Rick Hansen Foundation

LET'S PLAY
TOOLKIT

Creating Inclusive Play Spaces For Children Of All Abilities

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Let's Play is dedicated to ensuring that young children with physical disabilities have the same opportunities for play as their peers by supporting the creation of accessible public play spaces and building awareness about accessible play and related best practices. The Let's Play Project was made possible by an investment from the Province of British Columbia and in partnership with the Rick Hansen Foundation and the Rick Hansen Institute.

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Rick Hansen Foundation

I. INTRODUCTION

One of the greatest joys of being a child is the ability to play, socialize, and interact with other children. This toolkit has all the information and best practices your community needs to design an accessible play space that all children, including those with disabilities, can engage in and enjoy. From the development of new spaces to the renovation of existing playgrounds, my hope is that all communities will become fully accessible and inclusive.

— Rick Hansen

A. All Children Need to Play

Play is essential for a child's physical, social, and emotional wellbeing. Children who play in diverse natural and physical surroundings are provided with a greater range of learning and developmental opportunities, regardless of their ability. When children play, they are:

- strengthening their overall health;
- learning how to make decisions, experimenting, generating ideas, practicing skills, role playing, and inventing; and
- building social skills and interacting with their peers, including those with disabilities.

While physical exercise is important for both the mental and physical health of all children, 38% of Canadian children with a disability almost never get physical exercise after school, compared to 10% of typically developing children (Physical & Health Education Canada, 2013). A lack of physical activity can lead to an increased risk of anxiety, depression, and stress, as well as an increased risk of developing secondary health conditions like cardiovascular disease. It's important that children with disabilities have a means to exercise regularly, including through access to a playground that can be used in physical education classes and recreational play.
Inclusive, accessible playgrounds benefit everyone. They offer all children the opportunity to play alongside one another and help to create a sense of community:

- Children with disabilities enjoy the benefits of active play, including social skills and overall health.
- Children without disabilities learn valuable lessons about the world, including that everyone has similarities and differences.
- All children develop concepts related to tolerance, diversity, and acceptance.
- Parents, grandparents, and members of the community with disabilities can also access the spaces. Everyone can interact and have fun.

> "An inclusive playground shows that everyone has value. It teaches children that everyone can be together. When kids are able to play and see a child in a wheelchair having fun, to see what they can do, it changes their perception. This type of interaction moves feelings from pity to understanding and it makes a better world."
>
> **— Laurie Schulze,**
> **a mother of a child with Cerebral Palsy**

B. Big-Picture Questions

Playgrounds based on the principles of universal design offer a rich variety of inclusive physical and creative play opportunities that:

- consider accessibility for children at all developmental stages and abilities;
- appeal to the five senses; and
- create safe spaces where children can explore.

Whether you're thinking through the design of a new play space or retrofitting an existing space, you can start by asking a big-picture question: "How will this play space encourage children of all abilities to interact and share play time together?"

You can also ask:

- Can anyone, regardless of ability, move into, out of, and through the play space?
- Is the play space equipment and surfacing safe, but still stimulating enough that children can make their own decisions about what activities to try and what risks they want to take (e.g. climbing up multiple levels using a ramp, or hanging off monkey bars)?
- Is the space multi-functional, taking into account factors such as colour, sound, texture, movement, and versatility?
- What equipment is available and accessible for all children to help develop their cognitive function. Activities such as swinging, sliding, climbing, spinning, and rocking have both physical and cognitive benefits.
- Does the play space have a good mix of active and quiet play areas? Rest spots include shade, seating, or undercover areas to encourage children to relax and assist them with developing social skills.

In this toolkit, you will:

- learn more about incorporating inclusive, accessible design, and diversity into outdoor play spaces,
- find an overview of best practices and a how-to guide to develop an inclusive new play space project or renovate an existing one,
- view examples of successful play spaces demonstrating universal design principles.

