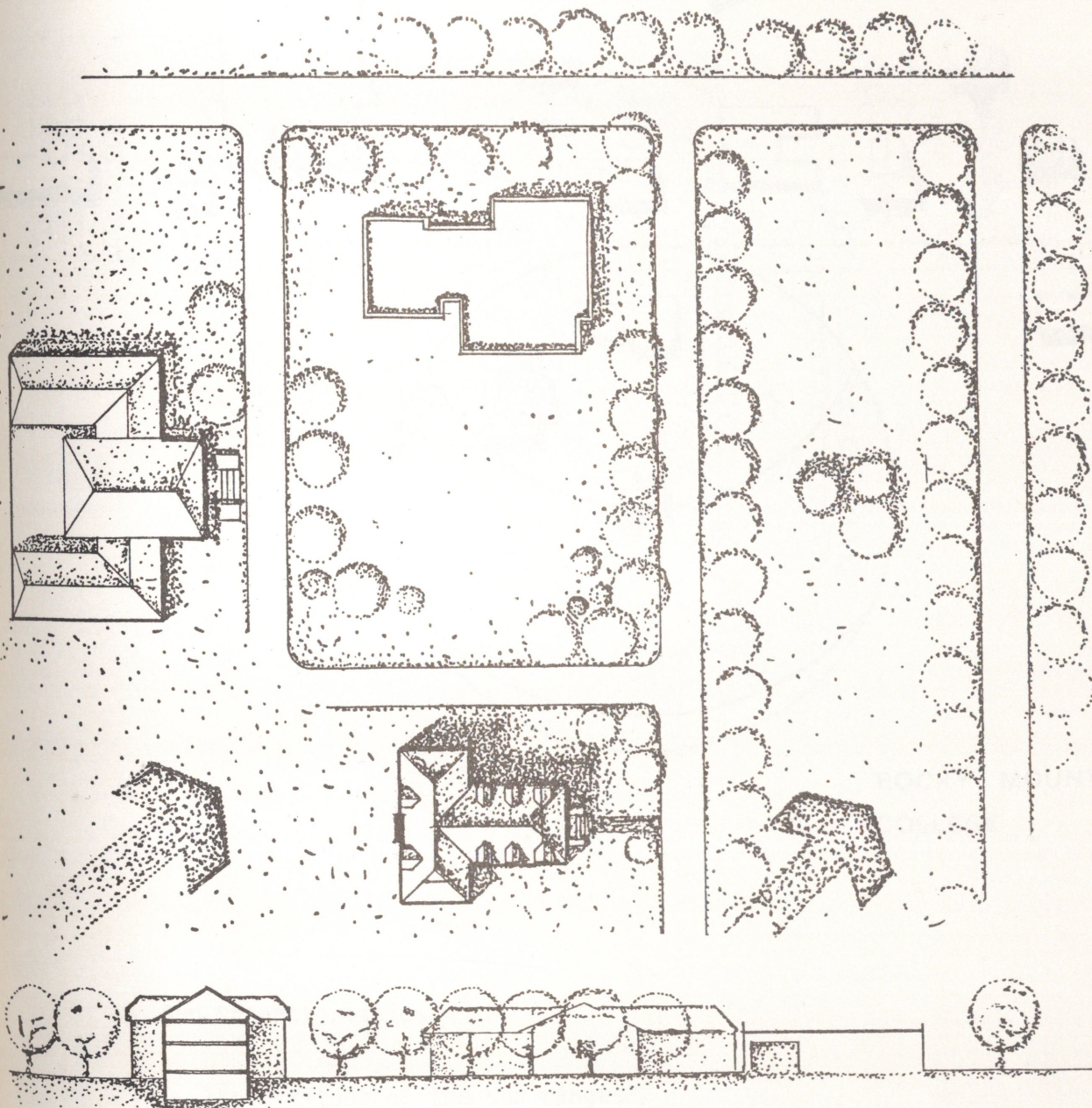


WINDS
COLD

ROCKY MOUNTAIN
COLLEGE

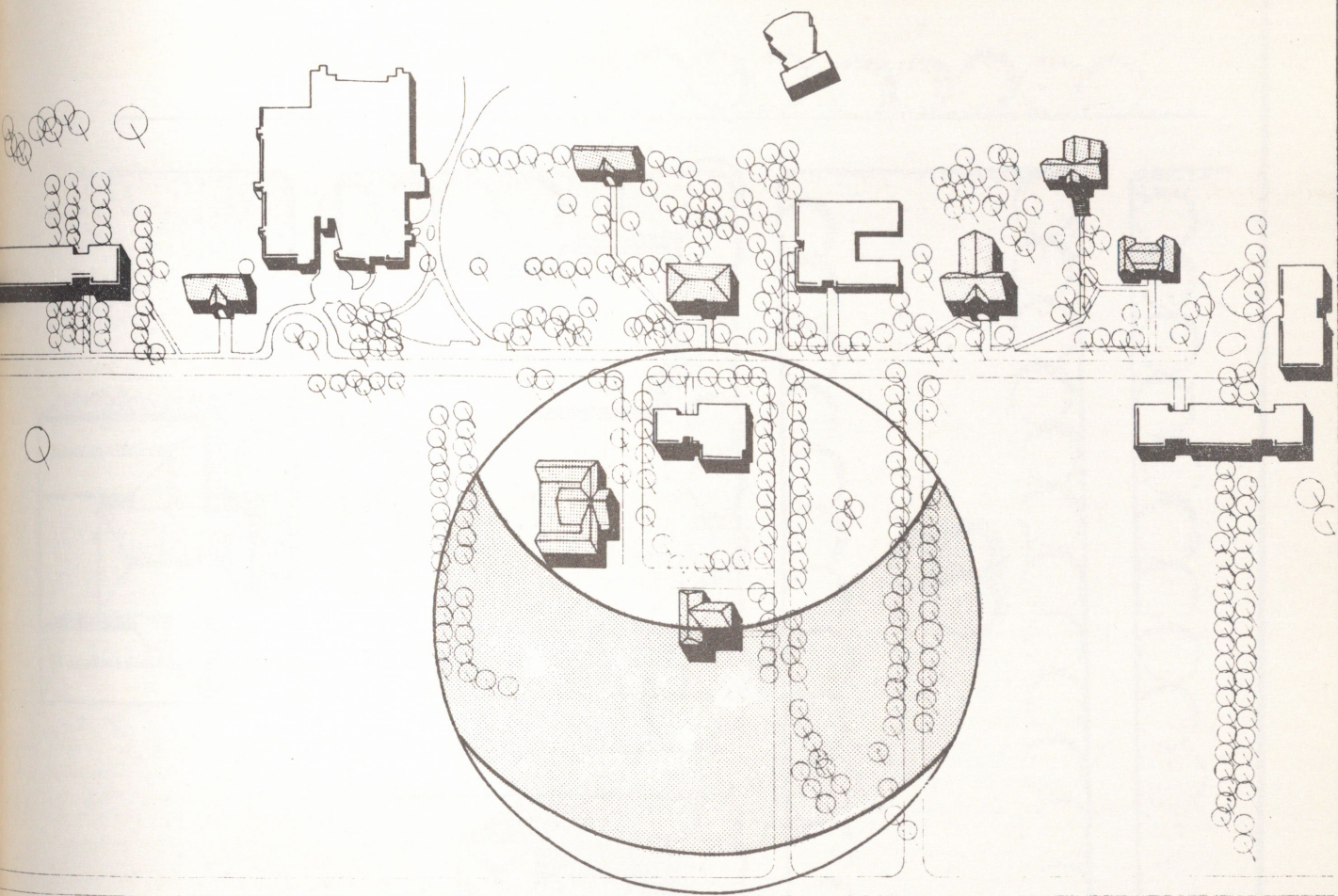
Wind Characteristics

Winds in both winter and summer are from southwest and average of 10-12 m.p.h. There are erratic chinook winds in winter blowing from southwest that are generally much warmer than ambient air temperature.



Wind Analysis

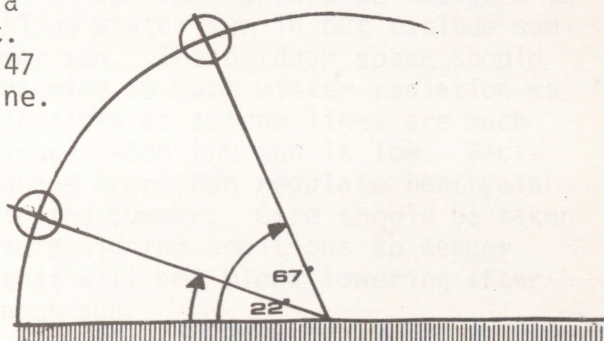
Cold winds and warm winds are from the same general direction. To deflect the cold also involves deflecting warm winds. A contradiction is unavoidable but my inclination is to block all winds rather than allow them to blow through unimpeded.

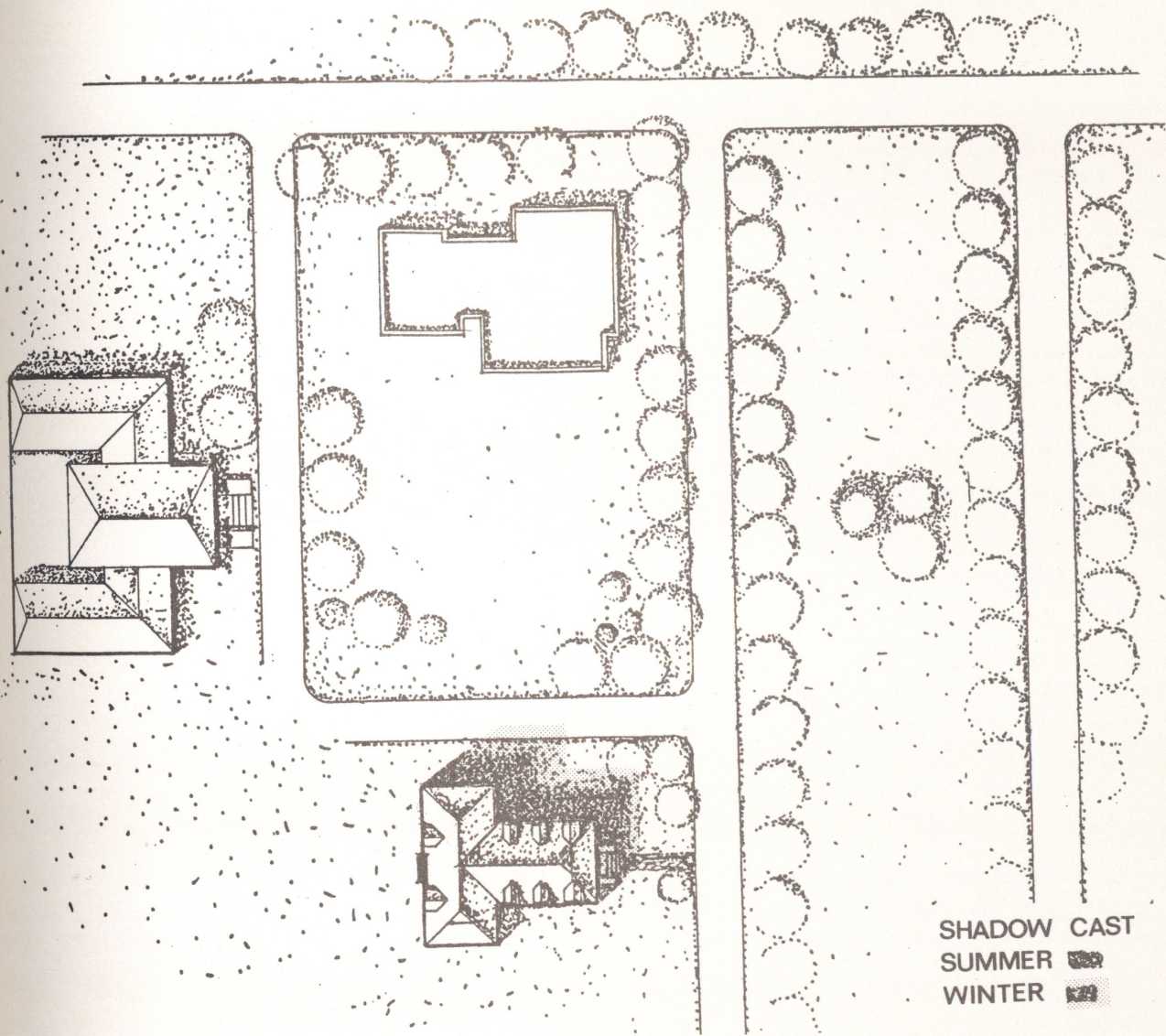


ROCKY MOUNTAIN
COLLEGE

Sun Characteristics

The altitude of the sun ranges from 22 degrees at its lowest to a high of 69 degrees at its highest. The site receives on the average 47 percent of total available sunshine.

