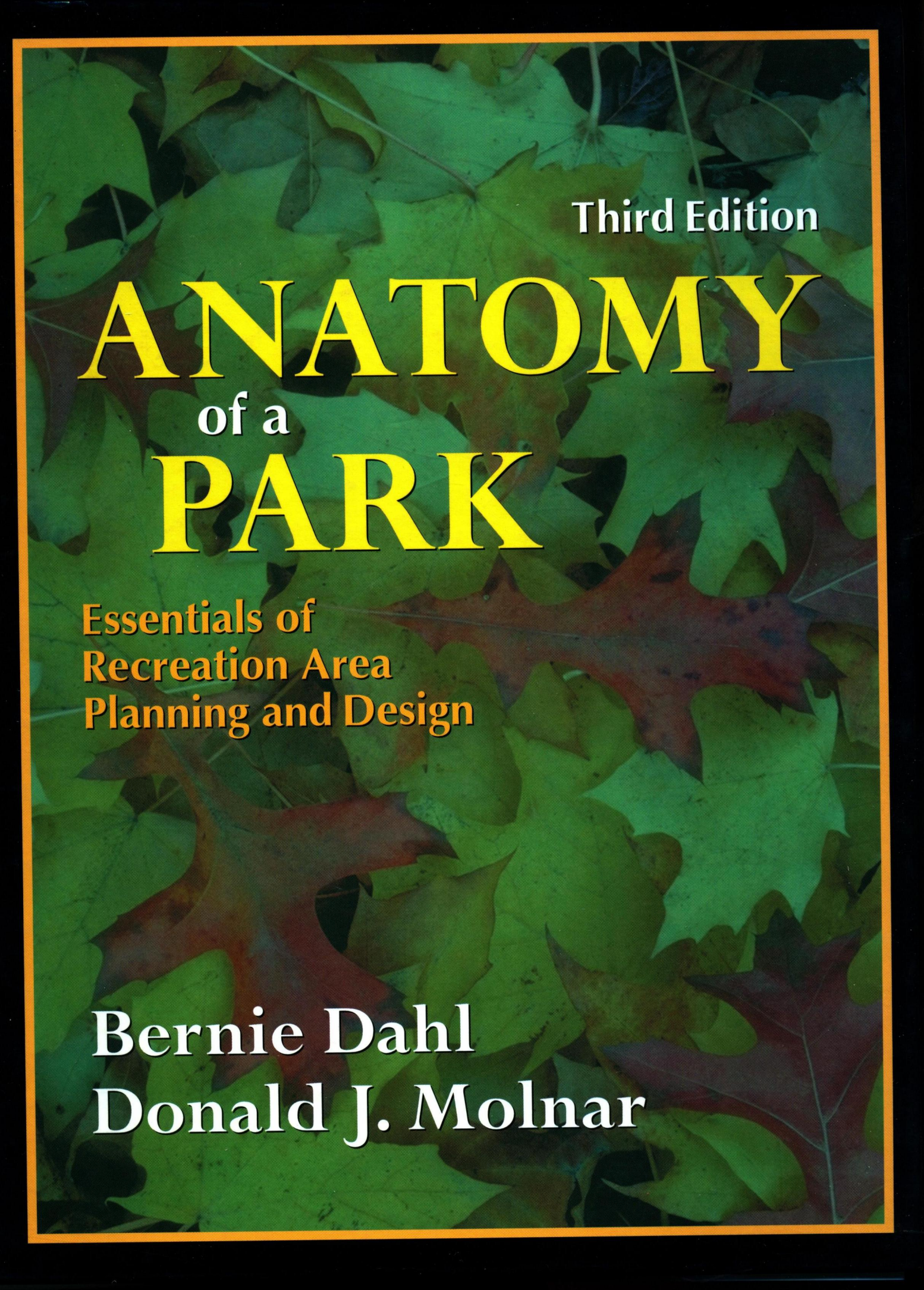


The background of the cover is a dense, overlapping layer of leaves. Most leaves are a vibrant green, but there are several prominent leaves in shades of brown and reddish-brown, suggesting autumn. The leaves are of various shapes, including some with distinct lobes. The entire cover is framed by a thin orange border.

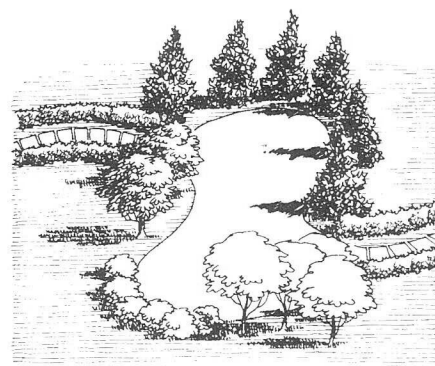
Third Edition

ANATOMY of a PARK

Essentials of
Recreation Area
Planning and Design

Bernie Dahl
Donald J. Molnar

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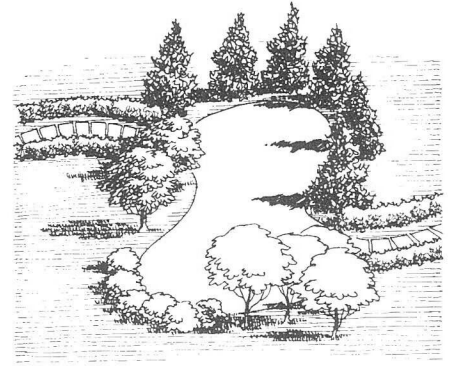
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INTRODUCTION



This book lays bare the essentials of park design. Although it may serve as an overview or refresher for park designers, this book is written primarily for nondesigners such as lay members of park boards, park directors and superintendents, recreation leaders, and anyone directly affected by what a designer proposes for the development of parklands. Stakeholders of parks and open space need the information explained in the following pages. Faculty and students of park planning and management, recreation and leisure studies, and landscape architecture will find many guiding principles and design ideas. Practicing professionals also will find this book to be a good refresher course on the processes of park design and management. They may even find some new ideas regarding park funding.

This book attempts to bridge the gap between park designer and park user, between landscape architect and park board, and between design professional and park maintenance personnel. This bridge is built by establishing mutual respect—earned between collaborating individuals—and a common language, presented herein.

People sitting around tables do not build parks. It takes a competent designer to assess the needs of his or her client, translate their needs into a comprehensive plan, and communicate those ideas to park constructors and managers. Likewise, parks don't just happen. People in the community express their needs, park boards prioritize that community's needs, and city administrations provide the funds to build and maintain the parks. This new edition includes ideas and suggestions for building partnerships that help communities conceive of and implement new parks and open space.

All recreation activities need a physical facility. Buying parkland, as well as building and maintaining parks, requires money. Although that money comes from a variety of sources, it is always scarce. It makes good sense to be vigilant in the use of available monetary resources. For this reason, we have added a new chapter on funding opportunities and options.

For such large expenditures, the taxpayer, the park board members, and the mayor should expect the highest quality of park. Dull

playgrounds, unsafe swimming pools, or forested areas that have the intrigue trampled out of them the week they open are unacceptable. Poor design is costly. Much of any park operating budget goes into maintenance, yet common problems such as erosion, poor drainage, endless trimming of overgrown areas, and other repairs can be avoided through good design before construction begins. The cost of making design modifications is small compared to the complications and expense of making adjustments after the work has been constructed. Durable construction is the other indispensable component that will make the expenditure a good value.

Design can help minimize vandalism and discourage undesirable activities, reduce the conflict between autos and pedestrians, and remedy a host of additional problems associated with the public use of land. These and other design issues are addressed in this book through an introduction to site design, a thought process that anticipates problems of land usage and provides physical solutions.

A designer is an expert in putting the pieces together into a whole. Hire one that can demonstrate the ability to do just that. However, the park user and park administrator must be able to distinguish between good and bad site design. With some common sense and some knowledge of design, a park administrator or user can easily become an expert in evaluating the park's design and each of its component parts. They can participate substantially in the decision-making process that leads to the development of parklands.

There are several books either totally or partially devoted to park design, but most of them also focus on such special aspects of development as playground design, marina planning, or forest recreation construction. Many of these volumes, along with the few that attempt to be comprehensive, are noted in the bibliography. However, despite all the writing that has been done on the subject, one element is missing: a basic manual on park design that ties the fragments together and helps make other readings more meaningful. *Anatomy of a Park* provides a framework to which the details of more specific readings can be related. It is written as a "nontechnical technical book," to assist the nondesigner yet provide a substantial introduction to the field. The book provides information and procedural suggestions that will assist those evaluating design drawings as well as completed works.

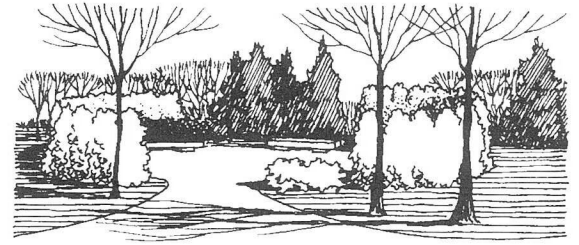
Anatomy of a Park is a basic reference and teaching text on the fundamentals of park design. Augmented by personal experiences, slides, plans, and field trips, this book will serve as a guide for presentations of the essentials of park design to majors in the fields of park management and recreation programming. It can also provide organizational material for the preparation of short-course seminars for professional administrators and other agency personnel.

As with the first two editions, we have tried to provide "timeless" information on the subjects that concern designers who plan lands for recreational use. Many revisions have been made to this edition to reflect changes in the economic, social, political, and environmental landscape of park design and construction. We hope it will continue to be useful for years to come. For a basic briefing on park design and development, this is still a good place to begin.

We credit this book's first author, the late Albert J. Rutledge, ASLA, for his timeless wisdom.

Chapter One

CONTEXT PAST AND PRESENT



We live in an age of specialists. This is good, for it allows subject matter to be probed and applied in depth. But specialization has its drawbacks as well, since many disciplines have become so specialized that their implications frequently cannot be understood by people in related fields. As a result, experts are often isolated from the potential contributions of others.

In today's complex society, no single discipline can pretend to solve substantial problems without collaborative assistance from allied fields. Accordingly, this book proposes to foster an understanding of design and designers among park administrators, recreation leaders, and others responsible for park development. All of us must perform as a team if quality works are to become widespread.

