

HWDSB

Outdoor

DESIGN MANUAL

*A Guide for Schools in
Hamilton-Wentworth District School Board*



curiosity • creativity • possibility

Outdoor Design Manual

A GUIDE FOR SCHOOLS IN
HAMILTON-WENTWORTH DISTRICT SCHOOL BOARD

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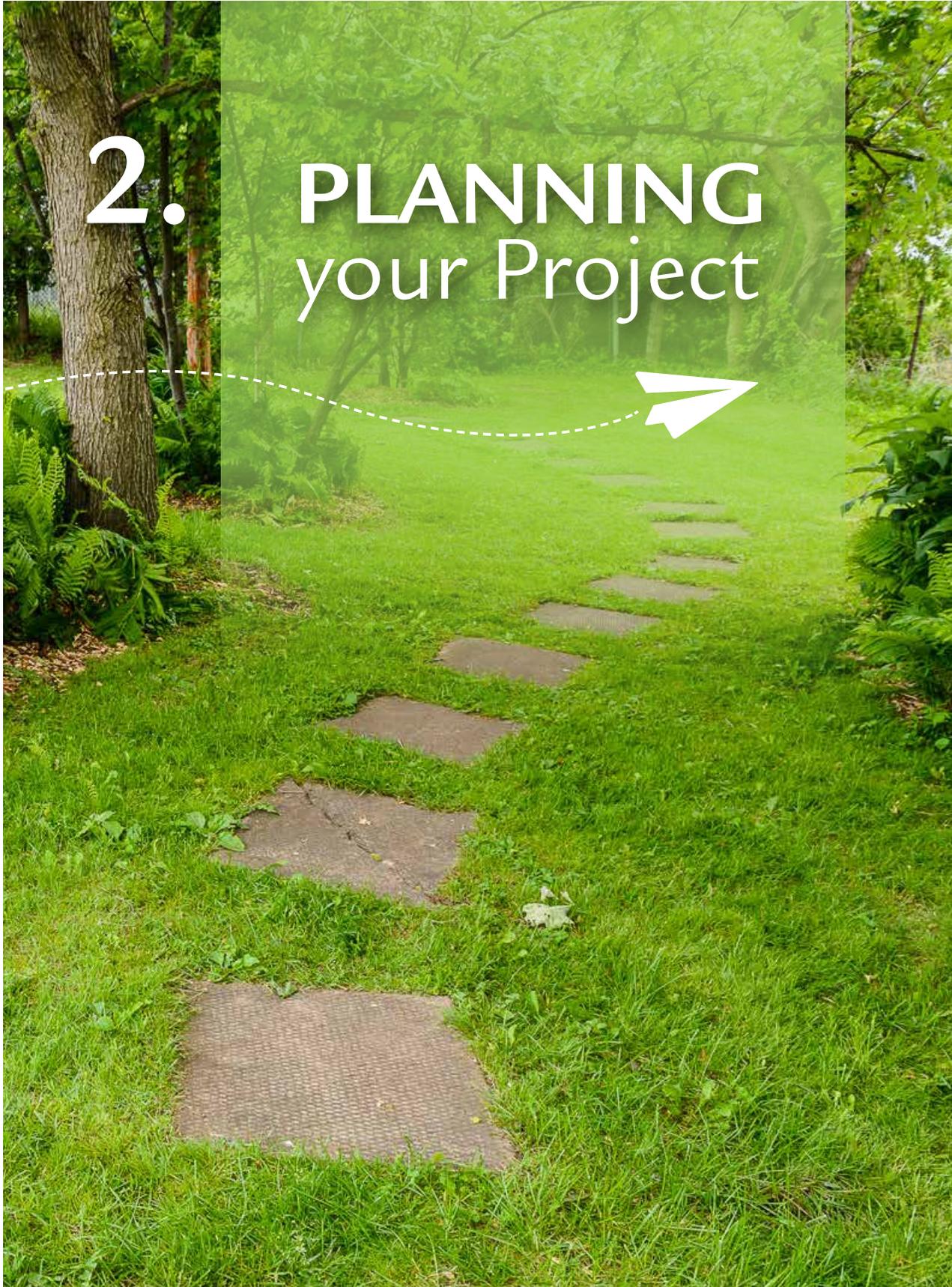
1. Introduction / Intent

Hamilton-Wentworth District School Board's (HWDSB) Outdoor Design Manual was created to encourage and support schools intending to improve their outdoor spaces. We hope it helps schools create inspiring, engaging, sustainable and safe areas for student learning and growth. The guide provides advice on the design, implementation and maintenance of schoolyard features. The Outdoor Design Manual is intended to also help schools understand the responsibilities of both the school community and the Facilities Management department as well as processes for obtaining approvals and project support.

At HWDSB, we strive to create the most engaging and rewarding learning experiences for our students. Outdoor learning can create new opportunities that nurture student creativity, imagination and real-world experiences. Student voice matters, and we encourage staff to include students in the planning, implementation, maintenance and use of outdoor areas.



*Outdoor learning nurtures
student creativity, imagination
and real-world experiences.*



2.1. Getting started

This manual was created to guide schools through the process of implementing schoolyard improvement projects such as gardens, outdoor classrooms, and play areas, from concept to completion. It contains information on design considerations for your space, when and how to involve the school board, how to get your design installed, and how to maintain your outdoor project. The manual will help you understand the various responsibilities of schools, administration, the school board, and volunteers throughout the process. The process of improving your schoolyard is a team effort and the Board's Facilities Management staff is here to help you along the way.

The following steps will help you work through the design and implementation of your project. Use these steps as an action plan to take your project from start to finish.

Form Your Planning and Fundraising Teams:

Now that you have decided to undertake a schoolyard improvement project, it is time to form a team of people to take on the tasks required to achieve a successful project. At this stage in your project you can put out a call for volunteers within the school staff, student, and parent community to take on planning and fundraising tasks.

Planning Team:

The purpose of the Planning Team is to undertake the background planning process tasks that are required before ground is broken on the project. This includes developing a project vision, working through the design, and working with Facilities Management to achieve approval before implementing the project. Refer to the next steps for more detailed information on the planning process.

Fundraising Team:

The Fundraising Team is responsible for developing a plan for funding the project. This includes determining how much funding is available, developing a strategy for raising additional funds if required, and working with Facilities Management to achieve approval before implementing the project. Refer to the paragraph on Funding within this section for more detailed information.

Identify Goals:

Once a team of volunteers is in place, a vision for the project can be developed. As a team, identify the goals of school staff, students, and parents. Is there a need for more shade? Would teachers like to see more opportunities for learning outdoors? Is more play space required? Are there specific areas of concern?

In addition to identifying goals, it is helpful to make a wish list of elements to include in your project. Is there a strong desire for a vegetable garden, outdoor classroom, or natural playground? These questions can be answered by polling the school population through surveys, meetings, or suggestion boxes. It may also be helpful to review other schoolyard improvement projects in your area to generate ideas.

Funding

Schools are responsible for funding their outdoor improvement projects. Schools must identify how the design and construction of the project will be funded prior to receiving approval from Facilities Management to move forward with the project. Funding must be in place and available prior to the commencement of procurement for each associated phase.

The Fundraising Team should research available grants, programs, and/or funding opportunities. The team is to contact the Finance Department regarding acceptable means of fundraising and review HWDSB's fundraising policy at: www.hwdsb.on.ca/wp-content/uploads/2012/05/Fundraising.pdf

Refer to section 2.2 for additional information on raising funds.

Concept Plan

Now that the project goals have been identified and funding has been established, you can develop your concept plan. The concept plan will illustrate the elements (i.e. pollinator garden, playground, etc.) that you are proposing and where you intend to locate these elements on the school property. Developing a concept plan involves taking an inventory of existing schoolyard items, such as existing trees and hose bibs, and marking them on your school's site plan. An analysis of site conditions, such as windy areas and high-traffic areas will help you choose the best location for your proposed project.

Refer to Section 2.3 for more detailed information on developing a concept plan.

Engage Facilities Management

In order to initiate your request to implement a schoolyard improvement project, you need to engage Facilities Management. This is to ensure that all schools follow the Board's policies and to help you through the design and construction process. To engage Facilities Management, fill out the Facilities Management Request Form in section 7.6. To complete the request form, you will need to include your concept plan and funding information.

Refer to Section 2.4 for more detailed information on Board involvement in your project.

Facilities Management Approval

Before moving forward with the final design and implementation of your schoolyard improvement project, you need to obtain approval from Facilities Management. Once Facilities Management has received your request form (refer to section 7.6.) they will review your request and provide feedback and/or approval. Depending on the size of the project, Facilities Management may require that a design consultant be hired. Schools are not to hire consultants on their own and must involve Facilities Management in the process.

Refer to Section 2.4.1. for more detailed information on the Facilities Management approval process.

Design

Upon receiving feedback from Facilities Management on your concept plan and funding strategy, you can proceed with a detailed design of your project. Depending on the direction received from Facilities Management, this step may be completed by a design consultant.

The design will show in more detail the specifics of your proposed project. For example, if you are planning a pollinator garden, the design should show the dimensions of the garden, the proposed plant species, and the location of plants within the garden. In order to illustrate the level of detail requested by Facilities Management, a blow-up of the plan may be required. The final design must be approved by Facilities Management prior to implementing the project.

Refer to section 3.1. for more detailed information on how to complete your design and section 3.2. for design considerations before finalizing your plan.

Form Your Implementation and Maintenance Teams

At this stage in the project, you are nearing the implementation of your vision. Depending on the size of the project, Facilities Management may require that a contractor be hired. Schools cannot hire contractors on their own and must involve Facilities Management in the process. If the school community is implementing the project without a contractor, now is the time to put out a call for volunteers within the school staff, student, and parent community to take on the implementation of the design. Schools are responsible for the maintenance of their schoolyard improvement projects, so whether the project is implemented by a contractor or the school community, volunteers will be required for the upkeep of the project after construction.

Implementation Team:

The Implementation Team is responsible for constructing the project as per the approved design. This may include ordering plants, digging garden beds, planting, mulching, watering plants after installation, and clean-up. Refer to section 4.0 for more detailed information on implementing your project.

Maintenance Team:

The Maintenance Team is responsible for the on-going upkeep of schoolyard improvement projects. This may include weeding, watering, and raking among other tasks. Refer to section 5.0 for more detailed information on maintenance.



Implementation

Now that you have determined who will be responsible for the implementation of your project, you can move forward with construction. Depending on the direction received from Facilities Management, this step may be completed by a contractor. If the project is being implemented by volunteers, the Implementation Team should determine which individuals are responsible for which tasks. Who will bring tools? Who will order materials? Who will plant trees? Who will clean up the site after the project is complete?

Refer to section 4.0 for more detailed information on implementation.

Maintenance

On-going maintenance of your outdoor improvement project is critical to its continued success. Maintenance will ensure that your space remains safe, aesthetically pleasing, and that plantings thrive.

Maintenance of garden projects is the responsibility of schools. Review with Facilities Management the role of caretakers, school staff, and volunteers for your particular project. The Maintenance Team should determine the necessary maintenance activities, such as weeding and watering, and ensure that each activity is regularly performed.



2.2. Raising Funds

Schools are responsible for generating funds for the purchase of outdoor gardens and play areas. Funds for maintenance and repairs must be included in the total cost. A funding strategy for the design, construction, and maintenance must be in place and approved by Facilities Management before starting your project. For outdoor play area equipment this may include costs to return the site to a safe condition when the equipment has reached the end of its useful life. Installation costs may include equipment, containment, protective surfacing material, signage, and any excavation work required. All donated or purchased items become the sole property of the Board (i.e. equipment, seating, etc.)

Schools may look into funding options including grants, programs, and donations to fund their outdoor improvement projects. HWDSB recognizes that schools may choose to engage in fundraising activities to support their projects and is supportive of fundraising activities provided that they are complementary to publicly funded education, are voluntary, provide a safe environment for students, staff, and volunteers, and are accountable and transparent. For more information refer to the Board's Fundraising policy at www.hwdsb.on.ca/wp-content/uploads/2012/05/Fundraising.pdf. Please contact the Board's Finance department with any questions.

2.3. Concept Plan

Once you have secured funding for your project, you can develop your concept plan. A concept plan is used to communicate your intent for the project and illustrates the new amenities you are proposing, such as gardens or play equipment, and where you intend to locate these features in the schoolyard. By using the site inventory and analysis process as described below, the concept plan will help you to develop your ideas into a sustainable and functional project, with new outdoor amenities appropriately located in the schoolyard.

To develop a concept plan (*see example on next page*), start by asking your principal for a copy of the school's site plan. The site plan will show existing features on the school property such as the building foot print, property lines, driveways, and parking lots.

Once you have the site plan, take an inventory of existing features of your schoolyard that are not shown on your site plan, such as existing trees, overhead wires, and hose bibs. These items may affect where you decide to locate your new amenity. Mark these items on your site plan.

After you have completed an inventory, use your site plan to analyze the schoolyard environment. Make some observations about the comfort and safety of particular areas of the schoolyard and mark them on your plan.

*Are there windy or cold areas? Are there hot, sunny areas, or areas that are primarily shaded?
Are there particular areas where there is a lot of foot traffic?*

After you have marked up your site plan with an inventory and analysis, you can begin to consider the best location for your new schoolyard amenity. Refer to the design considerations in section 3.2 for things to think about when designing your project. Draw the proposed amenity on the plan. This concept plan will be submitted with the Facilities Management Request form found in section 7.6.

Use the following checklist to guide you through the inventory and analysis. Include as many items on the checklist as possible on your plan.

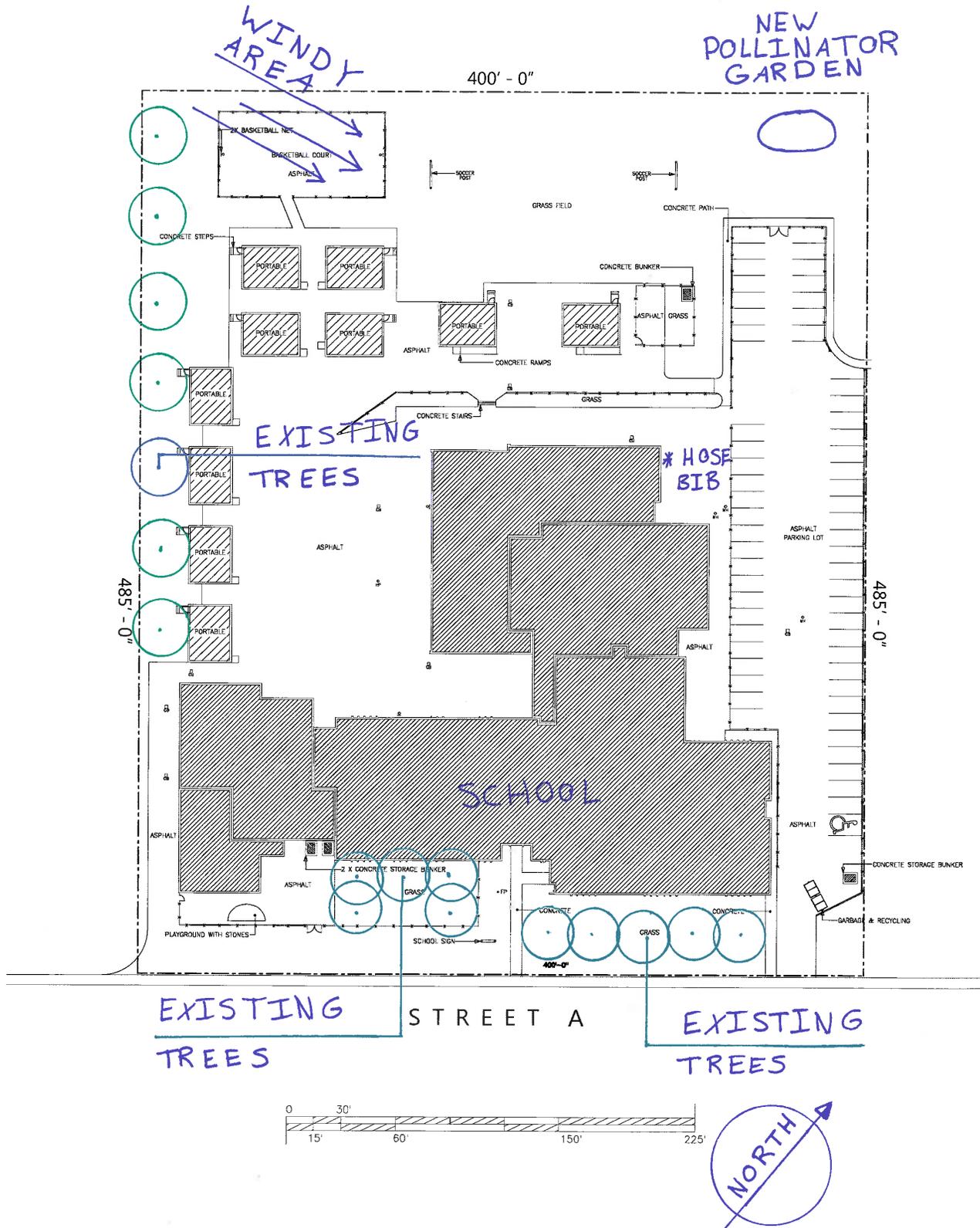
Don't forget to include features on neighbouring properties that could affect your design such as railroad tracks, woodlots, traffic areas, large trees, etc.