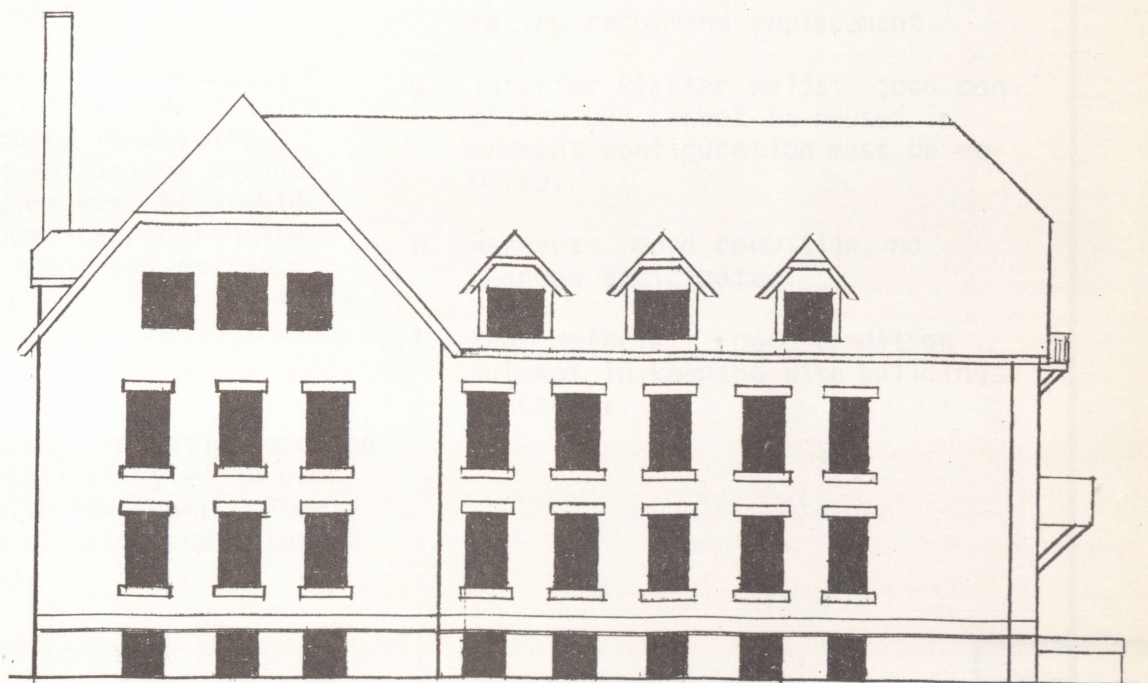




Sun Analysis

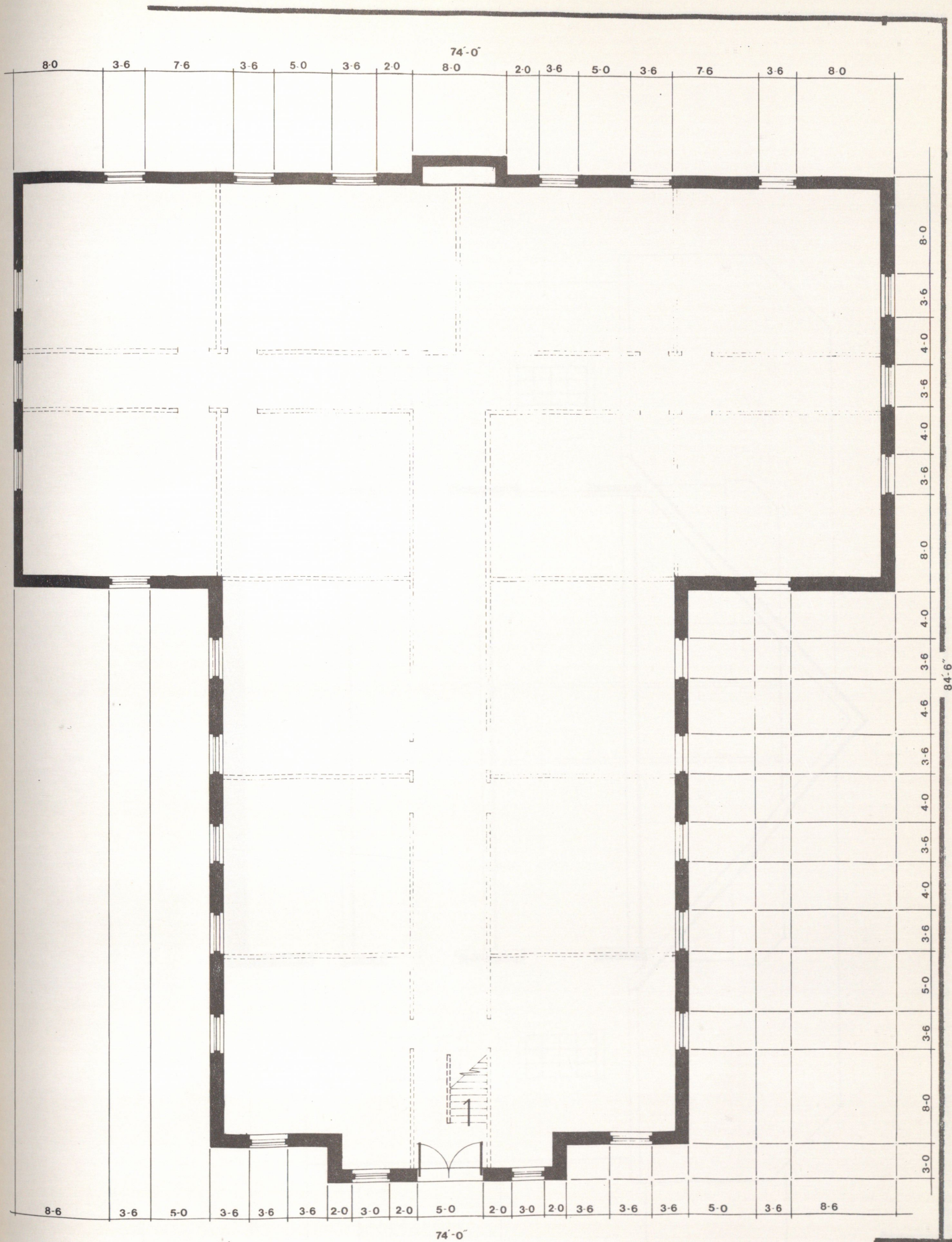
The southern exposure will facilitate both passive and active solar systems. Winter sun should be allowed to shine into the building warming the space and occupants. Constructing the additions with heavy, heat absorbing materials will take advantage of temperature regulating phenomena. However, care should be taken to keep summer sun off of the building with deciduous planting to keep heat gain to a minimum.

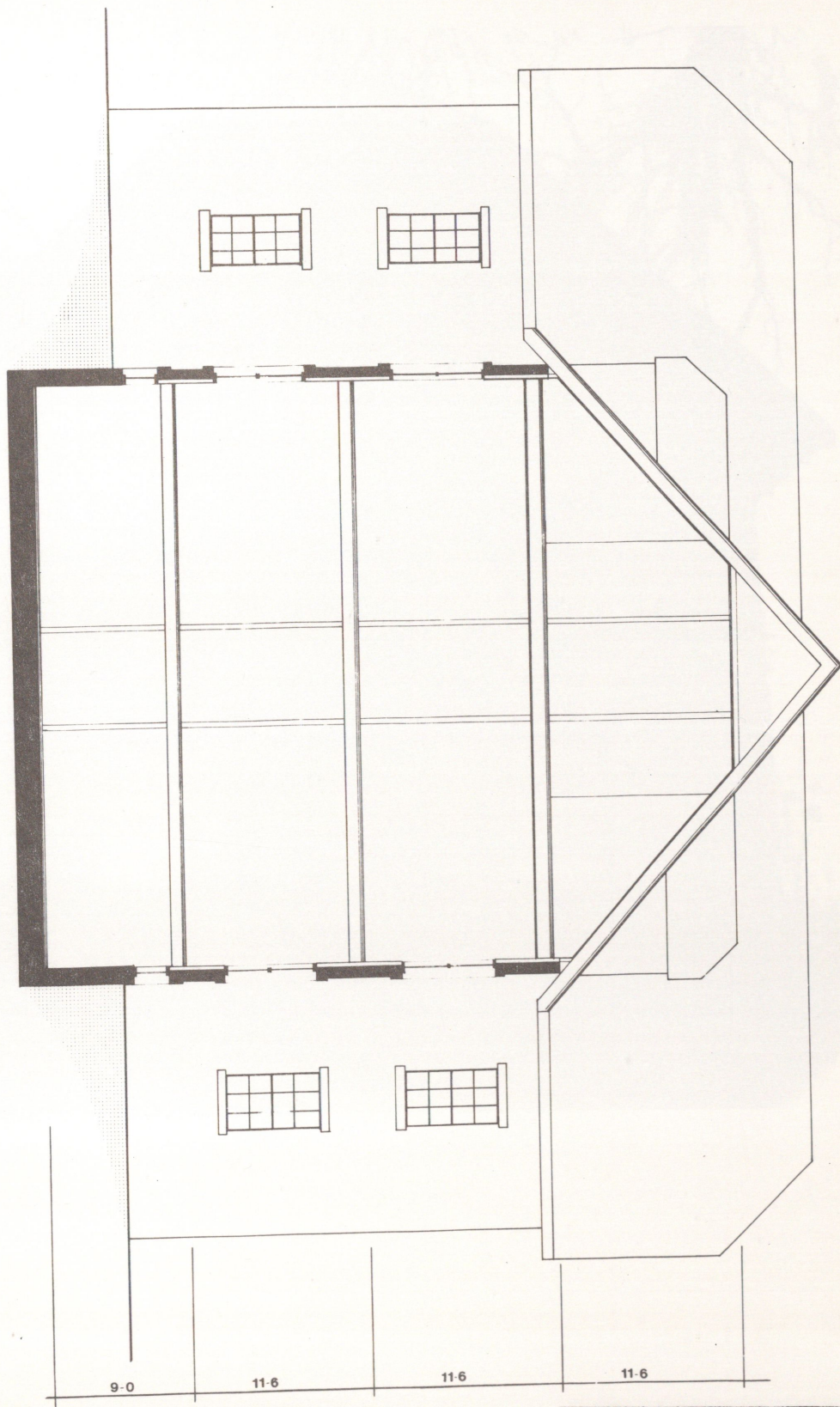
Openings should be designed to allow winter sun in but exclude summer sun. The outdoor space should receive as much winter radiation as possible as shadow lines are much longer when the sun is low. Deciduous trees can regulate heat gain in the summer. Care should be taken in designing additions to Kenney that will not block lowering afternoon sun.



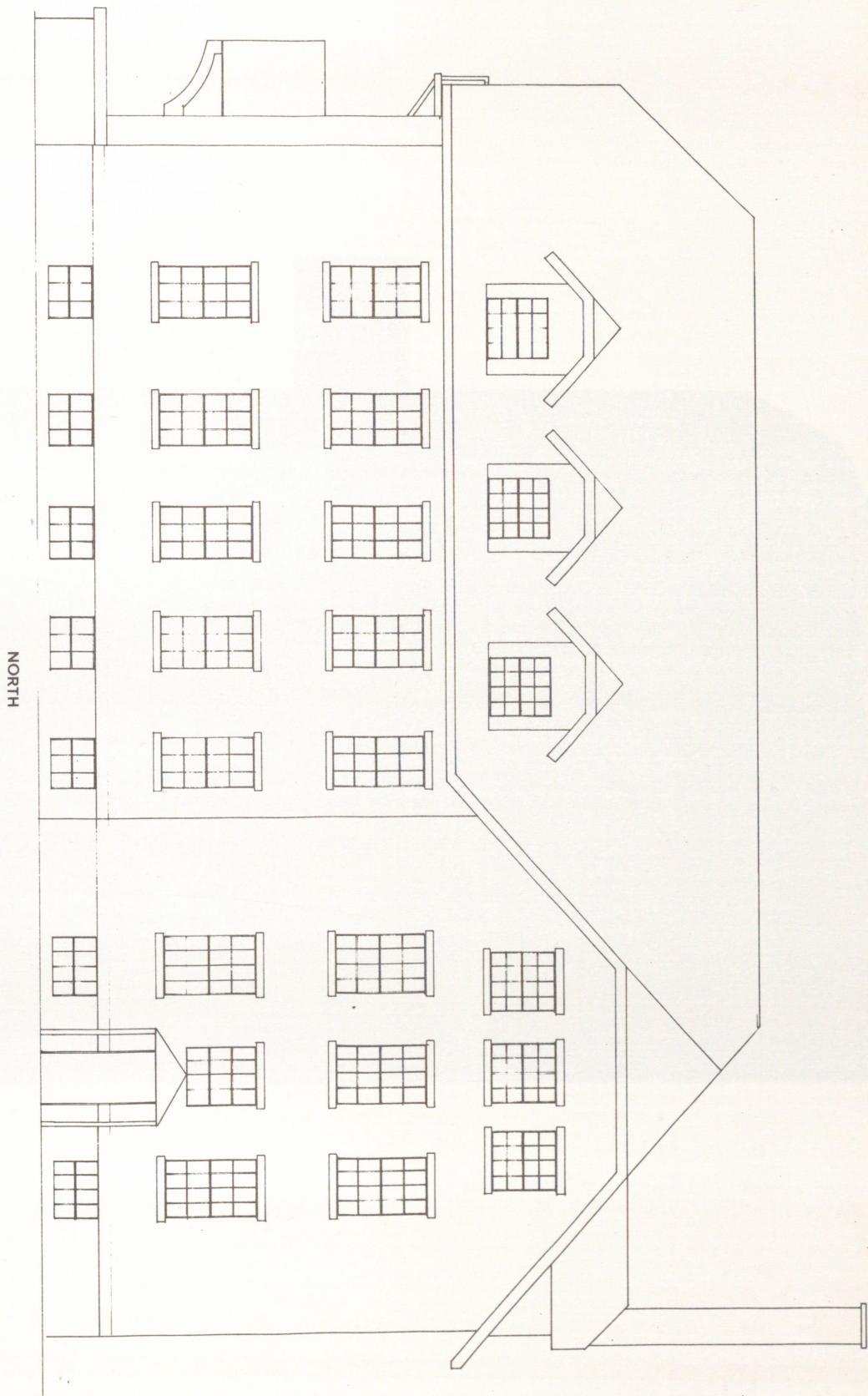
INVENTORY

- A. Glass: good condition very few broken panes but only single glazing. Should be replaced with insulated glass or efforts to put on double windows should be made.
- B. Windows: frames are in excellent working condition with little deterioration.
- C. Exterior doors: in fair condition, need refinishing and adjustment.
- D. Hardware: good condition.
- E. Finish Materials: exterior good condition, interior in poor condition, recommend removal.
- F. Mechanical: steam radiators with steam provided from central boiler not a satisfactory solution to heating and cooling recommend removal and replacement.
- G. Plumbing: old and in poor condition also inconvenient location recommend replacement.
- H. Electrical: old and outdated system should be removed and replaced to meet code.
- I. Ingress/Egress: the main stair does not meet fire code requirements, recommend rebuilding. There is not sufficient enough exists, another must be provided as well as handicapped requirements. New stair and entrance should be built to reflect campus circulation as old one is inconvenient.
- J. Roof Condition: recently refoofed in pink asphalt shingles in good condition with few leaks. Should be reroofed to match character of the building.
- K. Interior Partitions: of little importance to building. Should be removed to provide flexibility required. Small rooms of existing are not compatable with large spaces needed. Interior may have to be gutted to provide proper heights in classroom areas.
- A. Exterior Stone: good condition, a few stones need to be replaced but majority of stones and mortar in good condition.
- B. Exterior Wood: good condition no deterioration present, needs scraping and painting.
- C. Foundations: solid and firm. Apparently no problems with settling.
- D. Support Columns: in good condition but will interfere with room arrangement and use. Recommend structural changes to allow greater flexibility.
- E. Joists: good condition.
- F. Flooring: good condition but does not meet code must have one hour rating recommend replacement.
- G. Interior Plaster Walls: good condition but cannot be reused in present configuration must be removed.
- H. Rafters: good condition, no changes anticipated.
- I. Roof Material: good condition but not in keeping with buildings character.



