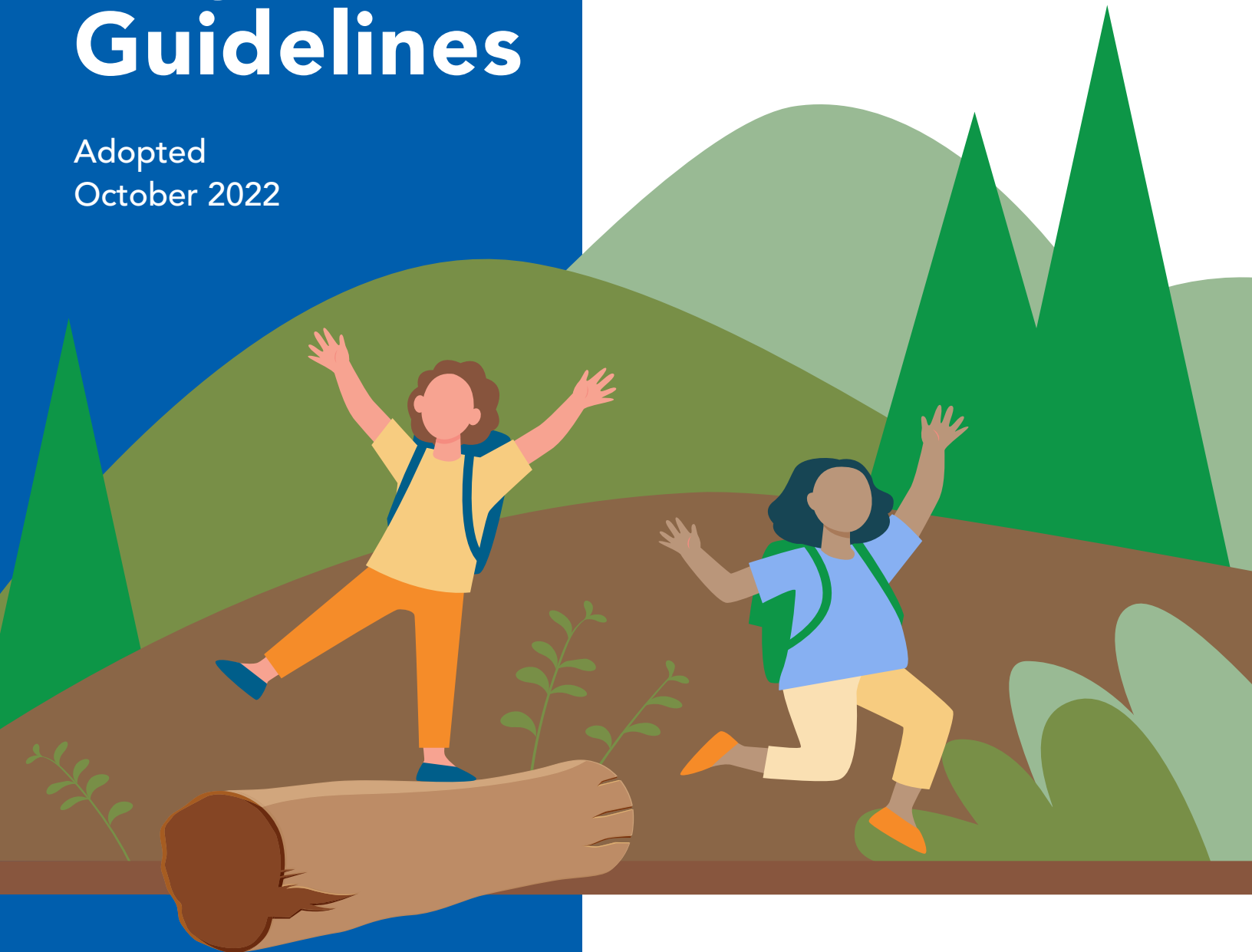




Nature Play Guidelines

Adopted
October 2022



Acknowledgements

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Purpose

This document categorizes the various nature play areas provided by the Tualatin Hills Park & Recreation District (THPRD or district), identifies the features that define these areas, and establishes guidelines for the planning, design, and implementation of the district's nature play areas. Nature play areas are distinctly different from the more traditional playgrounds with manufactured play equipment that we've become use to seeing in our park and recreation environments in that they incorporate natural elements to promote interaction with nature. Based on the degree of access to nature that nature play areas provide and the differences in criteria for safety and inspection in each type of space, THPRD categorizes these amenities into Nature Playgrounds, Nature Exploration Areas, and Off-Trail Nature Exploration Areas.

