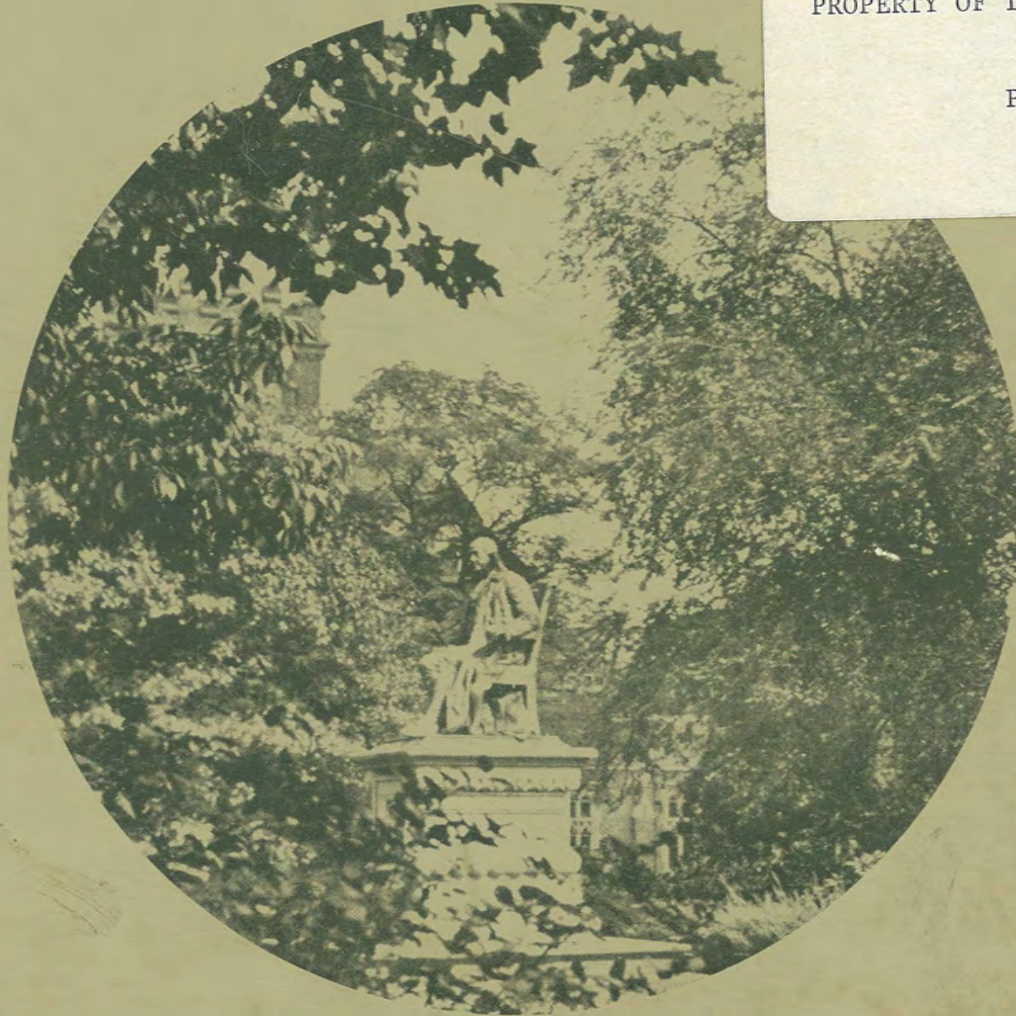


T. HEWRYK

Landscape Development Plan
University of Pennsylvania

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Center for Environmental Design

Landscape Development Plan

University of Pennsylvania

Prepared by the Center for Environmental Design,
Graduate School of Fine Arts, University of Pennsylvania
and submitted to President Martin Meyerson, February 1977

Center for Environmental Design
Graduate School of Fine Arts
University of Pennsylvania

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Cover: Franklin Statue, College Hall Green, c. 1940

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Dedication

In grateful appreciation
of her sensitivity and foresight
in helping to establish
a gracious urban educational environment
for the University of Pennsylvania,
this Landscape Development Plan
is dedicated to

Blanche P. Levy

Her understanding and initiative
will help to enrich the environment
for generations of students, faculty and alumni
for countless years to come.

March, 1977

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Introduction

A plan is an instrument of growth and change. We avoid the term *master plan*, which connotes rigidity and finality, and use *development plan*, which implies orderly growth. Our aim is to define principles on which development can be based and which will allow, and even facilitate, changes of plan in future years.

We start with the idea that the purpose of a University campus is to provide a setting for the life of the University. Much of that life of course takes place in buildings and its richness depends on the quality of these buildings. But there is also a large part which goes on outside buildings, in the landscape. The daily passage of people in the landscape should provide a nexus of meetings, of recreation, or merely of relaxation, all of which greatly enrich University life. If a campus has an image in the mind as a place to be loved and

admired, it is likely to be formed not so much by the buildings as by the spaces in between. When people say Venice is a beautiful city, they speak not so much of the interiors of its buildings -- which few of them see -- as of the squares and streets and the life that goes on there; some cities, like Paris, have a splendid image in spite of mediocre architecture, because of the delightful layout of streets and boulevards. A university is a kind of small city, where people gather for a common educational purpose, but where much of the value and pleasure of being there comes from the daily life of the place. The plan of a University, like that of a city, should be a mechanism for enabling things to happen, for the enhancement of life. This is a modest but vital aim, well expressed in Gertrude Stein's remark about the Paris of the 1920s: when asked, what does Paris give you? she said, "it's not so much what Paris gives you as what it doesn't take away."

Penn's image at present is tarnished. After an excellent start around the turn of the century, with interesting buildings well grouped around pleasant greens and walks, it is sad to see Cret, Powers and the Olmsted Brothers reporting to the trustees in 1913 in terms which had little effect but are still relevant today: "... at the University of Pennsylvania, as in practically every other institution of its time, growth has proceeded without plan and through mere accretion, advancing step by step through marginal enlargements, into an ever-increasing confusion. This, the universal practice and natural outcome of a lack of initial planning has resulted in a vast agglomeration of buildings, without organic arrangement. It thus lacks convenience of relation between parts; the possibility of proper expansion of departments or of the introduction of new cognate departments in proper relation thereto, unity of architectural character and other advantages

of a properly organized plan." In the building booms of later years, there was more attempt to plan, but even the great building boom of the sixties did not create great landscapes. Instead of following Paul Cret's "fixed principle" of creating "open spaces enclosed by buildings and not employed to surround them" these buildings sit in isolation as on a chessboard; moreover, though the buildings themselves were expensive enough, no money was spent on renewing the old landscapes *between* them. Even on College Hall Green, the new buildings simply sit on their platforms, surrounded by a patched-up arrangement of walks and eroded grass, hardly concealing the ghostly curbs and sidewalks of Woodland Avenue. Such landscapes are impossible to maintain: paths in the wrong place cause grass to be trampled; undrained paths cause it to wash away. Much effort is annually wasted in the attempt to keep up the present bedraggled appearance of College Hall Green.

Unfortunately much of the worst landscape occurs in very conspicuous places -- the corners of 34th and Walnut streets, 38th Street, College Hall Green -- while the excellent older landscapes -- Smith Walk and Hamilton Walk -- are relatively tucked away. This, combined with a deliberate turning of the backs of buildings to Walnut and other streets, means that Penn presents a poor face to the casual visitor.

Nevertheless, there is much to be thankful for in the legacy of the campus. In all plans, it is sensible to build on whatever excellence exists, and our careful evaluation of the campus, which we have set out at some length in this report, shows much that is good. In particular, the decision to close streets and create a pedestrian spine, which led to some shutting out of the city, also gave us, in Locust Walk, a new

landscape with some of the quality of the old; we propose, largely by a rearrangement of the service system, to extend this principle further and reduce all internal vehicular traffic to a few cul-de-sacs entering from city streets.

We believe that our proposals can transform the campus and make it one of the most civilized of the urban universities. There may be those who will argue against spending money on this transformation; to them we say this is simply arrears of money that should have been spent before. Seen as a proportion of the more than \$200 million spent on the buildings of the sixties -- which themselves caused most of the landscape problems we now aim to solve -- it is a modest investment. Moreover, it will produce a relatively maintenance-free campus. The permanent plantings of trees, shrubs, ivy, and grass are designed to mature into a stable landscape whose maintenance calls for the occasional application of intelligence and understanding, rather than constant intensive laboring. The provision of a functional and beautiful path system, with paths where people want to walk, made of lasting materials, properly curbed and drained, will save a considerable sum in recurrent patching and mending of the present makeshift system.

Finally it will be clear that, though we were commissioned to produce a plan for landscape architecture, we have naturally become involved in many other architectural and planning matters, and we have not hesitated to make suggestions about new buildings, traffic, parking, and servicing. The future health of the campus depends on the integration of these things with the landscape and we hope that this plan will be a step toward that end. Again, we see it as a process, which will need constant supervision and re-definition as the future

unfolds. Inevitably it will be carried out piecemeal, but like the "Red Books" in which Humphrey Repton advised his 18th-century landlords on the landscaping of their estates, each "improvement" we have suggested is part of an overall vision of the campus as a truly habitable place.

Peter Shapland



Aerial view of the campus, 1973

Past Growth and Present State of the University Landscape

In his "Proposal Relating to the Education of Youth in Pennsylvania", Benjamin Franklin proposed in 1749 that a "House be provided for the Academy, if not in the Town, not many Miles from it; the Situation high and dry, and if it may be, not far from a River, having a Garden, Orchard, Meadow, and a Field or two."¹ Although the first Academy and College (later the University of Pennsylvania) were situated near 4th and Arch and, later, near 9th and Chestnut streets, by the 1850s it became evident that, due to anti-slavery riots, urban unrest, and neighborhood deterioration, the city campus was no longer a "suitable place for instruction."² A new campus, more in keeping with Franklin's proposal, was explored: "The old questions whether to remain a city college or go to the country; whether to settle in some small town, as has been the policy of Harvard, Yale, Princeton, and most other American

and English colleges, where students should live on campus in buildings belonging to the University; or to separate academic life from personal life, as at Columbia and in the Scotch and continental universities, came up for vigorous discussion. Each had its advocates. The decision to remain a city institution was mainly the result of two circumstances: the desire of the Philadelphia trustees to keep the institution near enough to make their visits to it easy, and the knowledge of the existence of an available tract to the west of the Schuylkill yet within the limits of city life and its advantages."³

In 1870, a 10½-acre tract of land on a small plateau to the west of the river was purchased from the city, and the first four major University buildings were constructed: College Hall (1872), Logan Hall (1874), the original main wing of the Hospital (1874), and the Hare Building (1877). Much of the surrounding lowlands were considered then to be of little value. During early settlement, the area consisted of gently rolling upland forests, with farm strips and wet meadows toward the river; marshes and mudflats bordered the west side of the river and the land was transected by a few unpaved roads, the earliest of which were Darby Road (later Woodland Avenue) and Lancaster Avenue. By the 1850s Hamilton Village was laid out and by 1875 residential districts, such as Powelton Village, as well as Market Street's commercial areas, stockyards, slaughterhouses, and railyards were busily expanding.

The Centennial Exposition of 1876 did much to hasten the development of the area. A Centennial guidebook described the neighborhood as "one of the most attractive sections of the city, blending as it does, the beauties of both country and



The West Philadelphia landscape in the early 1800s: The original nucleus of urban activity is at the foot of Market Street. The two major regional roads, along which farms, estates, and houses begin to develop, are Lancaster Avenue, leading to Lancaster, and Woodland Avenue, leading to Darby and Baltimore. Early institutional uses include the Alms House and reservoir. Early manufacturing occurs along the riverbanks.



The campus landscape in 1890: The first group of University buildings are constructed on old pastureland; first tree saplings are planted around College Hall and the Furness library; dormitory quadrangles are in construction; streets are paved, along which are sited "town-houses" with lawns and gardens. Market Street commercial areas, worker housing, and the railroads expand.

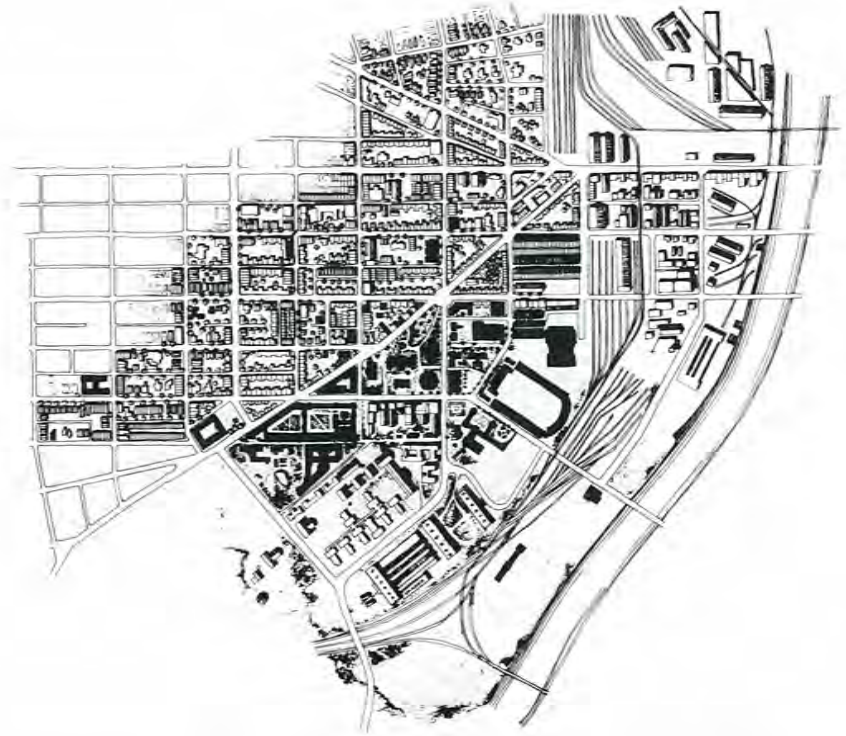
town. It has a location much sought after for private residences and consequently is filled with handsome edifices and delightful villas ... the buildings break away into couples, relieved by bay windows, cozy porches, and mansard roofs, standing in the midst of pleasant lawns."⁴

By 1909, with major landscape works well underway, one observer could describe the campus as "a pleasing site for the many handsome buildings. Well-kept walks wind about the grounds which are diversified by terraces, shrubbery and many different species of trees. Most of the buildings are overgrown with ivy, and partly concealed behind a profusion of bushes and foliage ... and Hamilton Walk, shaded with tall poplars, weeping willows, maples, oaks and other American shade trees ... all combine to form one of the 'sights of the city'."⁵

With rapid city expansion, however, another look was given to the campus landscape, in the form of a report and plan on the "Future Development of Buildings and Grounds and the Conservation of Surrounding Territory", by Paul Philippe Cret, Warren Powers Laird, and the Olmsted Brothers. One significant suggestion of this 1913 report was the creation of a "mall", part of which is today called College Hall Green: "Virtually without exception the University buildings have thus far been located along streets. This, a natural method under rural conditions, involves very serious difficulties when these streets become noisy thoroughfares tending to divide the University into isolated parts and to destroy the homogeneity, quiet and sense of retirement so essential to academic life. The proposed Mall could be formed to counteract these objections ... planned exclusively for pedestrians; and having ample space for planting of grass plats, shrubbery and



The campus landscape in 1910: Trees planted along major streets around the campus; College Hall, Logan Hall, and Houston Hall area is terraced, with shrubs planted next to the buildings and mounded around paved and curbed walks; Smith Walk is developed for pedestrian traffic and landscaped; the Botanical Garden, Hamilton Walk, and dormitory quad buildings are in construction. In the neighborhood, townhouse grounds begin to be lotted off for rowhouse development; Market Street commercial and manufacturing areas and worker housing expand and now border the campus; South Street bridge, Franklin Field, and University Museum form major public gateway to the campus.



The campus landscape in 1930: The maturation of the campus landscape; vegetation in nearby residential areas now mature enough to form scenic vistas to the campus. With extensive growth of West Philadelphia, streets through the campus become congested, nearby housing deteriorates, and railyard expansion takes hold of lowlands along the Schuylkill River, the latter foreclosing, for the foreseeable future, a relationship of the campus to the river.



The campus landscape in 1950: Trees along major walks and greens now form lush overhanging canopies; however, from 1930 to 1950, very little is done to enhance the landscape and, with hospital expansion, the areas of the Botanical Garden and Hamilton Walk are greatly decreased; with the decline of meticulous botanical gardening, many shrubs and trees are left untended or are removed; traffic congestion, neighborhood deterioration, and parking problems become widespread.



The campus landscape in 1976: New buildings obliterate or encroach upon the old campus landscape; old walks become eroded and new paths crisscross the open spaces in a desperate attempt to serve new and old buildings; mature landscapes -- in particular, College Hall Green, Hamilton and Smith walks -- are now in a state of decline, with many trees, such as the elms and sycamores, diseased or dying. At the same time, street closings offer many opportunities for landscape enhancement: with the closing of Woodland Avenue, a new pedestrian spine is formed from Drexel, through College Hall Green, all the way to Woodland Cemetery; Woodland Walk and Locust Walk, with its extension to 40th Street, form new spatial and pedestrian links; with the high-rise dormitory construction, a major open space forms the core of the new campus.

trees."⁶ Beyond the creation of the Green, the report stressed the establishment of an organic network of campus exterior spaces, including the dormitory quads, Houston Hall Green, the University Museum courtyards, and other spatial links, many of which were never implemented. This, more than any other comprehensive plan to date, helped form the distinctive spaces of the campus as we know it today. The final recommendation of the report still holds great power for today's campus plan: "We would ask attention to an important consideration in all developments ... namely the fixed principle of creating new and preserving old open spaces enclosed by buildings and *not employed to surround them.*"⁷

Although several quads and greens were constructed, the main thrust of the report -- to establish an organic network of open space -- was ignored. By 1930, with continued rapid growth of the city, the campus was engulfed by center-city expansion, traffic congestion, and neighborhood deterioration. One official of the University described the situation as "the blight of dilapidation began its infectious spread through our area ... population density increased, crime increased, all the city problems increased."⁸ The establishment of zoning ordinances in the 1930s did little to stem the tide of deterioration, and it wasn't until the late 1940s, with the creation of the City Planning Commission and the initiation of another Campus Development Plan, that a coordinated approach toward the area could begin in earnest. "Throughout this period, the University of Pennsylvania ... had not developed a position related to the worsening conditions about them. It was inevitable, however, that they would have to take cognizance of the deepening urban blight that engulfed them. Students were poorly housed; faculty established residences in the suburbs and formed no campus connection; women students



The proposed campus plan of 1913: The plan proposed four major changes. First, it called for diverting through traffic to a boulevard along the river at 32nd Street; the elevated subway would also follow this route; riverfront landscaping and a wall of facades along the west side of the road would enhance the visual appearance of the drive around the University. Second, new buildings would turn inward to create quiet courtyards, separate from the street; furthermore, by creating courts off Smith Walk, the plan encouraged the formation of a minor campus which would link College Hall Green with the riverfront development. Third, College Hall Green would be preserved and a pedestrian mall extended north from the Green to Chestnut Street. Fourth, the plan recommended establishing nodes of entry at, and foci on, distinguished architectural elements in order to improve the campus image from the street and city.



The proposed campus plan of 1948: In his report, "Architectural Elements of the New Campus", Sydney Martin described the 1913 and later Paul Cret plans as being "seriously compromised by the assumption that Woodland Avenue and other lesser streets were immovable." Although this may be a valid criticism of earlier plans, the decision to dispense with Cret's principle of creating open spaces "enclosed by buildings and not employed to surround them" and to adopt the notion of "landscaped areas and lawns surrounding our present and future buildings" greatly limited the potential richness of the campus. The most significant proposal was the extension of the Locust Walk spine from 33rd to 38th streets, with numerous street and avenue closings extending the campus west to 40th Street. The plan's insistence on this central axis, however, led to the rather peculiar placement of a high-rise administrative tower at 36th and Locust as well as a recommendation to demolish that part of the Furness library which blocked the axis.

feared to be on the streets at night; traffic became a major problem and parking all but impossible. These ills were dramatized in 1956 by the senseless murder of a Korean student by a band of hoodlums who roamed the area."⁹

With the building boom of the 1960s, the availability of federal and state monies (along with the relatively easy use of the city's powerful Planning Commission and Redevelopment Authority) were so plentiful that planning was hard put just to keep pace with the many campus and city projects. Three general planning ideas, however, seemed to predominate in this period. The first idea was that Locust Street should become the internal, pedestrian spine of the campus, with city cross-streets to be closed and major traffic routed around the edges of the campus. The second idea was to have new buildings face inward to the campus, with their 'backs' to the trafficked streets -- this, it was hoped, would strengthen the campus pedestrian spine and truly separate the campus from its deteriorating surroundings. The third idea was to divide the campus into the four quadrants of arts and sciences -- or, roughly, the natural sciences, physical sciences, humanities, and social sciences -- with all quadrants within a ten-minute walking distance of one another, and all residential at the periphery.¹⁰

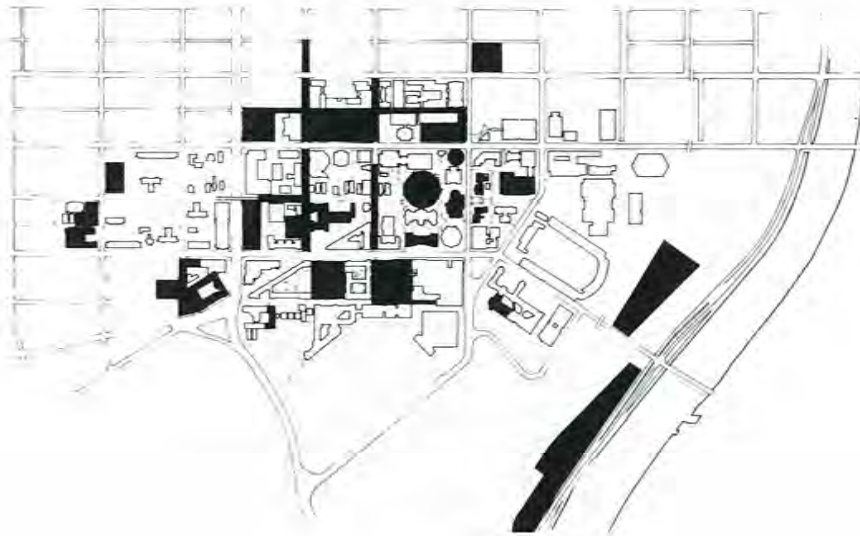
These three ideas were formalized in the campus master plan of 1961, with its many building and street-closing projects, and continued as powerful planning goals until the late 1960s. It was this plan, coupled with massive fund-raising drives, the building boom of the 1960s, and a total budget of 215 million dollars, that brought on the most rapid and largest expansion in the University's history. The plan envisioned the campus being almost literally walled off from the surrounding

community, with an added safeguard that it would now control most of the campus edges, through outright demolition and construction of University-owned commercial, residential, and research buildings. Today, however, there is general agreement that the most critical flaw of the plan was its rigidity in specifying one particular land use for each project site or area, which, for example, effectively turned Walnut Street's shoddy, though rich, mix of streetside houses, shops, and academic buildings into a no-man's-land of brick walls and service alleys. Furthermore, the plan's primary objective of getting "the maximum usable space per dollar"¹¹ may have overridden interests in the *quality* of campus life, leading to the adoption of the high-rise dormitory plan and the rejection of an alternative low-rise or dormitory quad plan for the new campus west of 38th Street -- the latter being more in character with campus life and potentially more economical, providing just as many living quarters as the high-rise plan.



The proposed campus plan of 1961: This plan became the guiding force during the building boom of the 1960s and early 1970s and, through numerous cross-street closings as well as the Woodland Avenue closing, led to the creation of "superblocks", or large areas which are free of vehicular traffic and devoted mainly to pedestrians. The Locust and Woodland axes were extended to become the primary pedestrian spines of the campus. The new campus was extended west to 40th Street, with a major residential concentration, and east to the river, with several athletic facilities and playfields. The goals of the plan, however, almost exclusively concentrated on the use and cost of enclosed spaces, with a consequent lack of emphasis on the exterior spaces: "the following principles will be given first priority: (a) the most practical design ... compatible with the specified use, (b) economy of construction compatible with durability and with the objective of obtaining the maximum usable space per dollar, and (c) economy of operation with the objective of reducing, as far as possible, the costs of maintenance, heating, and air conditioning."

The plan's radical departure from the historical development and character of the campus caused many to challenge the University's planning goals and its sensitivity to surrounding communities. One such challenge came from the 'Save Open Space Committee', which protested the partial destruction and closing off of College Hall Green with a building: "Should open space in an urban college campus be sealed off as a sort of cloister? Or should it be planned to invite the maximum use by the community? ... we maintain that the open land will be cut up and its effect thereby diminished, that the campus's most distinguished feature will be lost, that the campus should spread its arms to the community."¹² By 1968, with the anti-war demonstrations and general student unrest, the idea of closing off the campus began to be taken literally, with some even proposing a series of campus gates to control



The proposed campus plan of 1975: The present plan is basically a compilation of the unfinished business and projects of the 1961 plan along with a listing of exterior spaces and buildings in critical need of repair or renovation, with the great majority of projects now in the preliminary stages. The major sites for future development occur along Walnut Street from 34th to 38th streets and along the Schuylkill River.

potential unruly situations. The initial planning idea, therefore, of strengthening the campus pedestrian spine had become transformed into a policy of turning the University's back to the city.

By 1974, with the recession, and the bulk of the University's expansion program completed, federal and state monies began to dwindle. Also, and not incidentally, as the strength and skills of protest groups increased, some projects had to be revised or were indefinitely postponed -- for example, the Sansom Street Committee's call for the preservation of Sansom Street and the promotion of a richer commercial and housing project for 34th and Walnut streets, a campaign for which there is still considerable faculty and student support.

Out of this stream of events one thing became clear: the landscape of the University had suffered. The great landscape works of the 1890s and early 1900s had matured, with many once magnificent trees now diseased or dying. No major replanting effort had been undertaken to recapture this great exterior canopy. Large areas of pavement and grounds were now in a state of disrepair and ill health. Furthermore, barring a few exceptions, no major landscape works had been undertaken. The unique character of the campus that had made it one of the "sights of the city" was now but a remnant of what was, with buildings and large areas of pavement -- each new building with a 'launching pad' of pavement extending five feet or so from its walls (as most funding dictated) -- constructed in total disregard of this character, yielding a landscape of disjointed pieces, with a lack of feeling and warmth, with all the spaces in between left to decay.

By 1975, with the dust settled from this rapid growth, many saw the campus in peril of losing its life, littered with and

besieged by multimillion dollar buildings, each with its own peculiar problems. There had been a kind of functional breakdown of the campus overall, so much so that it became questionable whether the University plan was indeed operating. For the 1961 master plan had created a plethora of new problems, perhaps more devastating in human terms than the initial chaotic growth it was supposed to have governed. The campus pedestrian and vehicular systems had become a maze of conflicts. The open space had been reduced, or its character so altered, that there was now inadequate space for private retreat, casual recreation, and even competitive sports. The rich edges of the campus had all but disappeared, with the intimate mix of housing, shops, and city life usurped by massive, single-use, University-controlled buildings. Worst of all, it seemed that the very life, fabric, and identity of the campus was being lost, with no clear image or entries offered to the city and no clear sequence of spaces or sense of place on the campus.

In short, many University officials began to feel that things had gotten so out of hand that a new plan was needed which could make the campus environment reasonable, alive, and healthy once again. In the fall of 1975, in an effort to review the campus planning and development process, President Martin Meyerson appointed the Board of Design Consultants. By the summer of 1976, the Center for Environmental Design, directed by Dean Peter Shephard, in close collaboration with the Department of Facilities Development, began work on this Landscape Development Plan, with the primary aim being to "provide the best possible environment obtainable within the present context of buildings by a careful redesign of the planting and paving of the campus."¹³ Finally, since the landscape is such an integral and vital part of the campus,

this plan was inevitably forced to consider many aspects of the University that bear on the landscape, such as, to name but a few, campus service systems, land and building uses, as well as recommended future planning and development initiatives that would further enliven the campus environment.

Notes to the text

- 1 Reprinted in Thomas Harrison Montgomery's *A History of the University of Pennsylvania from its Foundation to AD 1770* (Philadelphia: George W. Jacobs & Co., 1900), p. 497.
- 2 "Minutes of the Special Committee on Endowment, 6 October 1868", reprinted in "A Brief History and Compilation of Trustee Actions concerned with the Planning and Development of the West Philadelphia Campus", University of Pennsylvania, Department of Facilities Development, September 1976, p. 18.
- 3 Cornell M. Dowlin, ed., *The University of Pennsylvania Today: Its Buildings, Departments & Work* (Philadelphia: University of Pennsylvania Press, 1940), p. 2.
- 4 Leon S. Rosenthal, *A History of Philadelphia's University City* (Philadelphia: Printing Office of the University of Pennsylvania, 1963), pp. 59-60.
- 5 George Nitzche, *University of Pennsylvania Illustrated* (Philadelphia: University of Pennsylvania, 1909), pp. 1-2.
- 6 Paul Philippe Cret, Warren Powers Laird, Olmsted Brothers, "Report to the Board of Trustees of the University of Pennsylvania upon the Future Development of Buildings and Grounds and the Conservation of Surrounding Territory", University of Pennsylvania, 1913, pp. 13-14.
- 7 Op. cit. in note 6, p. 8.
- 8 Op. cit. in note 4, pp. 74-75.
- 9 Op. cit. in note 4, pp. 77-78.
- 10 For a description of the 1948 master plan, see Sydney E. Martin's "Architectural Elements of the New Campus" in *The General Magazine and Historical Chronicle* (University of Pennsylvania, winter 1952), pp. 65-73; and for notes on both the 1948 and 1961 master plans, see "A Brief History ...", op. cit. in note 2, pp. 33-51.
- 11 "A Brief History ...", op. cit. in note 2, p. 43.
- 12 From a 1968 poster titled "S.O.S. Protest: Students Defend the U. of P. Campus".
- 13 "University of Pennsylvania: Proposal for a Development Plan for the Landscape Architecture of the Campus", Center for Environmental Design, Graduate School of Fine Arts, 25 May 1976, p. 1.



Aerial perspective of the campus, 1910



Aerial view of the campus, 1973

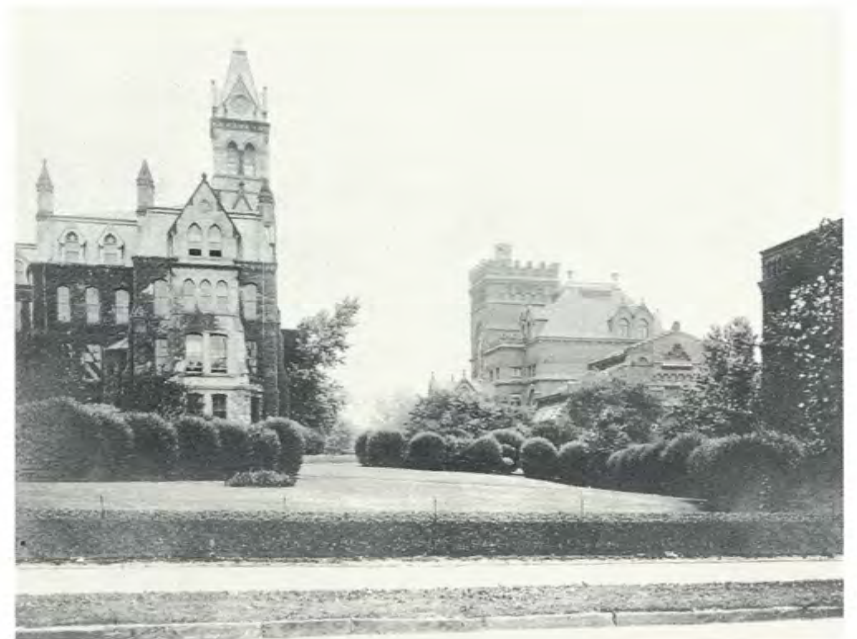


College Hall and Furness library, 1891



View of College Hall Green from Spruce Street, 1898

View of Houston Hall Green from Spruce Street, 1905





College Hall Green, 1915



College Hall Green, c. 1930



View of Walnut Street, near 34th Street, 1882



View of Spruce Street, near 36th Street, c. 1905



Houston Hall Green, 1905



West Philadelphia, 307 South 39th Street, 1904



Museum Triangle Garden, 1915



Hamilton Walk, 1918

Botanical Gardens, c. 1930





Smith Walk, 1936

Genesis of the Plan

Discussion of the Landscape Development Plan began with the exploration of some essential and ideal characteristics of a campus landscape. To fully pursue this, the first meetings were purposefully held without agenda and were frequented by students, faculty, and University planning officials. The main participants, through all stages of the work, were seven faculty members of the department of landscape architecture and the group's director, Dean Peter Shephard. The most significant ideas discussed at these meetings are summarized in this section. In many ways, these ideas were the plan's genesis. They illuminated what the components, nature, and vision of a landscape plan might be. Also, the formulation of an ideal campus landscape provides a measure of comparison with which to assess the existing landscape: it reveals where specific problems and opportunities might occur and where

planning and operation policies might need revision or a more encompassing approach. Thus, the practical basis of the Landscape Development Plan is fundamentally a response to these problems and opportunities, a response generated from the analysis and synthesis of what the campus is and should be.

The first idea deals with the dual aspect of a campus landscape. On the one hand, a campus is essentially a quiet, pastoral setting, removed from the pressures of the city and everyday life, a haven in which one can restore oneself and gain a fresh perspective on the surrounding world and flow of events. On the other hand, a large campus becomes itself a city, an ideal of city and communal life, providing its residents with a rich complement of social and cultural amenities, housing, goods and services, and recreation. Furthermore, since the principal function of a campus is to bring people together for learning, which is usually accomplished through lectures, research, reading, discussion, and reflection, there is a common agreement that anything which is disruptive is to be discouraged. And although a large portion of one's day is spent indoors -- in classrooms, studios, offices, and libraries -- the places to which one retires for reflection, social encounter, and relaxation are often the exterior spaces. In many ways, the campus provides the places of *unstructured* learning. A path, for example, is not just a means of circulation but a series of vital events, where reflection or social encounter can flourish in a relaxed and expansive way. Indeed, the campus is the largest and most intricate 'room' of the University: it is not only the link, buffer, and entrance to the city and to every interior space of the University but also the one space which enables one to comprehend and participate in the whole.

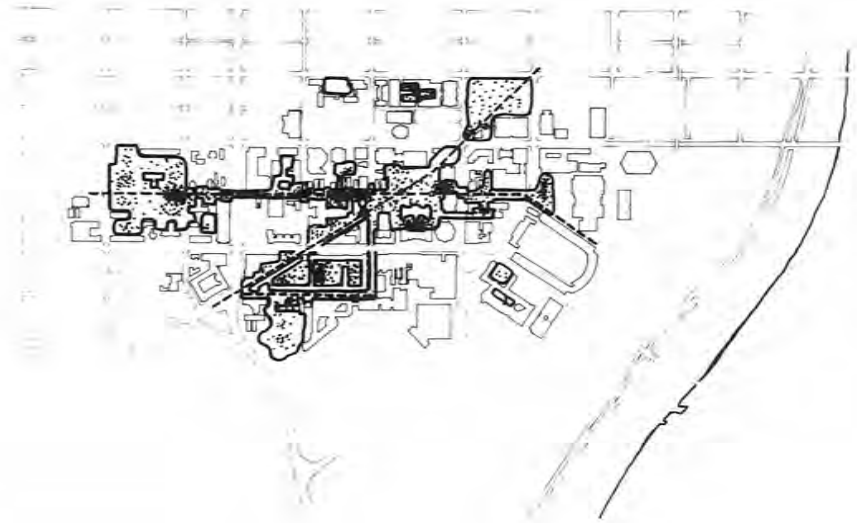


Diagram of the major exterior spaces of the campus, its primary pedestrian axes, and activity nodes

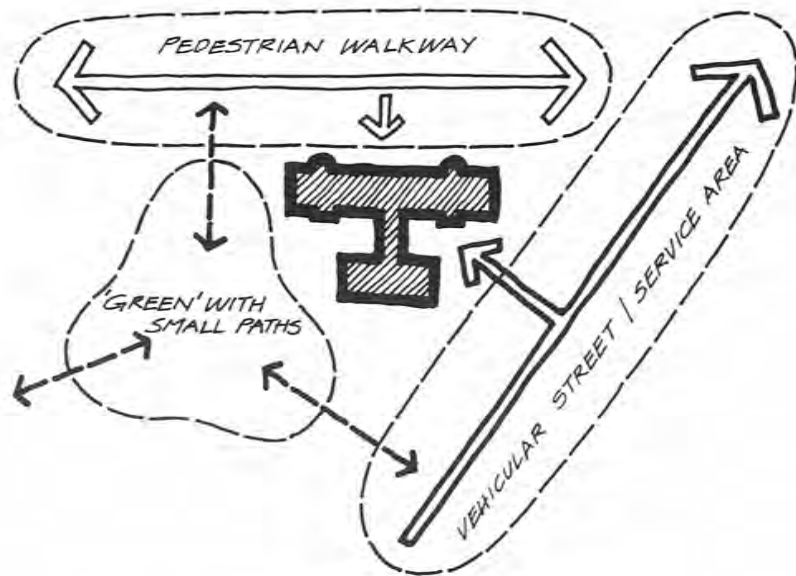


Diagram of the original setting of Hayden Hall

The second idea deals with an ideal relationship between landscape, building, and city, and is illustrated by the diagram of the original setting of Hayden Hall. Here, a satisfactory relationship amongst all campus elements exists through the provision of three distinct, but related, landscape types. First, along the city street trees separate pedestrians from city traffic and from the building itself; a small service court is isolated from pedestrians, city traffic, and the internal spaces of the campus; and there is a generous pedestrian entryway to the campus proper. Second, the building fronts onto and defines a major pedestrian street, a street which is part of the public open space network of the campus. An allee of trees unites the space and provides a setting for the building and continuity with the rest of the campus landscape. The building entrance does not dominate this space, but simply becomes one of the many distinct events and alcoves along it. Third, the building defines a small 'green', of such intimacy as to permit holding of outdoor classes and functioning as private retreat. Seen in its original setting, all three landscapes are well insulated from one another, work together with few conflicts, and offer distinct spatial experiences and possibilities of use. Thus, this diagram also demonstrates a principle of the essential and sensitive balances that must be achieved in the overall campus landscape.

The third idea deals with responding to the essential character of the existing campus landscape. It begins by identifying two major images: the old campus and the new campus. The old campus includes College Hall Green, portions of Smith and Hamilton walks, and the quads. The exterior space here is expansive, flowing in and around buildings that become but objects on a continuous carpet of green. At the

same time, there is a sense of containment, achieved by groups of buildings, the placement of walks, and an extensive canopy of trees above a broad expanse of lawn. The landscape elements are simple, bold, and carefully located to permit unimpeded vistas. The visual experience is further enriched by the articulation of space into definable entities, such as quads, allees, and greens; and the disposition of landscape elements, such as terraces and statues, which are often in direct relationship with building edges, entrances, or streets, thus helps to identify these areas as special places. The consistency of style and materials unifies the whole, and the resulting sense of continuity and containment was once the thread that tied the whole campus together. Remnants of it survive today.

In contrast to the old campus, in the new, 'urban', campus, the buildings are larger, taller, and most importantly extend out beyond their walls with broad aprons of paving or extensive plazas. These features have tended to isolate each building from its neighbor and from the landscape itself. It is a masonry world of largely redundant walls and paving, most of which abuts city streets. Unlike the old campus, the 'green' landscape here is no longer the matrix in which buildings and other landscape elements exist. Rather, the 'green' is relegated to containers and left-over bits. The exterior space is discontinuous and often without human scale, often empty or overbearing.

There are also a few instances on the new campus that successfully carry over the traditions of the old campus. Notable amongst these are Locust Walk, between 36th and 37th streets, Woodland Walk, and the Law School courtyards. These landscapes relate well to nearby buildings, the plantings are

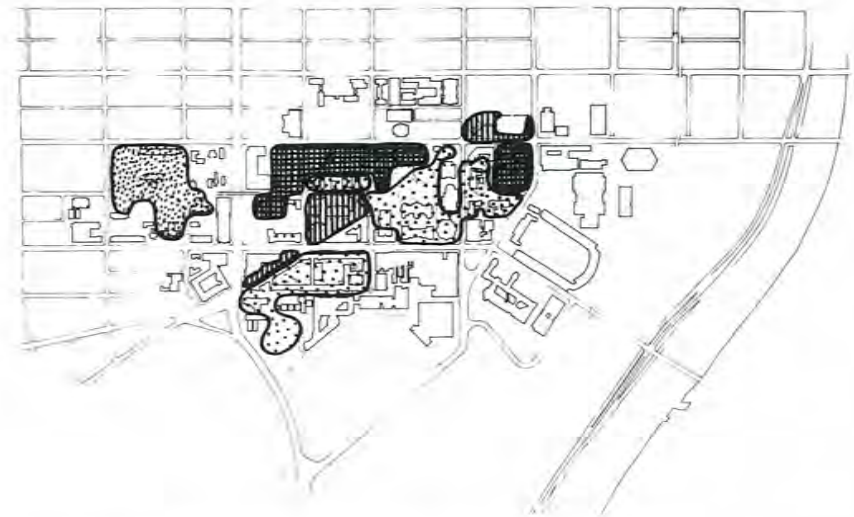






Diagram of major landscape characters of the campus

-  *Old campus landscape*
-  *New campus landscape*
-  *Urban campus landscape*
-  *Transitional landscape*



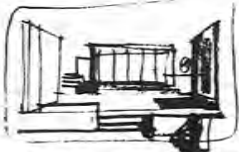
greens 1

green carpet w/ trees
bldgs flat -
no middle layer
except shrubs for
entry + walk -

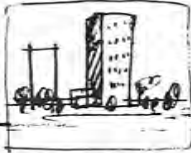
quads



3 story bldgs
contained space
green floor
few plants -



Urban plaza -
measuring world -
steps, paving, walls
bldgs no
plants except
in containers



Villa facade -
new green -
enormous bldgs - w/ ^{scale}
small landscape
elements -
no stratification
heavy details?