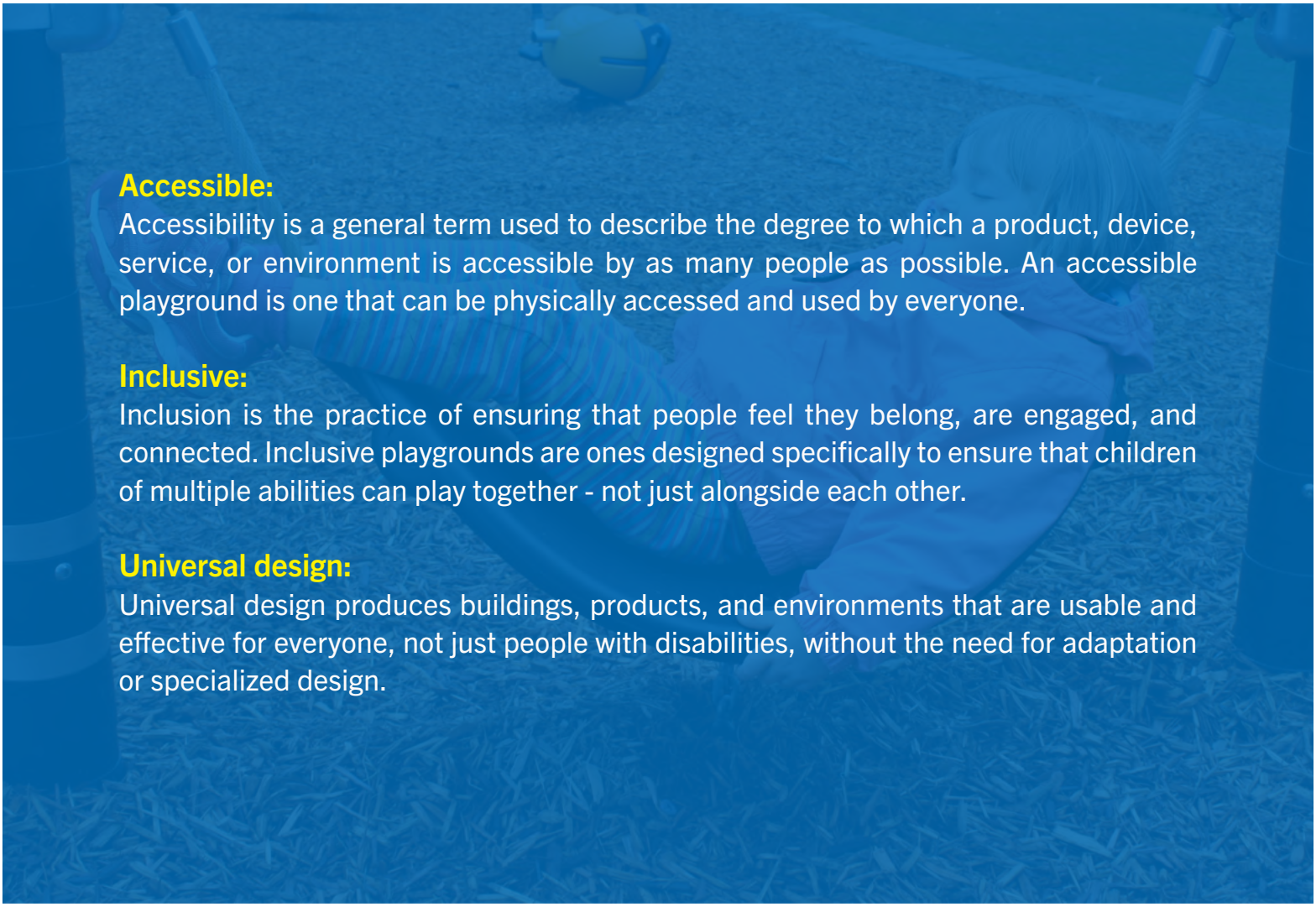
II. EVERYONE IS INCLUDED

A. What Do We Mean by Universal Design?

In this toolkit, we use the term “universal design” to describe all the features making a playground accessible and inclusive. Universal design focuses on creating a space to meet the needs of the greatest number of people. Diversity is built directly into the design. A truly accessible play space can be used by more than one child at a time in more than one way, with a selection of approaches to moving through the space, and a variety of different activities to try.

A playground based on universal design means:

- All people can use the majority of features and spaces, instead of having separate “accessible features” for people with disabilities. Features like play equipment, planter boxes, or benches are of different heights and sizes to meet the needs of more people.
- Circulating around and using the play space is simple and easy. Smooth, even surfacing allows access to play equipment with minimal effort. The design provides adequate space for all people to access and maneuver around play equipment and features, regardless of mobility.
- The play space offers physical or learning opportunities to challenge all users, but minimizes hazards. For example, the surface is smooth, level, and shock absorbent.



Accessible:
Accessibility is a general term used to describe the degree to which a product, device, service, or environment is accessible by as many people as possible. An accessible playground is one that can be physically accessed and used by everyone.

Inclusive:
Inclusion is the practice of ensuring that people feel they belong, are engaged, and connected. Inclusive playgrounds are ones designed specifically to ensure that children of multiple abilities can play together - not just alongside each other.

Universal design:
Universal design produces buildings, products, and environments that are usable and effective for everyone, not just people with disabilities, without the need for adaptation or specialized design.

When planning and designing all features of a playground, consider both its natural features and equipment, and how these relate to each other. A play space is more than a structure – it encompasses the total environment in which play occurs. From vegetation to signage, all the elements of a site can become objects of play and learning.

This toolkit describes how to apply accessible, inclusive design to many aspects of a play space including entrances; pathways; signage and displays; enclosures; manufactured equipment; game areas; ground covers and safety surfaces; land forms, trees, and vegetation; gardens; water, sand, and dirt; play props; and gathering spaces.

You'll find additional resources on developing accessible, inclusive play spaces in the Resources section of this toolkit.


Elephant Play

B. Accessible Design in Action

These are some examples of good, accessible design you can incorporate into your play space plans:

Interesting, easy and accessible circulation (access around and to the play space)

Using grade change instead of ramps

Easy access to play equipment

Integrated sand play

Accessible amenities

Easy site circulation (access to the play space)

Accessible slides

Accessible play surface

Places to explore

Sound feature

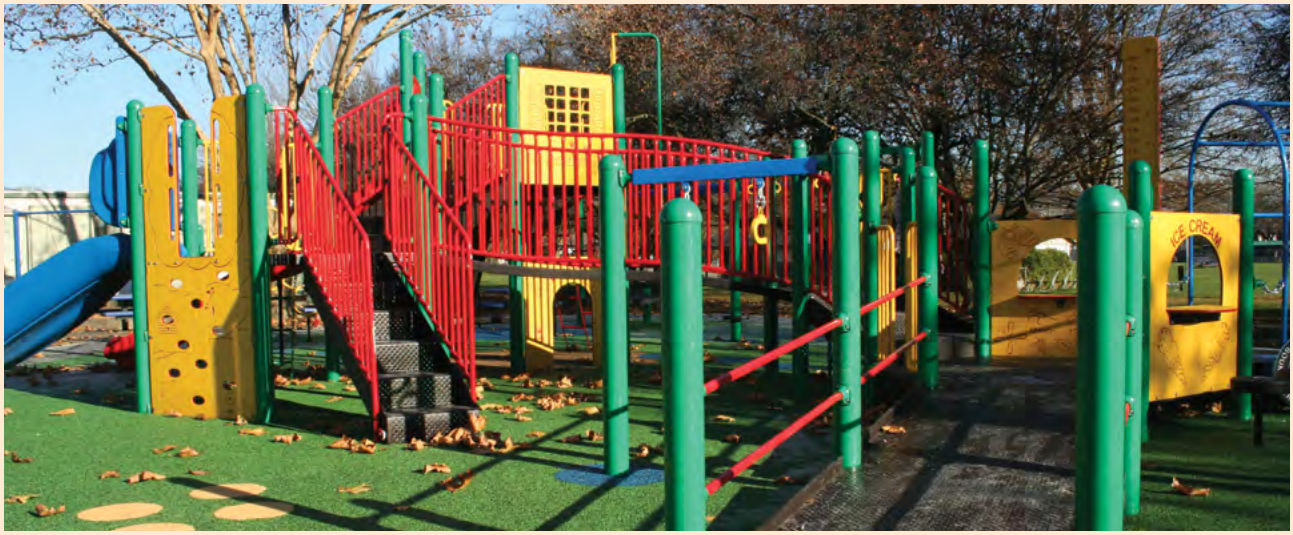
Accessible water feature

Accessile ground/social play equipment

Accessible play equipment

Texture and details

C. Case Study



Carnarvon Elementary School – Vancouver, BC

Elise Jackson, a kindergarten student at Carnarvon Elementary, has cerebral palsy and uses a walker and a power chair. The Parent Advisory Council (PAC) at her school, located on Vancouver's west side, were proud of the school's accessible design, but acknowledged the existing 30-year-old playground, with a woodchip surface and limited features, needed to be redesigned for accessibility.

