RAISING "FREE RANGE KIDS": CREATING NEIGHBORHOOD PARKS THAT PROMOTE ENVIRONMENTAL STEWARDSHIP

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INTRODUCTION

In the past decade, city living has made a tremendous comeback. Across the country, people have returned to urban centers and suburban areas have become more urbanized. As concerns increase about urban sprawl and our carbon footprint, as transit-oriented development encourages living closer to transit, work, retail, education, and cultural attractions, and as we redesign cities up rather than out, one critical element is missing: an engagement with nature. Specifically, what's missing are natural outdoor environments that connect children with nature in their daily lives; nurture active, healthy children; and grow nature-connected children who will become conservation-minded adults, passionate about the health of the biosphere and prepared to act to conserve the earth for future generations.

Our challenge is recognizing the interdependence of the health of our environment and the health of people, and turning that recognition into action by creating new kinds of outdoor environments with an urgent focus on engaging children with nature. This requires a shift in thinking away from manicured park lawns and manufactured play equipment (however high quality), toward recreating the natural environment that once existed—restructured for child play. In their planning, design, and management, neighborhood parks can become community gardens, outdoor learning environments, and urban wild spaces, the centers of our "natural neighborhoods."

This paper discusses the role that well-designed neighborhood parks can play in children's physical health and human development and, ultimately, the health of planet Earth. Through three examples of park transformations, it shows how cities are re-developing existing urban parks into neighborhood natural areas. The paper provides guiding principles and performance requirements for developing outdoor environments, and, finally, it provides resources to help achieve the vision of effective natural spaces.

BACKGROUND

A nation of increasingly sedentary children with hours of daily "screen time" has been diagnosed as a key cause of the alarming increase in childhood and adult obesity and associated diseases such as diabetes and heart problems.[1] Meanwhile, a growing body of research has revealed a direct connection between daily exposure to natural environments and improved individual health.[2] Outdoor play and informal learning in natural environments can be crucial to children's health and are a self-motivating means of assimilating knowledge about the natural world.[3] What does nature offer and how is nature play important for sustainable development?

For children, daily exposure to nature means interacting with plants, animals, and natural elements

Non-vehicular corridors through an urban neighborhood allow for safe connections as well as opportunities for nature play.

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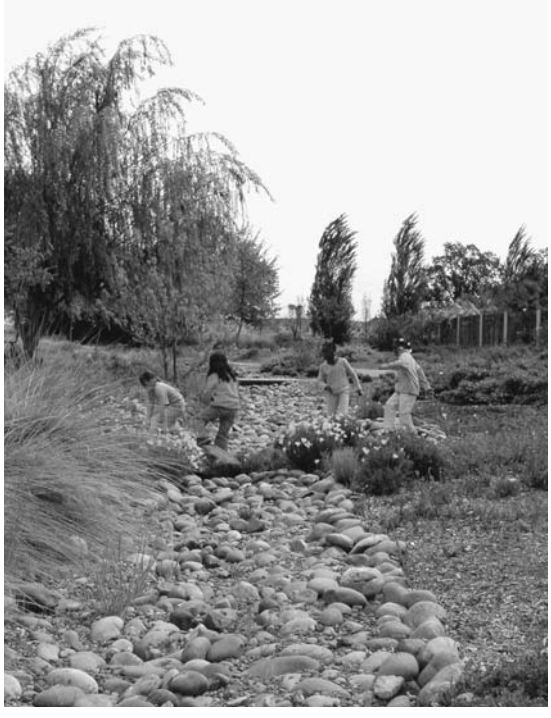
The naturalized drainage system manages stormwater, provides habitat for wildlife, and supplies a rich natural environment for exploration.



through play. Active play by its very essence leads to exploration, discovery, and informal learning—helping brains mature and bodies become healthier. Human creativity, the essence of play—and a unique mark of our species—is an essential ingredient linking the learning potential of individuals and recent thinking about education for sustainability.[4]

An informal gathering place, the neighborhood park is often the focal point of the neighborhood itself and a primary green space for the community. It offers the perfect environment for activities that bring children to nature to explore, discover, and imagine.