Hybrids:



multifunctional walk -

plazas w/ walls
trees + shrubs



locust walk



Residential street
w/ setback bldgs -
ped walk, grass, trees,
shrubs



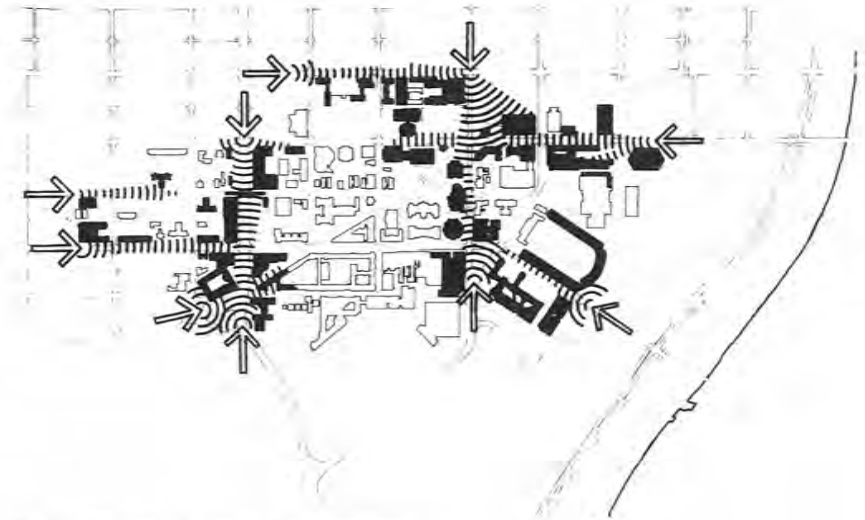
Some initial notes
and sketches on
campus landscapes

well scaled and placed, and provide a sense of continuity and transition between the old campus greens and the new campus urbanity. In addition to these successful examples, another opportunity area is worth noting. This is the large open space near the high-rise dormitories. Although at present it is sparsely planted and dwarfed by buildings, it has the potential of becoming a new campus "green".

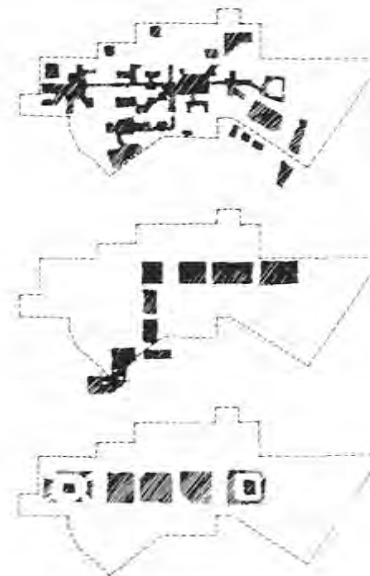
The fourth idea deals with relating the campus landscape to the city. Because of its size and function, the campus is a major and unique district of the city, with outdoor spaces akin to public parks, visual landmarks, such as the high-rise dormitories, institutional resources such as the stadium and hospital, and historical landmarks, such as College Hall, the Furness library, and the Richards Medical towers. Like Benjamin Franklin Parkway and Fairmount Park, the campus offers scenic and cultural amenities to the city at large that are readily accessible due to the transection through it of vital transportation arteries of the city. The campus is also probably the largest pedestrian precinct in the city, comparable in size with the open space network of the Society Hill and Independence Mall area, and with William Penn's five original Philadelphia city squares combined. Although the campus-city interface is extensive, comprehension of the campus as a special place occurs at critical points along the approach routes and entrances into the campus. These critical greeting and entrance experiences to the campus are important in establishing the campus identity. At present, these campus approaches are fragmented and poorly defined. And, while the current difficulty in perceiving clear boundaries between the campus and its neighbors -- Drexel, the hospitals, the civic center, and some nearby residential areas -- is not altogether undesirable, the ensuing confusion results in a lack of

perceived identity for the campus. To remedy this, it is important that campus approaches, edges, and entrances must themselves become identifiable places -- as active and diverse as the campus interior -- that would enliven and enrich campus surroundings and, at the same time, act as fitting gateways from the city into the campus.

The final idea deals with the recognition of the potential offered by the planning process itself to fully utilize all of the University's diverse resources. The formulation of the Landscape Development Plan has engaged the faculty and students of the Department of Landscape Architecture and Regional Planning, not only in terms of their professional skills, but also in terms of their intimate involvement as inhabitants of the campus environment and their dedication to the pedagogical aspects of planning and designing the environment. The instructional value of this project has already benefited a large number of landscape architecture students, and will continue to do so in the future. It is hoped that -- through its review, future refinement, and enlargement of its scope -- the plan will solicit and respond to the interests and participation of all other segments of the University community. The close cooperation of University administration and planning officials has been the very basis of the plan. Its continuance can assure the satisfactory realization of the plan itself and also help develop productive utilization of the physical, human, and academic resources of the whole University. Finally, it should be emphasized that the Landscape Development Plan is an on-going process, a process and plan that must respond to the changing circumstances of the campus environment as well as to the needs and desires of its residents. Thus, this report and plan should be viewed as a beginning.



Campus approaches and entries



Diagrams showing the size of campus exterior spaces (top) in relation to the Society Hill and Independence Mall area (middle) and to William Penn's five original Philadelphia squares combined (bottom)

Inventory of the University Landscape

The inventory of the University landscape comprises all the exterior hard and soft elements, such as paving and vegetation, and the many use patterns, such as pedestrian circulation and services. Existing data on the campus, provided by the Department of Facilities Development and several city agencies, was compiled and a review of present campus operations was made, involving over fifty meetings with University planning and service officials. In many cases, available information on campus use patterns, such as the vehicular service systems, was graphically mapped for the first time. Other inventory elements, in particular paving and vegetation, entailed original work in the form of field studies by participating faculty and graduate students during the summer of 1976. In the fall, a design studio of ten graduate students in the Department of Landscape Architecture



College Hall Green, 1975

and Regional Planning under the supervision of two participating faculty members gathered and mapped more detailed information on pedestrian circulation, impervious surfaces (with rough calculations of stormwater runoff), campus microclimates, and exterior lighting. A preliminary social survey was also made, based on about forty interviews with students, faculty, staff, and University neighbors, to determine user attitudes toward campus spaces and to construct "mental maps" of significant campus features and daily travel patterns. The inventory is summarized in this section. All field notes and more detailed written and graphic data are available for review at the Center for Environmental Design offices. It is recommended that these data become an integral part of future planning activities and be continually updated and improved.

The inventory of the University landscape serves three important functions in a continuing process. First, it serves a *descriptive function*, by identifying the supportive systems that make the campus run safely and smoothly, whether it be the unobstructed patterns of access for fire engines, refuse collection, and underground utilities or the hierarchies of pedestrian travel and use of exterior space. It allows one, by taking stock of the many use patterns, to see the campus as one organic, interrelated entity. Second, it serves a *diagnostic function*, by enabling one to perceive the well-being of the whole campus through identification of elements or spaces that are healthy and alive and those that are working improperly or dead. Third, the inventory, through interpretation and synthesis of its constituent data, serves a *revelatory function*, enabling identification of problems and opportunities of campus parts and thus enabling one to better utilize and enrich the whole.

SUMMARY OF INVENTORY FINDINGS

Although large sums of money have in recent years been spent on new buildings, the funding allotted to the landscape proper has proportionately decreased. This has led to a widespread use of materials with a low initial cost and short life span. Nowhere is this more evident than in the campus paths, curbs, and drains. Almost everywhere one turns on campus, the pavement is cracked, patched, or crumbling, often poorly placed, and unattractive. There are many conflicts of use, especially between vehicles and pedestrians. Considerable damage has occurred to both paving and grounds from poorly planned and unregulated vehicular service traffic and from pedestrian traffic overflowing or shortcutting paths that are too small, poorly aligned, or functionally isolated because they are simply remnants of earlier circulation systems. Recent efforts to control this erosion, with the installation of rail and shrub barriers as well as asphalt patches, has only compounded the litter of landscape elements, which now includes benches, trash cans, lights, and a variety of uncoordinated signs. Since several studies are underway to determine the design, selection, and placement of some of these elements, it is imperative that these and other future studies be coordinated so that the result is not a chaos but rather a 'family' of interrelated elements, enriching the life and use of the campus.

The vegetation survey also reveals some critical problems. In the older parts of the campus, no major new planting has been installed to replace the existing trees, which are old or already dying. In the newer areas of the campus, young trees and shrubs are often poorly sited (some, for example, are already wind-damaged around the high-rise dormitories) and, in

general, these landscapes have been under-budgeted and under-planted. Also, with the increasingly hostile environmental conditions and the spread of plant diseases and pests, many trees, young and old, are in ill health or in need of professional maintenance and care. Water also presents a problem, both in terms of its abundance (flooding and erosion are ubiquitous) and its scarcity (with lawns and trees suffering from summer droughts and compacted soils). Storm-water runoff patterns also reveal serious inadequacies in grading, curbs, and drains. The presence of underground utilities, many of which are already scheduled to be dug up for maintenance or replacement, present real limitations on planting and surface treatment in the future, and also explain why several landscaped areas simply cannot survive and why repeated tree-replacement efforts in these areas should be abandoned and alternative improvements explored.

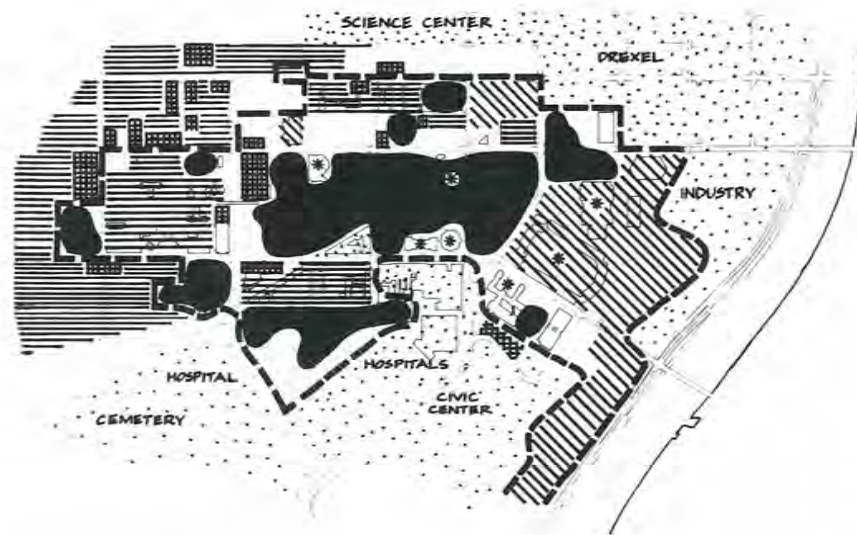
Although the various modes of transportation to, and parking on, the campus are relatively efficient, considering its urban location, recognizing and planning for the many opportunities of access to the campus clearly involve more than strictly transportation solutions. It is an integral part of the proposed access study, to be conducted by the Department of Facilities Development, to address this issue: "Communications, print media, work and class schedules, rate structures, housing density and distribution, land use mix, lighting, signage, and marketing of access services and facilities are just some of the non-transportation considerations which affect access. In addition to the above there is the whole matter of pedestrian access which is the single most important non-transportation form of access, and which directly affects transportation as well as other land use activities."¹

On the larger scale of planning and development policies, the inventory makes several problems and opportunities clear. All of them are intimately linked with the very livelihood of the campus landscape. For example, the destruction of the campus "edges" -- those places, so unique to an urban campus, where academic, personal, and city life mix -- and the introduction of large-scale, high-rent, University-controlled commercial and residential buildings has led to a marked decrease in the richness and diversity of use of the campus exterior spaces. A great, and perhaps last, opportunity for creating a rich campus edge anew occurs primarily on the three undeveloped sites along Walnut Street, from 34th to 38th streets. Future planning for these sites must be directed toward obtaining a balanced, diverse mix of uses if it is to truly enrich the campus life. Additionally, the lack of variety on the campus proper indicates that the introduction of private commercial facilities as well as the improvement of existing University facilities offers a major potential for enlivening the campus environment.

In terms of constructing a useful inventory, perhaps the most significant aspect of the Landscape Development Plan and the proposed access study is that both would be *on-going* programs, continually updating and improving data as conditions of the campus life change and evolve over time. It thus provides a sound basis on which to assess the many University planning and building projects.

Notes to the text

- 1 "A Proposed Campus Access Program", University of Pennsylvania, Department of Facilities Development, October 1976, p. 1.7.



Generalized land use

- Academic
- ▨ Athletic
- ▬ Residential
- ▮ Commercial
- ▩ Other institutions
- * Cultural Facilities
- Institutional Development District boundary

GENERALIZED LAND USE

The central core of the University is an academic, pedestrian zone bounded by traffic corridors. Outside this area is a ring of graduate, professional, and research facilities, into which fingers of residential areas extend from the surviving low-rise neighborhoods to the west. The University is bounded on three sides by other institutions (hospitals, science center, civic center, and Drexel), with large-scale buildings that generate traffic, compete for parking and growth space, and utilize the same commercial facilities. Nearly all athletic and a preponderance of parking facilities are located east of the center of the University, while most of the resident population lives to the west. Widespread demolition and destruction of the former low-rise, high-density housing mixed with commercial activities to the north and west of the campus has, for the time being, left large vacant areas with few goods and services adjacent to the academic core, the latter of which is heavily populated during the day. The abruptness of some of the campus boundaries has resulted in large-scale differences between adjoining spaces and buildings, particularly to the north and west. Finally, the major under-utilized land resources occur between Walnut and Market streets as well as the railroad yards along the Schuylkill River.

CAMPUS ACCESS AND TRAFFIC

The University's advantageous proximity to major rail, subway, bus, and automobile routes also has its drawbacks. Rush-hour traffic to the University, large adjacent institutions, center city, and the suburbs overlaps and congests in the campus area, with almost 40,000 cars passing through the campus each day along Walnut and Chestnut streets, and over 32,000 people passing through by bus. Off-peak traffic also tends to overlap and can quickly become congested during major athletic, academic, or cultural events. Also, the presence of on-street parking, especially along major streets, greatly limits the volume of traffic and, in many areas, is hazardous to vehicular and pedestrian flow. Perhaps the most dangerous aspect of this frequent congestion is that it can impede critical services to the area in the event of fire or emergency. Subway access to the University is good, with the two most heavily used stops at 36th and Sansom and 37th and Spruce streets; several other stops are within a few blocks of the campus perimeter; all stations, however, are poorly patrolled and lit, and most riders are afraid to use them. The most heavily used bus stops on campus are located near the

hospitals at 34th and Spruce streets and along Walnut and Chestnut between 34th and 38th streets. These stops are active during most hours of the day. A rush-hour shuttle bus service from 30th Street Station to the hospital area carries over 900 people to the campus each day. The commuter rail service from the northern and western suburbs also carries large numbers of students and staff. The proposed airport transit-line station near the civic center would create another rail access point to the campus and could conceivably alleviate some of the vehicular congestion in that area. Finally, major rush-hour pedestrian traffic to the campus enters, from the west, at Woodland Avenue near Hamilton Walk and near 40th and Locust streets; from the east, at 33rd and Walnut and 34th and Spruce streets; and, from the north, at 34th and Walnut streets. All of these points lack clearly marked pedestrian crosswalks and some are without vehicular lane stripes and have unsafe traffic-light location or timing. In other areas, street crossings and traffic lights are too numerous and unnecessarily impede vehicular traffic. In general, access to the campus for pedestrians, the handicapped, and bicyclists is presently hazardous or nonexistent.

A complete study of access to the campus is presently being proposed by the Department of Facilities Development: "The purpose of a campus access program is to provide a comprehensive anticipatory decision-making frame of reference for University operations and programs concerning access to and from and within the campus, for people, goods, services, and information. Access, rather than transportation, is the key word here, as transportation refers only to means of conveyance, whereas access broadens the scope to include not only transportation, but also relevant non-transportation considerations, such as pedestrian movement, communications, scheduling, rate structuring, and housing" ("A Proposed Campus Access Program", University of Pennsylvania, Department of Facilities Development, October 1976, p. i.).

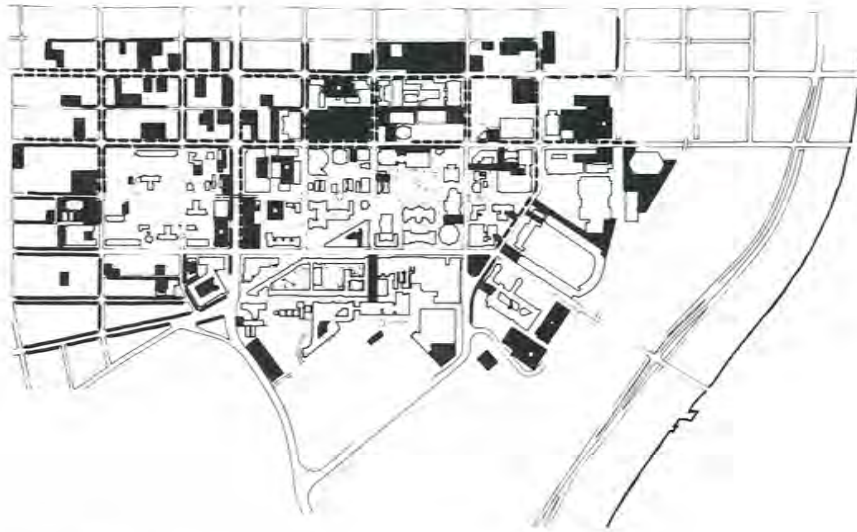
PARKING

Parking for private automobiles poses many difficult problems for an institution as large as the University. In terms of its amount, kind, and location, parking also tends to generate, concentrate, and congest traffic. The numerous parking lots within the campus and the large areas devoted to cars



Campus access and traffic

- Greater than 15,000 cars/day
- 7,000 to 15,000 cars/day
- Less than 7,000 cars/day
- Subway line
- Pedestrian entry routes to campus
- Bus stops
- ⊙ Subway stops



Parking

- *Surface parking lots*
- ▣ *Parking garages*
- *Unrestricted on-street parking*
- - - *Restricted on-street parking*

adjoining the campus have greatly contributed to the visual disorder and deterioration of the campus landscape. Furthermore, University officials have reached the conclusion that people will park almost anywhere they are not prevented and, in order to control this, strict enforcement and better planning and design of the parking system is needed.

Although there have been several parking studies of the campus in recent years, a brief summary of the issues is contained in "A Proposed Campus Access Program": "When one considers that there are 4,132 campus off-street parking spaces, each consuming on the average of 325 square feet for stalls and aisles, then the total off-street campus area consecrated to the automobile is 1,342,900 square feet, or 30.8 acres. This translates into a parking/building ratio of 1 to 4.3, in other words one square foot of campus off-street parking area for every 4.3 square feet of campus gross building area (excluding garage areas). The Institutional Development District zoning requirement for campus off-street parking is one car space per 4,000 square feet of gross building area, or a parking/building ratio of 1 to 12.3. The University is so well within the parking legal requirement, by a margin of 3 to 1, that it does not represent a constraint in the University's overall access program for the foreseeable future. In spatial terms, the area needed for storing one car is equivalent to a classroom size for twenty students, or more than twice the area for an average-sized office. On the other hand, the campus surface parking lots are one of the highest revenue generating operations per dollar invested, and since they are so quickly amortized, are useful as temporary land-banking improvements. From the social perspective, the campus parking facilities and administration service the demand generated by the driving University and University visitor population. To some extent, however, the mere existence of these same parking facilities and their marketing through various mechanisms generates parking demand that would not have otherwise existed (by reason of the economic law of marginal utility). Environmental and aesthetic considerations argue against an access program which encourages automobile usage... In sum, since the automobile has assumed such major proportions in the present campus access pattern ... a critical evaluation of its role in the context of an overall campus access program needs to be one of the first priorities... Such an evaluation would be most meaningfully pursued if there were a concurrent exploration of other means for accommodating campus needs" (Op. cit. above, p. 1.3).

VEHICULAR SERVICE

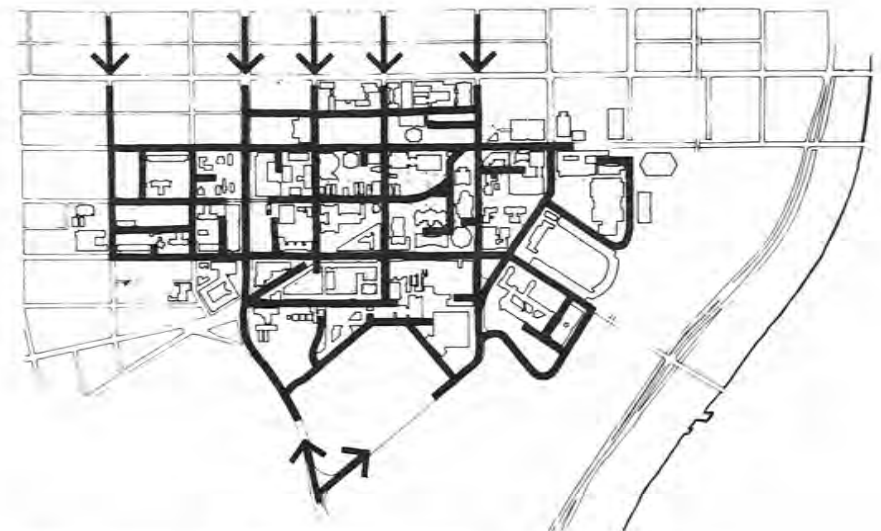
To function efficiently, the campus requires a clear access system for refuse-collection, delivery, and maintenance vehicles. With the many new buildings and street closings of the 1960s, service vehicles were forced to use nearly every major pedestrian path. Recent policy to limit heavy service vehicles (shown by thick lines) to cul-de-sacs off of city streets has been relatively successful in both promoting more efficient servicing and reducing possible vehicular-pedestrian conflicts. Refuse collection comprises the largest component of the campus service system, in terms of both the number and size of vehicles. An average of 89 tons of refuse is removed from the campus each week, primarily from dumpsters and compactors located near most major buildings. Trucks presently serve these compactors off city streets and do not enter the pedestrian zones, with the exception of the major trash-collection area for the men's quads on Hamilton Walk. Buildings without adequate space for compactors (such as the Graduate School of Fine Arts, Furness library, and Hayden Hall) dispose of their refuse in smaller interior and exterior storage areas. A more conspicuous aspect of campus refuse collection are the 120 red-topped trash cans, which have significantly reduced litter but, since they were not designed and coordinated with other exterior furnishings, have become themselves a form of littering. The relatively unrestricted travel patterns of the smaller service vehicles (shown by the thick and thin lines), for mail, deliveries, maintenance, and security, continue to create pedestrian-vehicular conflicts, path and grounds erosion, and in many areas, where service vehicles park on paths and lawns, are simply disruptive to the campus landscape. These problems are most noticeable on Locust Walk, College Hall Green, along Smith and Hamilton walks, and in the men's quads. New policies are needed to limit the intrusion of vehicles in campus spaces and these will require strict enforcement. In some areas, all but emergency vehicles should be banned, through the use of bollards or other physical barriers.

FIRE AND SECURITY ROUTES

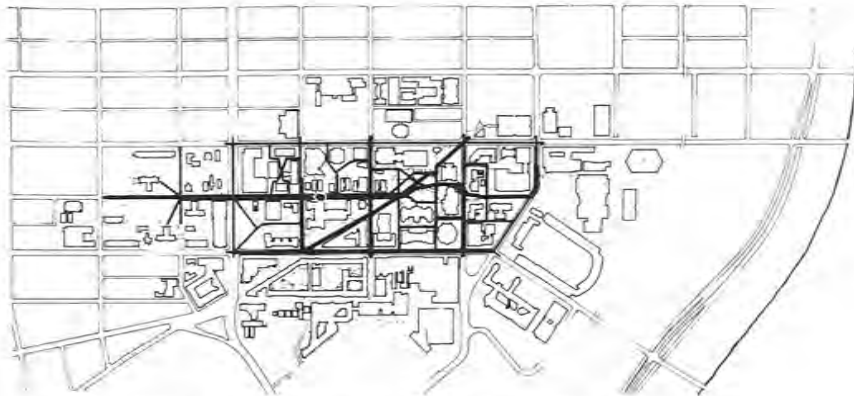
City fire trucks approach the campus primarily from the north and once on campus travel on the major pedestrian paths. Recently, however, the siting and design of several buildings have limited, or completely barred, access for fire-ladder



Vehicular service system of the campus

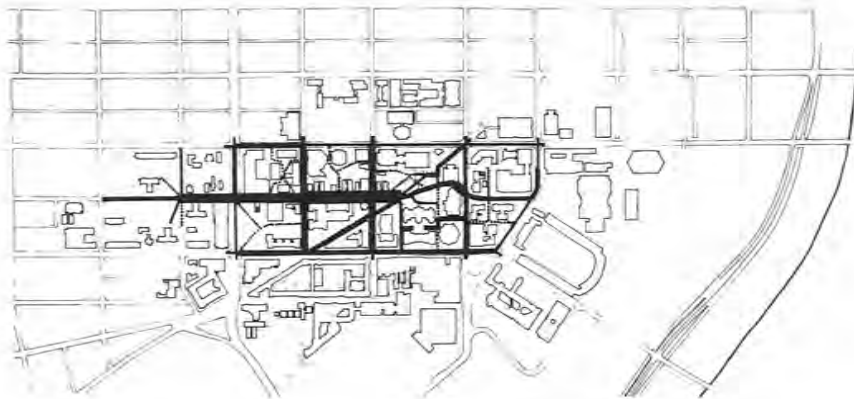


Fire routes to and on the campus



Pedestrian volumes from 9:00 to 10:00 a.m.

- Greater than 1,000 people/hour
- 350 to 1,000 people/hour
- Less than 350 people/hour



Pedestrian volumes from 12:00 noon to 1:00 p.m.

- Greater than 1,500 people/hour
- 1,000 to 1,500 people/hour
- 500 to 1,000 people/hour
- 200 to 500 people/hour
- 100 to 200 people/hour
- Less than 100 people/hour

vehicles. This is especially a problem in certain areas near the high-rise dormitories, the Van Pelt Library, Houston Hall, Vance Hall, and the Annenberg Center. In other areas, on-street parking critically limits effective fire control. Furthermore, the existing pattern of standpipe and hydrant locations limits the rapidity and efficiency of fire control operations. Campus safety engineers have already developed design standards for fire routes (including design requirements for gates, path widths, turning radii, overhead clearances, etc.) and it is imperative that these standards be met in all future construction projects and that existing fire routes be maintained and improved.

Campus security vehicles also use the fire routes as well as a few other smaller pedestrian paths. Incidents of crime on campus have largely occurred inside buildings and, in the opinion of security personnel, current plantings do not pose any particularly dangerous situations for pedestrians. Security phones are well distributed on campus and are highly visible. A study of outdoor lighting, planned for 1977 by the Department of Facilities Development, will analyze safety and security lighting, and another proposed study will investigate the feasibility of using existing underground ductwork to run video cable for the purpose of monitoring, by closed-circuit television, campus exterior spaces, buildings, and parking areas. However, to prevent possible redundancy and chaotic proliferation of landscape fixtures, full coordination of these studies with the Landscape Development Plan is vital to the functional efficiency and visual quality of the campus environment.

PEDESTRIAN TRAFFIC VOLUMES

The pattern of pedestrian traffic volumes is clear and logical: in the morning (and, by inference, in the evening) the largest volumes occur at the western end of the campus and at major campus entryways. During the mid-day peak, the heaviest traffic -- roughly 1,000 to 1,700 people per hour -- occurs on the central Locust Walk spine; traffic of 500 to 1,000 people per hour radiates from this spine to the major academic, social, and commercial facilities; and traffic of less than 500 people per hour occurs mainly at campus entrances and near parking, residential, and minor academic facilities. These volumes, as well as desired pedestrian routes, are in part confirmed by the erosion patterns on the paving plan.

IMPERVIOUS SURFACES

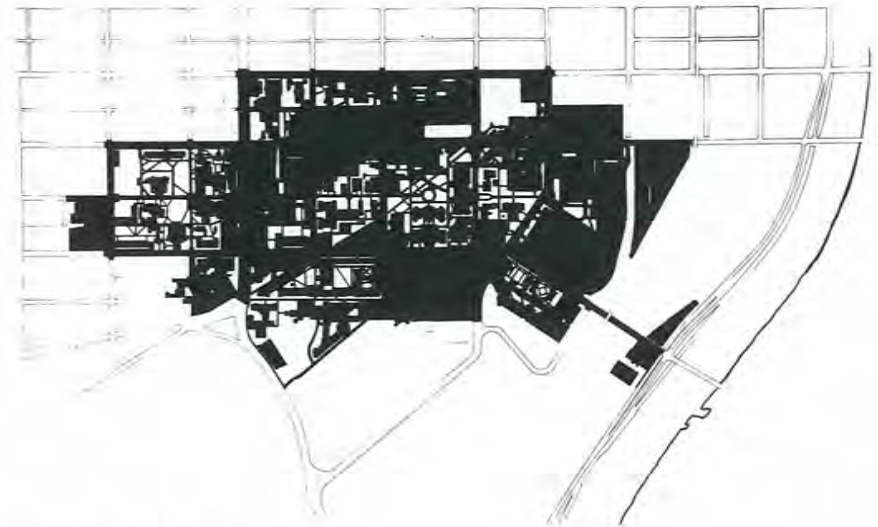
More than three quarters of the campus is covered by impervious surfaces: streets, pavements, and buildings. The majority of the areas in white, comprising the lawns and planted areas, can also be described as relatively impermeable due to the severe compaction of the soils.

STORMWATER AND SEWAGE CONDUITS

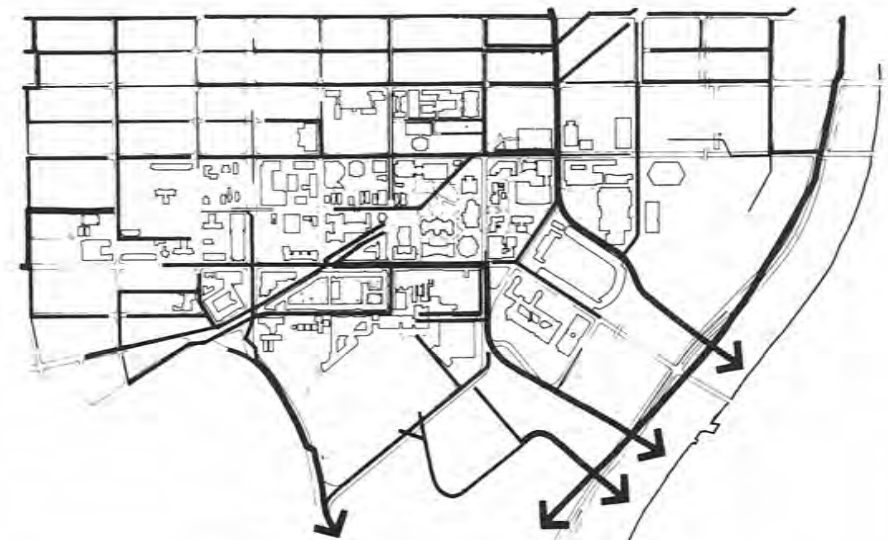
In the early years of the campus, rainwater was absorbed by the fields and ground, with the excess flowing into streams, ponds, wetlands, and the river. Today, with all surface streams in the area now diverted into pipes and vast areas of impervious cover, the volume of water to be drained has increased enormously. During a downpour, the excess of water cannot be accommodated by the Schuylkill interceptor and a great deal of raw sewage and stormwater is dumped directly into the Schuylkill River. In recent building programs, the University has done little to alleviate this pollution and flooding of the river. Although on an urban site, the University still has the opportunity to temporarily retain much of its rainwater -- through the use of retention ponds on rooftops and grounds, dry wells, catchment areas, and porous pavement wherever feasible -- and to allow its slow release back into the ground, possibly even in the form of a landscape irrigation system.

UNDERGROUND UTILITIES

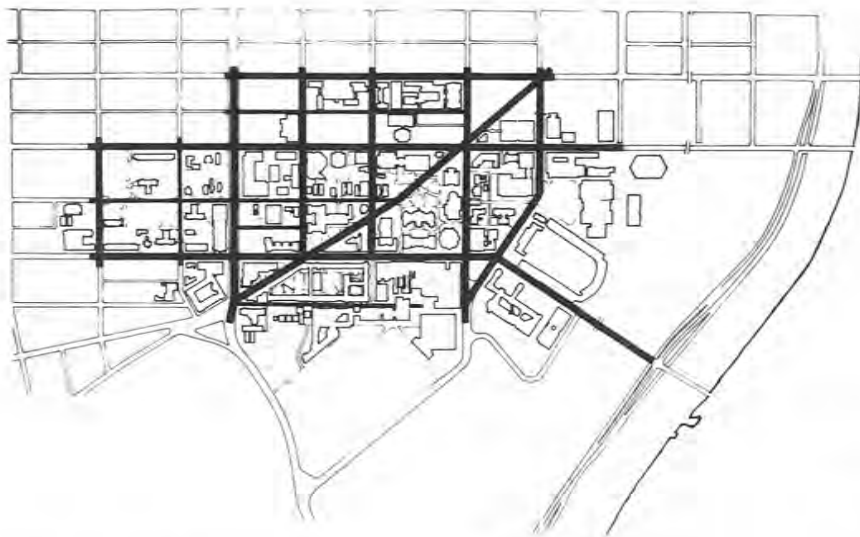
Underground utilities -- steam, gas, electrical, water, and communications -- generally occur under the rights-of-way of existing and discontinued streets. Easy access to these lines is imperative, since they are frequently repaired or replaced.



Impervious surfaces



Stormwater and sewage conduits

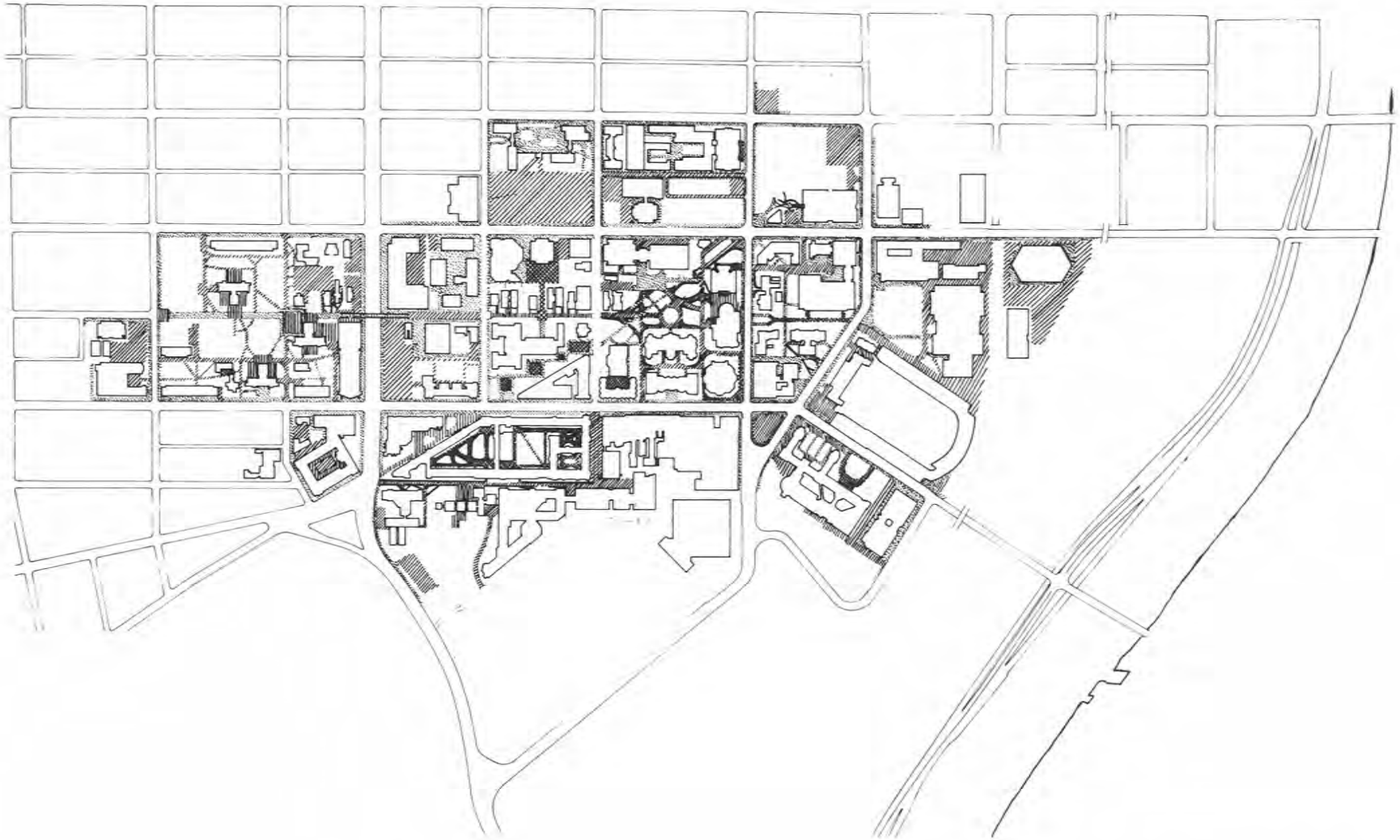


Underground utilities

Some utilities, in particular hot steam lines, also affect nearby plantings and are often a significant factor in tree deaths and the poor health of lawns and groundcovers. It was also noted that the use of monolithic paving, such as asphalt or concrete (in lieu of using tougher, replaceable, unit pavers), over these lines has resulted in large stretches of paving which have been repeatedly patched and are now in extremely poor condition.

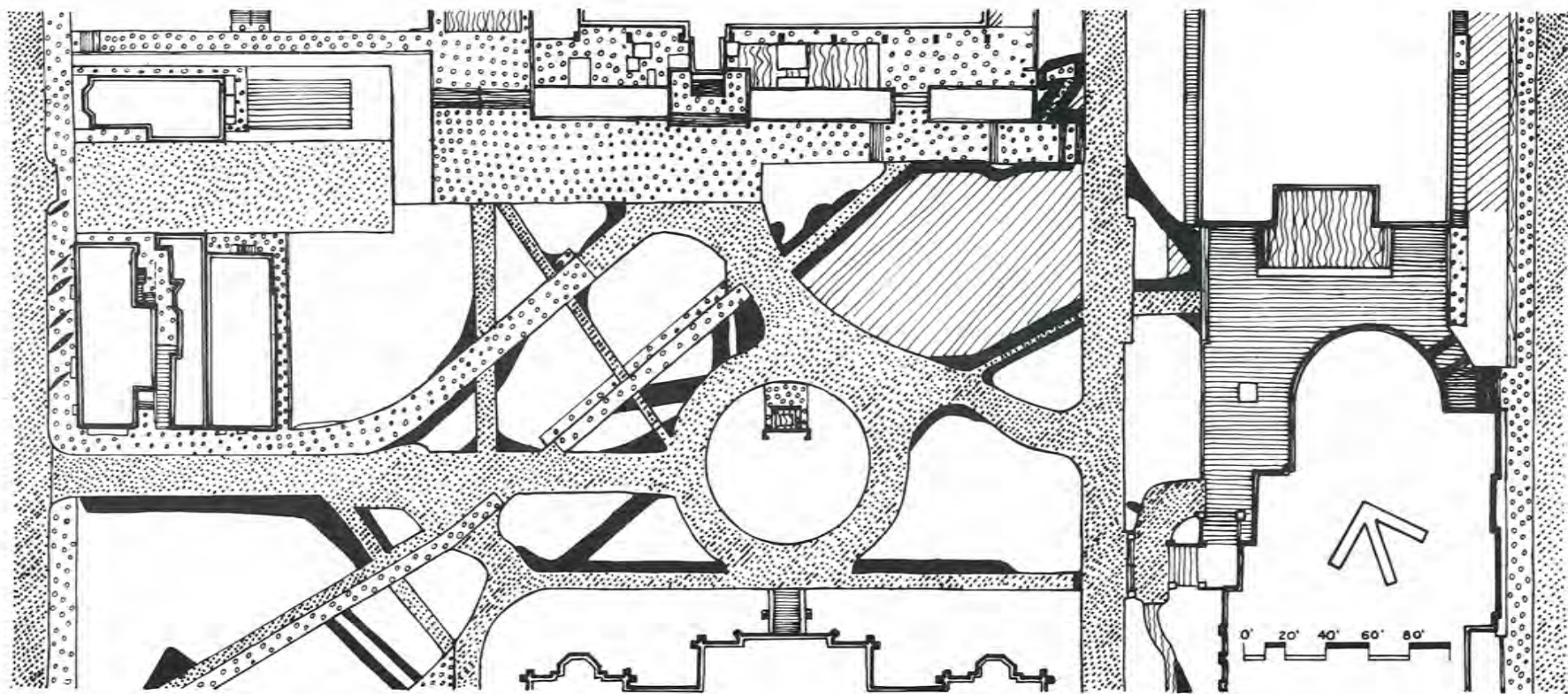
PAVING

Paving, a prime element of one's visual experience of the campus landscape, is presently in varying states of disrepair and a maze of different materials and designs. Except for Locust Walk, between 36th and 37th streets, and portions of Woodland Walk, the majority of walks and plazas are suffering from pedestrian and vehicular erosion and from minor to severe inadequacies of path alignment, width, grading, drainage, construction, and material. A large part of the problem is that many walks are simply remnants of earlier circulation patterns. This is most apparent on College Hall Green, where one can easily see the ghost of Woodland Avenue, with its sidewalks and entries to buildings long since removed. Add to this the massive entry plazas for the Van Pelt Library and the new Fine Arts Building, and the many asphalt patches in between, and you have the present hodgepodge of pavements, erosion, and trodden-earth shortcuts -- all of which becomes a sea of mud and puddles during a downpour. The salting of walks during the winter has damaged every single paving material on campus: it spaulds concrete and brick, disintegrates mortar between brick and other unit pavers, opens cracks in bluestone and asphalt, and even poisons the ground and plants in close contact with it. Finally, the widespread use of inexpensive (only in terms of initial costs), monolithic materials, such as asphalt and concrete, which have to be repeatedly repaired, has created a proliferation of shoddy and unsafe patches and, overall, gives one an extremely poor impression of the campus landscape. The few areas of tough, replaceable, unit pavers, such as bluestone and brick, still perform and look well and have been clearly more economical materials in the long run.