Planning a Park that Considers All Users

The PAC, led by parent Brittanny Downey-MacDonald, set out to create a playground designed for children of all abilities, including Elise. As they discussed how to make the playground more accessible for children with disabilities, they began thinking about the needs of all people who use a playground including the elderly and parents with strollers, and realized that increased accessibility would benefit everyone.

The project team wanted to install a 3,400 square foot playground built for ages 2 to 12, with areas allowing older children to play separately from their younger peers. To make the space completely in line with Universal Accessibility, they turned to the Rick Hansen Foundation's accessible play space resources, in conjunction with the input of kinesiologists, school support workers, parents, children with disabilities, and psychologists.

Bridging Needs with Financial Considerations

The team set a fundraising goal of $135,000 and decided on key components:

- Rubber surfacing;
- Ramps to areas for imaginary play;
- Horizontal monkey bars permitting children in wheelchairs to pull themselves along;
- A Bouncy Bus that could hold two wheelchairs, but be useable by all;
- Various, built-in level changes so kids can get around, though, under, and over all equipment;
- Accessible pull-up rings;
- Two lanes of race track markings around the playground's perimeter;
- Accessible sand box with digger;
- Tandem slide with low impact bottom so kids can go down with someone with little or no drop at the bottom; and
- Wide stairways and long slow angles so people who have challenges walking can get around safely.

They were fortunate to secure a Tire Stewardship of BC grant of $23,400, which provided half of the 100% recycled rubber surfacing. Most of the money raised came from small community fundraisers and community sponsors such as a realtor ($5,000) and a local grocery store chain ($7,500). Up and Running!

The playground was completed in just over a year. Downey-MacDonald credits the playground's success to:

- extensive planning,
- clear goals,
- open communication of needs, and
- regular updates to sponsors and community partners.

The fully accessible playground was a first for that community. It gained support from advocates for accessibility, sports, and education including the Rick Hansen Foundation, BC Wheelchair Sports, GF Strong Rehabilitation Hospital, and Vancouver United Football Club. Now everyone, regardless of ability, can play safely for years to come.

III. STEPS FOR CREATING AN INCLUSIVE PLAY SPACE

Although playground projects range in scope and scale, from brand new to retrofits, these steps can apply to every site:

A. Plan

- Form a Playground Committee to undertake the planning process. Include parents, teachers, and members of the disability community.
- Organize a working session with the committee:

Define your audience:

- How many children will play every day? How old are these children?
- Is the park public or private?
- If it's a school park, identify people who will use the park outside of school hours. These are potential community partners.
- Do any children currently using the park have a disability?
- Look into your community – how many children live within a 10-minute walk of the playground?
- Define your accessibility goals and understand who will benefit specifically from these. Consult with specialists if required.

Ensure the space you want to use is available:

- Check zoning regulations, power, and sewage. If located on school property, what are the school district or union policies, standards, and safety issues, and long-term maintenance concerns?
- Clearly define school property lines and community or private property lines with the municipality.

Evaluate the existing play space:

- What does the committee like or dislike about the existing site?
- What do children like or dislike? Ask them.
- Use the questionnaire provided in the Resources section of this toolkit to evaluate the existing site.

Discuss a preliminary project plan and budget considerations, and determine:

- From your audience survey, who are the users, and what are their needs?
- What do you want to achieve?
- What are your community's values and needs and how can they best be reflected in your project's development?
- What kind of budget do you envision to cover playground equipment, ground prep, labour, materials, and taxes?
- Will you need to recruit volunteers, and if so, how will you do this?

B. Research

- Look at examples of good play spaces (in person or online).
- Begin forming relationships with people you will work with as you develop playground plans. Your project will need to be reviewed by a variety of people, and good communication is key.
- Determine your potential construction costs (e.g. demolition, installation of shock absorbent cover, etc.)
- Find out if any permits or other forms of permission are required (e.g. from the person who owns the land on which the playground will be built).
- Review Annex H, the Canadian Standards Association guidelines on accessible play spaces and equipment (see Resources section of this toolkit) to learn about accessibility requirements for play spaces.

Annex H: An addition to the **Canadian Standards Association standard on play spaces and equipment**, this guideline establishes minimum accessibility requirements for newly constructed play spaces as well as retrofits, with emphasis on ensuring all children can access a diversity of components provided in a play space.

C. Consultation

Working with a Play Space Designer

A designer with a background in landscape architecture or playground design can have a major impact on your play space's quality and accessibility. Even if you're working within a modest budget, a designer's feedback can be invaluable. The cost for design services varies depending on the extent of the designer's involvement and level of experience. A designer can offer a brief consultation early in the process for help with a concept plan, or throughout the entire construction process.

A designer can:

- contribute creative ideas;
- pull together design ideas as well as identify site issues and challenges to help inform the concept design;
- lead a visioning process with community members and play space users;
- determine feasibility of the final vision;
- develop an overall design program and from that, a concept design incorporating universal design principles and Annex H guidelines (see Resources section of this toolkit);
- lead the process of choosing appropriate equipment and site features, and work with a play equipment supplier to configure equipment;
- prepare a budget, a phasing plan if the entire project can't be completed at once, and outline construction requirements to ensure safety and accessibility needs are met;
- coordinate construction and trades people; and
- coordinate volunteer labour.

When looking for a good designer, ask for their:

- work samples and relevant references;
- examples of completed sites (you may be able to ask those who use and maintain each site how well the site works);
- familiarity with universal design concepts;
- experience incorporating natural features into play spaces;
- background experience working with groups, children, and stakeholders;
- understanding of safety and accessibility standards (CSA/Annex H standards); and
- experience working with contractors and overseeing the construction of play spaces.

A written letter or agreement between your Play Space Committee and the designer should outline proposed tasks and expectations as well as fees.

- **Workshopping with Play Space Users**
  We highly recommend consulting with the people who will access and enjoy the play space – children, their parents, and caregivers. Holding a workshop is a great way to gather creative ideas and design a space responsive to users' needs and interests. It is also important to consult with disability organizations in your community as you develop your plan. Together, you can consider how your community's values and requirements can be actively included in the development of the project.