Benefits of Nature Play for Children

1. ***Nature play is intrinsically motivating and imaginative.*** Nature stimulates children's innate curiosity to explore, experiment with, and express an almost infinite range of ideas that reflect the diversity of nature itself.[5]
2. ***Nature play is socially inclusive.*** Hands-on nature play settings provide a powerful focus for children's play that attracts a wide range of children of different ages, socio-economic backgrounds, and gender, and encourages intimate social interactions across a diverse group of participants—compared with play settings where nature is absent.[6]
3. ***Nature play extends and rewards variable skill levels.*** The open-ended process of nature play offers children possibilities of creative action without preconditions for individual skill levels.[7]
4. ***Nature play enhances self-esteem.*** Attributes of motivation, inclusiveness, imagination, and skill enhancement provide feelings of self-efficacy and accomplishment, which boost self-esteem.[8]
5. ***Nature play provides sensory stimulation.*** Especially for young children, this supports sensory integration and healthy brain development.[9]
6. ***Nature play can improve attention and cognitive functioning.*** Scientific research shows that even small amounts of exposure to natural environments can reduce attention deficit disorders (ADD) and attention function hyperactivity disorders (ADHD).[10] These findings also suggest that nature play may facilitate an increase in general cognitive functioning.
7. ***Nature play reduces rates of common ailments.*** When children play outdoors, they are less likely to get sick by catching illnesses from children indoors.[11]
8. ***Nature play can stimulate physical development.*** By stimulating physical activity, nature play provides children with the motivation to *move* rather than sit still. In fact, movement is one of the best indicators of overall well-being in the first year of a child's life.

Benefits of Nature Play for Sustainable Development

1. ***Nature play provides knowledge about the workings of nature*** that later becomes the motivational base for later cognitive understanding. Children gain a lifelong, intuitive sense of and appreciation for nature's processes and materials—which can inspire a later desire for further action to protect nature.[12]

2. ***Nature play and learning for older children provides opportunities for interdisciplinary study,*** particularly in science and conservation.[13]
3. ***Nature play connects children to their local, natural ecosystem.*** Children can explore small-scale versions or aspects of the larger ecosystem where they live, helping them build an understanding of the bigger picture of the natural world that can be extended through school-based learning.[14]
4. ***Nature play encourages empathy*** with the natural world, and—with age and increasing knowledge—to the world at large. Children develop common themes and a sense of collective understanding about their world regardless of socio-cultural background, which is more likely to lead to environmental concern and citizen action on behalf of nature.[15]

SANTA ROSA: NATURALIZING THE PARKS

The City of Santa Rosa, California, is developing a new policy for its neighborhood parks to remove all decorative and non-programmed turf areas and replace them with more natural areas that will include native or adapted drought-tolerant vegetation, rocks, pathways made of decomposed granite or other porous materials, and small sitting and picnic areas. Once the vegetation is established, these spaces will provide the parks with unique identities, based on the ecology of the area.

The 2-acre Brendon Park is located in the midst of a subdivision, with houses backing into it. It offers open lawn areas and a children's playground. New plans call for removing much of the turf and replacing it with native plants and landscaping that is more inviting and actually offers more privacy for the adjacent house.

Also completely surrounded by houses, the 3-acre Steele Lane Park features open lawn areas, picnic tables, and a children's play area. The new concept offers more connections with the creek that runs through it, native landscaping, and community gardens.

Neighbors of both parks are also being encouraged to create "outdoor rooms" that connect with the park. In this plan, the City provides a minimum 10-foot extension of their land into the park and the homeowner creates a semi-private area for gardening and sitting. In exchange, homeowners agree on low, see-through fencing (maximum 6'-high at the property line and 4' high at the extension line). The uniform, decorative fencing creates a more attractive community space

Existing: Brendon Park in Santa Rosa backs right up to a house on the left; the turf area looks unattractive and uninviting.

Proposed: The new Brendon Park concept actually increases privacy for homes while adding a wide array of plants, rocks, and seating.

Existing: Steele Lane Park in Santa Rosa had a large empty turf area and little sign of the creek that runs along the left side.

than the previous wall of high, impermeable fences. And the eyes of the neighbors are now on the park, increasing actual and perceptions of safety.

New Policies Yield Multiple Benefits

- Connects parks users to a more native landscape.
- Provides more "eyes on the park," which increases safety.
- Increases habitat for native species such as birds, butterflies, and pollinators.
- Reduces maintenance costs, both in terms of labor and water.
- Reduces leaching of fertilizers and other chemicals into groundwater.
- Improves stormwater management.
- Builds neighborhood stewardship of the parks.

Proposed: The new Steele Lane Park common area design encourages interaction with the creek, provides a field of native vegetation and planting boxes near the homes for community gardens, and dramatically improves aesthetics.

Existing: The other side of Steele Lane Park backed into solid fences.

Proposed: With a 10-foot extension of land into the park, homeowners create "outdoor rooms" that enhance the look of the community space and provide more eyes on the park.