Plan of existing paving on the campus

- ▨ Concrete
- ▩ Asphalt
- ▮ Brick
- Stone
- ▧ Paving and lawn erosion

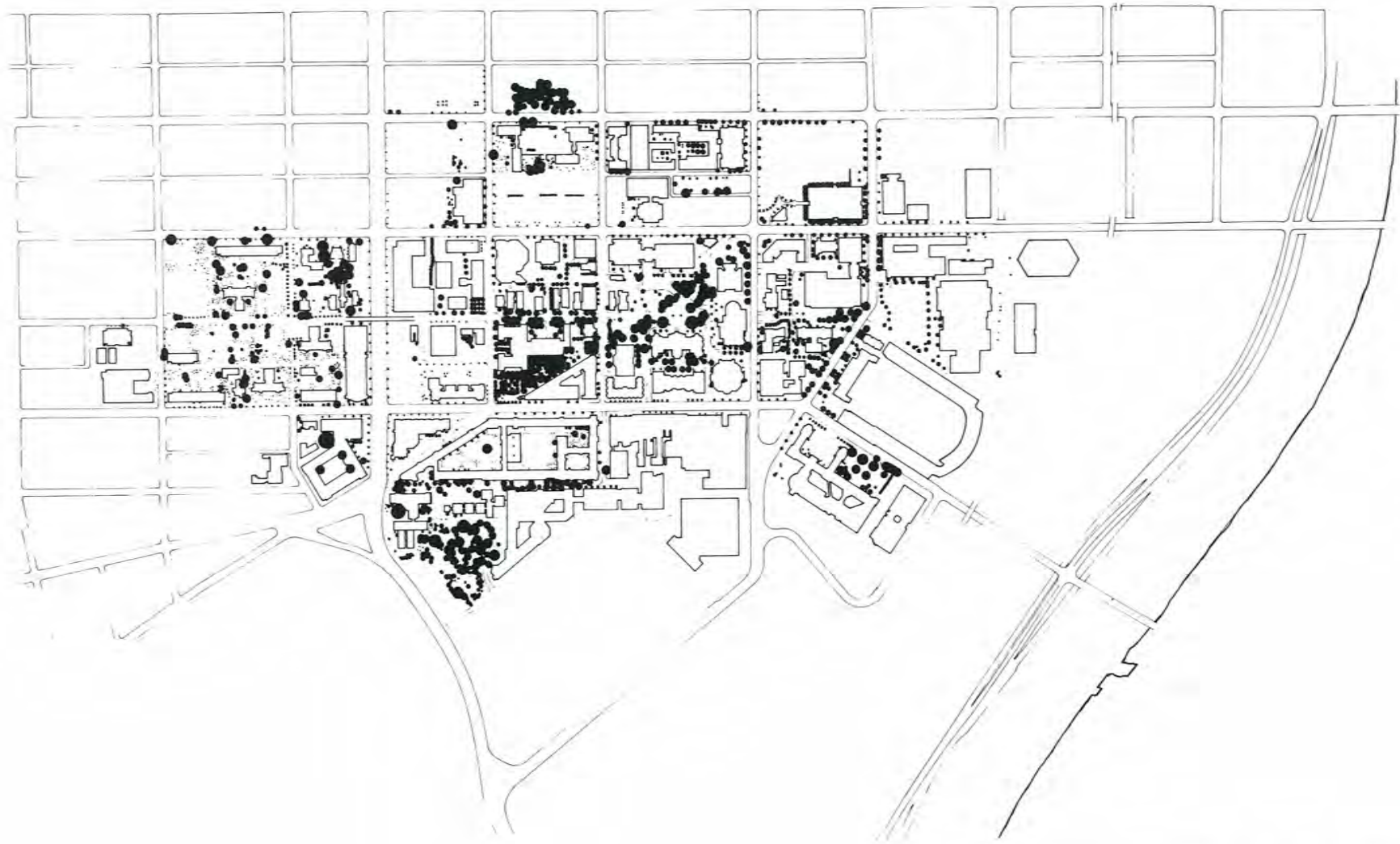


Paving inventory of College Hall Green

-  Asphalt
-  Concrete
-  Brick
-  Stone
-  Paving and lawn erosion
-  Erosion of lawns due to poor drainage
-  Cracked or spaulding concrete

VEGETATION

The remnants of the old campus landscapes -- College Hall Green, Smith Walk, and Hamilton Walk -- are still the greenest parts of the present-day campus landscape, but are also the most vulnerable, with a number of mature trees diseased or dying. In the newer areas, some young trees and shrubs have been poorly sited, with several near the high-rise dormitories already wind-damaged. Furthermore, increasingly hostile environmental conditions and the spread of plant diseases and pests have affected numerous trees, young and old. Some species, especially the elms and sycamores, are in critical need of professional maintenance and treatment. It was also noted that plants in certain kinds of installations, such as small streetside pits and raised planters, are not growing well and require frequent plant replacement or almost continual maintenance. Some replacement plantings have fragmented the landscape character of the place. For example, the new honey locusts on Smith Walk will do little to recreate the once beautiful arcade of elms, simply because the nature form and canopy of the honey locust has none of the powerful spatial assets of the elm. Finally, recent attempts to check pedestrian erosion patterns with the installation of annual flowerbeds and small evergreen bushes have introduced a jarring visual note in the large-scale, simple, and bold landscape that uniquely characterizes the old campus.

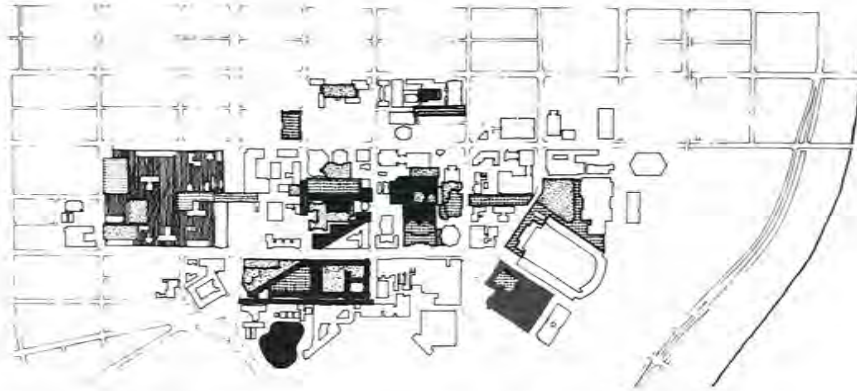


Plan of existing trees on the campus

PRELIMINARY SOCIAL SURVEY

The inclusion in the inventory of the felt needs, desires, and perceptions of the people -- the students, faculty, and staff -- who actually use the campus environment plays a critical role in the planning process. It provides not only a constant check on the planner's assumptions and understanding of the campus but also enables initiation of a participatory process by which the users of an environment can help shape its future. "Only the people can guide the process of organic growth in a community. They know the most about their own needs, and they know most about how well or badly the rooms and buildings, paths and open spaces are working No matter how well architects and planners plan, or how carefully they design, they cannot by themselves create environments that have the variety and the order we are after. An organic mixture can only be made by the action of a community, in which everyone helps to shape the parts of the environment that he knows best" (Christopher Alexander et al., *The Oregon Experiment*, New York: Oxford University Press, 1975, p. 38).

This survey was conducted by ten graduate students under the supervision of one participating faculty member as part of a seven-week design studio in the Department of Landscape Architecture and Regional Planning. Although greatly limited by time and resources, this preliminary survey does highlight some general attitudes, both positive and negative, of the University community toward its campus. The results are based on forty interviews with a proportionally representative group of students, faculty, staff, and non-University people who live in the campus area. The interviews were not conducted with complete uniformity and the data tabulation and interpretation are preliminary. The purpose of the interviews was to elicit general attitudes toward the campus as a whole and toward its various parts, primarily in terms of their present uses -- whether just for walking through, stopping to meet a friend, or getting away from the noise and hurry of active campus areas or the city -- and their suitability for desired uses. Interviewees were asked to draw "mental maps" of the campus, which revealed what parts they knew and understood, what parts were confusing or in some way deficient, and what parts were simply unknown or unnoticed. After completing their own maps, interviewees were given a map of the campus, showing all buildings, walks, and streets, and were asked to mark routes and destinations that were daily, frequent, or occasional, as well as places perceived as spatial entities and places of social activity. Finally, they were asked to draw what they felt to be the boundaries of the campus.



Composite of positive responses from the social survey

- More than 30 responses
- 15 to 30 responses
- 10 to 15 responses
- 6 to 10 responses
- 2 to 5 responses



Composite of negative responses from the social survey

- More than 30 responses
- 15 to 30 responses
- 10 to 15 responses
- 6 to 10 responses
- 2 to 5 responses

SOCIAL SURVEY MATRIX

| SPACE/PLACE | POSITIVE/NEGA-TIVE TOTALS | POSITIVE REACTION | | | | | | | | | | NEGATIVE REACTION | | | | | | | | | | REMARKS | | | | | |
|-------------------------------------|---------------------------|--------------------------------------|-----------------|------------------|-----------------|---------------|-------------|-----------------|-----------|-----------|-----------|--------------------------------------|----------------|------------|-----------------|------------------|-----------------|---------------|-------------|-----------------|-----------|---------|-----------|-----------|-------|----------------------------------------|-------------------------------------|
| | | USE, PERCEPTION, & PHYSICAL ELEMENTS | | | | | | | | | | USE, PERCEPTION, & PHYSICAL ELEMENTS | | | | | | | | | | | | | | | |
| | | RECREATION | SOCIAL ACTIVITY | COMMERCIAL SERV. | OTHER FUNCTIONS | VISUAL IMPACT | HUMAN SCALE | ENVIRON.COMFORT | BUILDINGS | LANDSCAPE | SCULPTURE | OTHER | TOTAL POSITIVE | RECREATION | SOCIAL ACTIVITY | COMMERCIAL SERV. | OTHER FUNCTIONS | VISUAL IMPACT | HUMAN SCALE | ENVIRON.COMFORT | BUILDINGS | | LANDSCAPE | SCULPTURE | OTHER | TOTAL NEGATIVE | |
| SUPERBLOCK | 17/24 | 4 | 2 | 2 | 1 | 1 | 2 | 2 | 3 | | 17 | | | | | | | | | | | | | | 24 | Good views & sunsets/windy | |
| -- FIELD AT 40TH & WALNUT | 7/2 | 3 | 4 | | | | | | | | 7 | | | | 1 | 1 | | | | | | | | | 2 | Good recreation/too open | |
| -- VAN PELT HOUSE AREA | 2/0 | | | | | | | | | | 2 | | | | | | | | | | | | | | | | |
| -- ST MARY'S CHURCH | 4/0 | | | | | 2 | 2 | | | | 4 | | | | | | | | | | | | | | | | |
| -- SUPERBLOCK PLAZA | 9/11 | 1 | 3 | | 1 | | | | | | 9 | | | | | | 4 | 1 | | | | 6 | | | 11 | Good meeting place/no scale | |
| BRIDGE OVER 38TH STREET | 2/6 | | | | | 2 | | | | | 2 | | | | 4 | 2 | | | | | | | | | 6 | No intimacy, ugly, no scale | |
| BOOKSTORE BLOCK | 1/0 | | | | | 1 | | | | | 1 | | | | | | | | | | | | | | | | Dangerous at night |
| -- 38TH STREET | 0/14 | | | | | | | | | | | | | | 5 | 1 | 7 | | | | 1 | | | | 14 | Barren, unsafe fast traffic | |
| -- 38TH STREET COMMERCIAL | 0/4 | | | | | | | | | | | | | | 2 | 1 | 1 | | | | | | | | 4 | A rip-off, ugly | |
| -- LOCUST BETWEEN 37TH & 38TH | 0/1 | | | | | | | | | | | | | | 1 | | | | | | | | | | 1 | Hazardous to walk on | |
| -- PARKING LOT AT 38TH & SPRUCE | 0/4 | | | | | | | | | | | | | | 2 | 1 | 1 | | | | | | | | 4 | Inappropriate, ugly | |
| -- STITELER HALL INNER PLAZA | 0/6 | | | | | | | | | | | | | | 2 | 2 | 1 | | | 1 | | | | | 6 | No intimacy or plantings | |
| 37TH STREET BETWEEN WALNUT & SPRUCE | 0/9 | | | | | | | | | | | | | | 1 | 1 | 4 | | 3 | | | | | | 9 | Too much traffic | |
| -- LUNCHTRUCK AREA ON 37TH STREET | 15/1 | 1 | 7 | 7 | | | | | | | 15 | | | | | | 1 | | | | | | | | 1 | Like outdoor fair/necessary evil | |
| -- SITTING AREA AT 37TH & LOCUST | 4/0 | | | | | | | 2 | | 2 | 4 | | | | | | | | | | | | | | | | Intimate, nice place for lunch |
| LOCUST WALK BETWEEN 36TH & 37TH | 43/3 | | 16 | | | 3 | 5 | 3 | 3 | 13 | 43 | | | | 3 | | | | | | | | | | 3 | Very active, like trees/too crowded | |
| -- DIETRICH HALL | 2/1 | | 1 | | | | | | 1 | | 2 | | | | | | | | 1 | | | | | | 1 | | |
| -- DIETRICH HALL PLAZA | 10/0 | | 6 | | | | | 3 | | | 10 | | | | | | | | | | | | | | | | Good meeting place |
| -- FRATERNITIES | 7/0 | | | | | 2 | | 3 | 2 | | 7 | | | | | | | | | | | | | | | | Like ivy walls and partying |
| -- CHRISTIAN ASSOCIATION | 12/3 | 4 | 7 | | 1 | | | | | | 12 | | 1 | | 1 | | 1 | | | | | | | | 3 | Social center of campus, like cafe | |
| ANNENBERG PLAZA | 5/8 | 2 | | | | 2 | 1 | | | | 5 | | 1 | | 3 | 2 | | 1 | 1 | | | | | | 8 | Uninviting, unsociable | |
| WOODLAND WALK | 32/0 | 1 | 7 | | | 5 | 7 | 7 | | 5 | 32 | | | | | | | | | | | | | | | | Quiet retreat, green, nice at lunch |
| 36TH STREET BETWEEN WALNUT & SPRUCE | 0/5 | | | | | | | | | | | | | | 3 | 2 | | | | | | | | | 5 | Too much traffic | |
| COLLEGE HALL GREEN | 57/6 | 6 | 11 | | | 14 | 5 | 3 | 17 | 1 | 57 | | | | | | | | | | 2 | 4 | | | 6 | Heart of campus, like trees and people | |
| -- VAN PELT LIBRARY AREA | 5/8 | | | 1 | 1 | 2 | | | 1 | | 5 | | | | 3 | 1 | | 4 | | | | | | | 8 | Too monumental, overpowering | |
| -- PEACE SIGN AREA | 0/3 | | | | | | | | | | | | | | 1 | | | | | | | 2 | | | 3 | | Dead |
| -- BEN FRANKLIN AREA | 4/0 | | | | | 2 | | | 2 | | 4 | | | | | | | | | | | | | | | | A kind of focal point of green |
| -- COLLEGE HALL | 14/1 | | | | 2 | 3 | 2 | 3 | 4 | | 14 | | | | | | | 1 | | | | | | | 1 | Appropriate, like building | |
| -- FURNESS GARDEN | 6/0 | 2 | | | | 1 | 2 | | 1 | | 6 | | | | | | | | | | | | | | | | Quiet, intimate social space |
| -- WOOD SCULPTURE AREA | 2/0 | | | | | 1 | | | | 1 | 2 | | | | | | | | | | | | | | | | |
| -- FURNESS BUILDING | 6/0 | | | | | 2 | 1 | | 2 | 1 | 6 | | | | | | | | | | | | | | | | Nice old building |
| -- SITTING WALL NEAR FINE ARTS BLDG | 4/0 | | | | | 2 | | | 2 | | 4 | | | | | | | | | | | | | | | | |
| -- FINE ARTS BLDG PLAZA | 4/0 | 1 | | 1 | | | | 2 | | | 4 | | | | | | | | | | | | | | | | |
| HOUSTON HALL | 6/1 | | | | | 2 | 1 | | 2 | 1 | 6 | | | | | | | 1 | | | | | | | 1 | | |
| -- HOUSTON HALL PLAZA | 8/0 | | 2 | | | 2 | 2 | | 2 | | 8 | | | | | | | | | | | | | | | | Like coffee and talking on terrace |
| -- AREA BETWEEN HOUSTON & IRVINE | 3/0 | | | | | 1 | 1 | | 1 | | 3 | | | | | | | | | | | | | | | | |
| 34TH STREET BETWEEN WALNUT & SPRUCE | 1/2 | | | | | 1 | | | | | 1 | | | | 1 | 1 | | | | | | | | | 2 | | Hazardous |
| SMITH WALK | 8/1 | 1 | | | | 1 | | | | 6 | 8 | | | | | 1 | | | | | | | | | 1 | | Like trees |
| -- AREA BETWEEN HAYDEN & CHEMICAL | 0/1 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| -- AREA BETWEEN NURSING & TOWNE | 1/0 | | | | | | | | | 1 | 1 | | | | | | | | | | | | | | | | |
| ATHLETIC AREA | 8/4 | 5 | | | 3 | | | | | | 8 | | | 2 | 1 | 1 | | | | | | | | | 4 | | Like Hutchinson Gym in particular |
| -- TENNIS COURTS NEAR PALESTRA | 2/0 | 1 | | | 1 | | | | | | 2 | | | | | | | | | | | | | | | | |
| -- STADIUM AREA | 1/0 | | | | | | | | 1 | | 1 | | | | | | | | | | | | | | | | |
| UNIVERSITY MUSEUM & FORECOURTS | 28/0 | 2 | 2 | 1 | | 8 | 2 | 1 | 5 | 4 | 2 | 1 | 28 | | | | | | | | | | | | | | Nice spaces and buildings |
| HOSPITAL AREA NEAR 34TH STREET | 0/31 | | | | | | | | | | | | | | | 6 | 6 | 5 | 6 | 6 | | | 2 | 31 | | Dangerous, monolithic, lifeless | |
| -- AREA BETWEEN HOSPITAL & QUADS | 0/2 | | | | | | | | | | | | | | | 1 | | | | | | | | | 2 | | |
| THE QUADS | 24/0 | 1 | 4 | | | 1 | 4 | 1 | 5 | 8 | 1 | 24 | | | | | | | | | | | | | | | Feeling of what a college should be |
| -- LOWER QUADS | 5/1 | 1 | | | | 1 | 1 | | 2 | | 5 | | 1 | | | | | | | | | | | | 1 | | |
| -- UPPER QUADS | 9/0 | 1 | 2 | | | | 3 | | 3 | | 9 | | | | | | | | | | | | | | | | |
| STOUFFER TRIANGLE | 2/0 | 1 | | | | | | 1 | | | 2 | | | | | | | | | | | | | | | | |
| -- STOUFFER COMMERCIAL | 2/1 | | | | 2 | | | | | | 2 | | | | 1 | | | | | | | | | | 1 | | Too expensive |
| HAMILTON WALK | 28/0 | | | | | 3 | 8 | 7 | 3 | 7 | 28 | | | | | | | | | | | | | | | | Nice old trees and buildings |
| BIOLOGY POND AREA | 38/0 | 2 | 6 | | | 9 | 9 | 2 | | 10 | 38 | | | | | | | | | | | | | | | | Quiet, natural, nice retreat |
| WALNUT STREET | 0/13 | | | | | | | | | | | | | | 1 | 4 | 2 | 1 | 4 | 1 | | | | | 13 | | Terrible place, lifeless, noisy |
| -- 3400 WALNUT STREET BLOCK | 0/11 | | | | | | | | | | | | | | 3 | 2 | | 3 | | 3 | | | | | 11 | | Dangerous traffic |
| -- OPEN FIELD ABOVE 34TH STREET | 0/11 | | | | | | | | | | | | | | 3 | 2 | | 3 | | 3 | | | | | 11 | | |
| -- SANSOM STREET BLOCK | 7/2 | | | | 1 | 2 | 2 | 1 | | 1 | 7 | | | | | | 1 | | | 1 | | | | | 2 | | |
| -- LAW SCHOOL COURTYARD | 10/1 | | 3 | | | 1 | 3 | | | 3 | 10 | | | | | | 1 | | | | | | | | 1 | | |
| 3600 WALNUT STREET BLOCK | 0/14 | | | | | | | | | | | | | | 1 | 8 | 4 | | | | | | | | 14 | | Ugly, especially the parking lots |
| -- GRADUATE TOWERS | 1/6 | | | | | | | | 1 | | 1 | | | | | 3 | 1 | | 2 | | | | | | 6 | | |
| -- GRADUATE TOWERS PLAZA | 2/3 | | 1 | | | | | | 1 | | 2 | | 1 | 1 | | | | | | | | | | | 3 | | |
| GIMBEL GYMNASIUM | 7/0 | 7 | | | | | | | | | 7 | | | | | | | | | | | | | | | | |

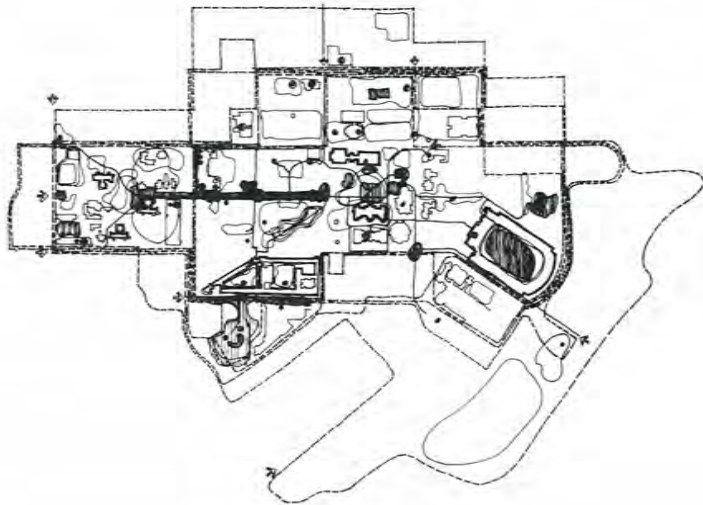


Composite of student interviews

- PATHS** ●●●●●● *Almost daily use*
 ●●●●●●●● *Frequent use*
- AREA**  *Spatial entity*
  *Nodes, foci, centers of activity*
- DESTINATIONS**
- Ⓒ *Study or classes*
 - Ⓓ *Eating and drinking*
 - Ⓔ *Active recreation*
 - Ⓟ *Casual recreation*
 - Ⓔ *Shopping*
 - Ⓔ *Entertainment*
 - Ⓜ *Social activities*
 - Ⓔ *Bus stops*
- BARRIER** 
- PERCEIVED CAMPUS BOUNDARY** 

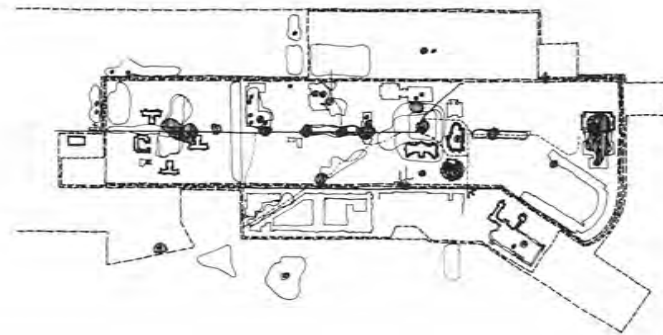
Despite individual and group differences, and the variability in extent of use or knowledge of the campus, consistent attitude patterns, likes and dislikes, did emerge. Areas most frequently cited tended to be the most central and heavily used, and in most cases were seen to be the most positive assets of the campus (College Hall Green, Locust Walk, Woodland Walk, and the Botanical Garden). A few areas were perceived as overwhelmingly negative environments (the Hospital corner at 34th and Spruce streets and Stiteler Hall Plaza), while others received mixed responses (the high-rise dormitories, Harnwell House Plaza, Annenberg Plaza, and the area in front of the Van Pelt Library). In all, over seventy distinct areas and subareas were identified and were tabulated by categories, indicating for each the general amount of satisfaction or dissatisfaction.

This preliminary social survey must not, however, in any sense be considered a definitive statement of the central and diverse concerns of the community with regard to their campus. In order for user attitudes and aspirations to become an integral part of campus planning and design, it is recommended that a rigorous social survey be carried out, under the supervision of a qualified social scientist and in collaboration with the planning and design staff. The survey should be based on a large sample to include the widest range of students, faculty, staff, and other users.



Composite of faculty interviews

- ↖ Entryways used
- Paths used
- ◻ Areas perceived and/or used
- ▨ Areas perceived to be socially active
 - Daily destination places
 - Frequent or occasional destination places
 - ⊙ Destination places for social activity
- Perceived boundaries of the campus



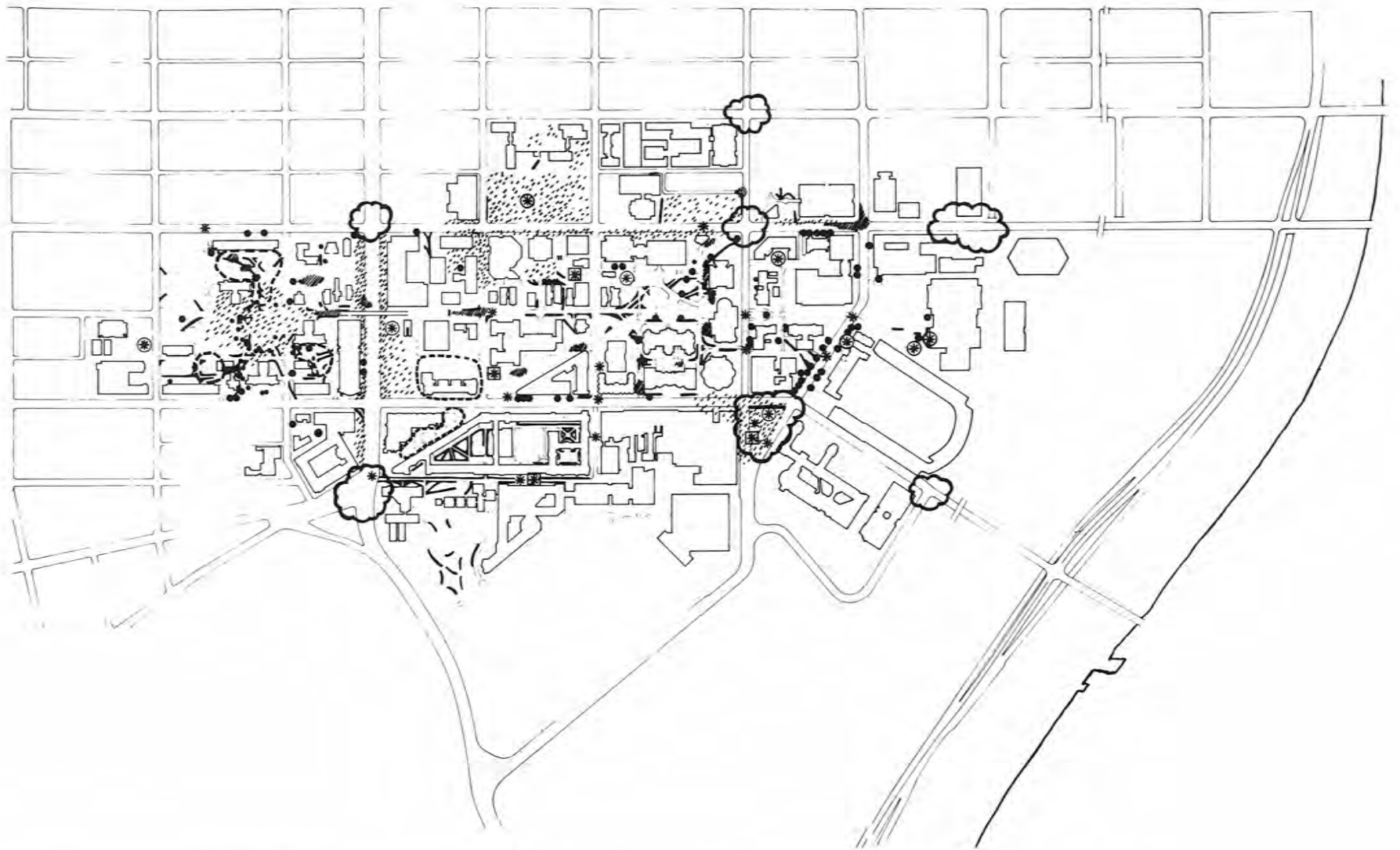
Composite of non-University resident interviews

- ↖ Entryways used
- Paths used (major and minor)
- ◻ Areas perceived and/or used
 - Daily destination places
 - Occasional destination places
 - ⊙ Destination places for social activities
- Perceived boundaries of the campus

Response to the Inventory and Development of Landscape Planning Principles

SUMMARY OF LANDSCAPE PROBLEMS

The compilation and overlay of all the landscape problems identified in the inventory reveal campus areas most in need of attention or renovation. Although care must be taken to discriminate between the nature, causes, and seriousness of the different problems, several general conclusions can be drawn. First, responding to the pervasive presence of problems, major or minor, requires a substantial expenditure of money just to render the existing environment acceptable. Second, specific site solutions need to be developed, since some areas have few and easily dealt with problems -- path and lawn erosion in the quads, for example -- while other areas, such as College Hall Green and the open space above 38th Street, have many serious problems, ranging from inadequate drainage, grading, path alignment, and insufficient or



Summary of Landscape Problems

▣ *Service access problems*

* *Pedestrian-vehicular conflicts*

⊗ *Parking intrusions*

▨ *Negative responses from social survey*

▨ *Flooding problems*

• *Diseased or dying plantings*

○ *Weak or thin plantings*

↗ *Paving and lawn erosion*

⊕ *Poorly defined entryways*

inappropriate plantings to lack of pedestrian amenities and a sense of arrival and enclosure. Third, special attention must be given to the entrances to the campus proper, which are at present disorienting, unattractive, or nonexistent.

SUMMARY OF LANDSCAPE OPPORTUNITIES

The synthesis of inventory data also reveals some landscape opportunities. First, the old campus still has a recognizable character, with large open spaces and abundant concentrations of mature trees and plantings. College Hall Green, due to its central location at the confluence of the Locust and Woodland pedestrian axes, is the heart of the campus. Second, a strong pedestrian system exists, in the form of these two axes, which can be strengthened by extending and completing these two main axes. The Locust Walk axis can become one continuous pedestrian spine, from the river athletic fields to 40th Street. This requires major renovations of the stadium area, College Hall Green, Locust Street, between 37th and 38th streets, and portions of the open space below 40th Street. The Woodland Walk axis can be extended to 33rd and Chestnut streets on the east and to Hamilton Walk and Woodland Cemetery on the west. These extensions would also provide four major campus entrances -- at 33rd and Chestnut, 34th and Walnut, 37th and Spruce, and 38th and Woodland -- with major renovations to the Hill Hall field area, 34th and Walnut, and 38th and Woodland. Third, the large open space around the high-rise dormitories has the potential to become a new campus core. This 'new green' could complement the old College Hall Green and accommodate a range of social and recreational activities and amenities. Fourth, the undeveloped lands along Walnut Street between 34th and 38th streets, as well as the temporary commercial and parking areas along 38th Street,

could, if creatively developed, enrich and enliven the campus edges. Finally, the two large traffic islands near 33rd and Spruce and 38th and Woodland, which are now unsightly, disorienting, and unsafe for vehicular as well as pedestrian flow, offer opportunities to create not only a safe and comfortable pedestrian way but also a clear sense of entrance to the campus itself.

SUMMARY OF LANDSCAPE PLANNING PRINCIPLES

1. Direct all future landscape planning and design toward restoration, enhancement, and development of the unique character in each component of the campus landscape.

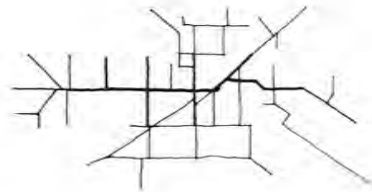
While it is important that the campus landscape provide an integrated experience, a great deal of richness and variety can be ensured by responding to the unique opportunities present in its parts. The old campus, with its greens, quads, and walks, is characterized by large flowing spaces which are complemented by mature vegetation. Somewhat more recently developed parts of the campus are characterized by extensive plazas, which provide a more 'urban' experience. Suitable 'greening' of these spaces can integrate them with the old campus, while retaining the possibility of accommodating more formal activities. Finally, the newest parts of the campus are notably open and, in some places, are vacant of all uses. Opportunities exist here for a variety of landscape experiences, extensive formal as well as informal use areas, and rich and diverse plantings.

2. Provide for specific uses within existing and proposed nodes of activity on the campus.

Some spaces on the campus lend themselves to a variety of activities, while others can only comfortably accommodate one.

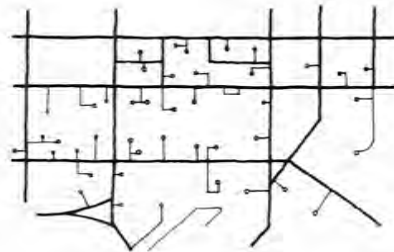


The provision for these singular and combined uses of the campus should, like the rooms of a house, provide a sequence of choice of activity to its residents. Currently the liveliest activity nodes are directly related to the scale, character, and location of pedestrian walks. And there are numerous places which, although they were originally designed to accommodate activities, are avoided, empty, or dead, usually because they are poorly linked to the pedestrian system or lack definition and human scale. Furthermore, places for some activities -- casual recreation near the quads and the high-rise dormitories in particular -- should be expanded and new areas established.



3. *Complete and extend the campus pedestrian system.*

The first priority should be to make Locust Walk a continuous pedestrian spine from the river to 40th Street, and Woodland Walk a continuous spine from 33rd and Chestnut streets to Woodland Cemetery. Major crosswalks off these spines should also be developed, including 36th Street from Walnut to Hamilton Walk, 37th Street from Market to Spruce streets, and, depending on the nature of future development, Sansom Street from 34th to 38th streets.



4. *Rationalize the vehicular traffic flow system to expedite city-wide traffic flow past the University, with the campus vehicular service system being a series of cul-de-sacs off these streets.*

Except for fire and emergency, all heavy vehicles as well as most light vehicles should be excluded from using the interior pedestrian walks of the campus. Existing streets and paths should be utilized to separate vehicles from pedestrians, with the entire service system becoming a series of cul-de-sacs serving groups of facilities. All future development should

follow this principle of service fingers separated from pedestrian areas and streets.

5. *Develop campus entrances and edges to temper, order, and enliven campus surroundings as well as become arrival points where one can orient oneself to and comprehend the campus interior.*

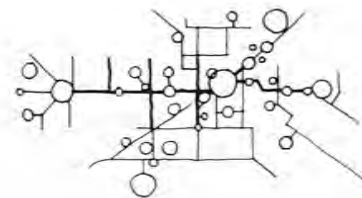
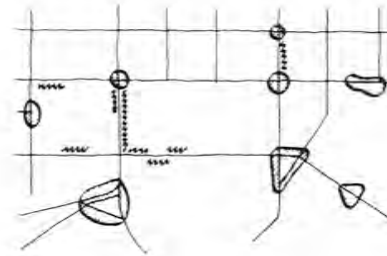
Street tree plantings and walks should be upgraded to buffer pedestrians and the campus from city traffic and to provide continuity with the adjacent streets and residential neighborhoods of West Philadelphia. Entrance places along major streets should have large-scale plantings, crosswalk paving, and appropriate street furniture. Wherever possible, the inner greens of the campus should be brought out to street edges to provide welcoming entrance places to the campus as well as to insulate, contain, and create internal campus spaces that are quiet and relaxed.

6. *Ensure an integrated campus setting through coordination of all landscape elements.*

While responding to the discrete principles and place requirements outlined above, it is imperative that a sense of unity be achieved for the whole campus. This can be accomplished by adoption of a consistent vocabulary and spatial organization of plantings, paving, and supporting details, such as lighting and outdoor furnishings.

CAMPUS LANDSCAPE COMPONENTS

Before proceeding with the formulation of specific planning and design recommendations, we translated and synthesized the basic problems, opportunities, and principles developed so far into a set of campus landscape components. Each of the components has a distinct set of problems that must be

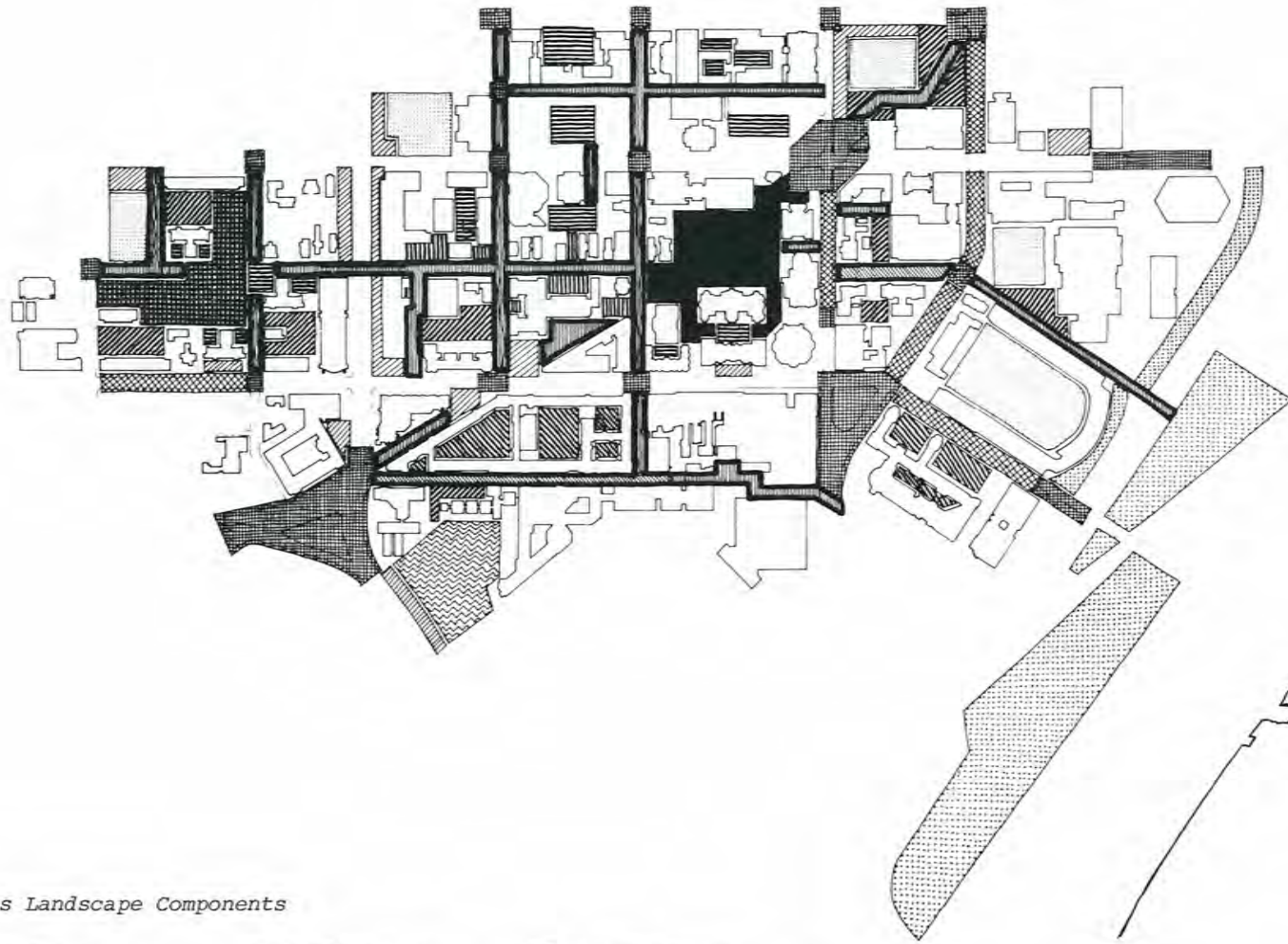


attended to, and each offers opportunities for successful realization of its potential.
















The most significant aspect of these landscape components is the provision of unique spatial, functional, and visual experiences, which would occur at the scale of each component itself and, more importantly, through the orderly relationships between components, at the scale of the whole campus.

An ordered sequence of the landscape components can be seen as proceeding from external city streets, with related planting areas, through gateway plazas at major pedestrian and vehicular intersections along campus edges, to the internal walkways. Along the walkways, there are a variety of spaces, ranging from the large greens, which provide a shared setting for a gamut of University activities (College Hall Green and the New Green near the high-rise dormitories) and small greens (such as the space behind Hayden Hall), with diverse uses, to various semi-private or contained spaces (quads and plazas) and special-function spaces (such as the river athletic fields and the Botanical Garden). Finally, a substantial component of the campus landscape is termed "building-related landscapes"; these areas must accommodate the specific functional needs of each building (such as entries, servicing, screening, etc.), while at the same time responding to the landscape character of adjacent landscape components.

In the next section of this report, these components will be described in some detail. Recommendations will be given for each of them and these may prove more enduring than the details of the Schematic Landscape Development Plan presented in the final section of the report.



Campus Landscape Components

- | | | |
|-----------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------|
|  <i>Old Streets</i> |  <i>Old Green</i> |  <i>Entry Plazas</i> |
|  <i>New Streets</i> |  <i>New Green</i> |  <i>Botanical Garden</i> |
|  <i>Gateway Plazas</i> |  <i>Small Greens</i> |  <i>Athletic Fields</i> |
|  <i>Old Walkways</i> |  <i>Quadrangles</i> |  <i>River Athletic Fields</i> |
|  <i>New Walkways</i> |  <i>Plazas</i> |  <i>Building-Related Landscapes</i> |

Components of the Plan

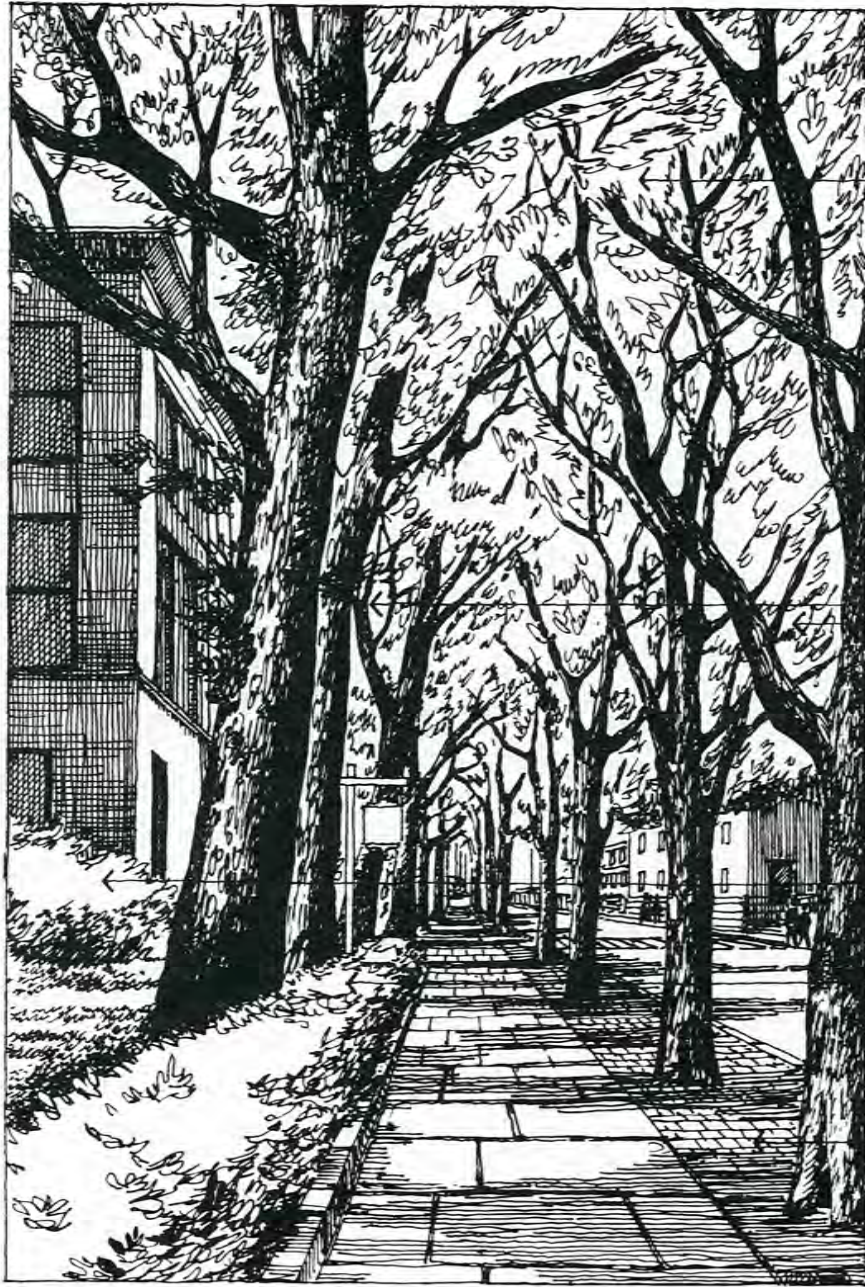
OLD STREETS

In an urban university, streets pose special problems, in that they are very much a part of the city and yet also a part of the campus. Streets should ideally express the larger campus landscapes through which they pass. The few, exceptionally gracious, Old-Street landscapes still intact are integral to the adjoining interior campus landscapes. On the campus, such mature Old-Street landscapes are confined to portions of 33rd and 34th streets, between Walnut and Spruce streets, and portions of Spruce Street, west of 39th and east of 33rd Street adjacent to the University Museum. The sidewalks along Old Streets are similar in character to the Old Walkways. These sidewalks border the rich green "aisle" landscape on one side, with the other side containing a row of trees along the street curb. The large trees at the street edge not only

buffer and remove the pedestrian from the street but create a setting for walking within a protected, green space. One of the finest examples of this landscape is on 34th Street near the School of Nursing.