Here are some ideas on how to conduct a workshop with play-space users:

- Bring together a target group of users (i.e. children, parents, and members of the disability community).
- Gather images of accessible play spaces to spark discussion and interest.
- Provide a brief overview of how play spaces can be designed to include children and adults of all abilities, using your images to illustrate accessible design.
- Encourage participants to work in groups to design a model play space with materials you provide (e.g. playdough, modelling clay, paper, markers, and pens). Ask each sub- group to present their designs to the larger group.

- Give participants an opportunity to vote on their favourite design elements. The creative and innovative elements designed by children often inspire groups to create a unique play space that goes beyond standard models.
- Summarize the ideas and develop a "design program" demonstrating the playground's overall goals, objectives, and needs. The design program can then be developed into a concept design, where you show where each element within the design is placed and how the elements relate to each other.

D. Collect Bids

- Meet with the parties you are interested in working with and ensure they share your vision and are capable of completing it.
- Collect bids, quotes, or estimates from two or more suppliers and contractors.
- If applicable, get approvals from the appropriate contractors, school boards, and municipal governments if applicable.
- Decide if you will be initiating a community build or using contractors to install the equipment.
- Ensure that your playground suppliers adhere to CSA safety standards.

E. Design and Budget

- Determine the final plan for your accessible and inclusive play space:
  - Incorporate feedback and research to create your plan. A design program statement given to the designer or supplier outlines the goals and objectives, activities, needs, and elements to include in the design. It also describes the space's basic requirements, what experiences should be offered, and what it should feel like to be in the site. It can include specific functions required in the play space, such as a quiet space for reading and a place for older children to climb, as well as details on ages and numbers of children using the space.
  - Review ideas with any groups you are collaborating with.
  - Work with play equipment supply companies, if applicable, to select equipment and determine costs. Instruct companies that equipment and site design should meet CSA standards and Annex H guidelines.
- Finalize design and budget:
  - A play space designer can put together construction drawings and finalize the budget.
  - On more complicated projects, a contractor/ installer may require:
    - Grading and layout plan (location and dimensions of all existing and proposed site elements as well as proposed elevations to accommodate drainage and contouring of the site),
    - Planting plan (plant name, size, location, quantity, and spacing),
    - Site details (borders, paving, and site furnishings),
    - Specifications (detailed written requirements for installation).

- When working on projects without a designer, it is important to ensure written specifications and directions are provided to installers and contractors.
- Discuss and develop a maintenance and safety inspection plan to ensure the long term viability of the play space.
- Obtain any final approvals you may need (e.g. School District or local municipality).
- Set a realistic target date for project completion.

TIP: Create a sponsorship package with a list of offerings for potential sponsors (what will they get in return for their funds). Come up with three or more levels of sponsorship.

Working on a Modest Budget

You can enhance the accessibility of a new or existing play space without planning a major installation or renovation. Here are some examples:

- Replace inaccessible surfacing (e.g. pea gravel or sand) with accessible surfacing (e.g. wood fibre or rubber tile).
- Provide a curb cut or ramp into a play box.
- Add an accessible seating area including tables, child sized seats, or shade.
- Add pathways and improve pedestrian circulation to and within the play space.
- Add an accessible sand play and/or small water play area.
- Purchase and install a few small inexpensive pieces of accessible play equipment (e.g. an accessible swing, a ramp, or tactile surfaces). Here are examples of inexpensive features you can add to create an enhanced experience for children of all abilities:
- Natural features including boulders, trees, logs, and plants.
- A sensory garden with colourful and fragrant plants with seasonal interest.
- Fruit or shade trees.
- Small grassy hills to encourage imaginary play.
- An interesting piece of public art (e.g. giant chair or sculpture).

F. Create a Funding Plan

Funding can come from a number of sources:

- Donations from individuals or organisations, in the form of money or materials. Donors generally require nothing in return for their support (other than a thank you). If your playground project is being run through a registered charity you may be able to issue tax receipts for donations (for more information refer to the Canada Revenue Agency website: www.cra-arc.gc.ca)
- Sponsorships are typically public, involving marketing, communications, and advertising materials that promote the sponsor's support. They are based on a business proposal, with mutually agreed upon rights and benefits for both parties.

Have an accessibility project and need help with funding?

Whether it's making a playground more accessible, adding ramps to entrances, or including Braille on signage, Barrier Buster projects are designed to help make Canada accessible for everyone. The Rick Hansen Foundation is encouraging schools, communities, and project leaders to submit proposals for up to $30,000 for a Barrier Buster project and an associated community awareness event. We're funding a minimum of 50 large-scale Barrier Buster projects and associated awareness celebrations in communities across Canada as part of our Access4All Canada 150 Signature Initiative, in partnership with the Government of Canada. Visit rickhansen.com/access4all for more information and to apply.

- Grants from charitable foundations and other organisations often have a competitive nature – typically you must complete an application and be part of a contest between applicants. The organisation is likely to require some reporting on use of funds.

TIP: Research grants for which you may be eligible, submit your application, and ensure you follow up.

- Community fundraising events such as bake sales and sponsored activities are a great way to raise funds for a playground and involve your local community.
- Create a list of possible sources of funding: local businesses, charitable foundations, community fundraising events etc. Think about all the people connected to your school and community, including parents, residents – if they can provide a personal introduction to a potential funder you may be more likely to secure funding.
- Obtain letters of support to highlight the value of your project to the community. Contact accessibility organizations, local sports clubs, businesses, hospitals and universities.
- Create a pitch package to seek support:
  - Make sure you have all the information you need to answer questions from funders.
  - Include a detailed image of the planned playground, detail the benefits to the school and community, and show letters of support

- Get it in writing and keep track:
  - Sponsorships should be recorded in writing, outlining the benefits offered to the sponsor, funding due dates and your obligations around reporting and use of the funds.
  - Keep a running total of funds received and spent, so you can update everyone involved as to where you are, and how much more you need.
  - Remember to thank your donors and supporters and provide them with regular updates.
  - You can find a Project Planning Checklist, which provides an overview of this section, in the Resources section of this toolkit.

G. Case Study

Case Study: An Accessible Playground for a School and its Local Community

Our Lady of the Assumption School, Lethbridge, AB

Challenge: Creating a Bigger, Better, More Inclusive Playground

Our Lady of the Assumption School, in Lethbridge, AB, had a functional playground, but one that didn't fit the needs of all students.