While it may seem reasonable that a team relationship should exist, it is missing in too many cases. To some extent, lack of collaboration is due to the professional isolationism brought about by the specialization phenomenon. Therefore, the history of the field warrants review and evaluation with an eye to its contemporary relevance.

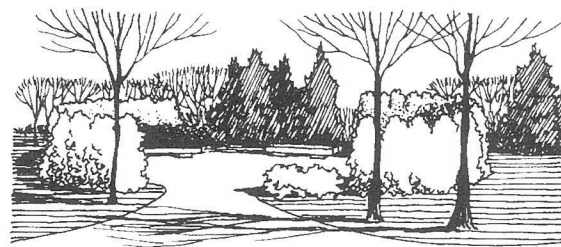
FROM OLMSTED TO TODAY

It should be no surprise that park and recreation policymakers and landscape architects are often allied when one realizes that we have the same parent: Frederick Law Olmsted (1822–1903). It was Olmsted who, in describing his role as designer-superintendent of New York City's Central Park, conceived the title *landscape architect* and applied it for the first time in the mid-nineteenth century to those who organized land and objects upon it for human use and enjoyment. It was also Olmsted, with the development of Central Park, who initiated the first real park and recreation movement in the United States. (See Figure 1-1.)

Out of these beginnings emerged three related phenomena: an American design style suited to nature-oriented parks; a split of rec-

Chapter Two

THE UMBRELLA CONSIDERATIONS



This first set of considerations can be read as a broad overview of the principles that guide design decisions. It comprises the overarching framework to which all other goals must relate. The three principles to be discussed in this framework are that everything must have a purpose, design is for people, and both functional and aesthetic requirements must be met.

PRINCIPLE 1: EVERYTHING MUST HAVE A PURPOSE

If wise land use is essential, there is no room in site design for whimsical judgments, even though many design ideas may come to the designer intuitively. Intuition is a means or a mental shortcut to solution, but it is not a justification for results. Decisions can and should have convincing backup. They must be supported by sound and logical reasons.

Design elements, therefore, must have an identifiable purpose. One such purpose is to establish appropriate relationships between the various parts of the park complex. These parts include: *natural elements* (for example, land, water, plants); *use areas* (game courts, ball diamonds, parking lots, roads, walks, maintenance yards); *major structures* (buildings, dams); *minor structures* (drainage, electrical and other utilities, fences, benches, drinking fountains, signs); *people*; and other *animals*. In addition, all are affected by *forces of nature* (wind, sunlight, precipitation). (See Figure 2-1.)

While each part will present its singular demands, no part can work in isolation from another. Follow steps A–F in Figure 2-2 and note that, for instance, orientation to the sun affects the location of the amphitheater, for the sun must not shine directly in the eyes of the audience (A). The amphitheater siting directs the placement of the parking lot (B), which narrows down the possibilities for access

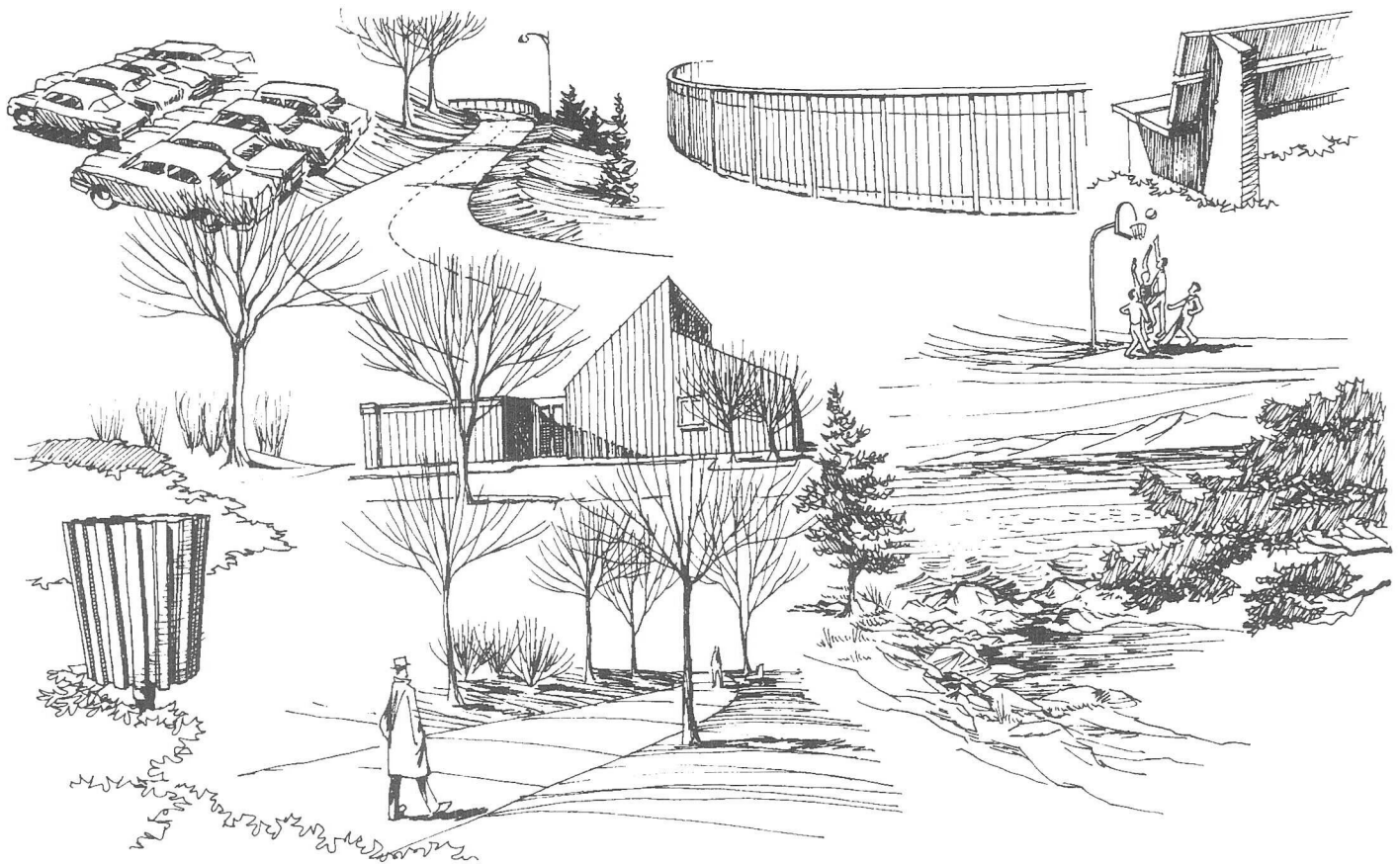


Figure 2-1

A park is a complex of many parts.

routes to the public streets (C). The amphitheater parking lot could serve the nearby marina, but the marina noise, in turn, must be neutralized before it reaches the amphitheater (D). The traffic invited to this amphitheater-marina complex must not conflict with surrounding land uses, as it would if it proved a safety hazard for children crossing neighborhood streets (E). On the other hand, the smells, noise, and visuals emanating from surrounding facilities must not cause the enjoyment of theatergoing or boating to be lessened (F).

Interdependence among all the parts must be recognized and accommodated if any single part is to work. Consideration of such relationships extends from the broadest determination of the park's place in the city plan to the smallest decision about where to place the trash basket.

Matters of Concern

1A. Relation of Park to Surroundings. Design focus must extend beyond the park's boundaries in order to answer such questions as: Will the proposed park development cause flooding in the valley below? Will it cause traffic to back up into residential streets? Will the arrangement of the new facilities replace the pleasant view of undeveloped land with an unpalatable distraction? Will the location of play areas encourage baseballs to fly into backyards?

The reverse, the impact of the surroundings on the park, is equally significant. Will adjacent land uses send stomach-churning odors across proposed picnic areas, create safety hazards, or destroy the

park's serenity? In a positive sense, do the surroundings offer potentials to be "borrowed"—a good view, a major access route, a utility source?

Through purposeful design measures, a sharp designer exploits the advantages of surroundings and overcomes the limitations posed by adjacent lands and their uses. The designer also attempts to see that the park remains the best of neighbors, never causing the usability of surroundings to be diminished.

1B. Relation of Use Areas to Site. Land must not be wasted. Every corner of every site must be assigned a use. This does not necessarily mean active use. Lying fallow, land may serve as a buffer or a viewing panorama. It may be left as conservation acreage if it has been determined that active trespass would cause loss of wildlife cover or vegetation that holds back floodwaters. Even an undisturbed swamp serves a valuable purpose, for its porous surface allows rainwater to penetrate and refill underground reservoirs. Fill in or pave over the swamp, and the water supply for neighboring habitations diminishes.