*Items marked with * are mandatory to be included on the concept plan submitted to Facilities Management, if they are not already present on the school's site plan.*

Concept Plan Checklist:

- | | |
|---|--|
| <input type="checkbox"/> Property lines* | <input type="checkbox"/> Play areas |
| <input type="checkbox"/> School footprint* | <input type="checkbox"/> Sports fields |
| <input type="checkbox"/> Accessory/maintenance buildings or portables* | <input type="checkbox"/> Walkways |
| <input type="checkbox"/> Building entrances* | <input type="checkbox"/> Fences |
| <input type="checkbox"/> Parking Lots* | <input type="checkbox"/> Existing swales/ditches |
| <input type="checkbox"/> Driveways* | <input type="checkbox"/> Existing hilly areas |
| <input type="checkbox"/> Hose bib locations* | <input type="checkbox"/> Natural features
(streams, meadows, forests, etc.) |
| <input type="checkbox"/> Well locations | <input type="checkbox"/> Grass areas |
| <input type="checkbox"/> Existing plants and trees* | <input type="checkbox"/> Paved areas |
| <input type="checkbox"/> Traffic areas | <input type="checkbox"/> Wet and dry locations |
| <input type="checkbox"/> Pedestrian areas | <input type="checkbox"/> Wildlife areas/habitats |
| <input type="checkbox"/> Sight lines and views into and out of the site | <input type="checkbox"/> Neighbouring site uses |
| <input type="checkbox"/> Sun patterns (sunny and shady areas) | <input type="checkbox"/> Snow removal patterns and snow storage areas |
| <input type="checkbox"/> Wind patterns | <input type="checkbox"/> Open green Space |

SAMPLE CONCEPT PLAN



2.4. Board Involvement

For any project, it is critical to start off on the right foot. This requires creating a well thought-out, detailed plan and receiving input and approval from key players. Every project is unique!

In this next section (and manual as a whole), you may come across elements that you feel don't pertain to your project. ***When in doubt, just ask!***

2.4.1. Facilities Management Approval Process

1. **School initiates project request**, in consultation with the Principal, through Head Caretaker who will log the request to the Work Order System.

Note: Any project request which may involve alterations to the school property will be routed to Facilities Management for review. This is so that it can be reviewed with future accommodations in mind (e.g. portables, planned additions, paving projects, etc.).

2. **School consults the FM Supervisor** to choose a location on the property and fill out the Outdoor Design Request Form.
3. FM Supervisor **submits the Site Plan and Request Form** to Facilities Management.
4. Facilities Management **reviews** the Site Plan and Request Form and **provides feedback or approval** to the School.

Note: At this point, a project may require a Site Map, Site Analysis, and/or Concept Plan due to the scope of work. This will be indicated in the feedback received from the Facilities Management Leadership Team.

5. If a project request requires property and building alterations greater than \$10,000 and/or which impact on program and repurposing of space, Facilities Management will **submit the project to the Superintendent** for review.
6. Once approved, Facilities Management will **assign a FM Supervisor** to oversee the project.

2.4.2. Board Responsibilities in Approval Process

Principal

- Primary contact with Facilities Management and is responsible for defining the needs of the school when considering outdoor gardens and play areas.
- Ensure the safety of students when considering the design and use of outdoor spaces.
- Ensure adequate school funds are available for the ongoing maintenance and repair of outdoor gardens and play areas, and that competitive quotes are obtained. For more information refer to the Board's Procurement policy at www.hwdsb.on.ca/wp-content/uploads/2012/05/Procurement.pdf.
- Contact the Board's Foundation Office to discuss the ability to issue tax receipts for donations.

Caretaker

- Submit work order to initiate project as requested by Principal.

FM Supervisor

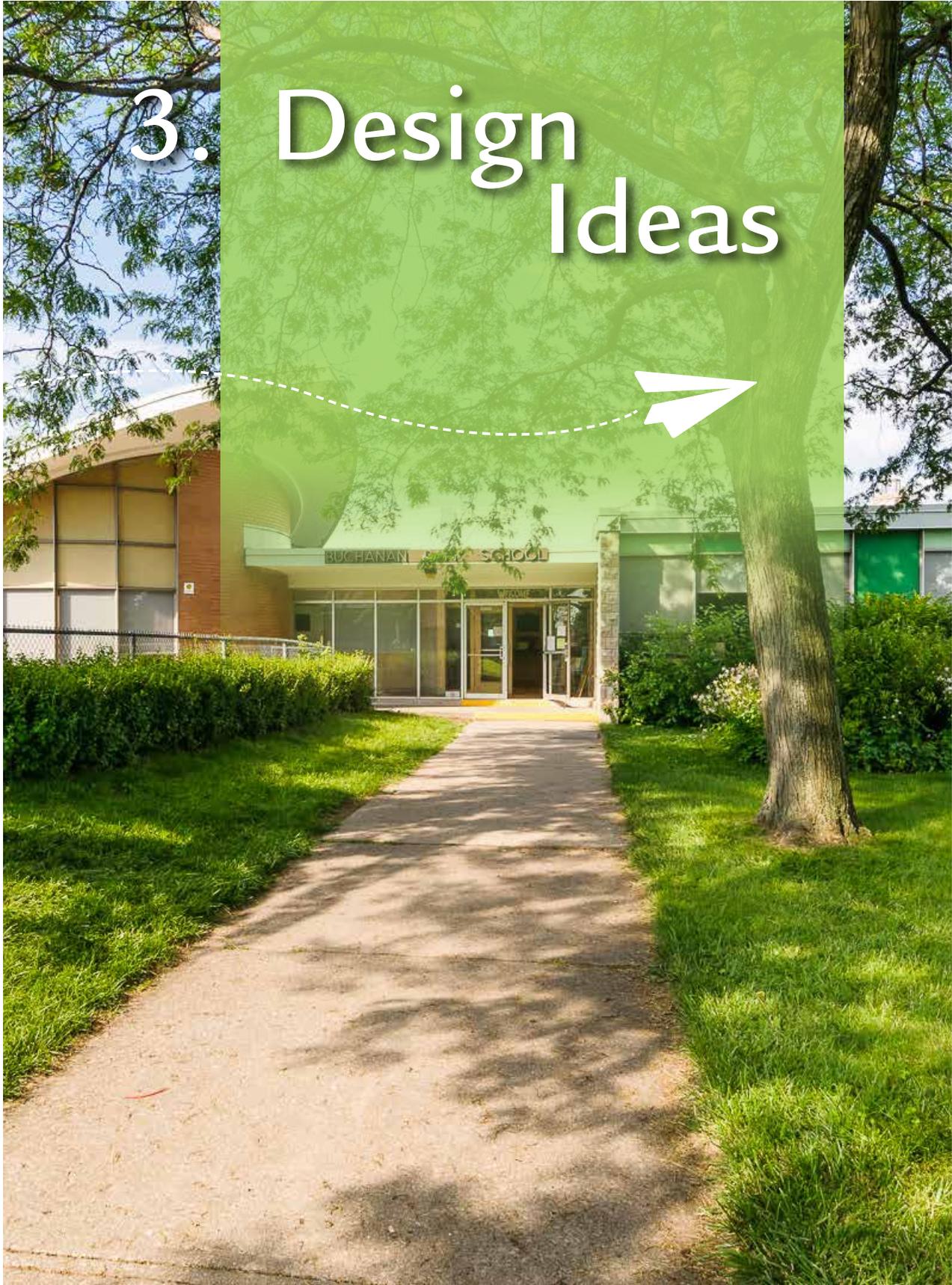
- Assist the Principal with Site Plan preparation for new outdoor gardens and play areas.
- Consult with Facilities Management prior to commencing any outdoor design project.
- Oversee the design and construction of any outdoor design projects assigned to them.

Facilities Management

- Review Request Form submitted by FM Supervisor and provide feedback to the school.
- Review standards of design, construction, and location of all outdoor design projects as outlined on the Site Plan and Request Form prior to purchase, donations, or construction.

Superintendent

- Confirm support of concept and school funding source for all property and building alterations greater than \$10,000 and/or which impact on program and repurposing of space.



3. Design Ideas



3.1. Design

Once the framework of the project has been outlined by listing goals, determining funding, and creating a concept plan, and once Facilities Management has given the approval to proceed to the next step, a detailed design for your project can be developed. The detailed design will provide more specifics about your intent than the concept plan (such as dimensions of the proposed amenities, proposed plant species, and material specifications). Depending on the complexity of the project, this step may be undertaken by a consultant. Facilities Management will provide direction as to whether or not a consultant should be involved in this stage. Schools are not to hire consultants themselves and must involve Facilities Management in the process.

When working through the design process, be sure to review the design considerations in section 3.2. for recommended product and materials options, plant species and specifications, accessibility considerations, and safety considerations.

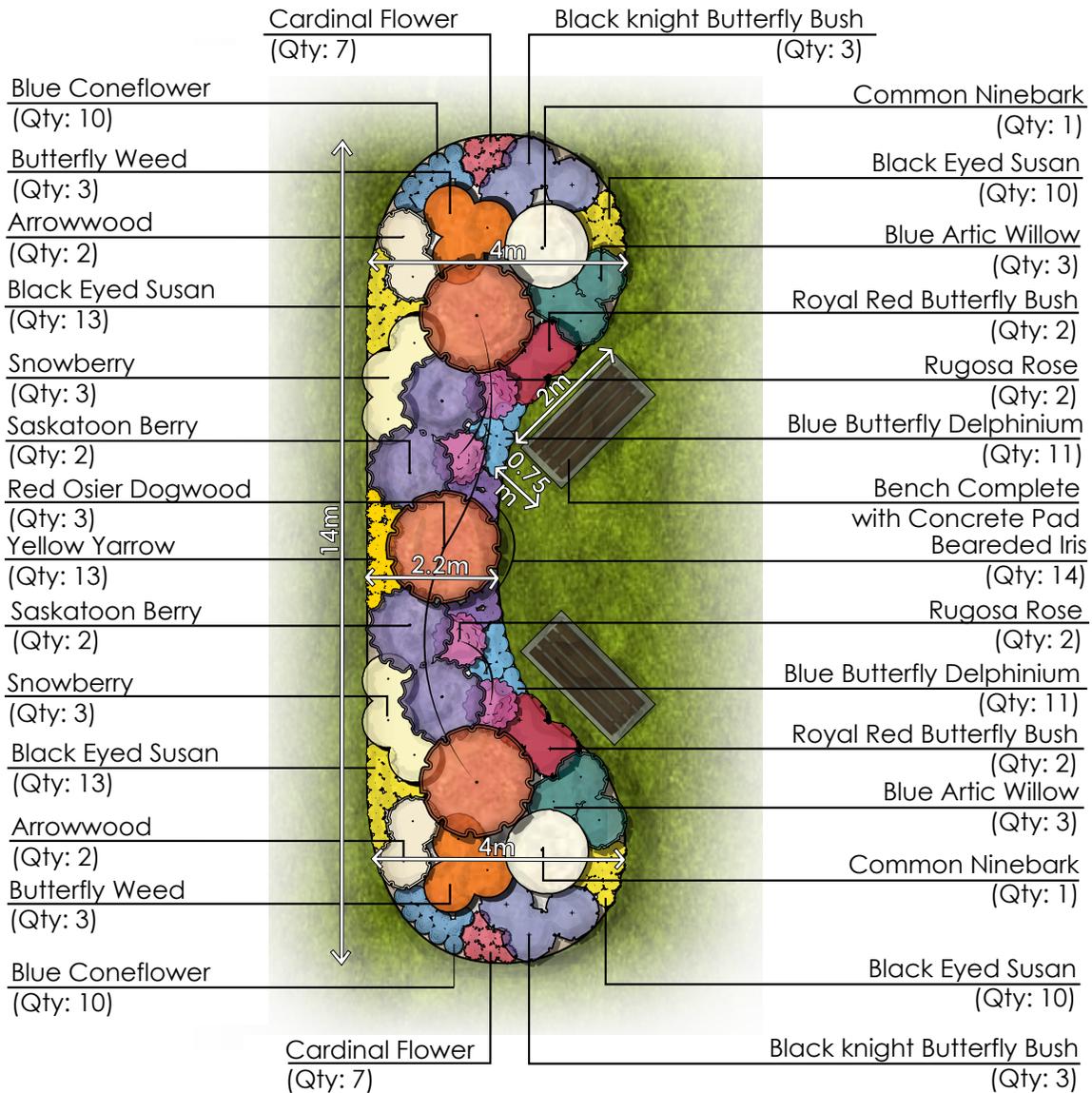
Facilities Management will review the detailed design and provide feedback. Schools may not proceed with the implementation of their plan until they have approval from Facilities Management. Be sure to include the following on the design submitted to Facilities Management:

- Locations of proposed amenities (i.e. play areas, sports fields, gardens, etc.) with labels
- Dimensions of proposed amenities
- Proposed plants labelled on plan (Include plan enlargements if required)
- Plant quantities labelled on plan. Be sure to consider appropriate plant spacing when determining quantities
- Images or construction details of proposed structures (i.e. planters, shade structures, play equipment, benches, etc.)

3.2. Design Considerations

There are many environmental factors, such as soil type, soil depth, sunlight and snow, and material choices, such as concrete and mulch that can significantly impact your site. Choosing the right materials and selecting appropriate amenity locations can affect user comfort, cost, durability, sustainability, safety, and aesthetic appeal of your schoolyard. It is important to think about the following design considerations before implementation to ensure that your space is functional for users and appropriate for a public school environment. Other considerations may include specific grant requirements.

SAMPLE DESIGN EXAMPLE:



Bench Details:
 Manufacturer: Bench Manufacturing Inc.
 Model #: aaa111
 Material: Steel Frame with Ipe Wood Slats
 Size: 1.8m length x .6m width

Note: This is a sample design only. Dimensions of gardens, plant species, and bench details will vary project by project, based on individual site conditions and requirements.

The plants listed in the Sample Design Example above are intended to be an example of format. When choosing plant species, please consult section 3.2.1.1.

3.2.1. Plant Selection

It is important to select appropriate plant material for your schoolyard in order to provide healthy, safe, functional, and low-maintenance spaces. Consider the following when selecting plants for your design:

3.2.1.1. Species

- Where possible, use plant species native to Southern Ontario. Native species have good success rates, as they are hardy to our seasonal climate. They also have a lower impact to our local ecosystems, by taking the place of invasive species that tend to dominate and take over the landscape.
- In some cases, non-native, non-invasive species may be acceptable due to their properties/habits and individual site conditions.
- Use a variety of species to promote bio-diversity and to attract a variety of pollinators.
- Use drought tolerant species where possible to promote sustainability and to reduce watering and maintenance activities.
- Avoid species that produce sap and nuts, as they can be messy. Where sap trees exist, please note proper pruning time and technique to avoid excess sap.
- Use the Latin name when purchasing plants to ensure that you choose the correct plant species.
- Your local conservation authority and the Hamilton Naturalists' Club can be used as resources when selecting plant species.
- The Board encourages schools to consider plants that are low on the Ogren Plant Allergy Scale™ (OPALS), please see section 3.2.1.8. for more information.

Selective List of Suggested Plant Species

Note: the below list is not exhaustive and should not be considered an exclusive list of acceptable species.

