

**Mayne Island Housing Society
Site Plan Summary
March 5, 2021**

**375 Village Bay Road Mayne Island
10 unit Affordable Rental Housing Proposal**

**Rezoning and Subdivision Application:
Lot 3 of Lot B, Section 7, Mayne Island, Plan 27091**

This report summarizes the efforts undertaken by the Mayne Island Housing Society (MIHS) to comply with the requirements of the local trust committee. The set of reports provided should provide sufficient information to proceed to the Community Information Meeting and First Reading.

Preliminary Site visit – Rob Underhill RPBio, Mayne Island Conservancy

Follow-up Notes from June 22, 2020 visit - Initial investigation of the site revealed signs of historical logging on the site. Areas of severe compaction and poor drainage were identified. Some general recommendations informed the later full ecological assessment, including minimizing the development footprint, restricting development to the existing degraded areas and avoiding wetter areas.

Ecological Assessment – Keith Erickson, R.P. Bio.

Report – Sep 21, 2020

Dr Erickson did a detailed examination of the site and prepared a comprehensive ecological assessment. Primary recommendations from the report's summary are:

- Minimize forest fragmentation.
- Protect remnant old forest structures.
- Minimize impacts to wetter forest ecosystems and ecosystems-at-risk.
- Conduct further consultation on hydrological impacts and mitigation requirements.
- Implement ecological and hydrological restoration in areas outside of the development footprint.

The ecological assessment included the twelve point, "Recommended Guidelines for Development Planning." Those guidelines have informed all of the site design, planning and investigations by other consultants.

1) Reduce fragmentation of the forest by keeping the development compact and minimizing the footprint of structures and services. For example, bury power and communications lines under access driveway.

Site planning has concentrated development in Zone EC 3-2, the western, drier part of the parcel. Existing damage in the moist eastern and northern portions of the site will be remediated where necessary and retained as a rare wetland.

2) Retain, and establish a Tree Protection Zone around remaining old veteran trees on the property.

a) Recommend consulting with a certified arborist to determine the health the veteran trees, assess the impacts from the proposed development and provide recommendations for tree protection and establishing a critical rooting zone.

b) To give a sense of a standard calculation of the Critical Rooting Zone or Tree Protection Zone, this report has created a Tree Protection Zone based on the trunk diameter method with every 1cm of tree diameter (at breast height) equaling 12cm of Protection Zone radius.

3) Retain large diameter wildlife trees (dead standing trees).

a) Recommend consulting with a certified arborist to determine safety considerations and setback requirements around these trees. If necessary, top wildlife tree to reduce setback rather than remove completely.

Arborist report confirms that the five designated Veteran trees and three of four large Wildlife trees can be retained. Note: the tree protections zones as identified by the Arborist are somewhat smaller in diameter than Most of described in the Ecological report. MIHS commits to implementing these tree protection zone dimensions and other recommendations from the arborist report.

4) Minimize the encroachment of the development footprint into moist/wet ecosystems.

Wetland remediation will be conducted in the wetter Zones EC 2-1, EC-2-3 and part of EC 2-2 including de-compaction and construction of retention ponds. Most of Zone EC 2-2 and all of EC 3-1 will be substantially untouched during and after development.

5) Minimize disturbance to Douglas-fir / dull Oregon-grape Provincially red-listed ecological community within mapped Ecological Community 1-1. A large portion of this overlaps with recommended Tree Protection / Critical Rooting Zone in 2b).

Designated Veteran trees in Zones EC 1-2 and EC 3-2 will be protected during development and retained per the Arborist report.

6) Focus development in and around areas where soils are already heavily disturbed and compacted as much as possible.

Site planning has concentrated development in Zone EC 3-2, the western, drier part of the parcel. Some of the development will use the western, compacted fringe of EC 2-1.

7) Minimize area of impervious surfaces and area of soil compaction including during the construction phase and post-construction ongoing use.