It's important to note that Nature Exploration and Off-Trail Nature Exploration areas do not fall into a regulated category as playgrounds do, and thus there are no government regulated safety standards established which the district is required to fulfill for these amenities. However, the district's internal guideline is to ensure that overt hazards are addressed and mitigated, that these areas do not pose greater risk than those reasonable to any natural area, and that best management practices are applied consistently district wide.

Intended Use of this Document

Vision Action Plan

These guidelines build THPRD staff capacity and knowledge to help fulfill the four Vision Action Plan goal areas by:

- Outlining design principles that minimize or eliminate barriers to nature play participation and make it more welcoming & inclusive,
- Establishing nature play design and maintenance practices that help make nature play areas accessible & safe,
- Reflecting diverse ways people want to play, move and interact by creative nature play areas with a mix of play designs that support play for everyone, and;
- Provide appropriate public access to nature and natural areas, while minimizing impacts on native wildlife and habitat.

Planning and Design

This document discusses key considerations for the planning, design, and implementation of nature play areas in support of THPRD's community engagement, internal design team, and Community Visioning processes and 'Access for All' initiative. Understanding how to classify a play or exploration area will aid in the planning and design of these areas by establishing consistent terminology for public engagement and design development.

Maintenance and Inspection

Nature play areas require different approaches to inspection and maintenance depending on their categorization as a Nature Exploration Area, Off-Trail Nature Exploration Area, or a Nature Playground. This document identifies these different approaches and outlines the applicable guidelines for inspection and maintenance. For inspection and maintenance requirements for Nature Playgrounds see the Park Maintenance Standards Manual.

District Reference Documents

This document is intended to provide consistent guidance throughout the district in concert with other district plans, policies, guidelines and standards without duplicating the information provided in those related documents. As such, effort has been made to reference those related documents where applicable. References noted herein have been identified at the time of this publication and may change over time. Related district documents include, but are not necessarily limited to:

- 2020 Vision Action Plan
- 2013 Comprehensive Plan
- 2019 Parks Functional Plan
- 2016 Trails Functional Plan
- 2014 Natural Resources Functional Plan
- 2018 Maintenance Standards Manual
- 2014 Signage Master Plan
- Nature Play webpage www.thprd.org/parks-and-trails/nature-play-areas

To access these documents, please visit www.thprd.org/district-information/administration/planning-design-and-development.

Goals

- Collaborate with our stakeholders to plan, design, and implement nature play areas that foster and encourage outdoor engagement, experiences, and learning opportunities for users of all ages and abilities throughout the district.
- Establish terminology and definitions for the district's various types of nature play areas that can be used consistently throughout the district.
- Establish safety guidelines by which the district will provide, inspect, and maintain its nature play areas.
- Provide appropriate public access to nature and natural areas, while minimizing impacts on native wildlife and habitat.

Benefits

Spending time in nature promotes reflection, awareness, and discovery along with many other positive benefits for visitors of all ages. Given the fast rate of development in our region, the importance of having access to nature is vital to our communities. Contact with nature has many benefits, including but not necessarily limited to:

- Improves mental development, showing increased concentration, self-discipline, reasoning, and observation skills, and decreased symptoms of ADD/ADHD and behavioral disorders.
- Increases activity levels, which reduces the likelihood of obesity and Type II diabetes and improves development of motor skills.
- Strengthens immune systems.
- Increases ability to cope with stress.
- Increases sense of confidence, independence, and wonder – characteristics that allow children to become healthy adults and lifelong learners.
- Fosters an affinity and love of nature that can translate to an active environmental ethic.
- Thoughtful conservation and programming of our natural areas will maintain their availability for public access and will further promote these benefits for current and future generations.

Classifications & Guidelines

This section identifies the classifications of nature play areas in the district, clarifies the differences between them, and identifies the district's expectations for developing, inspecting, and maintaining these areas. Based on the degree of access to nature that these amenities provide and the differences in criteria for safety and inspection, THPRD classifies its nature play areas into the following three categories.

1) Nature Playgrounds



Nature Playground at Camille Park, THPRD

Nature Playgrounds are intended and designed for use as public playgrounds. However, as opposed to more traditional playgrounds with manufactured play equipment, these playgrounds are constructed primarily from natural materials and/or natural-looking manufactured equipment, such as boulders and logs, and often incorporate vegetation or water into the design, to create a more nature-based experience. As with all playgrounds, elements are designed and constructed to offer visitors with opportunities to play, explore and develop. However, Nature Playgrounds offer greater opportunities for visitors to connect with nature through interaction and experience with natural materials and elements.