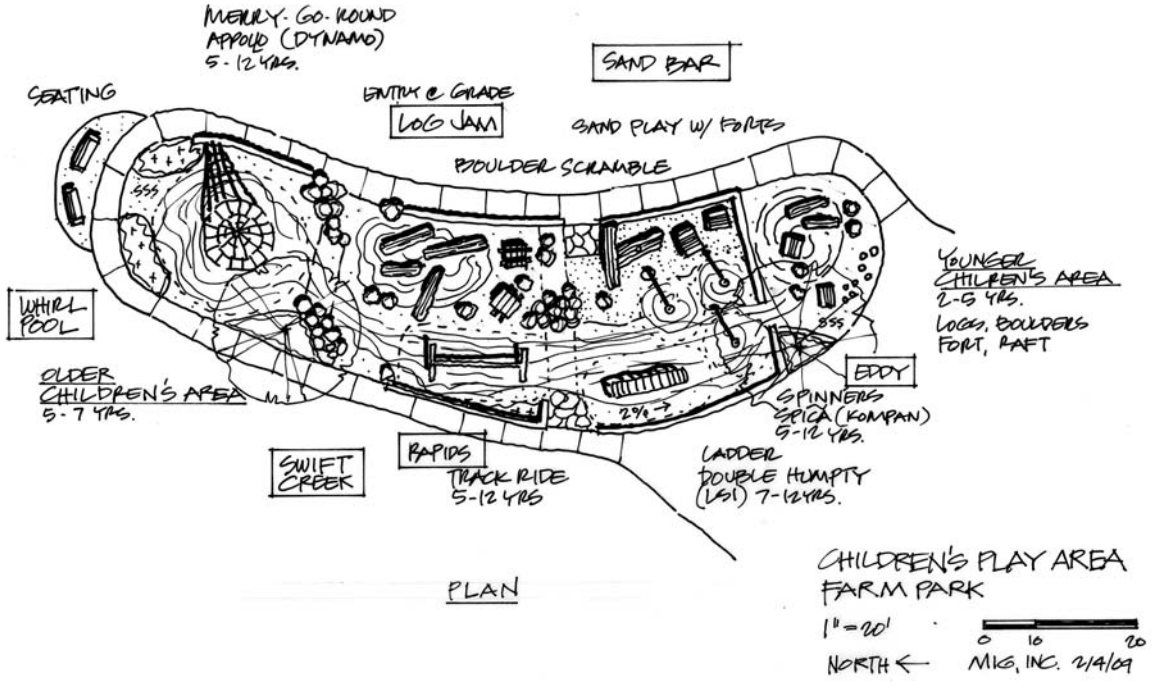
SOQUEL: BRINGING BACK THE FARM AND ITS CREEK

The former site of a farm and restaurant, currently abandoned, is set to become a 5.5-acre neighborhood park in the community of Soquel, California. The County of Santa Cruz is developing a new habitat-themed park, Farm Neighborhood Park, and Community Center that includes:

- A protected riparian area with new native plantings along the creek;
- Oak woodland habitat restoration;
- A nature trail of decomposed granite above the creek ravine, with interpretive art elements;
- A bridge over the creek that connects the two sides of the park, with raindrop patterns on the bridge deck;
- An "orchard" of flowering fruit trees that recalls the original farm's orchard plantings;
- A community garden with plots for neighborhood gardeners;
- Children's play area with a creek theme;
- Community building with heritage garden, designed to reference the style and character of the original farm house;
- Nature area w/ bocce ball court and multi-use turf area
- An active play sports area with a small beginners' skate area.

A highlight for the community will be the children's play area, located parallel to the riparian corridor that mimics the corridor with symbolic water flowing in the creek, from north to south. The safety surface is colored with blue-toned "water" swirls. The north end of the area features a merry-go-round "whirlpool" that leads to boulders for climbing and a "log jam" of real logs for climbing and balancing. From there, children grab on to a track ride bar and swing over the "rapids" to creekside forts, more boulders, and a "beach" sand play area with more forts. An "eddy" offers spinners and seating. Further along and separated by a seat wall is an area designed for toddlers with smaller similar elements such as play

The design for the Farm Neighborhood Park children's area mimics water flowing through a creek.



logs and boulders, a fort, and a raft. Of course, children don't have to flow north to south—they can enter the "creek" wherever they like.

Designed to be LEED Silver, the community building and other structures will be built with reused and green materials and stormwater will be managed on-site. Rain is collected from the community building roof and pumped to a water tower where it is stored and used for the community garden. Rain from lawns drains to a rain garden where it is naturally cleansed and sent to an underground detention system. Rain from parking lots is directed via bioswales and sent through filters to the detention system. No additional runoff enters the creek due to the park.

MARIN: CONNECTING COMMUNITY AND WATERSHED

A neighborhood park and pathway provided the perfect opportunity for habitat restoration, increasing community connections with their watershed, and increasing children's use of the outdoor recreational and learning environments. Creekside Park and the Corte Madera Creek Multi-Use Pathway in Marin County, California, are a well-used and loved community asset. They were designed and constructed in the 1970s, based on community needs at that time and 30 years later are in need of renovation. The original design of the park's approximately 7.5 acres of usable area included play equipment, lawn, picnic facilities, restrooms, and a network of pathways with access to parcourse stations (geared for adults).

The Park's proximity to five schools and the 18-acre Creekside Marsh (a brackish, tidal marsh surround by the neighborhood) means it can become an even more valuable resource for children. The basic premise of the renovations is that the park is a mini-watershed—the design protects the environment, promotes health through innovative play, and provides educational experiences that reinforce the value of the watershed, marsh, and creek—and foster lifelong stewardship.