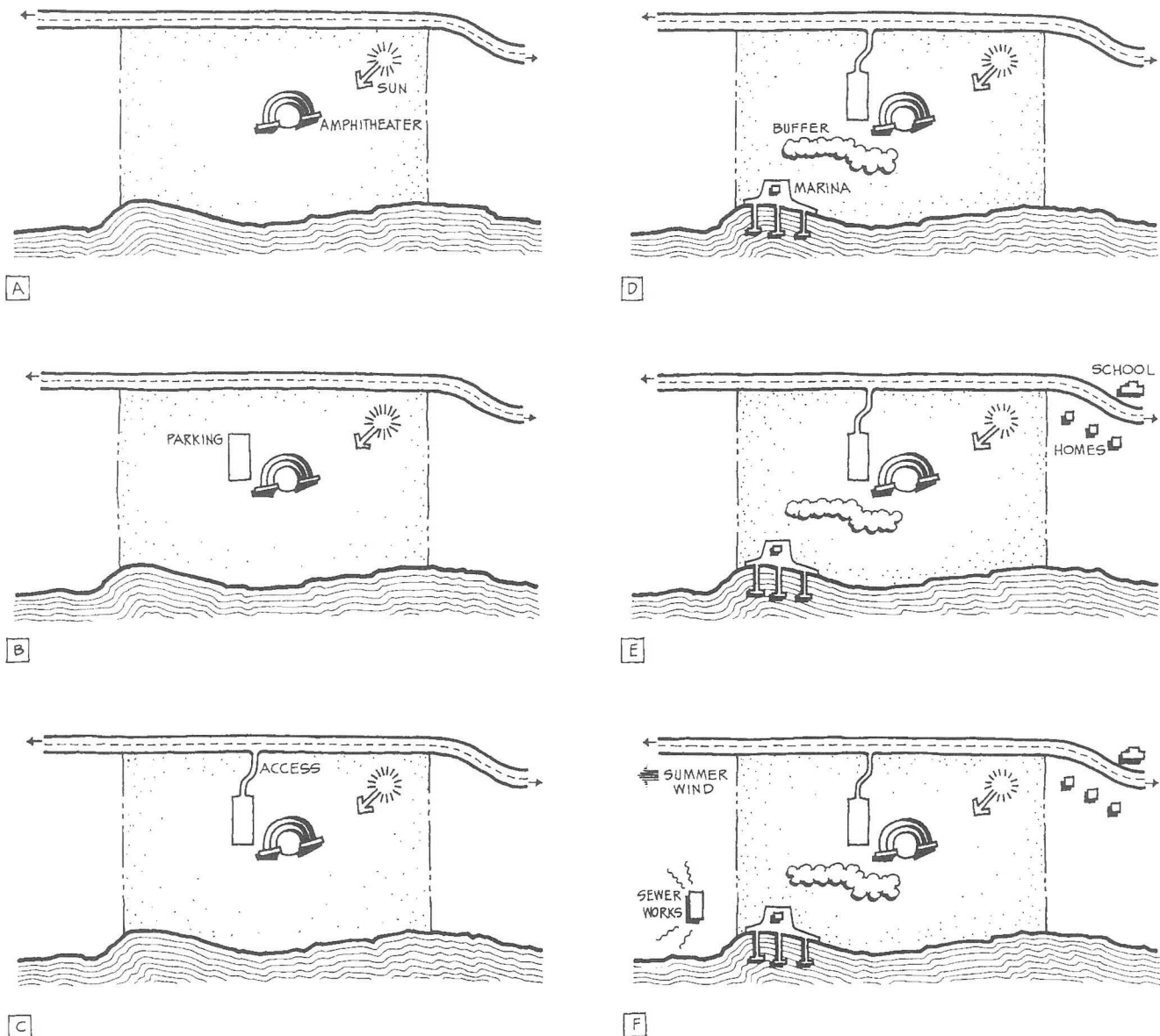
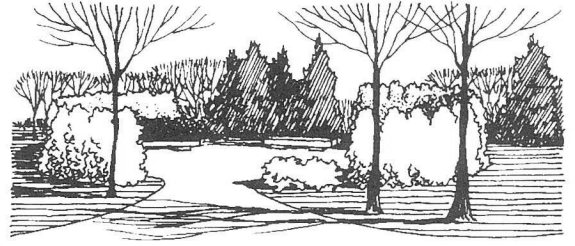


Figure 2-2

The location of every park unit affects the workability of another.

Chapter Three

THE AESTHETIC CONSIDERATIONS



To weave aesthetic quality into a development, a designer applies not only principles of artistic composition but also powers of intuition. The possession of the latter is a must. For in such a complex field as aesthetics, there exist so many factors capable of modifying each other that it is impossible to set down, much less follow, rules that never vary. Yet, it is not necessary to possess this mysterious capacity in order to discriminate between the pleasing and the displeasing. Unschooled observers can readily gauge the aesthetic reasonableness of any development if they simply sharpen their powers of awareness.

The initial step in honing awareness is to establish extremes on a mental “excellence scale” as you go about the environment. Although beauty may be hard to describe, you certainly know when you are under its influence; for instance, you would probably not find it too difficult to rate the relative aesthetic merits of Frankenstein’s monster and Michelangelo’s *David*. It should be just as easy for you to judge a blank-paved, junk-filled playground against one with stimulating layout and imaginative equipment.

To know the best, you should also experience the worst. Thus, never at any stage of shopping for excellence should you feel you have seen all. Remain alert; always be on the lookout for something a notch below what you have previously considered poorest. But also continue to expect that which is above the best you have heretofore seen. Developments with which you are directly concerned can then be appraised against the extremes in this mental catalog.

To establish degrees of excellence (or offensiveness) among those developments that lie between the extremes, provisions for *order* and *variety* should be measured. While “beauty is in the eye of the beholder,” order and variety are psychological appetites that most behaviorists agree are common to all beholders. Regardless of its other attributes, an aesthetic composition must possess these if it is to generate a pleasurable response.

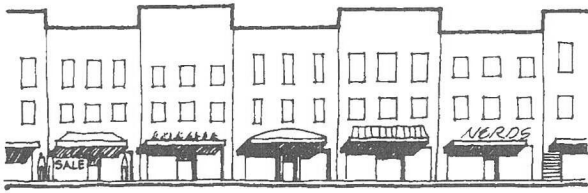


Figure 3-1
Too much uniformity results in monotony.



Figure 3-2
Excessive dissimilarity breeds chaos.



Figure 3-3
Order and variety in balance.



Figure 3-4
Invigorating: an expression inherent in nature.

The need to perceive order or logical correctness about what is experienced stems from the human need to understand and find reason and regulation in human works. Under the influence of order, the mind experiences tranquility. All is right with the world. Everything fits into place. One can go about meaningful activities without being disturbed by the surroundings.

The desire to witness variety or contrast—a touch, but only a touch, of disorder, difference, or change from the expected—is rooted in the need to exercise one's senses. Variety provides excitement and stimulation. It is the spice that combats boredom, keeping the faculties alert, thereby honing them for other tasks of daily decision making.

Yet, overabundance of either in the environment is equally distressing. If regulation is too obvious or there is “too much of the same” as in Figure 3-1, the scheme becomes tiresome and monotonous. Conversely, if contrasts ricochet about in unending fashion as in Figure 3-2, the result is unnerving chaos that feeds mental distress.

In a successful design, both order and variety are present in fragile equilibrium. Note in Figure 3-3 that there is just enough order to suggest logic and stability, coupled with the right amount of dissimilarity among the parts to vitalize the situation. Primarily, it is the designer's intuition that points to the appropriate mix; one may state, “Designing is like preparing a fine stew by ear.”

To measure provisions for order, the following criteria can be applied. Whether or not the proper amount of variety has been instilled, however, must be left to the critic's personal judgment. To help tune up your ability to make that judgment, comments regarding variety will be interjected wherever opportunities arise.

PRINCIPLE 4: ESTABLISH A SUBSTANTIAL EXPERIENCE

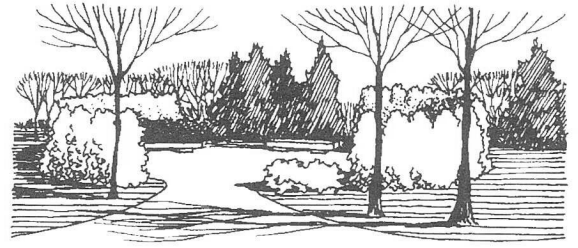
The first step toward understanding or sensing organization—perceiving order—in a work is placing a label upon it. It is answering the question: “What is it?” This is why you see titles on abstract paintings. They are the artist's concession to the general public.

Since it is impractical to hang labels on a park development, the development itself must have such strong character that it produces an impression capable of being identified. As illustrated in Figure 3-4, such impressions are distinctly etched in nature. Because of their distinctive characteristics, we have come to label natural units as, for example, prairie, desert, lake, plain, and are immediately able to distinguish one from another.

The same thing is possible among human works, as is pointed out in Figure 3-5. Each constructed unit is capable of evoking an emotional image whose influence could cause one immediately to label it *peaceful* or *exciting* or *awesome* or whatever else might appear to fit. If the radiating image is strong enough to be labeled upon first contact, it will quickly capture the viewer's attention, thereby maximizing the possibility that the development will provide the experience that the label implies. How do constructed works create such substantial expressions?

Chapter Four

THE FUNCTIONAL CONSIDERATIONS



Unlike Whistler's art, landscape architecture must be used as well as experienced. Its beauty is irrelevant if it is not functional. Functional efficiency can be judged almost entirely on the basis of tangible evidence, for in contrast to aesthetics, where much analysis is qualitative and depends upon sensing the feel of the thing, the functional effect of design is predictable. You can focus on an issue of workability—say, the movement of traffic from point A to point B—put yourself in the place of the user, maintenance worker, administrator, or whoever else is going to be affected, and go through all the possible motions of use to determine the functional reasonableness of the scheme.

What is best or highest quality is a product that has no weaknesses. While there should be no letup in pursuing this goal, it may not always be possible to achieve it. Weaknesses can stem from the unavoidable inability to satisfy conflicting requirements: a demand for a certain provision, but a budget unable to stand the expense; the need for a football field, but a site with precipitous topography. Compromises may have to be found; the critic must be able to distinguish these from questionable conclusions that have resulted from either mental laziness or lack of problem-solving ability on the part of the designer.

The knack that can enable you so to distinguish springs from a continually growing knowledge of what is possible. Thus, it is suggested that you constantly compare park developments and the workability of their parts with a view to developing a *functional* excellence scale to go along with the aesthetic measuring device already discussed. Extreme cases will be easy to ferret out: It works, or it cannot be used at all; it's the right size, or it is obviously too small for its purposes.

As useful tools in determining degrees of quality, the following issues deserve concentration. While each job will have its unique problems, these are the issues generally faced in all instances. As common concerns to which solutions must be found, these are the

major points a critic must chase down to conclusion in order to determine the functional quality of a plan.

PRINCIPLE 6: SATISFY TECHNICAL REQUIREMENTS

Let's start with the most elementary matters faced in design—those easiest to observe on the site or on drawing paper. These are the minimal standards of quantity, structure, and performance that must be met if the product is to be at all usable.

Matters of Concern

6A. Sizes. We have said that it makes sense to locate facilities on portions of the site where only slight remodeling of the topography will be necessary. This, along with the self-evident need to ensure adequate elbow room for all the functions, means that the landscape architect must test proposed locations against use-area sizes before he or she can proceed to satisfy more complex requirements. Size information comes from many sources, including manuals developed by park agencies, university extension services, and recreation researchers. The sampling shown in Appendices 1, 2, and 3 should give you an idea of the kinds of data which are available, while more extensive lists are found in many of the references cited in the bibliography.

