Ross Bay Native Plant Garden

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Project Information

The Vision

Native plants are vital components of healthy and resilient ecosystems. The vision of the Ross Bay Native Plant Garden is to create a dedicated city space for native plants that would naturally grow in the area; a common's garden that promotes biodiversity, food and habitat for native wildlife and fosters community education surrounding native plants and their myriad of benefits. The garden will consist of drought-tolerant, pollinator-friendly, medicinal and food-producing native plants, accessible crushed gravel pathways, educational signage, welcome statue and a mural.

The garden will be open for the public to enjoy, including neighbouring residents and visitors of Dallas Road and Ross Bay Cemetery. Moreover, it will become a visiting place and home to various native pollinator insects, birds, and other wildlife. Activities in the garden would include the initial stages of sheet-mulching, planting camas, perennial and established plants, and seeding large areas within the garden boundaries. Future activities include garden work parties, native plant identification and harvesting workshops, and local native plant restoration walking tours.

Garden Responsibility

The commons garden would be maintained by community members and community garden volunteers of the Fairfield Gonzales Community Association (FGCA). The Ross Bay Native Plant Garden was initiated and organised by Andrea Fritz, a local resident interested in the development of a community garden dedicated to hosting native plants and the revitalization of Garry Oak ecosystems. Andrea Fritz is currently the Community Garden Coordinator of the Fairfield Food Forest. This community garden is a successful community garden consisting of fruit trees, native shrubs, perennial plants, a shed and seating areas, managed by the FGCA and located in Robert J. Porter Park.

The FGCA will be responsible for directing activities associated with the Ross Bay Native Plant Garden. The FGCA Community Garden Volunteer Coordinator will direct and advertise the associated activities. Given the community interest in the establishment of an native plant garden in Fairfield, a garden committee will be established. Members can provide suggestions regarding the garden to the FGCA Community Garden Volunteer Coordinator and they can volunteer to support the maintenance and upkeep of the space.

The upkeep of the garden would include maintaining a pleasant visual appearance, keeping walking paths and setbacks clear of tripping hazards, creating and maintaining accessible signage to educate on native plants species present in the garden, including edibility. Work parties would occur twice annually at a minimum with other annual events such as workshops and walking tours through the garden.

Additional Community Benefits

The Ross Bay Native Plant Garden will be a learning space for all community members. Students from the local schools including Sir James Douglas, Margaret Jenkins, Central Middle School and Victoria High School will be invited to help in the establishment of the garden. The learning opportunities from working in the garden include learning about local plants and habitat. The use of local, native plants in difficult climates such as an oceanside area is of useful application to many areas in Victoria, and can be a great example for both municipal and private gardens. This site would be a great addition to any local walking tours regarding Garry Oak ecosystems restoration or place-making tours regarding ecological stewardship and reconciliation.

As considered by the City during the review and approval of the garden's Expression of Interest, artistic opportunities in the garden will include a mural on the exterior washroom facility wall and a welcoming figure carved on wood in the garden. Local schools will be contacted to help create the artwork for the plant signage. This is intended to be a beautiful ocean side space where all community members are welcome to visit and create from the inspiration provided in the garden. All art components of this project will be reviewed and approved by the City of Victoria prior to execution.

Installation and Ongoing Maintenance

If approved by Council, the Ross Bay Native Plant Garden is planned to be installed in phases. The first phase of the garden involves sheet-mulching the triangular area close to Bushby street. To best facilitate the growth of the selected plants, some perennial plants will be installed at this phase to establish over the winter while others will be seeded in the spring. Bulbs of Camas will be planted in divots in the mulch that will emerge in the spring.

Water

Parks has confirmed they will first turn off the existing irrigation system and install a water box connection in the centre of the garden (see design for detail) for FGCA volunteers to hand-water and help establish new plants. Consultation with the Park's department will ensure efficient use of water for this low-water native plant garden.

Harvesting

Harvesting will be open to the public and signage will provide direction on best times of year to harvest. Only above ground harvesting will be permitted due to the underground irrigation used.

Maintenance

The garden will be maintained by volunteers coordinated by the FGCA for visual appearance and for safety of moving around in the area. Setbacks and sightlines will be respected and followed, as listed in the City's Boulevard Gardening Guidelines. Within these parameters, the garden will be able to develop on its own in a semi-natural way. We hope to encourage use of the garden by local wildlife including deer, squirrels, birds, and insects.

Ongoing maintenance will include:

- Early spring: seed sowing, clean up, weeding
- Spring: more sowing, planting of seedlings and young plants, weeding, mulching
- Summer: supplementary watering where needed, deadheading where appropriate, weeding, monitoring for pests
- Fall: planting, seed saving, mulching, weeding, seed sowing, cutting back and tidying where appropriate
- Winter: monitor for litter and damage weekly
- Late winter: planning, pruning, weeding, tending the hardscape and edges

Note: tasks and timing will vary from year to year, based on weather.

Composting

Green garden waste will be composted at the Fairfield Food Forest. Invasive weeds and seed heads will be removed from the site by the garden coordinator and properly disposed of by bagging and dropping off at the Hartland landfill.

Budget

Item	Supplier	$ Amount	$ Funding
Initial Expenditures			
Purchasing mature native plants and seed mixes and bulbs (400x$4, 100x$8)	Satin Flower Nursery	$2,400.00	CGSUG
Educational signage design, construction painting and installing	TBD	$1,000.00	CGSUG
Purchasing additional garden materials (i.e. edging for pathways, stepping stones,	Cook Street Castle	$500.00	CGSUG

netting) and tools			
Hire Prime Contractor to install the accessible crushed gravel pathways - labour for sod removal and pathway installation	TBD	$1200.00	CGSUG
Material costs of crushed gravel pathway and screenings	TBD	$1,600	CGSUG
Tractors, dump truck, turf cutter rental and plate tamper	TBD	$1,000	CGSUG
Food/Drinks for Volunteers at work parties	Deer and Dough Bakery	$100	CGSUG
Administration costs (12%)	FGCA	$705	CGSUG
Cardboard for sheet mulching	Fairfield Bicycle Shop	FREE	Donated
Compost and leaf mulch from the Park's department	City of Victoria	FREE	Donated
TOTAL:		**$8,505.00**	

*CGSUG = Community Garden Start-Up Grant

Anticipated Funding Sources

The FGCA has applied for the City of Victoria's Community Garden Start-Up Grant for the initial garden costs listed. In-kind support for this project such as additional materials or tools will be provided by the Fairfield Food Forest, as it is a community garden close by with many donated tools to loan to the Ross Bay Native Plant Garden whenever needed. Both gardens will be managed by the FGCA, thus sharing resources, volunteers and in kind contributions. Donations from local businesses for additional items will be pursued as needed.

After review with the City's Arts and Culture department, it has been determined that reviewing the Welcome Statue and Mural is outside the scope of the community garden review process. As additional place-making and artistic features are desired, they will be applied for through the City's My Great Neighbourhood Grant. The MGNG process will conduct a more robust review and will require further details to help shape a separate maintenance agreement, including further engagement with Songhees and Esquimalt for permission to establish carvings and Coast Salish art displays in public spaces.

What the City will be asked to provide

- Installation of a keyed water box accessible to FGCA garden volunteers
- Bi-annual delivery of mulch, compost, and wood chips under the existing Community Garden program

Timeline

This timeline is based on the assumption that a licence of occupation will be approved by February/March 2023.

Timeline	Task/ Activity
March 2023	BC One Call to locate underground utility lines. Contact Parks to identify any underground sewer, water, and stormwater lines. Reconfigure the existing irrigation system (Park's Department) and install water taps.
April 2023	Installation of accessible pathways includes the removal of existing soil (6" depth) and add a minimum 4" compacted depth of screenings; moisten the gravel and compact with a plate tamper to achieve suitable compaction. If the existing soil is very wet or boggy then drainage may be required and/or additional depth (Ie 6") or additional sub-base layer under the screenings, such as a 1" minus gravel. The City also recommends using Rompox D7000 gravel stabiliser that is often used on gravel pathways to improve accessibility.
April 2023	Flag out the garden areas (zones to be mulched.). Onsite visit with Parks for pre-construction meeting. Organise delivery of mulch and compost with Parks. Sheet-mulching. Planting of larger established plants and camas bulbs. Seeding of large areas with annual plants or easily established perennials.
May 2023:	Planting of small and medium sized plants in sheet mulched areas.
May 2023:	Install designed signage in the garden
May/June 2023:	Ross Bay Native Plant Garden Launch - Community Gathering

Future Expansion

Once the community garden has been established and proven to be successful, it is the intention to submit an expansion application for the future sections of the garden. The City of Victoria Parks department directed us to apply for this garden in stages. Details will be proposed in the fall of 2023.

Site Map Background

During the Expression of Interest review, City of Victoria staff approved this phase of the garden development to occur in the green space triangle north of Lower Memorial Green situated between Memorial Crescent and Ross Bay Cemetery. This space is approximately 150 square metres between the street parking on Memorial Crescent and the multi-use path. As this garden is being proposed in a green space similar size and location to a boulevard garden, the garden design follows the parameters outlined in the City's Boulevard Gardening Guidelines.

Garden Design

Site Map

Please find the garden design including a detailed, to-scale site map and materials list.

Ross Bay - Native Plant Garden

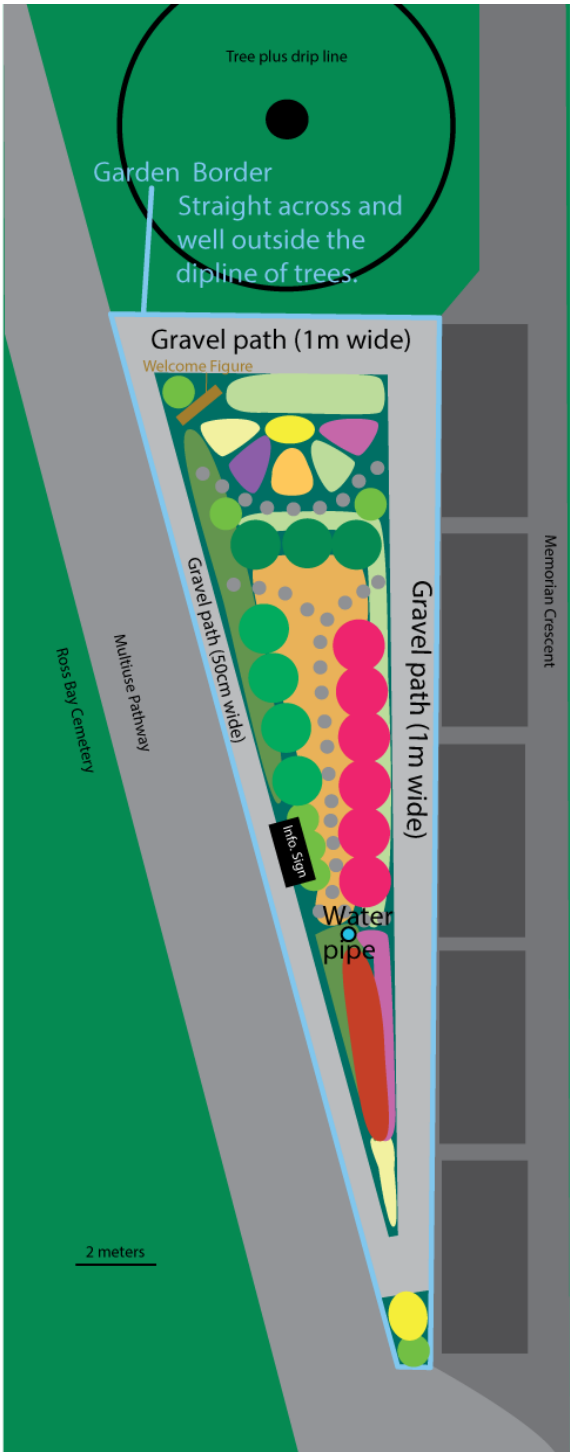
Memorial Crescent near Bushby
Design proposal Jan 2023
-Andrea Fritz
(Plants are the same as the previous proposal just with altered postitions to acomodate new gravel pathway)

Native Plants in this Garden:

- Sword Fern
- Salal
- Dull Oregon Grape
- Siberian Miner's Lettuce
- Miner's Lettuce
- Ocean Spray
- Wooly Sunflower
- Red Flowering Current
- Wild Strawberry
- Seablush
- Stonecrop
- Broad-leaf Shooting Star
- Salmonberry
- Yarrow
- Nootka Rose
- Cincquefoil
- Stepping Stonet

Other Plants that will be scattered throughout the garden:

- Common Camas
- Desert Parsley
- Spring Gold
- Fool's Onion



Plant material

Food Trees and shrubs listed in the design include: Salal, Dull Oregon grape, Red Flowering Currant, Salmonberry, Nootka rose, Siberian Miner's Lettuce, Miner's Lettuce, Wild Strawberry, Stonecrop, Yarrow, Cinquefoil, Camas, Desert Parsley, Fool's Onion.