Design & Access

Design elements may include log climbers, boulder scrambles, steppingstones, hillslope slides, nature-fiber net climbers, water play, and topographic features such as berms, mounds, and swales. As with any other playground the boundary of Nature Playgrounds must establish clear safety use zones of the designated play area. In Nature Playgrounds, natural elements such as vegetation, logs, and boulders are often used to draw nature into the play area but should not encroach within established safety use zones of the designated play equipment. ASTM playground standards include references for ADA requirements and therefore accessibility guidelines must be applied in the same manner as with traditional playgrounds. Play surfacing should consist of impact attenuating material designed to mitigate fall hazards.



Signage

Signage should adhere to the district's Signage Master Plan.



Maintenance & Inspection

Nature Playgrounds are specifically designed and constructed with natural elements to function as public playgrounds, and as such must adhere to the same national ASTM standards and CPSC guidelines as traditional playgrounds with manufactured play

equipment. Nature Playgrounds should be inspected on the same schedule and to the same standard as traditional playgrounds. See the Park Maintenance Standards Manual for maintenance and inspection requirements.

See Appendix C.1 for THPRD examples: Somerset West Park and Camille Park.

2) Nature Exploration Areas



Nature Exploration Areas (NEA) are not intended or designed to be playgrounds as defined by ASTM and CPSC, and as such are not required to adhere to ASTM standards and CPSC guidelines for public playgrounds. NEAs are designed spaces intended to provide visitors with opportunities to observe or interact with nature and natural processes. NEAs promote and support environmental education, awareness, and stewardship by providing visitors with opportunities for a range of group and self-led nature-based activities and programming such as nature camps, outdoor classrooms, and wildlife viewing.

Nature Exploration Area at Recuerdo Park, THPRD



Design & Access

Designs primarily include natural elements such as trees, plants, logs, water, sand, and rocks, and may also incorporate constructed or fabricated elements which support the intended use or programming of the area such as seats, tables, podiums, workspaces, shelters, or boundary markers. NEA boundaries should be clearly defined but are not as critical in establishing safety limits in comparison to playgrounds. It is important to delineate clear boundaries to minimize impacts on natural resources and establish maintenance limits (See 'Boundaries' in the Site Selection section for more detail). Reasonable consideration should be given to how visitors may use the elements in unintended ways and potential hazards should be mitigated for visitor safety. For example, intentionally placed elements that could potentially be climbed upon should not be higher than 30-inches above grade to avoid fall hazards. Placed design elements should also be stabilized or anchored to prevent them from moving, rolling, or falling unexpectedly. Site accessibility for NEAs is especially important to provide as equitable and inclusive an area as possible for the broadest number of visitors. National ADA Accessibility Guidelines (ADAAG) for outdoor recreation areas should be considered and implemented in the development of these areas wherever possible but may be limited by natural characteristics and site conditions within the designated NEA. Accessible routes constructed with appropriate surfacing should be provided from parking areas and NEA entrances to activity areas within the NEA.



Signage

NEAs should be signed as "Nature Exploration Areas," and signage should adhere to

the district's Signage Master Plan. At a minimum, one Site ID sign should be placed at a conspicuous location near the most predominant access to the NEA. Additional signage may be placed at the site as needed for visitor guidance based on site-specific conditions.

Site ID signs will be modeled from the Type R Sign Family in the district's Signage Master Plan, shall be reviewed by Risk Management personnel prior to implementation, and should include the following (see Appendix B):

- "Explore at your own risk" statement.
- "Other posted park rules apply" statement.
- "Please respect plants, wildlife, and other visitors" statement or similar.
- Statement of NEA boundary and description of boundary markers.
- Pictograms of activities that are permitted and encouraged (climbing, fort building, exploring, etc.).
- District contact number such as Safety Services.

Interpretive signage: To make the NEA inviting and equitable, a positive and informative sign should be placed on site, either at the main entrance to the NEA or the main gathering or activity area. Interpretive signs should include the following information:

- Identification of purpose of the NEA.
- Map of the NEA with boundary shown in the context of the overall park or natural area.
- Simple educational description of the habitat type and/or natural processes that may be present, if appropriate.
- List, statement, pictures or pictograms (preferred) of encouraged activities (i.e. turn over a rock and see what's underneath, build a fort from forest materials, observe the effects of water on sand, or listen – what do you hear?).