RECOMMENDATIONS FOR OLD STREETS

The few surviving stretches of Old Streets should be preserved. Any new buildings to be sited along these streets should respond to the basic principles of the Old Street's landscape by providing a generous setback from the street. The setback space should be a continuous green, either lawn or ground-cover. The use of overhead projections and paving extensions should be limited to entrances. The setback area of green adjacent to the building may be defined by a hedge or hedge-like shrubs, which should be transparent and low enough to give the walkway a setting and sense of expansiveness. The use of walls or opaque fences is inappropriate and should be avoided. Another essential feature of this landscape is the allee of large, canopy trees, no more than 15 to 25 feet apart. A row of trees should be provided between the sidewalk and the street in a continuous brick paving band set in sand, to facilitate growing conditions. The other row of the allee should be planted close to the edge of the walk. As with the landscape idiom for Old Walkways, the trees should be large, robust, floodplain canopy species, with a mature height of 50 feet or greater. Tree trunks and branches should be thick and powerful to give a sense of substantiality and protection. Loose, large shrubs may cluster around entrances and at building corners, but should not be banded into straight rows or monolithic banks. Appropriate canopy species include ash (*Fraxinus* spp.), sweetgum (*Liquidambar styraciflua*), and sycamore (*Platanus occidentalis*). Appropriate understory



34TH STREET LOOKING SOUTH FROM WALNUT

continuous arching canopy

allee of large, robust flood-plain canopy trees

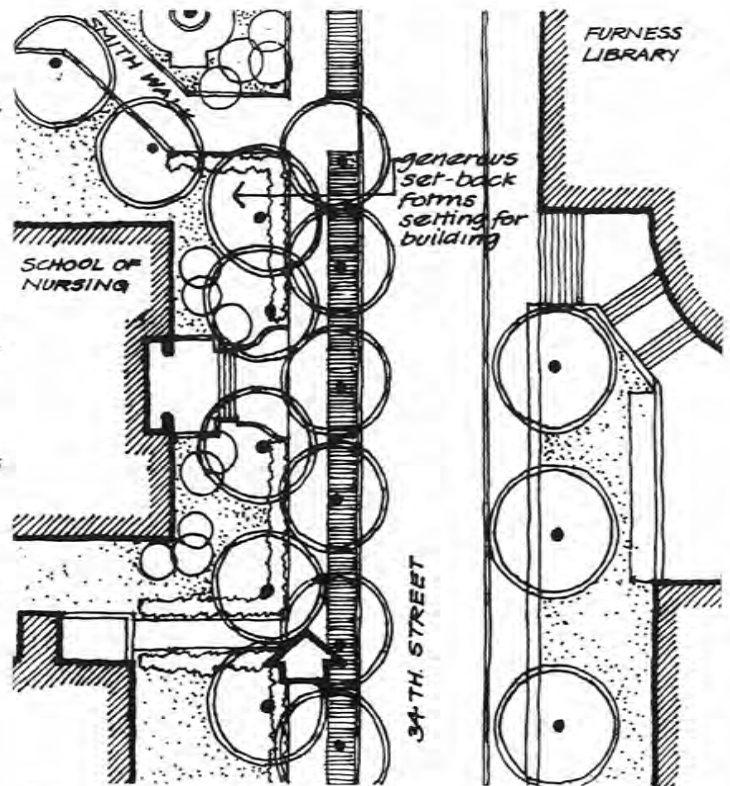
loose, large shrubs cluster around entrances and corners of buildings

low continuous hedge contains and defines sidewalk

continuous brick-on-sand planting strip for street trees



TYPICAL SECTION



PLAN OF OLD STREET

C.F.

species include privet (*Ligustrum* spp.), blackhaw (*Viburnum prunifolium*), alder (*Alnus* spp.), sweet pepperbush (*Clethra alnifolia*), and inkberry (*Ilex glabra*).

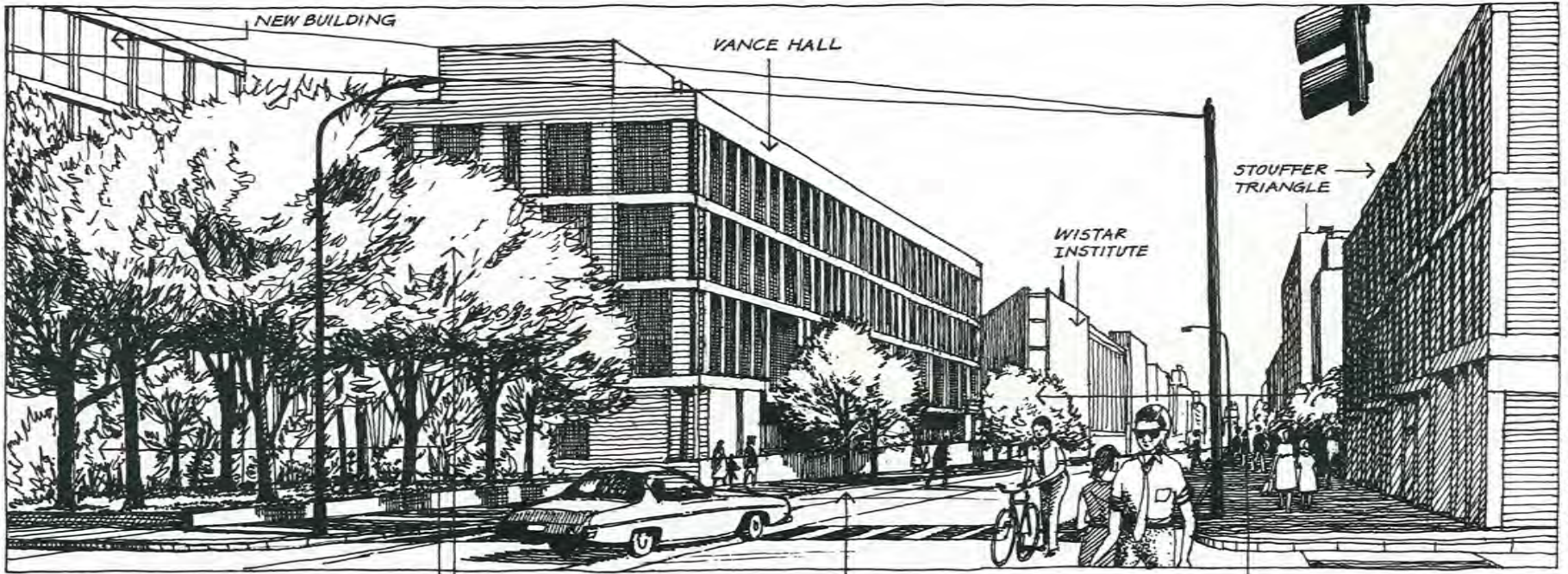
NEW STREETS

An extensive network of heavily trafficked, city streets passes through the campus. The extensive areas of paving are made all the more oppressive by the walls of many new buildings which directly abut the sidewalks along these streets. Buffering vegetation is generally absent. The pervasive visual experience, as a pedestrian or motorist, is disorienting, inhospitable, and lacking in human scale.

RECOMMENDATIONS FOR NEW STREETS

As with the landscape for Old Streets, New Streets should be expressive of the larger University landscapes through which they pass. Often, the sidewalks along these streets are major pedestrian routes on the campus and, to counteract the extensive space occupied by these streets, large-scale landscape elements are needed to effectively and adequately balance the severity of vast paved surfaces and buildings. However, available space is generally confined to narrow bands of sidewalk between tall buildings and street. It is an inhospitable environment for plant growth, due to inadequate root space, building downdrafts, poor lighting, and other severe environmental stresses, such as exhaust fumes, toxicity resulting from walk and street salting, and extended periods of dehydration. A single row of street trees or little balls of shrubs at the base of buildings at best are stunted in their growth and produce little visual relief. Almost all of the existing plantings of this kind are growing poorly or have been repeatedly replaced. It is essential that a variety of planting solutions be employed, some on an experimental basis,

to ensure survival under these conditions and produce a desirable visual effect. Where planting space is minimal and bordering walls are long and blank, use of climbing vines confined to a trellis set flat against the building should be considered. Such a trellis, for example, would be appropriate for the parking garage along 38th Street near the Locust Walk bridge. To diversify the streetside landscape it is recommended that where opportunities exist for enlarging space for street-related plantings, these areas should be appropriated. Existing open areas along new streets -- such as at campus crosswalks and on vacant lands -- provide opportunities for introducing substantial protected green "islands" along streets. Since these sites still are stressful environments, the appropriate analogous landscape idiom for these should be derived from the tough, dynamic, and resilient qualities characteristic of oldfields and young woodlands. Noticeable daily, seasonal, and yearly changes are an added visual asset of these landscapes. Where available space is narrow, such as along 38th Street, plantings should include trees, saplings, and shrubs in tight groves and thickets, with a rich ground layer of vines and low shrubs. The taller canopy species should be set back from the street and be adjacent to campus interior spaces, with understory shrubs in the middle, and low, mounding shrubs near the street edge. The street corridor would become a lush, green buffer that would provide a welcome relief and a pleasant image of the campus, when walking or driving along the street or when walking over the Locust Walk bridge. Appropriate canopy species include oaks (*Quercus alba*, *Q. coccinea*, *Q. palustris*, *Q. rubra*, *Q. velutina*), white, black, and red ashes (*Fraxinus americana*, *F. nigra*, *F. pennsylvanica*), and maples (*Acer rubrum*, *A. saccharum*). Appropriate understory species include sassafras



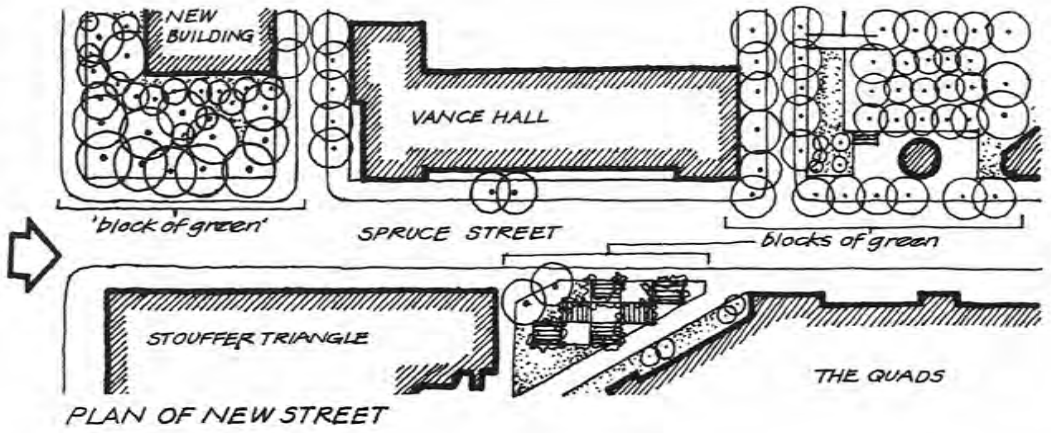
SPRUCE STREET LOOKING EAST

canopy trees

understorey trees set back to draw eye through and create sense of depth

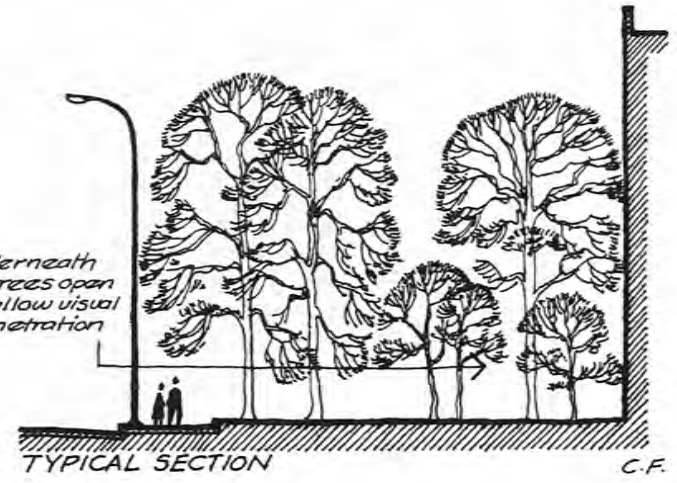
occasional healthy street trees retained

trees at entrance to Woodland Walk and corner of Stouffer triangle create 'blocks of green'



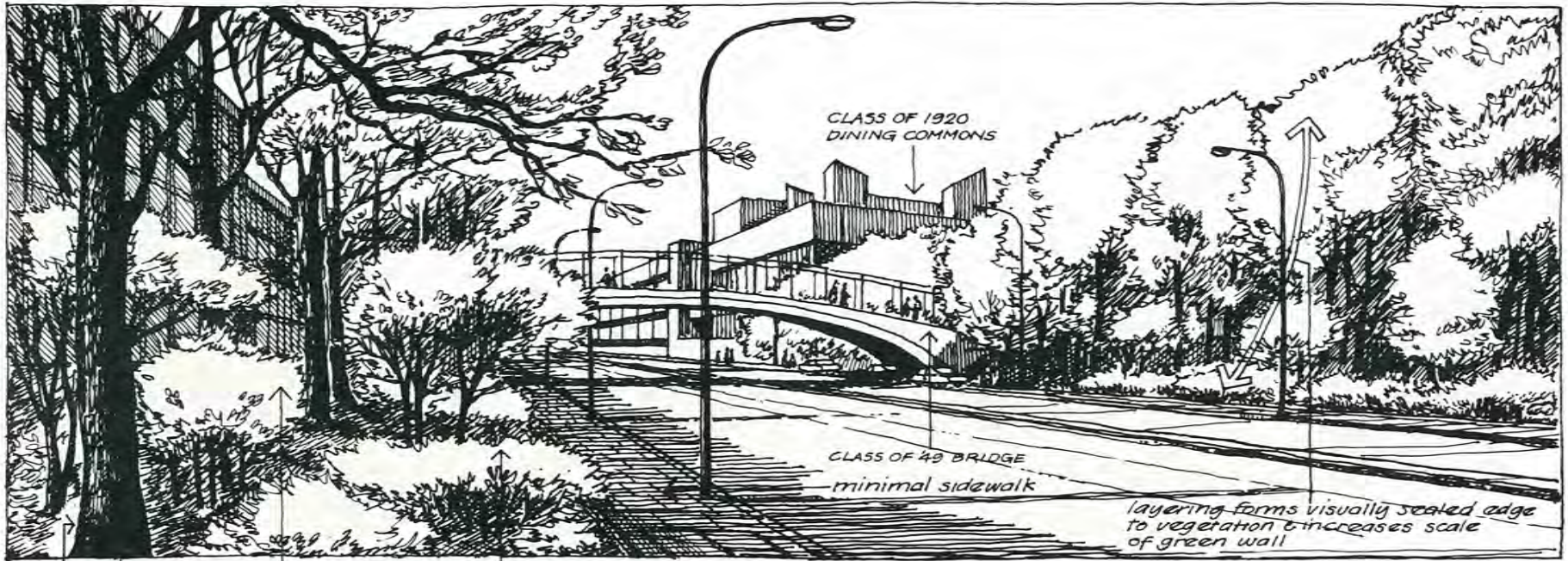
PLAN OF NEW STREET

underneath of trees open to allow visual penetration



TYPICAL SECTION

C.F.

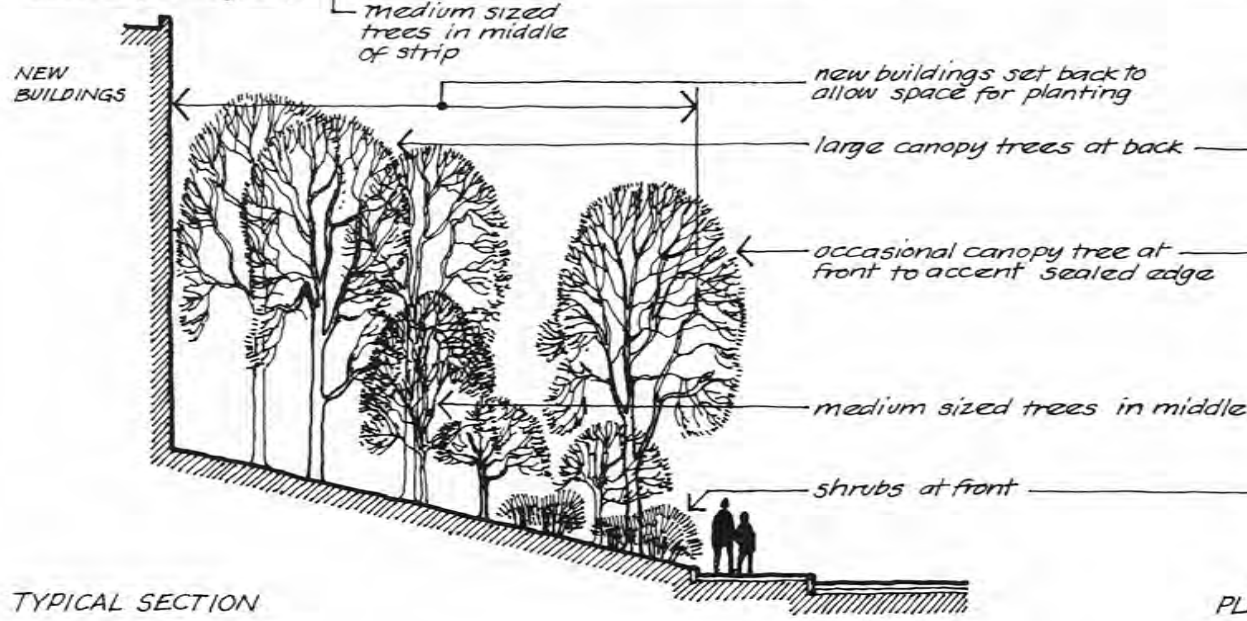


layering forms visually sealed edge to vegetation & increases scale of green wall

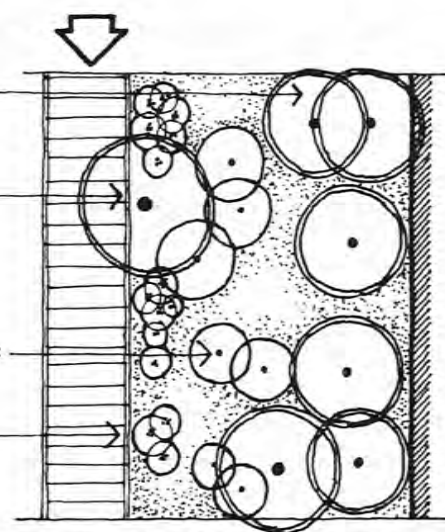
canopy trees at back of planting strip

shrubs at front of strip

38 TH. ST. LOOKING SOUTH FROM WALNUT ST.



TYPICAL SECTION



PLAN OF NEW STREET PLANTING STRIP C.F.

(*Sassafras albidum*), flowering dogwood (*Cornus florida*), hawthorns (such as *Crataegus crusgalli*), and true species cherries (such as *Prunus avium*). Appropriate shrub species include roses (*Rosa* spp.), barberries (*Berberis* spp., such as *B. julianae*), shrub dogwoods (*Cornus alba*, *C. amomum*, *C. paniculata*), and viburnums (*Viburnum acerifolium*, *V. dentatum*, *V. prunifolium*). At other crosswalk sites and on larger areas of vacant land, such as 33rd Street near Hill Hall, tightly-spaced, mixed groves of oaks, ashes, and maples, accented by an understory of flowering dogwoods and sassafras, should be planted to form large masses of green that would provide welcome visual relief. Otherwise, general street planting should be restricted to hardy, tall, broadly spreading canopy species, such as scarlet oak (*Quercus coccinea*), red maple (*Acer rubrum*), white ash, sycamore (*Platanus occidentalis*) and sweetgum (*Liquidambar styraciflua*).

GATEWAY PLAZAS

Campus approaches and entrances, for pedestrians as well as motorists, are presently so poorly defined as to make one's welcome to the campus disorienting, uninviting, and, in many cases, unsafe. Gateway Plazas comprise intensely-used, pedestrian entryways to the campus, while at the same time signal entries to the campus district from the city at large. They occur at major pedestrian and vehicular intersections, such as 33rd and Chestnut, 34th and Walnut, 33rd and Spruce, and 38th and Woodland. To function as gateways, these places must operate at two scales, providing signalling events large enough to be visible from an automobile moving relatively quickly and yet intimate enough to create a comfortable separation from the street and provide opportunities for pedestrians to meet, converse or rest. These gateways not only

define the identity and character of the campus as distinct from that of the city but also are the places where one can orient oneself to and comprehend the campus interior. The major and minor Gateway Plazas, Old Street, and New Street landscape elements will together provide a rich and diverse sequence of events that will establish, for the resident or casual visitor, an image and identity of the overall campus as well as reflect the unique character of the campus parts.

RECOMMENDATIONS FOR GATEWAY PLAZAS

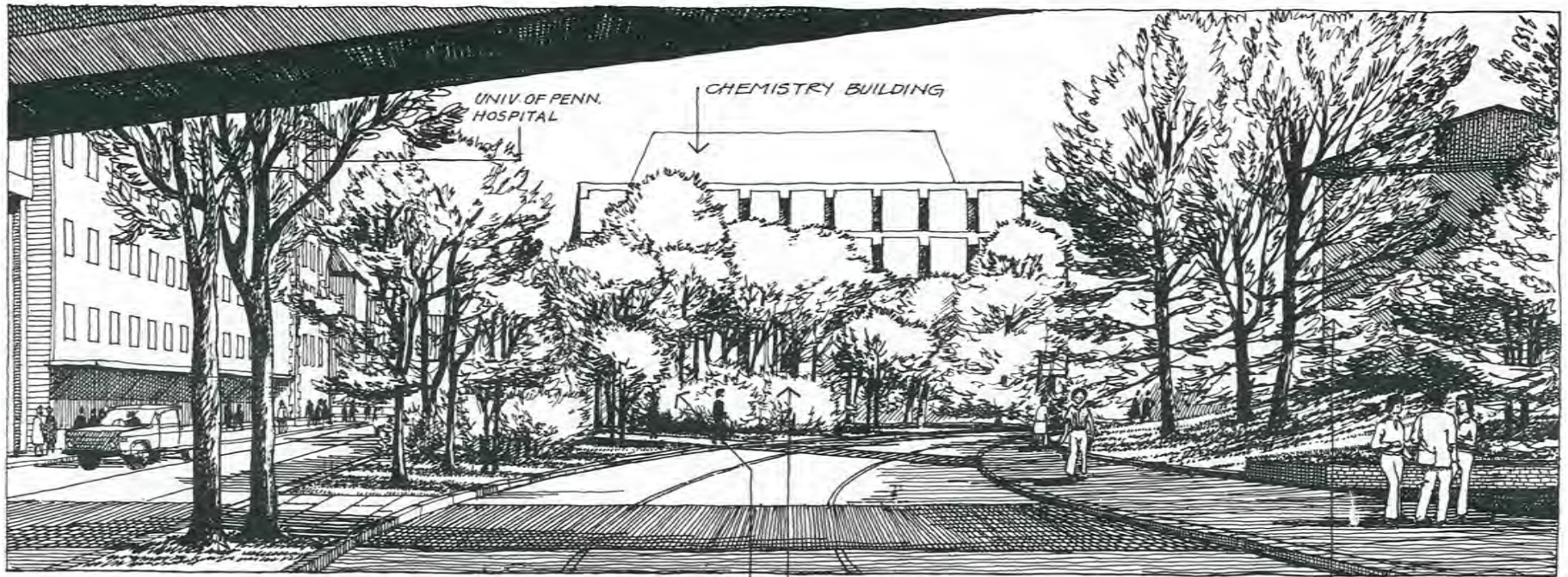
The large areas of paving required to accommodate pedestrian traffic, combined with the adjacency to city traffic, will produce high-stress conditions for plantings as well as people. Both need protection and shelter. These dynamic, tough environments will require equally dynamic and tough vegetation. As with the landscape idiom for New Streets, masses of younger, fast-growing, vigorous, and resilient plantings should be selected from environments of change, namely oldfields and young woodlands. Large groupings of plantings -- trees, saplings, and shrubs -- should occur in tight groves and thickets, within a rich ground layer of vines and low shrubs, to provide a high-visibility event from the street as well as small-scale, protected spaces, within these groves, for pedestrian retreat and meeting. The visual impact of these dense groves should also help balance the large areas of paving required. The paving pattern would continue across the street, as crosswalks at major intersections, to enhance and define the signalling aspect of the gateways and lessen pedestrian-vehicular conflicts. Major plantings should be pulled directly to the street edge for maximum effect; this would also provide a stronger buffer to interior campus spaces and make them appear larger and more

continuous. In areas where circulation demands are great or where planting space is limited by underground utilities, trellises covered with thick, climbing vines should be used. All plant species chosen should tolerate and, over time, respond well to close plant spacing, require little maintenance, and have strong seasonal characteristics -- rich spring or summer flowerings, good fall color, berries, winter character, etc. Appropriate species for the groves include white and black ashes (*Fraxinus americana*, *F. nigra*), red maple (*Acer rubrum*), tulip poplar (*Liriodendron tulipifera*), black locust (*Robinia pseudoacacia*), honey locust (*Gleditsia triacanthus*), sassafras (*Sassafras albidum*), large-toothed and quaking aspens (*Populus grandidentata*, *P. tremuloides*), cottonwood (*Populus deltoides*), gray, river, and cherry birches (*Betula lutea*, *B. nigra*, *B. lenta*), and box-elder (*Acer negundo*). Appropriate species for tree thickets include white and pin oaks (*Quercus alba*, *Q. palustris*), black cherry (*Prunus serotina*), true species cherry (such as *Prunus avium*, *P. serrula*), not grafts, flowering dogwood (*Cornus florida*), tulip poplar (*Liriodendron tulipifera*), callery pear (*Pyrus calleryana* var. *Bradford*), sassafras (*Sassafras albidum*), hawthorns (such as *Crataegus crusgalli*), and crabapples (*Malus* spp.). Appropriate species for shrub thickets include flowering quince (*Chaenomeles lagenaria* varieties), shrub dogwoods (*Cornus amomum*, *C. paniculata*, *C. stolonifera*), witch-alder (*Fothergilla major*), Oriental witch-hazels (such as varieties of *Hamamelis mollis*), oak-leaf hydrangea (*Hydrangea quercifolia*), northern bayberry (*Myrica pensylvanica*), barberries (*Berberis* spp., such as *B. julianae*), and aronia (*Aronia arbutifolia*, *A. melanocarpa*). Appropriate species for shrub thickets include viburnums (*Viburnum acerifolium*, *V.*

dentatum, *V. prunifolium*) and sumacs (such as *Rhus copallina*). Appropriate species for shrub mounds include spireas (such as *Spirea alba*, *S. latifolia*), St. John's-worts (*Hypericum densiflorum*, *H. prolificum*), and various old, rugose, climbing, and true species roses (*Rosa* spp.). Appropriate groundcovers include woodbine (*Parthenocissus quinquefolia*), Boston ivy (*P. tricuspidata*), porcelain ampelopsis (*Ampelopsis brevipedunculata heterophylla*), potentilla (*Potentilla* spp.), dusty miller (*Artemisia stelleriana* and varieties), dwarf and creeping phloxes (*Phlox* spp.), lavendercotton (*Santolina* spp.), and various kinds of ornamental grasses.

OLD WALKWAYS: SMITH AND HAMILTON WALKS

The visual experience along the Old Walkways is evocative of a Gothic cathedral -- a flowing, linear space of arching columns and a high vault with major events and points of release at either end. The nave is formed by the path and the colonnade by closely spaced, mature trees, with a continuous, arching canopy. The walls of the bordering buildings form a subdued yet intricate backdrop which define the aisles of green. Although segments of these walks are subtly different from one another, as a whole they follow a set of basic rules. First of all, large trees are planted right at the edges of the walkway paving, which creates a sense of protection and visual expansiveness as one walks under the vault of the canopy and looks through the colonnade of trunks, no more than 15 to 25 feet apart, into the broad green expanse adjacent to the buildings. In places where the walkway is not defined by buildings, the alley often becomes a series of groves on one side, counterpointed with a few specimen individuals on the other. In all cases, the bordering aisle



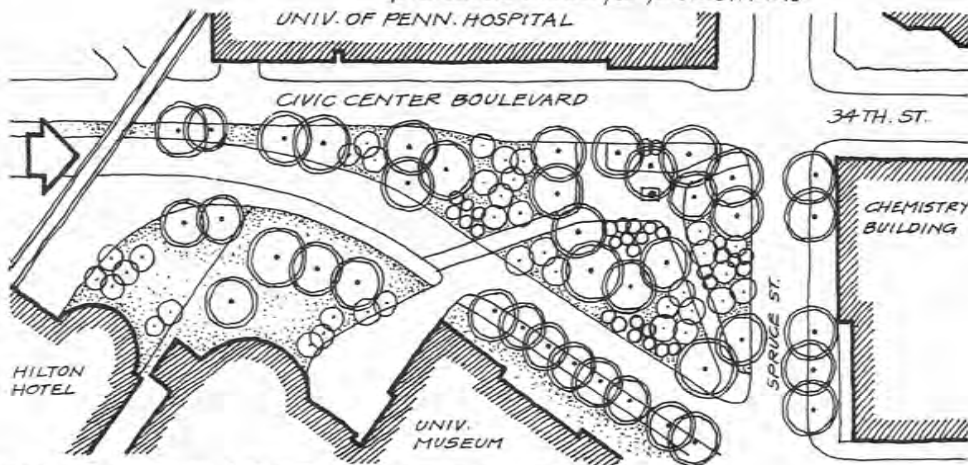
VIEW NORTH ON CIVIC CENTER BOULEVARD FROM HILTON HOTEL

UNIVERSITY MUSEUM

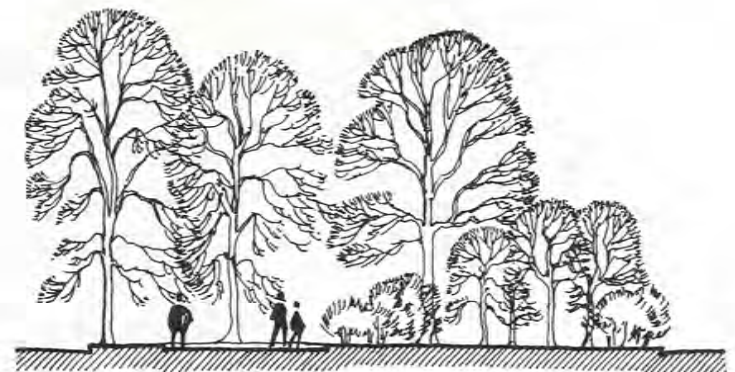
ENTRANCE TO HILTON HOTEL

planting occurs as groves and thickets - large numbers of smaller tightly spaced individuals - forming small scale protected areas for pedestrians

masses of young, fast growing, vigorous, resilient plants create highly visible green gateway and signal entry to Campus district.



PLAN OF GATEWAY PLAZA AT MUSEUM TRIANGLE



TYPICAL SECTION

C.F.



SMITH WALK LOOKING WEST FROM HAYDEN HALL

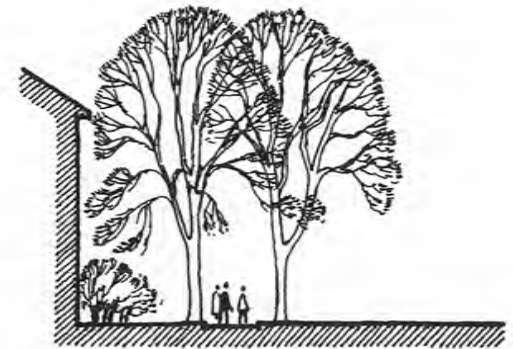
branches form continuous arching canopy over walk

understorey trees signal special events such as sculpture (NOTE: smith statue turned to face walk)

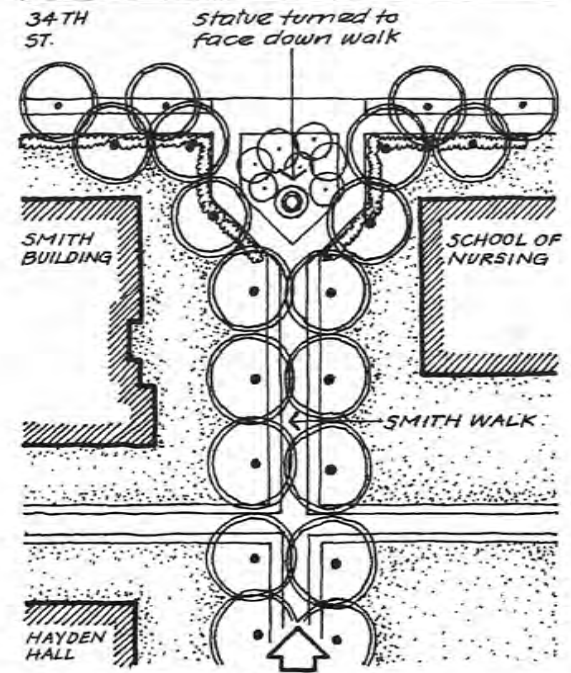
colonnade of closely spaced mature trees planted as close as possible to walkway.

shrubs only at entrances, special places or release points

low, continuous ground cover - grass or ivy.



TYPICAL SECTION



PLAN OF OLD WALK

C.F.

spaces are either lawn or simple groundcover extending right to the building walls. Only in special cases -- to signal or highlight entrances, statues, major path intersections, and end-release points -- are understory materials added to this simple arrangement of canopy and groundcover.

RECOMMENDATIONS FOR OLD WALKWAYS

Walking is the most important mode of experience on the campus. The Old Walkways provide the richest satisfaction and should be ardently preserved and, where deteriorated, fully restored. Any new building to be sited along these walks should be responsive to the basic ordering of the walk's landscape elements. There should be no extended building walls, empty stretches or jolting breaks of rhythm. Proper setbacks, paving, and suitable and appropriate planting should be provided. In places where the presence of new buildings has already impinged upon the walk experience -- such as the Richards Medical towers on Hamilton Walk -- replanting and the redesign of paving is required. Since the general planting pattern along the walkways is an allee, trees should be tall and high-branching, with broad canopies, and a strong trunk and branching pattern. Thus, the landscape idiom for Old Walkways is in many ways analogous to the mature forests of the floodplain. Appropriate canopy species for Smith Walk include American elm (*Ulmus americana*), once disease-resistant varieties are available, and white ash (*Fraxinus americana*). The existing honey locusts should eventually be replaced and the groundcover of ivy restored. Special places on Smith Walk may be highlighted by fontenesia (*Fontenesia fortunei*), witch-hazel (*Hamamelis virginiana*), arrowwood (*Viburnum dentatum*), and maple-leaf viburnum (*V. acerifolium*). Appropriate species for Hamilton Walk, in its western portions, include groupings

of sassafras (*Sassafras albidum*), hickories (*Carya ovata*, *C. tomentosa*), white ash (*Fraxinus americana*), and large-toothed aspen (*Populus grandidentata*); for the eastern portion, single individuals of western catalpa (*Catalpa bignonioides*) and white ash (*Fraxinus americana*). Special places here may be highlighted with inkberry (*Ilex glabra*), blackhaw (*Viburnum prunifolium*), and sweet pepperbush (*Clethra alnifolia*). On all walks, the choice of understory material should be restricted to large, loose shrubs, with a mature height of 15 to 30 feet, or small, open trees, with a mature height of 20 to 40 feet.

NEW WALKWAYS: LOCUST AND WOODLAND WALKS

These walks are the primary pedestrian axes of the campus. Some portions of these walks are presently closed streets or vacant land and have yet to be renovated as pedestrian spaces. Other portions contain some of the more recently designed walkways, the most notable of which occur between 36th and 37th streets. Both walks contain a rather extensive system of underground utilities, which require numerous access points and open rights-of-way. Fire vehicles require access over almost their entire length.

RECOMMENDATIONS FOR LOCUST AND WOODLAND WALKS

Locust Walk should become a continuous pedestrian spine from the river athletic fields to 40th Street and Woodland Walk a continuous spine from 33rd and Chestnut streets to Woodland Cemetery. Because these axes pass through and link almost every kind of campus landscape -- from campus edges (New Streets) and entrances (Gateway Plazas) to the protected interior spaces (Old and New Greens, Small Greens, Old Walkways, Plazas, Entry Plazas) -- the walking experience comprises the richest and most diverse sequence of events on campus. In order for these walks to enhance, rather than

disrupt, this sequence, one simple but critical rule should be followed: where walks pass through specific landscape components -- Gateway Plazas, Old and New Greens, etc. -- they should take on the character and landscape idiom of these components. The restoration of the Woodland diagonal from 33rd and Chestnut to 34th and Walnut Streets should express the vibrant characteristics of campus edges that are analogous to young woodlands and open fields. The walk would be slightly diverted to accommodate the athletic fields and would form eddy spaces on the walk, with groves of trees massed closely together and informal sitting places. The walk would not be defined by rows of trees but should, rather, pass through and around groups of groves and grassy meadows. Appropriate canopy species include red maple (*Acer rubrum*) with groves of tulip poplar (*Liriodendron tulipifera*) and black locust (*Robinia pseudoacacia*). Appropriate understory species include Cornelian cherry (*Cornus mas*), Japanese and Chinese witch-hazels (*Hamamelis vernalis*, *H. mollis*). The idiom of groves and expansive meadow should also apply to the other end of the Woodland spine, in the Stouffer Triangle. Loose groves of red maple are appropriate here. The Locust Walk extension from 33rd Street to the river athletic fields should extend the idiom of Old Walkways and provide a transition from the tough and dynamic landscape of the campus edge to the stable and more mature landscapes of the old campus. The walkway and service street would be enclosed by a loose allee of American elm (*Ulmus americana*), when disease-resistant varieties are available, and the more open areas near Hutchinson Gymnasium would contain groves of white ash (*Fraxinus americana*), sycamore (*Platanus occidentalis*), princess tree (*Paulownia tomentosa*), and box-elder (*Acer negundo*). The portion of Locust Walk between 37th and 38th streets should also extend

the principles and basic ordering of the Old Walkways. The appropriate canopy tree for the allee is sycamore (the planting of zelkovas should be discontinued), with special places accented by an understory of evergreen privet (*Ligustrum amurense*) and smokebush (*Cotinus coggygria*).

NEW WALKWAYS: 36TH AND 37TH STREETS

These streets have recently been closed to city traffic and have yet to be renovated into pedestrian spaces. Like Locust and Woodland walks, these streets contain extensive underground utilities and must have access for fire vehicles over almost their entire length. Service vehicles also use portions of these streets.