After-hours and on weekends, the playground is also open to the entire community of Lethbridge and needed to be a fun, accessible space for children of all ages and abilities. With these factors in mind, the school took on the challenge of building a bigger, better and more inclusive playground that would reflect the principles of universal design and allow everyone to play.

"We are a faith-based school and the concept of inclusion is core to our existence. A few years ago we had a high-needs student and it was clear our old playground, with a pea-gravel base, wasn't inclusive. "

- Greg Kostiuk,
the school's principal.

Collaboration Across Communities
"It truly takes a community to build a project like a new playground," says Mr. Kostiuk.

Led by a Parent Fundraising Committee (PFRC), and two parents who tackled the challenge of grant writing, the school raised a total of $350,000 toward the playground's construction. The PFRC not only raised funds for the playground, but also helped build a community around the project at the school.

A group of volunteers rallied to dismantle the old playground, which was then donated to an organization that is moving it to a third-world country for repurposing and reassembling. In this way the positive impact of the new playground reached beyond students, parents, and teachers at the school and local community to benefit children and families in another part of the world.

The Volunteer Challenge
Despite the growing momentum around the project, finding enough volunteers with time to help during the playground's four-day construction was one of the biggest challenges. The school knew they needed a lot of volunteers, but underestimated how many they would actually require. While the construction company was responsible for the actual build, 40 adult volunteers were needed each day over the entire build period. Some of the work was highly physical, carrying and putting playground pieces together; other jobs included attending the first-aid station, helping at the water station, or being part of the clean-up crew.
To grow the volunteer base, Mr. Kostiuk connected with people online through his blog, requesting additional help and demonstrating the need to provide a safe, happy space for all children. He suggested those unable to commit to the project reach out instead to their own networks, to try to bring people together through word-of-mouth.

Up and Running!
In September 2015, the school year opened with a blessing for the newly constructed playground. It is now in use, with several accessible features. The base is made from rubber tiles and can be accessed from all points around the playground. A portion of the equipment is accessible from a ramp.

"It was necessary to apply for a grant for the funding, but the surface is wonderful and what really makes the project inclusive to all," says Mr. Kostiuk.

IV. BEST PRACTICES AND COMMON PROBLEMS

Peter Tammetta, Highwire

a. Following Best Practices When Designing Your Play Space

When thinking about the individual elements of the play space, keep in mind the overall principle of designing a space. It should engage children with their natural surroundings, provide a rich variety of sensory activities to stimulate the senses, and foster rich and imaginative opportunities for shared play.

For more information and updates, please visit rickhansen.com/Our-Work/School-Program/Accessible-Play-Spaces.

Surfacing Materials
Surfacing is one of the most important components in designing safe, accessible play spaces. Many existing play spaces have been built with non-accessible surfacing materials (pea gravel and sand), excluding those with mobility challenges.

You may consider combining different materials to minimize costs (e.g. asphalt paths combined with engineered wood fibre, or selective use of rubber surfacing to maximize access to particular pieces of equipment or entry points).

From most to least expensive, here are some accessible options to consider:

Surface Type	Considerations
Pour-in-place rubber surfacing	Wears well overall and is installed much like concrete, with the buffings (resilient layer) troweled into place and then the EPDM (wear course) added on top. No concerns about trip points as the rubber changes size, but if the surface is not prepared properly during installation, over time shrinkage will be noticed at the edge of the pad. More excessive wear may occur if used around spinning elements. Eligible for the TSBC (Tire Stewardship of BC) grant, as it's made from recycled BC rubber.
Rubber Tile	Site preparation is key – rubber tile installation requires a concrete slab or compacted road base to provide a firm, flat surface; if this surface is not prepared properly, it will undulate and create trip points in the tile. Also, rubber expands and contracts with weather changes, so the tile must be button- holed into the perimeter to get a really tight fit.
Engineered wood fibre	Requires a high level of commitment to maintenance; as a loose-fill material, it needs frequent raking and topping up as it deteriorates. It's the most cost effective material, but has more ongoing costs associated with it. Not ideal for those using mobility devices; better used around spinning elements and zip lines due to the ease of levelling and modification.
Engineered carpet, artificial turf, and crushed rubber products	Use with caution due to potential health concerns.
Sand	Not an accessible surface, but can provide an important play element for all children.

Parking and Curbs
If provided, parking areas should allocate at least one clearly marked space for people with disabilities (3.7 m wide, 7.5 m. deep, including a 1.2 m wide walkway on one side), with a safe, curb-free route to the play space.

Walkways
The most important element of a play space is being able to get to it. Walkways connecting to the play space from buildings, sidewalks, and adjacent parking lots are important in creating an easy to navigate site. Play happens along walkways and pathways, and attention should be paid to the design of the route including places to sit.
Accessible walkways are:

- made of firm surfaces e.g. asphalt, concrete, compacted crushed stone, or pavers. (Pavers can be problematic if not installed properly to prevent settling, which causes trip hazards. Porous surface materials are also available, but can be expensive);
- wide enough: at least 1.52 m; and
- gently sloped: less than 5% incline, with 2% maximum recommended side slope.

Circulation
A site does not need to be level to make it wheelchair accessible. To add interest and stimulation, use existing slopes and excavate the site to create a shallow depression or add a slight slope to flat terrain. Slopes should be at a grade no steeper than 5% to remain wheelchair accessible.

Ramps to a structure, if required, can be combined with landscaping to blend equipment into the setting more effectively. Variety in surfaces and textures to create zones, edges, and approaches helps to improve circulation for people with sensory impairments. This variety also provides more diverse sensory experiences for all children.

Borders and Access to Equipment
Include entry points anywhere along a border to a play area. This is provided through flush access with a maximum of ½" drop from the adjacent path onto the play surface.

Some school districts have incorporated an equipment installation standard that includes excavating 35.56 cm – 38.1 cm, using 7.62c m pea gravel as a base covered with a geotextile and 30.48 cm compacted wood fibre. A 15.24 cm X 15.24 cm timber


Shira Standfield


Shira Standfield

border is required for containment and does not create a barrier when installed in a site that follows this standard, as long as more than two access points into the site have been provided. If the border is raised above grade, it can create a trip hazard.