- **Renovated and Expanded Children's Play Area.** The outdoor play environment has been expanded and located to overlook the marsh and increase opportunities for interactive interpretation of the habitats and wildlife. Because the marsh is home to the endangered Clapper Rail shorebird, the play areas will include playful elements that express the Clapper Rail environment and tell its story, such as sandy "nesting" areas, water play, and high trees where "raptors" lurk. The concept is designed to increase children's empathy for this endangered species through play, rather than lectures about extinction.

  The area is divided to accommodate preschool children (ages 2–5) and older children (ages 5–10). Both areas promote exploration of nature by featuring natural materials such as wood, boulders, and plants that delight the senses; sand and water play; as well as resilient surfacing and shade. A caregiver seating area is located between the two play areas, as well as an expanded picnic area with a lawn. The expansion will maintain current setbacks from the marsh and filter runoff from the play area through a bioswale.
- **Upland Habitat Restoration.** Upland areas, relatively rare in urban settings, are a transition between the park and the marsh and offer critical habitat for riparian species. The habitat will be enlarged by realigning some paths, and invasive plants will be removed and replaced with native grasses and shrubs. A new biofiltration swale will slow and filter water running off the existing lawn before it drains into the marsh.
- **Renovated Marsh Overlook.** Located on the highest spot in the park, the marsh overlook will have new decking, interpretive signage, seating, and enhanced shade. It can be used as an outdoor classroom. For example, a program is being developed to provide curriculum for the elementary schools about domestic animals versus native wildlife and what happens when the two interact—with materials to take home to adults. This has an immediate impact on the Clapper Rail, whose nesting areas are often disturbed by dogs visiting the park and running into the marsh. Rather than erecting large fences and "keep out" signage, the concept is to create a "human buffer" through changed attitudes.
- **Health and Meditation Grove.** An existing grove of trees near the main park entrance will

be expanded with additional native trees to enhance its use as a quiet, restorative retreat. Families and patients from the nearby Marin County General Hospital can use it for picnicking and a playful respite.

- **Renovated Amphitheater.** The timber amphitheater will be renovated and a small, informal stage added. A new low grass-covered mound will provide additional seating and play area.
- **Corte Madera Creek Multi-use Pathway.** The entire creek pathway is about 2.7 miles and is heavily used by bike riders as well as families. However, those using the path often don't see any sign of the park. A 1-mile section between Creekside Park and a new mini-park will be renovated to encourage families at the park to enjoy the walk, and those on the pathway to foray into the park. The current parcourse will be removed, replaced with increased opportunities for creek viewing and seating. Native plantings and signage will improve wayfinding, nature interpretation, and connections with the community along the way.
- **Triangle Park.** A small triangular area about a mile north of the park, currently vacant land, will be renovated as a mini-park with seating, native plants, and improved creek and wildlife viewing.

Community Involvement

The master plan was developed with extensive community involvement. The County conducted interviews with users, focus groups, teachers, and the community, as well as a "Family Discovery Day" at the park to encourage families and children of all ages to provide their ideas. That was followed by a design charette and finally an evening meeting to vet the concepts with the community.

DEVELOP A POLICY FRAMEWORK

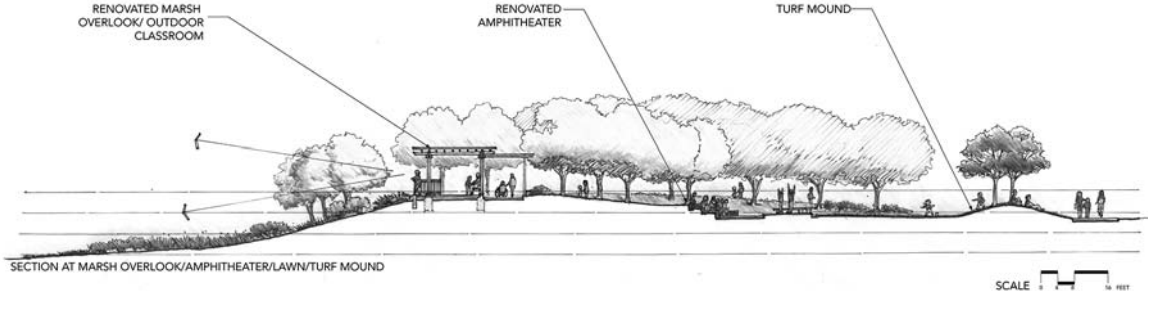
A system of nature play is built over time. Each step in the development process must support the next. First, municipalities can develop policy frameworks to ensure parks and play areas reflect the vision and values of developing eco-literate children. The following basic standards can be the basis of a nature play policy framework.