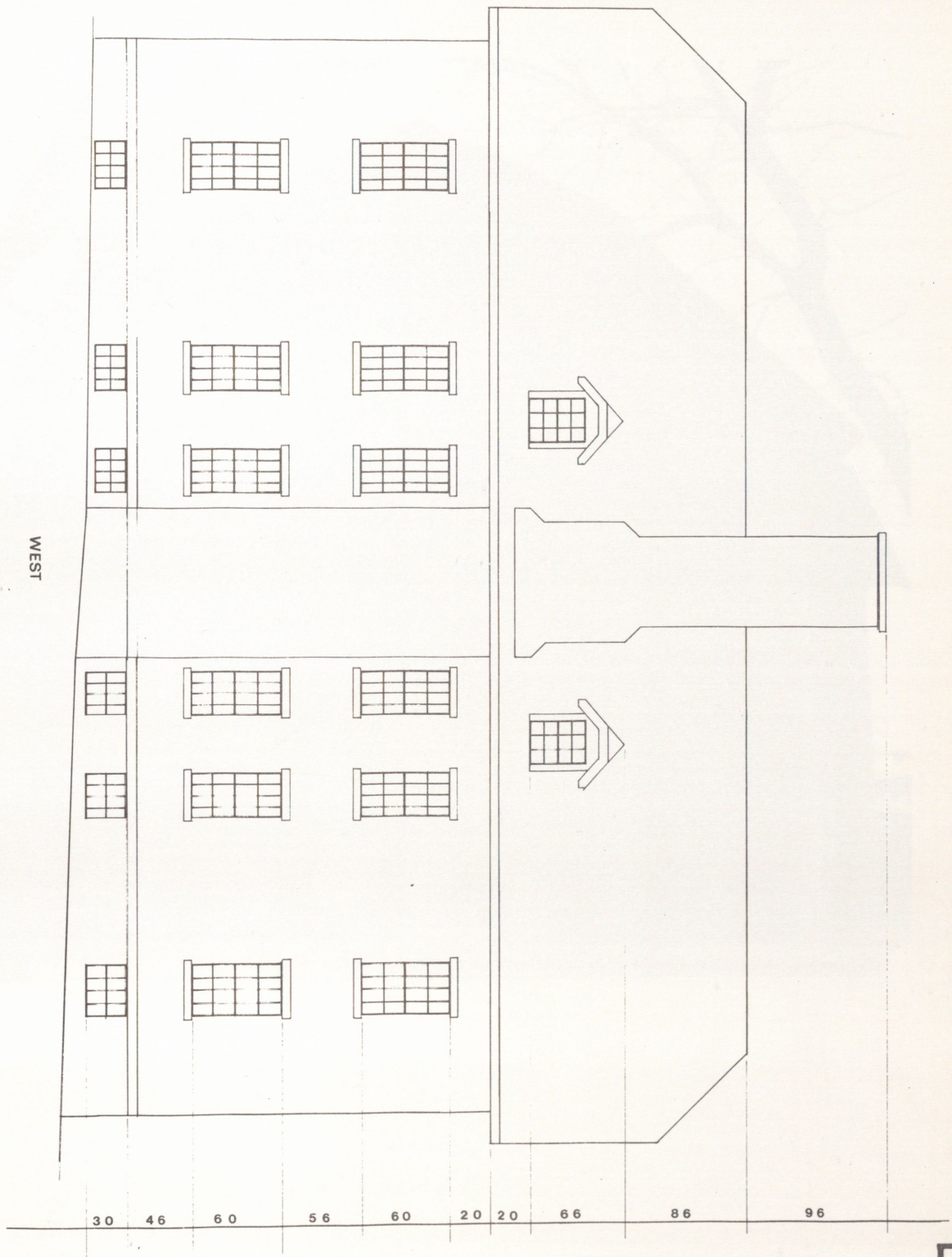




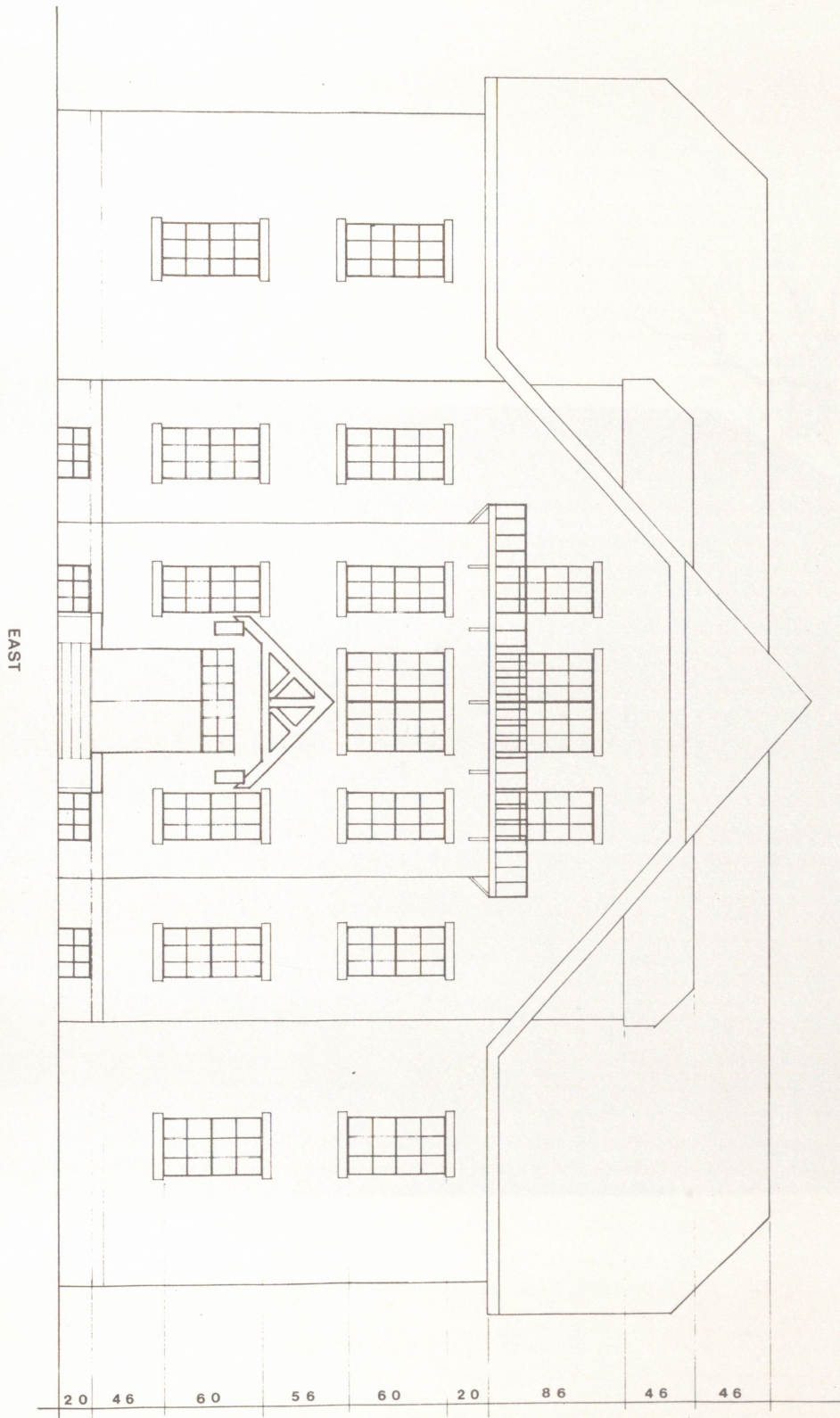




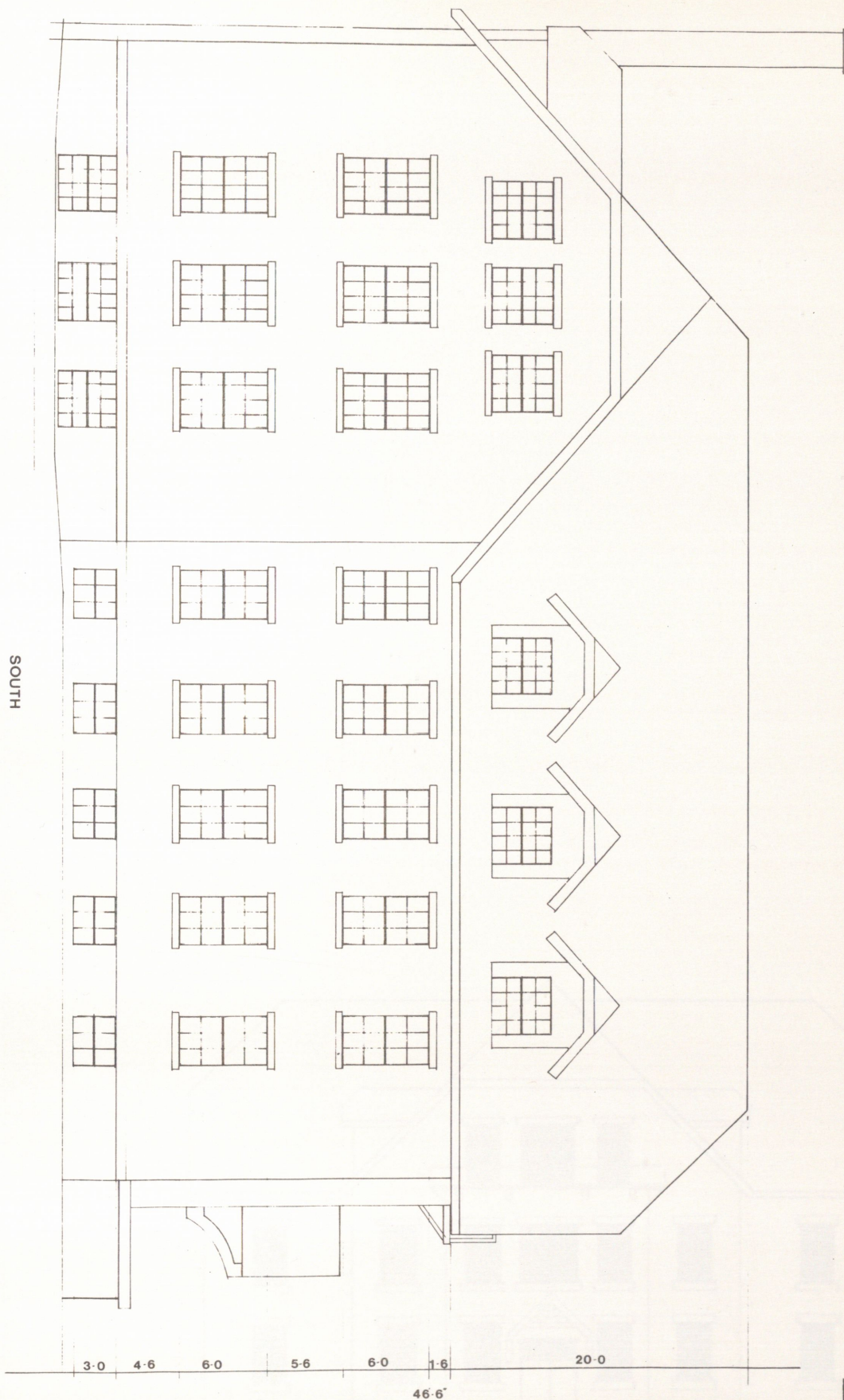
WEST





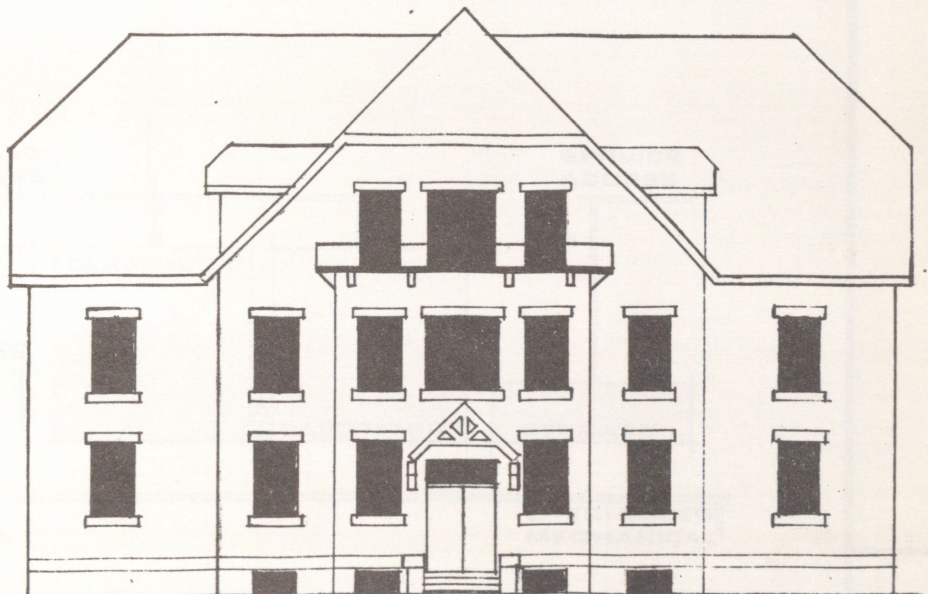






Program

- The Science Building is to be a three-story building with a central entrance and a large auditorium on the first floor. The building is to be designed to accommodate the following facilities:
1. Biology Lab for 40 students each.
 2. Chemistry Lab for 20 students each.
 3. Physics Lab for 20 students each.
 4. 10 offices for faculty.
 5. 3 classrooms for 30 students each.
 6. 2 classrooms for 40 students each.
 7. 1 classroom for 50 students.
 8. 1 classroom for 60-70 students.
 9. 1 classroom for 10-15 students.
 10. 1 classroom for 15-20 students.
 11. 1 computer center.
 12. 1 student lounge - corridors.