Site planning has concentrated development in Zone EC 3-2. Construction equipment and materials will be constrained to the building development area, except as required to implement the wetland remediation plan.

8) Recommend consultation with professional hydrologist to determine direct impacts to hydrology from development and to prescribe measures required to mitigate on-site and downslope impacts. Potential measures might include:

- a) Installation of bioswales, creation of rainwater gardens, constructed wetlands or retention ponds to promote infiltration of surface water and any diverted water into the ground.*
- b) Installation of rainwater catchment and storage systems to reduce roof runoff and reduce pressure on groundwater resources.*

Consultation with, and site investigation by, the wetland remediation specialist recommended by the Ecologist has been completed. A final report and remediation plan is pending.

9) Retain as much forest structure and natural vegetation cover as possible.

- a) Minimize impacts to vegetation during the construction process, and immediately revegetate/restore any areas where temporary damage is necessary for construction purposes.*
- b) Retain large diameter coarse woody debris within undeveloped areas of the property to provide critical wildlife habitat.*

10) Restore areas outside of the development footprint where soils have been previously compacted (skid roads, logging landing sites) through 'rough and loose' treatment.

11) Incorporate 'wildlife zones' into the design where no ongoing use occurs. Restoration and wildlife enhancement measures should be focused in these areas.

12) Monitor, evaluate and if necessary employ further mitigation measures during all phases of the development and construction process.

As mentioned previously, wetland remediation will be conducted in the wetter zones EC 2-1 and EC-2-3, including de-compaction and construction of retention ponds. Zone EC 2-2 and 3-1 will be substantially untouched during and after development. Per the Arborist report, tree protection zones will be established prior to the start of construction. Construction equipment and materials will be constrained to the building development area, except as required to implement the wetland remediation plan. Written guidelines will be provided to all on-site contractors and included in contracts.

Hydrogeologist report – Alan Kohut, PEng, Hy-Geo Consulting

Desktop assessment report – Sept 22, 2020

Preliminary report – Nov 9, 2020

Final report – Nov 22, 2020

Among the conclusions:

“The well is obviously more than capable of supplying the estimated demand of the project at 5.11 L/min (1.35 USgpm) with a very large safety factor. Pumping water levels would not be drawn down below sea level precluding the possibility of sea water intrusion.

None of the neighbouring wells or the spring monitored during the test showed any signs of water level interference from the pumped well.”

Wastewater Report – Brent Davies P Eng, BWD Engineering

Final Report – November 9, 2020

“It is the determination of this report that an on-site sewerage system suitable for the proposed development can be constructed to meet the current BC Provincial Sewerage System Regulation 326/2004.” ... “if the dispersal field is extended to the east beyond the proposed property line.”

Arborist report - Jen Barsballe, RCA CMA, Beechwood Consultancy and Tree Service

Preliminary report Jan 12, 2021, Final report Jan 25, 2021,

Visited site and examined all trees mentioned in ecologist Keith Erikson’s report and considered health, safety and retention requirements.

Some of the conclusions:

- The proposed building siting should not affect those trees adversely.
- Consultation with Brent Dennis of BWD Engineering concluded that proposed septic dispersal field should be a net positive for tree retention.
- *“The five large Douglas firs can be preserved provided that their root zones are protected during and after construction.”*
- *“Three of the four wildlife trees can be left as wildlife trees provided that the abatement recommendations are followed. The last one threatens neighbouring properties and should be removed.”*

Hydrology and Wetlands Remediation Plan – Robin Annschild, Wetland Restoration Consulting

On the recommendation of the ecologist Keith Erickson, and with the concurrence of IT staff, MIHS contracted a wetland remediation specialist to investigate the surface hydrology and biome of the site. Robin Annschild of Wetland Restoration Consulting is a biologist with extensive experience in the design and construction of wetland restoration projects. She has directed the construction of 275 wetlands, restored on 33 sites across British Columbia and completed 4 stream restoration projects in the East & West Kootenay and the Cowichan Valley.