There are trees located along the edge of the cemetery on the other side of the multi-use pathway. The garden does not interfere with these trees. There is also a group of trees located south of the garden site. The largest garden bed to the south will be located just outside of the dripline of those trees.

Material List

The garden design identifies the location and shape of garden beds, the size, location and material of plant material and structures in the garden. These elements are also described below.

Shape and location of beds

The garden will consist of three triangular in-ground beds:

1) The northernmost bed, approximately 2m^2 in size, will host an island of Sword Ferns, Cinquefoil and broadleaf stonecrop.

2) The mid-section will host a garden bed 8m^2 including the garden information sign surrounded by Nootka rose and Camas butted up against a section of Salmonberry with Miner's Lettuce and Seablush underneath. This bed and the one south of it will include an access crushed gravel path intended to be used for those working in the garden to keep the multi-use pathway clear. We also hope to have a waterbox installed here for access by garden volunteers for hand watering all phases of the Ross Bay Native Plant Garden.

3) The largest bed will be 62m^2 in size and located between the street parking and multi-use pathway, while maintaining a 5m better outside the dripline of three to the south. It will be bordered by Red Flowering currant, Salal and Dull Oregon Grape. Many under-palntings will be placed around the bushes including Wild Strawberry, stonecrop, Siberian Miner's Lettuce, Seablush, Shooting Star, Camas, desert parsley, spring gold, and fools onion. Through the middle of this garden will be a stone stepping path for garden maintenance as well as garden users to access the inside plants. The southern part of the garden will have a wall of Ocean spray maintained at 1m tall, Fools onion, Wooly Sunflower, Yarrow, Sword fern, Camas, and Goldenrod. The Welcome figure will be placed at the southern tip of this garden bed facing the ocean, as is the tradition.

The front edge of the gardens will be kept a minimum of 50 cm from the multi-use path to ensure that there will not be any obstruction to the use of the multi-use path. This will allow for a space between the multi-use path and the gardens for volunteers to work in without impeding the flow of traffic. The multi-use path is frequently used by cyclists,

pedestrians, and dog-walkers, so this will help to maintain a buffer zone between this active transportation route and the new native plant beds.

Pathways

The City requires the main pathways to be made of compacted crushed gravel for improved pedestrian accessibility and access to street parking along Memorial Crescent. One pathway will be located in between the multi-use pathway and the eastern side garden; this pathway will be approximately 50cm wide. The other pathway on the west side of the triangle will be approximately 1 m wide to allow for parked car riders to exit their vehicles safely. Edging will be used along the side of the path to ensure gravel material does not spill into the multi-use pathway and cause obstructions or slipping hazards. Three access pathways will be placed between the two main pathways to allow easy passage to all areas by all users.

Pathway material will follow the granular trail detail as outlined by the City. The installation of the accessible pathway will require the FGCA to hire a prime contractor and will be installed to City standards. Installation of accessible pathways includes the removal of existing soil (6" depth) and add a minimum 4" compacted depth of screenings; moisten the gravel and compact with a plate tamper to achieve suitable compaction. If the existing soil is very wet or boggy then drainage may be required and/or additional depth (Ie 6") or additional sub-base layer under the screenings, such as a 1" minus gravel. The City also recommends using Rompox D7000 gravel stabiliser that is often used on gravel pathways to improve accessibility.

No fencing will be used however there will be edging material in locations where leaf mulch may easily escape the garden. This edging material will ideally be made of natural short wood but may be made of plastic if the wood is found to be a tripping hazard.

Wooden statue

If approved, a Coast Salish welcoming figure will be painted on a live edge solid wood canvas to welcome visitors to this space. It will be 1.2m tall and 50 cm wide, located at the southernmost corner facing the ocean. It will be made of a locally sourced indigenous wood, created by Andrea Fritz, and installed using rebar or concrete footings.

Signage

Welcome Sign: A wooden sign for the garden is to be located near the northern corner of the garden and be easily visible from the multi-user pathway. The sign will be approximately 50cm by 100cm in size. The sign will be made of the same material as the welcome figure and be secured to the ground in much the same way using rebar attached to the wooden stand. The sign will be placed in a central location in the garden for visitors to read and understand the purpose of the garden and how to use it. The sign will also include information on how to sign up for the programming available in the garden. Programming in the garden will include local schools as well as interested Victoria residents.

Educational Signage: There will be up to two dozen 30cm signs with plant information to identify plants throughout the garden. Signs will be designed by local students and placed in non-intrusive areas. All of these signs will be less than 1m above the ground and made of wood. The signs will be attached to wooden posts driven into the ground.

Plant List

Shrubs	Ocean spray, Salal, Dull Oregon grape, Red Flowering Currant, Salmonberry, Nootka rose.
Plants	Sword fern, Siberian Miner's Lettuce, Miner's Lettuce, Wooly Sunflower, Wild Strawberry, Seablush, Stonecrop, Shooting star, Yarrow, Cinquefoil, Camas, Desert Parsley, Spring Gold, Fool's Onion.

Universal accessibility features

Materials within garden 1 ,2 and 3 will be within reach of less than 1m of the multi-use pathway to provide options for residents with mobility devices to enjoy and harvest plant material. Educational signage will be clearly marked and use colour contrast and support images to help with accessibility considerations. The Lower Memorial Green contains a nearby bench and a picnic table, so adequate seating is near at hand. Hand tools will be brought to the site as needed.

Water access

If approved by Council, the FGCA is responsible for watering the licensed garden area. We are requesting the City install a new water tap near the centre of the garden for ongoing access to hand watering for the FGCA (at about 19m, where feasible). We understand that the existing irrigation will be removed or turned off and will not be available for use by the FGCA.

The FGCA requests that the water box be installed with a keyed tap for use by the gardeners. We understand that this area will lose irrigation as a part of the stewardship of the space to the FGCA. A tap will be helpful for spot watering, and for cleaning tools (and gardeners) after a work session.

Fencing

There is no fencing required or permitted on this site. This is a very small green space and retaining a sense of openness and unity within the space is a goal for the design.

Deer management

This immediate area is heavily populated with deer foraging and we plan to cage sensitive plant material so it can establish. We have selected deer-tolerant plants and will be using non-poisonous plants in the design and maintenance plan. More sensitive plants will be placed under tougher plants to shield them partly from deer grazing but some deer activity is anticipated and welcome in the garden. We plan to adapt to the use of the garden by local deer by ensuring the spread of the plants that are found to be deer friendly/tolerant.

Community Engagement

Community Engagement Plan

This FGCA conducted select engagement strategies to ensure residents were involved in the creation of the garden and to reflect feedback from neighbouring residents and communities that frequented this space and could benefit from a native plant garden.

The community engagement strategies were conducted from September to November, 2022.

List of stakeholders

- Neighbours in the surrounding area of the Ross Bay Native Plant garden
- Residents of the Fairfield Gonzales area
- University students at the University of Victoria's Permaculture Design Course
- Select native plant experts with Satin Flower Nurseries
- W̱SÁNEĆ Knowledge Keeper, Tiffany Joseph

Engagement strategies

- In-person and online surveys with neighbourhood residents and FGCA members
- Input from permaculture design students
- Interviews with local, native plant experts and W̱SÁNEĆ Knowledge Keeper

Community engagement - Surveys

Neighbours within a couple minute walk of the garden were given a physical copy of a handout describing the garden project and included a survey to collect their feedback and ideas. A link to an online version of the survey was also provided.

Neighbours within the Fairfield/Gonzales area were emailed through the FGCA Observer newsletter and given the opportunity to complete the online survey. The survey was open from September to November 2022

The survey included the following questions:

- *Are you a resident of Fairfield Gonzales [yes/no]*
- *What questions or concerns do you have for this native plant garden?*
- *What ideas/plant options do you have for this garden?*
- *Would you like to be involved with tending the garden?*

The survey results are included as Appendix A.

Student Engagement:

In addition, a Permaculture class at the University of Victoria was utilised to create a garden proposal for the site using their newly established skills in permaculture. Many of their ideas were integrated into the design (see Appendix B).

Local expert interviews

The FGCA conducted interviews and hired native plant experts from Satin Flower Nursery. The consultant provided a report which outlined recommendations for the site (see Appendix C).

The Ross Bay Native Plant Garden also had consultation support from ŚW̱,XELOSELWET (Tiffany Joseph), a W̱SÁNEĆ knowledge-keeper, environmental steward and experienced plant expert. Tiffany's point of view was taken into consideration and many of her recommendations will be used in the creation of the garden.

'What We Heard' - Community Feedback

Through the engagement strategies provided, the FGCA engaged with the total number of people below:

Communities Engaged	**Number of people**
FGCA members and neighbouring residents through in-person and online survey	30
University students through the Permaculture Design Course	4
Local Knowledge Keepers and Native Plant Experts	4
TOTAL	38

The results:

Summary of Community Survey:

A total of 21 people filled out the surveys, 0 of which were in-person and 21 were through the online channels. The results demonstrate that 90.5% of people were residents of Fairfield Gonzales, 2 were not. 19 residents provided contact information to be kept up to date on work parties happening at the Ross Bay Native Plant Garden. A full list of feedback can be found in Appendix C. Feedback from the survey included:

- Four respondents had concerns about how the garden would be implemented. These concerns included how deer, dogs and children would be incorporated into the garden and one concern about having enough room for car passengers to exit their vehicles.

How we plan to address the concerns

To address these concerns we will be:

- Allowing deer to graze in all areas of the garden, we may put up temporary cages or other barriers to prevent the deer from killing the plants before they are established but we want the garden to be a part of the local ecosystem not separate from it.
- If we find an abundance of dog droppings in the garden then we will consider putting up a short fence (30cm tall) underneath existing plants to discourage this as the garden will have many edible plants that we do not want to have contaminated. Seeing as this is an on-leash site, we do not want to start with an unnatural barrier unless it is proven to be needed.
- Children will be welcome in the garden but the space will not be safe for unsupervised minors. The space is near a busy road and not everything that grows in the garden will be planted by the creators of the garden. Birds and other animals drop seeds that will grow plants that will not be removed until the next work party.
- We will be providing information signs on the plants and how to use them safely but it is up to the community members to ensure that what they or their children put in their mouths is safe to eat. We will do our best to ensure the safety of all who visit the garden.
- There will be a 1 metre walking path for passengers to exit their vehicles and utilise the access path to the multi use pathway

Ideas shared from stakeholders:

There were a dozen positive ideas received from the survey. These included:

- Deer resistant plantings
- Identification Signs for the plants
- Deer safe plants

- Dog and children safe plants
- Native edible plants
- Pollinator friendly plants
- Wind tolerant plants
- Berry and herb plants
- Interpretive signage with Lekwungen names and some cultural and/or ecological significance of the plants. The creation of QR codes that tell stories or have activities like a scavenger hunt.
- Native Rose bushes
- Native Black berries
- Local Native art

How we plan to address the ideas

We plan to have mostly deer resistant and wind tolerant plants. For those plants that are not deer resistant, we will have them as underplanting where they are protected by deer resistant plants. For example, Miner's lettuce under Oregon grape plants. In some ways, we plan to use the deer to help maintain a balance in the garden. Deer have maintained two red flowering currant bushes in our Food Forest garden at a height of 1m. The bushes that were protected from deer are now 4m tall after 10 years of growth. In order for the plant to be able to survive the intense deer grazing experienced at this location, we plan to cage some of the more sensitive plants for the first year of the garden.