Maintenance & Inspection

NEAs should be inspected for hazards on a regular basis by designated personnel. The specific frequency of inspections will depend on the site and how it is used. At a minimum, NEAs should have a documented quarterly inspection, with a monthly visual inspection. Depending on the level of use at a site, more frequent inspections may be needed to maintain an appropriate standard of care.

Inspection includes checking for hazard trees, poison oak, the condition of any placed elements (logs, rocks, table, etc.), and any other hazards that can develop from the use or wear of the space. Structures built by users may need to be removed, and holes may need to be filled if they present a significant hazard to other users. Man-made materials, such as lumber, rope, nails, glass, or plastic shall be removed during inspections. Identified hazards should be mitigated according to their Risk Assessment Code (RAC).

See Appendix C.2 for THPRD examples: Pío Pío Park and Ridgewood View Park

3) Off-Trail Nature Exploration Areas



Off-Trail Nature Exploration Area at Hyland Woods Natural Area, THPRD

Off-Trail Nature Exploration Areas (ONEA) are not intended or designed to be playgrounds as defined by ASTM and CPSC, and as such are not required to adhere to ASTM standards and CPSC guidelines for public playgrounds. ONEAs are distinct from NEAs in that they are designated natural areas which are not specifically designed or developed but rather are generally left in their natural state for visitors to observe and explore on their own. The term “off-trail” refers to these areas typically being more “natural,” more remote, and therefore also more challenging to access and navigate. These areas promote and support environmental education, awareness, and stewardship by providing visitors with unique opportunities to interact directly with nature and the natural environment. For example, in

these designated areas visitors are encouraged to use loose natural materials found in nature, such as sticks, rocks, and leaves, and may even create primitive structures such as shelters without adversely impacting the environment. Visitors may also be allowed to pick or harvest vegetation for use on site. As a result of this use, informal trails often appear throughout ONEAs and may need to be mitigated through maintenance practices. It should be noted that not all THPRD natural areas are ONEAs, and these spaces must be intentional and designated as described herein to be an ONEA. Furthermore, the designation and number of these areas within the district shall be assessed and implemented based on the level-of-service criteria established by the district to ensure the amount and location of these areas can be balanced with the district’s goals for natural area protection and preservation.



Design & Access

ONEAs are natural areas, free of designed or constructed elements, that are selected and preserved for their natural, less touched character. These designated areas within THPRD are typically forested and offer naturally fallen trees, exposed root wads, snags, native vegetation, water, native soil, sand, rocks, and natural topography. ONEA boundaries should allow visitors plenty of room to explore and may be less defined than with NEAs; however, ONEA boundaries should be well-defined with signage or other markers. Boundary markers should be conspicuous and distinguishable around the perimeter of the ONEA to protect the surrounding natural area. National ADA Accessibility Guidelines (ADAAG) for outdoor recreation areas should be considered and implemented in the establishment of these areas wherever possible, including accessible routes from parking areas or park entrances; however, ONEAs are not expected to be barrier-free and access paths are subject to limitations created by site conditions and available native materials.



Signage

ONEAs should be signed as “Off-Trail Nature Exploration Areas,” and signage should adhere to the district’s Signage Master Plan. At a minimum, one site ID sign should be placed at a conspicuous location near the most predominant access to the ONEA. Additional signage

may be placed at the site as needed for visitor guidance based on site-specific conditions.

Site ID signs will be modeled from the Type R Sign Family in the district's Signage Master Plan, shall be reviewed by Risk Management personnel prior to implementation, and should include the following (see Appendix B):

- Indication of off-trail use.
- "Explore at your own risk" statement.
- "Other posted park rules apply" statement.
- "Please respect plants, wildlife, and other visitors" statement or similar.
- Statement of ONEA boundary and description of boundary markers.
- Pictograms of activities that are permitted and encouraged (climbing, building, exploring, etc.).
- District contact number such as Safety Services.

Interpretive signage: To make the ONEA inviting and equitable, a positive and informative sign should be placed on site, either at the main entrance to the ONEA or the main gathering or activity area. It should include the following information:

- Identification of purpose of the ONEA.
- Map of the ONEA with boundary shown in the context of the overall park or natural area.
- Simple educational description of the habitat type and/or natural processes that may be present, if appropriate.
- List, statement, pictures or pictograms (preferred) of encouraged activities (i.e. turn over a rock and see what's underneath, build with forest materials, observe the effects of water on sand, or listen – what do you hear?). These activities should encourage nature exploration while discouraging adverse and disrespectful use of the area.
- Statement to "Please respect plants, wildlife, and other visitors", or similar.

In addition, posting temporary, laminated informative signs at each entrance to the ONEA may be appropriate when nature exploration activities are first implemented.



