This section includes specific criteria which are applicable to the design and landscaping details of the play area.

Some of the patterns (805, 807, 808) apply to the preparation of the site before any construction takes place on the surface, as well as to the design of specific features of the play area and equipment.

The other criteria deal with design features of specific play areas or the site in general.

801 Outdoor Storage
802 Berms as Play Equipment
803 Landscaped Barriers
804 Landscaping Materials
805 Planting and Ground Shaping
806 Snow and Ice
807 Appropriate Utilities
808 Positive Drainage

They do not include standard site design details—which are covered adequately in any standard landscape architecture or site design textbook or reference, like Kevin Lynch's Site Design, Albert Rutledge's Anatomy of a Park, J. H. Callender's Time-Saver Standards, Joseph de Chiara's Time Saver Standards for Building Types (Recreation), or J. de Chiara and L. F. Koppelman's Site Planning Standards. Rather, these criteria focus on site development criteria as relates to the unique needs of the developing child.
OUTDOOR STORAGE

ISSUE
IT IS TIME CONSUMING AND OFTEN VERY DIFFICULT FOR CHILDREN AND STAFF TO MOVE BULKY TOYS OUTDOORS.

JUSTIFICATION
Outdoor areas need outdoor storage space. This saves time in preparing for play and is more convenient for cleanup. Storage which is directly accessible to outdoor play areas reduces time wasted in transporting toys from indoor settings (Prescott and David, 1976). If toys and equipment are easily accessible, the child's own experience of taking them out and returning them with a minimum of supervision will aid in the development of responsibility.

PATTERN
OUTDOOR STORAGE
SECURE, CHILD-SCALE STORAGE SPACES WHICH ARE DIRECTLY ACCESSIBLE TO PLAY AREAS SHOULD BE PROVIDED FOR INDOOR AND OUTDOOR PLAY EQUIPMENT AND FOR OUTDOOR MAINTENANCE EQUIPMENT.
RECOMMENDATIONS

- Storage should be child-scaled.
- Storage should be vandalproof and weathertight.
- In play areas where there are no adjoining indoor spaces, storage and play shelters should be combined so that playthings are available without leaving sheltered play areas.
- Texas A & M (1969) recommends 600-800 cu. ft. of enclosed storage for large and small outdoor play equipment.

RELATED ITEMS

DEGREES OF SHELTER
ISSUE

Many activities children enjoy take place on a hill or hillside. Small hills or berms are inexpensive pieces of "equipment" which can be provided in a child-care setting.

JUSTIFICATION

Children play king-of-the-hill, they roll down a hillside, they climb up, they slide down on grass or snow: these activities cannot take place on flat land. Hillsides can be enjoyed by all age groups, including people with physical handicaps. In fact, berms are a classic example of Paced Alternatives. Small hills (or berms) provide a vantage point for viewing without danger of falling, and can serve also as natural amphitheatres.

Observation showed that where hills or berms existed in play areas, they were a highly used feature (Travel Report, 1978).

PATTERN

Berms as Play Equipment

Use berms to provide play experiences of climbing, viewing, rolling, sliding, etc. ("if you can't design it ... berm it.")

RECOMMENDATIONS

- Provide a grassy hill (either natural or constructed) as part of each play area.
- A minimum of one or two berms 4-5' high (200-400 sq. ft.) with varying slopes of 1:3, 1:4, and 1:5 would be sufficient for the activities which are likely to take place.

RELATED ITEMS

Paced Alternatives
Landscaping Materials

Even small hills can be the best sledding hills available.
ISSUE

ADULTS NEED TO BE ABLE TO SEE SMALL CHILDREN IN ORDER TO FEEL COMFORTABLE WHILE THEY ARE OUT OF IMMEDIATE REACH (SEE VIEWS TO AND FROM PLAY AREAS). ALSO, PARENTS WANT SMALL CHILDREN TO PLAY IN AN ENCLOSED SPACE WITH CONTROLLED ACCESS FOR SAFETY (SEE ACCESS AND CIRCULATION).