RECOMMENDATIONS FOR 36TH AND 37TH STREETS

These streets form major crosswalks off the Locust and Woodland spines. Since these spaces are well defined and largely devoted to walking, the basic ordering of landscape elements should be a derivative of the Old Walkways. The path should be centered in the space and, wherever possible, the existing sidewalks that presently abut buildings should be removed and replaced by a continuous area of 'green', extending from the base of the buildings to the edges of the path, and thus forming a setting for walking as expansive as that of the Old Walkways. Because the spaces are often rigidly and linearly defined by buildings, the canopy trees at the edge of the path should counteract this by forming irregular or loose rows of trees and be doubled up into small groves where space permits. Loose, billowy shrubs may be used to signal building entrances and other special places. The vehicular service system should be limited to cul-de-sacs off of city streets. The walkway at these points would widen slightly to become more like a narrow street, with asphalt



NEW WALKWAY AND SERVICE CUL-DE-SAC AT 36TH ST. LOOKING NORTH TOWARDS LOCUST WALK

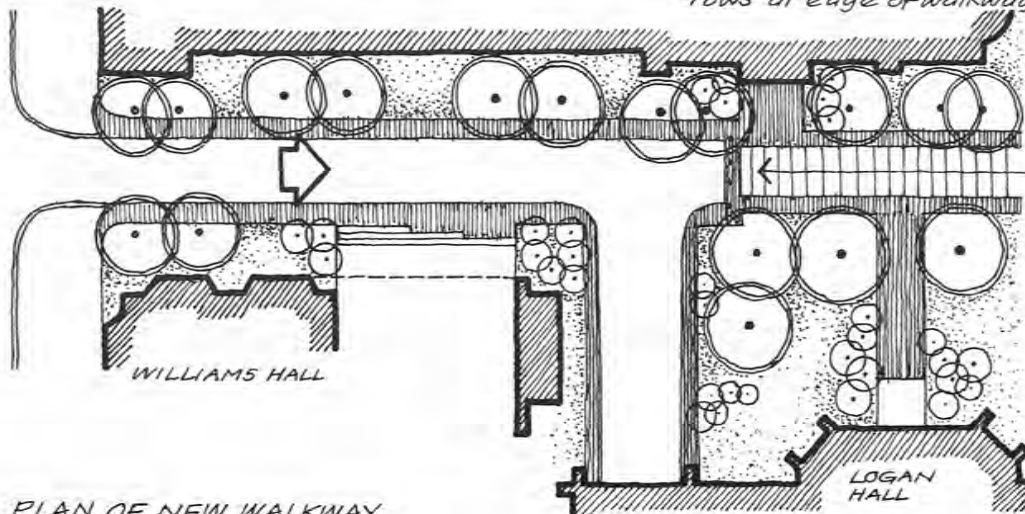
existing sidewalk replaced by continuous strip of grass or groundcover

narrow brick strip acts as auxiliary sidewalk

asphalt pavers act as main walkway and service drive

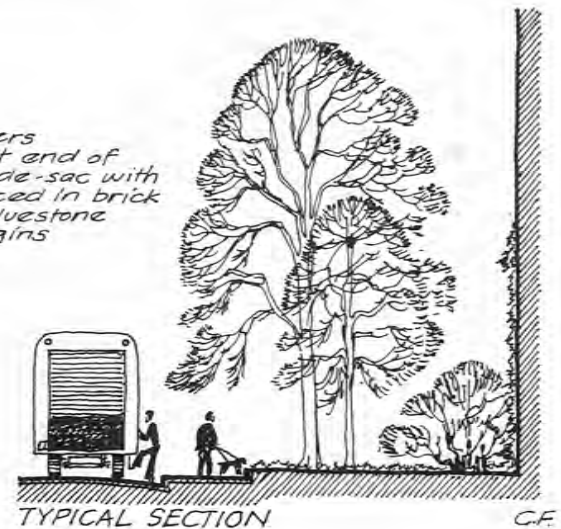
entrances signalled by large billowy shrubs

canopy trees form loose irregular rows at edge of walkway



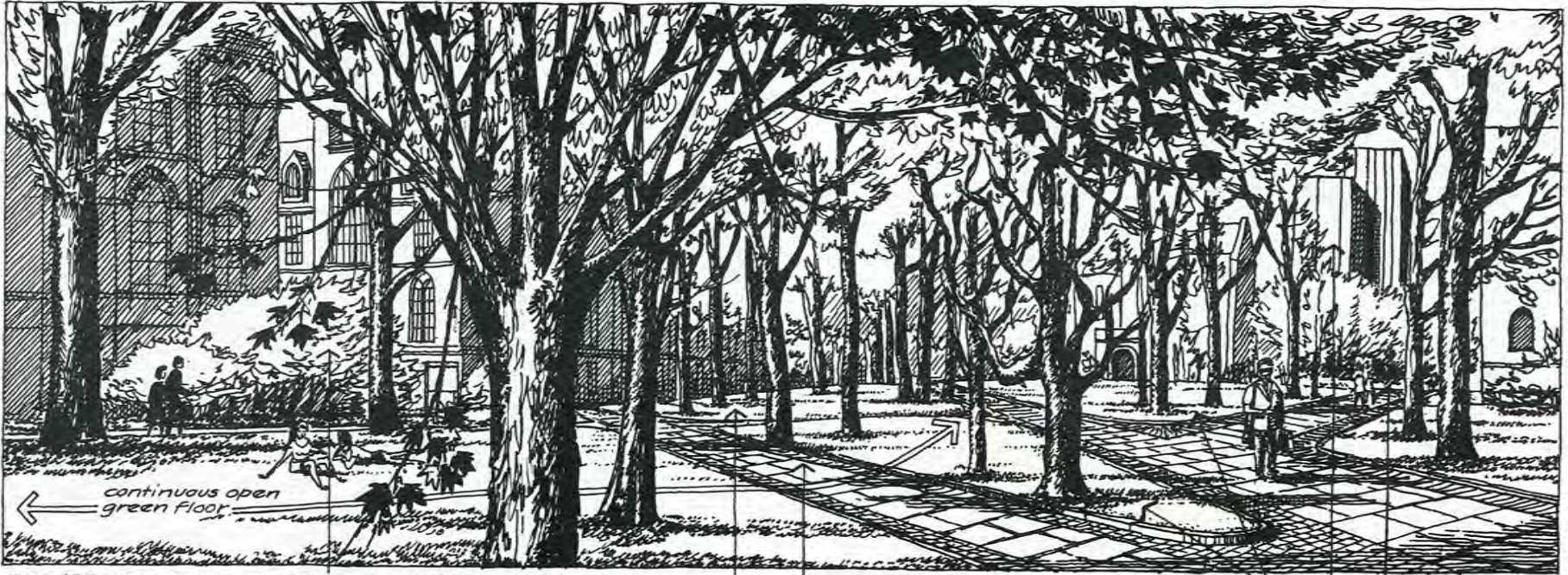
PLAN OF NEW WALKWAY

asphalt pavers terminate at end of service cul-de-sac with bollards placed in brick strip and bluestone walkway begins



TYPICAL SECTION

C.F.



CORNER OF COLLEGE HALL GREEN LOOKING SOUTH WEST

CHRISTIAN ASSOCIATION

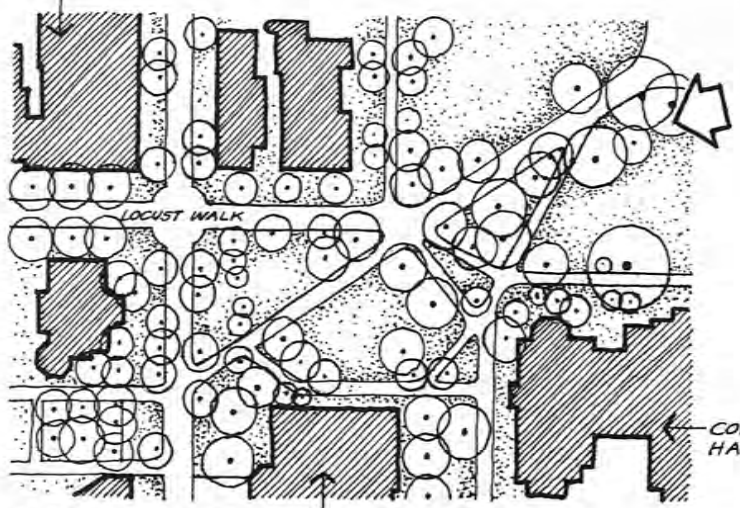
tall billowy shrubs to signal special places

naturalistic plantings of lush lowland forest species with intermittent sunny openings

LOCUST WALK

view to high rise dormitories

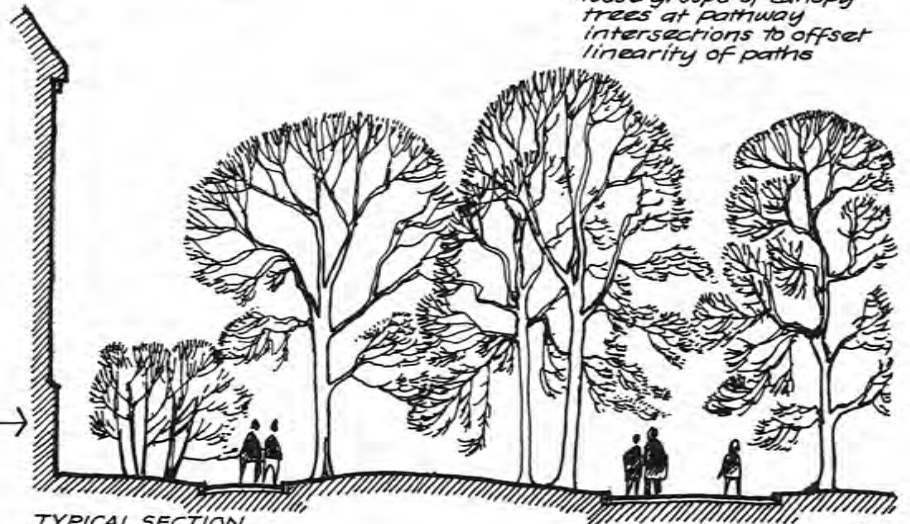
loose groups of canopy trees at pathway intersections to offset linearity of paths



PLAN OF OLD GREEN

LOGAN HALL

COLLEGE HALL



TYPICAL SECTION

C.F.

pavers in the center for vehicles and brick paving on either side for walking. Since these landscapes must not only withstand tough environmental conditions along the service cul-de-sacs and near city streets but also provide a transition to the protected interior landscapes of the campus, the landscape idiom should combine the tougher characteristics analogous to species of young woodlands (the idiom for New Streets) with the more enduring characteristics analogous to species of the mature floodplain and lowland forests (the idioms for the Old Walkways and Old Green). Although these species may be mixed, one or two canopy species should predominate and give each walkway a distinct character. Appropriate canopy species include red maple (*Acer rubrum*), box-elder (*A. negundo*), red ash (*Fraxinus pennsylvanica*), and princess tree (*Paulownia tomentosa*). Appropriate understory species include smooth and speckled alders (*Alder rugosa*, *A. incana*), shadbush (*Amelanchier canadensis*), pussywillows (*Salix* spp.), winter-berry (*Ilex verticillata*), and wax-myrtle (*Myrica heterophylla*).

OLD GREEN: COLLEGE HALL GREEN

College Hall Green, although presently in poor condition and under severe stress, is still evocative of the traditional college green. As the historically enduring nucleus of the campus, it attracts students and faculty alike. The Green is the center of campus activity and, in addition to being the confluence of pedestrian circulation, accommodates a variety of activities at several scales, ranging from casual sports, such as throwing frisbees, and rallies at a large scale, to holding outdoor classes, parties, and small concerts at an intermediate scale, to, at the smallest scale, providing opportunities for simply sitting, reading, conversing, courting, or reflection. The space is open in feeling, continuous yet contained, in some places shaded by the high,

green canopy of trees, in others sunny and open to the sky. The edges of the Green are not walled off or rigidly defined, but flow in and around adjoining spaces, which gives the illusion that the whole is larger than it really is.

RECOMMENDATIONS FOR COLLEGE HALL GREEN

The attractiveness of the Green is greatly diminished by the current condition of its landscape elements. Virtually all plantings are old or in a state of decline, and most grass areas have been encroached upon by plaza and paving extensions to what still remains an unorganized circulation system. Restoration and renovation of the landscape is desperately needed. The lofty old elms epitomize the character of the Green. They are at once lush and full, have a strength of form which gives a sense of tranquility and endurance, and create a high-branching canopy that is at the very heart of one's attraction to this place. This rich, expansive character is analogous to the regional lowland forests. Thus, shade-tolerant, lowland forest species are recommended as the landscape idiom for all plantings in the Green. Essentially, these should consist of canopy trees, accented occasionally with understory plantings. Because the notable character of the Green is its simplicity and strength, restriction to a few well-selected and compatible species, rather than a variety of different trees, is recommended. New canopy trees should be planted frequently enough to give a sense of continuity to the existing canopy and, at the same time, respect its patterns of intermittent sunny openings and dappled shade. Also, prolonging the life of the elms, through a program of maintenance and inoculation against Dutch Elm disease, is recommended to ensure preservation of the Green's tranquil and stable setting, and provide time for the eventual replacement by other plantings.

The paths in the Green should be reorganized to accommodate the increased volume of pedestrian traffic, without disrupting the sense of flowing space. Paths should not be defined by lines of trees. Rather, they should pass through and around tree groupings on the Green, with open groves occurring at major path intersections and sitting places. Special places, such as entrances and statues, may be signalled or highlighted with tall, loose, billowy shrubs. The use of two materials for the major paths -- bluestone in the center and brick along the edges -- will visually reduce the path width and provide a continuous setting for outdoor furnishings, such as benches, trash receptacles, and the like. Where it does not jeopardize established trees, the grass areas should be very gently mounded toward the center and meet the tops of path curbs, so that the flow of green will appear unbroken.

Continuous banding of shrubs, foundation plantings, and regular spacing of trees along walks is not appropriate here and existing plantings of this kind should be removed, thinned, or interplanted to be more in keeping with the Green's character. Trees should be selected primarily for strength of mature form, be shade tolerant, so they can be planted under the existing canopy, and have a mature height of sixty feet or more, with a broad-spreading, high-branching canopy. The caliper size of trees when installed should be 4" or greater. Understory plantings should have a mature height of 15 to 30 feet. The size of shrubs when installed should be large, with a loose, not ball-like, form. Canopy species appropriate to the Green include sugar and red maples (*Acer saccharum*, *A. rubrum*), basswood (*Tilia americana*), white ash (*Fraxinus americana*), sycamore (*Platanus occidentalis*), and American beech (*Fagus grandifolia*). When disease-resistant varieties become available, American elm (*Ulmus americana*) and chestnut

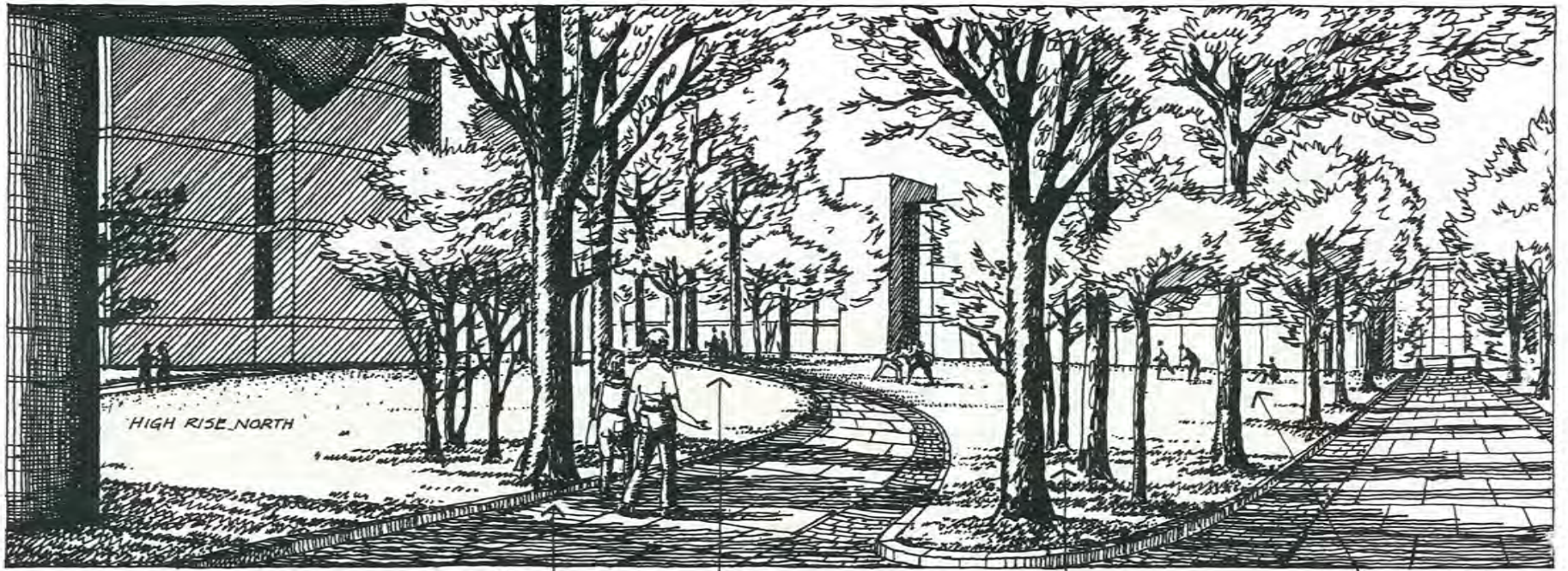
(*Castanea dentata*) may also be included. Appropriate understory species include hornbeam (*Carpinus caroliniana*), witch-hazel (*Hamamelis virginiana*), blackhaw (*Viburnum prunifolium*), inkberry (*Ilex glabra*), mountain laurel (*Kalmia latifolia*), rosebay rhododendron (*Rhododendron maximum*), and spicebush (*Lindera benzoin*).

THE NEW GREEN

The large and relatively enclosed open space around the high-rise dormitories was, at its conception, meant to represent a second nucleus to the campus at the head of the Locust Walk spine. Although intended to be similar in aspect to College Hall Green, this landscape is only partially successful. There is a lack of a sense of visual participation in the expansive space, caused primarily by paths and plantings that are peripheral to it and that, in fact, rigidly define boundaries and disrupt a sense of flowing space and movement. Rather than creating a sense of shelter and enclosure, present plantings are inadequate and dwarfed by the buildings. Also, most of the plantings near the towers have been severely damaged by downdrafts. And despite the lack of spatial differentiation needed to accommodate both intimate and active events, the space, however, still holds the potential of becoming a "New Green", more vibrant in character, and larger in scope and scale, than its older model. Its expansive, open meadow remains its primary asset.

RECOMMENDATIONS FOR THE NEW GREEN

As the center of a major residential section of the campus, the New Green should reflect a sense of tranquility and ease as well as a sense of lightheartedness and vitality. The broad, robust oaks and other well-formed canopy species of the regional upland forests are suggestive of the feelings desired



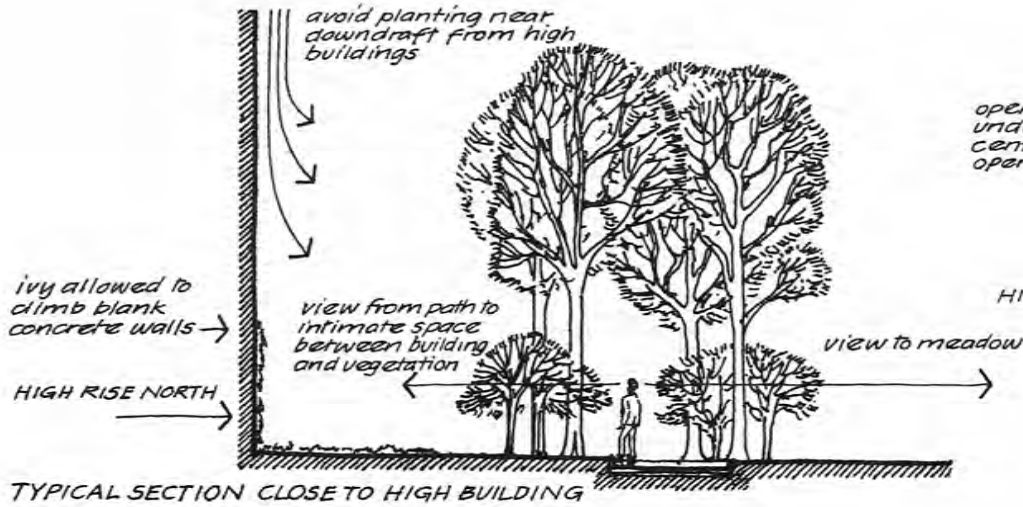
VIEW OF NEW GREEN LOOKING NORTH WEST

trees in groves dry upland forest species

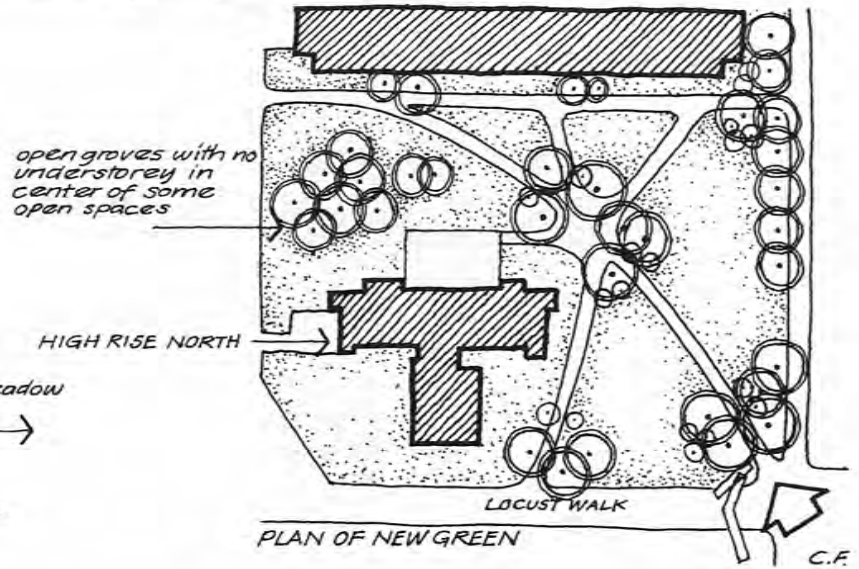
groves of tall broad trees at intersections of paths with understorey plantings

groves at edge of green have open character

open meadow areas in center of green

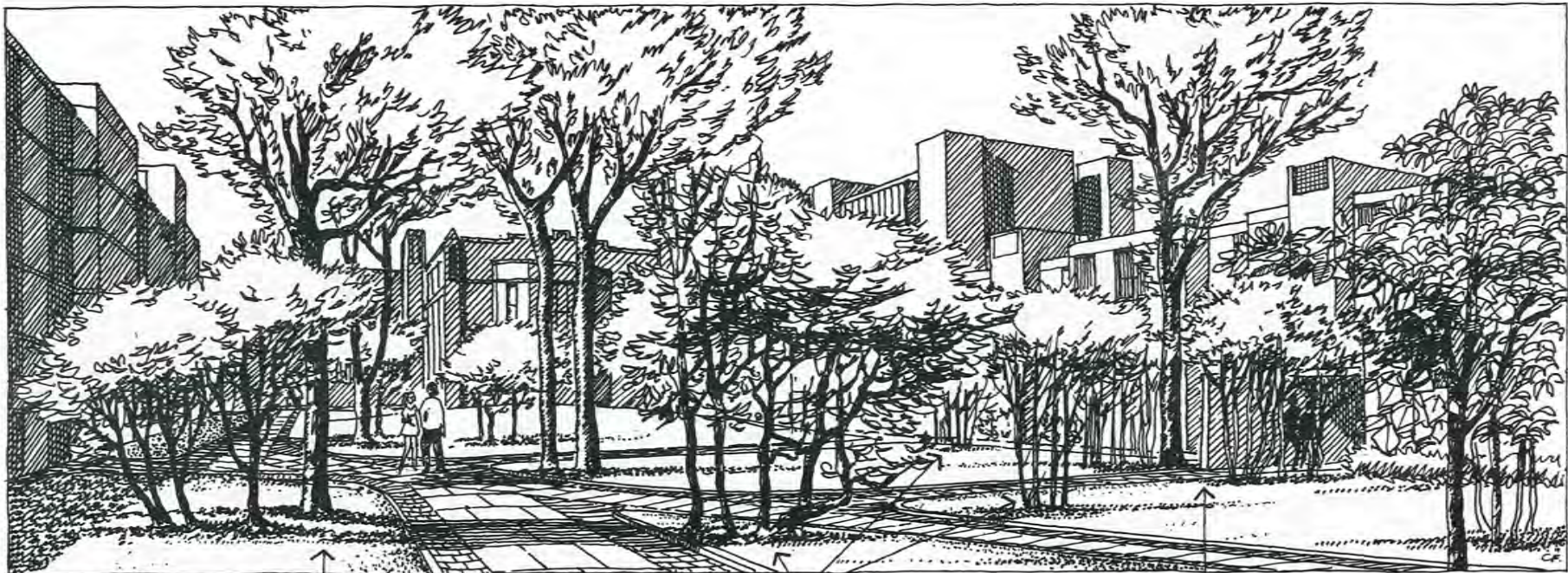


TYPICAL SECTION CLOSE TO HIGH BUILDING



PLAN OF NEW GREEN

C.F.

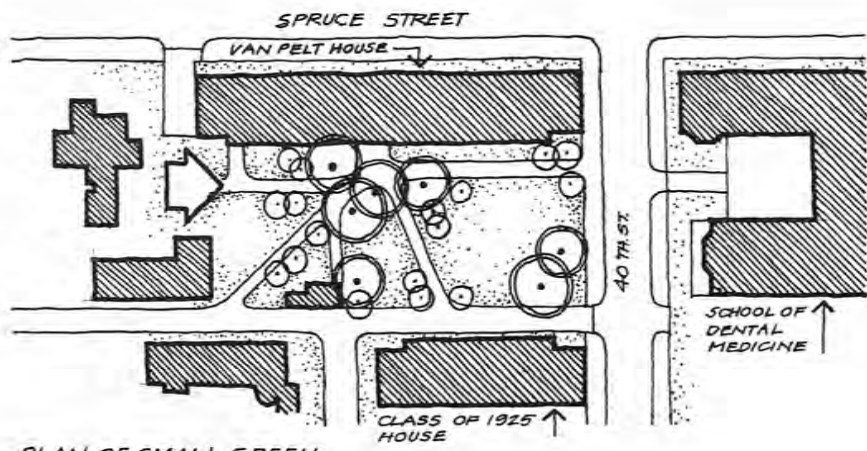


VIEW OF SMALL GREEN AT 40TH. AND SPRUCE LOOKING WEST

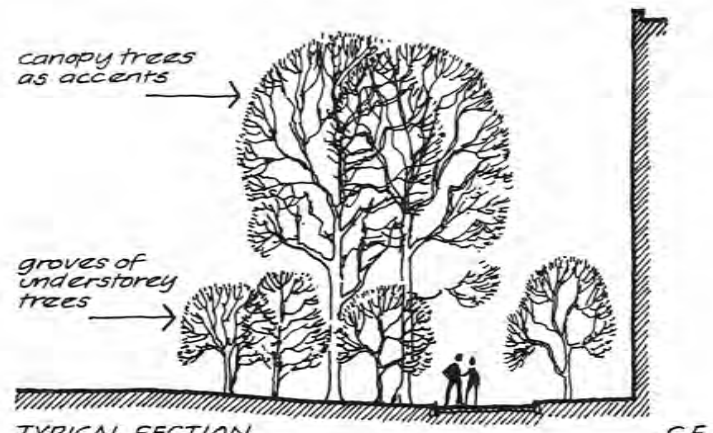
occasional canopy trees
to accent path intersections
and special places

groves of understorey trees
form major plantings

intermittent large sunny
open spaces



PLAN OF SMALL GREEN



TYPICAL SECTION

C.F.

for this area. These should be accented by the rich yet subtly flowering understory species associated with these mature woodlands. Groves of broad, tall trees, rather than single trees or allees, should be used to give scale to the Green, to differentiate its activity places, and to create a sense of flowing open space. Occasional, large, open meadows should punctuate one's movement through the whole area. The feeling of expansiveness should be enhanced by provision of clear visibility, especially down the direct, sweeping paths and meadows. Use of shrubs, dense trees, or evergreen plantings should be avoided. Open groves of large trees should occur near the Green's edges, while a mixture of canopy as well as understory plantings should occur at eventful places, such as at path intersections and sitting places. In these locations, asymmetrical disposition of smaller, flowering understory trees should be employed to reinforce the sense of visual participation in the expansive space. This can be accomplished by ensuring that small plantings are concentrated close to the path on the side away from the meadow, which would create a sense of intimacy in the smaller spaces adjacent to the buildings, while, on the meadow side, these plantings would be away from the path, at the edge of the open grove, which would emphasize the generosity of the larger spaces. To maintain spatial continuity, the existing straight paths should not be emphasized by linear plantings. Formal plazas to delineate building entrances should be avoided and furnishings, such as benches and trash receptacles, should not line up along paths or be used as spatial barriers. To avoid potential damage from downdrafts immediately adjacent to tall buildings, major plant groupings should be pulled away from these areas, and replaced by lawns or a simple groundcover, such as ivy. The paved surface in the plaza adjacent to

Harnwell House should be reduced, to give it a greater sense of intimacy. To further shelter this important meeting place, it is recommended that a trellis, with multi-stemmed trees and flowering vines, be installed. No planting should be installed around the sculpture, and the paving near it should be reduced to provide a better setting for it. Canopy species appropriate to the New Green are white, black, red, and scarlet oaks (*Quercus alba*, *Q. velutina*, *Q. rubrum*, *Q. coccinea*), shagbark and mockernut hickories (*Carya ovata*, *C. tomentosa*), and tulip poplar (*Liriodendron tulipifera*). Appropriate understory species include flowering dogwood (*Cornus florida*), redbud (*Cercis canadensis*), silverbells (*Halesia carolina*), and fringetree (*Chionanthus virginicus*). The existing groves of mature ailanthus trees should be retained until their eventual replacement by the recommended species. Removal of dispersed, coniferous plantings is recommended.

SMALL GREENS

Small Greens are essentially green open spaces that are visually isolated from the larger greens and major movement networks and thus are appropriate for activities that seek quiet and privacy, such as outdoor classes, reading, or retreat. Greens on the new campus form peripheral spaces off the larger New Green, while on the old campus they occur as alcove spaces off of Smith Walk.

RECOMMENDATIONS FOR SMALL GREENS

Small Greens are in fact diminutive and more intimate forms of the larger greens. Thus, the same landscape idiom, suitably reduced in scale, with the emphasis on the understory canopy, is appropriate here. Special places -- path intersections, sculpture, and sitting areas -- should be accentuated with groves of the taller, high-canopied trees. As a whole, the Small Greens should appear to have a pervasive understory canopy with large, sunny openings. Recommended understory species for Small Greens on the new campus include flowering dogwood (*Cornus florida*), redbud (*Cercis canadensis*), fringetree (*Chionanthus virginicus*), and silverbells (*Halesia carolina*), with the taller forest-canopy species being any of those recommended for the New Green. Understory species for Small Greens on the old campus include yellowwood (*Cladrastis lutea*), hornbeam (*Carpinus caroliniana*), hop-hornbeam (*Ostrya virginiana*), sarvistree (*Amelanchier laevis*), Franklinia (*Gordonia alata*), with the taller, forest-canopy species being any of those recommended for the Old Green.

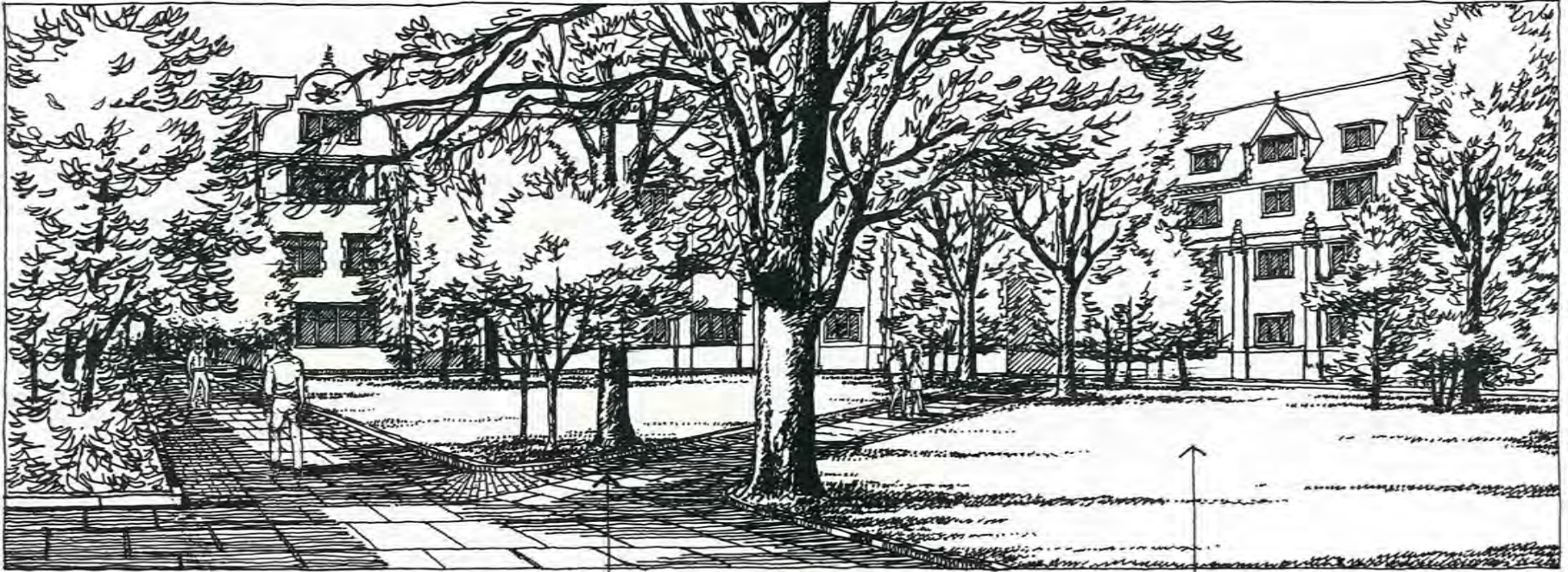
QUADRANGLES

In many ways, the traditional Quadrangle landscape is the most evocative image of an Ivy League campus. The space is fully contained and protected by a complex of long, low buildings. Not only do these spaces relate well to the buildings, but they are also intimate extensions of the building interior, the paths being its hallways, the terrace and lawns its living rooms -- where sunning, reading, and casual sports frequently occur -- and the entire place becomes the tranquil setting to view from one's window. To counter the sense of confinement in these relatively small and physically walled-in spaces, the quads often have large, open centers of grass, with occasional,

major plantings located along the edges, near building walls that are further softened and diffused by ivy. The paths are generally integrated into these bordering rich edges or traverse directly across the open diagonal of the space. The current conditions of the quads, however, have diminished and rigidified these spatial characteristics. The ivy has been removed or sheared into rectangular patches (to alleviate damage to downspouts and windows); the older plantings have been severely trimmed and newer ones planted into rigid straight bands. The erosion along path edges, primarily due to service vehicles, has also reduced the extent of green lawns, which are so essential to the quad's attractiveness. On the other hand, the installation of sprinklers in the main quad has proved successful in restoring the vigor to the lawns.

RECOMMENDATIONS FOR QUADRANGLES

The restoration and enhancement of the quads' spatial diversity primarily should involve the use of plantings to create a rhythmic counterpoint to the regular lines of the architectural enclosure. The central spaces should be retained as open lawns, supported by the installation of lawn sprinkler systems. The planting of trees and understory should occur along the edges, but not in bands, with major groupings arching over the walks at quad entrances and path intersections. Since the quads are part of the old campus, the landscape idiom is still analogous to the mature forest, and here should be highlighted by individual specimens of both canopy and flowering understory. Since visual penetration at eye level is also important, large trees should have a light and open canopy and a bold and well-defined shape. All plantings should have strong seasonal characteristics, with a display of spring or summer flowering and/or rich fall color. The large canopy species appropriate to the quads include

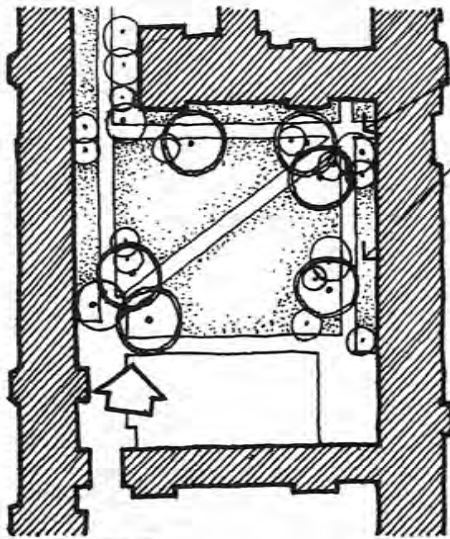


CENTER QUAD LOOKING EAST

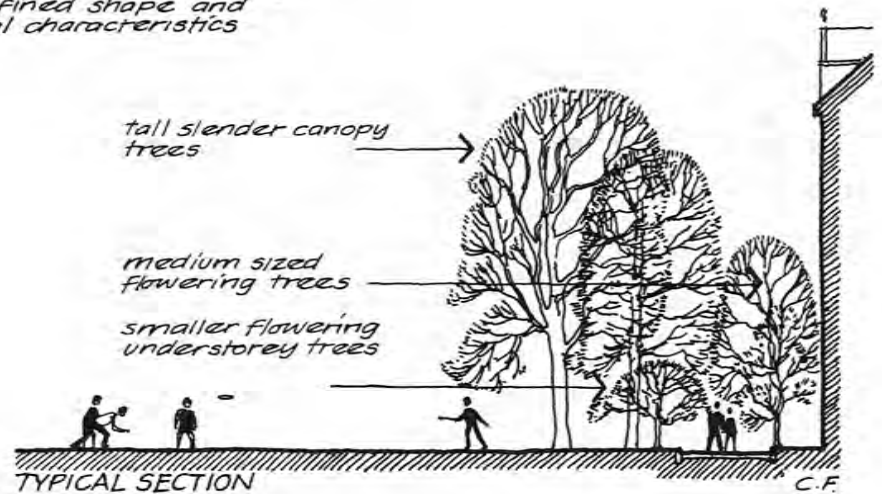
major groupings of canopy and understorey trees at entrances to quad and major path intersections to counterpoint regular lines of architecture

all trees to be of specimen quality with a well defined shape and strong seasonal characteristics

open grassed center areas for informal recreation and sense of space.

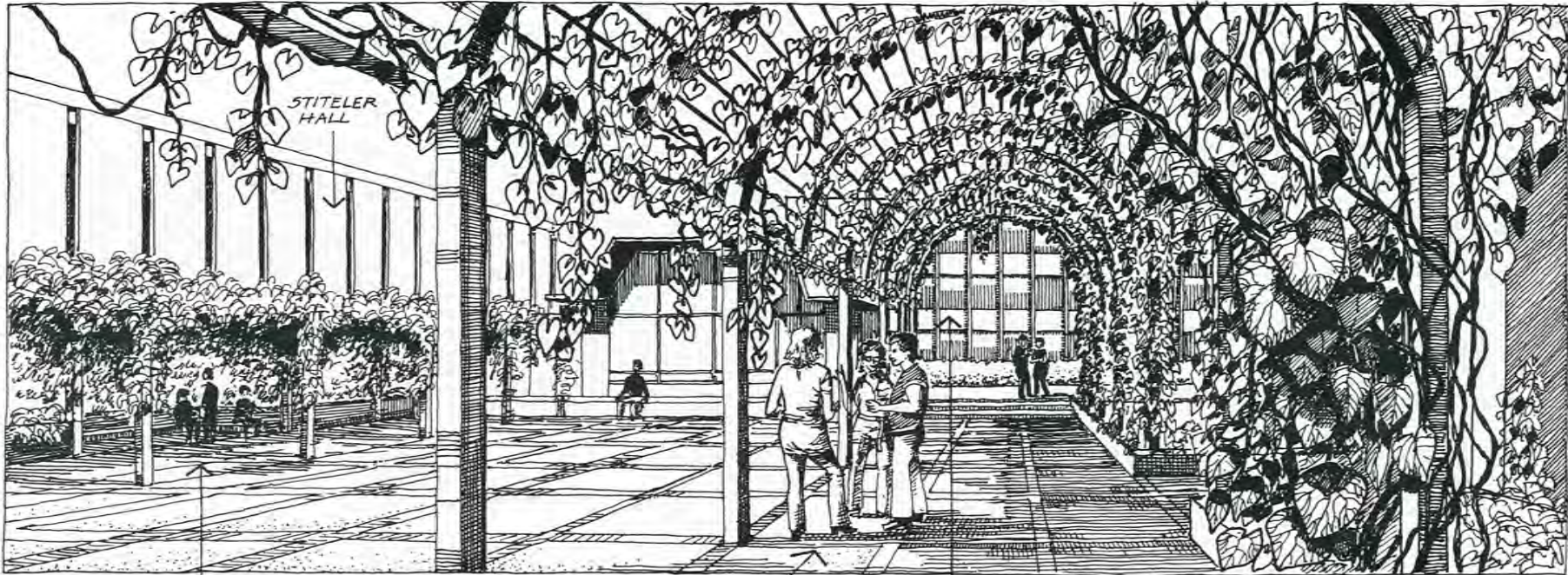


PLAN OF QUAD



TYPICAL SECTION

C.F.

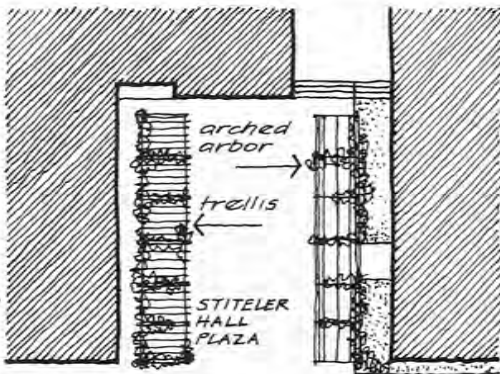


STITELER HALL PLAZA LOOKING SOUTH

alcoves under trellis for quiet relaxation

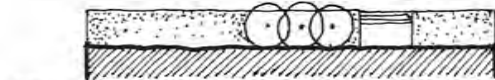
CASTER BUILDING

where tree and shrub planting is difficult due to underground construction the use of dramatic flowering vines on trellises can bring green to an otherwise barren area and can both unify and differentiate the landscape



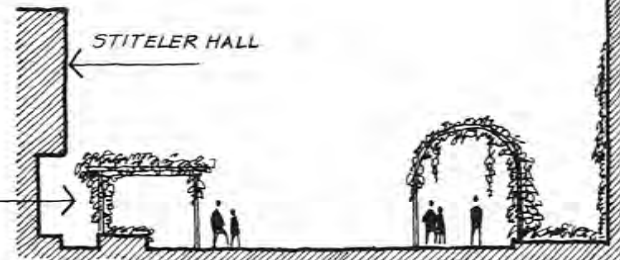
STITELER HALL

arched arbor accentuates line of circulation as well as providing green shady walk



PLAN OF PLAZA

deciduous vines provide summer shade and allow winter sun to penetrate



TYPICAL SECTION THROUGH PLAZA C.F.

tupelo (*Nyssa sylvatica*), red maple (*Acer rubrum*), and white ash (*Fraxinus pennsylvanica*). Appropriate flowering understory species include sarvistree (*Amelanchier laevis*), Merrill magnolia (*Magnolia loebneri*), sourwood (*Oxydendrum arboreum*), flowering dogwood (*Cornus florida*), Kousa dogwood (*C. kousa*), Cornelian cherry (*C. mas*), stewartia (*Stewartia ovata*), snowbells (*Styrax grandifolia*), Cyrilla (*Cyrilla racemiflora*), and Franklinia (*Gordonia alatamaha*).

PLAZAS

Throughout the new campus, building complexes and broad architectural extensions form numerous spaces, ranging from open, semi-enclosed, and raised plazas to sunken or internal courtyards. These relatively small spaces often accommodate heavy pedestrian traffic and are largely paved, with plant material frequently confined to raised planters or small beds. The eddy spaces and alcoves within these plazas are often empty and without exterior furnishings. The resulting spatial experience is barren, lacking in human scale, and fragmented from the surrounding campus landscape. One notable exception is the Law School courtyard, which displays many characteristics of a rich plaza landscape. The paved area is no more than is necessary to carry the pedestrian traffic, leaving larger areas which are devoted to plantings and informal sitting. The design incorporates many elements of the old campus, such as the grass carpet, hedges, and trees along pathway edges, all of which are appropriately reduced in scale and arrangement. In addition to these traditional elements, the design also incorporates adaptations of the new campus, such as the wisteria trellis, into an effective and economical use of limited space. The visual qualities of this landscape are clearly related to the old and new campus and yet also give the courtyard a separate and distinct identity.