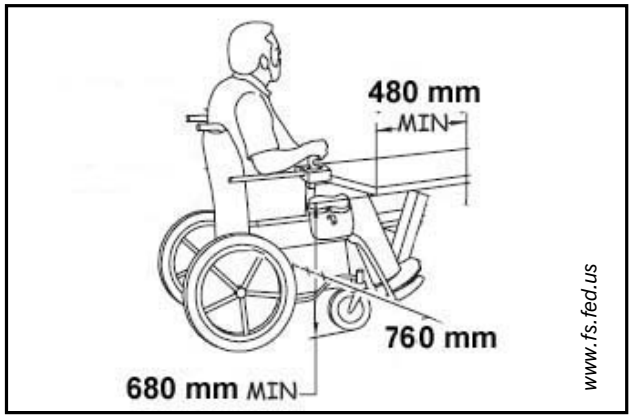
Other options to create access include curb cuts, dropped concrete curbs, and ramps over wood borders made from asphalt, concrete, or plastic.

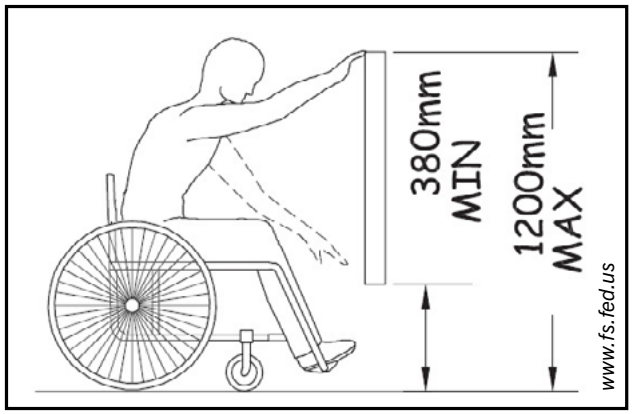
Using grading, berms (small mounds), and boardwalks to provide access to raised equipment eliminates the need for additional ramps, and is a more cost effective manner of providing universal access to raised areas.

Clearances

For universal access, knee clearance (680 mm high) helps to provide wheelchair access under tables, counters, and drinking fountains. Reach heights for seated or small users should generally be within the range of 380 mm - 1,200 mm above the ground. Items such as gate latches and dispensers should be installed within this range. Clear ground space 760 mm X 1200 mm provides unobstructed room to accommodate a wheelchair user in front of a play component or amenity.

Reminder: Providing ramps directly to equipment platforms without accessible ground surfacing excludes some children and adults from being able to circulate freely around the play space.





Amenities

Benches and seating areas are important components of a play area. They offer important social spaces for students, caregivers, and teachers. Here are some important considerations to ensure that they are accessible:

- Benches and seating areas integrated into a site should provide comfortable back support and arm rests for easy movement in and out of the bench.
- Seating areas should be located on firm stable surfaces (asphalt, concrete, compacted crushed rock, or pavers).
- A space 760mm-wide by 1,200mm-deep beside benches should be provided to allow for wheelchair users to sit beside or transfer to a bench.
- All amenities, including drinking fountains and trash cans, should be located on firm, level surfacing and at varying heights.
- The pathway leading to the accessible washrooms must also be a firm, level surface without any obstacles (e.g. curbs, barriers).

Manufactured Equipment

Equipment choices should be selected based on the following key principles:

- A focus on providing imaginative play opportunities for both active and quiet play. Prioritize features that stimulate open-ended, social, and creative play rather than limited play opportunities, such as static play panels.
- A rich variety of ground-level play features to enhance accessibility for children with mobility impairments.
- Access to high-interest, fun areas of the play space; too often, ramps lead to a platform where there is not much to do for a child using a wheelchair or mobility aid.

Equipment suppliers offer a wide variety of equipment. While specialized equipment may also be available, a universal approach offers more opportunity for interaction and fun for all kids. Here are some examples of equipment that can be made accessible to promote the development of all children:

- To promote social and emotional development, including integration and cooperation:
  - Work, sand and play tables
  - Play counter, play hut/fort
  - Roller slide
  - Saucer swing
  - Spinning nets
  - Crawl tunnel

- To promote perceptual motor development, especially important to consider if children have difficulty perceiving shapes, form, depth, or movement:
  - Saucer Swing
  - Spring Teeter totter
  - Spring rides or platform
  - Spinner (bowl or net)
  - Slides

- To promote physical development, including activities for strength, coordination, and balance:
  - Chinning bars
  - Inclined ladders
  - Parallel bars
  - Nets
  - Slides
  - Bridges
  - Basketball hoops

- To promote sensory development, with features incorporating texture, manipulative devices, contrasting colours and sound to enhance auditory, tactile, and sensory awareness and encourage artistic and aesthetic development:
  - Sound panel or music panel
  - Sand and water play
  - Aromatic plants and gardens

Landscape Elements

Natural elements offer some of the most interesting and meaningful play experiences for all children, instilling a sense of autonomy, curiosity, and discovery. The elements listed below can be configured with Universal Design principles in mind, creating a sensory-rich and stimulating environment for children of all abilities. Many play spaces have incorporated low-cost, low-maintenance materials to create more natural spaces, including:

- Pathways and boardwalks (supporting exploration and providing better access);
- Garden space offering aromatic plants and opportunities for children to grow vegetables or create a native plant garden, with raised planter boxes to provide universal access;
- Performance spaces (stage) for free play or school programs;
- Painted games area (oversize chess board, chalkboard, mazes, 4-square, ball games, or hopscotch);
- Landforms/topography (exploration of movement);
- Seating and gathering spaces for informal play or outdoor classroom;
- Games tables and work spaces;
- Trees and plants for shade, exploration, and creating habitat for butterflies and other wildlife;
- Boulders and logs for climbing, discovery, seating, and social play;
- Sand, water, and other loose components for manipulation and discovery (in accessible boxes);
- Rain garden to demonstrate where storm water goes;
- Public Art pieces such as murals or sculptures for play and discovery; and
- Arbor or trellis for shade and visual interest.

B. Avoiding Common Problems When Designing Your Play Space

Even if play spaces are built to existing building code regulations, this does not mean they are accessible or based on universal design principles. Here are examples of common problems you may encounter in playgrounds:

Problems with Equipment

- Ramps are built so children can access the play equipment, but inaccessible ground surfacing (e.g. sand or pea gravel) means children are unable to access play features on the ground, circulate freely around the play area, or even reach the ramps.
- Ramps are built so children can access different levels on play equipment, but once they arrive on a platform, they don't have any features to play with.
- While specialized equipment for children with disabilities may be useful at facilities or centres designed specifically for their needs, it can segregate and isolate them from their peers in a playground, and is also more expensive to maintain (e.g. platform swings).
- Play is limited to manufactured equipment, without any natural features such as gardens or trees.