SMALL CHILDREN, ON THE OTHER HAND, NEED TO FEEL ENCLOSED, PRIVATE, AND SAFE WHILE PLAYING.

JUSTIFICATION

Various barriers are available which can create child-scale spaces which adults can see over. Earthform and plantings have been discussed. (A caution concerning mounds: these will not actually be a barrier to children unless used in conjunction with other barriers.) Another barrier may be created by raising levels around the perimeter with logs, railroad ties, etc. While this is attractive to adults, raising levels high enough to be a barrier to children makes an uninteresting scene for the child.

Fencing of various types may be used:

- See-through fence, while providing for adult view and protection of children, doesn't lend itself to a private, enclosed feeling unless used in conjunction with something else. Chain-link fences may make a play yard look like a prison yard.

- Solid fence, while lacking the "climability" of an open fence, does provide for more of children's needs. A solid fence is essential for ADVENTURE PLAY AREAS.

- Wood: consider the expense, maintenance, and life expectancy. It is fairly flexible and changeable.

- Masonry: expensive to build, not flexible. Maintenance in cold climates may be costly.
LANDSCAPED BARRIERS

USE A VARIETY OF LANDSCAPING MATERIALS TO DELINIMATE BOUNDARIES OF PLAY AREAS AND TO PROVIDE A BUFFER WHERE NEEDED.

RECOMMENDATIONS

- Choose barriers which will give children a sense of enclosure and privacy (2'-3' high).
- Make sure adults can see children within the enclosure when adults are standing.
- Enclose the perimeter with a barrier that small children will not cross.
- Use barriers to reinforce activity patterns and circulation within the play area.

Concluding the discussion of landscaping materials, the following quote from Richard Dattner (1969) may give designers some clues about landscaping materials to include:

A playground should be like a small-scale replica of the world, with as many as possible of the sensory experiences to be found in the world included in it. Experiences for every sense are needed, for instance: rough and smooth objects to look at and feel; light and heavy things to pick up; water and wet materials as well as dry things; cool materials and materials warmed by the sun; soft and hard surfaces; things that make sounds (running water) or that can be struck, plucked, plinked, etc.; smells of all varieties (flowers, bark, mud); shiny, bright objects and dull, dark ones; things both huge and tiny; high and low places to look at and from; materials of every type, natural, synthetic, thin, thick, and so on. The list is inexhaustible, and the larger the number of items on it that are included, the richer and more varied the environment will be for the child. (p. 44)

RELATED PATTERNS

VIEWS TO AND FROM PLAY AREAS
SEMIEL-ENCLOSED PLAY SPACES FOR YOUNG CHILDREN
ISSUE

LANDSCAPING MATERIALS ARE ESSENTIAL IN THE CREATION OF A DESIRABLE ENVIRONMENT FOR PLAY. IN THE PAST, MANY PLAYGROUND BUILDERS PUT AN EMPHASIS ON EQUIPMENT, THUS THE VITAL IMPORTANCE AND POTENTIAL OF LANDSCAPING MATERIALS WAS USUALLY IGNORED.

JUSTIFICATION

In creating a play environment, particular attention must be paid to surface materials, plantings, landforming, water, fencing or surrounding structures, and their placement in order to achieve results which are compatible with the relevant play activity.

Surfacing is perhaps most important from the standpoint of pragmatic use and safety factors.

SAND

While excellent as a play material, sand can also be used for surfacing. Sand is relatively soft on impact, but several sources warn that use of sand under very active areas may lead children to also use it for quieter play activities, and be in danger from balls, swings, running, etc. Another caution from Bengtsson (1970) is the following:

But what about dogs and cats? This is the usual comment when sandpits are discussed. To this, I can only say that the risk of the child encountering animal excrement during play is equally inconvenient whether we have sand areas or not. As long as children and animals use the same area, suitable fencing is the only remedy. (p. 180)

Further, sand may cause undue abrasion on clothes and equipment.