Botanical Name: (* Indicates native species)	Common Name:	What it looks like:
<i>Coniferous Trees</i>		
Picea abies OPALS Rating: 3	Norway Spruce	
Picea glauca * OPALS Rating: 3	White Spruce	
Picea pungens OPALS Rating: 3	Colorado Spruce	
Picea Pungens 'Glauca' OPALS Rating: 3	Colorado Blue Spruce	
Pinus strobus * OPALS Rating: 4	White Pine	

When purchasing Red Maples, ensure that you are not purchasing a Norway Maple (*Acer platanoides*), as this species is very invasive and can cause damage to natural habitats.

Deciduous Trees

<p>Acer rubrum * ‘October Glory’ OPALS Rating: 1</p>	<p>‘October Glory’ Maple</p>	
<p>Acer rubrum ‘Franksred’ OPALS Rating: 1</p>	<p>Red Sunset Maple</p>	
<p>Acer x freemanii ‘Autumn Fantasy’ OPALS Rating: 1</p>	<p>Freeman’s Maple</p>	
<p>Viburnum lentago * OPALS Rating: 4</p>	<p>Nannyberry</p>	
<p>Acer saccharinum * OPALS Rating: M=9, F=1</p>	<p>Silver Maple</p>	
<p>Amelanchier canadensis * OPALS Rating: 3</p>	<p>Serviceberry</p>	
<p>Amelanchier x grandifolia ‘Autumn Brilliance’ OPALS Rating: 3</p>	<p>Autumn Brilliance Serviceberry</p>	

<p>Gleditsia triacanthos var. inermis OPALS Rating: M=7, F=1, B=4</p>	<p>Thornless Honeylocust</p>	
<p>Sassafras albidum * OPALS Rating: M=7, F=1</p>	<p>Common Sassafras</p>	
<p>Coniferous Shrubs</p>		
<p>Picea abies 'Nidiformis' OPALS Rating: 3</p>	<p>Bird's Nest Norway Spruce</p>	
<p>Deciduous Shrubs</p>		
<p>Lindera benzoin * OPALS Rating: M=8, F=1</p>	<p>Spicebush</p>	
<p>Buddleia davidii 'Pink Delight' OPALS Rating: 5</p>	<p>Pink Delight Butterfly Bush</p>	
<p>Deutzia gracilis OPALS Rating: 3</p>	<p>Slender Deutzia</p>	
<p>Viburnum rafinesqueanum * OPALS Rating: 4</p>	<p>Downy Arrowwood</p>	

<p>Hydrangea arborescens 'Annabelle'</p> <p>OPALS Rating: NR</p>	<p>Annabelle Hydrangea</p>	
<p>Hypericum kalmianum *</p> <p>OPALS Rating: 5</p>	<p>Pot O' Gold</p>	
<p>Cornus stolonifera *</p> <p>OPALS Rating: 5</p>	<p>Redosier Dogwood</p>	
<p>Symphoricarpos albus *</p> <p>OPALS Rating: 3</p>	<p>White Snowberry</p>	

Perennials and Ornamental Grasses

<p>Echinacea purpurea *</p> <p>OPALS Rating: 5</p>	<p>Purple Coneflower</p>	
<p>Helictotrichon sempervirens</p> <p>OPALS Rating: NR</p>	<p>Blue Oat Grass</p>	
<p>Lilium michiganense</p> <p>OPALS Rating: 4</p>	<p>Michigan Lily</p>	
<p>Heuchera 'Palace Purple'</p> <p>OPALS Rating: 1</p>	<p>Palace Purple Coral Bells</p>	
<p>Hosta 'Patriot'</p> <p>OPALS Rating: 1</p>	<p>Patriot Hosta</p>	

3.2.1.2. Sizing

The mature size of proposed species should be considered in relation to the existing site conditions and features. Remember to think about the mature canopy size of proposed species and the impact that shade will have on the site.

Also consider mature plant size when it comes to visibility into and out of the site. Will the proposed plants block windows or impede views of play areas from the road or school?

In addition to mature size, the size of plant material at purchase and installation should be considered. The recommended sizing of plant material at installation is:

Type	Size	Nursery Stock (Root Condition)
Deciduous Trees	Min. 50mm Caliper	Wire Basket (WB)
Coniferous Trees	Min. 1500mm height	Balled & Burlapped (BB) or Wire Basket (WB)
Shrubs	Min. 60cm height/spread in 3 gallon pot	Container Grown (Potted)
Perennials	1 Gallon Pot	Container Grown (Potted)

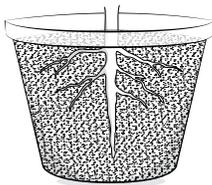
Note: Caliper refers to the width of the tree trunk measured at 1000mm - 1400mm (1m - 1.4m) above the ground.

Refer to section 3.2.1.3. for descriptions of the various nursery stock options (Root Conditions)

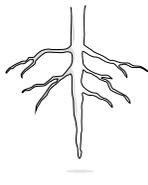
3.2.1.3. Nursery Stock (Root Condition)

Garden centres refer to the root condition of plants as nursery stock. Below are the common nursery stock options for trees. Consider which option will be the most appropriate for your project.

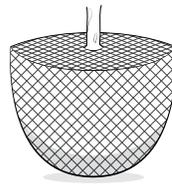
Nursery Stock (Root Condition)	Description
Bare Root (BR)	<ul style="list-style-type: none"> • Least expensive • Must be planted upon delivery to site. Cannot be stored on site for any length of time • Must be planted in early spring
Balled & Burlapped (BB)	<ul style="list-style-type: none"> • The most common stock • Trees are grown in ground and dug while dormant to form a root ball wrapped in burlap • Roots are pruned during digging
Wire Basket (WB)	<ul style="list-style-type: none"> • Typically for larger caliper trees • Trees are grown in ground and dug while dormant to form a root ball wrapped in burlap • A wire basket is placed around the root ball to ensure it remains intact • Roots are pruned during digging
Container Grown (Potted)	<ul style="list-style-type: none"> • Trees are grown in containers • All roots remain intact • Root girdling may occur and may require cutting or dividing prior to installation



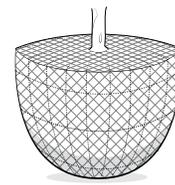
Potted



Bare Root



Ball & Burlap



Wire Basket

Ask your nursery:

- Was this tree, shrub or herbaceous stock sourced locally?
- Was it treated with neonicotinoid pesticides?"

3.2.1.4. Planting Location

The success rate of trees and shrubs can be significantly affected by the locations in which they are planted. The form, size, health, leafing, and flowering habit of plants can be negatively impacted by incorrectly locating them. For example, a water-loving plant will likely struggle in a hot urban schoolyard and the overall form of a large tree planted under hydro wires will decline in maturity as its branches are pruned away from the wires.

- Planting location can also impact the safety of your site. Ensure that plantings do not block critical sight lines to play areas from the school.
- Do not plant trees on property lines or near structures.
- Where possible locate gardens away from roads, driveways, and parking lots, as road salts can damage certain plant species. Where plants are proposed next to roads choose salt-tolerant species.
- Soil is an important factor in choosing a planting location. Unsuitable soils are prone to pests and disease and require more maintenance.

Selective List of Salt-Tolerant Plant Species

Note: the below list is not exhaustive and should not be considered an exclusive list of acceptable species.

Botanical Name: (* Indicates native species)	Common Name:	What it looks like:
<i>Coniferous Trees</i>		
Picea glauca * OPALS Rating: 3	White Spruce	
Pinus nigra OPALS Rating: 4	Austrian Pine	

Deciduous Trees

<p>Ginkgo biloba OPALS Rating: M=7, F=2</p>	<p>Maidenhair Tree</p>	
<p>Gleditsia triacanthos OPALS Rating: M=7, F=1, B=4</p>	<p>Honeylocust</p>	
<p>Gymnocladus dioicus OPALS Rating: M=9, F=1</p>	<p>Kentucky Coffee Tree</p>	

Coniferous Shrubs

<p>Juniperus chinensis OPALS Rating: M=10, F=1</p>	<p>Chinese Juniper</p>	
<p>Juniperus horizontalis OPALS Rating: M=10, F=1</p>	<p>Spreading Juniper</p>	
<p>Pinus mugho OPALS Rating: 4</p>	<p>Mugo Pine</p>	

Deciduous Shrubs

<p>Clethra alnifolia OPALS Rating: 4</p>	<p>Summersweet</p>	
<p>Cornus sericea * OPALS Rating: 5</p>	<p>Red Osier Dogwood</p>	
<p>Cotoneaster horizontalis OPALS Rating: 4</p>	<p>Rock Spray Cotoneaster</p>	
<p>Hydrangea macrophylla OPALS Rating: 3</p>	<p>Hydrangea</p>	
<p>Symphoricarpos albus* OPALS Rating: 3</p>	<p>Snowberry</p>	
<p>Philadelphus coronarius OPALS Rating: Singles=4, Doubles=3</p>	<p>Mockorange</p>	
<p>Potentilla fruticosa * OPALS Rating: 3</p>	<p>Cinquefoil</p>	

Perennials and Ornamental Grasses

<p>Armeria maritima * OPALS Rating: 1</p>	<p>Thrift</p>	
<p>Calamagrostis x acutiflora 'Karl Foerster' OPALS Rating: NR</p>	<p>Karl Foerster Feather Reed Grass</p>	
<p>Heuchera americana OPALS Rating: 1</p>	<p>American Alumroot</p>	
<p>Waldsteinia fragarioides* OPALS Rating: 1</p>	<p>Barren Strawberry</p>	

3.2.1.5. Plant Spacing

Appropriate spacing of plant material is important to ensure that gardens and outdoor spaces do not become over-crowded or underpopulated and difficult to maintain. Although each species and site should be considered individually, a general rule of thumb for plant spacing is as follows:

- Large Deciduous Trees: 10m on centre
- Small Deciduous Trees: 6m on centre
- Coniferous Trees: 4m on centre
- Large Shrubs: 1.2m on centre
- Small Shrubs: 0.75m on centre
- Perennials: 0.5m on centre

3.2.1.6. Timing of Planting

To ensure the best survival rates, the timing of plant installations should be taken into consideration. Planting during heat and drought conditions over the hot summer months in Southern Ontario is not recommended. Keep in mind that installing plants in spring allows an entire season for plants to establish themselves before being exposed to winter conditions. As such, plantings should be installed from May to early June if possible, or September to October for the best survival rates. Schools should ensure that volunteers are available for regular watering over the summer.

3.2.1.7. Seasonal Interest

Plantings can be used to provide visual interest in the schoolyard. For example, to attract interest to a seating area or amenity space, plantings with bold colours, flowers, and foliage can be used to draw the eye. Be sure to choose plants that offer a variety of blooming periods and changes in foliage colour to provide visual interest throughout all four seasons. Choose a combination of deciduous and coniferous trees and shrubs to provide colour throughout the summer and greenery throughout the winter. However, not every plant needs to have visual interest. Other valuable attributes include plant hardiness, sun or shade preferences, soil drainage, and soil pH.

3.2.1.8. Allergy-Friendly Planting

HWDSB aims to be an Allergy Friendly School Board, and endorses the Allergy Free School Yard© initiative. The Allergy Friendly School Yard© aims to eliminate highly-allergenic or pollen producing plant selections in high-traffic areas on school properties. These allergenic plants can trigger serious reactions in individuals with asthma.

The OPALS™ (Ogren Plant Allergy Scale) has been developed to rank plant species on a scale of 1 to 10, with 1 being the most allergy-friendly, and 10 being highly allergenic. A landscape that ranks 5 or less overall is considered a relatively allergy-friendly site. A selective list of plants and their rank on the scale is listed below. The entire OPALS™ scale, which ranks over 5,000 plant species, is available as a resource for schools in the book *Allergy-Free Gardening* by Thomas Ogren.

Species	OPALS™ Rank
Red Maple ‘Autumn Glory’	1
Female Juniper	1
Northern Catalpa	8
Male Mulberry	10
Male Juniper	10

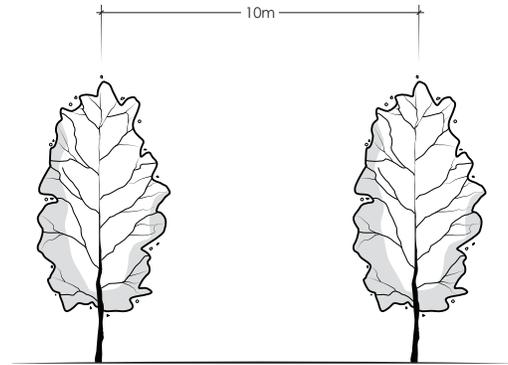
When designing your outdoor space keep the following allergy-friendly principles in mind:

- Species that produce common allergens should be excluded from your plan, including trees that yield nuts and fruit.
- Avoid plants with strong fragrances or odours.
- Locate pollinator and vegetable gardens away from buildings, windows, and classrooms.
- In plant species that have separate sexes (meaning there are male plants and female plants), consider choosing female plants as female plants do not have pollen, which make them a good allergy-free landscape option.
- For more information on allergy-friendly planting, refer to www.safegardening.org and www.healthyschoolyards.org.

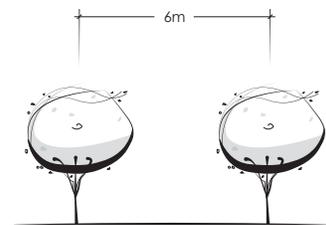
3.2.2. Shade and Sunlight

Sun patterns can dramatically impact the success of schoolyard amenities. For example, seating areas often benefit from shade for user comfort, while gardens typically require sunlight. When reviewing the shade and sunlight patterns in your school yard, keep in mind that sun patterns change daily and yearly. Remember that the sun rises in the east and sets in the west, meaning that certain areas of the schoolyard may receive sunlight in the early morning and be fully shaded in the afternoon, and vice versa. During the summer months, the sun is higher in the sky, which results in smaller shadows than in the winter months. Consider the following shade and sunlight factors in your design:

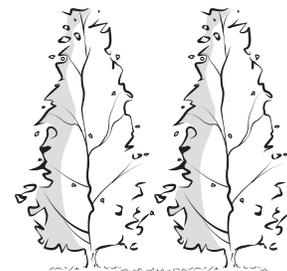
- Throughout the day, elements that are situated on the north side of buildings/structures will receive the least amount of sunlight, while elements situated on the south side will receive the most sunlight, as long as there are no structures or existing trees casting additional shadows.
- It is important to appropriately place gardens in accordance with sun patterns. Typically gardens require some amount of sunlight to thrive. If you are restricted to a shady area for planting, there are shade-loving species that will tolerate low levels of sun exposure. Vegetable gardens generally require several hours of sunlight per day.
- Shade can also be advantageous in the schoolyard in protecting against the sun's UV rays and urban heat.
- Consider proximity to shade when locating play areas in the design. It is ideal for play areas to be located in a combination of sun and shade.
- Seating areas and outdoor classrooms should also take advantage of shade, either from trees or shade structures, for the comfort of users throughout the hot sunny days.



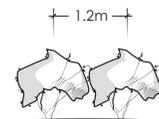
Large Deciduous Tree



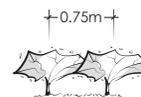
Small Deciduous Tree



Coniferous Tree



Large Shrub



Small Shrub



Perennial

3.2.3. Wind, Rain, and Snow

Environmental elements are important to consider during the design stage to appropriately site schoolyard amenities. A well-planned school yard will protect users and amenities from harsh environmental elements like wind and snow, while taking advantage of rain to keep plantings healthy and thriving.

Winter winds can be particularly uncomfortable for school ground users. Winter winds generally tend to come from the north and west.

Winds can be mitigated through the use of planting screens. Strategically placed trees and shrubs can help to re-direct and slow winds. Groupings of low-branching plants, such as coniferous trees, are the most effective way to screen winds with plantings.

Rain is important to naturally irrigate plants. Consider placing habitat or vegetable gardens in locations where they will be exposed to rainfall. This will reduce the amount of maintenance and manual watering required. Do not plant gardens under roof overhangs.

The location of snow deposits is also an important factor when laying out schoolyard amenities. During your site analysis, make note of where snow drifts and banks tend to form in the schoolyard. These areas are not ideal for play structures, seating areas, or outdoor classrooms.

In a changing climate, it is becoming increasingly important to add more resiliency and to reduce the over-loaded storm water system. This can be done with plantings (i.e. bioswale) and by limiting the number of impermeable surfaces.