RECOMMENDATIONS FOR PLAZAS

Because these spaces are frequently contained and protected by buildings and accommodate heavy pedestrian traffic, they hold great potential to become active meeting places, with alcoves for quiet relaxation. The landscapes for these "outdoor rooms" should reflect and enhance this differentiation of activity to create a much needed sense of place and intimacy. Thus, the manner in which plantings are presented is as important as the selection of species. The use of shrubs and trees in raised planters or small beds at best provides poor growing conditions for plants and gives little visual relief. Where plazas contain limited planting space, due to underground constructions, the use of dramatic, flowering vines on trellises, which would shelter informal sitting areas, is recommended. Appropriate species of vines include wisteria (*Wisteria sinensis alba*), Dutchman's pipe (*Aristolochia durior*), trumpet creeper (*Campsis radicans*), and Coignet's vine (*Vites coignetiae*). Where planting space is more ample, the landscape idiom should reflect and may even highlight the character of adjacent landscape components. Thus, the planting and paving of plaza landscapes should not only form a strong link with the major campus pedestrian spaces and the campus landscape as a whole, but also distinguish and enrich their unique and special qualities as places of meeting and relaxation.

ENTRY PLAZAS

Entry Plazas are small, largely paved spaces which serve as a pedestrian link and transition space to internal plazas or to buildings. In many of these plazas, the large extent of paving has reduced the plantings to small pockets or individual tree pits, which relate poorly to adjacent landscapes and often fragment or isolate the spaces they are supposed to connect.

RECOMMENDATIONS FOR ENTRY PLAZAS

To bring more unity and coherence to the campus landscape, entry plazas hold a unique potential of linking the predominantly paved internal plazas to the greener landscapes of the campus. Beyond serving as connectors between two discrete environments, the entry plaza should clearly signal its function as a gateway and become an event to be *passed through*. In order to gain effective sites for large blocks of planting, the pathway need not take the shortest route but, rather, should be deflected slightly to accentuate the gateway experience. To heighten the visual impact of these small sites, the landscape idiom should consist of dense, monospecific groves of trees, with very close tree spacings that are analogous to the tight groves of young woodlands. Appropriate species for these groves include black locust (*Robinia pseudoacacia*), trembling and large-toothed aspens (*Populus tremuloides*, *P. grandidentata*), tulip poplar (*Liriodendron tulipifera*), white ash (*Fraxinus americana*), red maple (*Acer rubrum*), cherry, yellow, and red birches (*Betula lenta*, *B. lutea*, *B. nigra*), and sweetgum (*Liquidambar styraciflua*).

THE BOTANICAL GARDEN

By its form, location, and function, the Botanical Garden is indeed a unique exception to the whole of the campus landscape. It is the place where one can get away from the campus and the city and truly become immersed in its forests, wildlife, and aquatic landscapes. Due to the time limits of the present project, a schematic design for this area was not attempted. However, we recommend that a very careful, thorough analysis and exploration of its potential rehabilitation be undertaken by a special group specifically constituted to study this landscape. And, although the area holds a wealth of

possibilities, several directions seem worth pursuing: (1) the feeling of "wildness" should be its singular quality and it should never appear to be a "landscaped" place; (2) the presence of the pond and wetland landscapes is also unique to this area and although its rehabilitation will be difficult, the preservation and maintenance of this feature is well worth the effort and probably worth the cost; (3) the area is part of an educational institution and could be of enormous educational value -- the realization of this opportunity, however, should not be didactic or become a threat to the wildness of the setting, but rather should be there for those who seek it out; (4) although the garden was once a showplace for ornamental and exotic plants, which for the most part have long since died or been removed, the area is now valued as a wild place in the city, which could well become a haven for our native wetland landscapes and forests -- this need not involve a simple replication of these environments, which would, in any case, be difficult on this small site, but should become a special presentation that would heighten and highlight the rich and diverse qualities of these landscapes; and (5) the area may also hold some opportunities for research into vegetation management and native landscapes.

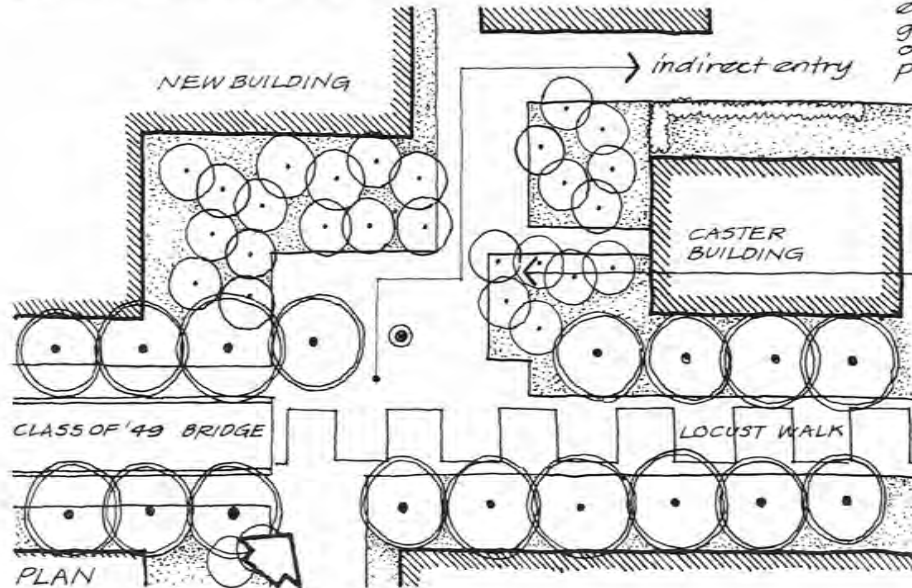
RIVER ATHLETIC FIELDS

This area, including the lands recently acquired by the University for athletic fields, is located on the fringes of the campus and adjacent to current urban wastelands -- the expressway and the railroad yards. The visual impact of this area is significant in that it provides the first view of the campus district from two major approach routes, the Walnut Street and South Street bridges.

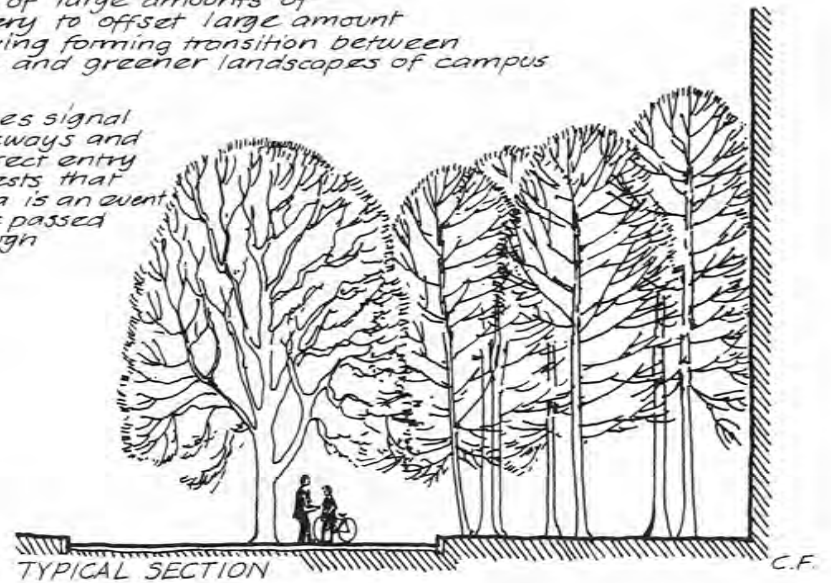


ENTRY PLAZA NEAR LOCUST WALK BRIDGE
LOOKING NORTH EAST TO STITELER HALL PLAZA

tight groves of mono-specific late successional trees give effect of large amounts of greenery to offset large amount of paving forming transition between plazas and greener landscapes of campus



groves signal gateways and indirect entry suggests that plaza is an event to be passed through





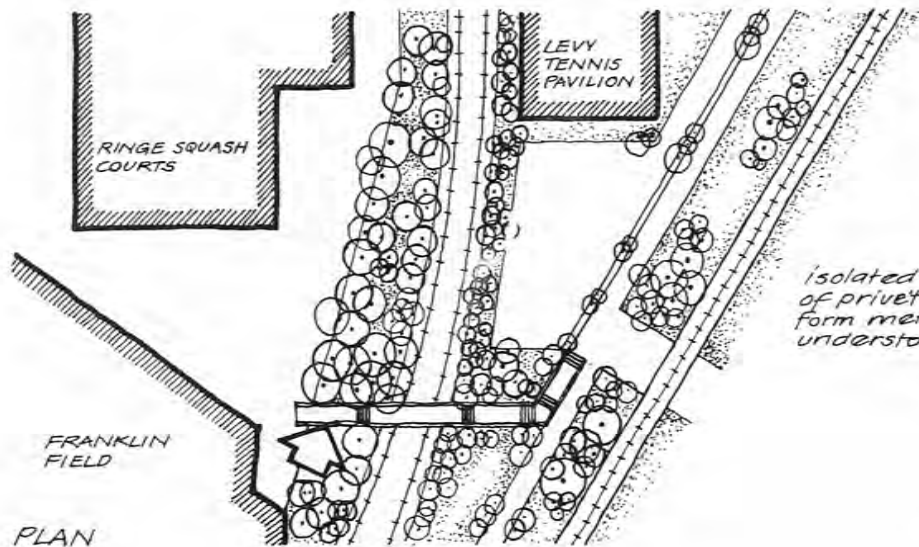
proposed new baseball field
beyond high line

RIVER ATHLETIC FIELDS LOOKING NORTH FROM PROPOSED FOOTBRIDGE

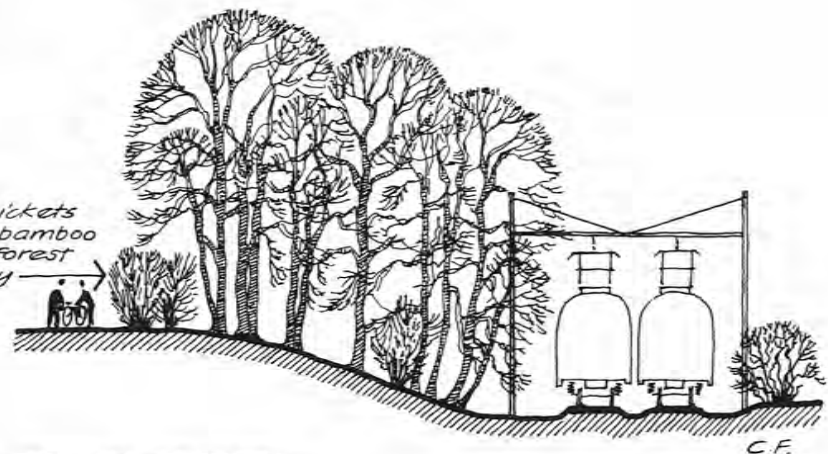
tall open groves of naturalized
ailanthus on severely disturbed
railroad bank

black locust and sassafras
thickets in a meadow of
grasses and wildflowers

shrub mounds of
sumac found at metro-
forest edge



PLAN



isolated thickets
of privet & bamboo
form metroforest
understorey

TYPICAL SECTION

C.F.

RECOMMENDATIONS FOR THE RIVER ATHLETIC FIELDS

Although presently desolate, the areas around the athletic fields are precisely the places where vigorous, naturally occurring plant communities can flourish, providing a landscape that could be termed the *metroforest*, composed of species capable of thriving and reproducing in stressful urban conditions. Remarkably little is known about naturally occurring plants in the city and their potential as a true urban landscape has, for the most part, been ignored. Although some flourishing species of this environment -- such as the ailanthus and paulownia -- are often considered to be weedy pests, they were originally brought to the city as prized ornamentals and were allowed to mature into lush groves and magnificent canopy trees (see, for example, the mature ailanthus grove near St. Mary's Church on the New Green and the paulownias on Logan Circle). Other frequently occurring species, such as the elm and sycamore, have served us well as stately street trees. However, to attempt to plant a managed plant community of this kind or to install and maintain other vegetation types would be prohibitively expensive and would very likely prove unsuccessful. On the other hand, the yet-unseen mature metroforest, if finally allowed to develop, could be far more beautiful and satisfying than its early weedy phases might indicate. At the very least, the opportunity exists here to "green" unsightly areas and provide a bit of true wildness in the city and on the campus. Such a project would also hold enormous educational value for research into vegetation uniquely suited to these sites and might well involve planting and monitoring of appropriate species, which would otherwise entail little or no professional maintenance. Trees of the metroforest include ailanthus (*Ailanthus altissima*), paulownia (*Paulownia*

tomentosa), black locust (*Robinia pseudoacacia*), ash (*Fraxinus* spp.), red maple (*Acer rubrum*), sycamore (*Platanus occidentalis*), box-elder (*Acer negundo*), paper mulberry (*Broussonetia papyrifera*), mulberry (*Morus rubra*), hackberry (*Celtis occidentalis*), sassafras (*Sassafras albidum*), poplars (*Populus* spp.), birches (*Betula* spp.), and cherries (*Prunus* spp.). Shrubs of the metroforest include elderberries (*Sambucus* spp.), sumacs (*Rhus* spp.), and Devil's-walking-stick (*Aralia spinosa*).

BUILDING-RELATED LANDSCAPES

A substantial component of the landscape is defined as 'building-related'. This portion of the campus is predominately composed of spaces immediately adjacent to buildings and are often discrete, narrow strips of land separating buildings from pedestrian paths, streets, or sidewalks. Their function is less actively people-related than the other landscape components described above and has more to do with providing a setting for the building. They are essentially places people pass by or through, rather than occupy, and form transitions between interior and exterior functional spaces. For this reason, the character of these transitional spaces must reflect the character and function of the buildings and landscapes which they join and of which they are a part. In essence, this space is an "edge" between the building and the landscape and, as such, should relate to both and not have a distinct character of its own. Therefore, plantings which set off and separate the building from the landscape, such as 'foundation planting' should be avoided. The object rather should be to provide a smooth, almost unnoticeable, transition, so that the different landscapes flow from building to building and space to space as a continuous, interwoven fabric.

THE LANDSCAPE IDIOMS: A RECAPITULATION

The discussion of components has focused on discrete parts of the campus landscape and these must now be put into the perspective of the generative principles underlying their design. The approach to the overall planting design is concerned with using the landscape to integrate the many disparate elements of the campus into a unified, consistent whole that also provides a rich variety of character and feelings appropriate to the many different uses to which the outdoor space is put. Both natural and man-made landscapes are composed of living things and these respond to environmental conditions, interactions between individual plants, and disturbance or management by man. In the natural environment, both the structure of the landscape and the shapes of the individual plants within it are a direct reflection of this play of forces and, as a result, they create images that can evoke powerful aesthetic and emotional feelings in man.

Examination and analysis of the present campus landscape reveal that it can be divided into three broad categories, each in its way analogous in condition and feeling to a specific natural environment in the region. The Old Campus is a stable nucleus offering a satisfying and enduring image, and although aged and in some cases failing it is nevertheless a successful model that basically needs restoration. This landscape is reminiscent of the mature deciduous forest with its strong, shapely trees and shade-tolerant understory, creating a feeling of tranquility and endurance appropriate to the heart of the campus. This mature forest idiom is suggested for restoration and replanting. The newer parts of the campus differ materially in feeling from the old established areas. These spaces are mostly paved plazas surrounded by individualistic and unrelated buildings. It is a

brash, tough landscape extending to the dynamic city edges. Where the old campus has a sense of tranquility and changes slowly over time, as does the mature forest, the new campus landscapes are active and developing rapidly. The plant material and structure of the dynamic young woodland was seen as an appropriate idiom for these areas, with its image of numerous young trees and shrubs growing in dense groves and thickets, changing dramatically with the seasons and over the years both in character and in composition. This is an idiom both vigorous and resilient, more suited to the greater stresses of these bustling and heterogeneous areas of the campus.

Finally, there are the fringe areas of the campus, mainly to the southeast, adjacent to the expressway, railroads, and river. Currently, they are highly disturbed, neglected wastelands. It is suggested that large areas of this land, such as railroad embankments and playfield edges, be allowed to grow up with the tough urban species that occur naturally on abandoned lands in the city. With occasional minimal interference by man, such as selective thinning and planting of seed colonies of appropriate species, these areas could be developed into attractive and lasting 'metroforests'.

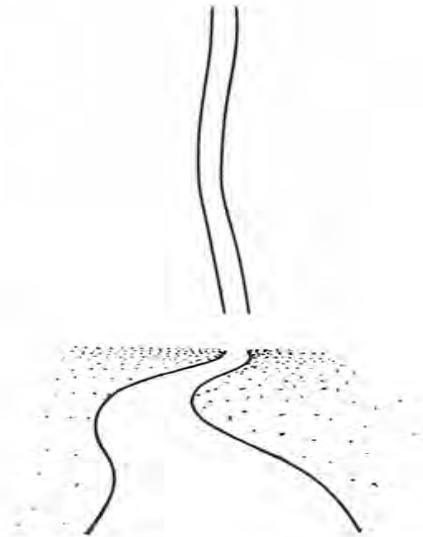
We believe that the creative use of these different natural landscape idioms as the basis for the new landscape of the campus will provide something of the richness and dynamism of the native regional landscapes as well as continuing in the tradition of the oldest Philadelphia plantings, which borrowed extensively from the native floodplain species. Equally important is that this approach could provide something of the *economy* of the natural landscape, for plants which are matched to the environment in which they are to grow will flourish, survive longer, and require a minimum of attention from man.

PAVING IN THE CAMPUS LANDSCAPE

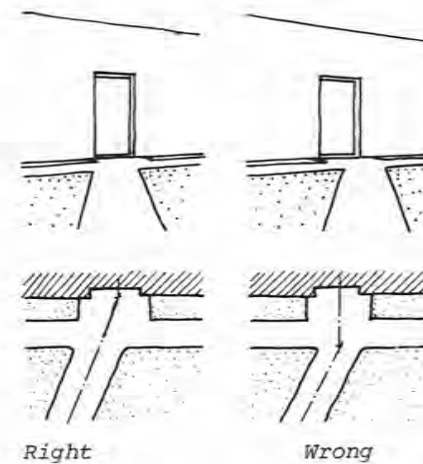
Although the primary purpose of paving is simply to make bare earth fit for walking on, it is also a very important element in the landscape. First, it is very visible: the prudent pedestrian sees much more of it than of the rest of the landscape. Thus it gives, or fails to give, invitations or directions to the walker which make his progress easy or laborious, obvious or confusing, pleasant or tiresome. Paving materials, if fine, can give feelings of richness and permanence; if shoddy, of poverty and decay. As in architecture, permanence -- or at least lack of decay -- is an aesthetic quality. Much of the beauty of Venice is due to the plain cubes of granite which have carpeted its streets and squares for centuries. In the quadrangles of medieval Europe, the architecture is always complemented by a beautiful system of paving -- smooth for main routes, rougher on margins to protect grass, always offering direct routes to entrances and gateways, the architecture often dealing in rectangles, the paving in diagonals and divergencies which counterpoint the architecture. Nor does one need go to Europe: few cities have had such a fine tradition of paving as Philadelphia, whose brick and bluestone was still in use on Penn's 19th-century campus.

Paving is all to do with walking and walking does not change; the historical traditions of good paving are still valid and the principles we have adopted are traditional.

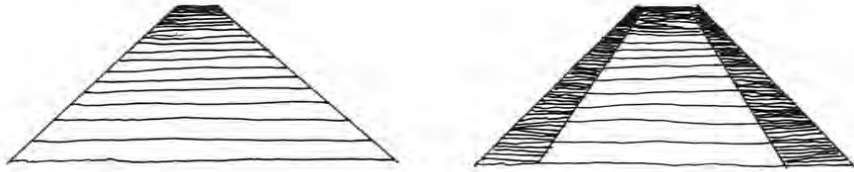
First, paving must offer attractive and near-direct routes or people will short-cut and make their own. The attractiveness of the route depends on the perspective view from eye level, which is often very different from what it appears to be on a plan. Paths often fail to aim properly at doors and gateways; curves which appear gentle on a plan are often sharp enough in



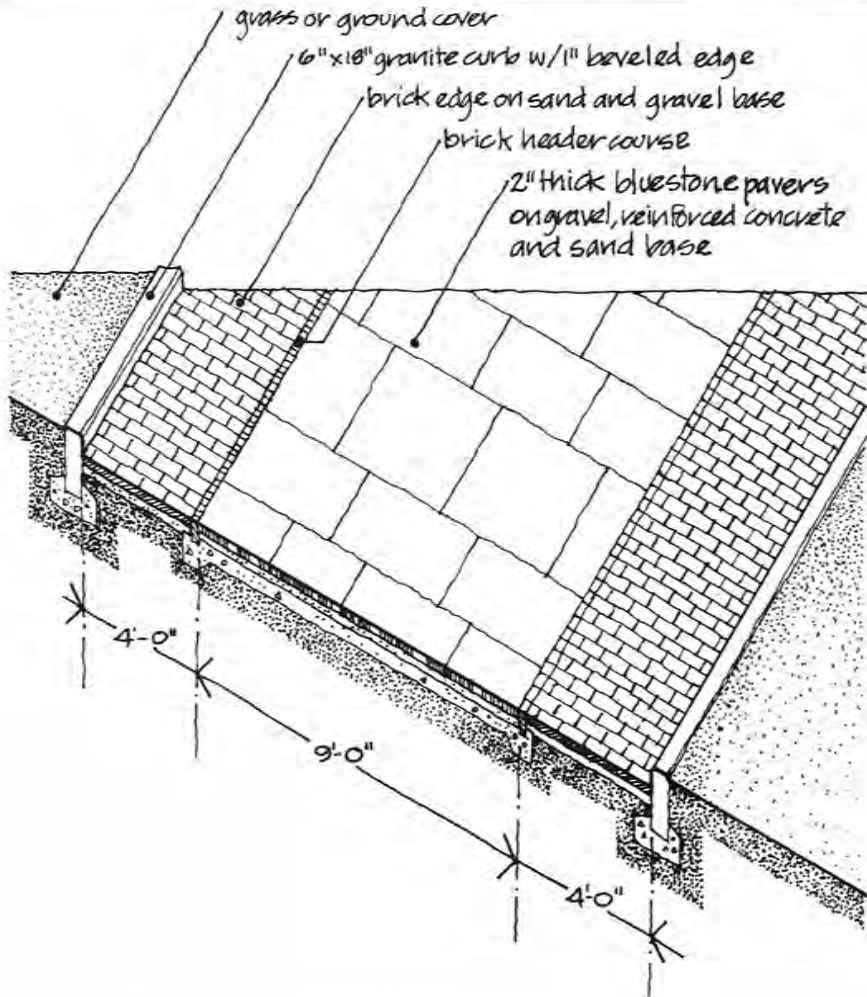
Curved path in plan and from eye level



Alignment of path to a doorway



Wide paths appear narrower by ribbing



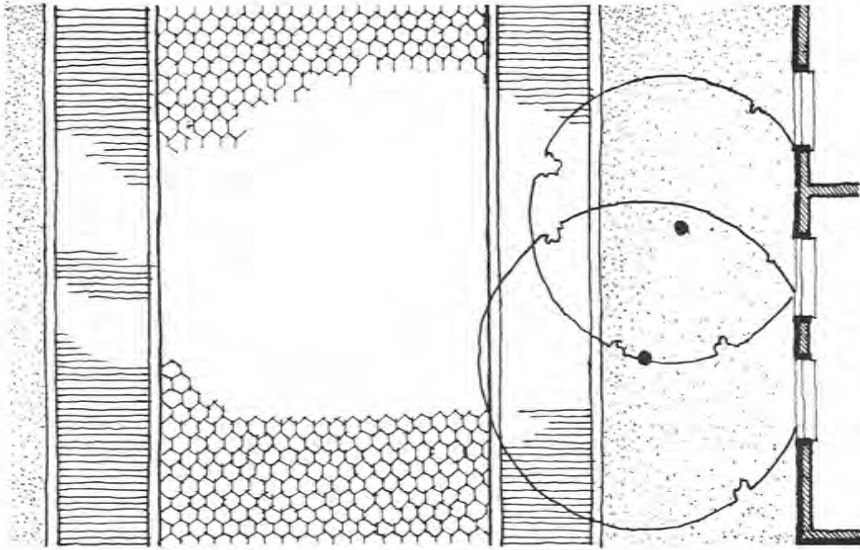
Walkway: Ribbons of brick and bluestone

perspective to lead people to cut across the grass within them. Especially, path layouts should not slavishly follow right angles derived from buildings or from the T-square and triangle used to design them. We agree with Raymond Unwin's dictum that, when it comes to layout, it is dangerous to let an architect even possess a T-square.

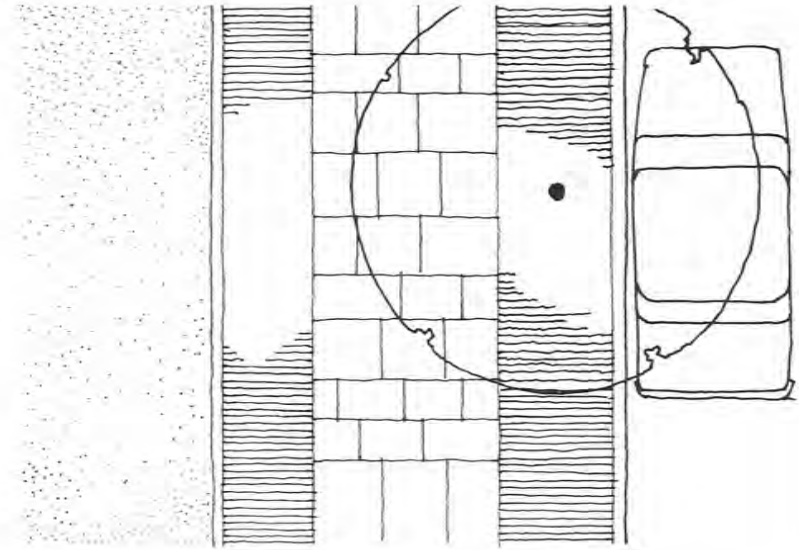
Second, paving should be of good permanent materials which compare favorably with the architecture of the campus. It is nonsense to face buildings with stone and brick when paths have to make do with black-top and cheap concrete. Nor do we believe it is economical: paving has to meet the most arduous conditions of wear and weathering; if brick paving lasts twenty times as long as concrete, it is surely worth paying three times as much for it. We propose therefore that all paths on the campus be brought up to a standard of brick and bluestone, following the traditional pattern of bluestone center with margins of brick. The smooth center and rougher margins invite central walking and tend to lessen erosion of the grass. The division of the wider paths into one ribbon of bluestone and two of brick tends to reduce apparent width and helps paths, which must be wide enough for peak crowds, to look less empty at normal times. Lesser paths can be entirely of brick, and odd widenings and recesses can be made in the margins for trees or small seating areas.

Third, all the paved spaces of the campus have been designed as a system, with a hierarchy of sizes adequate to estimated needs, the network of paths opening here and there into squares and plazas of varying size. Thus, the whole system caters both to movement and dalliance.

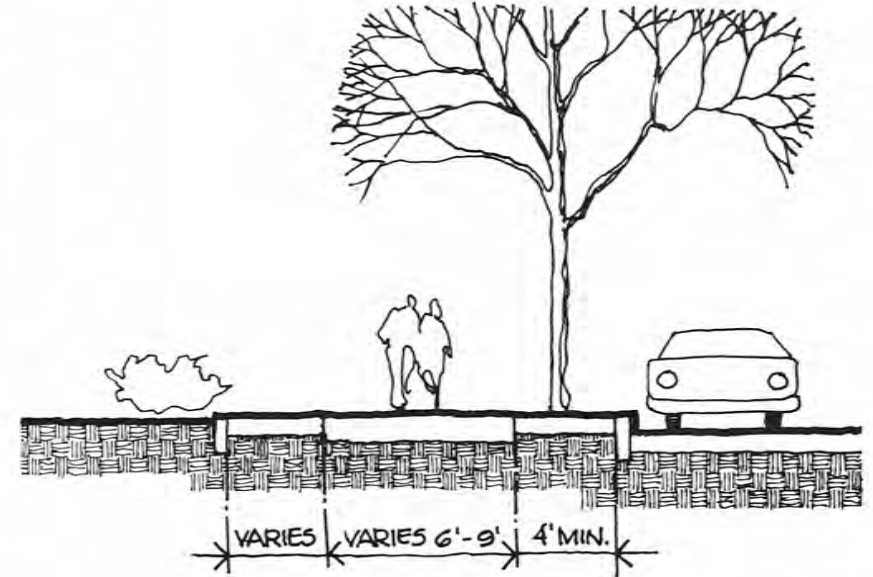
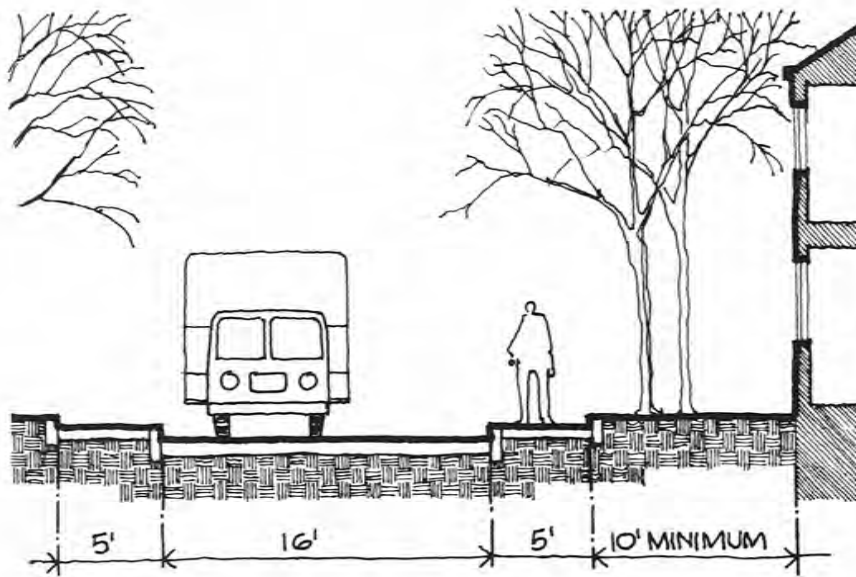
Lastly we suggest that the University should urge the city authorities to refurbish the pavement on the sidewalks of the



Service cul-de-sacs for vehicles



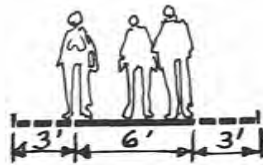
Sidewalk of surrounding city streets



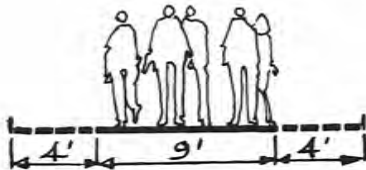
PATH WIDTHS FOR PEOPLE



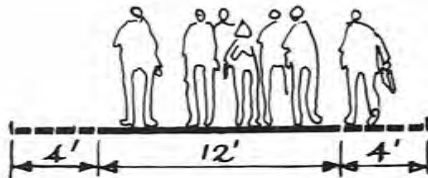
Minor: 6'-0" to 10'-0"
 Pedestrians only
 Brick in sand and soil
 on compacted gravel or broken brick



Tertiary: 12'-0"
 Pedestrians and very light vehicles
 Bluestone and brick, granite-curbed, and drained
 on compacted gravel or broken brick



Secondary: 17'-0"
 Pedestrians and light vehicles; fire access route
 Bluestone and brick, granite-curbed, and drained
 on reinforced-concrete slab



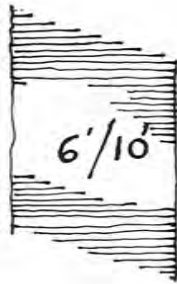
Primary: 20'-0"
 Pedestrians and vehicles, including buses; fire access route
 Bluestone and brick, granite-curbed, and drained
 on reinforced-concrete slab or existing roadbed



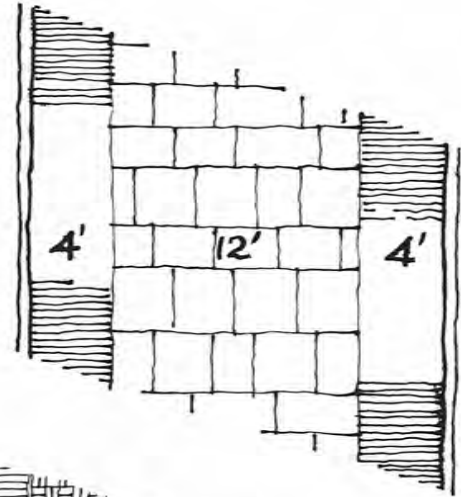
Locust Walk: 25'-0"
 Heaviest pedestrian traffic on campus; fire access route
 Existing 20-foot width extended 2 1/2 feet on each side
 Same design used to extend Locust Walk from 37th to 38th
 streets

PROPOSED PATH WIDTHS FOR CAMPUS WALKWAY SYSTEM

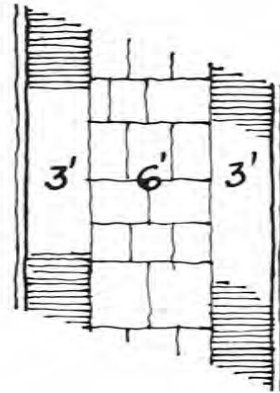
Minor



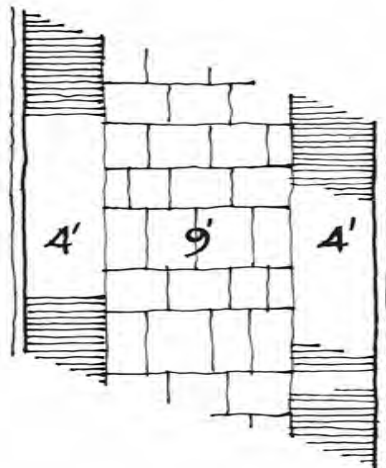
Primary



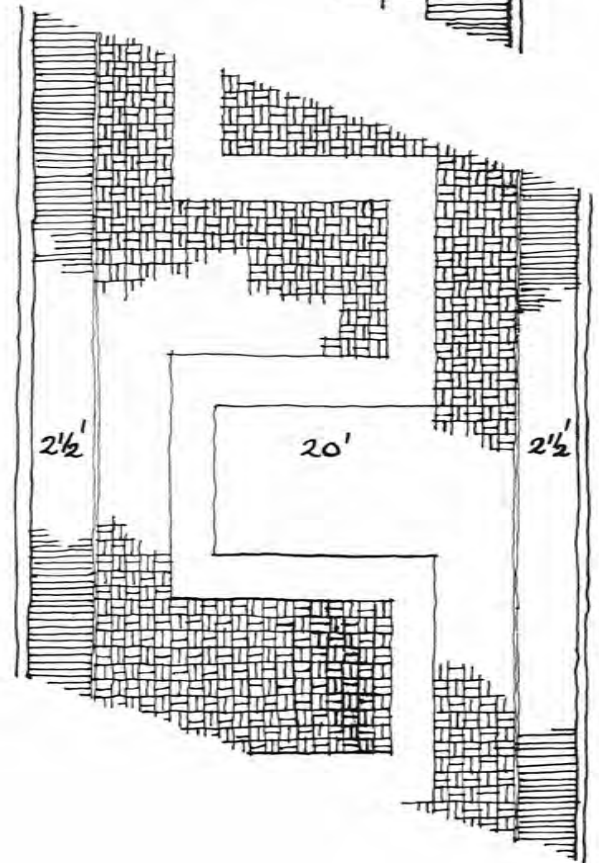
Tertiary

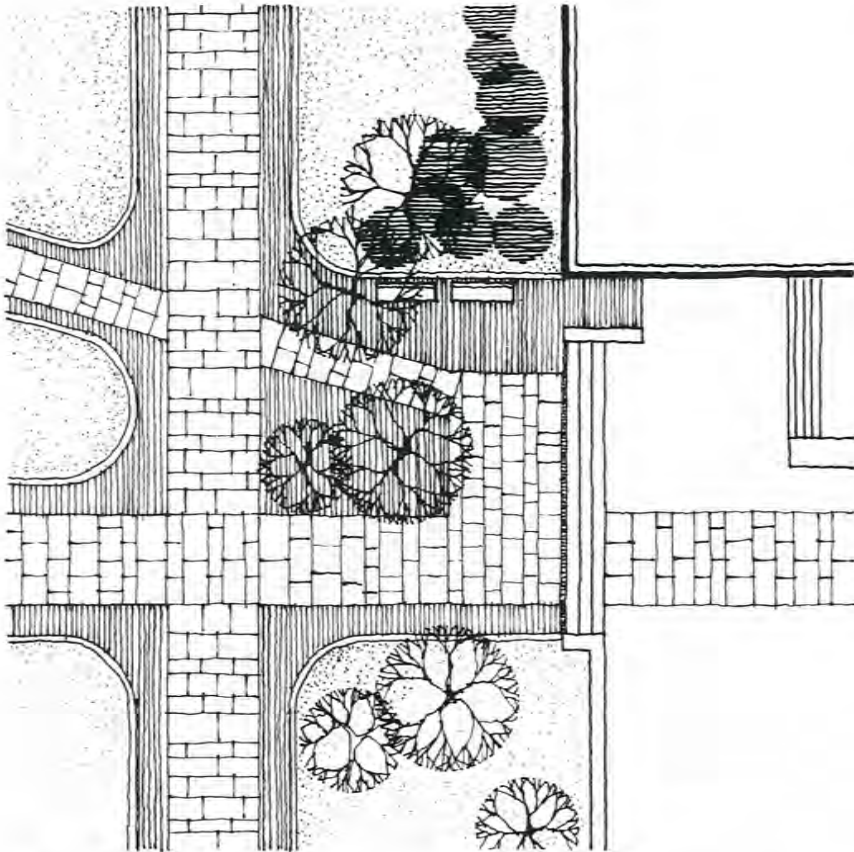


Secondary



Central Spine





The Fine Arts Plaza on College Hall Green: Typical junction of bluestone and brick paving

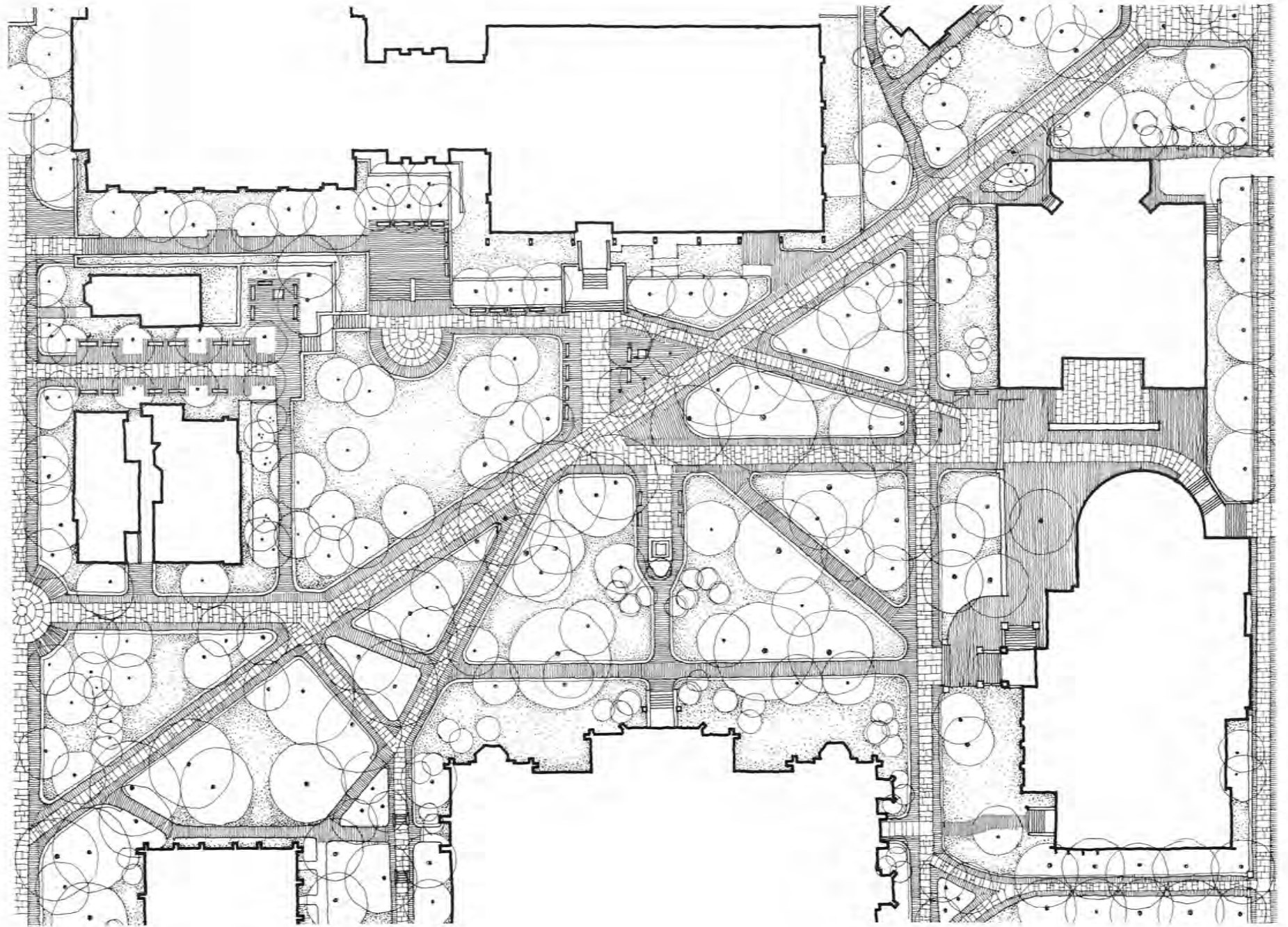
surrounding streets to standards similar to those set by the plan. It would be ideal to restore the traditional ribbons of bluestone and brick, with a wide brick strip for trees at the edge of the roadway.

STREET FURNITURE AND OTHER OBJECTS IN THE LANDSCAPE

A habitable campus needs not only paths and squares, grass and trees, but also many other objects, from seats to sculpture, which occur throughout the landscape. We have made no specific suggestions about these, except to consider, in the process of design, suitable sites and recesses for such things. But in the appearance of the landscape such things have an importance out of all proportion to their size. Some, such as lighting poles and seats, can be designed with modest shape and discreet color to have a minimal impact on the landscape; others, such as trash cans and poster sites, have a need for visibility which creates an impact in itself and needs even more skill in design to render it acceptable.