Wood chips should be placed over sand because the sand gets into the children's clothes and grinds both the finish and the actual equipment—wood chips soften with age. (Travel Report, 1978, p. 97)
ASPHALT

While asphalt is harder than sand, it is still softer than concrete. Where hard surfaces are required for wheel toy play, INFORMAL PAVED AREAS, and HARD-SURFACE PLAYING AREAS, asphalt is preferable. Because asphalt dries more quickly than sand, dirt or grass after rain or snow, place it where kids will play first. However, large stretches of asphalt are extremely unpleasant in hot weather and may become tacky. (Public Housing Design - Federal Public Housing Agency, 1946).

Asphalt is much too hard a surface to use underneath active equipment such as swings, slides, climbing frames, etc. Danger from falls is greatly increased by a hard surface in these areas.

DIET

Lady Allen (1968) suggests the following:

Plain earth should not be overlooked as a surfacing material. When mixed in the proper proportions of clay, sand and silt, it makes a surface more resilient than asphalt. No doubt there will be complaints that children soil their clothes when they play on earth surfacing, but after all, if children are to play, they must be expected to get dirty sometimes. Country children play in fields and ditches, and get dirty—why not town children? (p. 34)

GRAVEL AND WOOD CHIPS

Another material that may be used in certain intensive-use areas is pea-gravel which is inexpensive, impact-absorbing, and requires little maintenance. Wood chips have been used for impact areas successfully and are available in most parts of Canada. (Central Mortgage and Housing Corporation, 1978, p. 28)

A caution: gravel other than pea gravel may have sharp edges and be unsuitable for use in play areas.
GRASS

Almost all sources suggest some use of grass:

No one has yet discovered the ideal surfacing, although a mixture of grass and paving would seem the obvious compromise. The most pleasant surface is, of course, grass, but unless the area is large this will soon be reduced to mud—pleasant perhaps for the children but less so for their mothers. When grass is used as the surface material, some wear and tear will inevitably occur; there should be a sum of money allocated for re-laying and renewal. If the grass is scythed once or twice a year, the children will take pleasure in playing with the dried grass. (Lady Allen, 1968, p. 34)

Grass is suitable for only a small range of activities, particularly after rain, so it should be located so that the sun can dry it as quickly as possible. Also, to ensure that the overall intensity of use will be low and evenly distributed, access paths should run parallel to it, roads leading directly into the space should be avoided, and barriers should be strategically located to avoid undesirable shortcuts. (Pollowy, 1977, p. 139)

Dried out grass which turned brown through error has proved to be an excellent non-maintenance, pleasant yellow-coloured surface, lasting several seasons. (Central Mortgage and Housing Corporation, 1978, p. 28)

PATTERN

LANDSCAPING MATERIALS TO FIT ACTIVITIES

USE A VARIETY OF SURFACING MATERIALS, CHOOSING EACH TO FIT SPECIFIC ACTIVITY AREAS. CONSIDER IMPACT ON CHILDREN AND THE PLAY ACTIVITY, THE COMPATIBILITY OF TEXTURE, COST, MAINTENANCE, AND DURABILITY.
RECOMMENDATIONS

- Use softest surfaces where children are likely to tumble, roll, jump, etc.
- Do not double-function sand play and sand as surface under active areas. Separate these functions clearly, perhaps by use of wood chips over sand in active areas.
- Use grass in lower-traffic areas, and not under active equipment.
- Use pavement, e.g., asphalt where wheel toy areas are desired.