Snow banks are also a good indication of areas of high salt concentrations. Snow banks/storage locations often leave high amounts of salt in the landscape. Avoid planting in these areas if possible, or select salt-tolerant species for plants in close proximity to roads and snow banks.

Identify any micro-climates in your schoolyard. Micro-climates are small areas that are particularly susceptible to or sheltered from the elements, such as wind, rain, snow, and sun. For example, courtyards tend to have noticeably different temperatures/environmental qualities. Micro-climates may affect the placement of schoolyard amenities.

3.2.4. Product and Material Selection

This section is for educational purposes, as schools shall not select products and materials themselves. Facilities Management will be involved in the selection and installation of products and materials for schoolyards.

It is important to consider product and material properties of the proposed site amenities to ensure safety, accessibility, and long-term duration. Choosing appropriate products based on each individual site and the users' needs will ensure that maintenance costs are kept to a minimum. Used products or materials are not considered acceptable. Due to the potential threat of plant pests and invasive species, please consult the Canadian Food Inspection Agency (CFIA) website (refer to section 7.4.) when considering lumber, tree, or plant selections.

3.2.4.1. Hard Surfaces

Hard surfaces are used in areas where high pedestrian or vehicular traffic is expected. For example, pathways from public sidewalks or parking lots to building entrances are generally hard surfaces, which are easily maintainable and help to achieve universal accessibility. Although hard surfaces are functional, it is important to use a combination of hard surfaces and softscaping, such as grass and trees to provide shade and reduce heat reflected by asphalt and other hard surfaces. Refer to section 3.2.4.2. for more detailed information on soft surfaces. During the design of hard surfaces, the following should be taken into consideration:

- All walkways and hard surfaces should be designed for universal accessibility. Slopes, materials, and walkway widths should comply with the Accessibility for Ontarians with Disabilities Act (AODA) standards. Refer to section 3.2.8. for more detailed information on accessibility.
- The installation of walkways is to be completed by a qualified contractor, which should be included in your overall budget. Facilities Management will hire contractors, as necessary.
- Consider the long-term durability of proposed products.
- Consider the amount and type of use the hard surface will receive. Will it be used for pedestrian traffic, vehicular traffic, or sports?
- Ensure that hard surfaces and walkway locations are planned in a logical manner. Identify destination points, including play areas and building entrances, and ensure that direct connections are provided to these nodes.
- Be sure to consider winter maintenance in the design of hard surfaces. Hard surfaces will need to be plowed in the winter. Ensure easy access to these spaces is provided.

The most common types of hard surfacing are below:

Type	Pros	Cons
Asphalt	<ul style="list-style-type: none"> • Highly durable • Universally accessible 	<ul style="list-style-type: none"> • Absorbs heat • Can dominate the overall aesthetic if used in excess
Concrete	<ul style="list-style-type: none"> • Highly durable • Universally accessible • Does not absorb as much heat as asphalt, reducing the overall temperature of the site 	<ul style="list-style-type: none"> • More costly than asphalt
Unit Paving	<ul style="list-style-type: none"> • Universally accessible • Aesthetically pleasing • Available in a variety of sizes, colours, and patterns 	<ul style="list-style-type: none"> • Susceptible to heaving • Not as durable as asphalt or concrete
Permeable Unit Paving	<ul style="list-style-type: none"> • Universally accessible • Available in a variety of sizes colours, and patterns • Allows percolation of rain into ground • Less pressure on storm sewer system 	<ul style="list-style-type: none"> • Requires maintenance to remove debris from joints yearly • Susceptible to heaving • Not as durable as asphalt or concrete
Limestone Screening	<ul style="list-style-type: none"> • Universally accessible • Affordable 	<ul style="list-style-type: none"> • Loose material may scatter and become difficult to maintain • Top up of limestone screenings may be required periodically
High Performance Bedding (HPB)	<ul style="list-style-type: none"> • Universally accessible • Affordable • Free-draining (will not hold water) • Little to no equipment required for compaction 	<ul style="list-style-type: none"> • Loose material may scatter and become difficult to maintain • Top up of material may be required periodically

3.2.4.2. Soft Surfaces

Soft surfaces are equally as important in the landscape as hard surfaces. Soft surfaces allow space for formal and informal play, such as play areas and fields. Soft surfaces also help to cool the air and balance out the absorption of heat by hard surfaces. Below are the most common types of soft surfacing:

Type	Use	Pros	Cons
Pine Bark Mulch	As a ground cover for gardens and around the base of trees. Not for use as a play area safety surface or for walkways.	<ul style="list-style-type: none"> Keeps moisture in soil below Reduces surface water evaporation Prevents soil compaction Protects plantings from maintenance equipment Reduces weeds 	<ul style="list-style-type: none"> Decomposes over time and needs to be topped up periodically
Wood Chips	As a ground cover for areas where soft surfacing is ideal, but where grass is not successful. For example, it can be used in an outdoor classroom where there is a lot of foot traffic that tears up grass. Not for use as a play area safety surface or for walkways.	<ul style="list-style-type: none"> Affordable 	<ul style="list-style-type: none"> Loose material may scatter and become difficult to maintain Can decompose over time Top up of material may be required periodically
Engineered Wood Fibre	As a play area safety surface. Not for use for walkways.	<ul style="list-style-type: none"> Universally accessible Stays in place well 	<ul style="list-style-type: none"> Can decompose over time Can become compacted over time and need to be topped up

Pea Gravel	As a play area safety surface. Not for use for walkways.	<ul style="list-style-type: none"> Affordable Because it is not organic, it will not decompose 	<ul style="list-style-type: none"> Not universally accessible Loose material may scatter and become difficult to maintain May need to be topped up periodically due to scattering
Natural Turf	As a ground cover where play surfacing and hard surfacing is not required	<ul style="list-style-type: none"> Affordable Drought-tolerant 	<ul style="list-style-type: none"> Regular maintenance required
Artificial Turf	As a ground cover where play surfacing and hard surfacing is not required, and grass is not successful or is difficult to maintain. For example, it can be ideal for Early Years areas that are fenced and mower access is difficult. Should only be considered as a last resort.	<ul style="list-style-type: none"> Durable Does not require as much maintenance as natural turf 	<ul style="list-style-type: none"> Costly Can become hot in the sun May need periodic top up of rubber infill Detrimental for soil health



3.2.4.3. Site Furnishings

Seating

Seating areas in the school yard provide rest areas for youth, teachers, and parents. Rest areas are particularly important for individuals with accessibility needs. For this reason, a number of seating opportunities should be provided throughout the school yard. Seating should be placed in locations where views of play/activity areas are prominent, so users can engage and observe the activity around them.

Seating areas may take a more formal shape using traditional bench style seating, or an informal shape, using natural materials, such as boulders and logs. A coordinated approach to the design and selection of seating throughout the school yard will unify the visual aesthetic of your site. For example, use the same bench style throughout the school yard to avoid a visually cluttered appearance. In all cases, seating should be securely fastened in place to discourage vandalism.

Seating Types

Benches:

Benches are the most common seating option in landscaping. Options for benches with or without a back panel are available. Consider which will work best for your space. Keep in mind that backless benches allow users to face either direction, while benches with backs may be more comfortable for users. Options for metal or wood benches are available. They should be new, commercial grade, and from a reputable supplier.

Stone Seating:

Boulders are an informal option, which can serve the purpose of both seating, and defining the edge of amenity spaces. For example, boulders placed around the edges of play areas help to contain the safety surfacing material, and separate it from the adjacent surfacing. Stone seating offers a pleasing natural aesthetic, although it may not be as comfortable as wood benches for users to sit on for extended periods of time. Boulders should have flat tops with all sharp edges removed. If stones are placed side-by-side, the sides should be saw-cut for a tight fit. Gaps between stones should be a maximum of 25mm (1”) to avoid safety concerns.

Log Seating:

Similarly to stone seating, log seating can act as both seating and an edge for amenity spaces. Log seating can be more comfortable for users than stone; however it can be slippery when wet, especially if the seat top is not flat. Log seating should be made of healthy hardwood with the bark removed. Wood collected from dead trees is not acceptable, as it may have internal rot. Rough edges of logs should be well-sanded with sharp edges removed.

If your school is considering the installation of a Buddy Bench, please contact Purchasing for approved pricing and specifications.

Other Site Furnishings

Site furnishings can also include bike racks and waste receptacles, which provide storage space and help to keep the school yard tidy. The following guidelines apply to the specification of these site furnishings:

- Locate bike racks close to main building entrances and ensure they are visible from inside the school.
- Bike racks should be new, commercial-grade, and from a reputable supplier.
- Bike racks should be made of powder-coated steel or galvanized steel.
- The selection and location of waste receptacles will be determined in consultation with Facilities Management.

3.2.4.4. Structures

Landscape structures, such as pergolas, trellises, and covered shelters are a good way to provide shade and a focal point to amenities in the school yard. For example, a structure may be used as presentation space in an outdoor classroom, or as open-air work space that can provide some protection from the elements. A structure, such as a trellis, may also highlight an area of importance in the landscape, such as an entrance to a garden or a seating area with benches.

- Structures should be new, commercial-grade, and from a reputable supplier.
- Structures may take the form of trellises or pergolas for filtered shade, or fully roofed shade structures.
- Wood and metal options are available. Consider the long-term durability, maintenance, cost, and susceptibility to vandalism with both options.
- Shade structures should be designed in a way that eliminates the possibility of climbing.
- Wood structures should be well-sanded and free of sharp edges.
- Structures should be securely fastened in place.
- The selection and location of structures will be determined in consultation with Facilities Management.

3.2.5. Play Areas

Whether they are formal play structures, or informal open green spaces, play areas are arguably the most important spaces in the school yard. Play areas help develop social skills, motor skills, and creativity in children by offering physical challenge and the opportunity for imaginative play. Providing a variety of play elements that stimulate the various senses will create an engaging space that is attractive to a wide user group.

Play equipment should always be designed and specified by a professional with experience and knowledge in CSA standards. Schools shall not select play equipment and materials themselves. Facilities Management will be involved in the design and installation of play areas, including hiring design consultants and contractors.

3.2.5.1. Types of Play Areas

Traditional Play Equipment:

Colourful post-and-deck style play equipment provides lots of play value. Typically, traditional play equipment includes slides, overhead climbers, tunnels, swings, and various other play options. Pulleys and similar equipment that are hazardous to fingers, long hair and loose clothing, should not be installed. There are many universally accessible traditional play equipment options that appeal to a wide range of users.

Natural Playgrounds:

Natural playgrounds use organic materials, such as wood and boulders, to create play areas. Natural playgrounds focus on creative play and non-prescriptive play elements. This approach encourages experiential and imaginative play, with more room for interpretation and problem-solving. Natural playground equipment can be integrated into outdoor classroom space. For example, log and stone steps can double as seating. Outdoor amphitheatres can double as creative play space for children.

Informal Play Space:

Informal play spaces are areas in the schoolyard that are not specifically designed as playgrounds, but can be used for various outdoor activities. Informal play spaces can be simply open green space, used for lawn games such as tag, or hard surfaced areas used for hopscotch, painted labyrinths, four-square, or jump-rope. Line painting for play features is to be either Organic Solvent Based Traffic Paint or Water-Borne Traffic Paint, depending on the application. Line painting specifications are to be approved by Facilities Management.

Sports Fields/Courts:

Fields and courts can be integrated in the schoolyard for playing sports, such as soccer, football, and basketball. Sports fields and courts can double as informal play space when not being used for sports.

3.2.5.2. Locating Play Areas

As with all schoolyard amenities, it is important to appropriately locate play areas to ensure the property is safe and functional. Use the following guidelines when deciding where to locate play areas.

- Play equipment must be situated away from fire exits, fire routes, plowing routes, potential portable sites, high traffic areas, underground and overhead service gullies, waterways, rocky terrain, and hard surfaces, and must minimally affect the operations of grass cutting.
- Outdoor play space locations must be in a well-drained area, clearly visible from the school and, wherever possible, within public view.
- Outdoor play space containments are not to be placed within fifteen metres of an existing sand box.

3.2.5.3. Play Area Design Considerations

Play areas will be designed by a consultant, under the direction of Facilities Management. However, schools are encouraged to provide their input on the goals and vision for play areas. Consider the following during the design process:

- Consider the audience and ensure that there are a variety of play options for various age groups.
- Play equipment should be new, commercial-grade, and from a reputable supplier.
- Varying degrees of challenge should be incorporated for children of all abilities.
- Include accessible play equipment for users of all abilities.
- Provide options for group and individual play.
- Provide options for passive and active play.
- Include options for creative/experiential play.
- Consider asking students for their input on the design/vision for play areas.
- Try to include a variety of play options including sliding, climbing, spinning, balancing, crawling, and swinging.
- Culverts, tire swings, sewer pipe, teeter-totters, merry go-rounds, pressure treated wood structural members, diggers and track rides are not considered appropriate.
- For Early Years play areas, artificial turf is the standard. This is due to the fact that they are high traffic areas where maintenance is difficult, or where natural turf will not grow. Refer to section 3.2.4.2. for more detailed information on artificial turf.
- Refer to section 3.2.10. for information on playground safety considerations.

3.2.6. Rain Barrels

Rain barrels are used to capture and store rain water, which can later be used to water plant material. Rain barrels are a sustainable initiative, as they reduce pressure on the municipal water system, and make use of a natural resource that would otherwise go unused.

Where possible, rain barrels should be located in an inconspicuous place next to the building, where downspouts can be connected. Ideally, the gardens and trees to be watered will be located nearby for ease of watering. Before having rain barrels installed, consider who will be responsible for regularly monitoring and emptying them (by watering plants). Rain barrels need regular monitoring to ensure a tight seal on the barrel to prevent mosquito breeding.

Facilities Management will be involved in the selection and installation of rain barrels. However, the following conditions will apply:

- Rain barrels should have lockable lids.
- Rain barrel models should be safe for staff and student use.
- Rain barrel models should be easy to empty.
- Rain barrels should be new, commercial grade, and from a reputable supplier.

3.2.7. Memorials

HWDSB is committed to conducting all its work through an equity framework in which principles of inclusion and belonging, as well as an awareness of systemic inequalities, guide our decision-making processes.

With this in mind, HWDSB discourages the installation of permanent memorials (living or non-living) on school property. This includes memorial gardens, trees and benches. Families are encouraged to consider other private and community sites that already provide permanent memorial spaces.

Any consideration for a long-term memorialization should be discussed with the school's Superintendent.

3.2.8. Accessibility

Universal accessibility is a priority for all HWDSB schools, and all schoolyard improvements are to comply with the Accessibility for Ontarians with Disabilities Act (AODA) standards. The intent of designing for universal accessibility is to provide the same opportunities for all users of the space, regardless of abilities. The following should be considered in your schoolyard design:

- Provide hard surfaced accessible spots adjacent to benches and tables for wheelchair accessibility.
- Use smooth, non-slip surfacing for walkways.
- Avoid stairs where possible, or provide ramps in addition to stairs.
- All walkways should be barrier-free.
- Transitions to play areas, parking lots, etc. should be smooth (i.e. flush curb) or ramped/depressed curbs should be provided in strategic locations.
- Provide play options that are inclusive for users of all abilities.
- Consider including raised gardens or amenities that wheelchair users can reach and engage with.

3.2.9. Sustainability

Choices made in the design of schoolyards can teach students the importance of sustainability and encourage them to be conscious of our impact on the environment. There are many ways to incorporate sustainability principles into the schoolyard, such as the use of products made from recycled materials and the preservation of water. Involving students in sustainable practices, like using rain barrels to irrigate gardens, is a valuable opportunity to engage and educate youth in the outdoor schoolyard. Consider the following sustainable options in your design:

- Use perennial plant material that will return year after year in place of annual/seasonal plants the need to be replaced each year.
- Use drought-tolerant plant species where possible to minimize the amount of potable water used to keep plants thriving.
- Provide large shade trees to slow the evaporation of water from the ground.
- Preserve existing trees where possible.
- Consider installing rain barrels to collect storm water. Use the collected rain to water plants. Refer to section 3.2.6. for more detailed information on rain barrels.
- Use products made from recycled materials, such as recycled plastic benches from a reputable supplier, or ground and recycled asphalt.
- Where feasible, provide permeable pavement to reduce the amount of run off to the storm sewer.
- Find a balance of both hard surfacing, such as asphalt and concrete, and soft landscaping, such as grass and gardens.