In future stages, we plan to have interpretive signs including how to identify the plants, Lekwungen plant names and some cultural and/or ecological significance of the plants' uses.

A Coast Salish Welcoming figure is planned for the garden space to welcome all visitors to this special garden. This figure will be done on live edge wood and secured to the ground with rebar, concrete or both. The figure will face the ocean as is the tradition in Coast Salish Culture as that is the direction that canoes filled with visitors would come to visit an area from.

<u>Summary of Consultation with Satin Flower Nursery</u>

Wind is another major concern at this site. During our consultation with Satin Flower nursery, we came up with some plans to create windbreaks to protect the more sensitive plants. The wind breaks will consist of wind tolerant plants and short pieces of driftwood. Through maintaining a private native plant garden a block away from the proposed Ross Bay site, the Fairfield Garden Coordinator has extensive experience with the wind in Ross Bay and feels confident that the wind breaks and plant selections will ensure the success of most of the plants in the garden.

We intend for all plants selected and put in the garden to be edible, medicinal and non-toxic/non-poisonous. A natural state for this garden is what we want to achieve while also balancing the aesthetic view as well as the safety and ease of movement on the site. With this in mind, we will not be removing plant debris unless necessary for safety/movement or overall aesthetic appearance. This is because plant debris is important nesting areas for local pollinators and other insects.

The southern end of the garden will be maintained outside of the drip line of the trees and the grass edge of the garden will be circular or square with no small grass areas. This is to ensure ease of lawn mowing by the parks department.

We will be using many of the plants recommended by Satin flower Nursery including:

Miner's lettuce, Ocean spray, Wooly sunflower, Wild strawberry, Sea blush, Broad-leaf shooting star, Yarrow, Nootka Rose, Cinquefoil, Common Camas, Desert Parsley, Spring Gold, and Fools Onion.

These plants were recommended based on the site consideration including sun exposure, drainage and proximity to the ocean.

Other native plants will be used based on experience, food production, pollinators and requests from the community, these include:

Sword Fern, Salal, Dull Oregon Grape, Siberian Miner's Lettuce, Red Flowering Currant, Stonecrop, and Salmonberry.

These plants have been proven to grow in a location very similar to the selected site for the RBNPG and will have great benefits to the people and animal visitors to the garden.

<u>Summary of Consultation with Tiffany Joseph, indigenous plant expert:</u>

During our consultation with Tiffany Joseph, we discussed the importance of access for Indigenous peoples to traditional plants and medicine. All plants in the garden will be accessible to the Indigenous community and a list of plants for harvesting will be provided to the local Nations and the Native Friendship Centre. Further consultation and collaboration with the local Nations will be sought in this project in the future including programming in the garden as well as consultation during expansion of the garden (pending approval).

We heard from our engagement strategy that:

- Access to Indigenous plants is difficult for those who reside in the city and lack access to transportation to local nature areas.
- Access from the multi-use pathway side of the site will be available. As much signage as possible will face the pathway.

This site will be able to be used by Indigenous city residents to harvest food and medicinals that allows them to follow their traditional food practices and culture. Non-native local residents will have equal access to the Indigenous plants for both medicinal as well as educational uses. Local students will be encouraged to visit the garden to use as a learning tool for classes learning about local flora.

Conclusion

Many residents and community organisations are excited about the realisation of this garden. We look forward to a long and fruitful existence for the Ross Bay Native Plant Garden on the beautiful and unceded traditional territory of the lək̓ wəŋən Peoples which is currently owned by the City of Victoria.

Appendix A: Online Survey Feedback Information

Appendix B: Permaculture Design Feedback from Uvic Students is attached in scanned PDF format as the students provided a written and oral report and the results were scanned. The document is 25 pages.

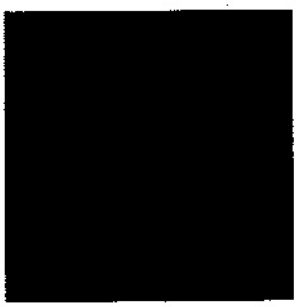
Appendix C: Satin Flower Nursery Report is attached in PDF format. The document is 14 pages.

Appendix A: All Comments from Online survey

- Cars need a lot more clearance than that,
- I think it's fantastic! So glad to see this happening. I'm an environmental educator and also work for the Invasive Species Council of BC (and a neighbour) - this is just the type of initiative I'd love to support.
- How will you keep dogs out of it?
- That plants are identified by signs and safe for children/dogs if accidentally eaten
- I am concerned that if you put up a fence or not that it would disrupt the use of that patch of land for community dogs and the cemetery deer. As someone that lives directly across from it, I see deer grazing there nightly and dogs utilising it daily. I would hate to see the deer deterred or for the dogs to lose any more space in this city. I would appreciate it if the deers' and dogs' use of the space was considered and accommodated as both are crucial to the essence of this neighbourhood.
- Deer browse the area and will definitely be browsing or completely devouring some of the plants. Careful consideration should be given to plant selection unless you plan on fencing the garden.
- Sounds great
- Where will you get the native plants from? How will they be protected from the deer in the area?
- Perhaps leave a grass (mowable) path at regular intervals (10’?) so walkers can cross the garden. Also, that helps keep a cared for intentional look..
- Nothing above 1m to maintain sight lines and keep all neighbours happy
- I'm pleased to hear about this. I've been working on a native plant restoration located on a piece of public property in the north Gonzales area since 2017. I'm inviting you to come for a visit. I'm a member of UVIC's Native Plant Study Group. I have much to share about my experiences.
- I love the idea! I have some ideas for outreach & sharing with the broader community, but will wait to see what is already planned. I'd like to volunteer to help! FYI I will be joining the FGCA board of directors later this month.
- I don’t know the extent of its boundaries. There were some of us in the community who were going to pitch for the new grassy area created by the infrastructure changes at the corner of Dallas and Memorial to be a no dog area. Is this just going to be essentially Boulevard, or will it extend to the picnic table and beyond? Is there a license of occupation from the city?
- As many native edible plants as possible. Also pollinator friendly. 🐝
- Anything that can withstand the strong winds in that location.
- sword fern, oregon grape, yarrow, camas, salal, yerba buena, fawn lilies, red flowering currant (maybe too tall for the space?), shooting star....anything appropriate for that space/soil/light; I <3 native plants!
- A dog-proof fence.

- Berries and herbs
- Deer-friendly plants.
- I'd like to see as many native pollinator plants as possible. Featuring local artists' work could be a big added feature.
- Evergreen huckleberry
- Lilies, balsamroot, camas, red osier dogwood
- Food for the deer native to the area.
- Please consider deer-proof plants only or you will spend most of your time mending deer fencing, replanting damaged plants, fixing netting, etc. : |
- Whatever is traditional, local, etc, particularly edible plants and herbs.
- Native plants
- Interpretive signage with Lekwungen names and some cultural and/or ecological significance of the plants. Could create QR codes that tell stories or have activities like a scavenger hunt. Check out Story Trails for ideas: https://bcparksfoundation.ca/projects/discover-parks/storytrails/#:~:text=Story%20Trails%20is%20an%20initiative,and%20stewards%20for%20the%20future.
- Native rose bushes. Native black-berries.
- Local native art.
- A wide variety of native plants.
- Food for the deer which live directly in the area.
- Mahonia Aquifolia, Mahonia nervosa, Sword fern. Coastal Mugwort (if the area gets enough sun--I can give you one) Indian plum. . .
- No questions, I'd like to be added to the volunteer list if possible! I'm interested in learning more about creating a native plant garden. Thank you!
- -I am perhaps interested in helping out, if needed.
- Would be cool to do some interpretive walks/workshops on cultural and ecological importance & uses of the plants. Perhaps even some citizen science projects like pollinator observations. (Personally, I am curious about how to use yarrow as I've been growing it for years but only recently learned of its medicinal and spiritual significance).
- I am happy to see the establishment of a Native Plant Garden. I wish to learn more as I am required to make substantial changes to the frontage of my property on Memorial Crescent and will probably be required to plant two replacement trees with little space or soil available.
- We live right beside the area in question and volunteer to help make it successful! We have many Lekwungen (Songhees) friends that also can help out and may want to get involved.
- How can I get involved? I live nearby and love to garden but my landlord recently destroyed my boulevard garden so I'd like to find somewhere to get my hands in the dirt, and learn about native species and traditional Songhees gardening & use of plants. Thank you!

Aja Fraser (V00912483)
Juliet Beckwith (V00896786)
Victoria Lawrence-Jeffery (V00909732)
Lily Robinson (V00937955)
ES433: Introduction to Permaculture Design
April 6, 2022



Final Design Project: The More You Grow Native Plant Garden at Ross Bay

Mission Statement:

The mission of The More You Grow's Native Plant Garden at Ross Bay is to create an aesthetically beautiful and ecologically Indigenous space in which community members can reflect on, engage with, and learn from native vegetation. Our project aims to center a decolonial and ecologically resilient approach to urban gardens and a commons mentality that enables people in the Fairfield community to appreciate and form relationships with the plants that are native to this place.

Vision Statement:

The More You Grow Ross Bay Native Plant Garden will fill the lower memorial green space with native flowers, shrubs, grasses, and ground covers. The space will be full of opportunities to engage with and spend time getting to know the native plants of this place. With the consent of our community partner, our project will include signage with Lekwungen plant names throughout the garden to encourage reflection on the space settlers occupy. The signage will encourage learning, relationship building and reflecting. The garden will include a natural playground to draw in young people. The playground will consist of climbing and play structures made from wood, rope and other natural materials. Additionally, a mural will transform the public washroom adjacent to the site into a beautiful piece of art to enjoy when visiting the garden. The garden will act as a commons, a shared and open space for the whole community to enjoy and for edible plants to be open to all for harvesting and consumption. The garden will be entirely filled with native plants in a polyculture form. The garden will require minimal intervention after installation, designed to withstand the climate and grow in a way that does not inconvenience the

community while receiving little to no maintenance. The garden will grow to support a wide array of pollinator species, birds, and other beings, human and nonhuman, who are increasingly displaced by urbanization and gentrification. The site will be a beautiful place for learning, relationship building, and urban foraging. It will bring awareness to the colonial and Indigenous landscapes we exist amongst, while building ecological resilience and producing food for all.

Goals

Plants: Plant 20-30 different native shrubs, grasses, groundcovers, flowers, and tree species by Spring 2023. Place plants thematically as either edible, medicinal, deer-mitigating, decorative or to encourage recreation. Plant in a polyculture form with an emphasis on companion planting.

Structures: Install a wheelchair and stroller accessible woodchip footpath (Bidel, 2021) and a playground made with natural building materials on-site by Summer 2022.

Signage: Install plant name signage and a welcome sign by Spring 2023

Maintenance: Achieve an independent polyculture with no more than bi-annual maintenance requirements by 2025.

Project Description & Site Analysis

The design site is currently called the Lower Memorial Greenspace, located at the intersection of Memorial Crescent and Dallas Road in Victoria. Beautiful views of the Salish Sea can be viewed looking south from the garden design site.The site is adjacent to the popular Dallas Road sea walk and the historically significant Ross Bay Cemetery. The recently finished construction along Dallas Road restructured the site; the newly created green space is the perfect place to introduce a native plant garden into the Fairfield neighborhood. Before the invasion of settlers, Ross Bay was among the many rich waterways used to thoughtfully cultivate and maintain Lekwungen food systems. The land was purchased in 1872 by Isabella Ross, a Metis woman who created the Ross Bay Cemetery. The first land-use map of the site was published in 1943. When the road Memorial Crescent was built, the site was partially formed as a boulevard. It was not until the recent construction, completed in 2021, that the boulevard was expanded to create the current greenspace (City of Victoria, n.d. b).