Problems with Installation

- Raised borders around the park, or a lack of curb cuts, make it impossible for those with mobility challenges to access the play area or equipment.
- The play area or equipment has a single access or entry point. This often forces users to circle around the entire area to reach the entry point.
- If the top of the fall surface is too far below the entry access point, it causes a drop-down into the play space, which creates a barrier for wheelchair users.
- Ramps are installed with sharp turns or steep grades.
- Furniture, trees, or plants block access points.
- Poor drainage installation creates wet areas in play zones and slip hazards across pathways.

Problems with Maintenance

- Fall surfacing is not maintained to adequate height to work with access points.
- Ruts are not smoothed out in play surfacing, creating inaccessible areas.

C. Communicating with Equipment Suppliers

To ensure best practices and avoid common problems, here are examples of questions you can ask a playground equipment supplier once you decide on a proposed design:

- How does the play equipment area relate to the overall site?
- How does the equipment accommodate various interests and abilities?
- How does the play equipment foster inclusive play and allow for children with disabilities to be part of the action?
- What age group is this equipment suitable for?
- Does this equipment comply with CSA/Annex H standards and guidelines?
- How is this space unique? How is this fun?
- Is this accessible to parents/caregivers with disabilities?

D. Case Study

Case Study: Developing a Play Space Accessible for Students of All Ages and Abilities

Broxton Park School, Spruce Grove, AB

Challenge: Transforming an Outdated Play Space

Having worked with the Rick Hansen Foundation for many years, in 2014, Broxton Park School made one of its playgrounds accessible. Many of the play areas were built so they could be used by children regardless of ability, with components allowing children to transfer on their own, or with assistance, to use the equipment.

As the first play space mainly met the needs of students in Grades 3 and up, in 2016 the school's parent group decided to go further and upgrade a second, older playground on site and make it accessible for students of all ages and abilities.

Consultation

To prepare for the new project, the school consulted with parents and school committees that had worked on similar projects. The school is now sharing its experience with other groups in return.

"This is invaluable," says Randy Hetherington, the school's principal. "You may choose to do things the same or differently but at least you will know why you are making the choices. For example, always choose to have the playground company provide a site supervisor – it's the best money you'll ever spend."

The school also worked with special needs and early education specialists to determine some of the key features that a fully accessible, inclusive playground would have, including equipment all children could use easily and safely.

Fundraising

Parent committees approached local businesses and organizations for financial and in-kind support, raising $250,000. Many of the fundraising events served a dual purpose, to involve students in promoting literacy and service, while also raising project funds. With the initial funds raised, the school also became eligible for a $125,000 grant from the Alberta provincial government.

Making the Dream Playground a Reality

The school is working hard to recruit and retain volunteers for the two-year project. Keeping people motivated over the course of the project can be challenging, as is finding dedicated people with enough time and capacity to volunteer during regular business hours.

Broxton Park School has also worked hard to embed the message of access and inclusion throughout its

culture. The school has used the Rick Hansen School Program for many years to introduce students to the different ways they can make a difference in their homes, schools and communities, and to highlight the importance of inclusion. The Program's messages of access and inclusion match well with the school's values, and have played a big role in developing the school's play spaces.

With the support of engaged volunteers, students, parents, and the community, Broxton Park School hopes that the new playground will be completed in 2017.

> "Many of the RHSP resources help us to reinforce the message of inclusion and 'ability' versus 'disability' all year round."
>
> **- Randy Hetherington, Principal.**

V. RESOURCES

A. Reference List

Links to Online Resources

- Annex H (CSA): http://lin.ca/sites/default/files/attachments/AnnexHGuide2014final.pdf
- BC Landscape Architects: http://www.bcsla.org (includes list of designers with skills in play space design)
- Building Access Handbook 2014 (Illustrated Commentary on Access Requirements in the 2012 BC Building Code): http://www2.gov.bc.ca/assets/gov/farming-natural-resources-and-industry/construction-industry/building-codes-and-standards/guides/2014_building_access_handbook.pdf
- Children's Playspaces and Equipment: A National Standard of Canada (CSA April 2008) CAN/CSA-Z614-07 (to order: http://www.ccohs.ca/products/csa/27019532014)
- Developing Accessible Play Space: A Good Practice Guide http://webarchive.nationalarchives.gov.uk/20120919132719/http://www.communities.gov.uk/documents/communities/pdf/131052.pdf
- Evergreen Foundation: a non-profit working to improve the environmental, social, and economic health of cities, including parks and green spaces http://www.evergreen.ca/our-impact/children/
- Examples of Natural Play:
  - Design for Play: http://www.freeplaynetwork.org.uk
  - Playlink: http://www.playlink.org
- www.kaboom.org : national non-profit dedicated to bringing balanced and active play into the daily lives and provides examples, online workshops, and fundraising information
- Learning Through Landscapes (UK based organization):http://www.ltl.org.uk/basicneed/
- Natural Learning Initiative: http://naturalearning.org
- Playability Toolkit (Ontario Parks Association): http://www.ontarioparksassociation.memberlodge.com/event-606819
- Play and Natural Learning Spaces Design, Construction and Maintenance Policy Template: http://lin.ca/sites/default/files/attachments/Playspace-Policy-Template.pdf

For more Rick Hansen Foundation online resources on accessible playgrounds: **www.rickhansen.com/AccessiblePlaySpaces**

Books and Articles

- *Designing Outdoor Environments for Children: Landscaping schoolyards, gardens and playgrounds, by Lolly Tai (McGraw Hill, 2006).*
- *Play for All Guidelines: Planning, Designing and Management of Outdoor Play Settings for All Children, by Robin C. Moore, Susan M. Goltsman, and Daniel S. Iacofano (editor).*
- *The Universal Playground: A Planning Guide, BC Ministry of Education (1993).*
- *Enhancing the Quality of Children's Lives Through Exceptional Play Area Design, by S. King, S. Goltsman, and Brooke*
- *Power of Nature: Orientations of Girls and Boys Toward Biotic and Abiotic Environments, by R. Moore, Children's Environments Quarterly, 3(3), 52-69.*

B. Questionnaire for Evaluating an Existing Play Space

(Modified from the Ontario Parks Association's Playability Toolkit)

If you are thinking of retrofitting an existing play space, this questionnaire is designed to give you a sense of what will meet the needs of all users. As you work through the questionnaire, you may want to take photos on-site to illustrate important issues.