3.2.10. Safety and Security

HWDSB strives to ensure that schools are safe, nurturing places where staff and students feel comfortable in their surroundings. The schoolyard space provides an opportunity to enrich learning, through the exploration of creative, real-world experiences. Staff and students need to feel comfortable in their outdoor spaces to fully take advantage of the opportunity for outdoor learning. In order to promote HWDSB schools as safe and secure spaces, the following guidelines should be applied to the schoolyard design:

Schoolyard Layout

Maintain sightlines from the road and the school to the playground and other schoolyard amenities.

Ensure the placement of coniferous trees, fences, accessory buildings, etc. do not create concealed spaces for loitering / lurking.

Play Areas

Consider visibility when choosing play equipment. Ensure there are no enclosed areas to make surveillance easier.

Here are **6 questions** that you should ask when designing and maintaining a safe play area:

1. Is it strong enough?
2. Is it poisonous?
3. Could someone fall?
4. Are there any protrusions?
5. Could someone get caught or trapped?
6. Is it accessible to everyone?

Refer to 7.5 Additional Resources to find the link to OSBIE - Naturalized Playspaces and Common Sense.

All newly purchased outdoor play area equipment must comply with Canadian Standards Association's most current version of Children's Play Spaces and Equipment (CAN/CSA-Z614). Letters of compliance with this standard from the equipment manufacturer must be retained with all other documents for the equipment. This includes additions to existing play area structures. Refer to section 3.2.11. for more detailed information on CSA standards.

Ensure appropriate fall/safety zones are adhered to in the design of play areas, as per CSA standards. Refer to section 3.2.11. for more detailed information on CSA standards.

Allergy-Friendly Schoolyard

Avoid use of highly allergenic plants in the schoolyard and ensure the principles of the Allergy Free School Yard© initiative are adhered to.

Avoid placing pollinator gardens close to building entrances, windows, and high-traffic areas to prevent triggering allergies. Refer to section 3.2.1.8. for more detailed information on allergy-friendly planting.

Grounds Inspections

Facilities Management conducts daily grounds inspections to ensure that the site is safe, free of debris, and to identify any safety hazards. Refer to sections 5.1.1. and 5.1.2. for more detailed information on inspections.

3.2.11. CSA Standards / ASTM Standards

The Canadian Standards Association (CSA) has developed a manual for Children’s Playspaces and Equipment. The manual provides guidelines for appropriate materials, installation, structural integrity, surfacing, layout, and maintenance of play area elements. All schoolyard/play area improvements within HWDSB are to conform to the current Children’s Playspaces and Equipment manual (CAN/CSA-Z614).

Consult a professional for the design of play equipment to ensure that CSA standards are met. Play equipment should be installed by a qualified contractor and inspected by a third-party agent to confirm CSA compliance.

In addition to playground safety, guidelines for the material and installation of other site amenities have been developed by the American Society of Testing and Materials. This set of standards outlines detailed specifications for site materials including wood, concrete, asphalt, curbing, and other materials that may be used in schoolyard improvement projects. All schoolyard amenities should comply with ASTM standards. A qualified contractor should be engaged to ensure that these safety standards are met.

Don’t forget that on-going maintenance and repairs are required to maintain CSA compliance. Work with your Facilities Management to ensure your design meets safety criteria.



3.2.12. Urban Schools

Urban schools present a unique environment for planning useful outdoor learning and play areas. Urban schools tend to be situated on smaller lots so finding space for outdoor amenities can become difficult. Additionally, the climate of urban spaces can be challenging for user comfort, as they tend to be hot and provide fewer opportunities for mitigating the heat. Each schoolyard presents its own set of opportunities and constraints. The strategies listed below can provide creative solutions for conditions urban schools may face.

Strategies to reduce localized urban heat:

- Plant trees to provide shade in the schoolyard.
- Use concrete instead of asphalt for hard surface areas, as it absorbs less heat than asphalt.
- Incorporate materials such as stone or log seating to give the schoolyard a more natural feel and appearance.
- Dedicate a piece of the schoolyard to a garden.
- Incorporate an outdoor shade structure into the schoolyard.
- Choose drought-tolerant plant species.

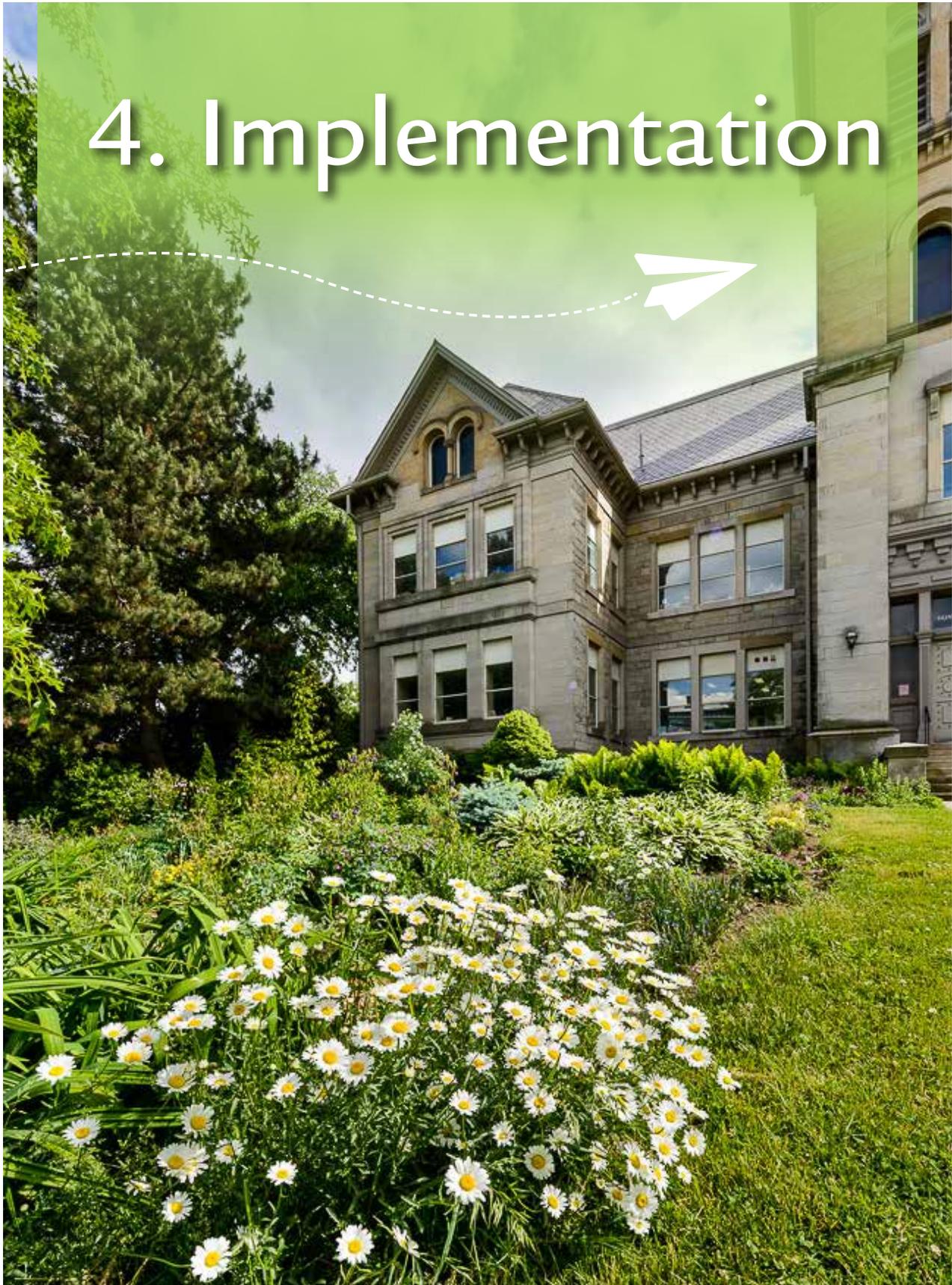
Strategies for small spaces:

Some of the above strategies to reduce urban heat may be difficult to achieve if the outdoor space at your school is limited. Consider the following points for small spaces:

- Set up moveable container gardens or planters on existing hard surfacing. This can apply to pollinator gardens or vegetable gardens. Just keep in mind that most plants will not survive the winter in raised containers, so they will need to be planted again the next season.
- Use appropriately sized play equipment. Consult with your designer to reduce the footprint of your play equipment, without losing play value, by providing second and third tiers and building up rather than out.
- Consider shared use of spaces. Can the sports field also be used as an outdoor classroom with moveable seating?



4. Implementation



4.1. Implementation

Now that you have been through the design process and Facilities Management has approved your final design, you begin to implement your vision. Depending on the complexity of the project, it may be appropriate to have students, teachers, parents, and community volunteers participate in some part of the process (i.e. planting and weeding), as authorized by Facilities Management. Otherwise, a contractor will need to be retained through Facilities Management. This section will guide you through volunteer responsibilities, how to organize planting installation, and working with contractors.

Don't forget that with any schoolyard improvement project, utility locates are required prior to digging.

4.2. Volunteer Responsibilities

Your school community is a great resource for creating a team of volunteers. Involving students and the community in your project instills a sense of pride and responsibility for the space, helping to prevent vandalism. Teachers are encouraged to consider expanding the classroom into the outdoor environment through the installation of gardens.

There are many tasks that your Implementation Team volunteers can help with during the installation of outdoor projects, and other tasks that will need skilled workers. If you have any questions about the role of volunteers during the implementation stage, please speak to Facilities Management. Refer to section 4.4. for more information on contractors.

Volunteer Tasks

- Purchase soil and plant material
- Organize delivery of soil and plant material to site
- Organize delivery and pick up of disposal bin for waste (*arranged through Facilities Management*)
- Bring garden tools to site
- Dig garden beds with hand tools
- Spread soil in garden beds with hand tools
- Layout of plants in garden bed as per design
- Plant trees, shrubs, and perennials
 - Spread mulch in garden beds with hand tools
 - Clean up plant containers and other debris
 - Water plant material after installation
 - Organize and bring drinking water for breaks

4.3. Planting Installation

If your planting project is being installed by volunteers, some organization by the Implementation Team will go a long way to ensure that the installation goes smoothly and efficiently. It is a good idea to let your volunteers know what to expect ahead of time so that everyone knows their duties for the day of planting. All volunteers should be equipped with protective gear including safety boots, safety glasses, gloves, etc.

Set a date:

The most important part of the installation is making sure that you have enough volunteers available for the project. Find out which dates work best for your volunteers and set a date well in advance. Be sure to communicate with school administration and Facilities Management the proposed date to ensure there aren't any special events or conflicts with the date you have selected. Keep in mind that plantings should be installed between May to early June or September to October for the best survival rates. Make sure to arrange access to water for this day. Refer to section 3.2.1.6. for more detailed information on the timing of planting.

Organize delivery of materials:

Coordinate the delivery of materials, such as soil and plantings with your suppliers. Materials should not be delivered to the site until the morning of planting, when a representative from your team will be there to confirm the shipment. Materials should not be left unattended on the site once delivered. Make a plan ahead of time to decide where your materials will be dropped on site, so as not to disrupt school activities, while being easily accessible to your volunteers during installation. You may also need a waste bin if sod and topsoil are being removed for gardens. The delivery of the bin can be arranged through Facilities Management. The bin can also be used for planting containers and other construction debris. Ensure that the waste bin can be dropped off and picked up without disturbing school activity. Also make sure that your team has considered who will bring the necessary garden tools, such as shovels, rakes, wheelbarrows, gloves, etc.

Design Layout:

Before you break ground, your team should measure and mark out the design on site with water soluble landscape spray paint. This will help to avoid confusion once digging and planting begins.

Digging the garden and spreading soil:

Now that the layout has been confirmed on site, you can finally break ground on your project! Using the spray paint as your guide, start digging the garden by removing the grass and topsoil within the garden areas. Refer to the planting details in sections 7.1, 7.2, and 7.3. to determine the depth of excavation required. Once the garden bed has been dug to the required depth, you can start filling with planting soil. Spread the soil with rakes and be sure to compact the garden soil very well by stomping on it. Around trees and shrubs, it is better to mound the soil now, as it will compact over time.

If site appropriate native plants are selected, new soil is often not needed. This reduces project costs.

Planting:

It is now time to plant your garden. Begin by laying out the plants, still in their containers, within the garden space according to the plan. This will help you space out plants evenly. Once you are happy with the layout of plants, you can remove them from their pots and plant. Refer to the planting details in sections 7.1, 7.2, and 7.3 for recommended planting techniques, and the planting design considerations in section 3.2.1. for a refresher on plant spacing, location, etc. Once plants are in the ground be sure to compact the soil again to ensure the plants are firmly in place.

Spreading mulch:

Once your garden is planted, it is time to spread mulch to a depth of 75mm over the entire surface of the garden. Be sure that there are no exposed areas of soil, as these patches will dry out quickly.

Watering:

Now that your garden is mulched and looking good, it is critical to thoroughly water your new plants. Plants may experience transplant stress, and the best way to combat this is with water. Refer to section 5.1.4. for detailed information on how to properly water your garden.

Clean up:

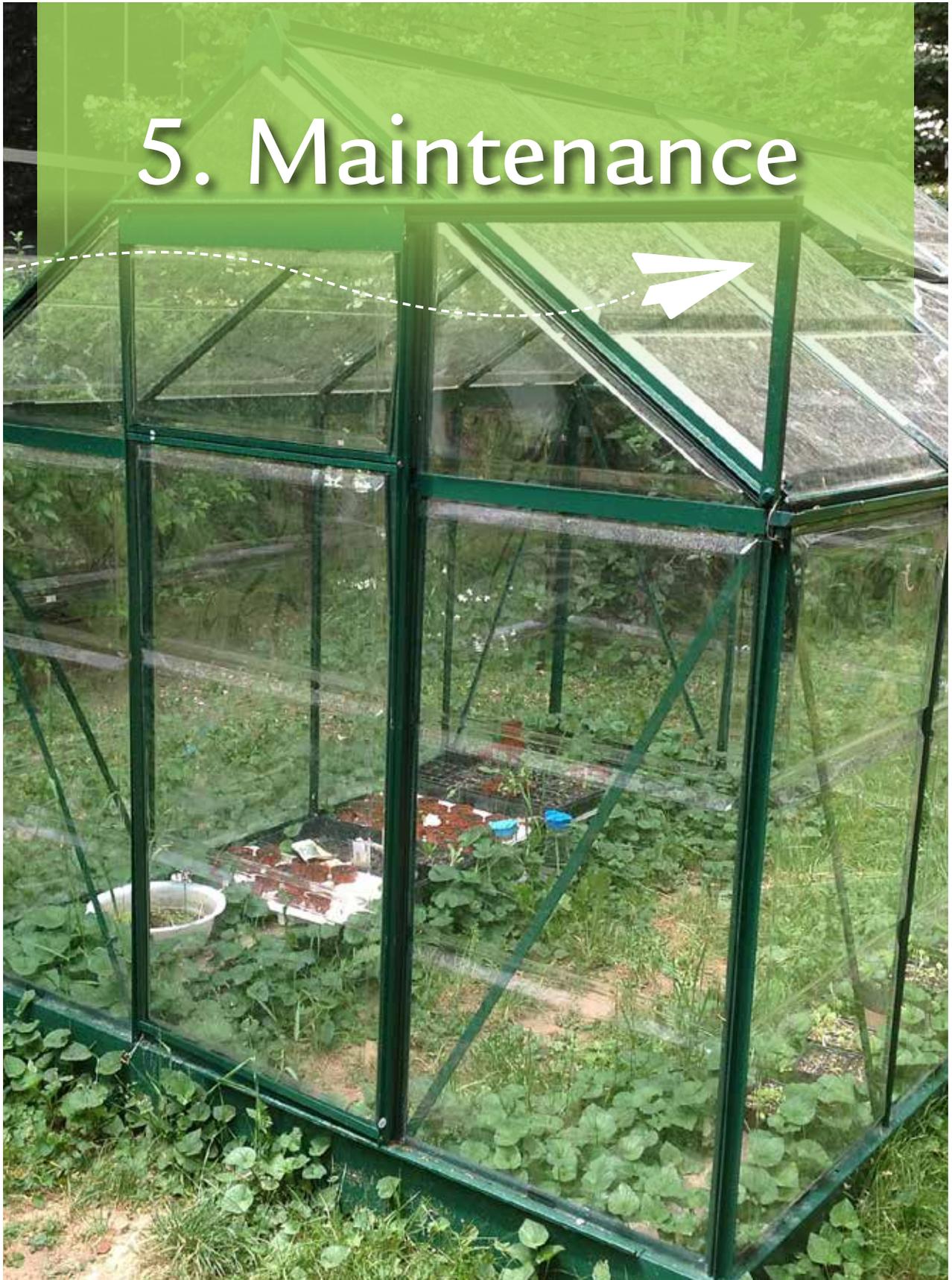
The vision for your project has finally been realized and now it is time to clean up your construction site. Before you leave your site make sure all construction debris including garbage, excess soil, etc. is removed and disposed of. Do a final check to ensure that all tools have been picked up and cleared from the site. Sweep and wash down any walkways or hard surfaces that may have become dirty so that mud is not tracked around the schoolyard and into the school itself. Be sure to organize the removal of the waste bin from the school yard. Planting pots can be recycled and some stores offer recycling for pots.