The design site has many features rendering it a destination location for local Fairfield residents and beyond. The south facing direction of the site provides amazing views of the Olympic Mountains in Washington state, and the coastal beaches in Ross Bay that stretch to Clover Point are wonderful places to relax. The south end of the site receives full sun during the day, making it an ideal place for growing plants and a warm place to hang out. The seven large trees on the site make the northern areas of the site more shaded, but they also create an inviting sheltered area. Strong winds coming off the water from both the southeast and the west are the biggest challenge for the site. As such, the plants selected for the site will be able to withstand strong winds year round. During the hot summer months the wind will help to keep the site cool enough to still enjoy. Rain water drainage for the site will not be of concern as water that is not absorbed into the soil will empty into the two culverts on the site or onto the road. The primary use of the site, prior to garden introduction, is as a walking path or short cut from the road, as there is very little that attracts people to the site. Therefore, the site is classified as occupying primarily zone 1 and 2 areas. Relevant stakeholders include Andrea from the Fairfield Gonzales Community Association, residents of houses on Memorial Crescent facing the site, passer-bys, and Ross Bay Cemetery staff.

Design Methods Phase One: Community Engagement

Community engagement formed the foundation of our design process. One of the goals of our project was to create a welcoming space for community gathering, recreation and education. Because of this, we felt it essential to center local perspectives throughout our design process. First, we conducted intercept surveys to assess current uses of the site as well as gain a sense of public interest in a native plant garden. See Appendix A for intercept survey questions.

After we recorded answers from these surveys, we began to gain a better understanding of the current and projected engagement with the site. However, we remained curious about the perspective of local residents. We figured that receiving input from residents living across Memorial Crescent would be important due to their close residential proximity to the site. To gain some general insight on local interest, we distributed posters with our contact information (See Appendix B). This however, raised some concerns. We received some emails questioning the approval for the project.

In order to deepen our understanding of the resident's perspectives on the project, we went door to door asking for input. The responses from residents were generally very positive, with only a few concerns about making sure the space is friendly for children, and that there were considerations made in the design for the abundant deer populations in the area. One local resident on Memorial Crescent agreed to participate in a more in depth interview as a strategic stakeholder. This resident informed us that a major concern for local residents is traffic speed in the area. He suggested that the inclusion of children's play structure in our design would encourage the city to lower the speed limit, thus increasing resident buy-in to the project. Our second strategic stakeholder was Andrea, our community partner, representing the Fairfield Gonzales Community Association. Throughout the design process we have kept Andrea's vision for the site at the front of our minds. Andrea emphasized a desire for placemaking by planting medicinals and edibles, as well as creating a safe physical space for children and off leash dogs. Additionally, Andrea identified the need for paths on the site next to the sidewalk because of a municipal requirement against the use of sidewalk space for garden maintenance. Andrea also suggested that the design employ one or more Indigenous artists to paint a mural or offer some other form of creative contribution. Finally, Andrea requested that the site be designed to need little to no maintenance, with ideally biannual maintenance after installation.

Design Methods Phase Two: Planning and Final Design

The planning phase or our design was informed primarily by the information we collected through community engagement. Spending time together at the design site helped us gain a better understanding of ecological and human dimensions of the site, recorded in our zone analysis and sector analysis. From here forwards, the design process consisted of a combination of research on native plant guilds, as well as intermittent visits to the site to continue observations and recording.

As we approached our final design, we used collective brainstorming to realize our vision. We wanted to create a design that would strike a balance between ideal locations for pathways and recreation zones while creating conditions for thriving native plant systems. As we created these initial designs, we encouraged ourselves to play around and refrain from immediately saying no to something because we

thought it might not work. We created several sketches of what we imagined the final design could be, then discussed the pros and cons of each. Our final product is a combination of the strengths of each of our brainstorms. After this we returned to the site, final design in hand. We walked through the site and visualized how our final design would feel on the ground. This stem was integral, because being at the site in person feels different than looking at the base map. We wanted to make sure that our final product felt congruent with an in-person visit.

Soils

To determine soil type a soil texture jar test was conducted. The test revealed a high humus and sandy layer that extended several inches down. The two established species on the site, the Austrian Pine and the Smooth Leaved Elm tree, do not serve as useful indicator species as they both have very little soil preference and can grow well in many conditions. Further soil testing can be conducted if a more detailed analysis of soil types is desired. Much of the soil in the northern section of the site is compacted from foot traffic. New healthy soil will need to be added for successful plant establishment . The south section of the site is less compacted. Due to a combination of this and sun angles, the plants appear more prosperous on this end of the site. New soil may be required when preparing the site but this will need to be determined when the current vegetation is removed. As it is not feasible to have compost production occur at the site, compost amendments will need to be brought on site when needed. A mulch layer over exposed soil will help promote microbial activity that will be essential in maintaining soil health as well as water and nutrient retention. A mulch layer can be made from wood chips, dried leaves, or tree bark chips.

Energy Systems & The Built Environment

The built structures on our site will include the plant name signage, a welcome sign, and the playground. None of these structures will require energy systems to function and all will require minimal maintenance. Our group imagines that the playground will be built using natural play materials such as ropes and logs (see budget). These materials will require occasional upkeep or replacement to ensure

safety. The plant name and welcome signs are imagined to be built from wooden stakes and plaques. These signs will also require occasional replacement and upkeep.

Fencing

The proposed design plan does not include the use of a physical fence. A fence limits entry into the site and elicits an energy of privacy which holds us back from realizing our vision of a commons. Our group decided to use the principle of permaculture of integration as well as using available resources to create a natural fence with the use of deer-resistant plants, positioned on the design to protect plants vulnerable to deer grazing.

Pathways

The design of the pathways promotes ease of movement through the site and creates easy access to the entire site. The path design uses the natural pattern of a tree to create desire lines throughout the site (Bloom and Boehnlein, 2015, p. 52). A main path will connect the east and west sides of the site and the north and south ends of the site, acting as the trunk of the tree. Branching paths will intersect the main path at various points leading to the rest of the site. A path around the entirety of the outside of the site will be used for maintenance purposes to keep workers off the roadways and sidewalks, as mentioned above. The main paths will be wide enough for stroller and wheelchair access, and branching paths will either end with keyholes making it possible to turn strollers and wheelchairs around, or open to the road or sidewalk. We suggest paths be lined with wood chips and mulch, identified in other city parks as an accessible and aesthetically pleasing option (Bidal, 2021). Water will be able to drain through the pathways and enter the soil underneath. A thick mulch path also protects root systems of plants growing underneath. We would suggest a different type of mulch than what would be covering the plant beds to create a distinction between path and garden bed.

Water Systems

Throughout the design process, we observed the site in a variety of weather conditions and found the site to be consistently moist but not saturated in most areas. There is one patch in the northwest section of the site that collected higher levels of moisture following rain events than the rest of the site.

The annual water catchment potential for the public washroom adjacent to the site was found to be 14, 776.07 liters (Bloom and Boehnlein, 2015, p. 164; City of Victoria, n.d. a). The only need for water on the design site is for plants. While there is a need for water throughout the design site, there is currently a need to move water from north to south.

One of the main concerns for site water catchment will be the need for a low maintenance design, requested by Andrea. Because there are currently eight city sprinkler taps installed on the north half of the site, we are proposing to expand the already installed sprinkler system to cover the entire site. We are proposing to add six additional taps to the southern half of the site, where smaller medicinal, edible, and decorative plants will be located. The proposed locations of the sprinklers as well as their estimated spray radius are outlined in the water overlay attached (Irrigation Tutorials, 2022). Although this type of irrigation is not a common permaculture design component, we decided to utilize and expand the resources already available to us, again considering the importance of a low maintenance design.

Plant and Food Systems

The existing vegetation at the site is relatively sparse. The ground is covered primarily by short lawn grass with a few weeds. In the center of the site there are six mature Austrian pine trees. The trunks of these trees have approximately two foot diameters, and reach heights of approximately 50 feet. At the southern end of the site there is one smooth-leaved elm tree. The trunk is approximately three feet in diameter and its height also ranges around 50 feet.

Table 1: Existing Vegetation

Common Name	Latin Name	Potential Yields
Austrian Pine	*Pinus nigra*	Shade Aesthetic
Common Lawn Grass - Kentucky Bluegrass - Ryegrass - Fescues	 *Poa pratensis* *Lolium perenne* *Festuca*	Recreational space Good for dogs and kids
Smooth Leaved Elm	*Ulmus minor*	Summer shade Aesthetic

		Leaves could be used for gardening purposes in the fall

Our recommended vegetation has been chosen due to the requests expressed by our stakeholders. Each section of the garden will serve a specific function, and each plant chosen will support said function. The first function we want to provide is recreation. This zone will consist of native grasses which will create an open space for play, and spaces where dogs can be let off leash. The second section will include medicinal native plants. This is our largest category of recommended plants. Medicinal plants will also offer educational opportunities for those who visit the garden. The next section contains edible native plants. These plants are grouped together for safety reasons. Harvesting edibles from the garden will bring to fruition our visions of community engagement, placemaking, commons mentality, and food for all. We finally have selected plants that fulfill a structural function. Planting the right selection of hardy shrubs around the perimeter of the garden will act as a natural fence. Additionally, we have included deer resistant plants in the structural guilds, due to the high volumes of deer living in this region. Lastly, we have chosen to include a section of the garden that offers the function of aesthetic beauty. We have chosen a selection of native species that are visually stunning to include in this section. The indices of recommended vegetation are divided into tables based on the section below.

Table 2: Index of recommended recreational vegetation

Common Name	**Latin Name**	**Potential Yields**
Blue eyed grass	*Sisyrinchium angustifolium*	- Tea made from roots aids digestive ailments - Attracts pollinators
California oatgrass	*Danthonica californica*	- Enhances biodiversity - Erosion control
Junegrass	*Koeleria macrantha*	- Stabilizes soil and water movement
Yarrow	*Achillea millefolium*	- Accumulates soil nutrients - Attracts pollinators

For our recreational plant guild, we have chosen to blend several different native grass species in order to achieve the appearance and functionality of a lawn. We've included California oatgrass within the mix due to its deer resistant properties. Additionally, we have chosen to include yarrow, because it can be mowed down and blends well with native grasses, while also offering a deer resistant function.

Table 3: Index of recommended medicinal vegetation

Common Name	**Latin Name**	**Potential Yields**
Barestem desert-parsley	*Lomatium nudicaule*	- Medicine (asthma, flu, wounds, lung issues)
Douglas aster	*Symphyotrichum subspicatum*	- Can be infused in tea blends or be eaten fresh with salads - Attracts and supports pollinators - Deer resistant
Self heal	*Prunella vulgaris*	- Medicinal (Fights inflammation, treats infection, may protect against cancer)
Western st John's wort	*Hypericum scouleri*	- Medicinal (treats anxiety, depression, cuts, and burns)

Self-heal can be planted in areas of full sun to partial shade, and ideally in areas with moist soil. Companion plants to consider next to self-heal are nodding onion and california oatgrass. Barestem desert-parsley prefers dry to moist soil and full sun. It can be planted with coastal strawberries, as they are companion plants. When planting nodding onions, it is best to plant them in small clusters.