A special study is being made of lighting on the campus and another of graphics, which we welcome, and we offer any help we can give in the coordination of these studies with the landscape plan.

Opposite page: College Hall Green, the heart of the campus, redesigned to reduce paved areas, increase green areas, and replace all obsolete paths with new and needed routes. Paths of bluestone and brick are largely on gravel foundations, allowing air and water to reach tree roots, and curbed, preventing erosion of grass by water. Old trees are preserved and new ones planted to reinforce and succeed them. The statue of Benjamin Franklin has not been moved, but is given its traditional setting of tall shrubs.



Schematic Landscape Development Plan



Key map for plan areas

The schematic landscape development plan for the campus has been divided, for the purpose of this report, into ten areas. The plan of each area is accompanied here by a brief summary of existing conditions and the major design recommendations. Also, a portfolio of the area plans, at an enlarged scale, can be found at the end of this report.

SCHEMATIC PLAN, AREA 1

Two of the most important gateways into the campus occur within this area: campus-bound traffic from the city approaches the heart of the campus at 34th and Walnut streets, and the pedestrian movement from 30th Street Station enters the campus at 33rd and Chestnut. Reorganization of the Hill Hall block, with the restoration of the Woodland Avenue diagonal access route through it, would permit these two gateways to be developed with hospitable passage between them, and also permit the creation of a rich and diverse landscape for the major entry route from the north along 34th Street. Development of the presently vacant land in the 3400 block of Walnut Street can bring back displaced commercial activities, and in a way that would both enlarge and enliven the Gateway Plaza at 34th and Walnut and create an intimate series of spaces well related to the scale of Sansom Street.

Gateway Plaza at 34th and Walnut streets. A welcoming entrance into the heart of the campus is framed by large-scale plantings close to the edges of this intersection. Pedestrian crosswalks are set back from the intersection, in conjunction with the creation of small, appropriate plazas in each quadrant (see



34th Street landscape, looking south from Chestnut

also the plan for Area 5): the entrance into College Hall Green on the southwest corner; diagonally opposite it a resting place along the newly formed diagonal walk from the 33rd and Chestnut Gateway Plaza; an entry plaza to Bennett Hall on the southeast corner, echoed by a major plaza on the northwest corner (serving the art gallery and commercial development currently proposed for the now vacant land).

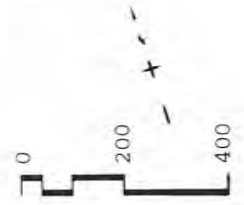
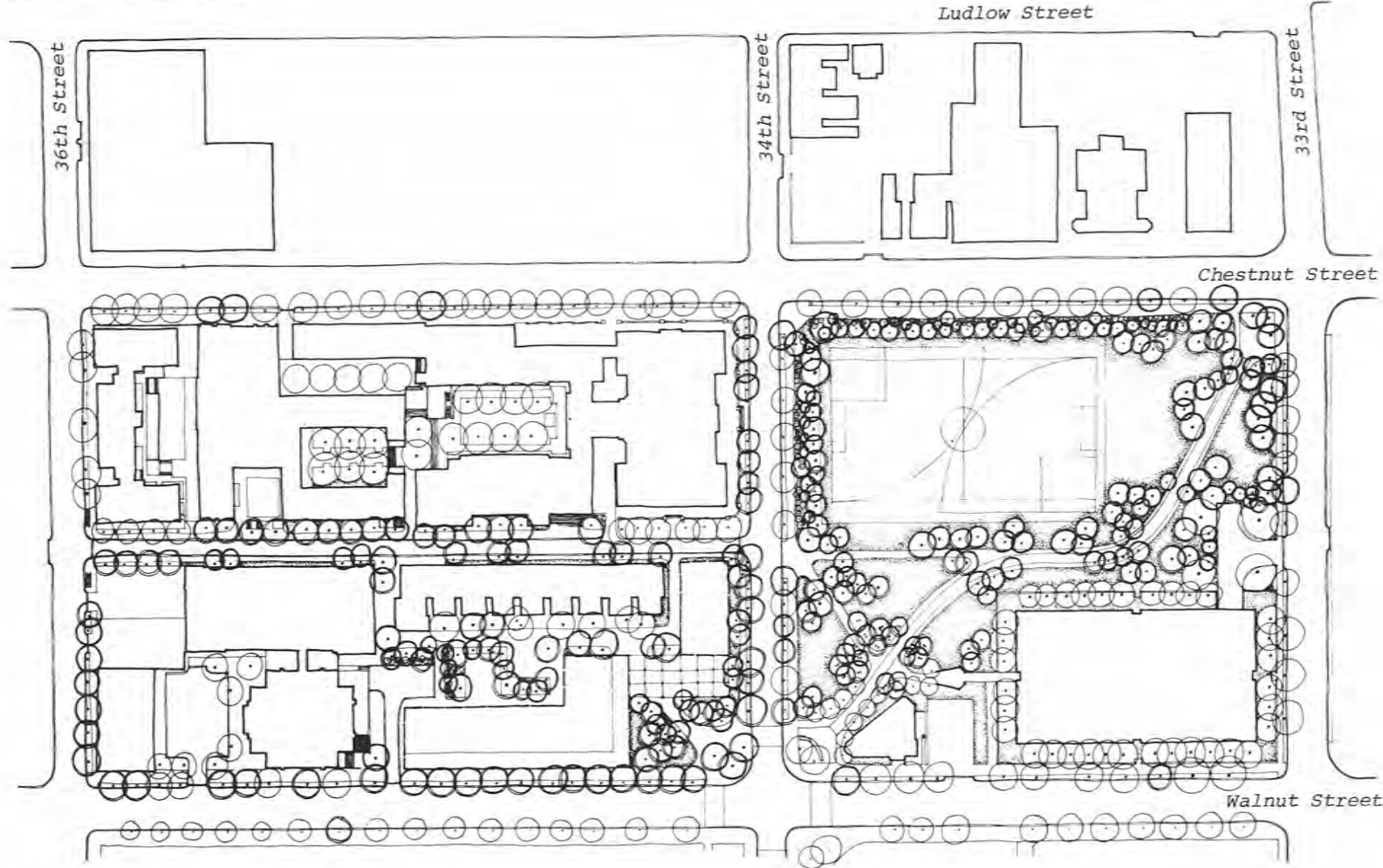
Gateway Plaza at 33rd and Chestnut streets. A small plaza here, as a prelude to the Gateway Plaza at 34th and Walnut, would greet commuters and visitors arriving from 30th Street Station at their first entry into the campus.

New walkway extending the Woodland pedestrian axis. Hospitable passage between the above gateway plazas is provided by a new walk skirting the Hill Hall playfields. Alcoves off this walk would include small sitting areas for resting or watching sports and sunny open places for casual recreation. At its western end, the walk coalesces with the Sansom Street walkways, the Hill Hall entrance, and the plazas at 34th and Walnut. The landscape of the walk consists of groves of young woodland trees within a meadow.

The 34th Street landscape. A slight setback of the playfields and creation of a broad planting strip along the eastern side of 34th Street in this block would allow passage of the sidewalk through a rich campus-edge landscape; this landscape would also provide a visually effective greeting experience for the vehicular traffic approaching the campus from the north along 34th Street.

New development in the 3400 block of Walnut Street. Although a variety of other considerations will contribute to defining the building program for this site, it is important here to indicate the role of open space at this critical location on campus. In addition to allowing for the creation of the major gateway plaza at 34th and Walnut, it is recommended that a continuous street-level arcade for shops be provided along Walnut Street and along the plaza. This would mitigate the present inhospitableness of Walnut Street for pedestrians and open it to street-level activities. All servicing should be accommodated within a cul-de-sac adjacent to the Franklin Building. Development of a courtyard with rich and intimate plantings is recommended along Moravian Street; the scale of this courtyard and the activities permitted within it should be consonant with the uses occurring within the Sansom Street buildings, the backs of some of which could open onto the courtyard.

Schematic Plan, Area 1



Existing trees drawn
with single line
Proposed trees drawn
with double lines

SCHEMATIC PLAN, AREA 2

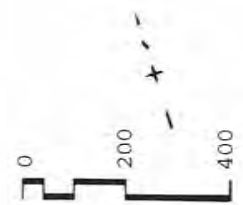
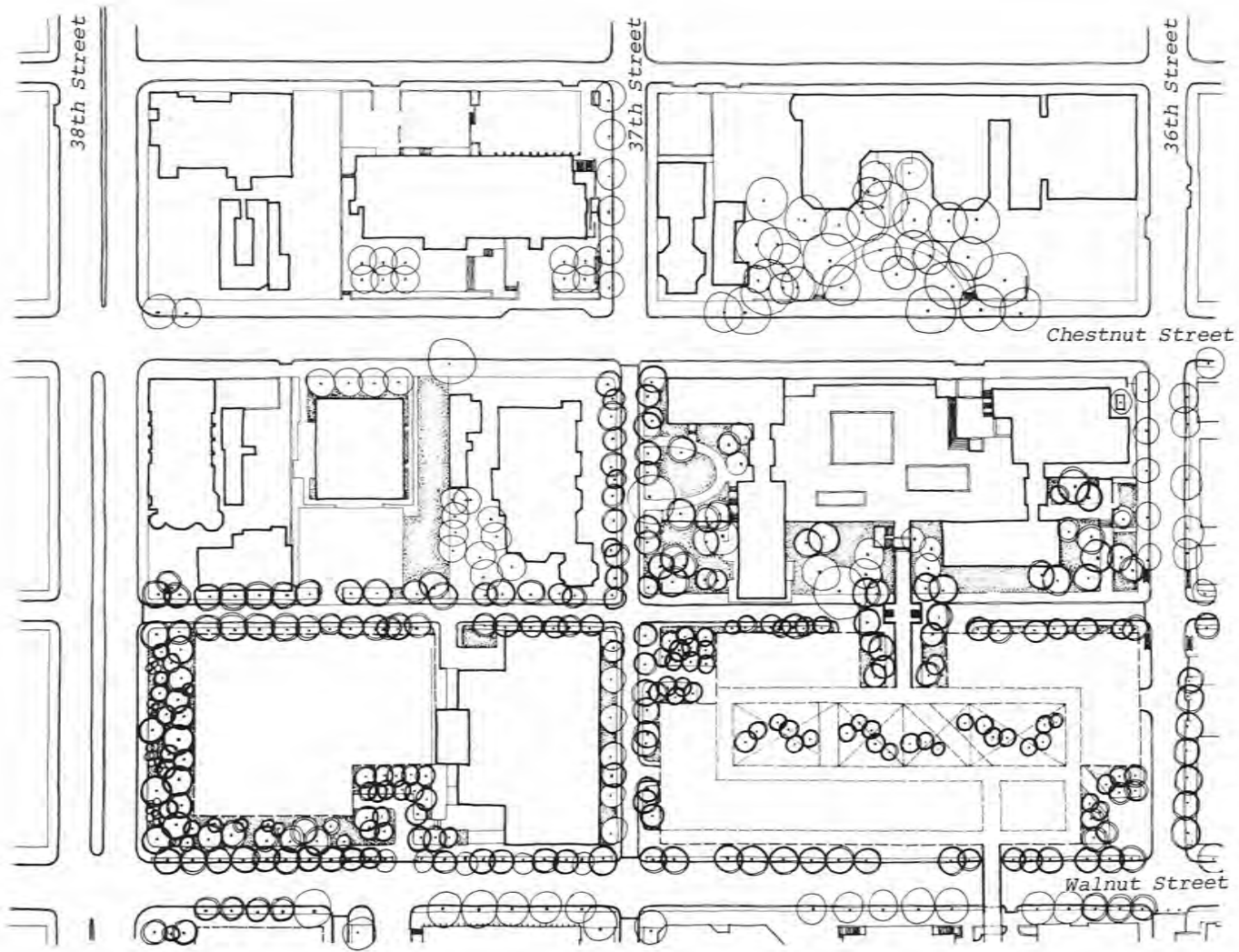
The exact nature of future development for the recently cleared land along Walnut Street in this area is still undetermined. Thus the opportunity exists to specify essential landscape functions which should be considered before detailed programming and designs are developed. The landscape recommendations for these two sites are based upon the current assumption of multi-use commercial development in the 3600 block and added athletic facilities on the land adjacent to Gimbel Gymnasium in the next block.

New development in the 3600 block of Walnut Street. The prime-location attributes of this land for commercial development are likely to argue for full site coverage by buildings. Nevertheless, as for the development in the 3400 block, it is recommended that a hospitable treatment of the street-level frontage along Walnut Street be insisted upon. This could take the form of an arcade, small entry plazas, and a covered, interpenetrated 'galleria'. Also, a unique opportunity exists for integrating this development with the rest of the campus through pedestrian bridges across Walnut and Sansom streets, linking it and the Graduate Towers Plaza to Annenberg Plaza.

New development in the 3700 block of Walnut Street. The current program envisages facilities for indoor sports on the land adjacent to Gimbel Gymnasium. While it is suggested that the roofs of these new structures be utilized as added open space, essentially for sports activities, it is proposed that part of the site be left open and landscaped to provide both streetside plantings and an entry plaza along Walnut Street and a major setback along 38th Street; the latter would have dense, diverse plantings, providing continuity with the 'green canyon' proposed for 38th Street between Spruce and Walnut.

New walkways along 36th, 37th, and Sansom streets. The existing streets are closed to through traffic and renovated into new walkways with service cul-de-sacs. The paving is reduced in width and new green strips with irregular lines of trees occur on either side of the walk, as in the sections of 36th and 37th streets between Walnut and Spruce.

Schematic Plan, Area 2



Existing trees drawn
with single line
Proposed trees drawn
with double lines

SCHEMATIC PLAN, AREA 3

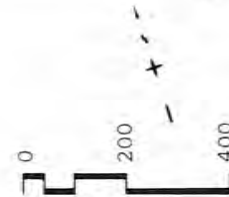
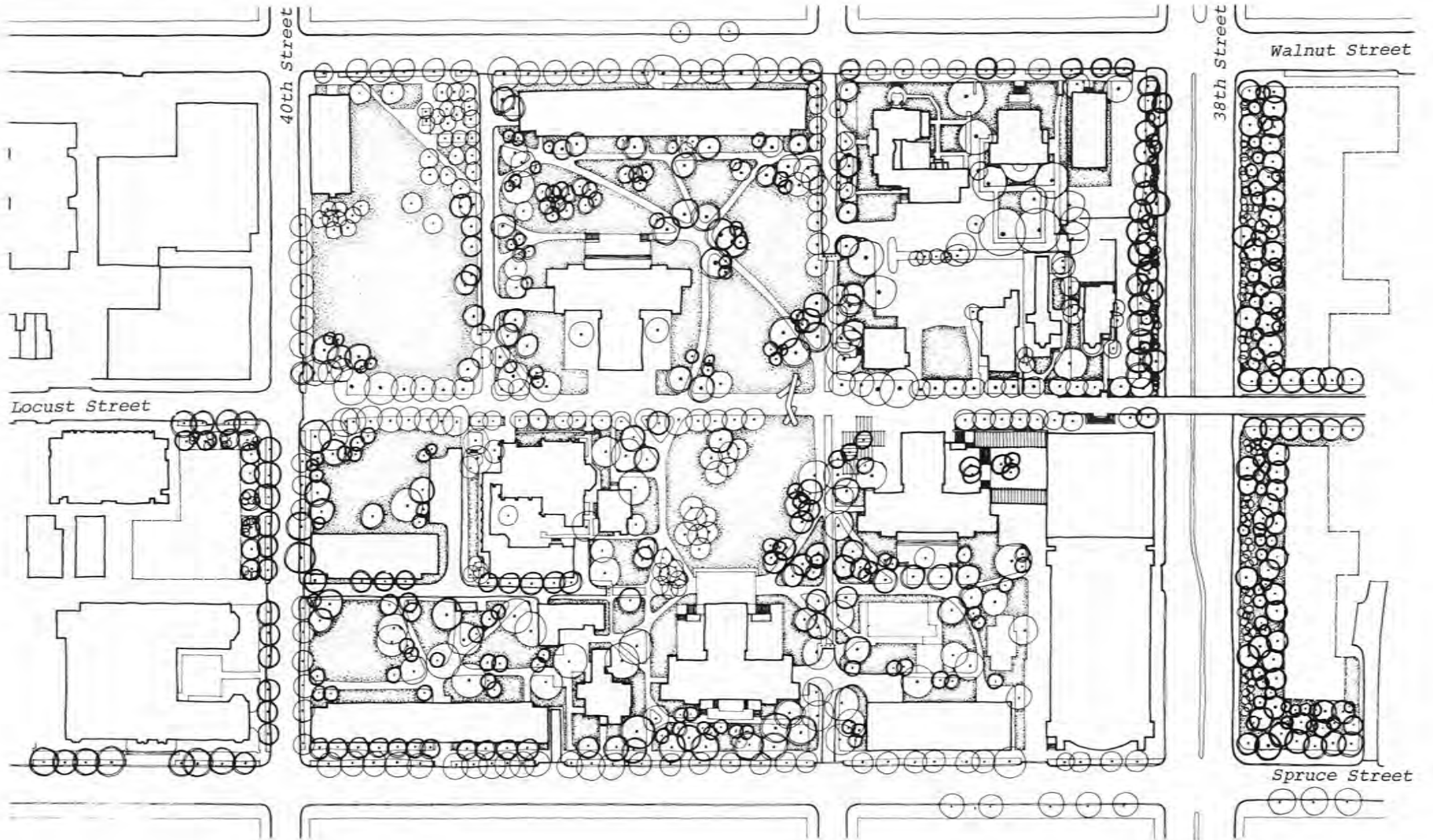
The development of the residential superblock in this area has resulted in the creation of a large open space, an open space which could in fact be a New Green rivaling and complementing the older, historic Green at the other end of Locust Walk. The potential for it to become such a memorable, expansive green is unrealized at present because of an extensive path network dividing it up into fragments and dispersed plantings disrupting the continuity of the space. Reorganizing the central area is essential, but modifications of the peripheral spaces are also needed to improve the functioning of the whole.

The New Green. While bisection of the central space is necessary to retain the continuity of Locust Walk, most other paths here can be relocated to better conform to desire lines of movement. This reorganization combined with the reduction of the extensive paving in front of some of the buildings would create larger 'interior green' spaces. Removing some straggling, dispersed plantings and enhancing some existing plant groupings with new groves would ensure a sense of flowing space; the proposed plantings, instead of emphasizing paths, occur at path intersections, both to punctuate and direct movement and to enable one to appreciate the whole space. Plantings of large, spreading, canopy trees with a rich mixture of understory would be used.

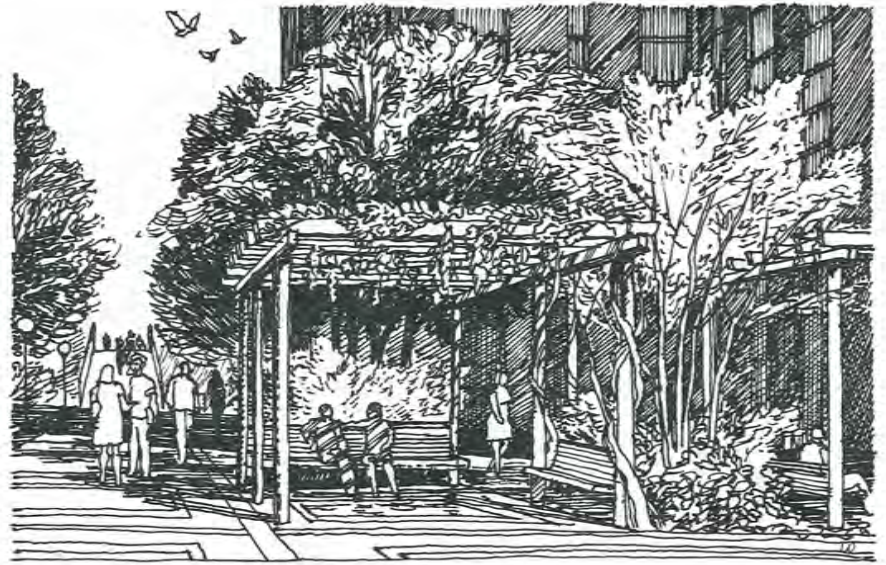
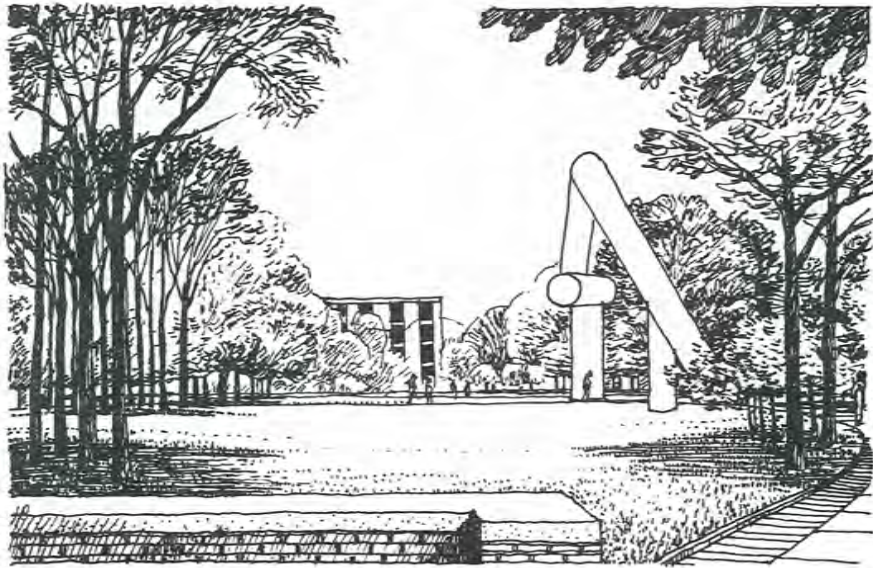
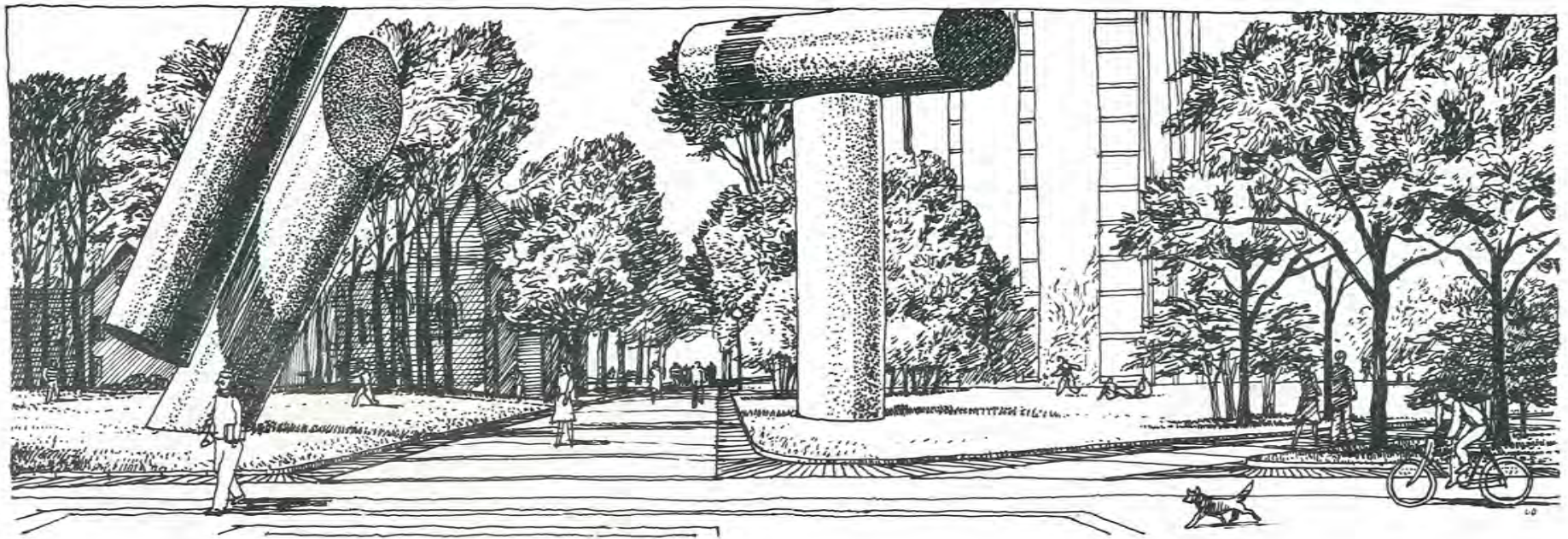
Harnwell House Plaza. The present large and unsheltered paved plaza just west of Harnwell House diminishes the effective size of the central space, a problem aggravated by the sculpture which sits uncomfortably at its edge. Reducing the paving and introducing a vine-covered trellis shelter adjacent to Harnwell House would, besides furthering the New Green, enrich the plaza's functioning as a meeting place and provide a 'gateway' experience related to the bridgehead. The sculpture is freed from paving at its base and appears as an unencumbered object in the New Green, springing out of the flowing meadow, while still permitting passage of Locust Walk through it.

Ancillary spaces around the New Green. The more enclosed, smaller greens on the periphery continue the flowing space of the New Green at a more intimate scale, consonant with the low-rise buildings, and offer opportunities for casual recreation and retreat. Cul-de-sac service courts are accommodated on the periphery, and small gateway plazas occur where appropriate along Walnut, Spruce, and 40th streets. Plantings consist of irregularly spaced understory trees with occasional canopy trees to accent special places.

Schematic Plan, Area 3



Existing trees drawn
with single line
Proposed trees drawn
with double lines





*Top: Locust Walk, looking toward the 38th Street bridge
Bottom: 37th Street walkway, looking toward Spruce Street*

*Opposite page: New Green, looking west up Locust Walk (top);
open meadow of the New Green, seen from Harrison House Plaza
(bottom left); trellis shelter of Harnwell House Plaza (bottom
right)*



SCHEMATIC PLAN, AREA 4

The widest diversity of buildings, and thus of landscape types, exists within this area. While Woodland Mall and Locust Walk provide apt examples of new landscapes complementing and in continuity with the old, some of the building-related plazas are starkly inhospitable in themselves and unrelated to the green landscapes of the campus. Conflict and confusion in the service network further aggravates the jumble. However, with the closure of 36th and 37th streets, there are major opportunities for integrating the whole. In addition, the wide chasm along 38th Street needs to be 'visually' bridged to provide a sense of continuity with the residential superblock to the west.

Service cul-de-sacs off Walnut and Spruce streets. Solution of the service requirements is primary in reorganizing the overall landscape within this part of the campus. Fortunately, it can be accomplished using some existing service courts and parts of the cross streets which have been closed to through traffic. The important principle to observe is that the service channels should not intersect the major pedestrian route along Locust Walk. A system of narrow-street cul-de-sacs is proposed. Pedestrian movement along these service lanes is facilitated, with pedestrian-vehicle conflicts minimized -- when vehicles are present -- through a paving differentiation. The sections of the rights-of-way closed to vehicles are planted with loose rows of canopy trees along the new walkways.

Locust Walk. The pleasing and generous landscape character of Locust Walk is extended up to the bridgehead at 38th Street, where groves of trees in the entry plaza to Stiteler Hall would provide a welcoming event as one enters the academic campus from the residential core across the bridge. A smaller entry plaza, also leading into the Stiteler Hall Plaza, occurs at the intersection of Locust Walk and 37th Street, where an existing grove of pin oaks is selectively cleared to create a sunny meeting place with kiosks for food and drink.

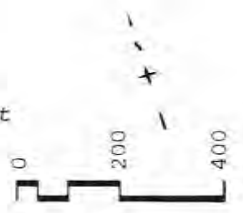
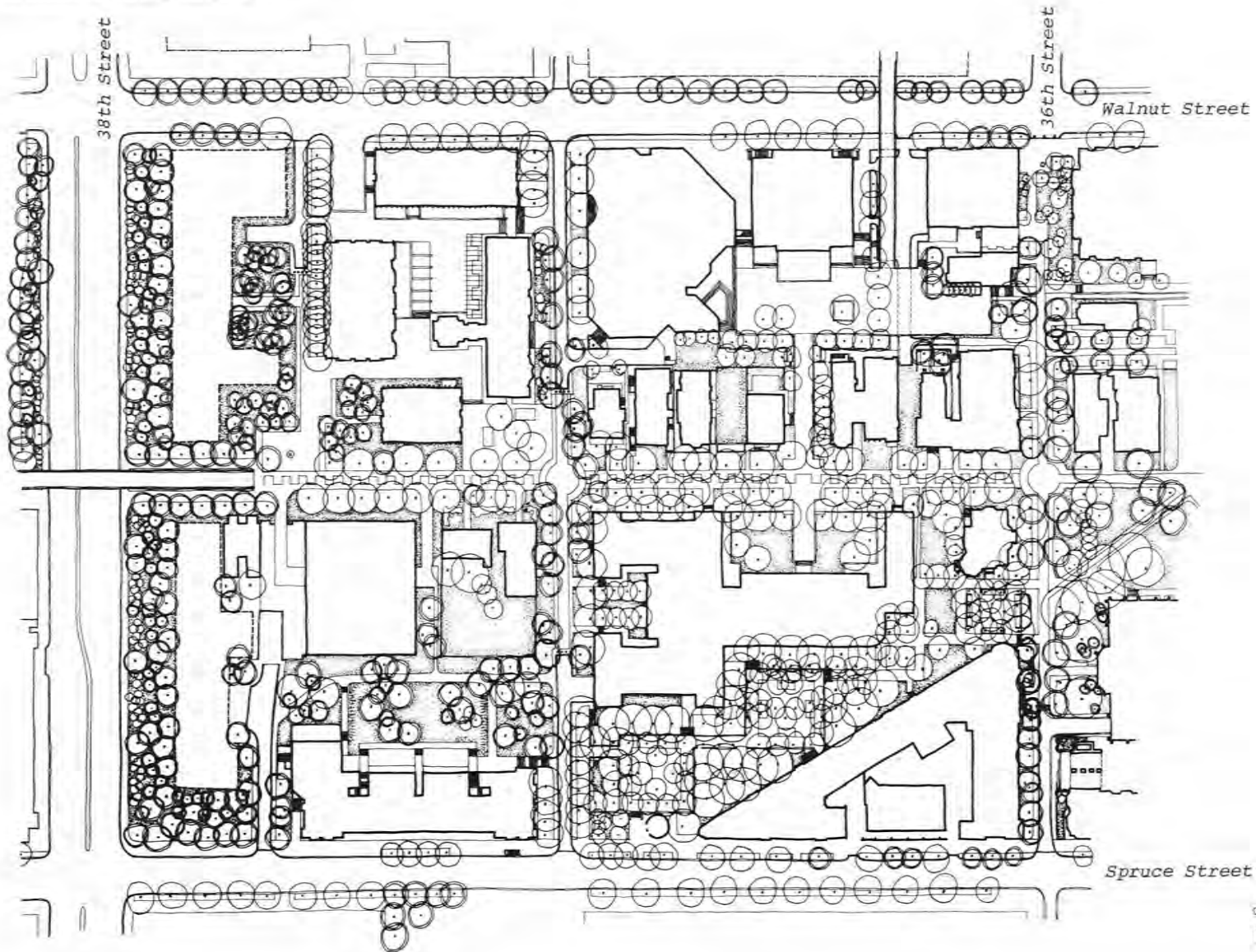
The 38th Street canyon. The widened state highway along 38th Street is a chasm which, although effectively bridged for pedestrian movement along Locust Walk, acts as a visual barrier between the academic campus and the residential superblock. Also, it is a 'face' of the campus exposed to the city which is unpleasant. Its low elevation and wide bordering berms would, however, permit extensive planting to create a unique 'green canyon', provided that future building along the eastern side is well set back. A complex of dense, hardy shrubs backed by

understory and large canopy trees is used to create a continuous 'green wall' on either side of the street. Visual 'leaping over' from either side occurs, mitigating the divisiveness of the wide and heavily trafficked street. Space along the parking garage on the lower west side of the street is inadequate for this form of planting; here, a simulation of the 'green wall' with vines trained on trellises anchored to the garage wall is proposed.

Spruce Street. Because of extensive new buildings, conditions for street trees have become extremely hostile on this street. To retain a sense of greenness and scale, large planting areas have been suggested to alternate with the building fronts. Some of these already exist, the entrance to Woodland Mall being a good example. New buildings at the corner of 38th and Spruce should have a setback no less than twenty-five feet from the sidewalk to provide space for these green areas. Where there is open space, as at the eastern corner of the Stouffer Triangle, but trees cannot be planted because of underground construction, a vine-covered arbor or trellis is suggested to provide a sense of green.

Annenberg and Stiteler Hall plazas. The newer buildings have characteristically included internal plazas in their designs. Parts of these plazas consist of rigidly defined spaces, composed of hard elements with a few straggling plants trying to survive in containers. Lack of shelter renders them all the more inhospitable, and indeed they are empty of users. Where the plazas are 'lids' over parking or other structures and extensive planting of them is infeasible, the use of trellises and arcades with climbing vines and multi-stemmed plants is recommended. In keeping with the formal, architectural character of the spaces, plantings within each plaza would be restricted to a few selected species. A new bridge links Annenberg Plaza with the proposed development north of Walnut Street, and an elevated walkway between the Christian Association and Hillel allows passage between Annenberg Plaza and College Hall Green. A new deck over the southern end of the service cul-de-sac here provides an opportunity for infilling between the Christian Association and the plaza with a new restaurant-cafe; outdoor eating with tables and umbrellas spilling out onto Annenberg Plaza would bring an appropriate use and life to an empty, underused space.

Schematic Plan, Area 4



Existing trees drawn
with single line
Proposed trees drawn
with double lines

SCHEMATIC PLAN, AREA 5

This area is the heart of the campus. The presence around College Hall Green of the President's office, the main library, Houston Hall, and Irvine Auditorium makes it a central experience for almost all users of the campus. It is important that this space, in addition to meeting the functional requirements of circulation and catering to a variety of organized and casual activities, fulfill its role as a prime image of the University. While restoration of the historic Green itself is required, its edges must also be treated in a sympathetic manner. Although lacking any comparable large spatial experience, the block to the east across 34th Street is distinguished by some largely undisrupted old-campus landscapes. The earlier new buildings in the northeastern part of the block were very benign; the more recent addition in the southwestern part has encroached upon the small green behind Hayden Hall, but not irredeemably. The worst disruption has been, in fact, Dutch elm disease, which has resulted in the removal of noble elms along Smith Walk. Restoration and reinforcement of the old-campus landscape is strongly indicated here, both for the interior of the block and for the sections of 33rd and 34th streets along it.

College Hall Green. The increased campus population, the addition of new buildings, and the consequences of an aging landscape have diminished, but not obliterated, the cherished qualities of this historic campus landscape. The major action required is to reorganize the maze of paths here, so that the desire lines and volumes of movement through the Green are catered to. Paths of appropriate widths are aligned in response to observed movement patterns. Path intersections are expanded and corners rounded to accommodate movement which would otherwise result in congestion and trampled grass. Bordering heavily trafficked paths with bands of brick paving is recommended, to accommodate periodic increases in traffic volume, to visually highlight path direction, and to facilitate the introduction of path-related outdoor furnishings such as benches and trash receptacles. Wider paved areas are provided in appropriate gathering locations, for example at the entrance to Van Pelt Library. The interstitial spaces between paths are made as large as possible, and very gently mounded at their centers to diminish the visibility of paving across the Green. Employment of a proper irrigation system to maintain and strengthen the lawn cover is recommended. In keeping with the expansive character of the Green, the landscape here is one of large, mature, high-branching, wide-canopied trees, generally grouped in groves around path intersections. Occasionally

understory plantings are used, but the use of shrubs is restricted to a few special locations, such as around the Franklin statue and at the entrance to College Hall.

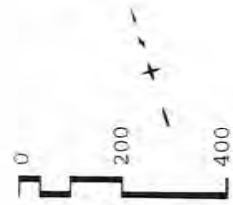
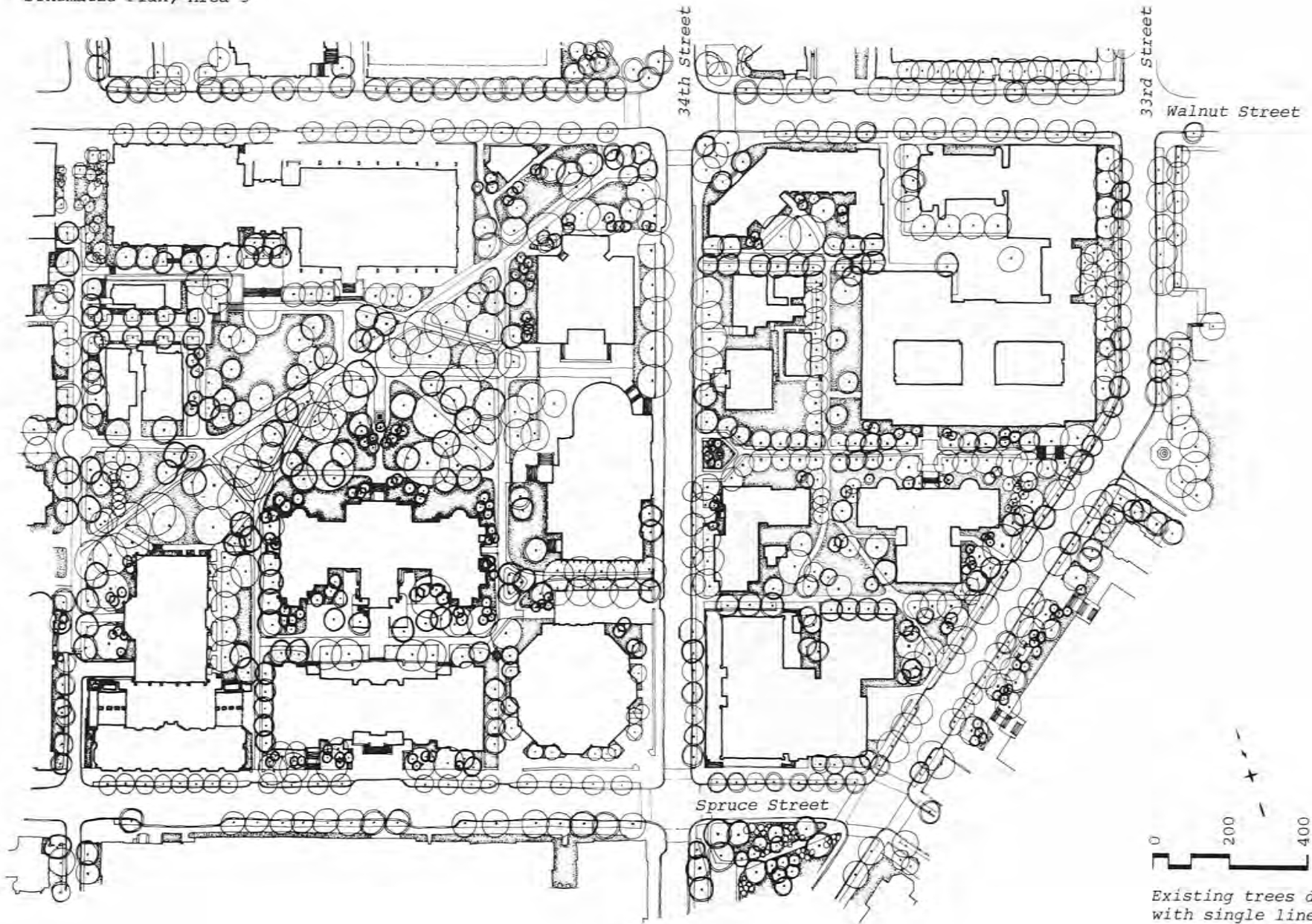
Ancillary spaces around College Hall Green. Entrances into the Green, retreat space in front of the Furness Building, and the small terrace in the northwest corner of the Green all provide opportunities for building small, ancillary places catering to particular activities. These places would acquire their individual identities, either as antechambers to the large Green or as retreats, through grading of their edges, variation of paving, and provision of seating or other fixtures, but the uniting landscape treatment would ensure their visual continuity with the Green.

Houston Hall Plaza. The landscape of College Hall Green flows along either side of College Hall to the multiple-use, often intensively used, space just north of Houston Hall. Its continuity with the Green is ensured by continuing the mature forest landscape here, but with an increased use of understory species directly related to seating areas. The integration of seats into low walls and slight grade changes along with variations in paving are recommended, in order to provide an extensive activity area without sacrifice of visual interest.

Spruce Street entrance to Houston Hall. At the Spruce Street entrance to Houston Hall is an entry plaza offering a unique opportunity for interweaving the campus and city landscapes. The 'old street' landscape of simple 'green' (lawn or groundcover) between the sidewalk and the building is employed. A minimum of this intervening space is paved. Except for a few large billowy shrubs to signal the entrance, other plantings consist only of large street trees.

Smith Walk. Replacing the diseased elms with honey locusts here has been a poor substitution, for the cathedral-like experience of the old Smith Walk would vanish. The surviving elms should be given appropriate treatment to keep them from falling prey to Dutch elm disease, and for the remainder of the walk the honey locust plantings should be replaced with the disease-resistant variety of elm when it is available. The clutter of shrubs and hedges newly planted at the western end of the walk is inappropriate and should be removed. Uniform groundcover, such as that presently in front of Hayden Hall and the Towne Building, is characteristic of the old walkways, and continuation of this landscape is proposed along the walks running behind the School of Nursing and the Smith Building. Rearrangement of the Smith statue at the head of Smith Walk

Schematic Plan, Area 5



Existing trees drawn with single line
Proposed trees drawn with double lines



would provide a fitting culmination; the paths are reorganized, eliminating the ivy bed over the steam line, the statue is turned around to face down the walk, and new canopy trees and billowy shrubs are introduced behind the statue along 34th.

Small Green off Smith Walk. The space behind Hayden Hall and the Smith Building is one of the last surviving examples of a quiet, small green characteristic of the old-campus landscape tradition. Although diminished in extent by the encroachment of the new Chemistry Building and somewhat eroded due to improper path alignment, it could still be recovered. The proposed treatment includes realigning the paths along its periphery and continuing the old-campus landscape in new plantings, with a few large canopy trees embellished by diverse understory in groves related to path intersections and the sitting areas around the relocated statue.