4.4. Contractors

Facilities Management will provide direction on whether or not a contractor is required for the installation of your project, based on the complexity of the design. For example, if your design proposes a new outdoor classroom with bench seating, new trees, and a shade structure, the construction will be completed by a qualified tradesperson. Contractors are hired directly by the Board. Schools, teachers, and parents do not have the authority to enter into a contractual agreement that binds the Board. Facilities Management will be responsible for ensuring that an approved contractor is hired, and that the contractor has appropriate liability insurance.

If you have any questions about working with a contractor, your Facilities Management Supervisor can direct you to the Board's procurement directives.

5. Maintenance



5.1. Maintenance

Now that construction of your project is complete, it's time to enjoy your new outdoor space! Regular maintenance of your space is vital to its long-term durability, safety, and aesthetic appeal. The purpose of this section is to communicate the procedures and tasks to be undertaken by Caretakers, Facilities Management, and volunteers. The maintenance activities described in this section are focused on the day-to-day upkeep of outdoor spaces, as well as yearly duties to keep your project thriving to its full potential.

5.1.1. Daily Inspections

The Caretaker performs daily visual inspections of outdoor gardens and play areas to identify safety concerns and needed repairs such as glass, broken boards, loose handrails or anything that could cause injury. A daily maintenance log book is kept on file at the school.

5.1.2. Annual Inspections

The Facilities Management Department implements an annual inspection program performed by a professionally certified playground consultant. The annual inspection is done in accordance with the current CSA standards. A copy of the annual inspection is delivered to the Principal.

5.1.3. Maintenance and Repairs

Based on observations noted during the daily and annual inspections, there may be on-going maintenance and repairs required for your outdoor space. Safety concerns that require repairs are requested through the school's Head Caretaker who initiates a work order. If a weakness is identified in a structure that cannot be immediately repaired, the equipment is removed from service until repairs can be made. If the structure is deemed irreparable, it is removed and disposed of. All repairs are completed by a qualified tradesperson, coordinated through Facilities Management.

Caretakers are not responsible for maintaining gardens that have been created by the school community. All ongoing costs related to outdoor gardens and play areas are paid by the school.

Refer to section 5.1.4. for more detailed information on garden maintenance tasks.

5.1.4. Garden Maintenance

The on-going upkeep of gardens is the responsibility of the school community. At this point in your project your Maintenance Team has been formed and a strategy for how to maintain your garden can be developed. Decide who will be responsible for the following tasks.

Watering:

Watering in the first two years after planting is the most important task in keeping your garden thriving. Generally it takes plants two years to establish in their planted location, meaning that they are the most sensitive during this period, and more susceptible to drying out. Trees in particular need lots of water (usually every day) to ensure they do not die during this time period.

Use the following guidelines for watering your garden:

- Ensure someone on your Maintenance Team has access to a water source. Some spouts may require a key to open.
- During the summer months, check the soil moisture every day by pulling back mulch and inserting your index finger 3” into the soil. If the soil feels dry, you need to water.
- Water the soil, not the leaves. This will ensure that the maximum amount of water is absorbed into the ground, rather than evaporated off of leaves.
- Water in the morning, not the afternoon. Water collected on leaves in the afternoon makes them susceptible to burning in the sun. Watering in the evening may be acceptable on occasion when it is not possible in the morning, but repeated watering in the evenings can leave gardens susceptible to mildew with cool evening temperatures.

Weeding:

Weeds compete with plants for space in the garden and nutrients found in the soil. To keep gardens looking healthy and tidy, thorough weeding should also take place on a regular basis, removing the entire plant, including roots. After removing weeds, redistribute mulch over bare areas.

Pruning:

Pruning involves removing branches, twigs or foliage from a tree, shrub or perennial in order to remove dead parts of the plant to help improve the shape of the plant, correct structural problems, or to encourage new growth and re-bloom. Pruning is required on an as-needed basis.

Use the following guidelines to prune plants in your garden:

- When pruning shrubs and perennials use pruning shears or secateurs.
- When pruning larger branches on shrubs or trees use loppers.
- When pruning branches make a sloped cut above the bud. No further treatment is required of the exposed cut.
- When pruning shrubs, remove old wood to the ground at a maximum of 30% of the shrub. This will encourage new growth from the roots rather than the ends of the branches.
- Prune shrubs to maintain symmetry. Plants that bloom before the middle of June should be pruned immediately after bloom. Shrubs that bloom after mid-June should be pruned in the early spring or winter.

Mulching:

Mulching involves spreading shredded bark material over the exposed soil of the garden to retain moisture and reduce weed growth. In the spring shredded bark mulch should be added to the garden bed to a depth of 75mm or as needed to cover any bare areas and 100mm depth for all tree saucers. Refer to section 3.2.4.2. for more information on mulch.

Deadheading:

Deadheading involves removing dead flower heads from plants. Once a shrub or perennial has flowered, it should be deadheaded to discourage setting of seeds and to encourage additional blooms.

Dividing Perennials:

Dividing involves splitting the foliage and root ball of perennials into two or more pieces, which can then be re-planted. For many perennials, division may occur in the spring or fall. Perennials should all be divided every three years or as needed. Four signs that plants need dividing are:

- Plants are overcrowded and need more room to grow
- The centre of the plant looks weak or has died
- The plant does not bloom as well as it did the year before or does not bloom at all
- The plant is smaller in size than in previous seasons



Use the following guidelines to divide perennials in your garden:

- Cut back the growth of larger plants by two-thirds but avoid damaging new growth on the plant. Cutting the plant back will allow the plant's energy to go to the roots when it is first planted and it will be easier to work with when transplanting. Part the mulch and loosen the soil and around the plant and lift out the entire plant keeping as much soil as possible with the plant to protect the roots.
- Use a garden shovel or sharp garden knife to cut the plant in half from the roots (plants can be divided two or three times depending on size.)
- Add triple mix soil and bone meal to the original hole when replanting the original plant. This will help the roots of the plant to redevelop. While waiting to plant, ensure that the roots of the original plant and the divisions are covered with soil to ensure that the roots are protected and do not dry out. This will help prevent the plant from suffering from transplant stress.
- Parts of the plant removed by division may be potted up for transplanting outside the garden.
- Compact the soil around the plants. Water the plants well and fertilize. Re-install mulch around the plant after re-planting.

Litter Control: Monitor the garden for litter throughout the year and remove as needed to keep your garden looking tidy.

Spring Clean-Up: Beginning in April, leaves and debris should be raked and swept out of the garden. Remove any other debris such as dead branches. When removing debris from the garden, it is important not to remove mulch from the planting beds. All branches and debris are to be disposed of off-site.

In addition to cleaning the garden, edging is an important part of spring maintenance activities. The garden requires digging a "v" type edging. Using an edger (a flat bladed spade), cut along the edge of the bed at an angle to angle to create a "v" cut in a straight line to remove the soil. Do not place soil on the mulch.

In late April and early May dead wood should be trimmed from all shrubs. The remaining leaves and stems that have died on perennial plants should also be removed to the ground to allow for the new growth from the crown.

Fall Clean-Up: The following tasks are to be completed in order to prepare the garden for the winter months. Edge all of the planting beds a final time using the v-cut method. Continue to weed throughout the fall months as needed. Mulch should also be added to the beds in areas where it has become sparse. Continue to deadhead perennials and shrubs as needed throughout the early fall. In November, prune perennials to 150mm height. Wrap evergreen shrubs and trees with burlap.

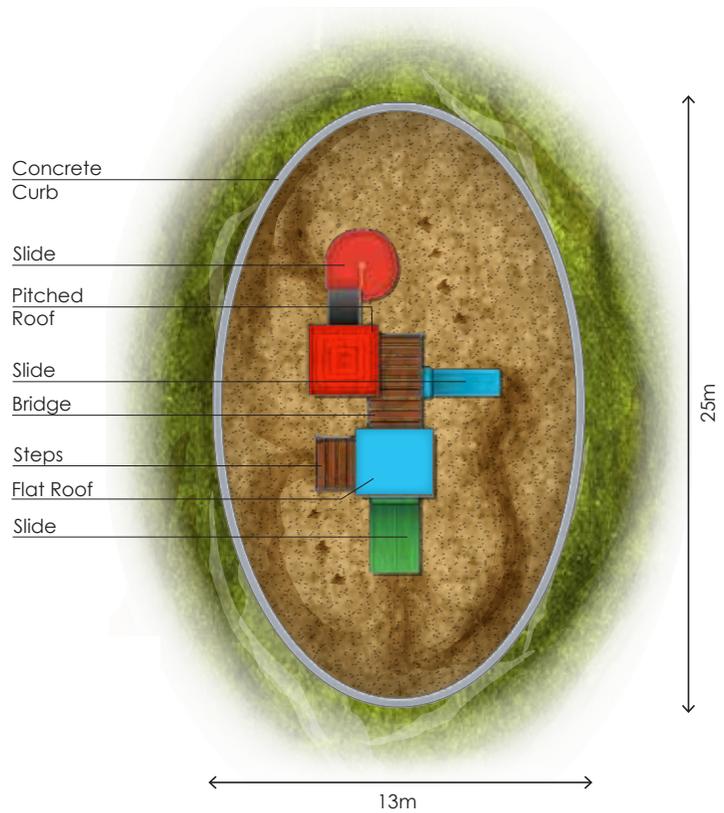
6. Design Examples



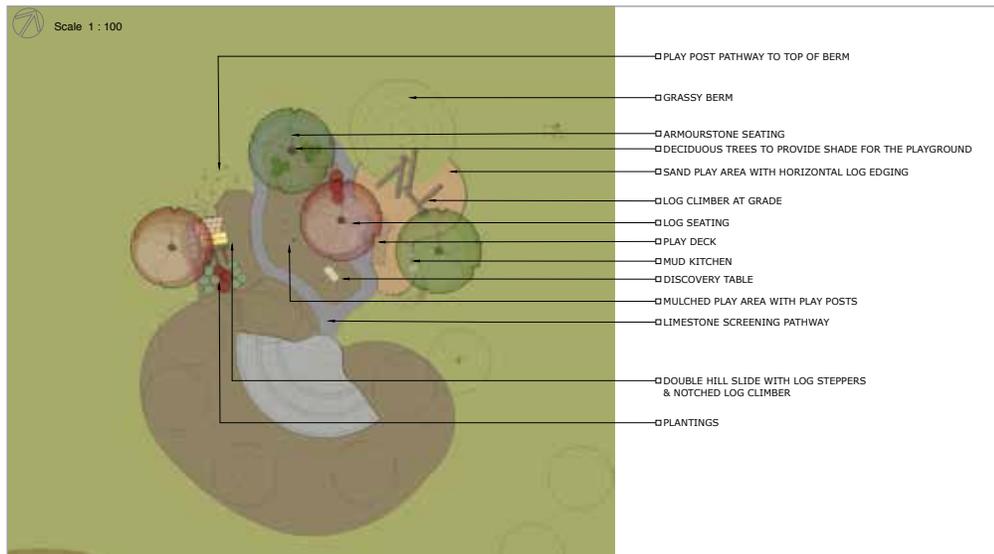
6. Design Examples

6.1. Playground

Play is a critical factor in childhood development of social, cognitive, and physical well-being. Play spaces may take many forms, including traditional play equipment (as shown in the first example on the right), natural playgrounds (as shown in the second example below), an open field, or a sports court. Refer to section 3.2.5. for detailed information on play space options.



SAMPLE TRADITIONAL PLAY EQUIPMENT



SAMPLE NATURAL PLAYGROUND

Sample design provided by Earthscape

6.2. Pollinator Garden

It is important to consider planting a pollinator garden within the urban environment, as they are critical to pollinate fruits, vegetables, flowers (both wild and domesticated) and help make plants healthier and yield better harvests. While we don't know exactly why pollinator populations are declining worldwide, lack of habitat is a factor. By making a welcoming space that provides shelter and food for insects and animals (i.e. bees, wasps, flies, beetles, butterflies, moths, bats, hummingbirds), this will help make other gardens and/or plantings on the property and neighbourhood thrive, while also helping to preserve essential pollinator populations.

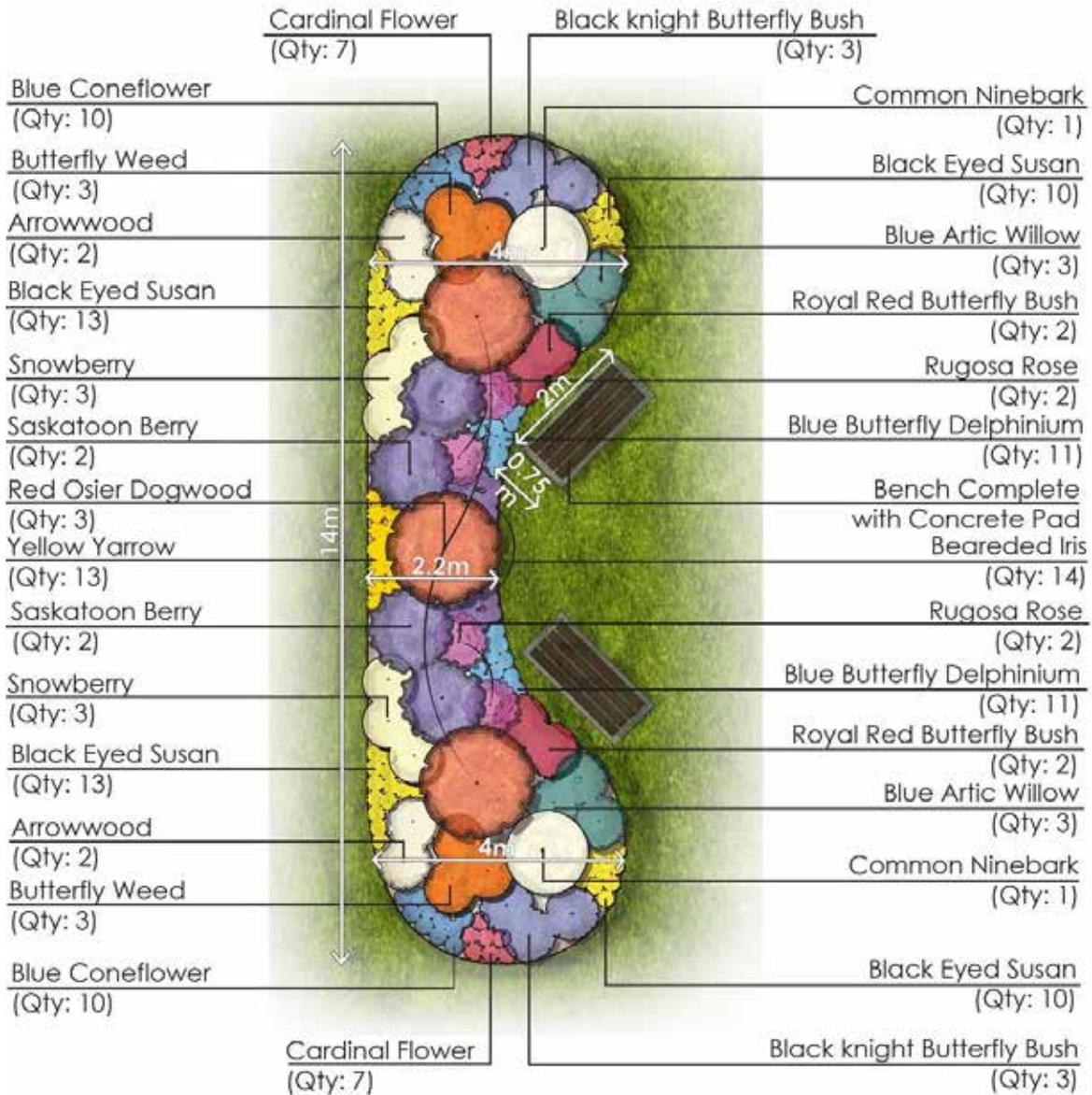
A pollinator garden should be located in an area sheltered from wind that has a mix of sun and shade throughout the day. This type of garden consists of a variety of plants that will bloom from spring to fall, are colourful and diverse, rich in pollen and nectar, and are easily accessible to pollinators. Providing a wide range of flower types is beneficial to attract a wider range of pollinators. Also, there are various places in the garden for them to live, find shelter, build nests in soil, trees, or dead wood, and provide plants or other places for eggs and larvae. Pollinators are interesting to observe and can provide on-going learning opportunities.