Table 4: Index of recommended edible vegetation

Common Name	**Latin Name**	**Potential Yields**
Coastal strawberry	*Fragaria chiloensis*	- Edible berries can be eaten when freshly picked
Kinnikinnick	*Arctostaphylos uva-ursi*	- Various health benefits

		- Ground cover under taller foliage
Lady fern	*Athyrium felix-femina*	- Edible in small quantities after cooking or drying - Boiled in tea treats body pains
Miner's lettuce	*Claytonia perfoliata*	- Edible - High in Vitamin C, calcium, and proteins
Nodding onion	*Allium cernuum*	- Bulb, young leaves and flowers edible raw or cooked - Juices can treat cold or sore throats
Oregon grape	*Berberis nervosa*	- Produces berries - Rich in Vitamin C
Red flowering currant	*Ribes sanguineum*	- Berries can be eaten fresh - Aesthetic value
Salal	*Gaultheria shallon*	- Berries can be eaten, cooked into cakes
Saskatoon berry	*Amelanchier alnifolia*	- Berries eaten raw or cooked - Berries contain high levels of anthocyanins and antioxidant activity
Slimleaf onion	*Allium amplectens*	- Bulbs eaten raw or parboiled - Can treat coughs, cold, asthma - Repel insects
Woodland strawberry	*Fragaria vesca*	- Berries edible - Leaves in herbal tea can treat digestive and urinary ailments

Nodding onion can be planted in drier areas of the garden because it is drought resistant. Planting nodding onion with salal and red flowering currants together will be beneficial because they are companion plants. Coastal strawberries and Kinnikinnick make good ground cover, so they can be planted

below taller shrubs such as oregon grape. Lady fern prefers shade and is tolerant to drier soils which can be reflected by the placement of these plants. Saskatoon berries prefer full sun and well drained soils and grow well with oceanspray.

Table 5: Index of recommended structural vegetation

Common Name	**Latin Name**	**Potential Yields**
Ocean spray	*Holodiscus discolor*	- Natural fence - Wind barrier
Saskatoon Berry	*Amelanchier alnifolia*	- Grow large enough to have fencing effect

Table 6: Index of recommended aesthetic vegetation

Common Name	**Latin Name**	**Potential Yields**
Few-flowered shooting star	*Primula pauciflora*	- 5-50cm tall - Dark pink flowers
Nodding beggarticks	*Bidens cernua*	- 1-3 feet tall - yellow/orange flowers
Nootka rose	*Rosa nutkana*	- Barrier plant - Pink flowers - Attracts pollinator - Up to 3 meters tall
Sea thrift	*Armeria maritima*	- 15-30 cm - Pink or white flowers

Nootka rose enjoys full sun and dry soils. Because it is a plant with thorns, it should not be planted next to pathways or sidewalks. Few-flowered shooting stars prefer full sun, moist to seasonally wet soils and prefer to be planted near companion plants such as slimleaf onion and california oat grass. Sea thrift does best in full sun, drained or sandy soil planted with their companion plant, yarrow. Sea thrift would be a good species to plant next to walking paths. Nodding beggarticks prefer sun and seasonally wet soils.

Human Activity

At our site, the main spaces meant for human activity will be a path system, a playground and an open, grassy section meant for recreation and a place for companion animals. The path system is extensive, covering many areas of the site and will include ample space and places to turn around for all accessibility needs. Woodchips have been replacing the sand base of many parks in Saanich over the last few years, and are engineered to be wheelchair friendly and to cushion falls (Bidel, 2021). The playground will be nearest the washrooms and picnic benches to create a section of our site where human energy will be most drawn. The area within the trees has been designated for mixed native grasses and can act as a small meadow meant for walking, companion animals and recreation.

Views

The site is adjacent to Dallas road and has beautiful and expansive ocean and mountain views to the south. Through our design, we have maintained the integrity of the views and striven to add more aesthetic beauty to the area. At the southernmost section of the site, the plant heights will not exceed 1.5 meters in height to maintain this view. Maintaining a clear line of sight also ensures safety for drivers, pedestrians, and cyclists.

Placemaking

Some placemaking strategies employed in our design include an accessible path system, Coast Salish artwork, plant name signage and a playground. For our path system, we would like the main pathway to go through the site from Memorial Crescent towards the sidewalk and then trail up and down the site. The northern part path will branch off into a coniferous tree shape with the smaller branches acting as pathways for maintenance and spacing purposes. The path going southwards will divide into three separate keyhole-shaped walking spaces with gardens around the perimeters. We want the path to serve as a tool for relationship building and an opportunity to explore and interact with the space, plants, and plant names. We are including one welcome sign in our design, with the hopes to elicit the mentality of the commons centrally in our vision. This sign can read, "Welcome to the Ross Bay Native Plant Garden. Recreation and respectful harvesting open to all". Within the native plant garden, the design

includes wooden signage indicating and identifying the plants in the garden using only their Lekwungen names. We are hoping that the traditional name signage can aid in making the garden a space for reflection and engagement for both Indigenous and settler visitors to the garden about what it means to be on the territories of the Lekwungen speaking people. Andrea has requested Coast Salish art to be featured at the site. Our plan is to fulfill this request through a mural on the public washroom next to the site. Both of these projects will require the proper guidance, consensual allyship, and relationship-building to undertake. Another placemaking aspect of the design is a playground located on the southeast portion of our site nearest the picnic tables and washrooms. We chose to position the playground in this area because it is a sunny part of the site, it is close by the benches and table for childrens' caretakers to sit, and it is near the beautiful south-facing view. Our design imagines a playground made from natural building materials such as wood and ropes (see budget below). We hope that these placemaking strategies will aid in creating an inviting haven in the community.

Invisible Structures

As mentioned above, Andrea is hoping for a minimal amount of upkeep to be needed on the design site, with the hopes for biannual maintenance after initial garden installation. As such, we believe the site will be sufficiently volunteer run, with the need for 5 to 8 community work parties for the initial installation of the design. We believe that the interest displayed by stakeholders as well as the interest of our group members to be involved in the installation process will generate a volunteer base large enough to install and maintain the garden according to the current parameters. There will be a need for paid employees to install the proposed sprinkler system and playground equipment. Additionally, we will hire one or more Indigenous artists to design and install the mural and plant identification signs. Finally, we hope to engage the community by hosting an all ages sign decoration event, where the welcome sign will be created for the garden. The financial requirements of the garden, as well as the costs of purchasing seeds, signage, sprinklers, and other equipment could be supported through municipal funding, grant funding, or crowdsourcing. Some grants to investigate include The Victoria Community Garden Start up

Grant, My Great Neighborhood Grant, and The Victoria Foundation Neighborhood Small Grant. See Appendix B for grant amounts and additional information.

An important aspect of the design process to us was figuring out how to use permaculture principles to move beyond visible pattern recognition to understanding and transforming patterns on our design site that we cannot see. Becky Ellis (2017) suggests how the principles of permaculture can be used as a vision for a radical transformation of not only ecological relationships, but all relationships, human and nonhuman. One of the ways that our team has chosen to employ this vision is by moving beyond an idea of land ownership in our design toward an atmosphere of the commons (Ellis, 2017). The location of our design site is an affluent and mostly white neighborhood. This is reflective of invisible structures of white supremacy, capitalism, and inaccessibility that make these community spaces unavailable to members of marginalized groups. To uptake Ellis's call for the practice of anti/beyond/despite capitalist permaculture, we hope to create a decommodified space where edible and medicinal plants are free for all to harvest, paths are wheelchair and stroller accessible, and an idea of the commons allows us to be in solidarity with all nature, human and non-human (Ellis, 2017).

Budget

Item	**Price**	**Source**
Total cost of seeds[1]	$192	Satinflower Nurseries (https://satinflower.ca/)
Play equipment	$2000-4000 - Estimated to be $1000 per child playing	TBD Possibilities - Kinsolplay (https://www.kinsolplay.com/)
Mulch	**Free**	City of Victoria Free Garden Materials Collection
Artist Labour (mural and plant signage)	$1000-2000	TBD
Sprinklers	$368	Westech Irrigation

[1] Cost calculated if one packet of seeds is purchased per species

Sprinkler installation	$2000	TBD Possibilities - Waterworks irrigation - Westech irrigation
Welcome sign	**TBD**	Homemade - All ages garden sign-making party
TOTAL BUDGET	**$5660-$8660**	

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Appendix A: Intercept Interview Questions

1) What is the main reason you come to this space?

   Recreation
   Relaxation
   Transportation
   Dog walking
   Wildlife viewing
   Time in nature
   Other (please explain): _____

2) How often do you come to this space?

   Daily
   A 3-5 times per week
   Weekly
   Monthly
   2-10 times per year
   Yearly or less often

3) How does being in this space make you feel?
4) If a native plant garden were put into this space, what would be an aspect that would excite you?
5) Would any aspect of a native plant garden in this space concern you in any way? If yes, how?
6) Would you be open to sharing your name or would you rather remain anonymous?
7) Would you like to be on an email list to stay informed about the progress of the project?

Appendix B: Poster distributed to local residents

Hello Neighbour!

We are a group of UVic Environmental Studies students working on a deisgn project of a native plant permaculture garden at Memorial Crescent and Dallas Road. We would love to hear your thoughts and ideas about this exciting new project happening right outside your door!

Your questions, thoughts, and opinions are important to us as we go through this process. Please get in touch with rbnativeplantgarden@gmail.com to learn more!

Appendix C: Grant Information

Community Garden Start-Up Grant

https://www.victoria.ca/EN/main/residents/city-grants/community-garden-start-up-grants.html

- Up to $15, 000 available for the design and building phases of community gardens in the city
- Most likely available October of 2022, but 2022 iteration has not yet opened

My Great Neighborhood Grant

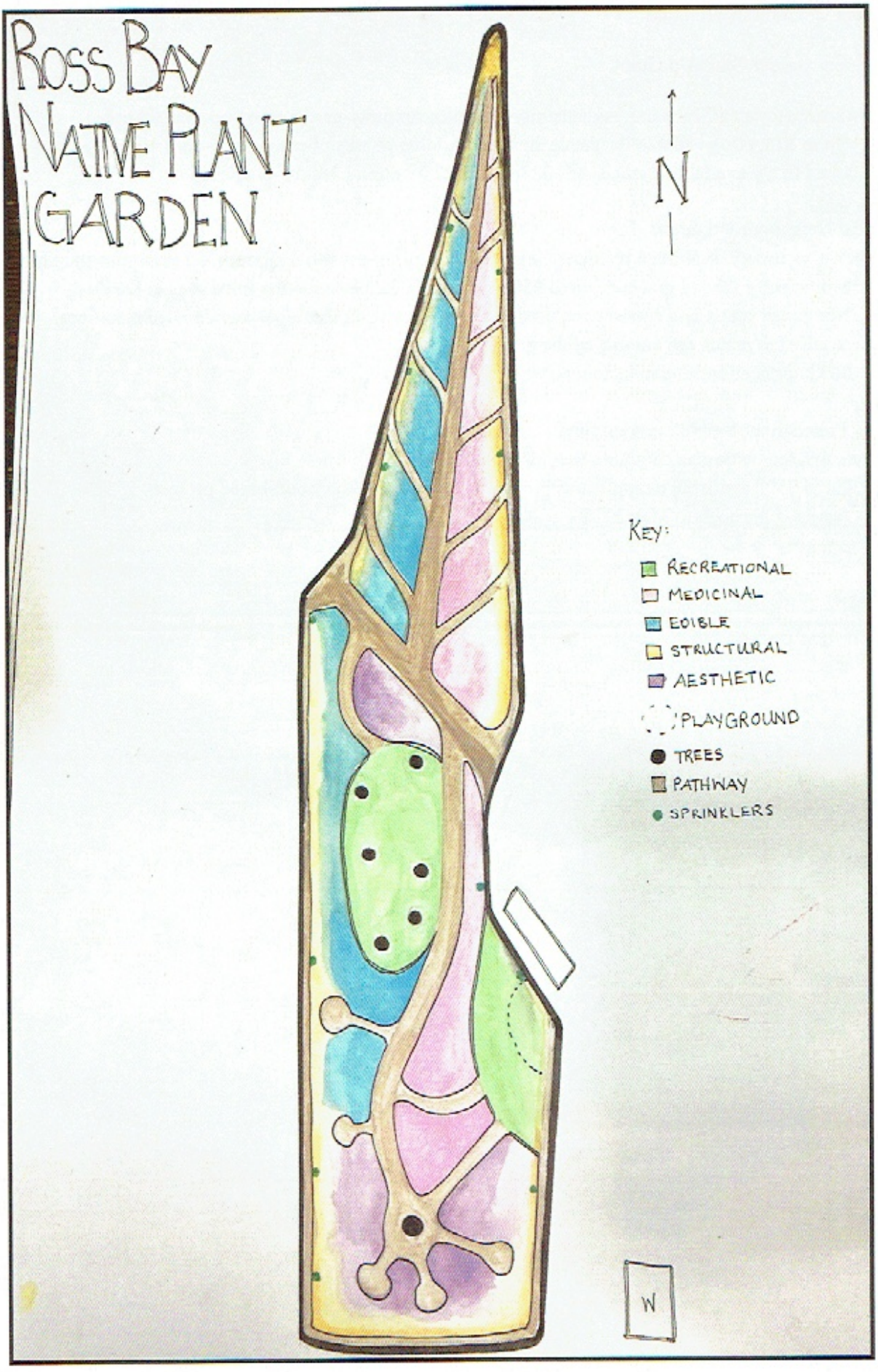
https://www.victoria.ca/EN/main/residents/neighbourhoods/my-great-neighbourhood-grant-program.html