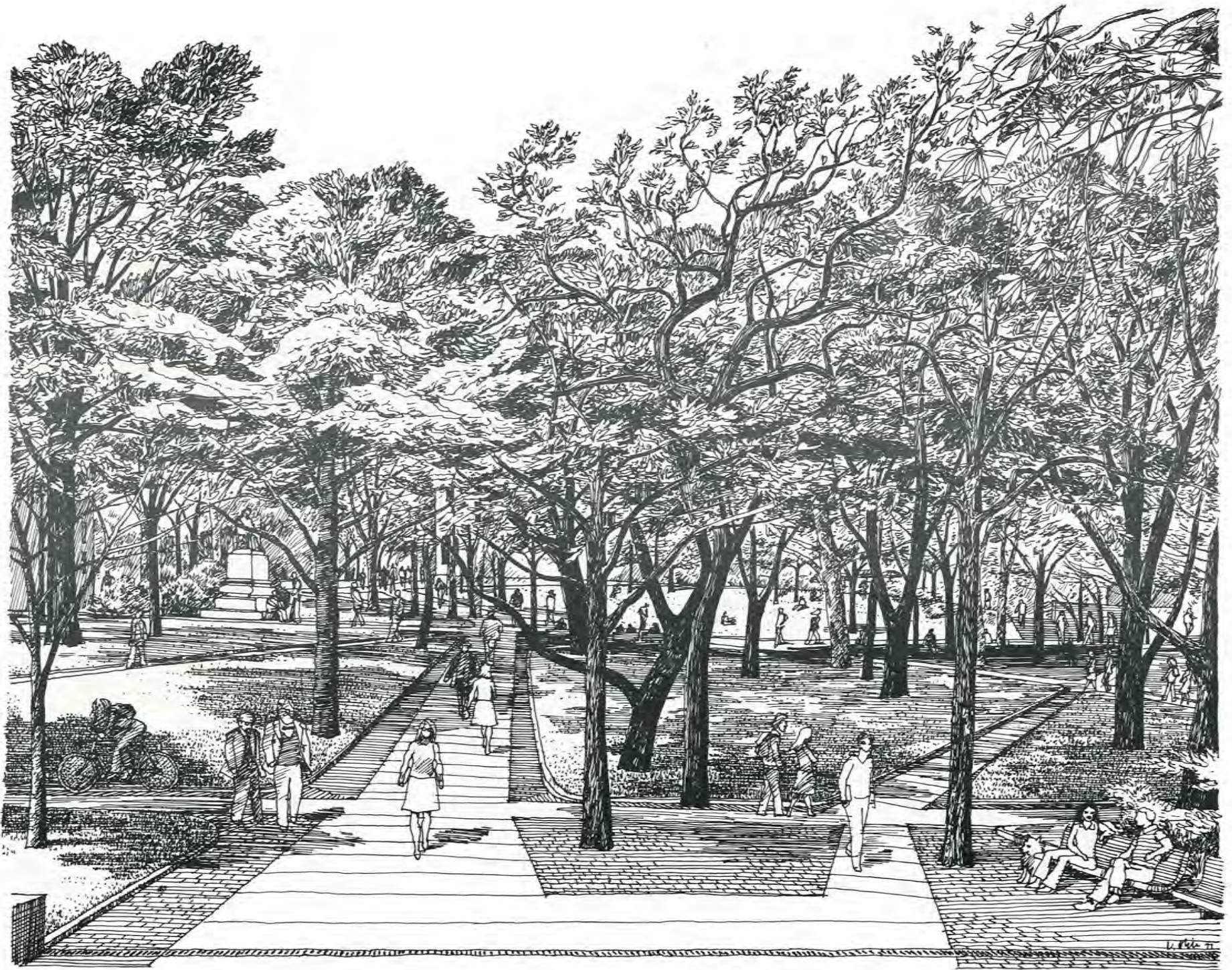


Top: Small Green off Smith Walk, between Hayden Hall and the Chemistry Building

Bottom: Houston Hall Plaza, looking toward Logan Hall

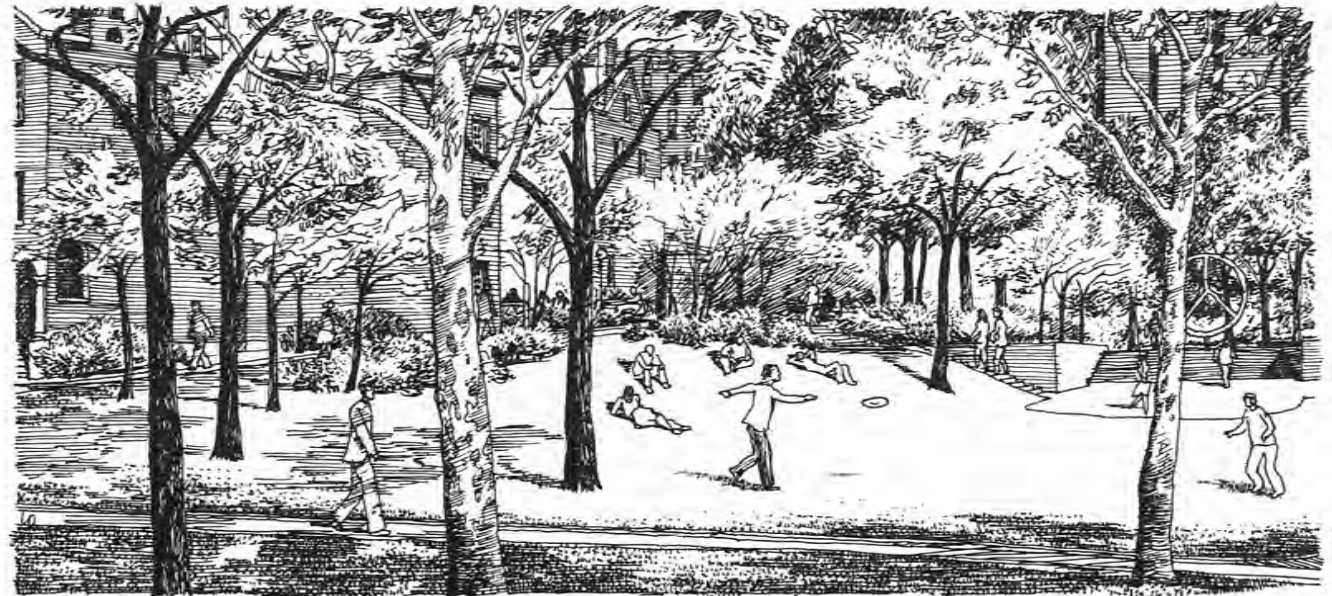
Opposite Page: College Hall Green







*Top: The approach to College Hall
Green from 34th and Walnut
Bottom: College Hall Green open
meadow and terrace beyond*



*Opposite page: College Hall
Green, seen from Fine Arts Plaza*



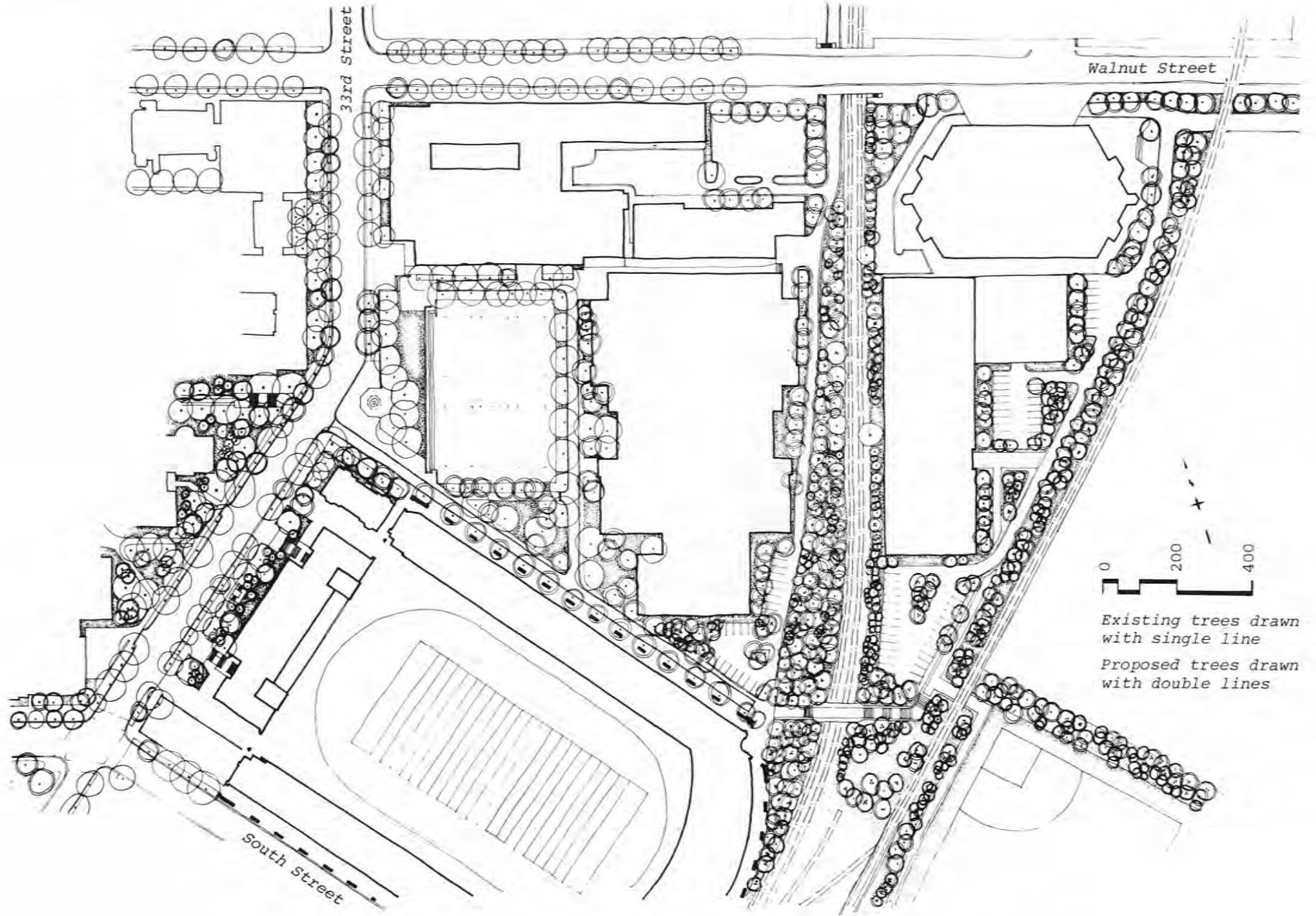
SCHEMATIC PLAN, AREA 6

The Palestra attracts a large number of users to this area during and after academic hours. The related confusion of overused parking surrounding the building is effectively screened by the arrangement of tennis court walls. However, the existing conflict between pedestrian movement and parking vehicles is going to be compounded when the new playfields across the railroad tracks are built. The two-block stretch of Walnut Street in this area is an important entryway into the campus, but while it is presently a rather inhospitable approach, opportunities for improvement are few.

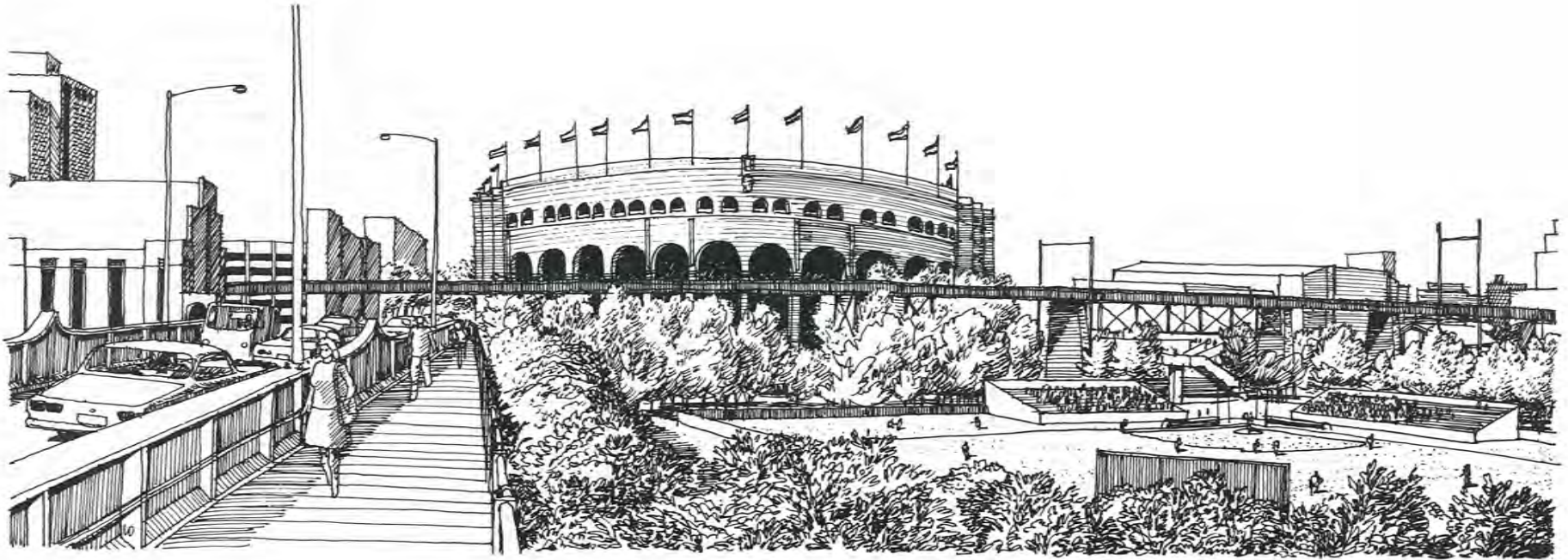
Franklin Walk. To permit effective and pleasant pedestrian circulation to and from the new playfields across the railroad tracks and to minimize the existing conflict between pedestrians and parking vehicles, strip parking under the Franklin Field arcade is eliminated and replaced by a new walkway, effectively a continuation of Smith Walk. The allee planting reinforces this continuity. Scattered parking adjacent to the tennis and squash courts is also removed, to enlarge the lawn areas with groves of mixed plantings.

New walkway between Franklin Field and Hutchinson Gymnasium

Schematic Plan, Area 6



Existing trees drawn
with single line
Proposed trees drawn
with double lines



South Street entrance to the campus, and river athletic fields



New walkway skirting Hill Hall playfields, looking northeast

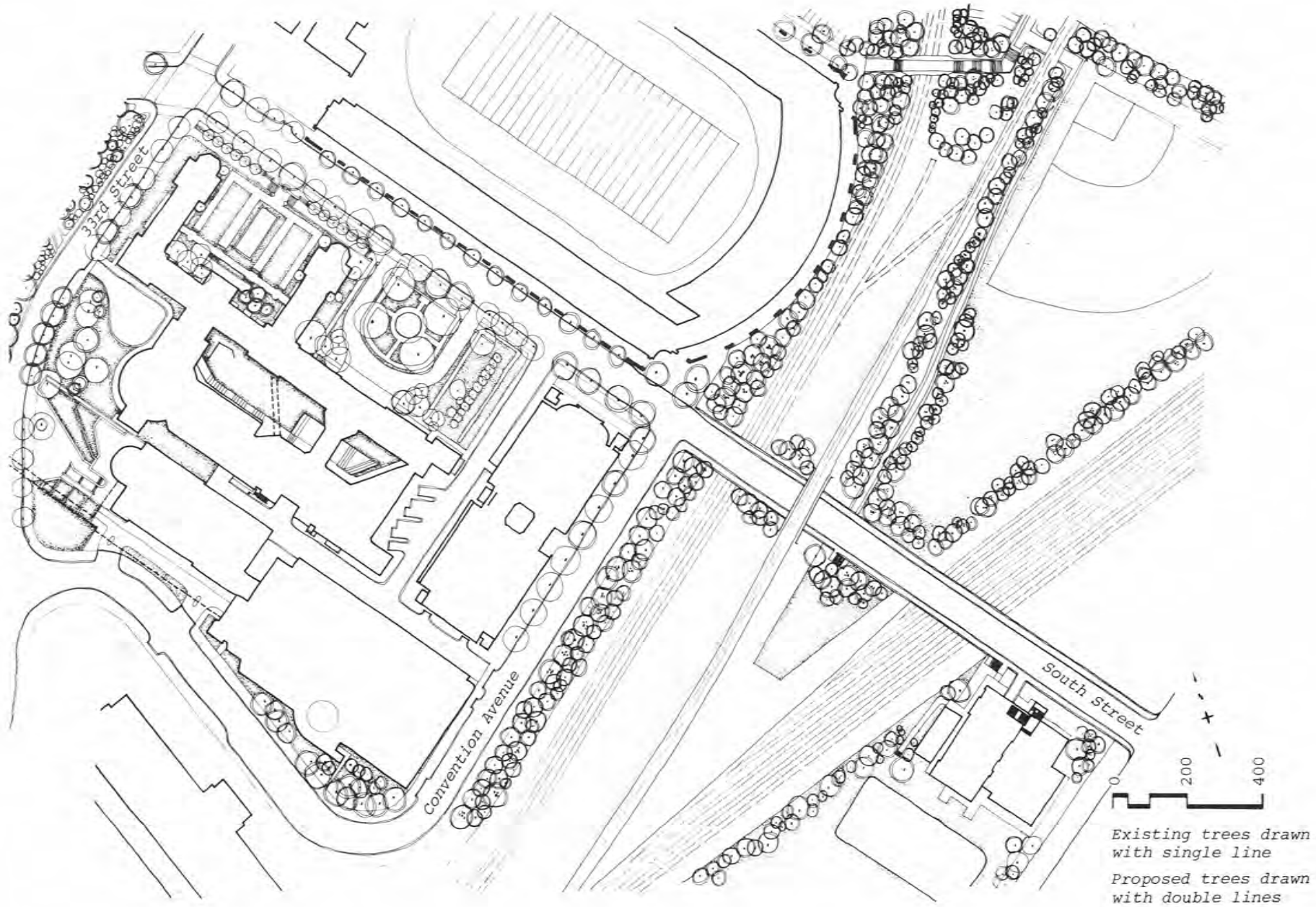
SCHEMATIC PLAN, AREA 7

The majority of long-distance traffic headed to the campus exits the expressway at South Street. While the skyline experience greeting one there is interesting enough, the near views over the vacant land along the railroad are disturbing. The development of new playfields in this area presents an opportunity to enhance this major but neglected campus edge. The campus entryway along South Street is dramatically defined by the University architecture on either side, but it could be improved as a welcoming pedestrian experience.

The river athletic fields. The green sward of the playfields to be introduced into the presently unkempt vacant land will be an expensive landscape to create and maintain. But the fields are needed, and they will produce a pleasing vista over them. The discordant array of other artifacts in this area remains, however, looming over the fields. Dense border plantings around the playfields and along the steep banks of the railroad will provide visual screening for the fields and an enhancement of the long view of the University from the South Street bridge. Tough urban species presently colonizing these severely disturbed areas should be allowed to develop to maturity, with selective management to emphasize the aesthetic qualities peculiar to this 'metroforest' idiom. Selective added plantings of compatible species in dense groves are introduced to reinforce the 'green wall' effect along the railroad barrier, which is bridged over at the end of Franklin Walk.

The South Street landscape. The old-street character of this entryway into the campus should be restored and reinforced, providing more of a welcoming experience for those arriving by car as well as for pedestrians. This could be accomplished with broad street trees along the University Museum frontage and the stadium arcade and with paving improvements for the sidewalks.

Schematic Plan, Area 7



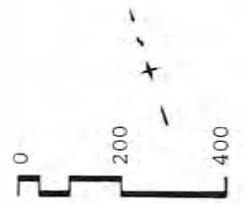
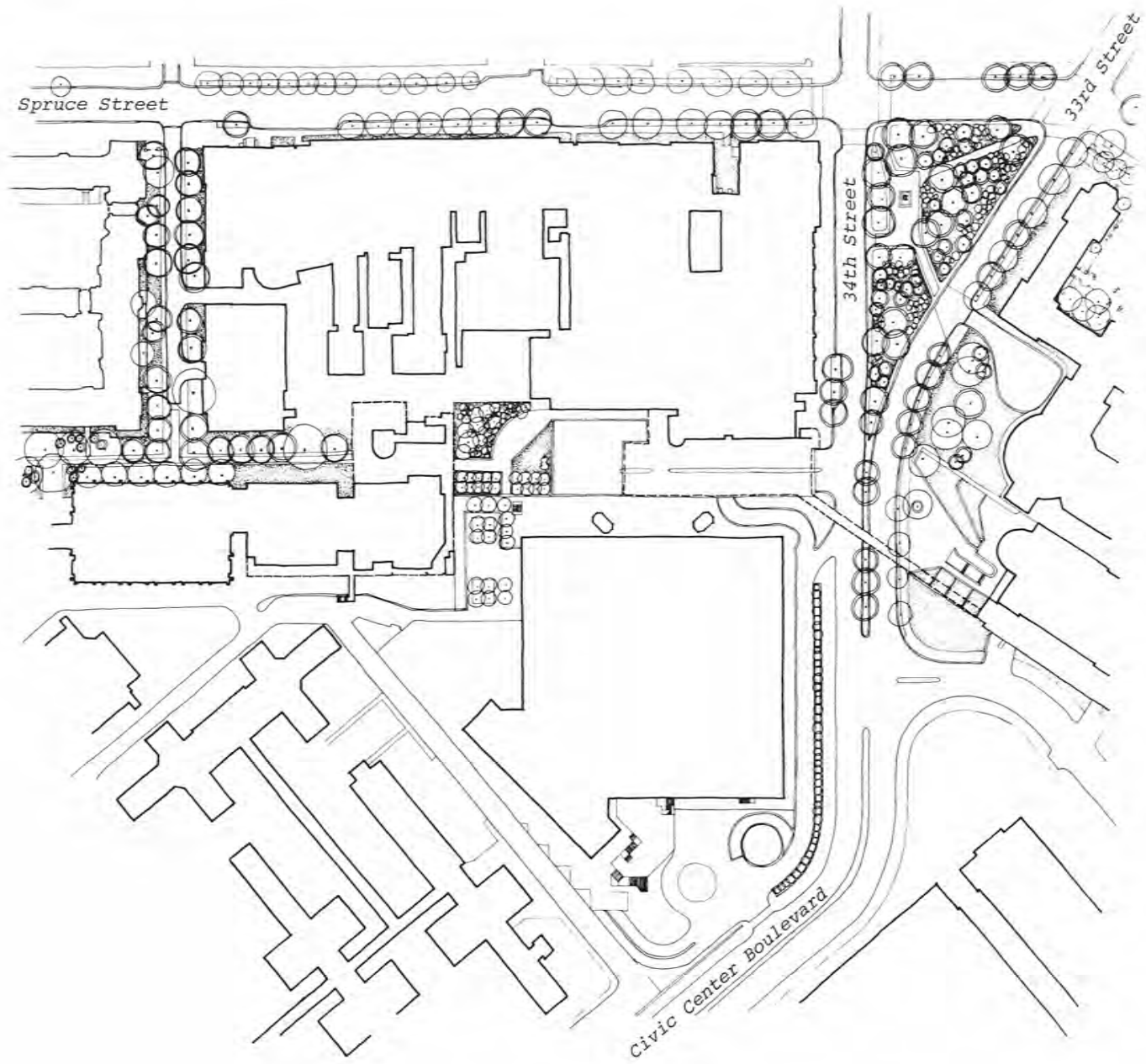
Existing trees drawn
with single line
Proposed trees drawn
with double lines

SCHEMATIC PLAN, AREA 8

The University hospital occupies much of this area. The major opportunities for landscape improvement lie just east of the hospital, on the triangular parcel of land presently given over to a clutter of parked automobiles. The intersection here is an important gateway, as the meeting point of major east-west movement to and from the South Street exit of the expressway and north-south movement along 33rd and 34th streets related to the hospitals and the Civic Center facilities.

Museum Triangle Gateway Plaza. Relegation of the Museum Triangle to convenience parking for the hospitals is inappropriate given the importance of the site as a gateway and the amount of parking available quite nearby. Its conversion into a landscaped island results not only in an effective greeting experience for the vehicular traffic headed for the campus and its neighbors but also in a welcome retreat for hospital visitors. Also, the new Medical School building and the Silverstein Pavilion will accommodate the passage of Hamilton Walk east to 34th Street; this in conjunction with pedestrian traffic to and from the University Museum will make the landscaped island a valued place for pedestrians. Planting consists of individual clumps of dense tree and shrub thickets in a rich ground layer; scattered larger trees relate to the street and provide shade for the seating area in the middle of the island.

Schematic Plan, Area 8



Existing trees drawn with single line
Proposed trees drawn with double lines



Stouffer Triangle trellis and new crosswalk at 37th and Spruce

SCHEMATIC PLAN, AREA 9

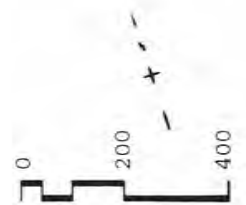
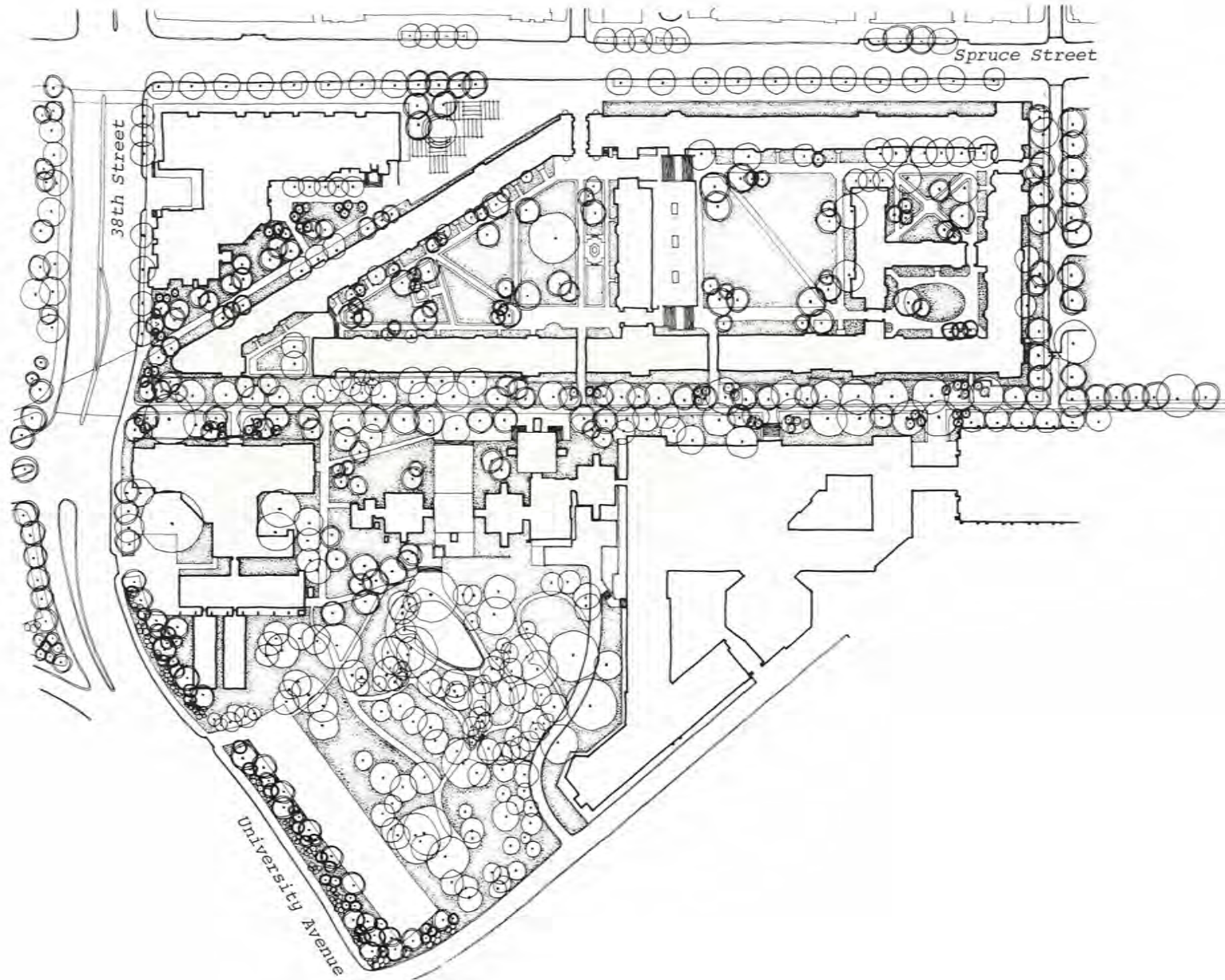
The most secluded and sheltered parts of the old campus lie within this area. The quadrangles are the epitome of traditional Ivy League collegiate life, and despite some ravages of time they continue to fulfill the romantic image. The adjacent Hamilton Walk is in a more advanced state of disrepair, and the recently built residential extension on the Stouffer Triangle is uncomfortably juxtaposed with the quadrangles. The Botanical Garden, in spite of its unkempt state, is still an idyllic retreat on campus.

The Quadrangles. Affirmative but low-keyed restoration is all that is needed to ensure survival of the historic landscape of the quadrangles. Repaired paving, rejuvenated lawns, and restored ivy on the walls are the basic recommendations, to be complemented by limited plantings enhancing the sense of spaciousness. Small groupings of a few large, high-branching trees, accented with well-shaped understory at entrances and path intersections, will provide a counterpoint to the regular lines of the architecture.

Hamilton Walk. This historic walk, like Smith Walk, is still evocative of the cathedral-like experience of old-campus walkways, at least at its eastern end. The allee planting here is reinforced, and the bordering areas on either side furnished with groundcover and replacements for some dying shrubs. At the western end of the walk, the allee character has been disrupted. Here groupings of mixed canopy and understory plantings are proposed, to ensure visual continuity along the walk while at the same time permitting an opening onto the new small green created by the setback of the Richards Building; some screening of this small green with additional groves of diverse plantings is recommended, to better define the spaces related to the building's entrances and the passages to the Botanical Garden. Freeing the walk from incompatible service traffic is also recommended; 36th Street south of Spruce is renovated into a service cul-de-sac and walkway, which also links Hamilton Walk with the 36th Street walkway north of Spruce leading to the heart of the campus.

Stouffer Triangle. The subway tunnels and station under this site severely restrict the planting choices available for the important campus meeting place at its eastern end. A trellis is proposed there, covered with climbing vines and with a profusion of multi-stemmed plants beneath and near it. Along the open right-of-way between the old quads and the new building, loose groves of trees are introduced where the underlying tunnel is not a limiting factor.

Schematic Plan, Area 9



Existing trees drawn
with single line

Proposed trees drawn
with double lines



Small Green on Hamilton Walk next to the Richards Building



The Botanical Garden as it might be restored

The Botanical Garden. This enclave with its placid pond, besides serving an academic function, is a unique and valuable retreat area on campus. It is in need of restoration, but because of its special nature it should be taken up as a separate project area and designed in response to its own detailed program requirements.



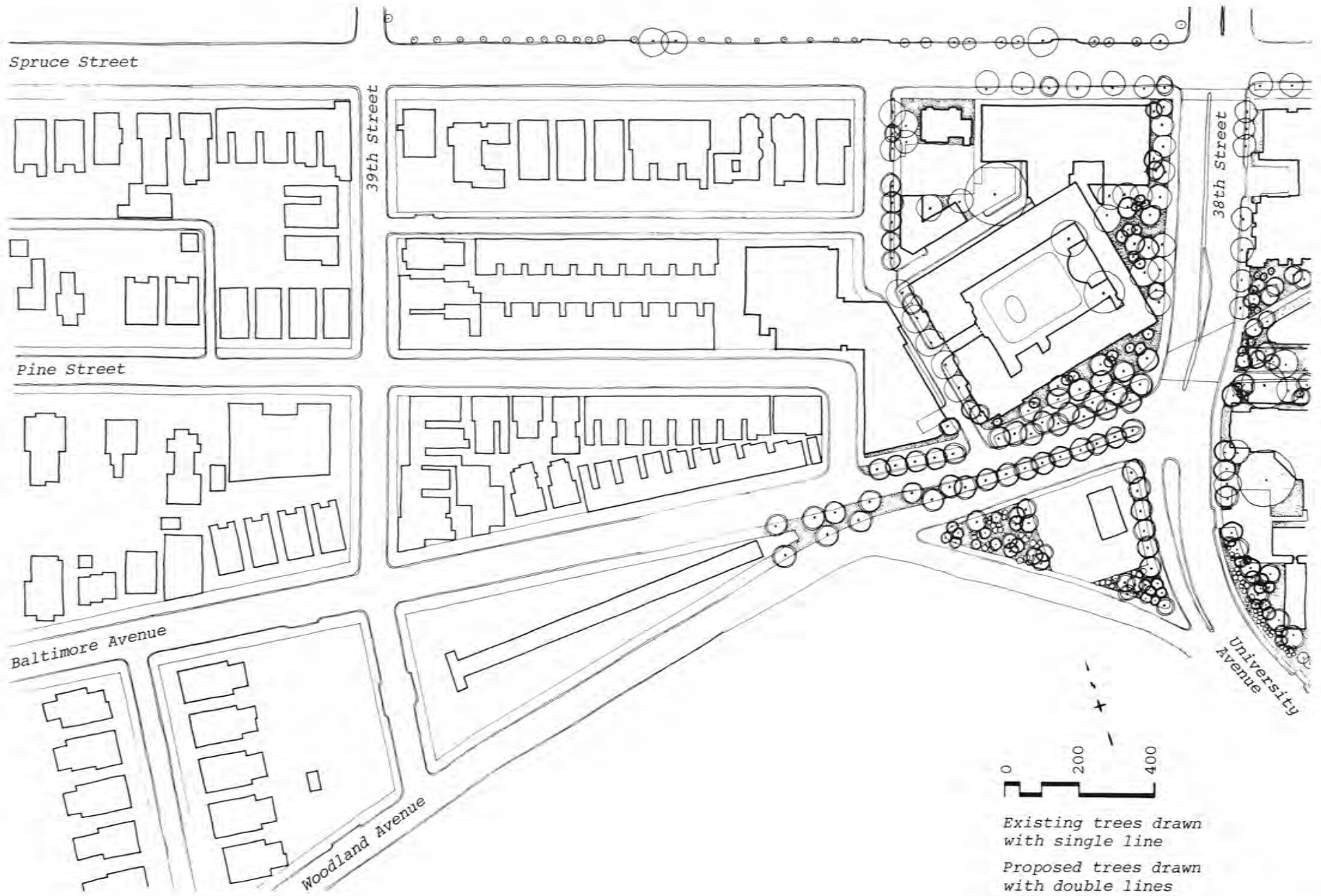
38th Street approach to the campus, looking north

SCHEMATIC PLAN, AREA 10

Except for the School of Veterinary Medicine and its extension, this area is largely one of non-campus residential uses. Yet an important campus-related event occurs at the intersection of four major transportation routes -- Woodland Avenue, Baltimore Avenue, University Avenue, and 38th Street. At present this intersection is a bewildering disarray; it functions poorly even in terms of the basic functional requirements for vehicular and pedestrian circulation, but more than that it is totally inappropriate as the gateway through which much pedestrian and vehicular traffic from West Philadelphia, and a good deal of traffic from the expressway, enters the campus.

Woodland Gateway. Reorganization of vehicular traffic at this busy intersection is a prerequisite to the creation of any satisfying gateway landscape here; in addition, properly regulated crosswalks must be introduced, to ensure the safety of the pedestrians coming into the Woodland pedestrian spine and Hamilton Walk across the intersection. The proposed solution envisages an orderly flow of traffic with pedestrian crossings facilitated by traffic lights; the convenience facility of the filling station is retained while at the same time an appreciable amount of land is freed for masses of diverse plantings. The landscape is generally one of hardy streetside plantings of closely spaced groves of trees with interspersed understory, to make the gateway a fitting release and entry point at the end of the Woodland pedestrian axis. Shrubs are avoided to permit clear eye-level views for safe movement. Dense, multi-layered plantings are recommended for the steep banks along University Avenue just south of the gateway.

Schematic Plan, Area 10



Appendices

IMPLEMENTATION

We believe that the preparation of this plan shows how the University can use the skills of its faculty to guide its own development. Already it has evoked considerable interest and willing collaboration between faculty and administration. Already it has been an educational instrument, enlisting the collaboration of faculty and students in the research on which it is based and providing material for experimental projects and studio teaching. If the plan is adopted, we hope that the University will call upon the Center for Environmental Design to continue work on its realization.

As we have said, a development plan lays down principles, rather than a finalized design; before it can be realized, detailed drawings and specifications must be done. We are

confident that the group which has produced the plan could act as designers for the final realization of the work, in collaboration with the Department of Facilities Development. We suggest that a technical staff be established, which would service the work of the group and assist it in producing the contract drawings and specifications. By this method the University would not only mobilize the resources of the faculty of the School of Fine Arts -- and perhaps of other schools as well -- but could secure the interest and participation of its faculty and students in the continuing process of renewing its fabric. We need not emphasize how valuable this would be, not only because it makes economic sense, but also because of its impact on the life of the University and the education of its students.

MAINTENANCE

All landscapes which have dense pedestrian traffic need maintenance, but every part of this plan is designed to reduce this to the minimum. Paths are adequate and in the right places; curbs keep water off the grass; we suggest ivy on small plots of ground, and permanent, native shrubs and trees, of disease-resistant varieties, on their own roots. Nevertheless, many of the campus trees are old, and even young urban trees need protection from disease and damage. The growth of new plantations needs skilled care while they grow into harmonious groups.

Generally, we claim that the plan calls for brains not brawn in maintenance: it will reduce the amount of labor which goes into mowing and bedding and the patching of wear and tear, but it calls for true horticultural skill in watching over its growth

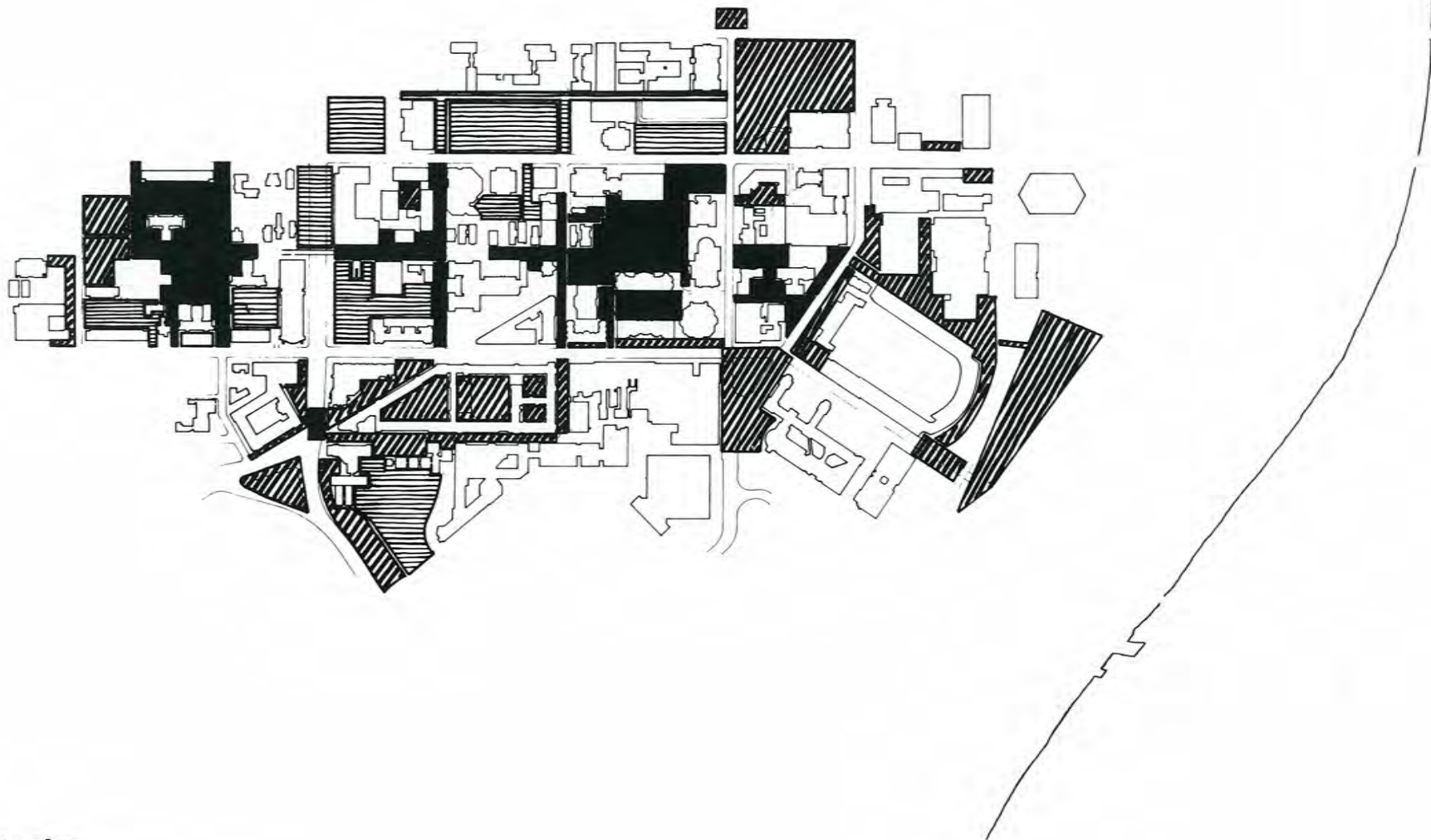
and making the correct prunings, cultivations, and adjustments which will ensure its growth into a mature and stable landscape.

Vegetation is *alive*: it needs therapeutic care. Great and permanent damage can be done by bad methods of pruning and cultivation or neglect of the elementary precautions affecting the health of the plants. Often such damage is inadvertent, as that caused to trees by applying salt to melt ice on the paths. The protection of trees from disease is like the protection of humans: rash surgery and crude medication in the form of ecologically dangerous sprays are no substitute for a carefully planned regimen of health, in which proper medication is included.




We would like to devise, in collaboration with the Department of Facilities Development and the technical staff of the Morris Arboretum, just such a regimen for the professional care of the whole landscape, determining what skills and what manpower it needs, what help, if any, from outside contractors, and what measures are required to regulate and monitor it.

PHASING

The plan will finally achieve a varied but unified landscape for the whole campus, but it is likely to be built in phases as money becomes available. We have suggested phases each of which can be separately completed as a unit of the whole and have put them in an order of priority.



Phasing plan

-  *First priority*
-  *Second priority*
-  *Third priority*

PORTFOLIO OF PLANS

The schematic landscape development plans at the scale of 1" = 80'-0" are enclosed in the envelope. The same plans at a reduced scale appear on pages 96-127 with illustrative sketches and summary description.

ERRATA

On the scales for the area plans on pages 99, 101, 103, 107, 109, 115, 119, 121, 123, and 127: "0, 200, 400" should read "0, 100, 200".

On Area Plan 10 on page 127 and in the portfolio: "39th Street" should read "40th Street".