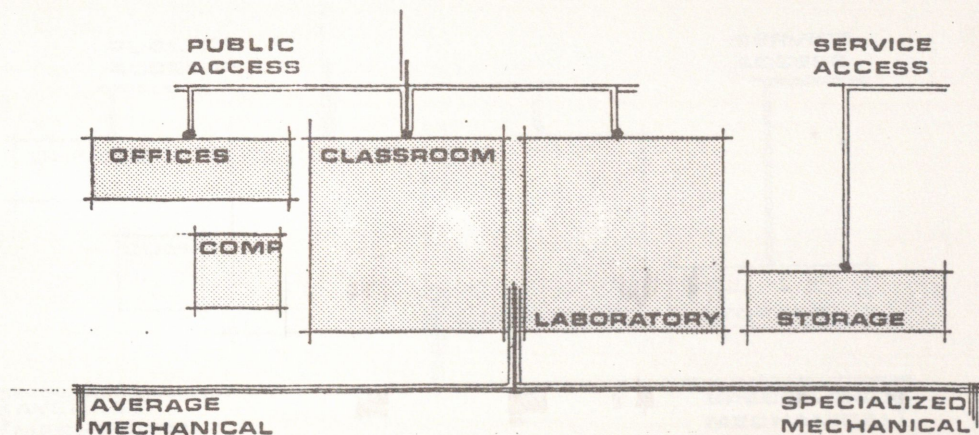


Program

The Science Hall for RMC is to be a multidisciplinary area for the sciences with additional classroom-seminar space, office and environmentally controlled area for a computer. The hall is planned to replace obsolete facilities in Tyler Hall and inadequate facilities in Fortin and Eaton Halls. Biology and geology are being increased and expanded in response to demands in these areas. Chemistry and physics are remaining stable curriculum offerings within the Liberal Arts degree.

The facilities to be discussed are:

1. 2 biology labs for 40 students each.
2. 1 chemistry lab for 32 students.
3. 1 geology lab for 40 students.
4. 1 physics lab for 24 students.
5. 10 offices for faculty.
6. 3 classrooms for 30 students each.
7. 1 classroom for 40 students.
8. 1 classroom for 60 students.
9. 1 seminar room for 10-15 students.
10. 1 seminar room for 5-10 students.
11. 1 computer center.
12. ambient space - corridors.



NAME: Biology laboratory (2)
 USER: 40 students & 20 stations each
 SPACE: 1000 square feet

UTILITIES:

1. electrical 120 v 60 cycles
2. cold water tap
3. gas

ILLUMINATION: 70 foot candles

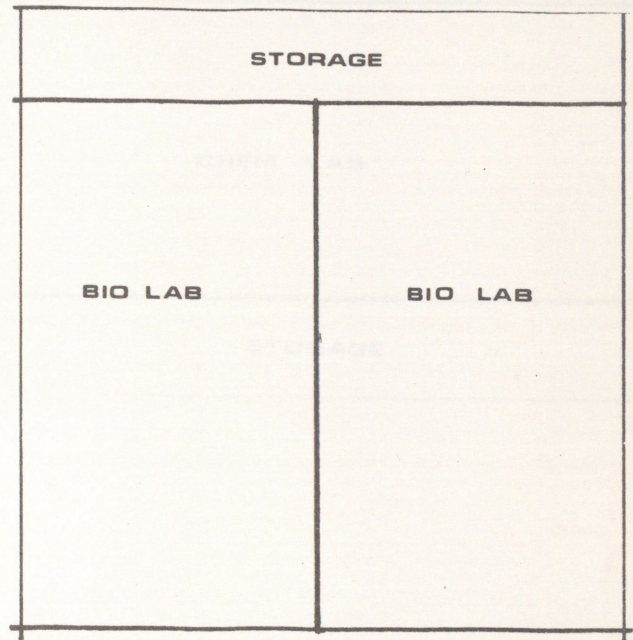
SURFACES: durable, light reflective acid resistant

EQUIPMENT: sinks, labtables, blackboards, fume hoods, temperature controlled storage

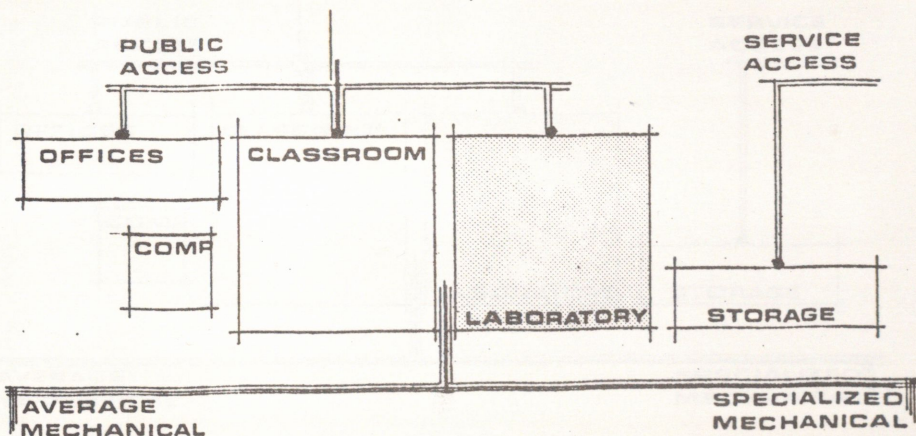
ACOUSTICS: provide treatment between adjacent labs provide NC-35

HVAC: direct exhaust of fume hoods

CODE REQUIREMENTS



COMMENTS: locate all labs together for shared services, fire separations and code requirements.
 Greenhouse space in lab.



NAME: Chemistry laboratory
USER: 32 students 16 stations
SPACE: 1000 square feet

UTILITIES:

1. electrical 120 v 60 cycles
2. cold water tap
3. gas
4. compressed air

ILLUMINATION: 70 foot candles

SURFACES: durable light reflective
acid resistant

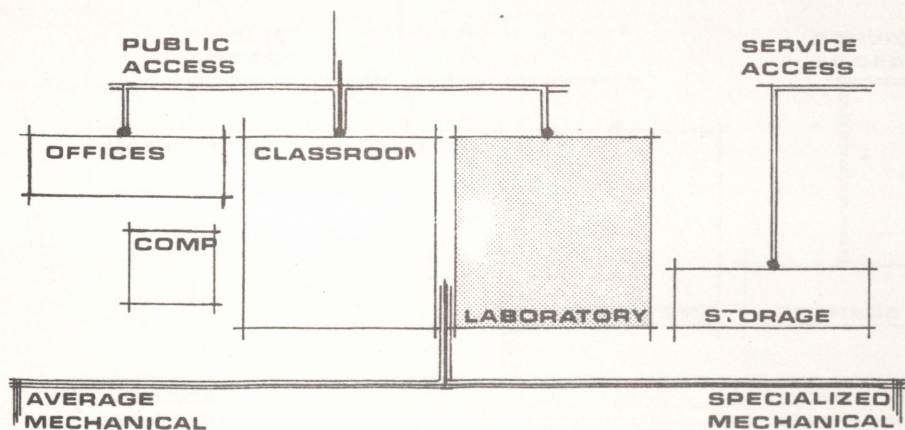
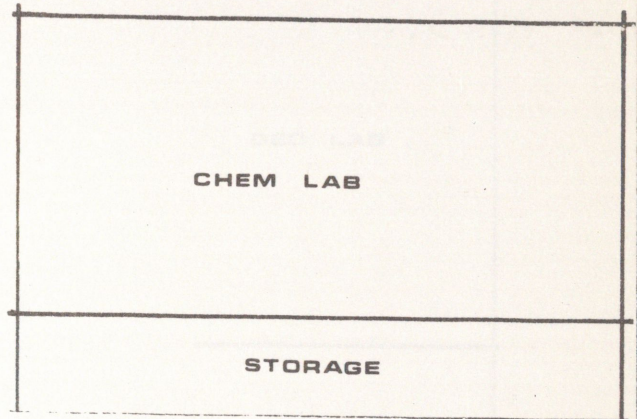
EQUIPMENT: sinks, labtables, black-
boards, fume hoods

ACOUSTICS: provide treatment between
adjacent labs provide NC-35

HVAC: direct exhaust of fume hoods

CODE REQUIREMENTS

COMMENTS: locate all labs together
for shared services, fire separa-
tions and code requirements.



NAME: Geology laboratory (2)
USER: 40 students & 20 students
SPACE: 1200 square feet and 800 square feet

UTILITIES:

1. electrical 120 v 60 cycles
2. cold water tap

ILLUMINATION: 70 foot candles
task lighting at stations

SURFACES: durable light reflective
acid and abrasion resistant desk-
tops

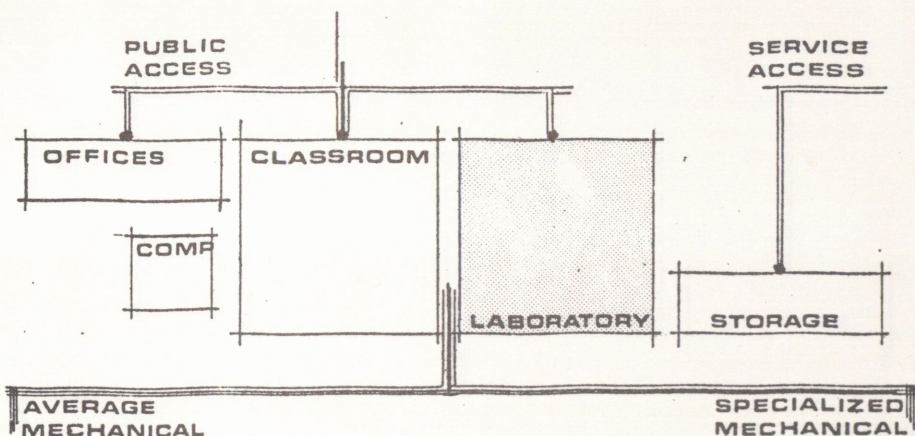
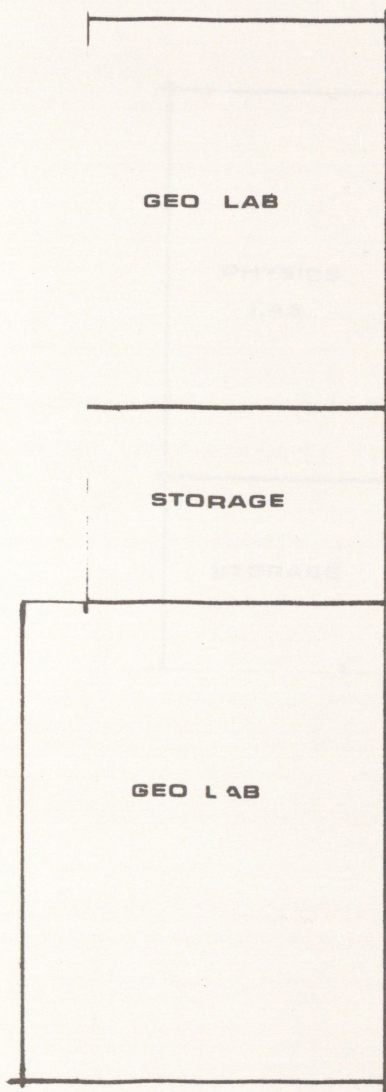
EQUIPMENT: sinks, labtables, black-
boards, storage cabinets

ACOUSTICS: provide treatment between
adjacent labs provide NC-35

HVAC: normal

CODE REQUIREMENTS

COMMENTS: locate all labs together
for shared services also for
shared fire separation and code
requirements.



NAME: Physics laboratory
 USER: 24 students 12 stations
 SPACE: 600 square feet
 UTILITIES:

1. electrical 120 v 60 cycles,
also switchboard for other
voltages and DC
2. cold water tap
3. gas

ILLUMINATION: 70 foot candles

SURFACES: durable, light reflective,
easy maintenance

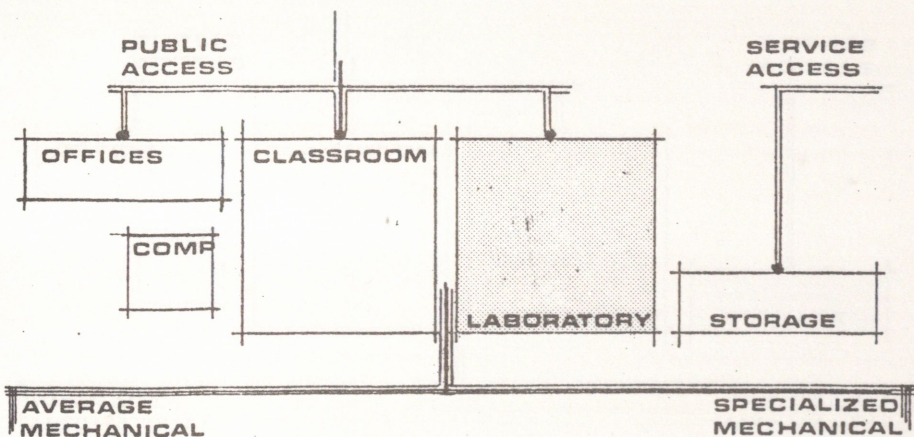
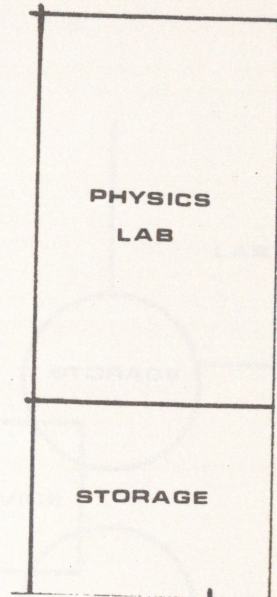
EQUIPMENT: sinks, labtables, black-
boards

ACOUSTICS: provide treatment between
adjacent lab spaces.