Allergies should also be taken into consideration when choosing the location for a pollinator garden, as pollen, bees, and wasps can cause serious allergic reactions. Pollinator gardens should not be located near entrances, windows, or play areas. Refer to section 3.2.1.8. for more detailed information on allergy-friendly planting.

Naturalized Gardens are gardens designed for the purpose of allowing native plants to grow undisturbed, as well as to provide and sustain a diverse ecosystem for wildlife (i.e. birds, insects, etc.). The idea is to mimic nature by creating a community of plants that grow well together. In order to create a naturalized garden, every plant species in the garden must be native to the region it is being planted in. A naturalized garden will require lots of research, planning, and hard work to ensure the proper plants are selected for an easy to maintain and sustainable garden.



SAMPLE POLLINATOR GARDEN



6.3. Rain Garden

A rain garden is a garden which is designed to take advantage of rainfall, snowmelt and storm water to reduce runoff. Typically it is a small planted area which is designed to withstand extremes in moisture and nutrient concentrations which come from storm water areas, hard surfaces, roofs, parking lots and compacted lawns. The water is filtered and cleaned of many pollutants before it exits our municipal storm systems into our lakes and rivers.

Native and adaptive plants such as grasses, sedges, wildflowers, ferns, trees and shrubs are recommended to be utilized with this type of garden as they have variable root systems for better water infiltration and drought tolerance during drier seasons or weather patterns, and will contribute to urban habitats. Well planned/designed rain gardens should require little maintenance, and if maintained properly, provide multiple benefits.

6.4. Vegetable Garden

Planting a vegetable garden is a great way to learn about small-scale food production in an urban environment. This is a garden that will require regular care and maintenance during the growing season. This is to ensure that the vegetables are watered, pests are removed, and food is harvested at the best time so the fruits or vegetables are ripe. A sunny location will work best and the garden can be installed in raised beds or planter boxes for ease of access and space efficiency.

Selection of the right plants for the space you have is very important.

There are many vegetables that can be successfully grown and harvested in the Hamilton-Wentworth region between the last frost of spring and the first frost of fall.

Common vegetables grown in the region include:

- Beans
- Beets
- Broccoli
- Brussels Sprouts
- Cabbage
- Carrots
- Cauliflower
- Celery
- Collards
- Corn
- Cucumbers
- Eggplant
- Kale
- Leeks
- Lettuce
- Onions
- Parsnips
- Peas
- Peppers
- Potatoes
- Pumpkins
- Radishes
- Spinach
- Squash
- Tomatoes
- Turnips

Consider the following when planning your vegetable garden:

Planting Time:

In our climate, most vegetable varieties need to be started in the spring to produce a harvest during the growing season. In some cases, if started from seed, vegetables may need to be started indoors before they can be transferred to the outdoor garden. Consider whether or not you have the space and resources for storing and maintaining seeds if started indoors. In some cases, it may be preferable to purchase small vegetable plants that have already been started in a nursery or garden centre, and transferring them directly to your garden instead of starting from seed.

Harvest Time:

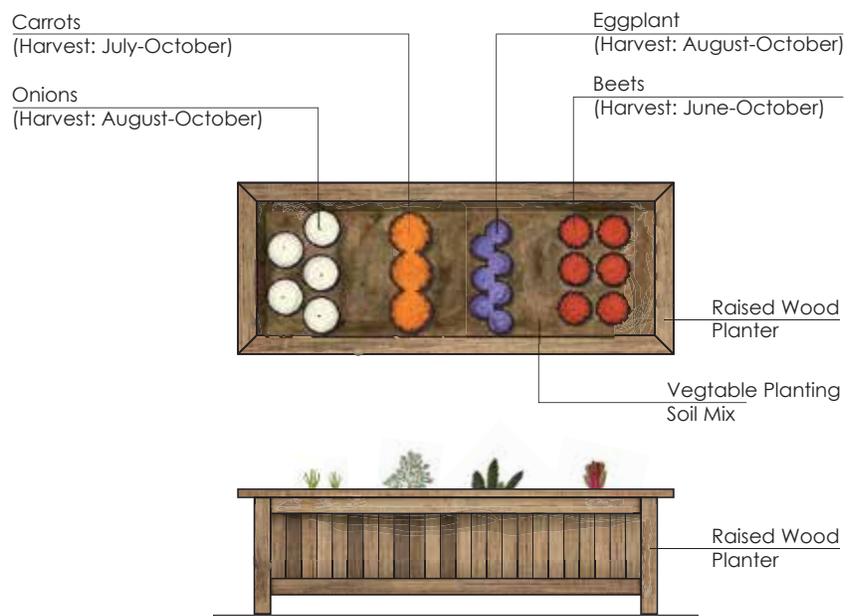
Before planting your garden, consider when the vegetables will be ripe and ready for harvest. Schools should choose vegetables that can be harvested in the spring and early summer, such as peas, lettuce, and beets; or vegetables that can be harvested in the fall such as squash, onions, and cabbage. Keep in mind that many plants that are harvested in the fall need to be planted in the spring. Consider who will maintain the garden during the summer months before choosing these varieties.

Space Requirements:

The size of your garden will play a big role in determining which vegetables should be selected. For example, pumpkins require a lot of space in the garden. If planted in a small, raised garden, they may not thrive as expected, or they may overtake space allotted to other vegetables. Also consider appropriate spacing of seeds when planting to ensure your vegetables have enough space to grow and produce. Appropriate spacing of seeds varies by species.

Maintenance:

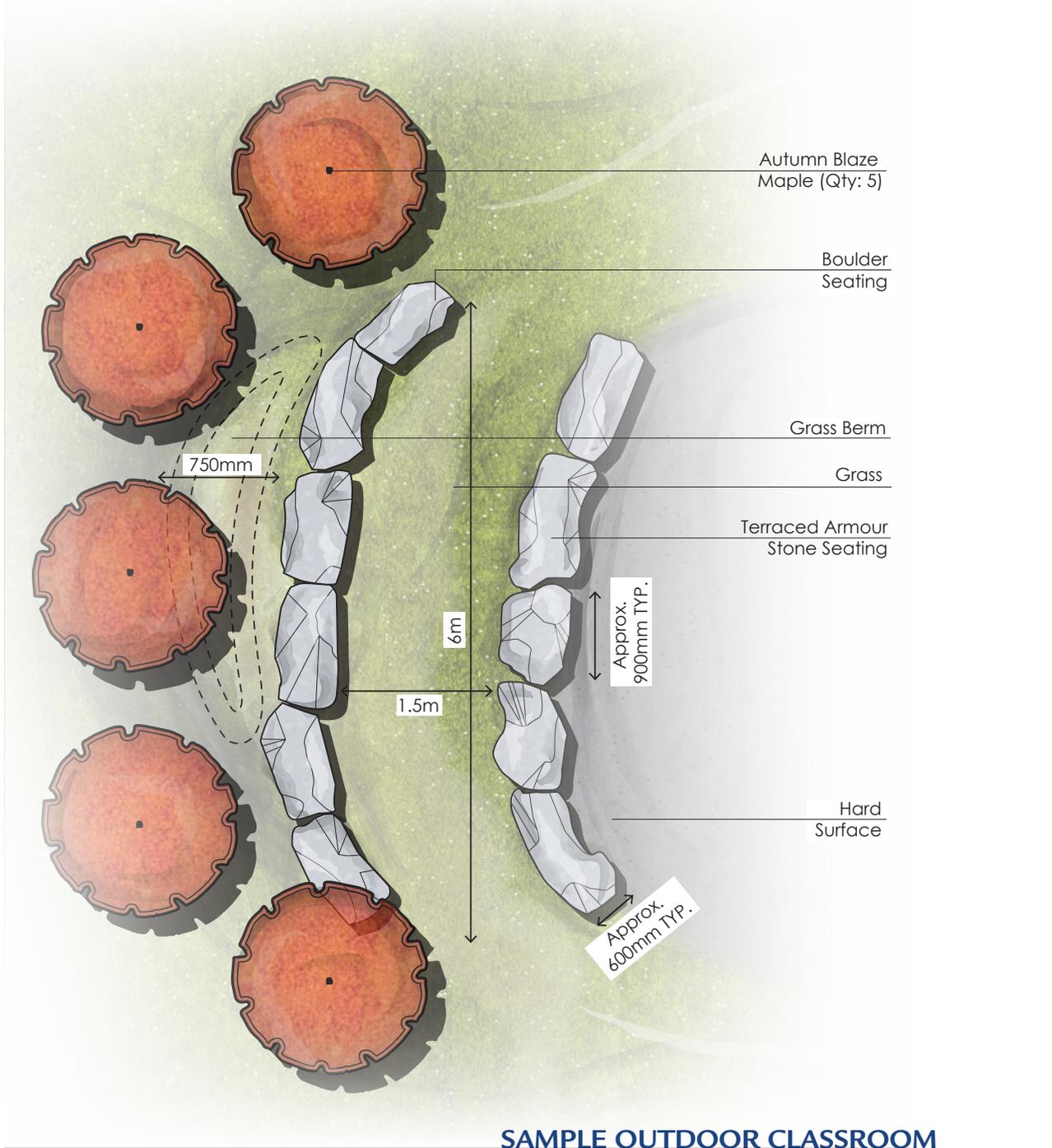
Keep in mind that vegetable gardens need regular maintenance including watering and weeding. Before planting your garden, ensure that there is a plan for who will be responsible for maintenance. Remember that critters, such as raccoons and rabbits, also love vegetables and may create a need for additional maintenance of your garden. Consider planting vegetables that pests tend to stay away from, such as peppers and potatoes; or using a strategy to fence off your garden, such as chicken wire.



SAMPLE VEGETABLE GARDEN

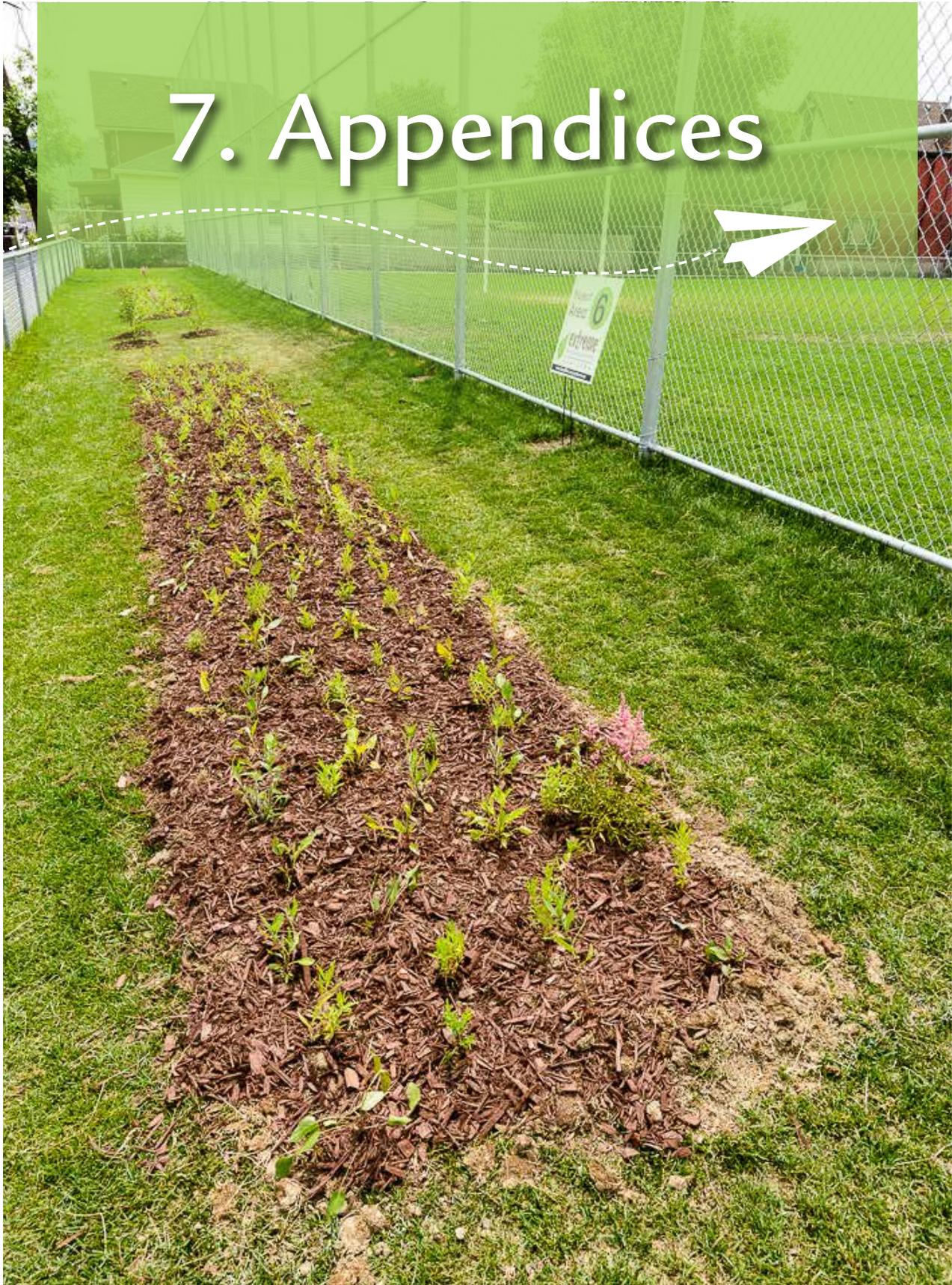
6.5. Outdoor Classroom

Outdoor classrooms are designed for students to connect with nature while individually growing and developing. Not all outdoor classrooms are alike, but they all provide varied learning experiences, as well as areas for reflection and observation. Outdoor classrooms can help students in terms of achievement, motivation, physical conditioning and excitement about nature. Both teachers and students who have used outdoor classrooms have reported increased knowledge and understanding of the lessons taught in these locations. Features such as fresh air, sunlight, wind, dappled shade from trees, earth, and rocks are all beneficial to students and teachers and provide opportunities not possible indoors.