1. The Right to Play

Children have the right to play, which includes the right to a stimulating and developmentally appropriate environment. By viewing this as a fundamental right, cities can insist on high-quality nature play areas when designing recreational, educational, and cultural facilities.

- Parks and play areas should facilitate children's needs to physically manipulate their environment, providing places where the "stuff" of their surroundings can be picked up, thrown about, gathered, jumped on, kicked, rolled on, climbed on and into, broken down, dug up, or taken away without causing offense.
- Play areas should accommodate the needs of various age groups, including adults, so children have the opportunity to learn how to accommodate each others' needs more skillfully.

The renovated Marsh Overlook will also function as an outdoor classroom, picnic, and informal recreation area.



Playing in dirt is healthy. Children today do not eat enough dirt when playing. As a result their immune system does not operate to its full potential.

2. Access to Nature and Urban Wildlife

Although children are interested in urban wildlife, all too often there are no appropriate, accessible habitats.

- Increase the diversity of urban ecosystems through native landscaping.
- Recognize small-scale wildlife as an important learning resource, to be encouraged rather than eradicated.
- Protect natural and wild areas while welcoming public access.
- Implement education programs for play areas within or adjacent to these spaces to stimulate interest and educate the public about environmental stewardship.

3. Sustainability and Ecological Appropriateness

Good design maintains and respects all natural features of the site when feasible, including natural drainage patterns, topography, plant and wildlife species, and pre-existing preservation zones.

- Whenever possible, build on existing environmental conditions or recreate past environmental features to define play areas.
- Design play areas that can function as a tool for learning about the local or regional environment.

4. Site-Specific and Context-Sensitive Design

Parks and plays areas should fit the character of the specific site. While each area may have the same play setting relationships, every setting will be distinct with features that make it a destination; no two play areas will look the same. A complete master plan will be needed for each park to determine suitable locations for various types of areas, even if the entire project cannot be built at the same time.

- Design parks and play areas with place-making features that reflect the culture, values, history, and social needs of the community.
- Layer elements such as landmarks, water features, art, special facilities, and layout throughout the design to create meaning and community connection.
- Use high-quality, diverse, and long-lasting building materials with a variety of well-thought-out landscape details.
- Integrate art as part of functional features, such as benches, bridges, lights, signs, water features, walls, planters, and shade structures.

5. Accessibility and Walkability

Play areas and play opportunities should be designed to be accessible and walkable for people of all ages and abilities.

- Locate designed developed parks or play areas no more than 1.4 miles apart and other play opportunities no greater than 1/8 mile from residences. They should be accessible without crossing major barriers such as arterial streets.
- Limit the size of residential block (300 ft. is ideal) and create a network of multi-use non-vehicular pathways.
- Address play areas accessibility issues in partnership with a Department of Community Planning and Development.

6. Connected Parks and Open Space

Every play space should ideally be connected to every other play space by a "green" circulation system of pocket parks, greenways, play streets, bikeways, trails, and natural areas to encourage walking and biking.

- Major utility corridors, such as storm water drainage systems and underground or overhead

utility corridors, can be turned into multi-use usable open space, consistent with their utilitarian functions. They can serve as green connectors that support play as well as ecological functions.
- Safe pedestrian connections and protected sidewalks enhance connectivity.

7. Change Over Time

Neighborhoods change over time and designs must take this into account. Including flexible spaces allows for adaptation as the community grows and changes, or as additional funding becomes available.

- Take a phased approach in design, allowing for incremental development that allows the site to evolve over time.
- Build for all ages so, for example, toddlers can still use the park as they grow, and there are comfortable places for adults.
- Use long-lasting materials for long-term cost effectiveness.

8. Community Involvement

Designs should include meaningful community involvement that includes not only adults and recreation leaders, but also children and youth and the maintenance staff.

- Design parks and play areas in neighborhoods, based on community need.
- Include community participation in developing areas in currently occupied neighborhoods.
- Continue to involve the community even after designs are done.

9. Adequate Funding and Resources

Parks and play area design is complex, and creating a high quality system requires adequate capital, operations, and maintenance funds. Once built, each space must be properly programmed and maintained as well.

- Incorporate capital, operations, and maintenance costs in the allocation of funds so there is a complete financial understanding.
- Utilize partnerships and collaboration opportunities
- Prepare cost estimates that include a full accounting of all costs at the schematic design stage—early enough so that changes can be made if funding isn't adequate.
- To enhance maintenance, incorporate specific materials and facility maintenance standards and requirements as part of the design and budgeting process, which should result in a documented maintenance program.

FROM GREEN SPACE TO WILD SPACE: NATURE PLAY SETTING GUIDELINES

Because they often serve as the first point of contact between young people and the natural world, neighborhood parks should include play setting elements that encourage nature and wildlife: animals, habitat, water elements, native plants, gardens, and natural topographical elements. Play settings are a means of integrating behavioral needs and physical requirements into the design process. They are defined by the grouping of activities and the physical environments that support them.