Maintenance & Inspection

ONEAs should be inspected for hazards on a regular basis by designated personnel. The specific frequency of inspections will depend on the site and how it is used. At a minimum, ONEAs should have a documented quarterly inspection, with a monthly visual inspection. Depending on the level of use at a site, more frequent inspections may be needed to maintain an appropriate standard of care.

Inspection includes checking for hazard trees, poison oak, and any other hazards that can develop from the use or wear of the space. Structures built by users may need to be removed, and holes may need to be filled if they present a significant hazard to other users. Man-made materials, such as lumber, rope, nails, glass, or plastic shall be removed during inspections. Identified hazards should be mitigated according to their Risk Assessment Code (RAC).

See Appendix C.3 for THPRD examples: Hyland Woods Natural Area.



4) Combination of Areas



It is important to note that parks or natural areas may contain more than one category of play or exploration area, possibly even located directly adjacent to each other. When this occurs, sites should be documented with a Maintenance Plan to clearly identify each type of play and/or exploration area, their related maintenance and inspection requirements, and the responsible department or party for implementing such maintenance and inspections. The Maintenance Plan should be in digital format and be made readily available as needed.

Nature Exploration Area next to Nature Playground and Traditional Playground at Somerset West Park, THPRD



Design & Access

Different types of areas should be delineated by physical or visual barriers to establish clear maintenance, inspection, and patron-use limits. Visual or physical barriers could include fencing, curbing, pathways, mounds, planting beds, or other distinctly different surfaces. Consider establishing delineation boundaries that minimize potential hazards (such as climbing/falling) and reduced installation and maintenance costs. Different surfaces should be separated by some type of physical barrier (curb, sidewalk, pathway, etc.) to keep them from comingling.



Signage

Locate signage as needed to clearly delineate areas. All signage should adhere to the district's Signage Master Plan.



Maintenance & Inspection

Maintain and inspect each area independently as indicated herein.

See Appendix C.4 for THPRD examples: Recuerdo Park and Pioneer Park.

Intended Use, Standards, Safety & Inspections

Increased Access to Nature

Intended Use & Materials

Traditional Playgrounds

Intended and designed for use as a public playground. Incorporates manufactured play equipment, including nature-themed play equipment, with impact attenuating surfacing.

Nature Playgrounds

Intended and designed for use as a public playground. Incorporates natural materials and/or natural looking manufactured equipment to mimic the function of traditional play equipment within a nature-based play environment, with impact attenuating surfacing.

Nature Exploration Areas

Intended and designed for nature interaction or environmental education. Incorporates natural and fabricated elements to promote interaction with nature.

Off-trail Nature Exploration Areas

Designated natural area intended for nature interaction or environmental education. Incorporates naturally occurring elements of the environment.

Related Standards

ASTM Standards For Public Playgrounds 1487-17
 CPSC Guidelines for Public Playgrounds
 ADA standards, Publication #325, November 2010.

ADA Accessibility Guidelines (ADAAG) for Outdoor Recreation Areas for NEA, and where reasonably applicable for ONEA.
 Not considered playgrounds as defined by ASTM and CPSC.

Safety & Inspection

Designed specifically to be playgrounds as defined by ASTM and CPSC.
 Inspection frequency: weekly and monthly or as outlined in the Park Maintenance Standards Manual.

Inspection Frequency: documented quarterly inspection with a monthly visual inspection.
 Inspection includes checking the condition of any placed elements, and checking for hazard trees and other hazards that can develop from the use of the space.

Site Selection

Nature Playgrounds

Nature Playgrounds may be sited any place that provides suitable access and minimizes tree removal or other impacts to natural areas or features.

Nature Exploration Areas

Nature Exploration Areas should be located with good access to natural features but preferably in areas with existing or historic impacts to minimize the impacts on natural areas or features. For smaller NEAs, the criteria for siting should be the same as for ONEAs.