RELATED ITEMS

POSITIVE DRAINAGE
ISSUE


JUSTIFICATION

MOUNDS

As many sources point out, mounds provide play areas, safe bases for slides, interesting climbing areas, winter sledding and sliding, as well as helping to define spaces. For small children, mounds can be small (5–6 ft. high) and still give play experiences and protection. Placed on the side of prevailing winds, mounds can give protection without cutting off sunlight. Maintenance of mounds should be considered—grass could be difficult to maintain if the slope is more than one to three (Lady Allen, 1968). (Also see BERRMS AS PLAY EQUIPMENT.)

BOULDERS AND ROCKS

Also useful for climbing and exploration, rocks and boulders may be used to define activity areas, circulation spaces, and provide seclusion and protection for small children.
PLANTINGS

Trees and shrubs may be used to provide:

- Shade: Use only deciduous trees, so sunlight won't be cut off in winter.

- Wind break: Evergreens continue to shelter in winter. Deciduous trees only work when leaves are on them.

- Circulation and area definition: Many hedge-type plants can be trimmed at low heights so as not to impede VIEWS TO AND FROM THE PLAY AREA.

- Climbing: Use low-branching deciduous trees.

- Privacy: Room-size spaces can be achieved with hedges, bushes, etc.

- Wildlife attraction.

- Seeds, flowers, leaves, cones, etc., can become play materials (see LOOSE PARTS).

FLOWERS

Both cultivated and wild flowers can be used. For unsupervised play areas, wildflowers would seem the best choice; they:

- require little or no care;

- needn't be protected from children;
• provide smell, taste, color, shape, and growing experience;
• attract wildlife, insects, etc.

Gardens may be planned in play areas which have adult supervision (see CHILDREN'S GARDENS).

PATTERN

PLANTINGS AND GROUND SHAPING

USE LANDSCAPING ELEMENTS TO FULFILL REQUIREMENTS OF SPECIFIC PLAY AREAS; INCLUDE FORMS OF PLANTS AND SURFACES WHICH ARE CONSISTENT WITH DESIRED ACTIVITIES.

RECOMMENDATIONS

• Shape the earth to provide variety suitable to activities desired.

• Use earthforms, boulders, and plantings to provide shelter, privacy, and circulation and activity separation.

• When choosing plantings, consider:
  • climate
  • growth habits (rate, size, shape, etc.)
  • contributions at various seasons
  • contribution to activities desired

Suggestions on early plant care from the Central Mortgage and Housing Corporation (1978):

• Preserve only healthy and sturdy stock, and when selecting new plantings, take into account the growing characteristics and the natural habitat needed by the species. Obtain the most mature trees and shrubs possible within the budget.

• If existing plant material is to be retained, the water table and ground surface must be kept at their original levels to avoid an inadequate supply of water or suffocation of the plants.
- To avoid injury to the roots, areas under the canopy of existing trees and shrubs should be protected from heavy equipment and storage of building materials during the construction phase.

- To help provide additional protection for the plants, use combinations of trees, shrubs, and small plants in clumps rather than scattering them singly over the site.

- If appropriate, certain areas might be left in a natural state without mowing or other maintenance activity, to allow wild flowers, shrubs, trees, and animals to establish themselves over a period of time.

- Finger-repellent shrubs can be used to control access or protect more fragile planting, but they should never be used where preschoolers might accidentally tumble against them.

- Inexpensive, temporary low rail fencing can be placed around planting as protection until it reaches sufficient maturity.

- Plants with poisonous leaves, branches, roots, fruit, or flowers should not be used for reasons of safety.

- Provision for adequate maintenance of plants is essential and must be considered in the design of the play space. (p. 27)

Suggestions on plant care from Robin Moore:

- Watering of certain trees and plants until their root systems had a chance to spread out

- Pruning trees, to keep balance of the various communities while slower-growing plants were taking hold, and to eliminate lower weak branches damaged by too early climbing, etc.

- Staking and tying up trees
• assisting the formation of paths by simple, rough fences, and the formation of meadows by interrupting some paths

• replanting certain species as more was learned about the conditions under which they would grow

• leaving a dark corner to grow over thickly and provide places where children could hide out

• clearing brush from near ponds to provide space for study and exploration of the pond ecosystem (p.