Size recommendations for playing fields and court-game areas can be accepted with little question, for such measurements are determined by the rules of the game. However, size suggestions for many other use areas such as “tot lots” and picnic areas can be modified as design purpose might require, for they are based on rather fragile precedents.

For instance, a widely used standard indicates that a tot lot should have 2400 to 5000 square feet of surface. This standard has been determined by averaging out a sampling of lots in several cities across the country. As reasonable as it might prove to be, its adequacy should always be checked against the type of equipment, mode of circulation, need for buffer, and other demands of the specific lot to be addressed before it is given a blanket acceptance.

Individual design requirements, then, become an understandable basis for deviating from a standard size suggestion. In addition, as will be demonstrated, existing *site characteristics*, *design moves* that may be employed, and *agency policies* can be equally valid reasons for departure. Consider the standard that suggests ten to fifteen picnic sites per acre (4356 to 3904 square feet each). If each picnic area is to be placed upon a base that is stabilized with blacktop or gravel or has privacy screening, more areas may be in order. However, if the site has erosion-prone soil, canopy trees that will suffer under concentrated foot traffic, or steep slopes susceptible to gullying, fewer picnic areas, if indeed any, would be advisable.

There are several dual-use concepts that can make areas smaller than standards suggest adequate for many uses. One is the school-park policy whereby play facilities used by schoolchildren during the day are released to the neighboring public in the afternoons, evenings, weekends, and summers. Since the same area is used by both

school and park patrons, facility duplication is minimized. Thus, 40 acres of dual use, the school-park, does the same job as 60 acres divided between a school playground and a park. (Design organization that allows a school-park concept to succeed is illustrated in the chapter on plan evaluation.) Agencies can also put the same patch of ground to several uses where seasons of play differ; tennis courts can be flooded for winter skating, and football fields can revert to softball diamonds in the spring, to give just a couple of examples.

Standards are therefore viewed by the designer as guides and points of departure. Whereas some might be relatively inviolate (a tennis court requires 6000 square feet), others may be modified in accordance with an analysis of the situation at hand. In addition, many use units, such as passive recreation retreats, cannot be standardized. For these, the amount of site best suited to the purpose usually dictates its eventual size. Caution: In considering deviations, understand that arbitrary adjustments can lead to poor quality. Have you ever seen campers jammed elbow to elbow in violation of the standard that proposes four to seven units (10,890–6223 square feet each) per acre? As seen in Figure 4-1, the attractiveness of the area that drew the camper in the first place has been wrecked.

In order to determine size adequacy, you might first check proposals against standards. Where manuals are unclear or where deviations exist, the application of the key word *why* becomes useful. It should precipitate an explanation of the designer's rationale, which you may accept or reject.

6B. Quantities. Each park contains a number of things—use units and physical objects within each unit. Judgments regarding the appropriate type and number of units usually evolve from the demand studies mentioned when we discussed the umbrella considerations. Thus, if five tennis courts or one hundred boat slips are called for, it is because it has been determined that the demand for tennis or boating will cause that many to be used constantly. In most cases, such judgments are only best guesses and have to be reevaluated once actual participation is measured after installation. This is why it is always good practice to provide for expansion of those facilities whose popularity might be expected to increase in the foreseeable future. It is important to recognize that, at the turn of the century, the demographics of the population determining the desirability of different uses in parks is changing toward a larger proportion of upper age levels. There are more people at a more advanced age with more time to play, and more need for more places to use for play. The evident result is a need for flexible spaces to accommodate multiple uses and multiple ages in overlapping, compatible settings.

The number of physical elements considered adequate for each park unit is usually obvious, such as two posts, a net, and nearness to a drinking fountain for a public tennis court. A few others have been identified for us in the ubiquitous standards. (See the appendices.) As we have pointed out, many standards can be accepted with little question: A family-sized picnic area might very well contain one table, a fireplace, and a trash basket shared by adjacent picnickers; a campground should reasonably have one toilet for every thirty campers. On the other hand, as discussed in chapter 2, the suggestion that the preschool play area should have only the standard chair swings, sandbox, small slide, and simple climbing device may be construed as lazy design.

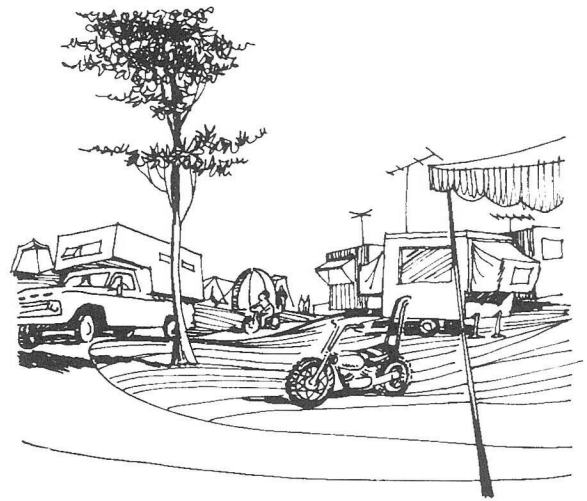


Figure 4-1

Inadequate space between campsites subverts the camping experience.

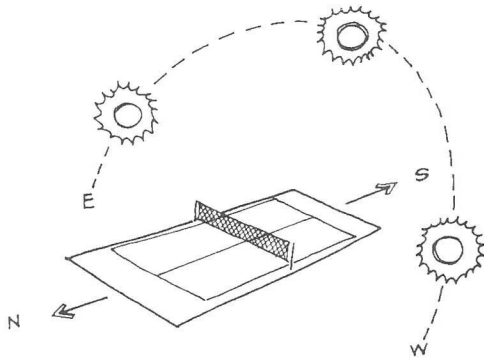


Figure 4-2
Orient tennis courts perpendicular to the sun's course.

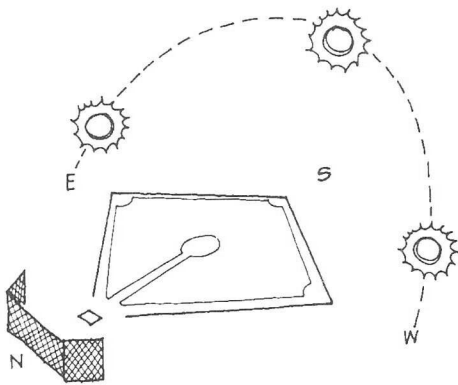


Figure 4-3
Lay out baseball diamonds so that the sun is not in the eyes of the batter.

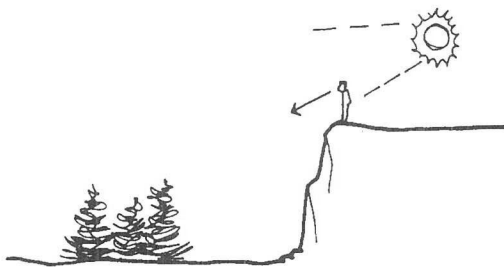


Figure 4-4
The sun should be at the viewers' backs.



Figure 4-5
Beaches should receive full solar exposure.

In evaluating the adequacy of quantities, therefore, attention should be focused on the count of activity units in relation to anticipated use and the number of physical elements necessary to facilitate that use. But functional quality does not evolve merely from providing adequate room and the proper number of things, as the perpetrators of so many "asphalt jungle" playgrounds and other sterile developments would like us to believe. Even under a self-evident principle such as meeting technical requirements, there are additional matters to square away.

6C. Orientation to Natural Forces. First of all, consider the effects of sun upon activity. To keep blinding rays out of participants' eyes, tennis courts and other play areas where a ball is sent back and forth should have their playing axes laid out at a 90-degree angle to the sun's daily course, or essentially on a north-south line (see Figure 4-2). For ball diamonds and other facilities where the missile's course cannot be predicted, priorities must be established since all players cannot be given equal protection. Taking baseball for example, a line from the plate through the mound to second base is the axis usually oriented perpendicular to the late afternoon sun (when the sun is lowest, hence its rays most hazardous) since this protects the batter, catcher, and pitcher (see Figure 4-3). A similar premise applies where spectators are of primary concern. As shown in Figure 4-4, a viewing station should be oriented so that the sun remains at visitors' backs during peak hours.

The sun can also be a useful force, and swimming beaches and garden plots should be oriented to either south or west in order to be given the advantage of maximum solar exposure. (See Figure 4-5.) An eastern orientation is ideal for most campgrounds, for as illustrated in Figure 4-6, the morning sun can quickly erase overnight dampness, yet its heat is replaced by cooling shade in the afternoon.

Wind is another natural force that can affect activity efficiency, as is only too obvious to the players who must lean into the gales and chase the frolicking fly balls in San Francisco's Candlestick Park. Ball parks, tennis courts, and other units where missiles are caused to fly about do not belong in the direct course of intensive wind currents. As demonstrated in Figure 4-7, the direction of wave-billowing winds should also determine the location of boat docks. However, wind blockage or lack of atmospheric motion can decrease camp and picnic ground usability, causing a pall of cooking smoke to hang continuously in the air as if to remind us all of Los Angeles, the ultimate example of inattention to the effects of natural forces in the location of human works. Therefore, as illustrated in Figure 4-8, every opportunity should be taken to orient such grounds to available breezes; this criterion should also be used to determine the placement of other activity areas in humid climates.

Park structures for permanent human habitation such as offices, concessions, rinks, gyms, and meeting spaces require heavy use of heat- or cold-producing energy to resist sun, wind, and winter cold. The site selected and developed for such structures can offer protection if orientation and landform are considered at the early planning stage. The proper combination of earth sheltering and solar design can open the building's interior to warming south sun in winter yet insulate against punishing summer heat with a cool earth jacket around the bottom, sides, and top of the structure (Figure 4-9). Even existing buildings, structurally unable to support soil piled on or over

streets, and *pavement reflection* must direct the selection of city plants. Pavement presents a double problem. Besides throwing sun glare, it prohibits rainwater from reaching roots. It is therefore unwise to pave right up to major trees, and, if this is unavoidable, the pavement nearest the tree should be perforated or bricked with wide sand joints. The installation expense is well justified by future savings in maintenance or replacement costs.