HVAC: normal

CODE REQUIREMENTS

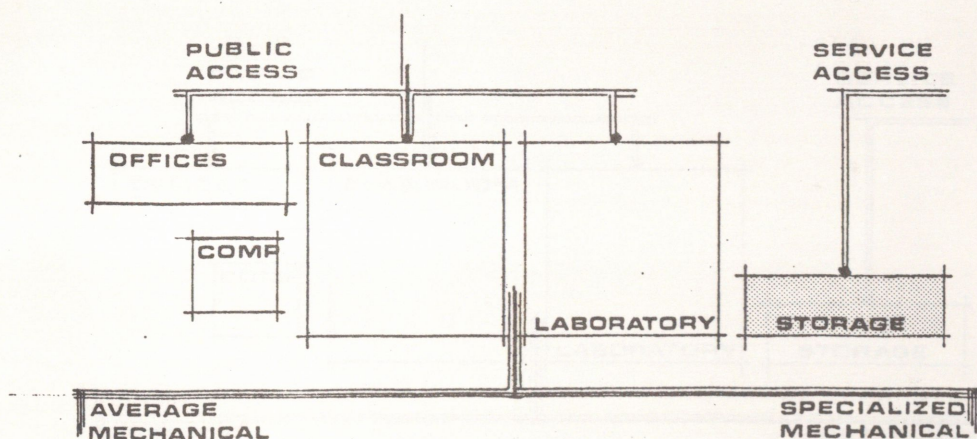
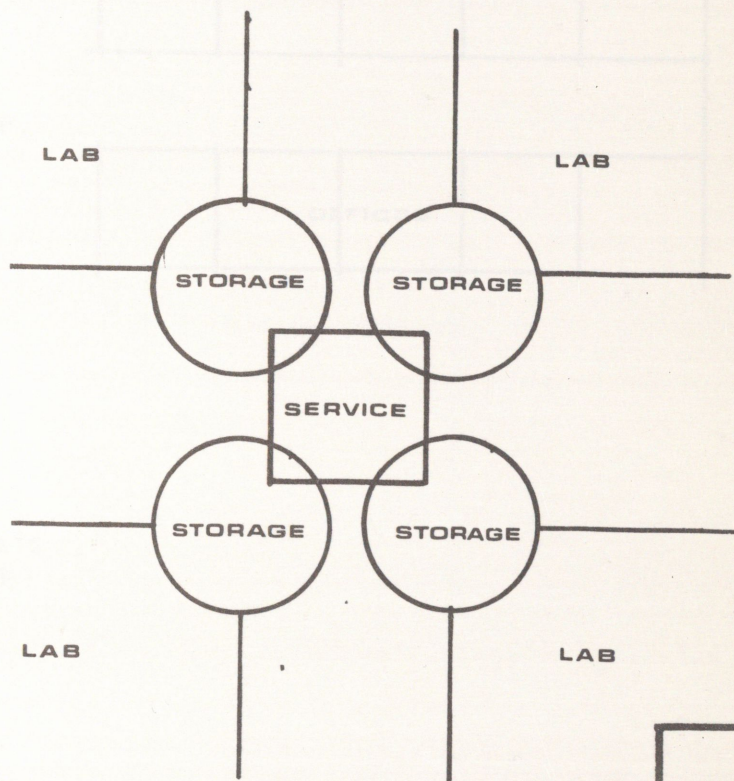
COMMENTS: locate all labs together
for shared services, fire separa-
tion and code requirements.



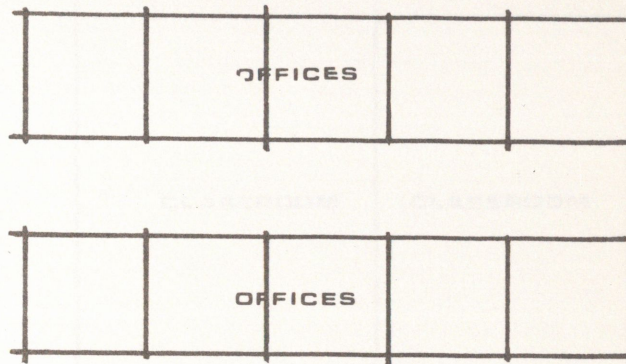
NAME: Lab storage (4)
 USER: Lab technicians
 SPACE: Biology 320 sq ft
 Chemistry 400 sq ft
 Geology 1000 sq ft
 Physics 300 sq ft
 UTILITIES:
 1. electrical 120 v 60 cycles
 2. cold water tap
 3. gas
 ILLUMINATION: 50 foot candles
 SURFACES: durable acid resistant
 EQUIPMENT: sinks, talbes, storage,
 fume hoods
 (Chemistry - acid resisting)
 (Physics - bulky storage)
 (Biology - temperature)
 (Controlled storage)
 (Geology - bulky storage)
 ACOUSTICS: normal
 HVAC: direct exhaust of fume hoods

CODE REQUIREMENTS

COMMENTS: locate for efficient use
 for lab.

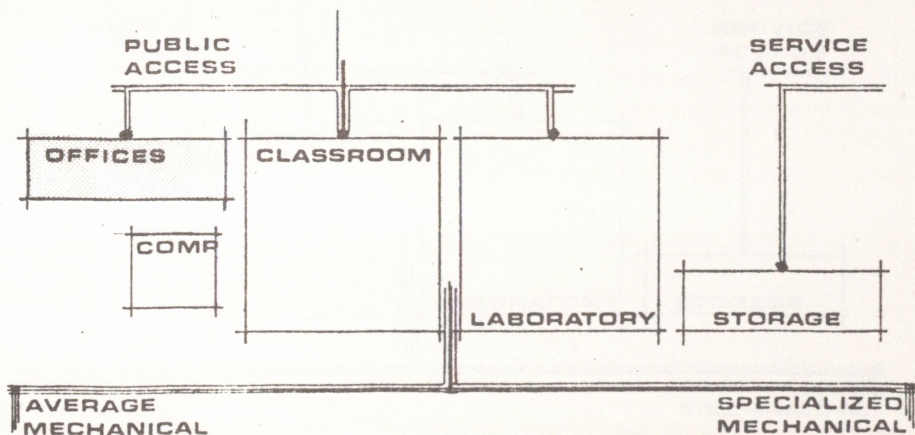


NAME: Offices (10)
 USER: one faculty person
 SPACE: 100 square feet
 UTILITIES:
 1. electrical 120 v 60 cycles
 ILLUMINATION: 70 foot candles
 SURFACES: normal, light reflective,
 easy maintenance
 EQUIPMENT: desk, chairs, book
 shelves
 ACOUSTICS: provide NC-35
 HVAC: normal
 ROOM SHAPE: allow for maximum re-
 arrangement



CODE REQUIREMENTS

COMMENTS: away from circulation axis
 but not isolated. Separate from
 classrooms and laboratories.



NAME: Classrooms (3)
USER: 30 students
SPACE: 800 square feet
UTILITIES:

1. electrical 120 v 60 cycles
ILLUMINATION: 70 foot candles
variable light level for special
uses

SURFACES: normal, light reflective,
easy maintenance, durable

EQUIPMENT: desk, 30 chairs, black-
boards, screens

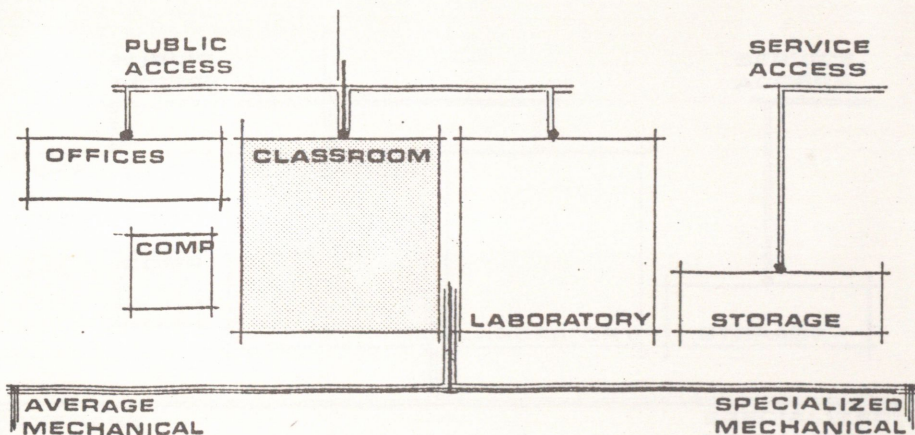
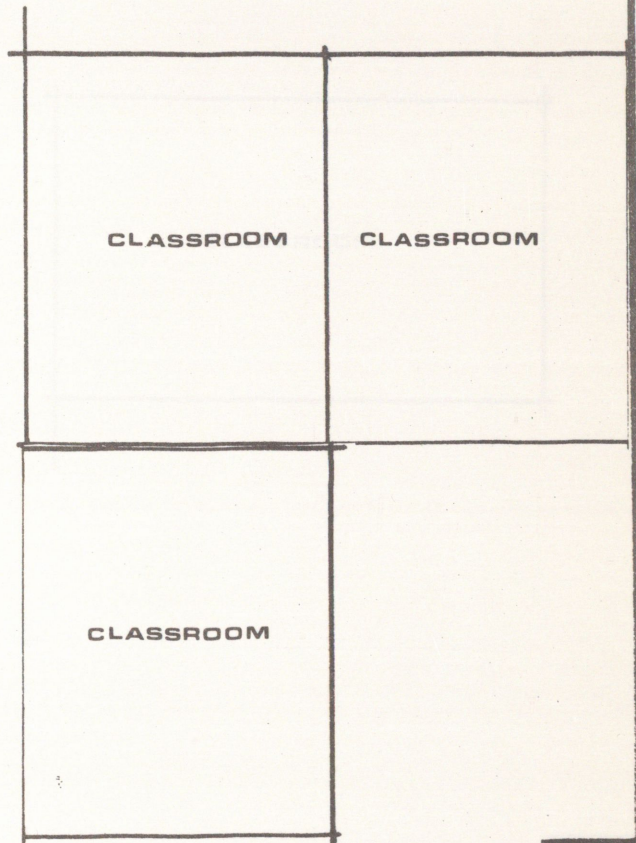
ACOUSTICS: treatment of walls between
adjacent areas provide NC-35

HVAC: normal

ROOM SHAPE: focus on blackboards

CODE REQUIREMENTS

COMMENTS: located on circulation
axis on or near ground floor in
areas that is primarily classrooms.
Discussion/lecture classrooms
flexible arrangements.



NAME: Classroom (1)
USER: 40 students
SPACE: 1000 square feet
UTILITIES:

1. electrical 120 v 60 cycles

ILLUMINATION: 70 foot candles
variable light level for special
uses

SURFACES: normal, light reflective,
easy maintenance, durable

EQUIPMENT: desk, 40 chairs, black-
boards, screens

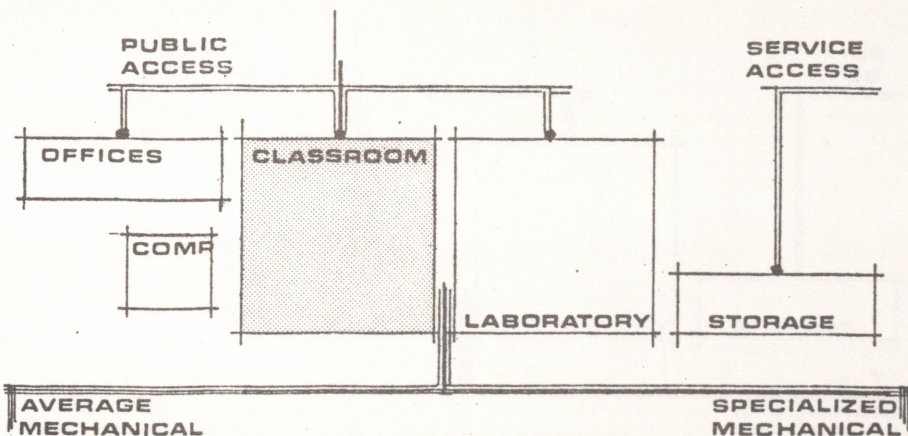
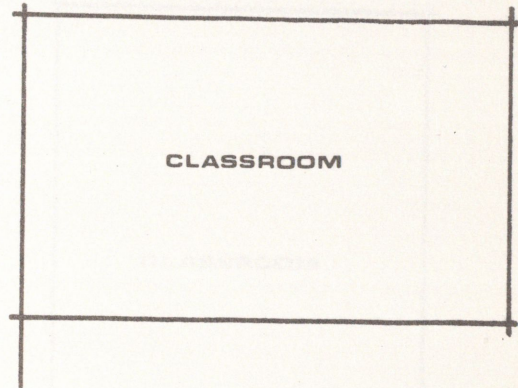
ACOUSTICS: treatment of walls between
adjacent areas provide NC-35

HVAC: normal

ROOM SHAPE: focus on blackboards

CODE REQUIREMENTS

COMMENTS: located on circulation
axis on or near ground floor
located with other classrooms
lecture classroom definite ar-
rangement.



NAME: Classroom
USER: 60 students
SPACE: 1200 square feet
UTILITIES:

1. electrical 120 v 60 cycles

ILLUMINATION: 70 foot candles
variable light level for special
uses

SURFACES: normal, light reflective,
easy maintenance

EQUIPMENT: desk, 60 chairs, black-
boards, screens

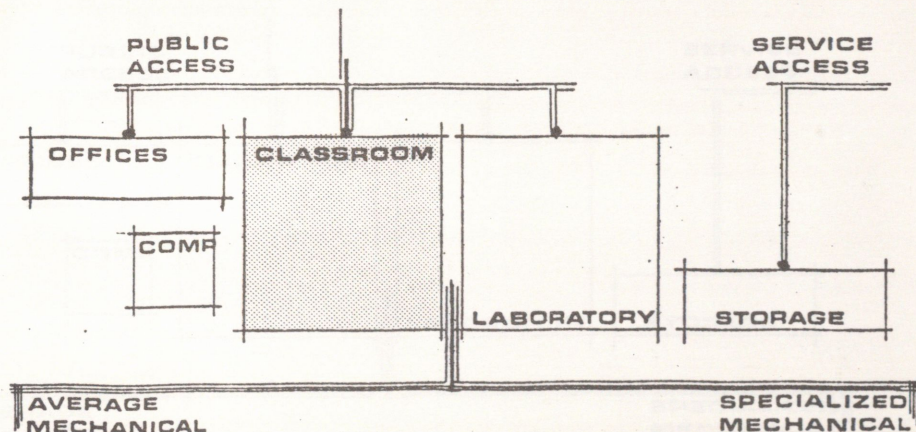
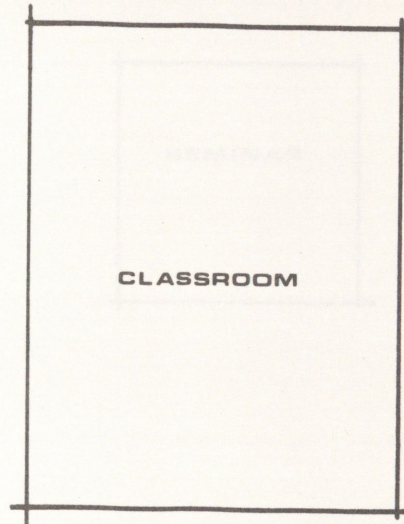
ACOUSTICS: treatment of walls between
adjacent areas provide NC-35

HVAC: normal

ROOM SHAPE: focus on blackboards

CODE REQUIREMENTS

COMMENTS: located on circulation
axis on ground floor located with
other classrooms. Lecture class-
room definite arrangement.