Robin Moore did say that you could simply let a yard go and it would do its own thing, but that in order to develop a varied and rich set of eco-communities in a small space, it is necessary to practice resource management. In interviews, the children obviously recognized and respected this management. (Travel Report, 1978, p. 160)
ISSUE

A natural element which children in northern climates experience and enjoy is snow and ice.

JUSTIFICATION

Snow and ice in winter provide many of the play experiences offered by other seasonal elements. Snow is analogous to sand for building, shaping, sculpting, feeling. Snow has the additional virtue of taste.

Snow and ice also provide opportunities for large muscle activities such as sledding, sliding, climbing, snowballing, fort building, and snow fights. In addition, snow houses built by children offer good retreat spaces and quiet play areas.

Many snow activities such as snowballing, fort building, snowman construction, and snow fights are social activities which encourage participation by several children.

Snow and ice also have certain virtues inherent in other natural elements such as aesthetic pleasure and curiosity stimulation. Because of its ambiguity as a play element, snow can encourage creative and dramatic play.

Thus, snow and ice create opportunities for extending the outdoor play season through the winter, and provide positive activity alternatives for children in northern climates.

PATTERN

SNOW AND ICE PLAY

Outdoor activity spaces which double-function to respond to seasonal changes contain areas for both large and small groups. Surface materials must accommodate sliding, skating, sledding, and snow mounding activities.

RECOMMENDATIONS

- Plan the play space in colder climates to be usable in winter for snow and ice play, e.g., water play areas can become ice skating/sliding areas. (For small children, keep ice surfaces small to discourage older children from monopolizing them (Central Mortgage and Housing Corporation, 1978).
- Plan mounds in the play area which can be used for winter sledding, or designate hills as sledding hills and plan for a "run in" area.

- Orient walls or hedges (or temporary "snow fences") so that the wind will drift the snow into berms which children can climb up, slide down, carve into, etc.

- Plan to have large trees in the area; snow will drift in circles around them leaving dish-shaped hollows around the trunks—sheltered places big enough for two children's quiet play.

- Plan storage of sand play equipment so that items such as buckets and shovels will be accessible in winter for snow play.

- Provide some type of sliding/sledding equipment storage.

- Ice skating areas for adults and youths should be at least 40,000 sq. ft.

- Warming sheds are recommended at community ice skating areas.
SEVERAL SITE DETAILS SUPPORT BASIC NEEDS OF THE USERS AND THEIR PLAY ACTIVITIES. AMONG THESE ARE OUTDOOR BATHROOMS, WATER FOUNTAINS, AND LIGHTING.

OUTDOOR BATHROOMS

Especially for very young children, quick access to bathrooms in very close proximity to the play areas is necessary. Even in neighborhood play areas very near the home, outdoor toilets are as important as they would be in play areas near shopping, adult activities, and other centralized locations.

WATER FOUNTAINS

Ledermann and Trachsel (1968) suggest that water fountains for drinking water should be incorporated into water play areas in order to avoid drinking of unsanitary water. Drinking water becomes increasingly important where children are out of "home range" and in places and periods of considerable heat.

LIGHTING

There appears to be no literature on lighting for preschool outdoor play. It seems that most designers and researchers feel that preschoolers will be at home after dark. Older children clearly spend some time after dark playing outdoors.

Some lighting provisions which might apply to outdoor play areas are exterior lighting on dwellings, lighting in play shelters for dark rainy days, and lighting preschool areas adjacent to adult activity areas where parents take children after dark.

ACCESSIBLE AND PROTECTED BATHROOMS, DRINKING FOUNTAINS, AND OUTDOOR LIGHTING SHOULD BE PROVIDED IN APPROPRIATE LOCATIONS.
RECOMMENDATIONS

- Outdoor toilets should be provided in any play area, especially where small children cannot get home quickly to use the bathroom.