Following are examples of settings for designated play areas *beyond* traditional lawns and play structures—examples that can be combined to create complete play opportunities in any type of space. These components describe a function or activity, not a form. So each component can be designed to fit the physical context of a specific park area.

Entrances

Description

Entrances welcome visitors to the setting. They are critical transition zones from transportation and arrival to the play space. Clearly defined entrances orient users and introduce them to the site. An entrance can also provide a place for people to meet, to talk, and to display educational signage and community information.

Possible Components

- **Gateway element:** Entrances can be marked with overhead gateway structures, which function to clearly indicate an entrance as well as add an attractive sculptural element that sets the tone for a play area.
- **Bollards:** Bollards allow pedestrian traffic while halting vehicular access. They can also be designed to be used as seating. Bollards should be highly visible, at night as well as during the day.

Children play as bugs in the landscape.

- **Bike racks:** Bike racks promote the use of bicycles and other alternative forms of transportation. They are also a signal to teens and adults that their presence in play areas is welcomed.
- **Litter receptacles:** Litter receptacles serve the practical purpose of collecting trash. By doing so, they encourage pride of place that helps develop a neighborhood sense of responsibility.
- **Signs:** Signage provides details about the site and gives directions about its usage and care.
- **Seating:** Seating provides a place for children and their caregivers to meet, chat, and rest.
- **Drinking fountains:** Having drinking water available is important for both children and adults.

Trees and Plants

Description

Trees and plants in play areas provide shade, sensory variety, softly edged spaces, seasonal change, and create a welcoming and attractive environment. Plants and trees stimulate exploration and discovery, improving play areas by providing a wide variety of play props and open-ended play opportunities. Tree climbing and hide-and-seek are age-old games that continue to be popular, while harvestable plant parts supply crafts and culinary activities. Plants bring attention to seasonal variations, provide wildlife habitat, and improve water quality by reducing surface runoff and erosion and treating stormwater. Distinct planting areas, such as native habitats or flowering plants of the same color, give each play area a discrete identity and provide cues for orientation.

Possible Components

- **Native plants:** Individual species and plant groupings will vary depending on the site and program requirements. Choose plants that will foster insects and small wildlife.
- **Plants for play:** There is no set list of plants that are best for play areas. Plants with toxic parts, thorns, or sharp leaves should not be used. Plants with small berries or seeds should not be used in areas intended for use by infants, and the use of plants that are allergy-inducing or especially attractive to bees or wasps should be carefully considered. In general, hardy, low water use, non-invasive plants adapted to the local climate should provide the framework for all planting schemes, although the limited use of more exotic species can provide dramatic results.
- **Seating:** Seating near planting areas gives children and adults a location to pause and enjoy nature.
- **Shade/Sun:** Species that provide shade in the hottest months and allow filtered sunlight in the coldest, such as deciduous trees, are best.
- **Water:** Plantings in play areas generally need irrigation during establishment, and some may require supplemental irrigation throughout the year.

Steps for Establishing a Native Landscape

1. Remove turf and invasive plants.
2. Amend soil with compost and other organic materials as needed.
3. Apply sheet mulch (recycled cardboard) and arbor mulch to control weeds and conserve moisture.
4. Select plants from the native and adapted plant palette, providing:
   - A wide range of biodiversity;
   - Habitat for native birds, butterflies, and pollinators;
   - Aesthtic value—flowers and attractive foliage;
   - Drought tolerance.
5. Manage and treat stormwater on site with bioswales, rain gardens, bioretention planters, and underground filtering and storage tanks if feasible.

6. Establish plants:
    - Because new plants will be small, planting areas need to be protected from foot traffic with fencing.
    - Replenish mulch as it becomes incorporated into the soil.
7. Provide maintenance:
    - Allow plants to assume natural form (limit pruning and do not mow native grass meadow areas);
    - Replenish sheet mulch as needed to continue weed control and conserve moisture;
    - Use only organic fertilizers and amendments to maintain optimal soil health and prevent chemicals leaching into groundwater.

Landforms and Topography

Description

Topography describes the high and low points of land while the term landform describes how topography manifests itself on a particular site. Landforms are important play opportunities and should be retained when they exist on site. If not present, they should be created wherever possible. Landforms and topography promote the development of large muscle groups through movement games. A mixture of landforms and vertical elements encourages play in three-dimensional space and provides spatial orientation. Topography can also provide opportunities to connect and integrate manufactured play equipment, pathways, and other play settings as well as ensure universal access without the use of special ramps or transfer systems.

Families explore the play stream at the Hamill Family Play Zoo at the Brookfield Zoo in Illinois.

Water Play Settings

Description

Water features and aquatic environments are highly valued by children. Water is a powerful play area attractor as children, who value its multi-sensory character, seldom miss a chance to play with and in water. Whenever possible, natural water features should be preserved and enhanced rather than fenced off. Water settings support a variety of wildlife and add greatly to the aesthetics of any play setting. Water is also a valuable addition to other play elements, such as sand.