The cost of a free gift deserves a caution in this regard. A tree donated by an owner, even though a dandy and desirable specimen, has to be looked at in terms of the cost and formidable hazards of a move: First considerations should be the “from-to” factors. Can you get *to* it with the necessary equipment? Can you move it *from* its existing location *to* its new home without collapsing the owner’s basement wall, dropping utility lines, moving parking meters (easy to overlook), or, worse, having to cut another tree back to a hat rack to make space for this one? Even if *you* can accomplish the necessary physical changes, can the tree? It is being moved from an unrestricted soil surface at its source location to a new environment that may challenge it with a hostile soil, a severe exposure, a skimpy water table, and an affectionate audience waiting to love its root surface to death as they play under its branches. Once in place, the care necessary to nurse it along may be the greatest expense of all. Some regional guides to the selection of appropriate landscape plants are included in Appendix 4.

To minimize maintenance chores, the most obvious criteria should also order the selection of plant material. That is, first of all, *plants grow*. Plants should be chosen that have growth habits naturally fitting the circumstances into which they will be placed. (See Figure 4-35.) This will eliminate the extensive pruning required to hold a plant to atypical form. In days gone by, horticultural fanciers got an immeasurable charge out of plants shaped into globes, triangles, and various forms of animal life. Taste aside, perhaps they could afford the grooming effort. With today’s burgeoning costs, however, it should be recommended that if one wants to spot a chicken effigy in the park, one should consult a taxidermist rather than a horticulturist.

Along with habit, rate of growth and ultimate size should also be considered. The thinking here cuts two ways. If the selection is slow growing, do you have enough patience to wait for it to fill its appointed place? Yet, if it grows too rapidly, how long before it devours the utility lines or lifts the roof overhang from its joists? To avoid having to wait years for appreciable effect as in the former case, or butcher major limbs as will be required in the latter, it is wise to select a species that will grow at a pace suited to the circumstances—slow if the spot where it is planted is a cramped corner, fast if it must throw up quick screening—and fit its allotted space upon maturity. (See Figure 4-36.)

Plants have limited life spans. Replacement growth must be continually encouraged. An administrative and maintenance policy can be implemented whereby picnic and other areas of intensive traffic are retired periodically to enable underbrush to establish itself. As illustrated in Figure 4-37, a defeating policy would be to wipe out the scrub because “it looks neater.” The young material, however disheveled in its infant state, is the best replacement stock and is already in place. Reaching maturity while the taller members decline through old age, the young stock will be ready to make a substantial contribution when the oldsters expire.

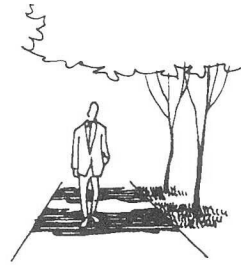


Figure 4-31
Plants can supply shade.



Figure 4-32
Plants can buffer odors.



Figure 4-33
Plants can suffocate noise.



Figure 4-34
Plants can retard erosion.

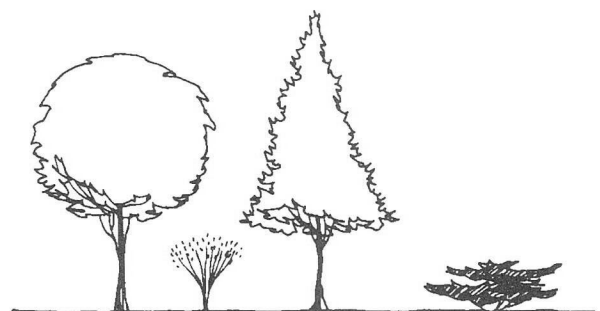


Figure 4-35
Plants have predictable forms.

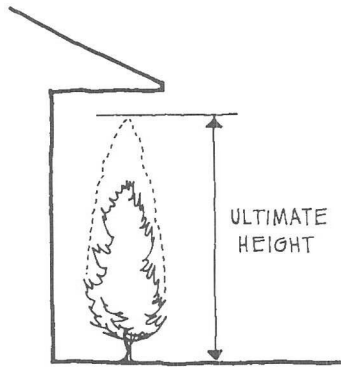


Figure 4-36
Plants have predictable growth rates and sizes.

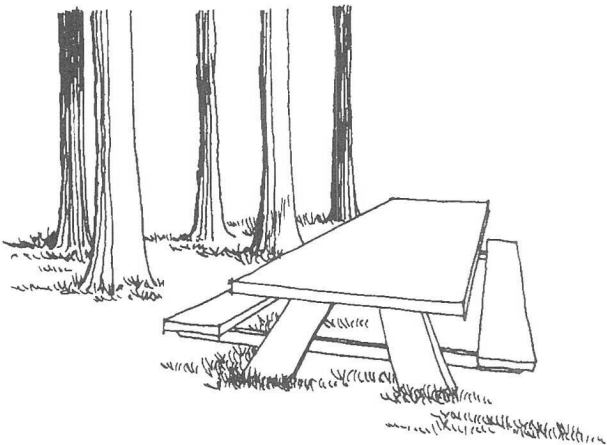


Figure 4-37
Without undergrowth to take over when the older generation of trees dies, the life of this picnic site is limited.

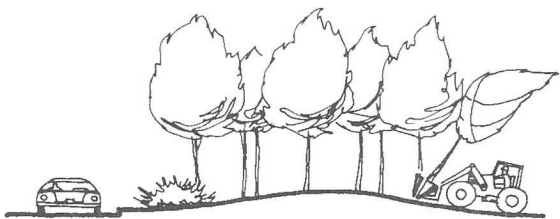


Figure 4-38
Linear nurseries for beauty with easy service access.

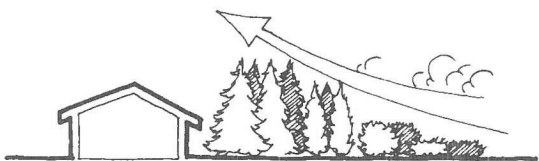


Figure 4-39
Plants can provide a wind wedge for energy conservation.

A park district can use this kind of natural nursery approach to great advantage if new growth can be integrated with older materials in casual settings. Other opportunities for developing plant material resources on district land should be considered also. Since plant replacements and additions are constantly needed, areas suitable for holding, growing, and transplanting trees should be identified for use but not necessarily developed as typical row-by-row nurseries. Recalling the multiple-use concept urged earlier, consider nurseries also serving as windbreaks, view screens, use separators, educational arboreta, and sound buffers. Comparatively narrow right-of-way strips can be planted in softly linear, changing patterns, making the parks' drives and trails delightfully scenic while offering easy access for placing and replacing the trees (Figure 4-38). Once suitable locations with flexible boundaries have been identified, a nursery sellout, a tax auction, a donation, or a discovery can be seized as an opportunity and the trees obtained stored with immediate *and* long-term advantages.

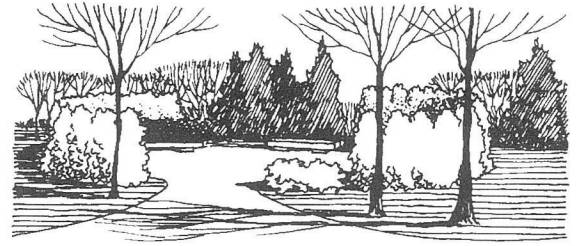
Recognize also the opportunities inherent in relationships with research agencies like timber corporations, major nursery companies, and state or federal as well as university departments, all of which may be doing growth studies of large-scale plant materials. Trees developed in these agencies' programs may be intensively used for 5- to 10-year study cycles and then, having passed their test target limits, be disposable. Rather than letting them be cleared away, another agency with an opportune place and purpose may be able to have them purely for the taking. Being aware of available resources is again a key to capitalizing on this kind of opportunity. In fact, an offer of one resource (land) in exchange for another (the plantings) could conceivably lead to the research project being developed on the target site where the trees are ultimately needed. Everybody wins; research results are obtained and the district gets plant materials without needing even to transplant them.

7F. Energy Conservation. As mentioned in the discussion of orientation to natural forces, plants offer unique possibilities for energy conservation through control of weather and natural forces. Combining some of the plant abilities previously mentioned, a structure can be buffered from severe winds by mass plantings of dense evergreens, particularly if these are selected by size and species to offer a wedge to the wind (Figure 4-39). Shade is also a vital commodity in an air-conditioned world. Trees selected to provide energy-penurious shade must have the growth potential to reach up and out over the structure. They also have to be accommodated in a location that allows them to take advantage of that potential. A shade tree intended to serve a structure in this capacity may seem to violate conventional design patterns by hugging the building and by being limbed high (by nature or by maintenance) as in Figure 4-40. This confrontation of good design with preconception brings us back to the oft-repeated key word *why*. Preconceptions can be dangerous obstructions to a good answer.

7G. Attention to Details. If base-plane materials appropriate to use, vertical-plane materials that will weather well, and plant materials appropriate to the location are specified at the time of design and if materials are placed so as to take every advantage of energy conservation potential, the maintenance budget should breathe a sigh of relief. These are basic matters of concern to which can be added many minor considerations for further savings.

Chapter Five

PLAN INTERPRETATION



Before we proceed to the planning process, we should discuss the plan itself and the symbols that have to be interpreted in order to grasp its meaning. Actually, there are several types of plans with which you should become familiar.

PLAN TYPES

There is first of all the *master plan* (Figure 5-1), which shows the essential organization of the park including commitments regarding circulation and major relationships: park to surroundings, use areas to site, use areas to use areas, and major structures to use areas. You will find that most documents specifically labeled master plan are for extensive developments devouring hundreds of acres or more and are drawn at a scale of 1 inch = 100 feet or 1 inch = 200 feet, the large scales enabling the entire layout to be seen on one sheet but limiting what can be shown to the most general. Even though design decisions are broad stroke at these scales, they still reflect much of the landscape architect's thinking about blending the new with the old, area sizes and quantities, orientation to natural forces, and use of existing site resources. What a large-scale master plan lacks is a full representation of proposed lines, forms, textures, and colors, all but the most major contour adjustments, the location of minor structures like light fixtures and drinking fountains, and the handling of other details too small to be drawn in.