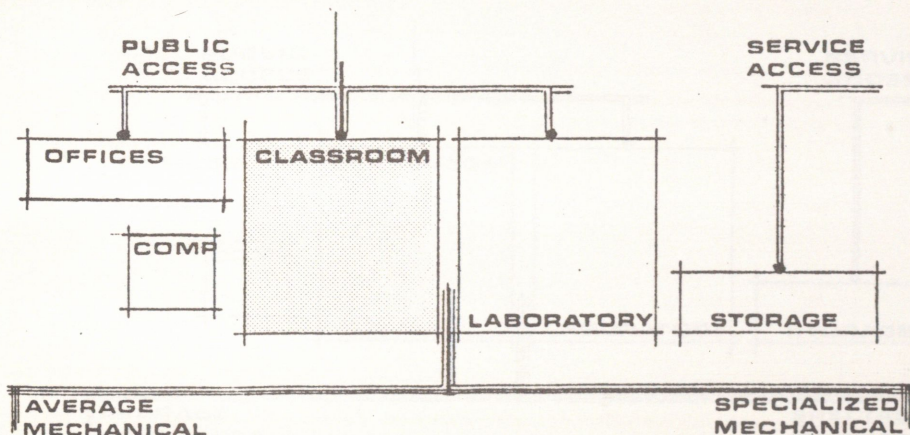


NAME: Seminar room (1)
 USER: 10-15 students and faculty
 SPACE: 400 square feet
 UTILITIES:
 1. electrical 120 v 60 cycles
 ILLUMINATION: 70 foot candles
 variable light level for special
 uses
 SURFACES: normal light reflective,
 easy maintenance and durable
 EQUIPMENT: table and chairs, black-
 boards, screen
 ACOUSTICS: treatment of walls between
 adjacent areas provide NC-35
 HVAC: normal
 ROOM SHAPE: accommodate table &
 chairs, focus on blackboard(s)

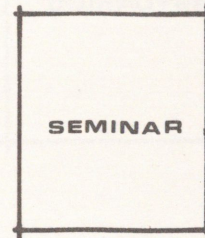


CODE REQUIREMENTS

COMMENTS: adjacent to faculty offices
 or interspersed with them close
 to major circulation axis.

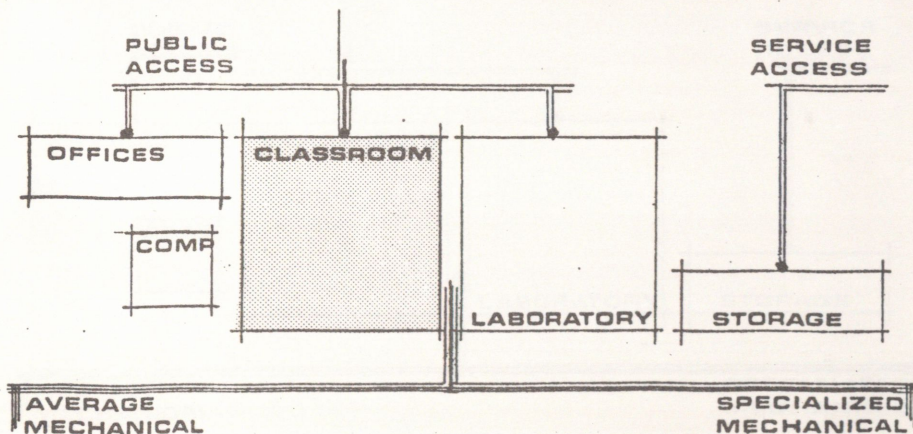


NAME: Seminar room (1)
 USER: 5-10 students and faculty
 SPACE: 200 square feet
 UTILITIES:
 1. electrical 120 v 60 cycles
 ILLUMINATION: 70 foot candles
 variable light level for special
 uses
 SURFACES: normal light reflective,
 easy maintenance and durable
 EQUIPMENT: table and chairs, black-
 boards, screen
 ACOUSTICS: treatment of walls between
 adjacent areas provide NC-35
 HVAC: normal
 ROOM SHAPE: accommodate table &
 chairs, focus on blackboard(s)



CODE REQUIREMENTS

COMMENTS: adjacent to faculty offices
 or interspersed with them close
 to major circulation axis.



NAME: Computer center (1)

USER:

SPACE: 400 square feet

UTILITIES:

1. electrical - manufacturer's requirements, special provision for emergency power generator
2. water - not required

ILLUMINATION: 70 foot candles

SURFACES: waterproof walls and floors
choose materials for dust and static electricity control

EQUIPMENT: provided by manufacturer

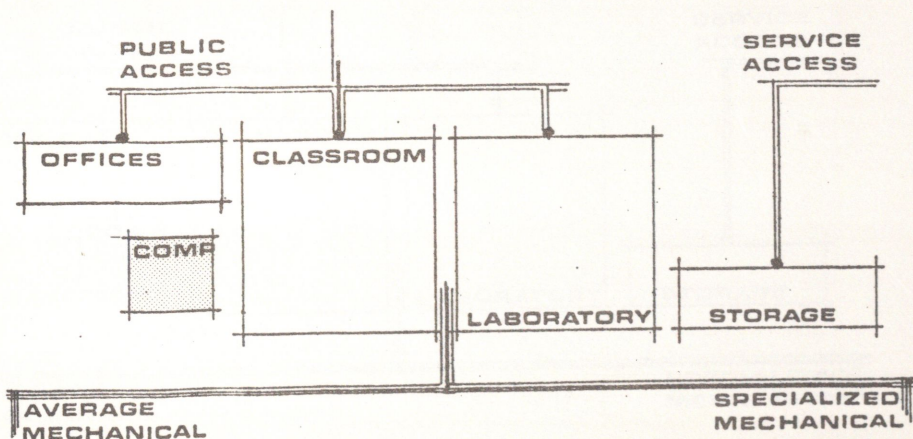
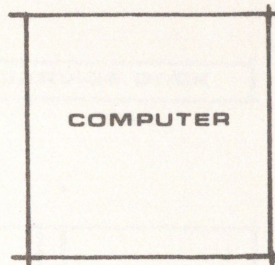
ACOUSTICS: acoustic treatment of walls adjacent to offices

HVAC: high volume air handling

ROOM SHAPE: manufacturer's specification

CODE REQUIREMENTS: fire doors
separating computing center from other areas

COMMENTS: can be located internally
or in basement to reduce cooling
load. No critical adjacencies.



NAME: Ambient space
USER: Student, faculty, service personnel

SPACE: 20% of total

UTILITIES:

1. electrical 120 v 60 cycles
2. hot & cold water (janitors closets & bathroom)

ILLUMINATION: 30 foot candles

SURFACES: durable, easy maintainable

EQUIPMENT: sinks, bathroom fixtures

ACOUSTICS: normal

HVAC: normal

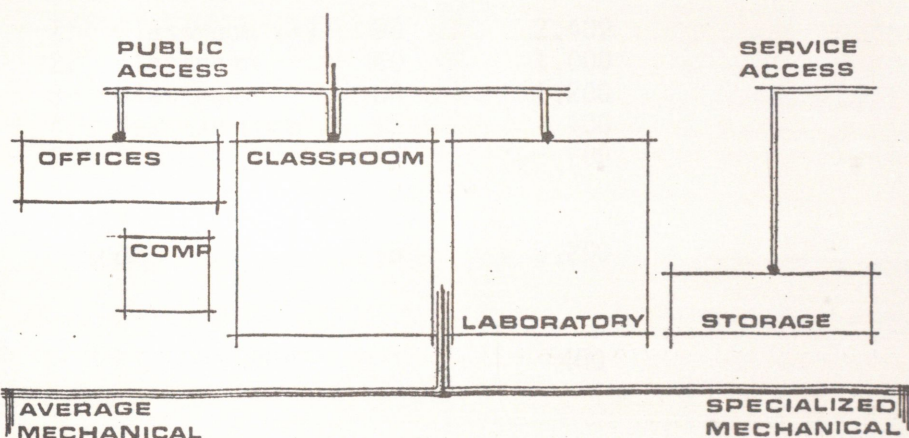
CODE REQUIREMENTS

COMMENTS:

SERVICE DOCK

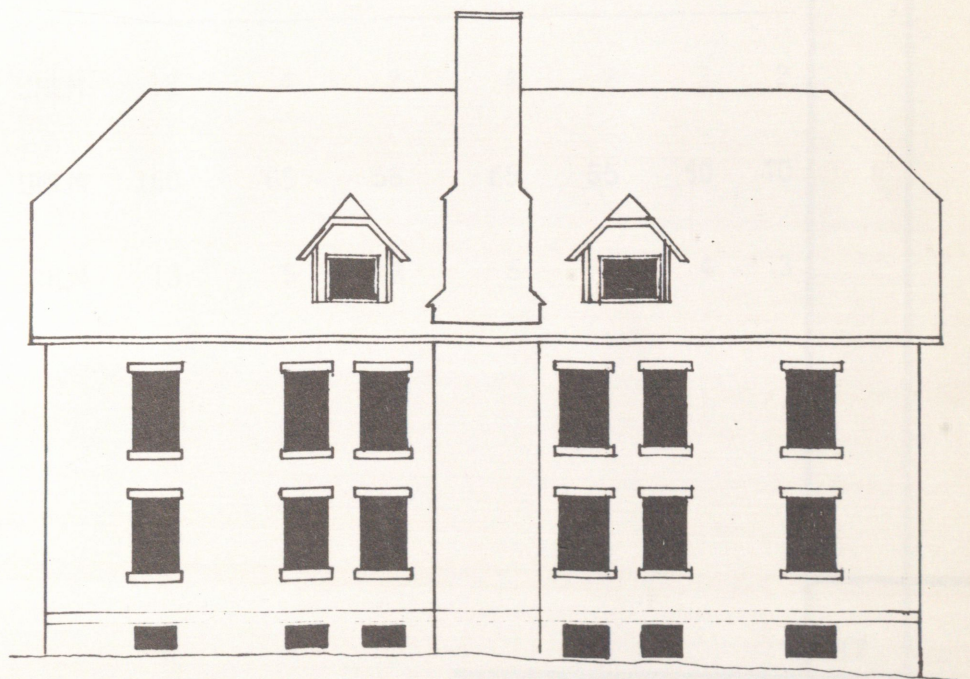
BATHROOMS

MECH



TOTALS:

<u>AREA</u>	<u>NUMBER OF STUDENTS</u>	<u>SQUARE FEET</u>		
Laboratory space				
1. Biology (2)	80	2,000		
2. Chemistry	32	1,000		
3. Geology (2)	60	2,000		
4. Physics	24	600		
Total Lab Space		5,600		
Lab Service				
			TOTAL	14,220
1. Biology		320		
2. Chemistry		400		
3. Geology		1,000	CIRCULATION/SERVICE 20%	2,844
4. Physics		300		
Total Lab Service Space		2,020	TOTAL BUILDING	17,064
TOTAL LAB AREA	196	7,620		
Office Space				
1. 10 general offices		1,000		
Total Office Space		1,000		
Classroom/Seminar Room				
1. Classroom (3)	90	2,400		
2. Classroom	40	1,000		
3. Classroom	60	1,200		
4. Seminar room	15	400		
5. Seminar room	10	200		
Total Classroom/Seminar Room	215	5,200		
Computer Room		400		



Zoning Use: Public

Fire Zone: Fire Zone 3

Allowable Types of Construction: Construction meeting UBC code.
(Based on Fire Zone)

REQUIREMENTS BASED ON OCCUPANCY:
(Chapter 5)

Occupancy	Group (Table 5-A)	Separation (Table 5-B)	Live Loads (Table 23-A)
Classrooms	F-2 & B-3	No requirement	40 lbs/sqft.
Laboratories	F-2	1 hour	40 lbs/sqft.
Lab Storage	F-2	1 hour	125 lbs/sqft.
Offices	F-2	No requirement	50 lbs/sqft.

		I	II	III	III	IV	IV	V	V
		UNLM	12	4	2	4	2	3	2
Maximum Allowable Building Height	Stories								
	Feet	UNLM	160	65	55	65	55	50	40
Increase for Fire Extinguishing System	Increase	UNLM	13	5	3	5	3	4	3

Allowable Floor Areas

TYPES OF CONSTRUCTION

	I	II	III	III	IV	IV	V	V
Occupancy Group	F-2		1HR. HT	N	1 HOUR	N	1 HOUR	N
Basic Allowable Area	UNLM	30,000	13,500	9,000	13,500	9,000	10,500	6,000
Increase for Fire Zone 3	1/3 UNLM	10,000	4,455	3,000	4,455	3,000	3,465	2,000
Increase for Separation (2),	UNLM	15,000	6,750	4,500	6,750	4,500	5,250	3,000
Increase for Multi-Story	2 UNLM	60,000	27,000	18,000	27,000	18,000	21,000	12,000
Increase for Fire Extinguishing System	UNLM	60,000	27,000	18,000	27,000	18,000	21,000	12,000
Total Allowable Area (one floor)	UNLM	175,000	78,705	52,500	78,705	52,500	61,215	35,000
Total Allowable Building Area	UNLM	350,000	157,410	105,000	157,410	105,000	122,430	70,000

Total Area of Proposed Building: 17,064 sq. ft.

STAIRS, EXITS AND CIRCULATION:

USE	AREA	SQ FT/ OCCUPANT	NUMBER OCCUPANTS	EXITS REQUIRED
Office	1000	100	10	1
Classroom	5200	24.2	215	2
Laboratories	7620	38.9	196	2
TOTAL OCCUPANTS			421	

Number of Exits Required: 2 required to be 1/2 of max diagonal apart

Width of Exits ($\frac{\text{occupant load}}{50}$) = 8.4

Distant to Exits: 150 unsprinklered, 200 sprinklered
Additional 100 feet if in an enclosed corridor

Exit Doors

Width & Height: 3' - 0" x 6' - 8"

Swing: 90 degrees in direction of exiting

Exit Corridors

Width: 44"

Dead End: Not to exceed 20'

Fire Resistance: 1 hour

Openings: Smoke barriers, 20 minute fire protection rating

Stairways

Width: 44"

Rise: not less than 7 1/2"

Stairway to Roof: not necessary

Smoke Proof Enclosure: not required

Exit Enclosure: 1 hour

Special Conditions

No special requirements.

Light, Ventilation and Sanitation: windows and skylight 1/8 of floor area 1/2 must be operable or provide artificial light and ventilation openings in exterior wall not permitted less than 5 feet from existing protected at less than 10 feet.