Off-Trail Nature Exploration Areas

- **Diversity of Plant Size** – The chosen site should have varying levels of vegetation, including large trees, mid-story trees and shrubs, and smaller shrubs and herbaceous plants. The area should be navigable; that is, not overrun with blackberry hedges or thick, impassible vegetation. An open area, either created by a break in the vegetation, past removal of large patches of weeds, or past foot-traffic in the park, is also desirable.
- **Habitat Health** – The health of off-trail play areas should be somewhere in the middle of the spectrum between pristine native habitat and total non-native species dominance. The goal of opening natural areas to visitors is to create the space for them to develop a relationship with native nature, which includes a diversity of plant species. However, in opening these areas we are assuming a certain degree of disturbance to vegetation, so areas with more valuable habitat or rare species should be excluded as possible sites.
- **Undesirable Plants** – Areas with established poison oak are undesirable as play areas. Other potentially harmful plants include stinging nettle, blackberry, and rose. Areas should not be located where there are large patches of these plants or where they are the dominant species, but their presence should not be grounds for exclusion. Part of the joy of playing in wild nature is the encounter of pokey, prickly plants, and learning to identify and avoid them!
- **Terrain** – In addition to a diversity of live vegetation, there should be variations in the terrain of the area. This could involve downed trees and branches of various sizes, slope changes, depressions caused by root upheaval, or other naturally occurring phenomena that allow for climbing, hiding, balancing, or other playful physical challenges. In areas deemed appropriate for nature exploration but without much variation in terrain, additional logs, boulders, or other large natural debris from other areas or parks can be added at the site.
- **Water** – Water should, when possible and when not designated valuable wildlife habitat, be incorporated into nature exploration areas. Features such as small streams, seasonal ponds, or even just shallow puddles offer the opportunity to get wet, muddy, and close to a microhabitat that contains interesting creatures. If possible, the ideal water feature for off-trail

nature exploration is shallow, gently moving water with banks no higher than two feet and without significant washout. Banks vegetated with large trees and established woody shrubs are best, so the impact to vegetation will not significantly affect bank integrity.

- **Size** – The size of the designated nature exploration area will vary from site to site but should be large enough to allow for adequate adventure and exploration, and to accommodate use by several users. The recommended size is between one-half and two acres.
- **Boundaries** – The boundaries of nature exploration areas should correlate with existing, obvious borders or changes in the landscape such as official trails, streams, topographic features, recognizable habitat changes, or park boundaries. When possible, these exploration areas should not be bounded by adjacent homeowner property(ies). Simple boundary signs may be installed where natural boundaries are absent.

Natural Resource Concerns



Wildlife

When considering possible sites for ONEAs, staff should pay close attention to the presence of wildlife in the area. If not already available, an inventory or review of the site in question should be undertaken to determine whether there is sensitive or unique wildlife habitat present and whether it is of enough significance to preclude the site as a nature play area. Additionally, the presence of known rare or sensitive wildlife species or species of concern will disqualify the site.



Erosion

Opening natural areas for off-trail use will inevitably incur disturbance of vegetation, which ultimately results in soil exposure and bare ground. Any time this happens, erosion becomes a concern, especially on steep slopes. For this reason, nature play areas should not be located in areas where there is significant slope. Variations in slope throughout a site are to be expected, but attention should be paid to the general character of the site; the overall slope of the area should be less than 15%.

Design Principles

The design of nature playgrounds and nature exploration areas are directly inspired by nature and involves the use of natural elements and materials, imitation and incorporation of natural processes and principles, and other means of directly introducing visitors, especially children, to the natural world. This can take many forms, including using specific ecosystems, plants, or animals as the inspiration or 'theme' for a site, incorporating plants that emphasize the changing of the seasons, creating interactive habitat that will attract native wildlife, or creating built structures that imitate the movements or habitats of animals in the wild.

1. **Each element is intentional and connected to others**, allowing visitors to transition from one activity to another as they see fit. This intentional placement should have a feel of randomness to it, much like a truly 'natural' space.
2. For nature exploration, **focus on supporting varying degrees of ability** rather than specifically targeting certain age groups and without being prescriptive about how the elements or space are to be used.

3. **Each nature exploration area uniquely fits the specific site**, utilizing the available natural resources by intentionally incorporating them into the design.
4. **Provide as much physical and equitable access as possible** by considering the cultural and environmental conditions that are unique to every site.
5. **Built or natural elements and fixtures allow for a variety of active and passive developmental activities**, including:
 - Locomotor movements
 - Informal sports (i.e. chasing, running, hide-and-seek, etc.)
 - Exploration
 - Social interaction
 - Construction and destruction
 - Creative interaction with loose materials
 - Imagination and 'make believe'
 - Quiet contemplation and solitude
6. **Access to water is a high priority for the community** and should be incorporated into the designs for these areas. Water access should be equitable and should have clear boundaries (to protect resources), gentle grades, and be made of surfaces that are erosion resistant.
7. **Elements and fixtures should appeal to all the senses and encourage sensory interaction** with nature. These are often incorporated into the design without drawing attention to their presence, so visitors discover them on their own terms, or are arranged as a specific site feature, including but not necessarily limited to:
 - **Sound:** Weatherproof, interactive musical elements such as chimes, xylophones, bells, or drums (most appropriate in Nature Playgrounds).
 - **Smell:** Fragrant plants, including flowers, shrubs, and trees, either sporadically placed or in a designated 'smell garden.'
 - **Taste:** Woody shrubs or trees with edible fruits or a designated gleaning garden.
 - **Feel:** Materials with a variety of textures and shapes that are safe to touch and feel.
 - **Sight:** Hidden or simple pictures/imagery, natural and interactive art, interpretive signage, or interesting plants or flowers.