Possible Components

- **Natural water features:** streams, ponds, and marshes.
- **Artificial water features:** wading pools, spray pools and surfaces, bubblers and sprinklers, fountains, and water tables or a hose bib in a sand box.

Sand Play Settings

Description

Sand is an excellent medium for creative play and social interaction. Due to its softness and malleability, it's one of the most popular and well-used play materials. When combined with water, sand has even more potential.

Possible Components

- **Sand pit:** The sand surface should be maintained less than four inches below adjacent paving. Raised curbs around the sand pit prevent easy maintenance and are not recommended. A transfer system in the sand is needed to accommodate the needs of children using wheelchairs.

A working windmill pumps water for water play. The children learn that when there is no wind there is no water.

- **Elevated play surfaces:** Sand tables, shelves, or rocks provide a solid surface for toy play and make sand areas accessible to all children.
- **Water source:** Water is essential for sand play. Child-activated water sources and a trough or channel to carry a trickle of water into the sand work well.
- **Enclosure:** Preschool play areas are often separated by low fencing, which keeps small children from wandering. It also prevents older children from running through the relatively quiet play found in sand areas.
- **Storage:** A place for rakes, brooms, and large toys is recommended. Some communities take responsibility for daily or regular maintenance activities such as sweeping sand from adjacent paths, cleaning or raking the sand pit, and storing toys.

Wildlife, both naturally occurring and simulated, helps children learn and care. If the wildlife is simulated, it should be duplicated with realistic characteristics even if the scale is exaggerated.

Animal and Wildlife Settings

Description

Most neighborhood parks could host small farm animals if there were a play leader to facilitate the play. Contact with animals fosters a caring and responsible attitude toward other living things. Animals have a therapeutic effect on children and offer opportunities to explore biology. Animal settings can include house and farm animals, as well as naturally occurring insects, birds, and other urban wildlife (which can be encouraged through proper habitats and restraining "mow and blow" maintenance techniques). Butterfly gardens; small ponds with fish or turtles; and interactive interpretive signs, sculptures, and artifacts pointing out birds, squirrels, deer, and other small animals also bring children in contact with local wildlife. In addition to stimulating imaginative and dramatic play, animals and insects provide a link to children's literature and conservation education.

Possible Components

- **Animals:** Appropriate animals for play areas (with staff) include birds, small mammals, reptiles and amphibians, fish and pond creatures, and farm animals.
- **Water source:** Aquatic habitats support many animals that fascinate children and can originate from other parts of a play area, such as a pond or an artificial stream.

- **Storage:** Storage for animal areas includes places for their cages, food, and equipment used in their care. Depending on the animal, cages and food can incorporate plant material growing in the play area.
- **Signage:** Since there is some risk involved with the care of animals, rules and regulations should be clearly posted for both children and adults. Interpretive information about the animals should also be included.
- **Wash-up:** Clean-up sinks, hand-washing stations, and hand sanitizers are requirements in areas where children have direct contact with animals.

Garden Settings

Description

Gardens are one of the best ways of enabling children to interact with nature, learn about ecology, and cooperate with peers. They also support fine motor skill development and sensory stimulation and are an excellent opportunity for social interaction between children with and without disabilities. Special events and fund-raisers throughout the year can be built around seasonal activities in the garden.

Possible Components

- **Elevated planting beds:** Raised beds create order and a practical working arrangement within the garden. They also facilitate gardening for children using wheelchairs.
- **Compost boxes:** Tri-compartment compost boxes provide a practical explanation of ecological systems and the food cycle.
- **Accessible worktables:** Worktables that accommodate wheelchairs are essential for working and social interaction among children of all ability levels.
- **Storage:** Lockable storage provides a place to store tools and program materials.
- **Enclosure:** Fencing around gardens focuses gardening activities, maintains supplies, and prevents plantings from being disturbed.

Gathering Places

Description

Children need both large and small gathering spaces to develop social skills and cooperative relationships. These spaces must be designed to accommodate many types of activity and "non-activity" at different times by different people. Small intimate spaces provide places for children to be alone or spend time with a friend or two (for example, under a tree or sheltered by a rock). Gathering spaces can also function as places for caregivers to sit together and observe children.

Possible Components

- **Shade structure:** Covered areas provide the potential for all weather use.

Play Props and Manipulative Settings

Description

Manipulating and interchanging parts in the environment is a fundamental aspect of normal child development, promoting fine motor skill development, intimate and group interaction, problem solving skills, independence and self-management, and expansion of verbal expression. Props are essential tools for this type of play. Manipulative settings range from sand and water play areas where children dig and transport sand or water with toys, plastic tubing, or leaves and sticks to elaborate and supervised adventure play areas where children continually construct and alter their environment using building supplies and tools. Play props and manipulative settings are most appropriate near recreation centers or other play areas that can be monitored.