Special Hazards: Lab and lab storage separated by 1 hour construction separation of boiler or heating plants shall be 1 hour construction

Restrictions in Fire Zones: Any structure meet U.B.C. requirements can be built in Fire Zone 3.

FIRE RESISTIVE REQUIREMENTS:
(Chapter 17, Tables 5-A, 17-A, 17-B, 17-C)

Exterior Bearing Walls: 4 hour

Interior Bearing Walls: 1 hour

Exterior Non-Bearing Walls: 1 hour beyond 10 feet 2 hour less than 5 feet.

Structural Frame: 1 hour or H.T.

Permanent Portions: 1 hour or H.T.

Vertical Openings: 1 hour or H.T.

Floors: 1 hour or H.T.

Roofs: 1 hour or H.T.

Exterior Openings: no openings less than 5 feet protected less than 10 feet

Parapets Required: no required if roof construction is 2 hour 30" otherwise

Projections from Building: 1 hour of Fire Resistive Construction

LIMITATIONS

(Chapters 17 thru 22)

Columns - not less than 8" any dimension

Floor framing - beams and girders 6" wide x 10" deep
lumber trusses supporting floors shall have members
not less than 8" any dimension

Roof framing - timber roof framing 4" wide x 6" deep

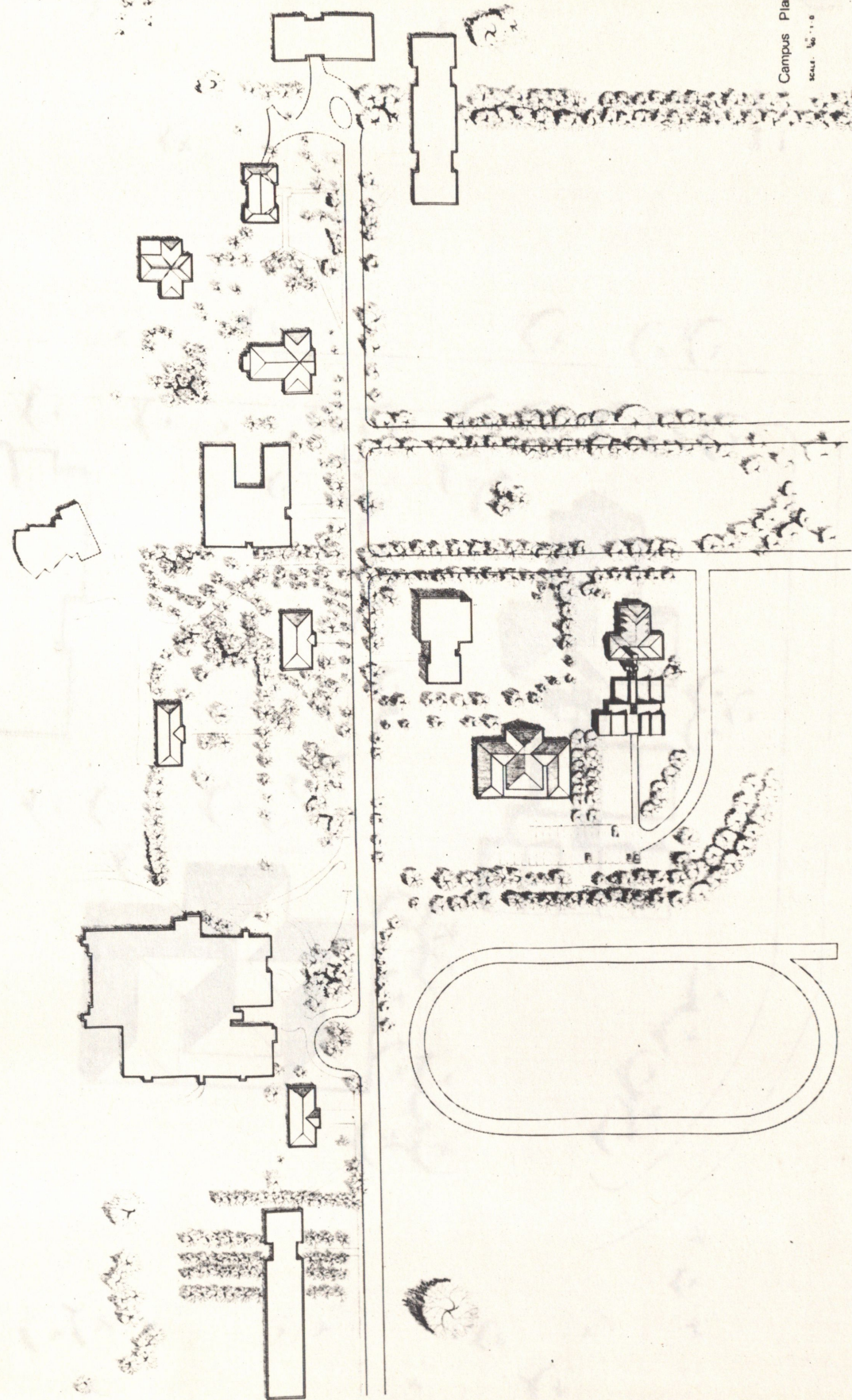
Floors - no concealed spaces wood not less than 3" thick with 1"
T & G flooring diagonal or crosswise or 1/2" plywood 1/2
gap next to walls

Roof Deck - no concealed spaces 2" thickness

Partitions - 1 hour fire resistive

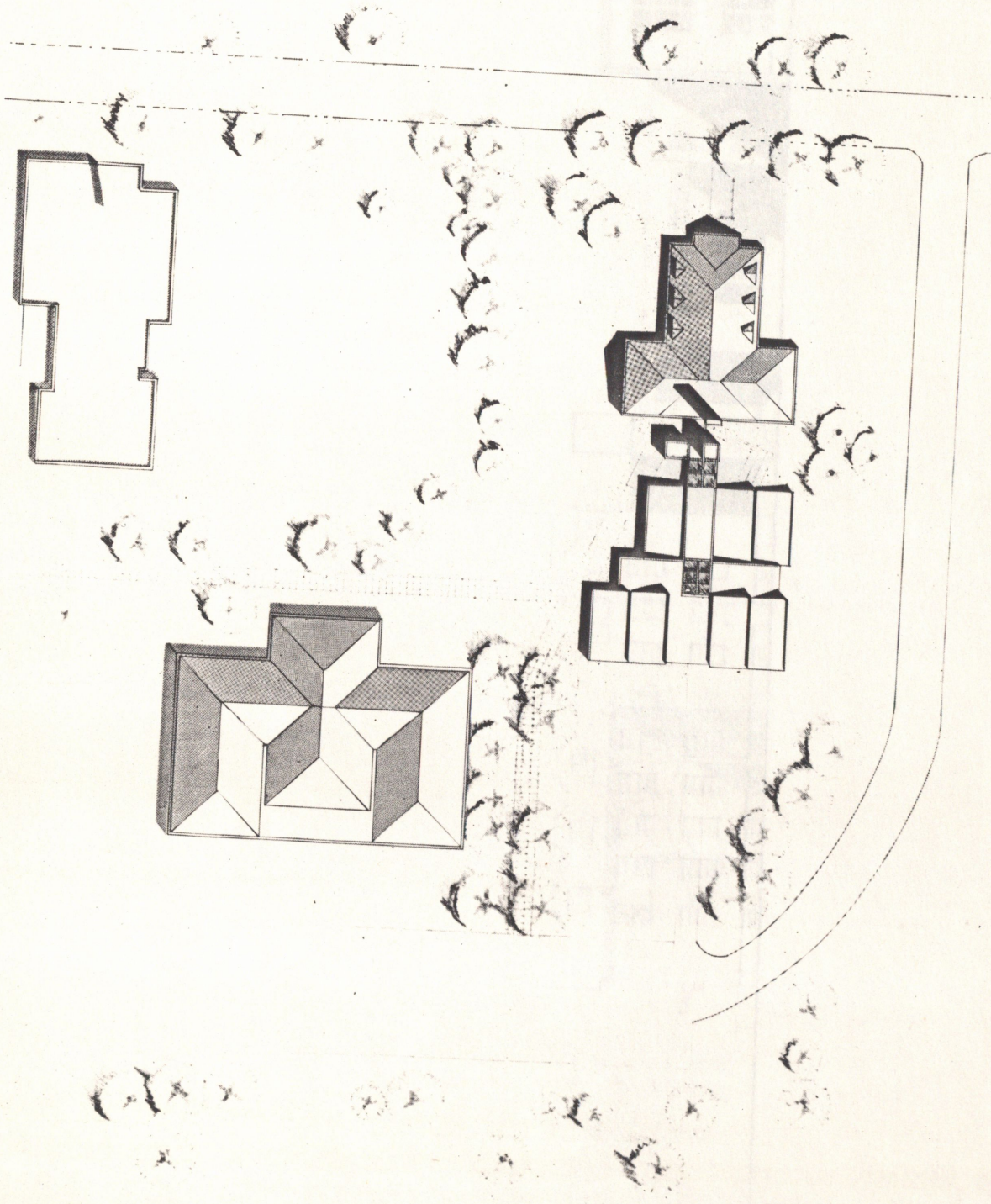


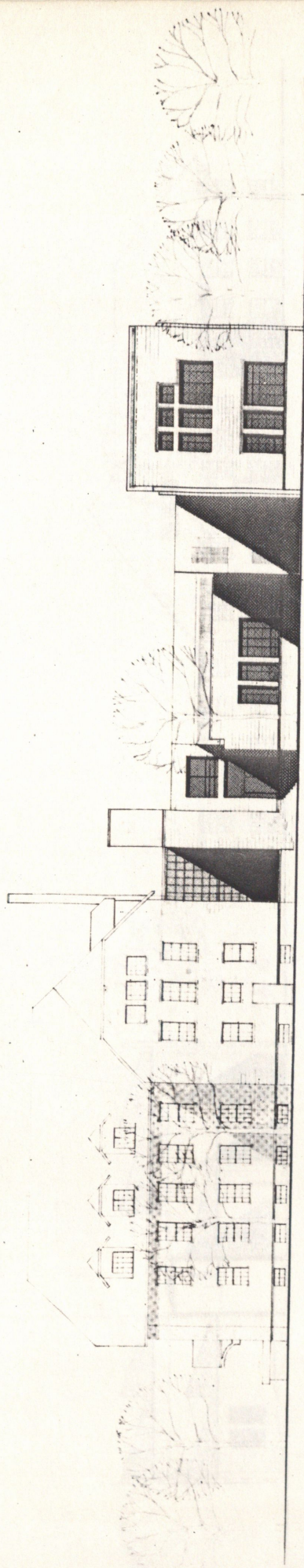
Campus Plan
Scale 1/4" = 1'-0"



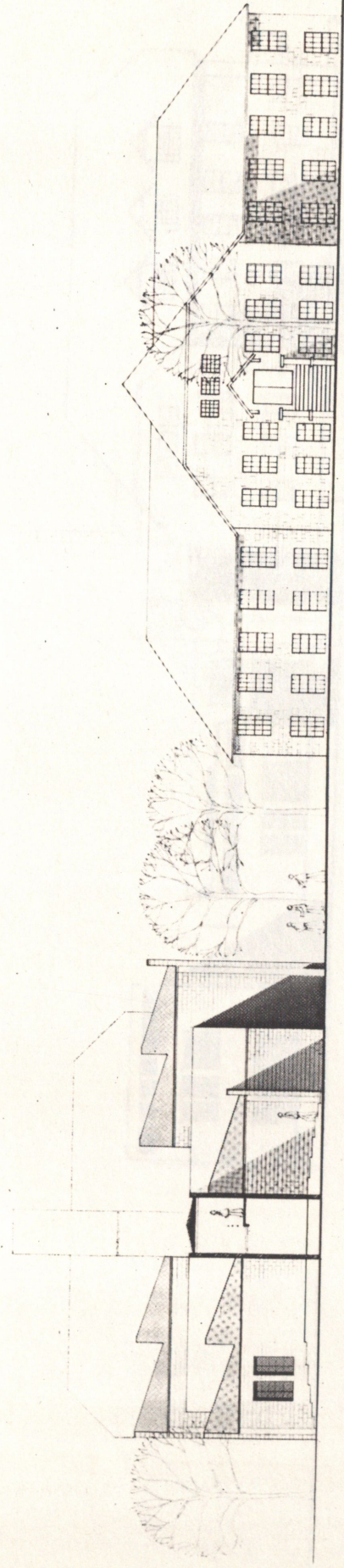


Site Plan
SCALE: 1/8" = 1'-0"

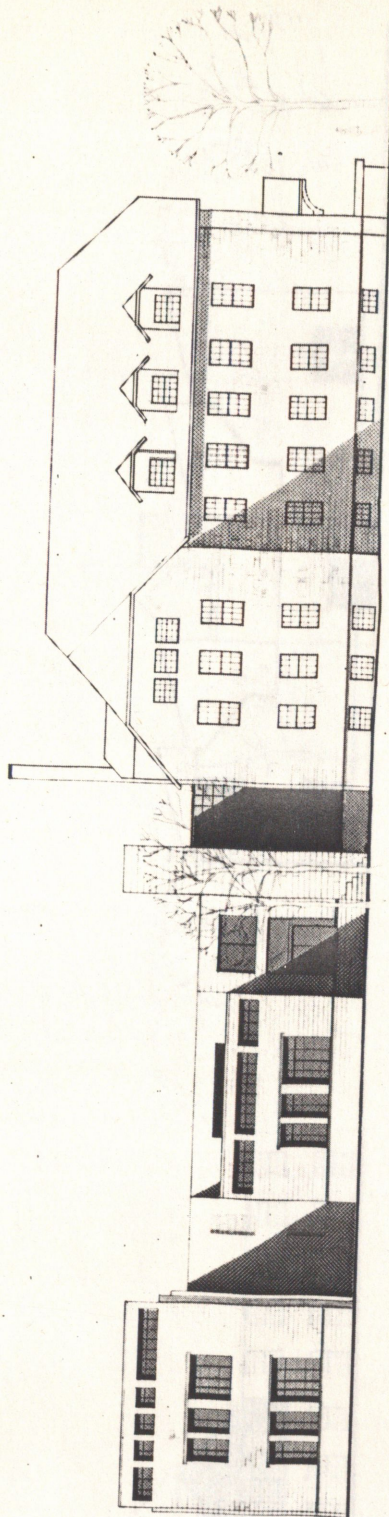




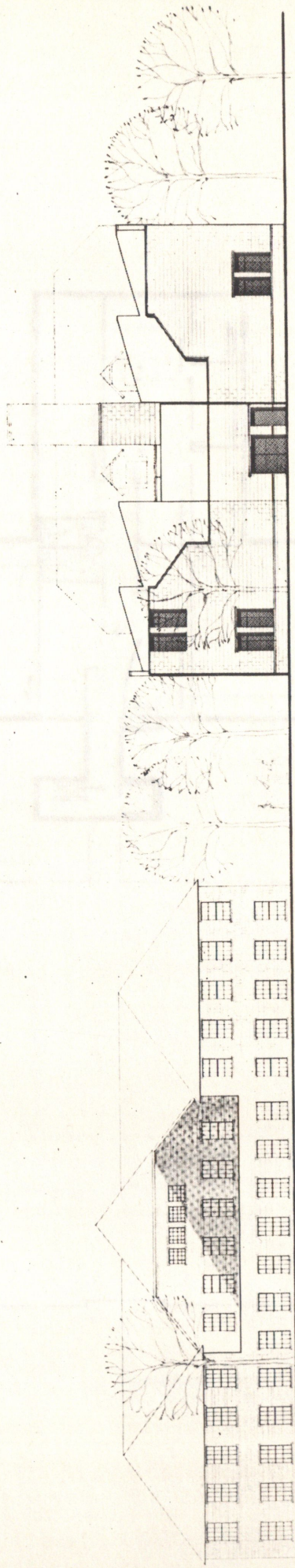
North Elevation
SCALE 1/8" = 1'-0"