Ear trumpet sculpture at Cooper Mountain Nature Park, THPRD



Tiny moss garden at Jordon Woods Natural Area, THPRD



Loose natural materials for stacking at Roger Tilbury Memorial Park, THPRD

Risk, Safety, & Liability

1. **Nature Playgrounds** are intended and designed for use as public playgrounds as defined by the American Society for Testing and Materials (ASTM) and the Consumer Product Safety Commission (CPSC), and as such should adhere to the ASTM standards and CPSC guidelines for public playgrounds. These areas should be designed, maintained, and inspected to the same standard and on the same schedule as traditional playgrounds with manufactured play equipment.
2. **Nature Exploration Areas (NEA)** and **Off-Trail Nature Exploration Areas (ONEA)** allow for unstructured interaction with natural elements. These spaces are not designed to be playgrounds as defined by ASTM and CPSC, and as such are not required to adhere to ASTM standards and CPSC guidelines for public playgrounds.
 - NEA and ONEA allow the user to interact with nature, challenge themselves through exploration, and take varying levels of risk¹. Risk is inherent to NEAs where visitors can make choices and learn, but care should be taken to remove overt hazards from the area². THPRD, as a provider of Nature Exploration Areas, must balance the need to keep visitors safe from serious harm while providing opportunities to learn through interaction with nature and by experiencing risk.
 - It is important to note that as with all recreational areas throughout the district, recreational immunity (i.e. play at your own risk) applies to NEA and ONEA. Because these areas do not fall into a regulated category, there are no government regulated safety standards established that the district is required to fulfill in these areas. However, our internal guideline is to ensure that overt hazards are addressed and mitigated and that these areas do not pose greater risk than those reasonable to any natural area.

¹ Risk is the possibility of injury or loss. In a NEA, risk is something that can be readily seen and assessed by the visitor. The visitor can decide a course of action based on their own judgement.

² A hazard is a potential source of harm. In a NEA, a hazard is something that poses a likelihood of serious injury which cannot be readily seen or assessed by the visitor.

Appendix A: Overriding Standards & Terms

National Standards

1. American Society for Testing and Materials (ASTM)

- ASTM F1487-21 Standard Consumer Safety Performance Specification for Playground Equipment for Public Use
- ASTM F1951-14 Standard Specification for Determination of Accessibility of Surface Systems Under and Around Playground Equipment
- ASTM F1292-18 Standard Specification for Impact Attenuation of Surfacing Materials Within the Use Zone of Playground Equipment
- ASTM F2223-19a Standard Guide for ASTM Standards on Playground Surfacing
- ASTM F3012-14 Standard Specification for Loose-Fill Rubber for Use as a Playground Safety Surface under and around Playground Equipment
- ASTM F2479-17 Standard Guide for Specification, Purchase, Installation and Maintenance of Poured-In-Place Playground Surfacing
- ASTM F2075-15 Standard Specification for Engineered Wood Fiber for Use as a Playground Safety Surface Under and Around Playground Equipment

2. U.S. Access Board

- ADA Accessibility Guidelines (ADAAG) for Outdoor Recreation Areas

3. U.S. Consumer Product Safety Commission (CPSC), (latest edition)

- Public Playground Safety Handbook (<https://www.cpsc.gov/s3fs-public/325.pdf>)

4. U.S. Department of Justice

- 2010 ADA Standards for Accessible Design: Title II (28 CFR 35) and Title III (28 CFR 36)

Key Terms

Berm	A continuous raised bank, ridge, or embankment which may undulate and vary in height from the surrounding grade.
Mound	A small rounded hill, often low and wide, which is higher than the surrounding grade.
Swale	A topographic depression, often elongated, with gentle slopes that is lower than the surrounding grade.
Risk	Risk is the possibility of injury or loss. In a NEA, risk is something that can be readily seen and assessed by the user or visitor. The user can decide a course of action based on their own judgement.
Hazard	A hazard is a potential source of harm. In a NEA, a hazard is something that poses a likelihood of serious injury which cannot be readily seen or assessed by the user or visitor.