These are left to be indicated on the *site plan* (Figure 5-2), drawn at a scale of, say, 1 inch = 20 feet or 1 inch = 40 feet. In addition to rendering more exactly the larger-scale commitments, the designer can also show aesthetic character, spatial framework, and the location of many minor structures on this drawing. The site plan can be a blowup of a portion of the master plan, or it can itself serve as the master plan when no drawing precedes it. The latter is usual if the area under study comprises about 50 acres or less, its moderate size

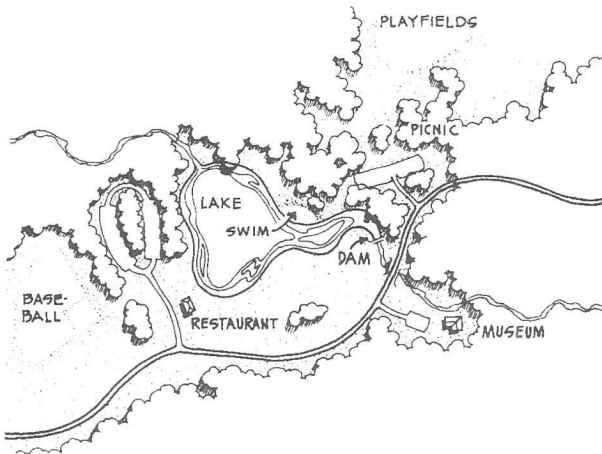


Figure 5-1
A portion of a master plan.

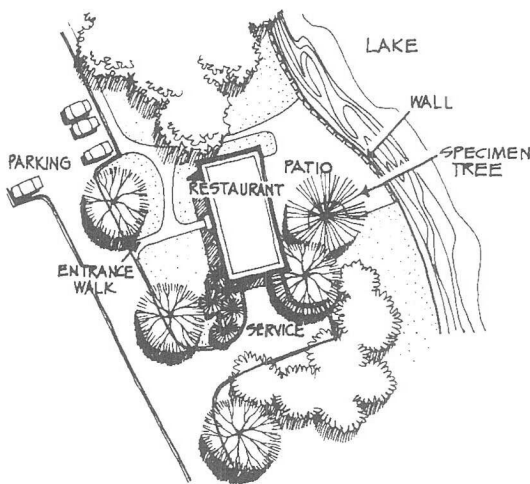


Figure 5-2
A portion of a site plan enlarged from Figure 5-1.

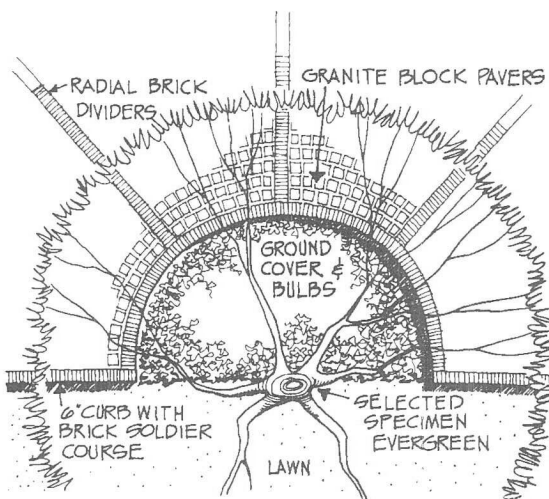


Figure 5-3
A portion of a detail plan blown up from Figure 5-2.

being suited to a rather detailed solution presentation on one sheet of paper.

Where it is required that every fly speck including such details as curb widths, sign locations, and pavement textures be shown, a detail plan (Figure 5-3) drawn to a scale of 1 inch = 10 feet or less is in order. This can be an enlargement of a portion of the site plan or, if the area is quite small (a "tot lot" or bus waiting space, for example), can serve alone as a mini-master plan.

Accompanying each of the above might be *schematic plans* (Figure 5-4) that illustrate circulation patterns, major relationships, or whatever else the designer believes are the keystones of the solution. Schematics are abstracted from the morass of plan detail as a courtesy to the reviewer. They are often used as backup material for verbal presentations or to accompany written reports that provide an explanation both of the plan and of the supporting data.

There are other terms by which master, site, and detail plans are known. Development plan, master development plan, and, in some loquacious circles, master site development plan are a few which come immediately to mind. It is useless to suggest which label goes officially with which plan type inasmuch as there is no general agreement among designers, many using *master plan* to refer to what we have called a *site plan*, *development plan* for either site or *master plan*, and an infinite number of other combinations.

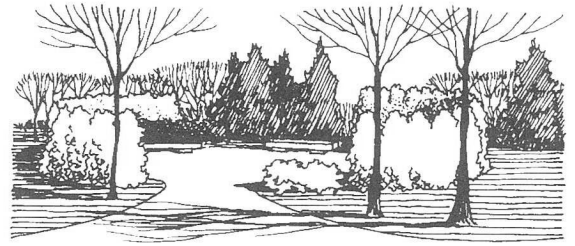
What is more important than haggling about titles is understanding what kinds of information each plan type provides, regardless of what the designer with whom you are working has chosen to call it. This will help you in two ways: If you know the degree of design commitment possible at each scale, you are most likely to concentrate your critical focus on relevant issues rather than waste energy searching for the location of benches on a 1 inch = 200 feet layout scheme; secondly, knowing what each plan can show will allow you to participate in decisions regarding what kinds of drawings are necessary.

What we have called a master plan is the first statement of development intent and suggests how all the pieces will fit. With a master plan available, each piece can be built separately with full confidence that, when development is finished, all pieces will knit and work well together. The master drawing is often accompanied by a *staging plan* that indicates how construction might be phased in instances where budget does not permit construction in one stroke. The master plan can also be considered a record document showing both the existing and proposed at any given moment. On it can be charted changes brought about by new demands that arise between plan creation and implementation. And because the plan provides an overview of the project, it is easy to spot the side effects of the changes, and to see what measures need to be taken to retain the original "fit" of the interrelated parts.

What we have termed the site plan gets us closer to construction, for the scale at which it is drawn allows the designer to pinpoint locations and draw rather precise forms. The site plan, often accompanied by detail plans of some of its parts, provides the basis for *construction plans* (Figure 5-5), which show measurements, material specifications, structural diagrams, and all the computations needed by contractors. It is also a guide for the *planting plan* (Figure 5-6), which is a type of construction drawing indicating to landscapers where plant material is to be installed.

Chapter Six

SITE DESIGN PROCESS



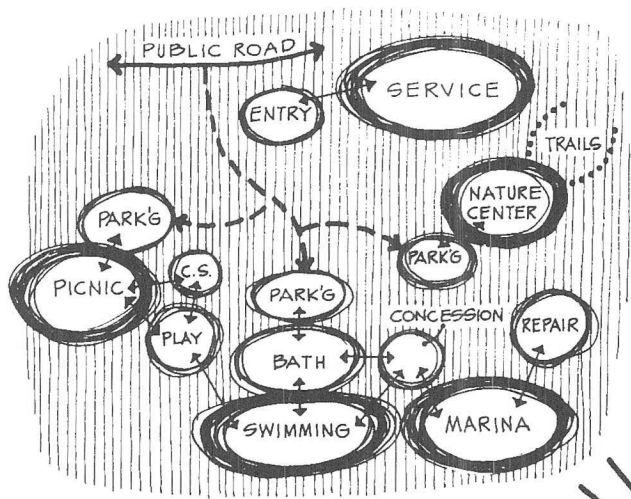
The ability to design recreation areas is similar to that required to solve any kind of land-use problem, the primary difference between a park design and, say, a subdivision design being the inputs analyzed. Accordingly, you will find that most designers have worked their way into a park design specialty from a general education in landscape architecture, just as doctors receive a basic medical background before turning to brain surgery.

Development of design expertise does not occur overnight; it requires an inordinate amount of time and patience spent simply in doing: testing, discovering, and prodding latent talents to the surface. Much of the trial, error, and frustration that this entails is due to the fact that no one has yet invented a design cookbook containing procedures which guarantee results. However, many designers do use with some success a process that helps them sort out the facts, premises, and possibilities to arrive at a solution.

The process aids the landscape architect by systematically focusing attention on all factors that could affect the design's outcome and otherwise lends a semblance of organization to the attack. By illuminating relevant factors, it can also trigger flashes of inspiration. The process therefore bolsters both the rational and intuitive powers on which the designer must rely. While the process provides a framework, its ultimate value as a design tool is contingent upon the designer's ability to exercise those powers interchangeably within it.

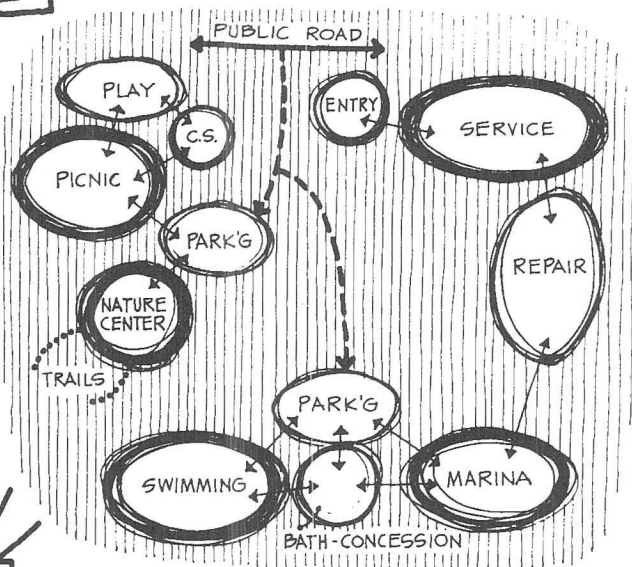
A systematic approach to site design includes three phases. The first is a *survey*—assembling facts and data. The second is *analysis*—making value judgments about the effects of one fact on another. The third step may be called *synthesis*—weaving the results of analysis into a comprehensive solution to the problem. The steps may not be done strictly according to this chronology, for there is much feedback and interplay among them. In addition, the process must remain flexible in order to allow each designer to use his or her mental powers in the way he or she finds most comfortable.

RELATIONSHIP DIAGRAMS



- + ENTRY CONTROL NEAR PUBLIC ROAD.
- + PARKING - SPLIT, DOESN'T PENETRATE ACTIVITIES.
- + ONE CONCESSION FOR SWIMMING & MARINA WHICH SHOULD BOTH BE NEAR WATER.
- + PICNIC & SWIMMING SHARE PLAYFIELD.
- MARINA NOISE & DEBRIS CONFLICT WITH SWIMMING.
- PICNIC DIVORCED FROM NATURE CENTER.
- NATURE CENTER WEDGED BETWEEN NOISY SERVICE AND REPAIR.