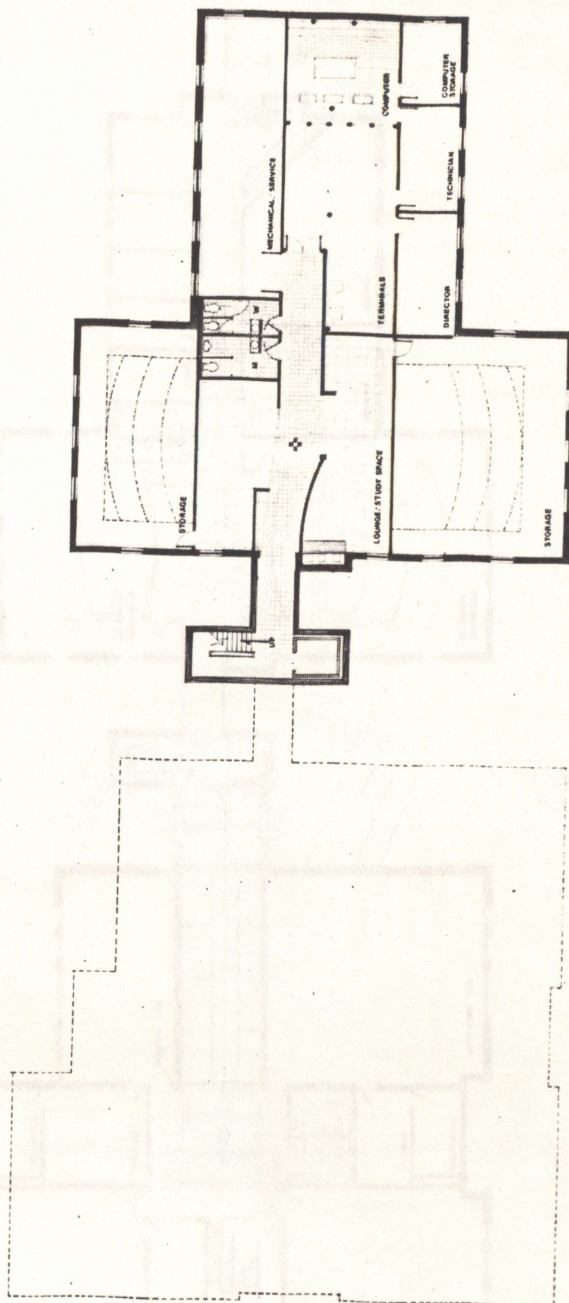
East Elevation
SCALE: 1/8" = 1'-0"



South Elevation
SCALE 1/4" = 1'-0"



West Elevation
SCALE 1/8" = 1'-0"



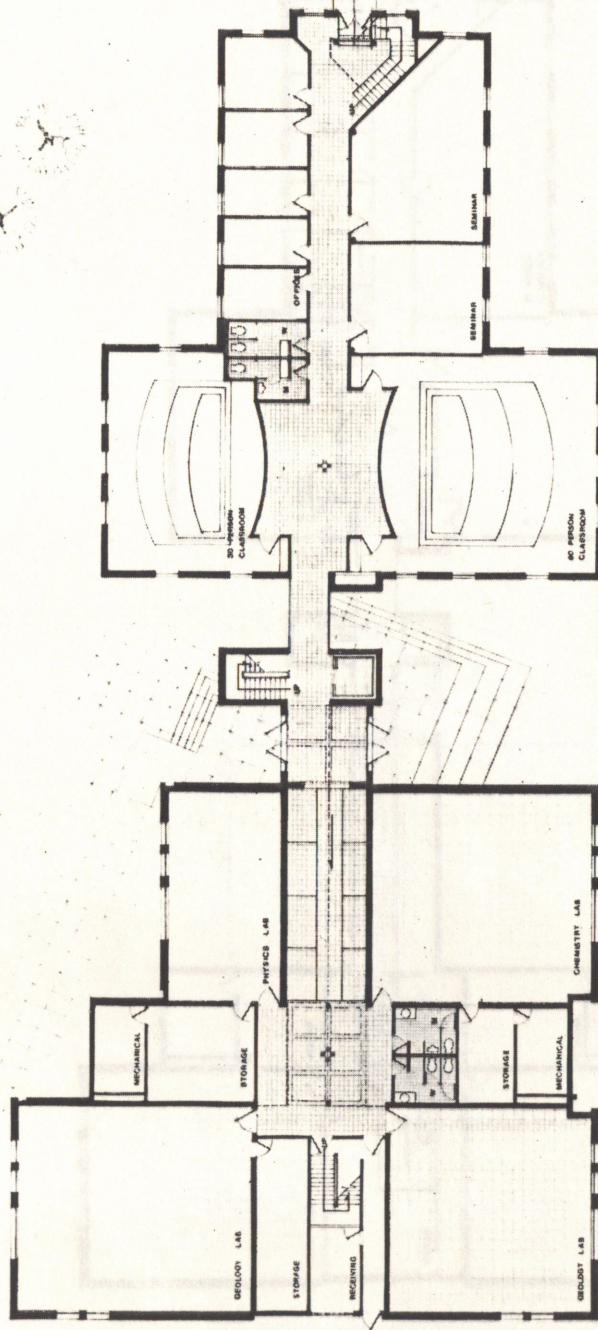
Basement Floor Plan

SCALE 1/8" = 1'-0"



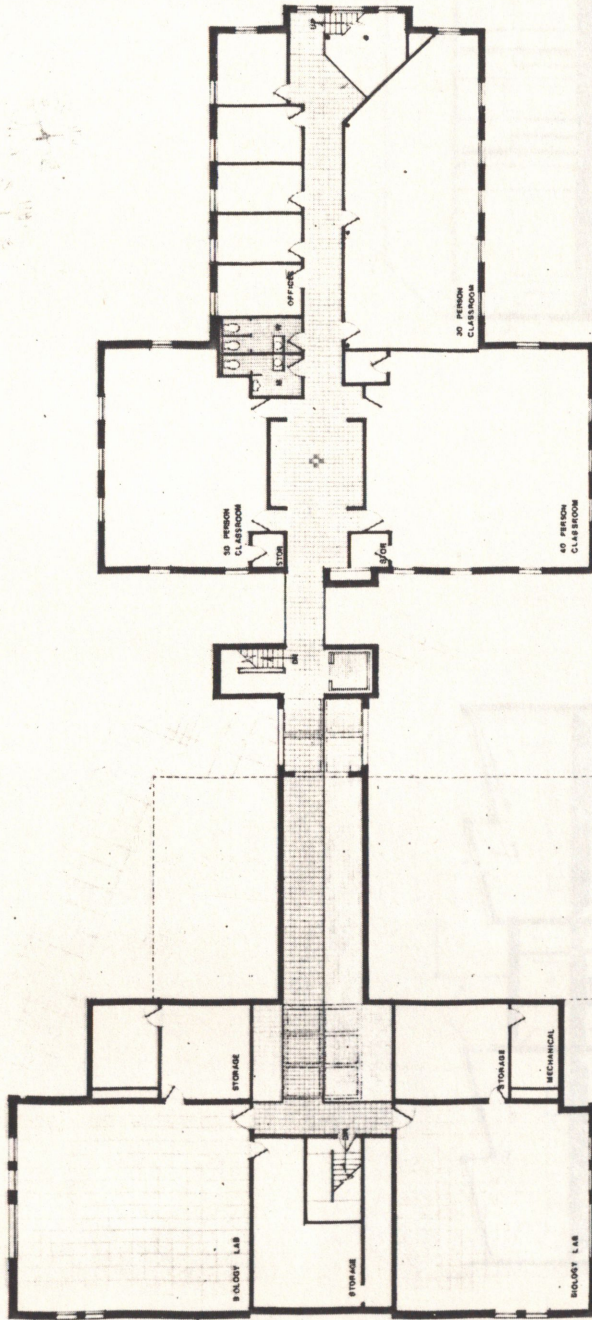


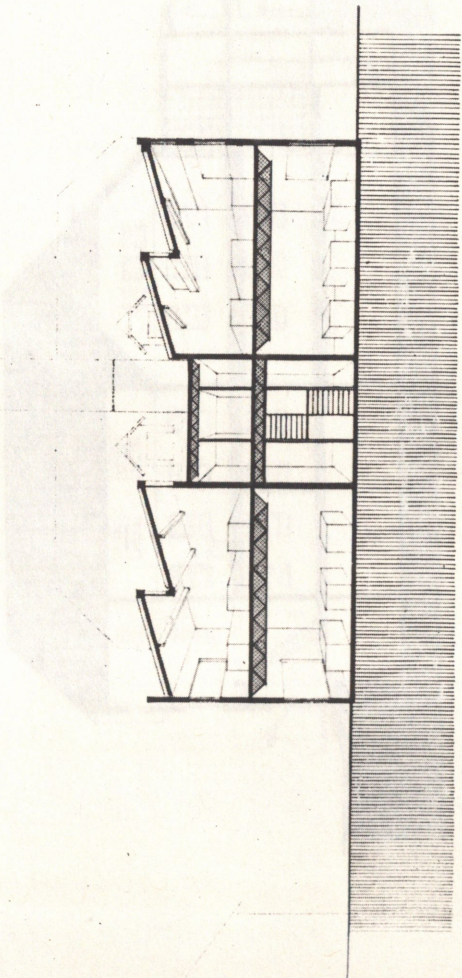
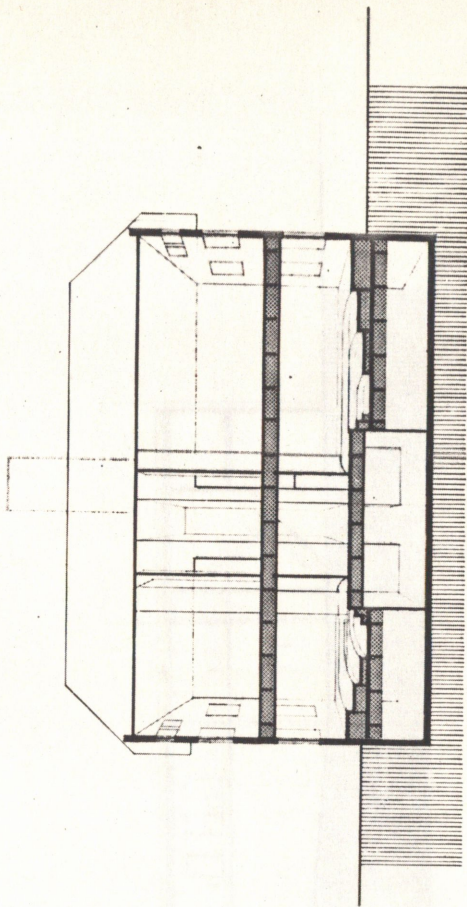
First Floor Plan
SCALE: 1/8" = 1'-0"



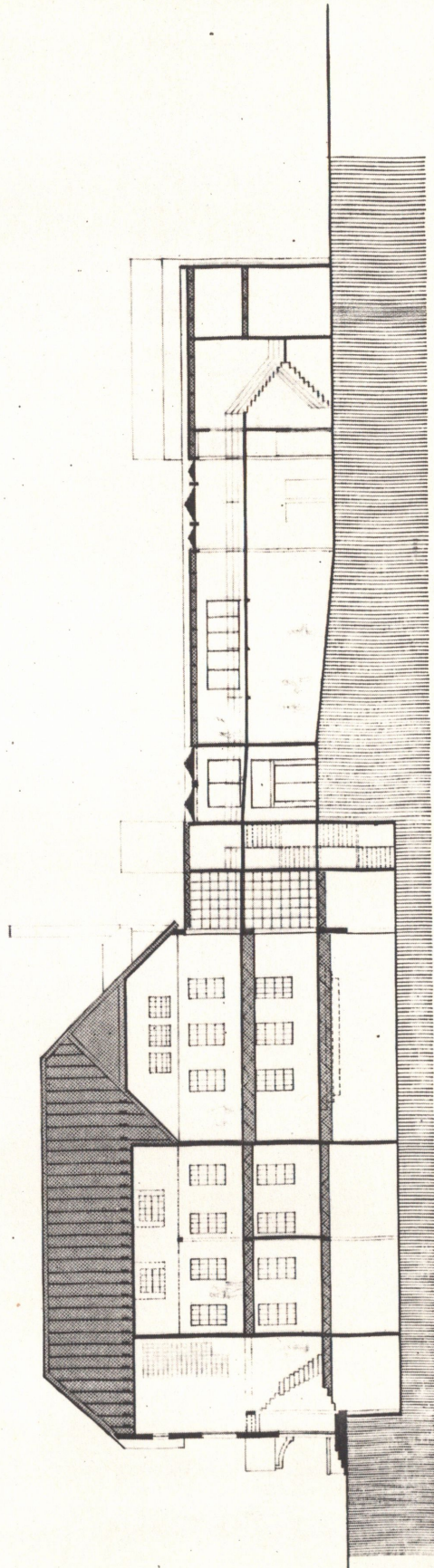
Second Floor Plan

SCALE 1/8" = 1'-0"





Transverse Sections
SCALE 1/4" = 1'-0"



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



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