Entrance to the Play Space

The entrance sets the tone in creating a welcoming space for all users, and also aids in way-finding for people with visual impairments.

- Y N Is there a formal entrance to the play space (archway, main path, sign, bulletin board, map, etc.)? If yes, describe. If no, what is the transition to the play space?
- Y N Is there wheelchair access to the play space?
- Y N Is the entrance free of obstructions such as gates or bollards?
- Y N Is the pathway at or less than a 5% grade with no curbs or other barrier more than 1cm high at the entrance?

Pathways

Everyone moves more easily on wide, smooth, and level pathways.

- Y N Is there a path connecting the adjacent street sidewalk or school to the play space?
- Y N Is there a path connecting elements within the play space?
- Y N Is the pathway in good repair? What is the surface material?
- Y N Is the pathway free from obstructions (e.g. concrete barriers, tree roots, or garbage cans)?
- Y N Is there a curb cut, ramp, or level access to all elements of the play space? Play equipment is not accessible if the border is raised, the grade is more than 5%, or a barrier is more than 1cm high.
- Y N Is the width of the pathway a minimum of 1.52m (allowing two wheelchairs to pass each other)? If no, what is the width?
- Y N Is the surface texture of the play space different from the pathway, to help people with vision impairments detect the play space?

Play Equipment

- Y N Is there a play structure made up of multiple components in the play space?
- Y N What is the condition of the structure? (e.g. ok, needs repair, or beyond repair)
- Y N What is the total number of play components making up the structure? A play feature could be a panel, steering wheel, talk tube, overhead climbing bars, slide, etc. Ramps, stairs, roofs, steps, and decks are not considered to be play features.
- Y N How many features are elevated (accessed by a ladder or stairs)?
- Y N How many features are elevated but accessible by a ramp?
- Y N How many features are accessible by transfer steps (accessible to some users able to transfer from wheelchair)?
- Y N How many features are at ground level?
- Y N Is there space on the structure for an adult to assist a child accessing the play structure?
- Y N Are there stand-alone play features such as spring rockers or teeter totters? (Stand-alone features often provide good universal access, because they can be accessed from the ground surface). If so, what are they? Could someone using a wheelchair transfer to use them? (Is there a backrest? Are they about the same height as a wheelchair seat?)
- Y N Are there swings?
- Y N What types of swings (e.g. belt swings, disc swing, or tot swing)? Do any have a back rest?
- Y N Are there upper-body activities at appropriate heights for children standing and sitting (e.g. low chin up bars or rope climbers)?
- Y N Is there a range of activities providing different levels of challenge for different ages (e.g. big and small slides or high and low decks, play houses for smaller children, and challenging climbing equipment for older children).
- Y N Are there manipulative play opportunities like sand, water, moving activity panels, and moveable objects? (Objects children can move themselves are an important feature for children to experiment, discover, and control their own environment).How are they accessed? (i.e. Is there an accessible route to the objects?)
- Y N Are there activities to stimulate the senses (e.g. things to touch or smell)? What are they? Consider whether there are colour contrasts, sounds, shade, and water.
- Y N Are there activities to stimulate imaginary play such as a counter, clubhouse, or stage? If so, list them.

Surfacing

- [ ] Y [ ] N What are the safety surfaces under the play equipment (e.g. sand, wood chips, rubber tiles, pea gravel, poured-in-place rubber, or grass)?
- [ ] Y [ ] N Under swings?
- [ ] Y [ ] N At the bottom of the slide?

Play Space Layout/Amenities

- [ ] Y [ ] N If structures and play features exist for different age groups, are they attached in any manner or are they separate from each other? (It is preferable to have a separate play area for younger children who have different needs.)
- [ ] Y [ ] N Are there quiet spaces for children who need to play quietly or observe others (e.g. small play house or quiet seating area)?
- [ ] Y [ ] N Is there wheelchair-accessible seating for both children and adults, out of the way but with a view of the main area of activity? (Seating would include a space wide enough for a wheelchair located adjacent to a bench. Benches with armrests and backs are preferable).
- [ ] Y [ ] N Are there shady areas to sit?
- [ ] Y [ ] N Are there accessible amenities such as picnic tables? Are they located on level firm surfaces? (Accessible picnic tables allow for knee clearance for wheelchair users under the table).

Social and Natural Features

- [ ] Y [ ] N What type of natural features are found on-site (e.g. trees, boulders, logs, or plants)? How are they used for play?
- [ ] Y [ ] N Is there an area where plants and other features could be placed that would enhance the play area?
- [ ] Y [ ] N What are some features, besides play equipment, that could be used by the school for outdoor learning (e.g. an outdoor classroom, vegetable garden, performance space, or storm water feature)?

C. Project Planning Checklist

You don't need to be an expert to lead an accessible playground project, but good planning is essential. This overview of the entire process will help you keep things on track:

Plan

- Form a Playground Committee to undertake the planning process.
- Organize a working session to:
  - Define your audience.
  - Ensure the space you want to use is available.
  - Evaluate the existing play space.
  - Discuss a preliminary project plan and budget considerations.
  - Consider your volunteer base.

Research

- Look at examples of accessible play spaces/ equipment.
- Begin forming relationships with key people you'll be working with.
- Determine your potential construction costs.
- Find out what permits you need.
- Consult Canadian Standards Association (CSA) standards and Annex H guidelines.

Consultation

- Determine if you need the expertise of a Play Space Designer.
- Conduct a workshop with playground users.

Collect Bids

- Collect bids, quotes, and estimates from at least two suppliers or contractors.
- Decide who will do the build - members of the community or contractors - and ensure everyone adheres to CSA standards and guidelines.

Design and Budget

- Determine your final plan, incorporating all research and feedback (including a long-term maintenance plan).
- Select equipment and determine costs.
- Finalize design and budget.
- Set a realistic target date for the project's completion.

Create a Funding Plan

- Decide how to secure funding – from donors, sponsorships, grants, or community fundraising.
- Create a list of possible sources of funding.
- Obtain letters of support to highlight the value of your project to the community.
- Create a pitch package to seek support.
- Get everything in writing and keep track.

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