- + BATH-CONCESSION COMBINED TO SEPARATE SWIMMING & MARINA.
- + PICNIC & NATURE CENTER PARKING COMBINED.
- + SWIMMING & MARINA PARKING COMBINED.
- + REPAIR & SERVICE (NOISE & MESS) COMBINED.
- PICNICKERS GO THRU N.C. AND TRAILS TO SWIM & BOAT.
- ROADS CUT PICNIC FROM BOATING.



- + PARKING - SPLIT, DOESN'T PENETRATE ACTIVITIES (PEOPLE DON'T CROSS ROADS TO GET TO ANYTHING).
- + N.C. ISOLATED BUT CONVENIENT TO PICNIC AREA WHICH WILL PROVIDE MAJORITY OF VISITORS.
- + BATH-CONCESSION SEPARATE MARINA & SWIMMING.
- + PLAY SEPARATE BUT USABLE BY BOTH SWIMMING AND PICNIC.
- + MARINA, REPAIR & SERVICE TOGETHER - NOISE ISOLATED FROM REST OF PARK.
- + ENTRY CONTROL NEAR PUBLIC ROAD, FIRST CONTACT.

THIS IS IT !

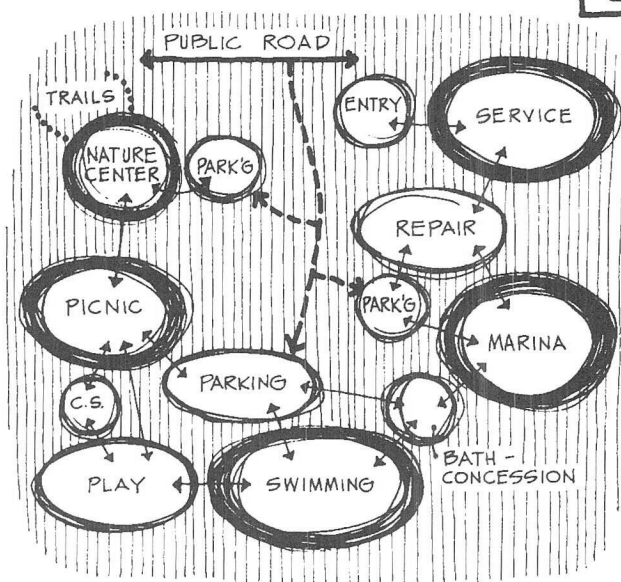
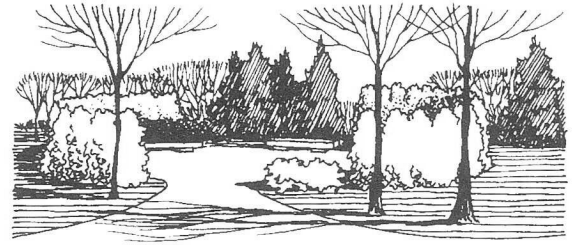


Figure 6-8
Design process case study—relationship diagrams.

Chapter Seven

PLAN EVALUATION



Although their chores are different throughout, designers and critics are confronted with many similar situations. Beginning with little understanding of solution direction, both are vulnerable to panic in the face of the project's magnitude and both need a clear view of where to begin. While both might have early feelings about what is needed, such general feelings must be turned into specific requirements in order to direct attention to the significant determinants of the case. The success of the end product—the architect's drawing or the critic's evaluation—hinges on the ability to make correct value judgments about the synthesis.

The best aid that can be suggested for the critic—as well as for the designer—is a systematic approach to sorting out determinants, although this cannot guarantee results since a favorable outcome depends on how well the critic operates within the framework provided by the system. While any evaluation procedure is therefore but a tool, the one suggested here should arm the critics with enough understanding to give them some confidence in their conclusions.

SELECTING THE DESIGNER

The process of ensuring an appropriate solution to your land-use problem begins long before the plan is developed. It starts with the selection of the landscape architect. If you find a good one, your critique becomes but a cordial review, lasting just long enough to satisfy your curiosity, leaving ample time in the evening to toast both your fine judgment and the landscape architect's at a parlor of good cheer.

When designers are employees of your agency, you already know something about their work and abilities. However, many park departments do not budget a full-time design staff, preferring to contract the preparation of each development plan to a private consultant. Selecting a qualified consultant is an art that should be mastered by the financing party to the contract. It involves a searching analysis

A STATE PARK

SITE ANALYSIS 1 OF 2

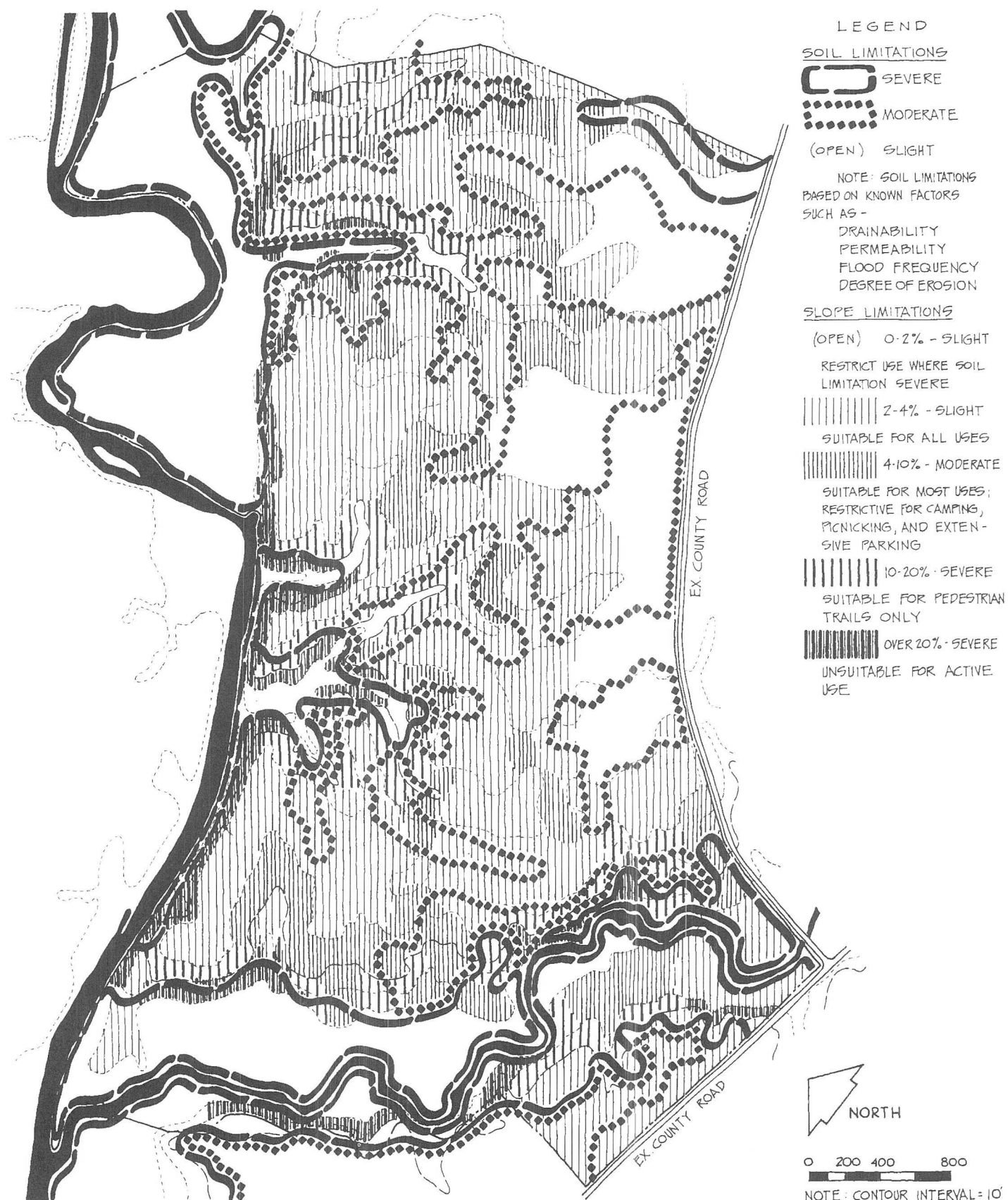


Figure 7-8
A state park site analysis, 1 of 2.