- Drinking-water fountains for children and adults should be provided in all play areas, especially where easy access to home is not available.

- Drinking fountains for children can be an attractive part of water play areas and may help keep young children from drinking less sanitary water.

- Lighting should be carefully considered for all outdoor areas, but included only where activity warrants the expense.

- Fixtures and facilities for outdoor toilets, drinking fountains, and outdoor lighting should be sturdy, protected, and located in places which discourage abuse and vandalism.

RELATED ITEMS

WATER PLAY AREAS
DEGREES OF SHELTER
CHILDREN WHO HAVE BEEN COOPEP UP BECAUSE OF RAIN, SNOW, OR OTHER PRECIPITATION WILL WANT TO USE OUTDOOR PLAYSPACES AS SOON AS THE PRECIPITATION STOPS. THEY WILL NOT WANT TO WAIT A DAY OR TWO FOR THE PUDDLES TO DRY.

As the sun comes out and the storm blows away, will there be a place to play? Or will everyone have to wait a day for the mud to go away.

Good drainage is extremely important for a preschool play area. The play space should be designed to dry out as quickly as possible after a rain, as mothers will discourage their children from playing in an area that is wet and muddy. Sand areas in particular need to be well drained.

Play spaces should be located and graded to drain naturally into catch basins on the site or into dry wells if underground utilities are not adequate or near the site. (Central Mortgage and Housing Corporation, 1978, p. 29)
Where ground conditions do not allow the water to run away naturally, draining the sand area is important. In clay ground, the pit excavated for a sand playground is like a well, and the water must be led away. The child has no objection to a sand area that is like a paddling pool during wet periods. Quite the contrary! The water immediately gives the area new possibilities for play: it can be channelled into endless canals, formed into lakes and even small waterfalls. But mothers decidedly do not approve of this kind of play, particularly during the colder weather. (Bengtsson, 1970, p. 180)

Lady Allen of Hurtwood (1968) suggests methods for draining sand areas where natural drainage is inadequate:

The drainage of sand-pits can be arranged by placing 1 foot of broken brick on the bottom of the pit, and then 4 inches of quarry rejects 2 inch gauge (a form of pebble), covered by a 2-inch layer of quarry rejects ½ to 1 inch gauge. The sand is then placed on top. If a few pebbles come up through the sand no harm is done. Land drains must lead to a soakaway or be connected with the drainage system. Another method is to place concrete slabs with open joints on ash above brick rubble. The water will seep through the joints into the ash bed below. A third method is to lay a sloping bed of concrete with a drainage hole or holes at the lowest level leading to a land drain or to a soakaway. In this case it is important to arrange a sand-trap to prevent the sand from being swept down the drainage holes and blocking them. The traps are easily lifted out for cleaning. (p. 37)
for sandy or "barked" areas
for play areas

No
ponding
no percolation.

Yes
general positive slope

Yes
adequate drainage

to dry well
leachfield
storm system

Yes
subsurface preparation
for adequate percolation
for some sandy or other soils
**PATTERN**

**POSITIVE DRAINAGE**

USE THE PROPER MATERIALS AND SLOPES TO ACHIEVE QUICK AND POSITIVE DRAINAGE.

**RECOMMENDATIONS**

- Put quickest drying areas (e.g., paving) closest to entry of playspace, and slowest drying (e.g., dirt) farthest from entry.

- Whenever possible, choose sites which have natural drainage patterns which cause them to dry quickly after rain, snow, etc.

- Don't use concrete curbs around sand areas—unless you use subsurface drainage—they prevent rainwater from escaping.

- When altering the site with mounds, pits, etc., provide desirable drainage patterns.

- When positive drainage cannot be effected in other ways, use technical means such as Lady Allen (1968) suggests to assure positive drainage.

**RELATED ITEMS**

LANDSCAPING MATERIALS TO FIT ACTIVITIES

DEGREES OF SHELTER