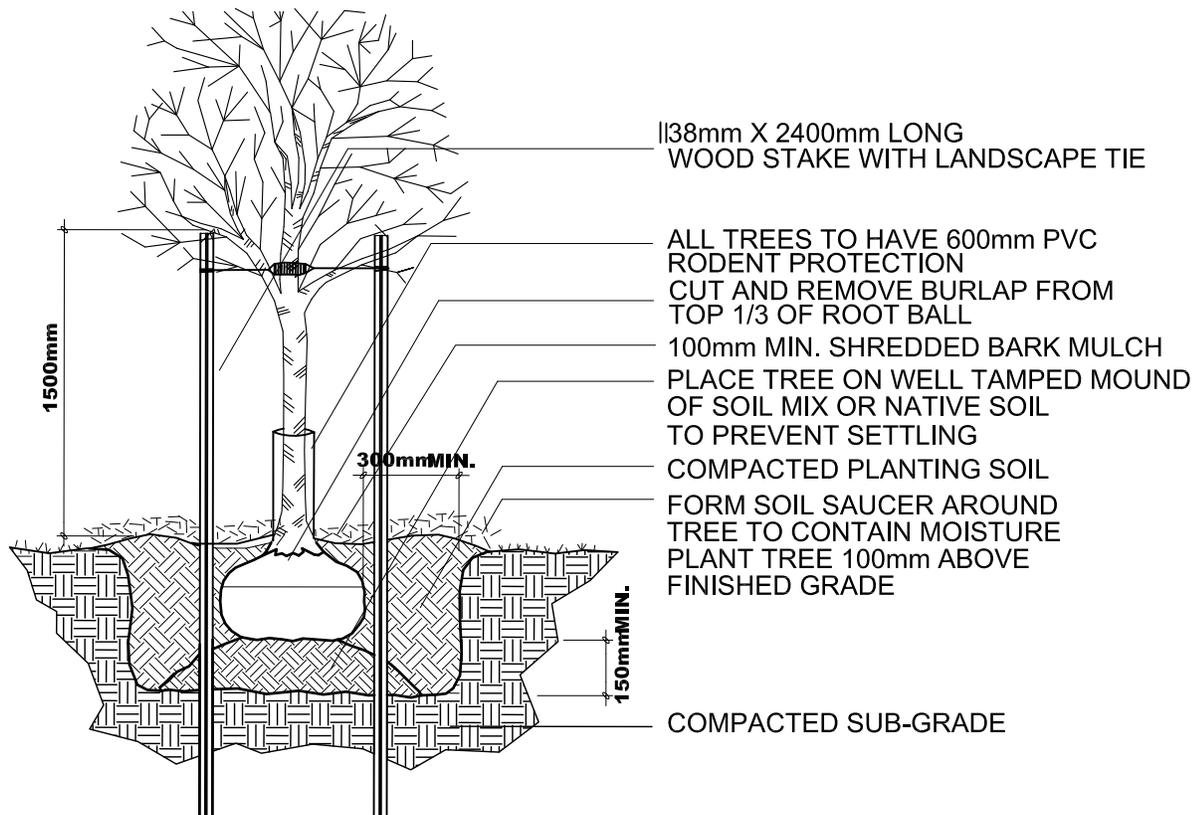
SAMPLE OUTDOOR CLASSROOM

7. Appendices

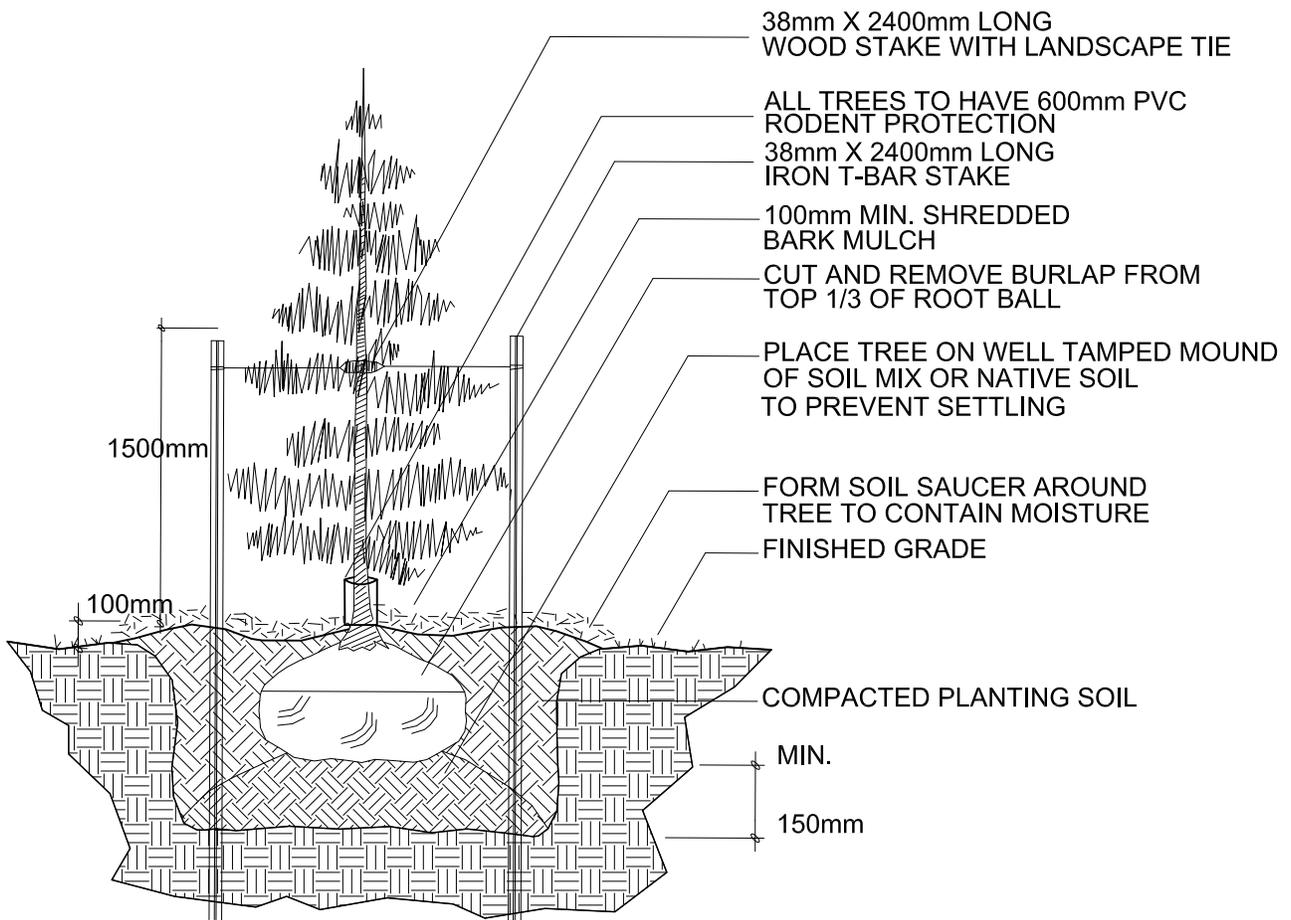


7. Appendices

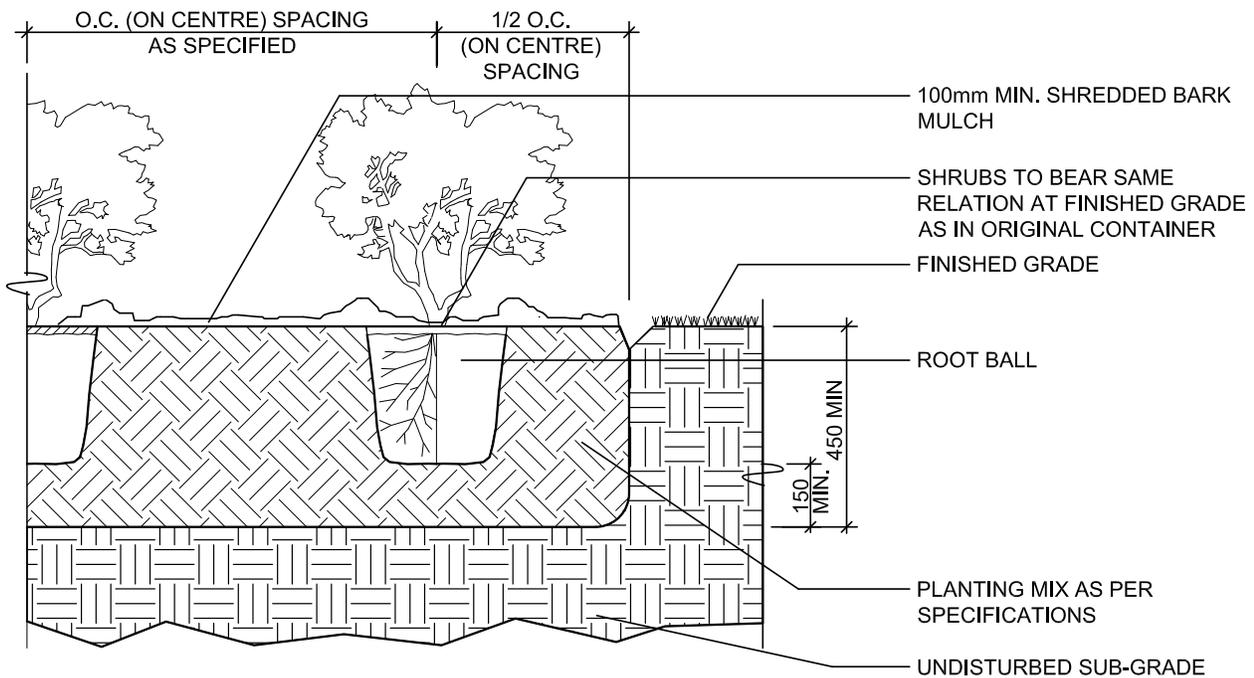
7.1. Deciduous Tree Planting Detail



7.2. Coniferous Tree Planting Detail



7.3. Shrub & Perennial Planting Detail



NOTES:

- EXCAVATE ENTIRE SHRUB BED AS SHOWN ON DRAWINGS.
- LOOSEN SOIL ON BOTTOM AND SIDES OF EXCAVATION PRIOR TO PLANTING.
- FOR PLANTS IN FIBRE CONTAINERS, POT TO BE REMOVED COMPLETELY BEFORE PLANTING.
- PLASTIC POT TO BE REMOVED COMPLETELY.
- CUT AWAY TOP 1/3 OF BURLAP AND ROPE ON B&B PLANT AND REMOVE WITHOUT DISTURBING ROOT BALL.
- PRUNE AS PER STANDARD HORTICULTURAL PRACTICE.
- REMOVE RUBBING AND/OR BROKEN BRANCHES, NURSERY TAGS, PLASTIC OR METAL.
- DO NOT TOP PRUNE.

7.4. Resources

Eco Schools

“Eco Schools strives to nurture environmental leaders, reduce the ecological impact of schools, and build environmentally responsible school communities.”

www.ontarioecoschools.org/document-category/curriculum

Forests Ontario

“At Forests Ontario, we’re dedicated to making Ontario’s forests greener. Our ambitious tree planting initiatives, extensive education programs, and decades of community outreach have helped plant millions of trees in the province each year—and it’s through these efforts that we’re bringing our vision for healthier forests to a new generation of stewards, partners, teachers, and donors.”

www.forestsontario.ca/education/resources

Building Outdoor Classrooms

“Focus on Forests is an online learning tool that provides curriculum linked resources to bring forests into any classroom.”

www.forestsontario.ca/wp-content/uploads/2016/02/TD_Outdoor_Classroom_Guide_ENG_FINAL.pdf

Dream Rider/Planet Protectors

“The Planet Protector Academy is a unique digital-led classroom-based program in which kids become ‘apprentice’ Planet Protectors’ and go home on superhero missions to change their families’ behaviours!”

<http://dreamriderproductions.com/free-resources>

Evergreen

“Through research, design and collaboration, Evergreen moves sustainable city building ideas into action.”

www.evergreen.ca/get-involved/resources/teachers-corner

Green Venture Non-profit Organization

“Green Venture is Hamilton’s premiere environmental education not-for-profit organization. They are dedicated to finding positive, practical and long-lasting ways to make Hamilton (and area) the most environmentally friendly place to be, every single day.”

www.greenventure.ca

Bay Area Restoration Council

“For 25 years the Bay Area Restoration Council (BARC) has been at the forefront of Hamilton Harbour restoration issues. BARC promotes, monitors, and assesses the implementation of the RAP and serves to communicate Harbour issues to the public.”

<http://hamiltonharbour.ca/>

Hamilton Naturalists' Club

“The Hamilton Naturalists' Club is a non-profit organization with over 600 members dedicated to the study, appreciation and conservation of our wild plants and animals.”

www.hamiltonnature.org

Hamilton-Halton Watershed Stewardship Program

“The Hamilton-Halton Watershed Stewardship Program (HHWSP) works with landowners in the watersheds of Hamilton Conservation Authority and Conservation Halton, providing advice on environmentally friendly ways of managing properties with natural features such as woodlots, wetlands, meadows and creeks.”

<https://conservationhamilton.ca/hamilton-halton-watershed-stewardship-program/>

Society for Allergy Friendly Environmental Gardening

“The Society for Allergy Friendly Environmental (SAFE) Gardening, a California public benefit corporation, was founded in March 2013 with the purpose of offering a healthy alternative to the all-too-common highly allergenic landscapes found in all of our cities.”

www.safegardening.org

Healthy Schoolyards

“Healthy Schoolyards is an initiative started by Peter Prakke, a Canadian horticulturist and award-winning educator. The initiative's goal is to provide healthy spaces for school aged children to exercise, play, and be educated.”

www.healthyschoolyards.org

Ogren, T. L. (2000) Allergy-Free Gardening: The Revolutionary Guide to Healthy Landscaping, Berkeley, California: Ten Speed Press

“This extensively researched, comprehensive, plant-by-plant reference alerts gardeners and helps them make landscaping choices that can drastically reduce their exposure to harmful allergens. Complete with alphabetical entries of basic planting information, growing zones, and allergy ratings.”

Ogren, T. L. (2015) The Allergy-Fighting Garden, Berkeley, California: Ten Speed Press

“With many new pollen-free plants to choose from, as well as clearly marked “worst offenders” to avoid, this is the ultimate resource for home gardeners and professionals alike who want to build healthy, safe, and beautiful gardens that everyone can enjoy.”

Let's Play Tool Kit - Rick Hansen Foundation: For Information on Creating Inclusive Play Spaces. <https://www.rickhansen.com/sites/default/files/downloads/letsplaytoolkit.pdf>

OSBIE - Naturalized Playspaces and Common Sense (Recorded Webcast): For Information on Play Area Design Considerations.

<https://www.youtube.com/watch?v=OITMHXg1aUY>

Johnson, L. (2001) The New Ontario Naturalized Garden: The Complete Guide to Using Native Plants, Vancouver, Ontario: Whitecap Books

“Johnson celebrates the diversity of Ontario’s native plants and teaches gardeners how to break free from the endless weeding, watering, and fertilizing problems of fussy exotic flora.”

Canadian Food Inspection Agency (CFIA)

“The current and future economic prosperity of the Canadian agriculture and forestry sectors relies on a healthy and sustainable animal and plant resource base. In an effort to protect the natural environment from invasive animal and plant diseases and plant pests, the CFIA performs extensive work related to the protection of environmental biodiversity.”

<http://www.inspection.gc.ca/eng/1297964599443/1297965645317>

7.5. Board Policies

HWDSB Procurement Policy

For information on HWDSB’s policies regarding procuring goods and/or services.

www.hwdsb.on.ca/wp-content/uploads/2012/05/Procurement-Directive.pdf

HWDSB Fundraising Policy

For information on HWDSB’s policies regarding fundraising.

www.hwdsb.on.ca/wp-content/uploads/2012/05/Fundraising.pdf

These resources are available for information only and are not an endorsement for goods or services.

Outdoor Design Project Request Form

Fillable form available for school administrators on myHWDSB under Facilities Management.

If you are a school administrator, [click here](#) to access the form.

HWDSB

Hamilton-Wentworth District School Board Outdoor Design Project Request Form

School/Facility Name: _____	Principal: _____
Target Project Date(s): _____ <small>(Precise dates are preferred so that school representatives can be informed)</small>	Work Order #: _____

Goal:
What is the purpose of this project (i.e. outdoor classroom)

Project Description:
What are specific components of the project (i.e. install tree stump seating for students, etc.)

Estimated Cost:

Funding Source(s):

Documentation*:

(Principal to provide documentation specifics outlined below)

- Concept Plan** - Provide a concept plan depicting the precise location of each requested project. Using the school's site plan, indicate the location of proposed elements and provide an inventory of existing schoolyard items (i.e. existing trees and hose bibs). Refer to section 2.3. in the HWDSB Outdoor Design Manual for a complete checklist of items to be included on the concept plan. Ambiguous plans will be returned for clarification.

I certify that the school is responsible for all costs associated with the project and its maintenance, including restoring any damage to the grounds.

Principal Signature

*Additional documentation may be required depending on the nature of the project.

For Internal Facilities Management Use Only	
Approved (Y/N): _____	Date: _____
Comments (Y/N)**: _____	

**If there are comments, please see the attached comments page

PLEASE COMPLETE AND RETURN TO FM SUPERVISOR



Writing:

MHBC Planning Urban Design & Landscape Architecture

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Details:

**Natural Playground Design by Earthscape
All Other Details and Designs by MHBC**

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