A STATE PARK SITE ANALYSIS 2 OF 2

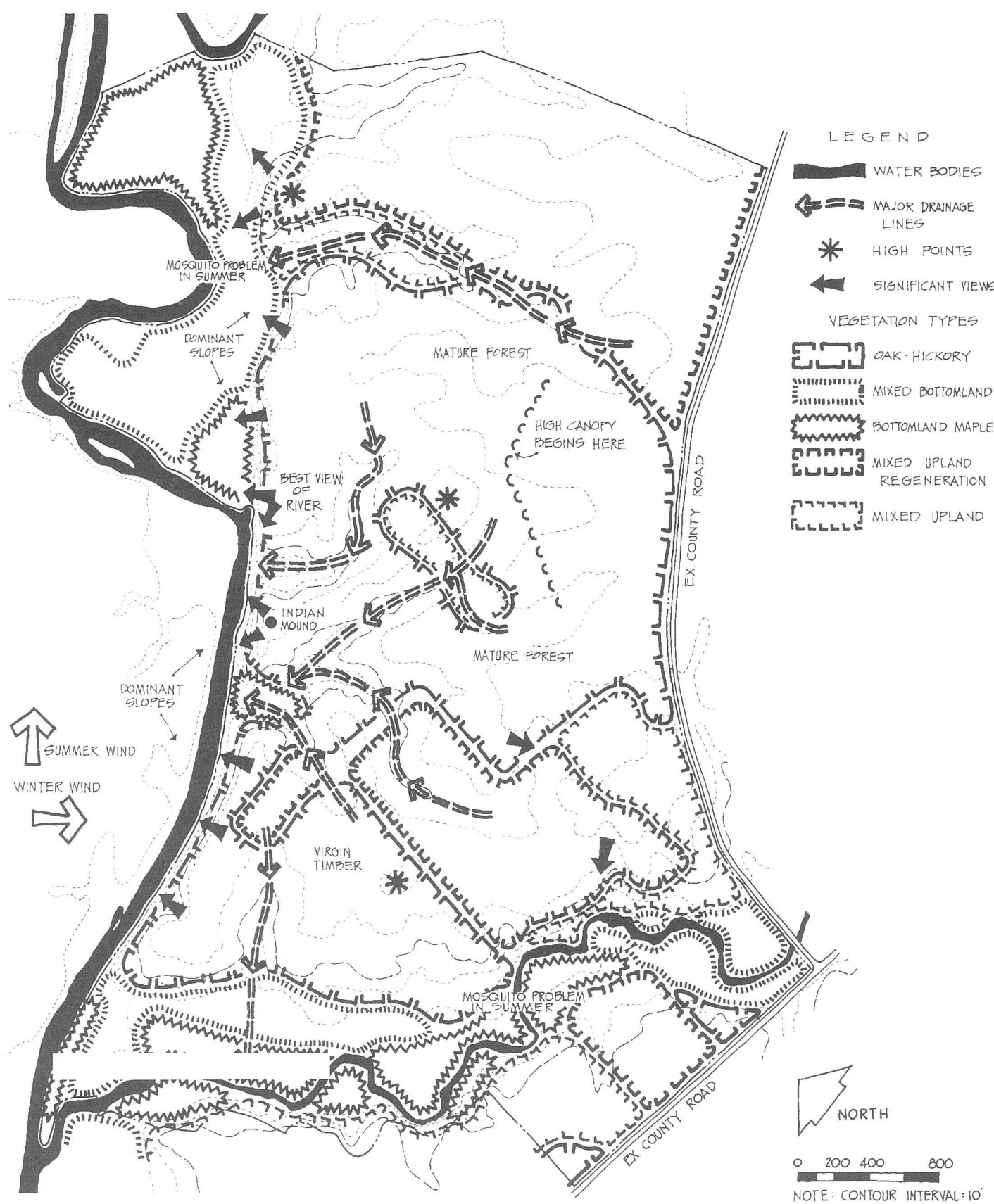


Figure 7-9
A state park site analysis, 2 of 2.

A STATE PARK

MASTER PLAN - SOLUTION 1



Figure 7-10
A state park master plan—solution 1.

A STATE PARK MASTER PLAN SOLUTION 2

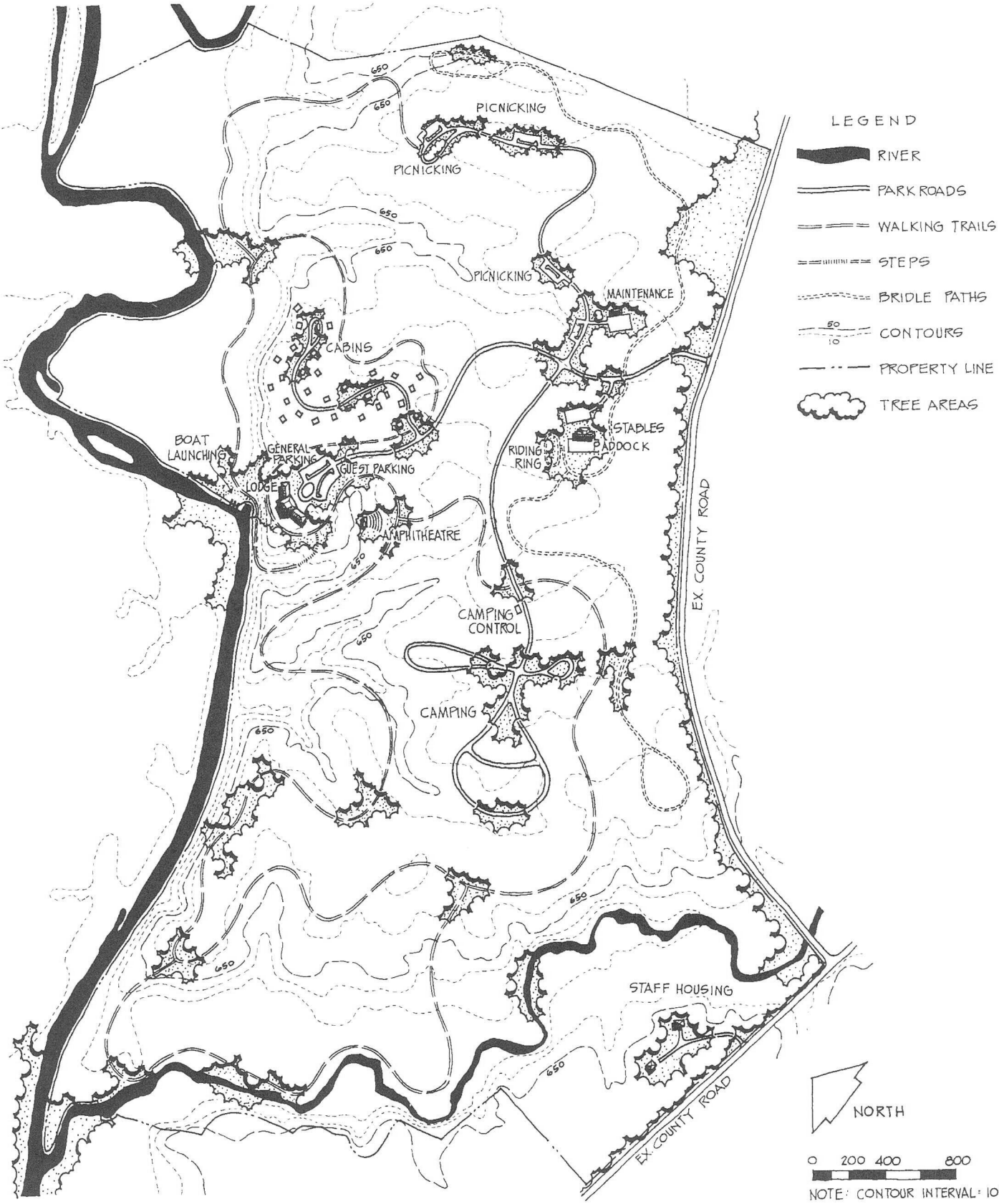
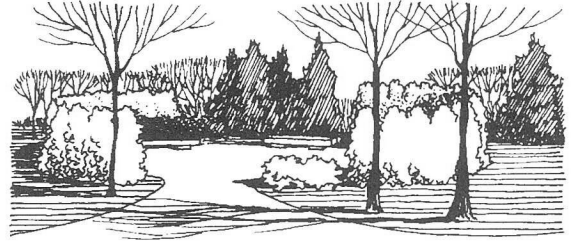


Figure 7-11
A state park master plan—solution 2.

Chapter Eight

GOOD PARK, GREAT PARK



Ask anybody what makes a great park and the answers would fill a book (other than this one) with opinions, some based on professional observations, but more probably based on personal recollection of things in the category of “I just felt good when I was in that park.” Ask the same folks to *name* a great park and the answers would not even fill a long paragraph; most would be “Central Park.”

But the answer to the first question isn’t the answer to the second question. No single solution makes any park a great park, or even necessarily a good park. The techniques for making a park are contained in the previous chapters, and the procedure for determining if a park plan is apparently properly prepared is also wrapped herein. But “good”? Or even “great”? Extracting a phrase from John Simonds, “Only the experience counts.”

Pursuing this question of knowing a good park and, even better, a great park, we interviewed park professionals across the country. They were asked if they had, in their territory of concern, a great park. The answers were guided by their experiences interpreting the point of view of the users of the parks. The parks identified were all parks that people loved, that they used, that they would fight for if it were threatened (like seriously changing it or, worse, losing it). These were not parks the people used because they were the only ones available. They were parks that had characteristics and qualities that made them friends, that made them the fulcrum of memories.

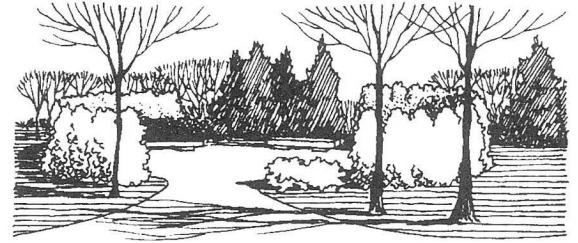
Some park sites exist because they are places so strong in their original condition (great existing tree masses, incredible rock formations, water bodies overwhelming in their splendor) that even inept programming, planning, design, and construction couldn’t screw them up. But good parks and great parks don’t have to be tied to spectacular natural resources for their success.

What is it that works?

From Ed Harvey, Director of the Northbrook, Illinois park district, we learned that Northbrook’s “great one” is Village Green Park. The place is near the center, the focal point of the city. It’s got a

Chapter Nine

THE BOTTOM LINE



As discussed in previous chapters, the park board, with the help of the park staff, citizens, park users, and maybe a consultant, must develop a program for park and recreation facilities. The program may be for one park or for many. It may be simple or complex. The vision may be wildly grandiose or mildly frugal. However the plan is assembled, it is only a plan until it is built. The actual process of building the park immediately brings money into focus and introduces the issue of budget.

Developing a budget is usually an educational experience, but it is often an unexpectedly painful exercise as well. By the time you begin to look at a budget, a realistic assessment of needs and serious discussions of priorities must already be behind you. Eventually the prioritized needs and the budget must come together to build a new park, make park improvements, or simply maintain the status quo of the existing park system. It is necessary for a park board to compare the estimated costs of park improvements and maintenance to the available budget as declared by the city council or determined by tax revenues.

It is important to consider a variety of ways to achieve the program needs and simultaneously satisfy the needs of the community. Having lots of money is a simple way. But even without cash, much progress can be achieved. There are other ways to get parks built or assist in cost control without cash. There are also ways to make cash go farther. Leveraging available budget resources can achieve results that otherwise may not be possible. The term *leverage* is similar to its physics concept: an amount of money or other commodity of value is used to achieve or obtain a greater amount of money or valuable assets.

Following is a résumé of a variety of budget-expanding tools and techniques. They are arranged in cash (i.e., grants) and non-cash (i.e., volunteers) ways of achieving park goals. The assumption here is that the park board starts with a fixed budget from its normal appropriations and searches for ways to grow that budget to achieve its vision