Possible Components

Play settings should contain a range of fixed and moveable parts including:

- **"Found objects":** Children invent countless uses for small manufactured or natural objects such as sticks, stones, bottle caps, popsicle sticks, logs, rocks, plant parts, insects, small mammals, sand, and dirt.
- **Large manufactured items:** Children transform building materials such as blocks, boards, and modular systems into imaginary landscape.
- **Fixed features:** Site furnishings, structures, and ground surfaces become the backdrops for prop play.
- **Signage:** Clear directions and rules aid safe play with props.
- **Storage:** A secure place to collect and store props and building materials is essential.

Special Features/Non-Manufactured Settings

Description

Special features include any element that is unique to the site. This could be special art or sculptural elements, landmarks, interpretive elements, or natural features such as rocks and boulders, waterways, vegetation and trees, or landforms. These elements are essential for creating play areas that reflect the local culture and natural history. All special features must be age appropriate.

Possible Components

The list of components is limited only by a feature's ability to stand up to active use by children.

Pathways

Description

Pathways provide access to and separate functions within a play area. They orient users and enable them to move between and through play elements; pathways should support the ebb and flow of play from one zone to another.

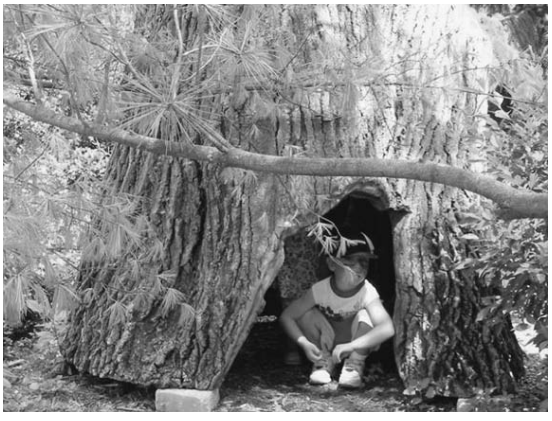
Depending on their design, different types of paths can support different activities—from circulation to wheeled-toy play, chase games, and exploration. Play areas should contain a variety of path types and provide a choice of routes. Connected, curvilinear paths support prolonged uninterrupted play. The pathway system is the setting in a play area with the highest level of movement and activity.

Pathways are a play element in themselves and should be treated as a play experience. Most of the exercise that takes place in play areas happens on the circulation system. Main pathways should be a minimum of 60 inches wide. No paths should be less than 36 inches wide.

Possible Components

- **Surfaces:** The surface of a path is one of the primary determinants of its accessibility. In order of decreasing accessibility, possible surfacing choices are: concrete, asphalt, pavers on concrete, crushed stone/decomposed granite, decking, pavers on sand, turf or soil. Pathways can be textured, colored or imprinted to support play.
- **Seating:** Benches should be provided at regular intervals along principle paths. Benches should not be located in a way that restricts movement.

Authentic nature play that connects children to the environment at the emotional level is the foundation for environmental stewardship.



Signage

Description

Signs are graphic tools that supply information about a site and its programs, assure good orientation, direct traffic flow, and explain site risks and rules. Signage can be playful, colorful, and artful. Effective signage communicates on many levels, using symbols, color cues, or tactile features along with words.

Possible Components

Signs can take many forms, ranging from upright informational structures; arrow-shaped directional indicators; identification signs that use words and/or graphics; interpretive pieces; or regulatory notices.

Storage

Description

Storage facilities provide a place for play equipment and materials, loose parts, and maintenance materials and equipment.

Possible Components

- **Outdoor storage cupboard:** These may be incorporated into the design of play houses and climbing structures.
- **Storage box:** In addition to housing supplies, storage boxes make excellent play elements and seating. Play areas adjacent to recreation centers are a good location for storage play boxes.

- **Field house:** Storage buildings can be converted from or added to existing buildings or play structures. They can also exist as free-standing structures.

Fences and Enclosures

Description

Fences are physical barriers used to define, create, and separate activity settings. Fences differentiate the primary zones of a site and reflect its pattern of movement as well as delineate main pathways and planted areas. The correct use of fences gives a sense of security, enclosure, and support for play activities. But when used inappropriately, fences can appear too confining and even restrict play opportunities.

Possible Components

- Play experiences should be incorporated into fencing where appropriate, with peek-a-boo holes, temporary writing surfaces, and child-created mosaics and murals.
- Built-in seating, social nooks, and hang-out spots can enliven and activate enclosures.
- Exclusion or barrier fencing and walls should be designed to be non-climbable.

CONCLUSION

Like nutrition and sleep, play is a central element in determining children's health, well-being, creativity, and intelligence. A diverse system of play is just as essential to the healthy development of a city. By providing opportunities for play and ample access to green spaces, we ensure the ongoing vitality and energy of our urban areas—and our planet.

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