Appendix B: Typical Signage for Exploration Areas



Site ID example for Off-Trail Nature Exploration Area



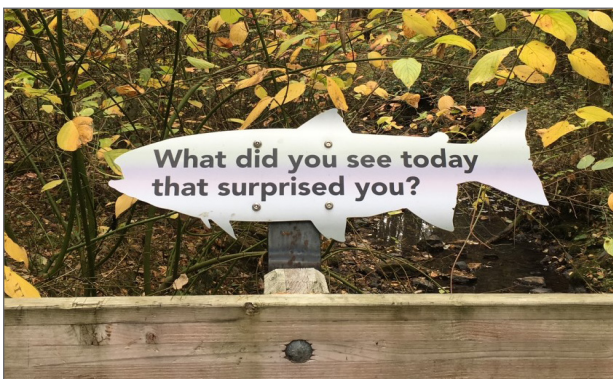
Boundary Sign example for Off-Trail Nature Exploration Area



Interpretive Sign example



Interpretive Sign example



Trailside Marker example



Trailside Marker example

Note: Signage installed for Nature Playgrounds and Exploration Areas should adhere to the district's Signage Master Plan, most current edition. Also refer to the district's Signage Master Plan for other types of signage that may support these areas such as rules & regulations, site identification, wayfinding, programming, special events, area closures, etc.

Appendix C: THPRD Examples by Classification

C.1 Nature Playgrounds



Nature Playground (lower play area) at Somerset West Park, THPRD



Nature Playground at Camille Park, THPRD

C.2 Nature Exploration Areas



Nature Exploration Area at Pio Pio Park, THPRD



Nature Exploration Area at Ridgewood View Park, THPRD

C.3 Off-Trail Nature Exploration Areas



Off-Trail Nature Exploration Area at Hyland Woods Natural Area, THPRD



Off-Trail Nature Exploration Area at Hyland Woods Natural Area, THPRD

C.4 Combination Areas



Nature Exploration Area next to Traditional Play Area at Recuerdo Park, THPRD



Nature Exploration Area next to a Traditional Play Area at Pioneer Park, THPRD

Appendix D: Design Ideas for Incorporating Natural Elements



Exploratory topography:

- Mounds
- Curves
- Pits
- Berms
- Stone walls
- Sand pits
- Water courses
- Mud areas
- Natural amphitheaters



Different Types of Vegetation:

- Wild areas
- Native plants
- Wildlife attracting plants
- Edible plants
- Shadow patterns
- Focal points/specimens
- Plant sculptures/tunnels
- Willow fencing
- Sunflower mazes



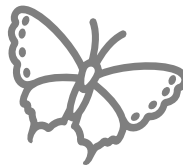
Outdoor Art:

- Wall murals
- Sound gardens
- Play sculptures: land, vegetation, natural materials
- Fountains
- Children's art
- Rain structures
- Wind structures
- Nature art



Small pieces:

- Boards
- Blocks
- Wooden boxes
- Tree cookies
- Stump stool



Places for first-hand interaction:

- Butterfly observation areas
- Frog ponds
- Birdhouses
- Nature paths



Physical challenges:

- Balance beams
- Logs
- Ropes
- Climbing areas
- Trails
- Digging areas
- Boulders
- Log steps
- Crawl-through log
- Stairs
- Slopes
- Stepping-stones



Sensory Awareness:

- Listening stations
- Taste gardens
- Spring/autumn color trails
- Smell gardens
- Wind tunnels
- Rain sticks
- Bongos



Opportunities to learn and teach:

- Amphitheaters
- Interpretation signs
- Experimentation stations
- Educational trails
- Plant ID labels



Things to show change:

- Rain collection ponds
- Rain gauges
- Shadow-play
- Sundials
- Seasonal streams
- Deciduous trees
- Wind stations



Variety of spaces:

- Trellises
- Low walls
- Bridges
- Willow fencing
- Changes in level
- Changes in plants
- Playgrounds on water



Malleable & loose

- Sand
- Water
- Leaves
- Clay
- Stones
- Sticks

Appendix E: Recommended Resources

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Moore, R. (2014). "Nature Play and Learning Places: Creating and managing places where children engage with nature." Raleigh, North Carolina: Natural Learning Initiative and Reston, VA: National Wildlife Federation, Version 1.6. https://naturalearning.org/wp-content/uploads/2019/06/Nature-Play-Learning-Places_v1.6_Sept_2015-Chapter-6.pdf

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