- Municipally funded grants of up to $5000 available for placemaking initiatives in the city
- Non profit status or a sponsor required to apply, with volunteer labor and donated resources required to match the amount of the grant
- 2022 applications due in October

Victoria Foundation: Neighbourhood Small Grants

https://victoriafoundation.bc.ca/grants-funding/grants/nsg/

- Up to $500 available to applicants proposing to lead neighborhood-based projects
- Available through to May 2022


ROSS BAY
NATIVE PLANT
GARDEN
N
KEY:
RECREATIONAL
MEDICINAL
EDIBLE
STRUCTURAL
AESTHETIC
PLAYGROUND
TREES
PATHWAY
SPRINKLERS
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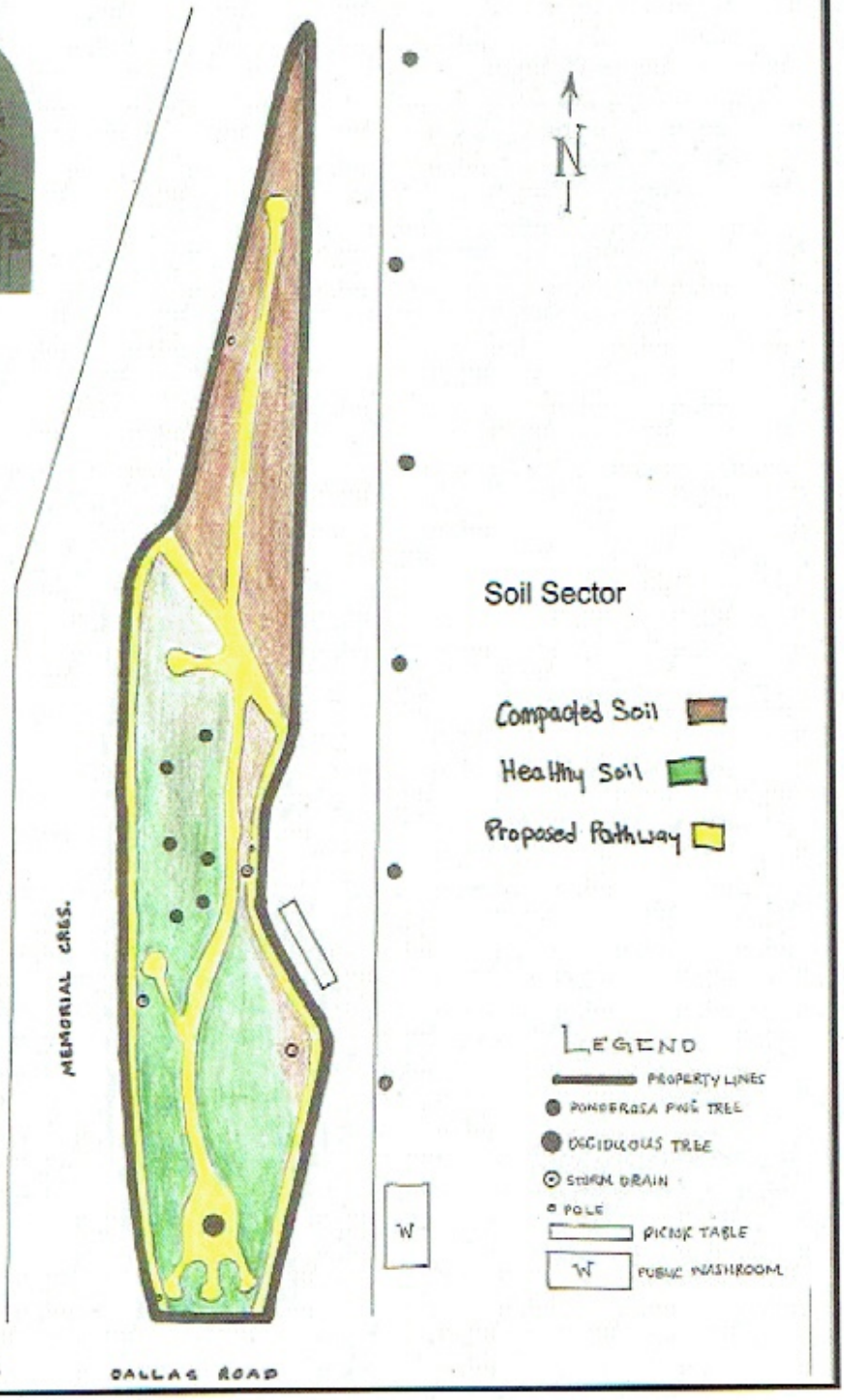
Ross Bay Native Plant Garden



Ross Bay Native Plant Garden

Sun/Shade Sector
Estimated Mid Summer Noon

Full Shade
Full Sun

N

Westerly Winds

Southeasterly Winds

MEMORIAL CRES.

W

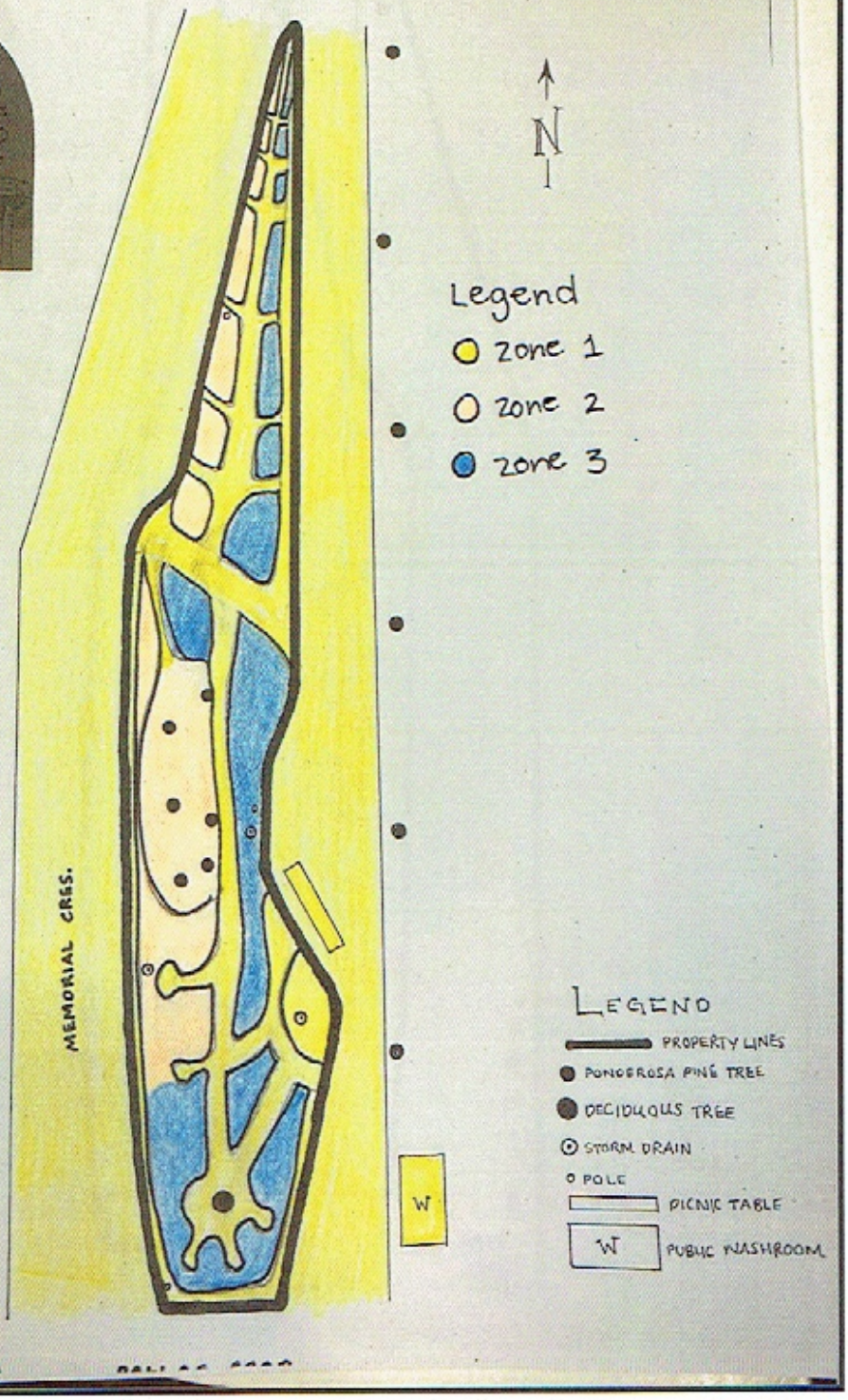
Legend
- Property Lines
- Ponderosa Pine Tree
- Deciduous Tree
- Storm Drain
- Pole
- Picnic Table
- W — Public Washroom

0m 10m 20m

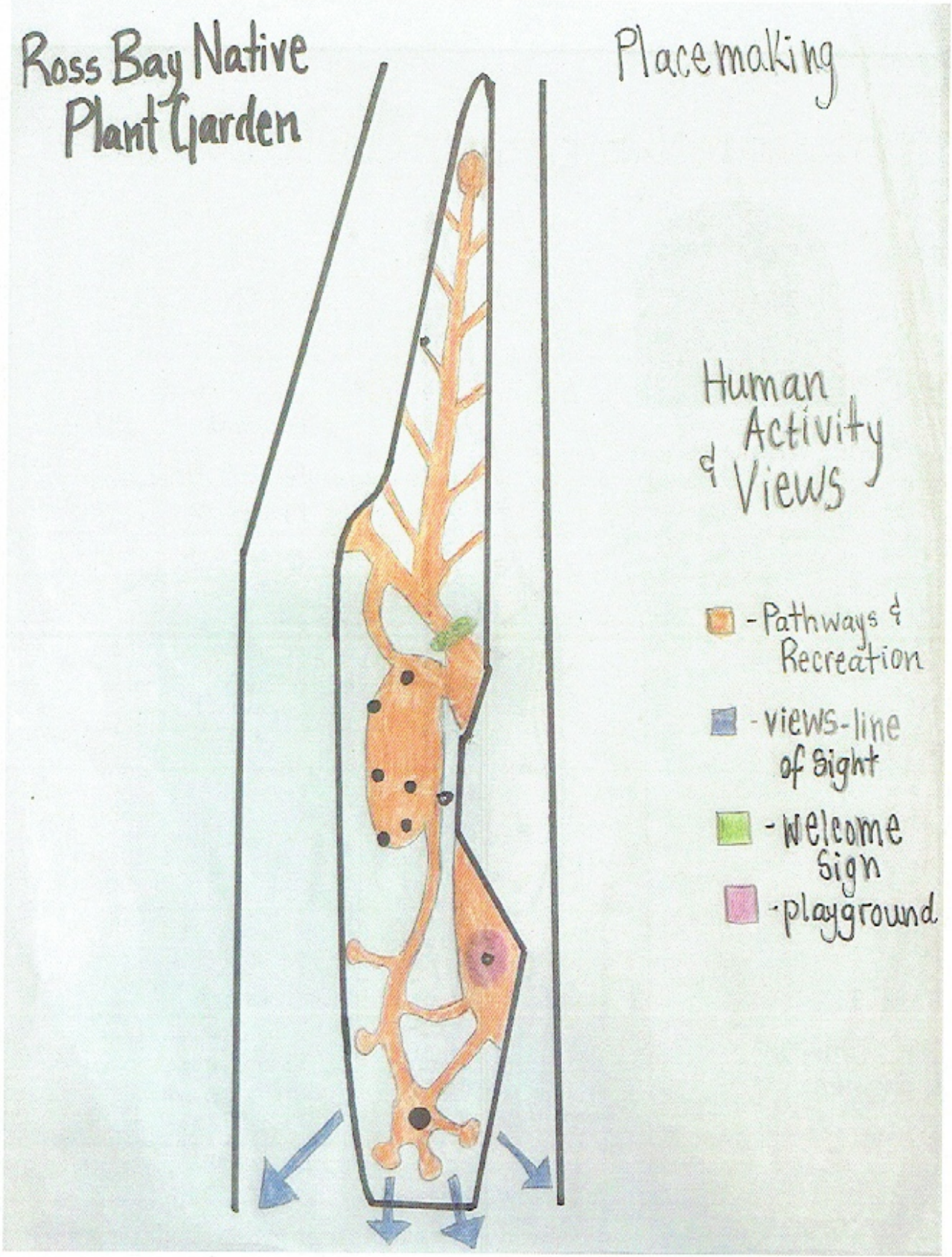
DALLAS ROAD

Ross Bay Native Plant Garden

Zone Analysis



Note: pathways not to scale


Ross Bay Native Plant Garden
Placemaking
Human Activity & Views
- Pathways & Recreation
- views-line of sight
- Welcome Sign
- playground

Ross Bay Native Plant Garden

Water overlay

N

Legend

- current sprinkler locations
- proposed sprinkler locations
- estimated spray radius
- pathways (proposed)
- sprinkler control box

Note: Pathways not to scale

LEGEND

- PROPERTY LINES
- PONDEROSA PINE TREE
- DECIDUOUS TREE
- STORM DRAIN
- POLE
- PICNIC TABLE
- W PUBLIC WASHROOM

Satinflower NURSERIES
native plants, seeds & consulting

May 2022

Ross Bay Native Plant Garden
Victoria, BC

Site Overview

The purpose of the present document is to advise on a planting plan that would establish site-appropriate native plants in the Ross Bay Native Plant Garden located at Memorial Crescent and Dallas Road beside the Ross Bay Cemetery in Victoria, BC (Fig 1). The site is part of the Traditional Unceded Territories of the lək̓ʷəŋən Peoples and is currently owned by the City of Victoria. Andrea Fritz, the Community Gardens Coordinator with the Fairfield/Gonzales Community Association, is the project lead.

The site has been approved as a community garden and is currently dominated by non-native agronomic grass and typical lawn weeds. With its proximity to the ocean, the site receives strong coastal winds and is a mix of full sun and part shade conditions. Casual observations of the soil quality show a combination of native soils with other imported soil and materials of various origins due to the site's urban land-use history. Evidence of standing water in the winter is suggestive of a clay component. Soil analysis was not completed but could be considered part of the site's preliminary baseline studies ahead of restoration. It is recommended that the site be examined again during the 'leaf out' of the boulevard trees to better determine the light regime throughout the various areas. Historically, the site has been irrigated by pop-up spray hoses. This infrastructure is currently in place. Other hardscaping features of the immediate area include a walking path, street parking, and the neighboring Ross Bay Cemetery.

Figure 1. Ross Bay Native Plant Garden located at Memorial Crescent and Dallas Road Victoria, BC; Traditional Unceded Territories of the lək̓ʷəŋən Peoples.

Project Goals & Values

This project aims to create a community garden space using local native plant species that honor the natural ecology of the Victoria area and promote biodiversity. In contrast to conventional grass species that offer minimal ecological benefits, native plant species are essential to this region's biodiversity. They are a foundation for the health and well-being of local wildlife. Therefore, planting with native species will significantly improve the site's ecological integrity. Native plant gardens offer habitat and resources to native wildlife such as birds and pollinators by providing a succession of bloom times and fruit production. The

boulevard garden will also operate as a natural corridor by linking oceanfront habitat to neighboring urban properties.

General accessibility and a walking chip path are planned for the garden. This will allow access and engagement opportunities for the public. Hands-on, nature-based community projects can inspire residents and lead to a greater appreciation of the natural world.

Project Plan

General planting recommendations are based on observations made by Kristen Miskelly and Andrea Simmonds (Satinflower Nurseries) on March 26th, 2022, and a second visit with Kristen Miskelly, Abigail Hyde, and Andrea Simmonds (Satinflower Nurseries) on April 20th, 2022. Both visits were in partnership with Andrea Fritz, the Community Gardens Coordinator with the Fairfield/Gonzales Community Association. A previous planting design by Andrea Fritz helped to guide the visit and to inform the planting locations, species ideas, and other key features of the site (Figs. 2 and 3)

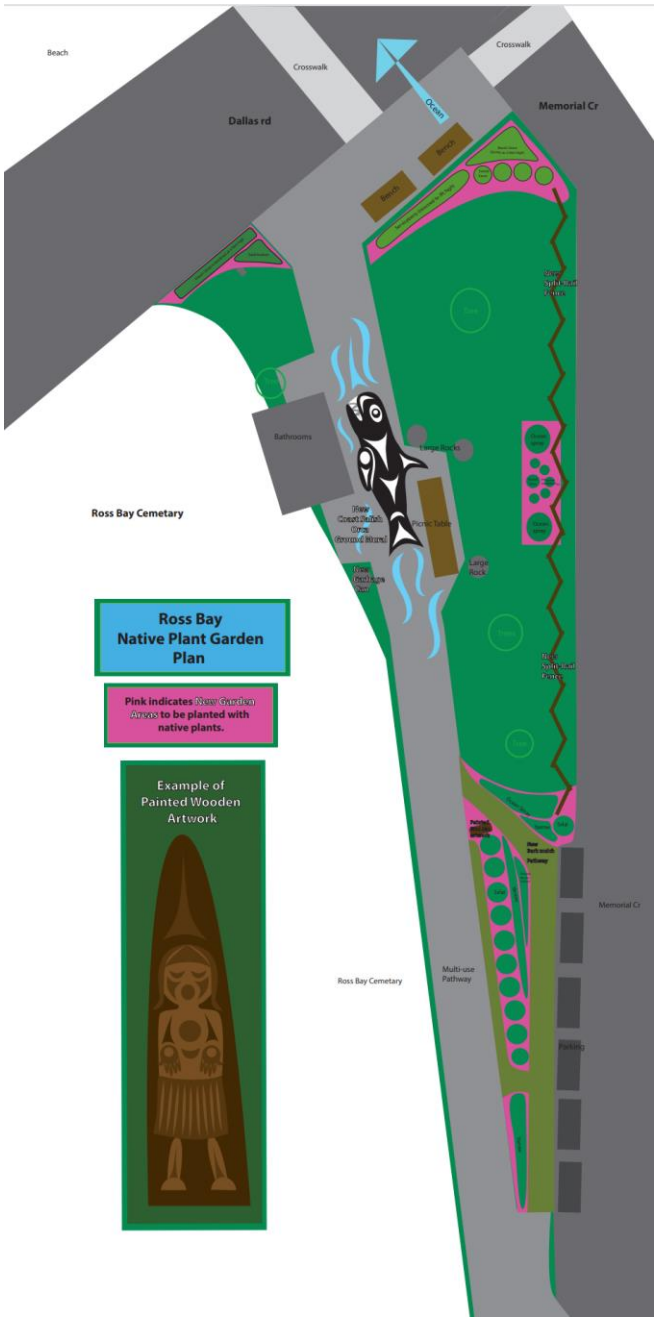


Figure 2. Site schematic of the Ross Bay Native Plant Garden by Andrea Fritz.

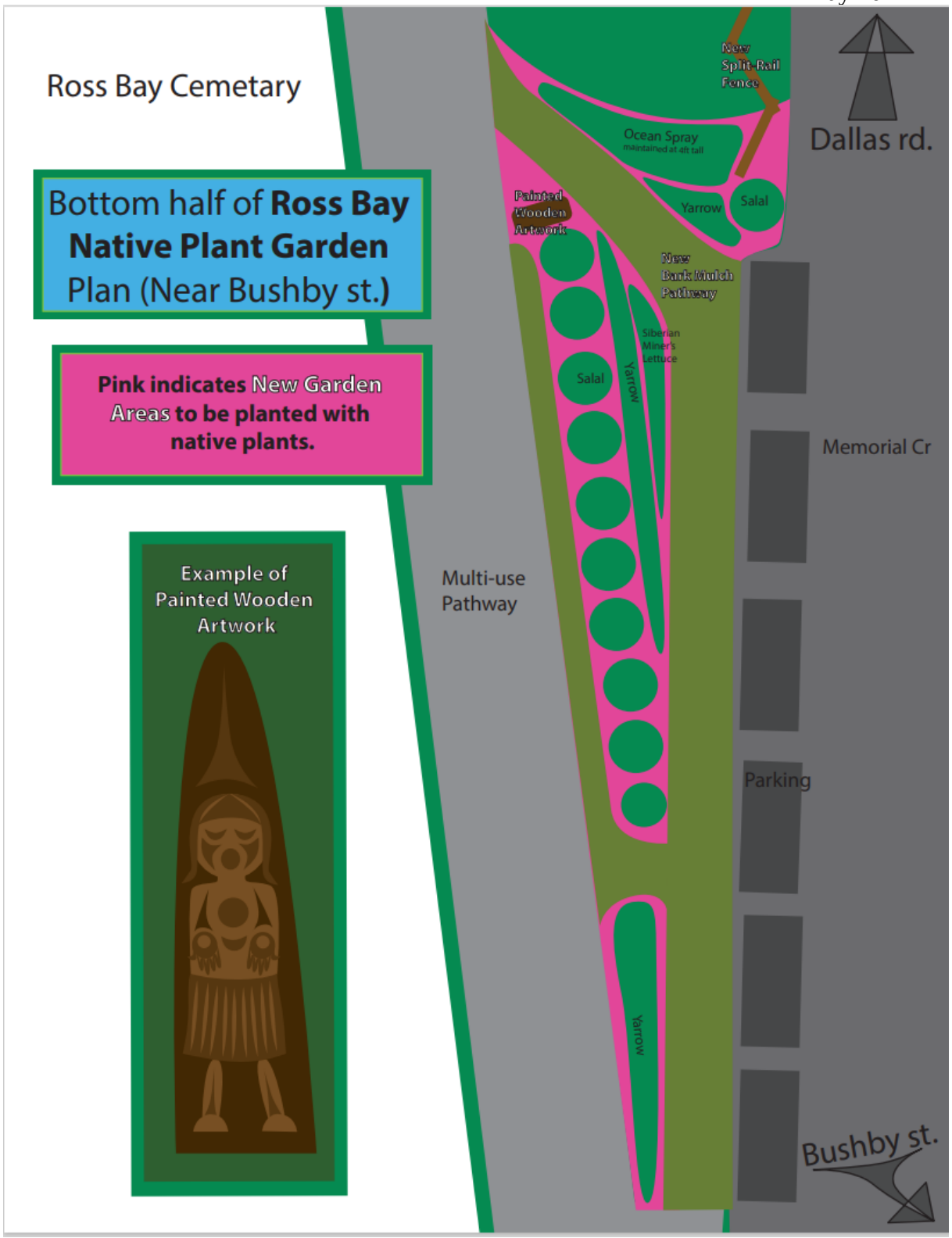


Figure 3. Site schematic of the Ross Bay Native Plant Garden by Andrea Fritz.

Revegetation Vision

This planting plan has been developed to maximize native plant biodiversity, habitat, and resource potential for local wildlife. Species selected for the site are native (present before colonization) to Southern Vancouver Island. They are species associated with Garry Oak Ecosystems; an eco-cultural ecosystem that characterizes the region. Soil type, light availability, and moisture levels were considered for the suggested native plantings. Particular attention was paid to wind and salt tolerance, as the site has a strong maritime influence. The planting will be staged and ultimately projected to expand over an extensive section of grass between the pathway and road. Therefore, we have organized timed approaches for each section and yearly monitoring and maintenance. Selected species will maintain site lines from vehicles for safety at the intersection and not block site lines for ocean views by neighboring homes or pedestrians.

Site Preparation

Technique

Sheet mulching has been selected as an ideal site preparation technique for eradicating the existing non-native vegetation. Sheet mulching is a method used to kill vegetation through light deprivation and can result in fertile, bare soil suitable for planting. Sheet mulching uses cardboard and compostable materials to decompose in place. When layered, these materials can successfully kill a variety of non-native forbs and grasses, suppress weeds, improve fertility, and hold moisture. Sheet mulching of the sod will allow native species to thrive and ease site maintenance in the long term. Unlike plastic smothering, which can be unpleasant to look at, sheet mulching will maintain aesthetics and be a community-friendly alternative for preparing the site for planting. Sheet mulching activities can also offer hands-on engagement opportunities for volunteers. Sheet mulching limits soil and root disturbance of existing trees. In contrast to mechanical sod removal, preparing the site through sheeting mulching is passive and will save time and energy.

Approach

We suggest using cardboard rolls instead of individual pieces to maintain aesthetics and help with keeping the cardboard in place during wind events. We suggest 3-6 inches of weed-free mulch for topping the cardboard. Many materials can be sued, such as degraded leaf mulch, highly degraded bark mulch, compost, degraded manures, or various combinations of these materials. A non-woody topping will enable good seed to soil contact for revegetation.

Because this site is often windy, driftwood and large rocks can be placed to hold the cardboard in place. The driftwood can then be used as landscaping elements when the garden is being planted. Many of our native bees and butterflies take refuge in woodpiles in the winter as an added benefit.

Timing

We recommend sheet mulching to occur from late spring through summer ahead of fall planting and seeding for fall planting. Ahead of installing plants, wetting the cardboard is sometimes needed. Moistening the cardboard ahead makes it easier to puncture.

Revegetation

Species Suggestions:

Area 1 → *Full sun dry meadow with shrub clusters*

Area 1 has been identified as a priority site and will be the first section to be mulched and planted (Fig. 4). The site is predominately full sun (6+ hours of sunlight per day in the summer). Species for Area 1 have been selected based on their site suitability. Adjacent natural habitat like Uplands Park has been used to inform the assemblage (Table 1). A cedar chip pathway will be created beside the meadow directly by the road, preventing people from getting directly out of their cars and trampling the meadow.

Table 1. Forb and graminoid species suggestions for Area 1.

*Achillea millefolium**	Yarrow
*Bromus carinatus**	California Brome
Camassia quamash	Common Camas
*Cerastium arvense**	Field Chickweed
*Danthonia californica**	California Oatgrass
*Eriophyllum lanatum **	Woolly Sunflower
Fragaria virginiana	Wild Strawberry
Graceful cinquefoil	Graceful cinquefoil
Lomatium nudicaule	Barestem Desert-parsley
Lomatium utriculatum	Spring Gold
*Luzula subsessilis**	Prairie Woodrush
Plectritis congesta	Sea Blush
*Primula hendersonii**	Broad-leaved Shootingstar
Ranunculus occidentalis	Western Buttercup
Triteleia hyacinthina	Fool's Onion

*Deer-resistant

Shrubs should be placed strategically in clusters and as individuals with appropriate spacing to avoid smothering wildflowers (refer to the 'planting density' section). Suitable shrubs and trees include *Amelanchier alnifolia* (Saskatoon), *Crataegus douglasii* (Black Hawthorn), *Oemleria cerasiformis* (June Plum), and *Holodiscus discolor* (Oceanspray), *Symphoricarpos albus* (Common Snowberry) and Nootka Rose are suitable pollinator-attracting shrubs that are recommended. Both are rhizomatous shrubs that can spread, so creating a barrier to prevent the shrub from encroaching on the meadow will be needed. Planting placement between the road and a path would be an example of a sufficient barrier.

Area 2 → *Partial shade dry woodland understory*

Area 2 has been identified as a second priority site and will be prepared following Site 1 (Fig. 4). The site is predominately shaded and beneath a cluster of non-native planted pine trees (root disturbance should be avoided).

Table 2. Forb and graminoid species suggestions for Area 2.

*Actostaphylos uva-ursi**	Kinnikinnick
*Anaphalis margaritaceae**	Pearly Everlasting
Aquilegia formosa	Red Columbine
*Bromus vulgaris**	Columbia Brome
Camassia leichtlinii	Great Camas
*Cerastium arvense **	Field Chickweed
Claytonia perfoliata	Miner's Lettuce
*Festuca occidentalis**	Western Fescue
Fragaria vesca	Woodland Strawberry
*Gaultheria shallon**	Salal
Geum macrophyllum	Large-leaved Avens
*Plectritis congesta**	Sea Blush
*Polystichum munitum **	Sword Fern
Ranunculus occidentalis	Western Buttercup

*Deer-resistant

Figure 4. Potential planting footprint for Areas 1 and 2.

Figure 5. Area 1 is the image on the left and Area 2 is the image to the right.

Area 3 → *Full sun/partial shade with the inclusion of beach associated species*

The species for this section are well adapted to sandy soils with high drainage and salt spray levels. With these sections creating a 'beachy forefront,' a mild windproof barrier will be formed. In particular, Dune Wildrye along the path will act as a barricade for sand or soil movement. Another installation to prevent soil erosion would be the inclusion of driftwood logs along the borders of both Area 3 and Area 4. Boulders behind the benches themselves would also be an excellent addition for a windbreak. A shrub cluster behind the benches will help provide a windbreak to the meadow area. All species listed occur naturally in coastal environments and are tolerant of salt spray and wind. As mentioned previously, it is recommended that the site be examined again during the leaf out of the boulevard trees to better determine the light regime throughout this area. Snowberry can be planted along with the cemetery's concrete (Fig. 7).

Table 3. Forb and graminoid species suggestions for Area 3 and Area 4.

Achillea millefolium	Yarrow
Allium cernuum	Nodding Onion
Armeria maritima	Sea Thrift
Artemisia sulksdorfii	Coastal Mugwort
Eriophyllum lanatum	Woolly Sunflower
Fragaria chiloensis	Coastal Strawberry
Grindelia stricta	Entire-leaved Gumweed
Lathyrus japonicus	Beach Pea
Leymus mollis	Dune Wildrye
Lomatium nudicaule	Barestem Desert-parsley
Lathyrus japonicus	Bea Pea

Figure 6. Area 3 on Memorial Cres. and Area 4 along Dallas Rd.

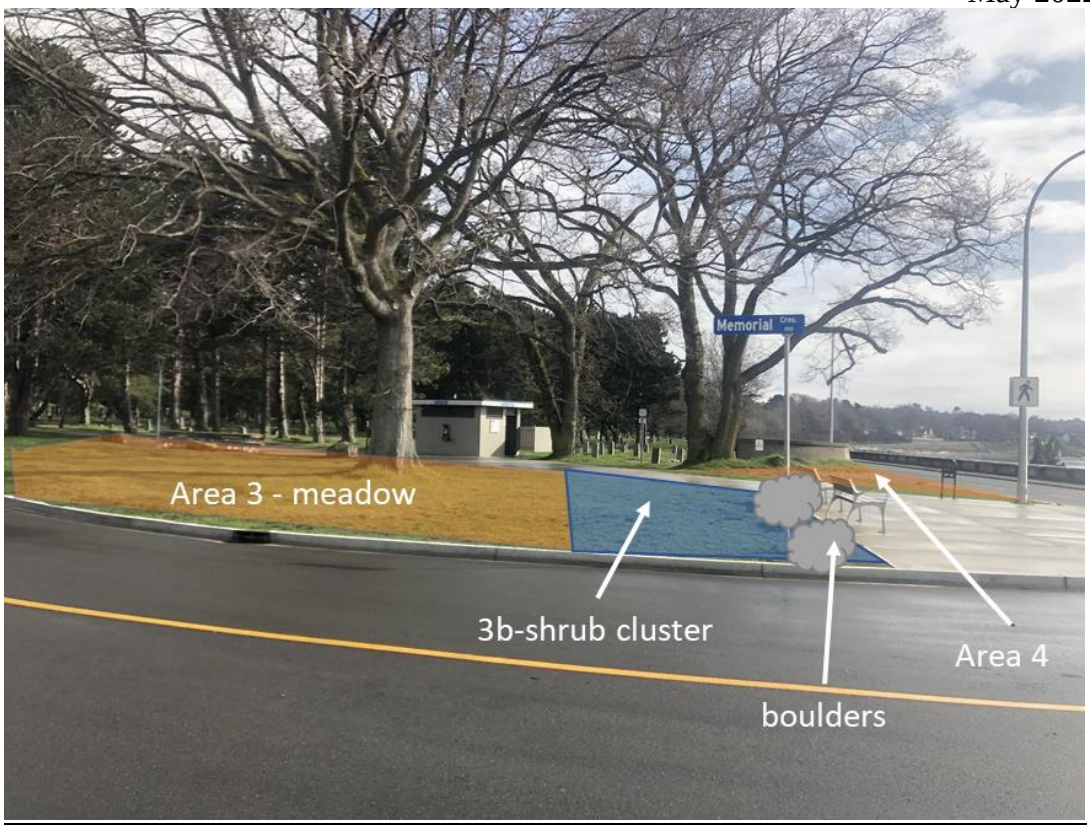


Figure 7. Potential planting footprint for Areas 3 and 4.

Figure 8. Planting footprint for Area 4 with a cluster of Snowberry along the back rock wall.

Planting Densities

We suggest an approximate planting density of 5-10 x 10cm per m2 or 3-5 x 1-gallon per m2 for forbs and graminoids throughout the planting sites. Clustered shrubs and trees range in density depending on the selections and intended outcomes. 1-2 x 1-gallon per m2 for shrubs/trees is typical for dense hedgerow-type plantings. Potted plant densities can be lowered with seed additions. As a selection of plants is refined, we can help determine exact quantities and adjust ratios between seeds and potted plants.

Timing, Monitoring, and Maintenance:

Spring: Site preparation 2022.

Late summer/early fall: We suggest planting/sowing seed during this time of year (late August/ September) because many species require cold stratification to germinate. Planting can also occur during this year because the weather conditions will become cooler and moister.

Timing and ongoing maintenance are the keys to success for many restoration projects. Table 4 provides guidelines for planting, seeding, and weeding activities and timing. In general, planting from pot is best during the moist cool season (Sep. Oct., Feb, March). Seeding is ideal in September and October. There are some species that can be sown from seed in Feb/March (recommend ahead of mid-March), while others require to be sown in fall for spring germination. Seeding should always occur after planting and disturbance of seeded areas should be avoided for approximately 1 year after sowing (trampling, dogs, weeding, additional planting).

Monitoring and maintenance of non-native species will help maintain the native seed bank in the soil, prevent the loss of native species through competition, and promote biodiversity. If planting and seeding occur in spring (e.g. Year 2 scenario 1), overseeding in fall can occur. Annual weeding will be required over the life of the meadow.

Table 4. Sample timelines for preparation and planting of Areas 1-4. Months are approximate, and dates can be further refined closer to installations.

Phase	Activity	Complete During										
Year 1		2022	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov
	Site Prep 'Area 1'							✓	✓			
	Planting									✓	✓	
	Seeding*									✓	✓	
Year 2 (scenario 1)		2023	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov
	Site Prep 'Area 2, 3, 4'		✓									
	Planting			✓								
	Seeding			✓						✓	✓	
	Weeding of 'Area 1'									✓	✓	✓
Year 2 (scenario 2)		2023	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov
	Site Prep 'Area 2, 3, 4'							✓	✓			
	Planting									✓	✓	
	Seeding			✓						✓	✓	
Weeding of 'Area 1'										✓	✓	✓