(Preliminary notes - Final report pending)

Visited site on January 23, 2021. Reviewed areas impacted by past disturbance (clearing, drainage, agriculture, road building) described in Keith Erickson's report. Some of the recommendations for Lot 3 of Lot B:

- Retain trees removed for construction on site to be used for habitat restoration (trunks, limbs & branches, root wads), with the added benefit of sequestering carbon instead of burning the slash.
- Create a wetland pond between the dwellings and the well to provide breeding habitat for amphibians, water for bats and a safe place for children to explore.
- Remove and restore old roads by de-compacting with an excavator and placing coarse woody debris retained from clearing building site. Attractive footpaths may be built instead of the existing roads, except where maintenance access is required (to the well).
- Remove old ditches that lower the elevation of groundwater and reduce the site's capacity to store water and grow large trees.

Architect's Summary and Site Plan – Richard Iredale Architect, AIBC LEED ap MRAIC

Richard Iredale has done extensive planning and design for the project, including preliminary site plans, rendered drawings for public consultation and the set of plans attached.

The project outline is as follows:

- **A compact ground oriented neighborhood**
The project comprises 5 duplex buildings arranged around a traffic circle on the westerly half the 3 acre site (Lot 3, to be subdivided from Lot B, Plan 27091). These provide a total of 10 ground related dwellings, accessible at grade. Each unit has an entry porch and private garden.
A "community green" provides a play area for children and a venue for neighborhood gatherings. It has a utility building containing water supply equipment, a shared coin-operated laundry, storage lockers and garden tool storage. A common room opens onto a covered outdoor barbecue patio. Garbage and recycling are provided in the enclosed area adjacent to the driveway.
- **Site design rationale**
The site plan keeps the built and hard-surface development area as small as possible - to avoid unnecessary impact on the existing forested area - whilst providing adequate room for vehicles and parking. Five mature Douglas fir trees are preserved.
Construction on the wet and topsoil-rich easterly half of the site is avoided and much of the second-growth forest and underbrush is also preserved.
The site plan shows the proposed development overlaid on the ecological map prepared by Keith Erickson.

- **Unit descriptions**
 The three southerly duplex buildings are two-storey and together provide 1 one bedroom unit, 4 two bedroom units, and 1 three bedroom unit. The 2 and 3 bedroom units have living accommodation located on the ground floor and bedrooms on the second floor. These units are intended primarily for working age families with one to three children.
 The two northerly duplex buildings are one-storey and provide 4 one bedroom units, with living accommodation and bedrooms on the ground floor. Some of these units are accessible units and will make ideal age-in-place homes for Island seniors.
- **Parking**
 The two and three bedroom units each have two parking stalls (organized as tandem stalls), and the 1 bedroom units each have one parking stall, for a total of 15 resident parking places.
 There are also 5 guest parking stalls located in the central island formed by the driveway turnaround.
 Rental rules will prohibit storage of boats, building materials, garbage and recreational vehicles on the property.
- **Emergency Vehicle Access**
 The circular driveway meets the minimum turning radius dimensions for Mayne Island fire-fighting trucks and emergency vehicles. The entry driveway will be constructed within a 12% maximum grade. Final determination of grading and road width will be determined when detailed civil engineering is undertaken.
- **Surface Water Management**
 The size and location of the water retention ponds on the eastern portion are subject to the report and recommendations of the wetlands remediation specialist. Stormwater from roofs will be directed to rainwater tanks and will be available for irrigation, other outdoor uses, and firefighting. Surface water drainage from the development will be part of the wetland remediation plan. The combination of rainwater catchment, swales and retention ponds will buffer seasonal water flows.
- The site plan provides for a well treed natural buffer zone to the west.
- **Site Access**
 Vehicular access to the development will be from Village Bay Road, minimizing any traffic impact on neighbours. The new CRD pathway will provide safe walking and bicycle access to the commercial core in Miners Bay and to the ferry terminal. The site is also close to town and within walking distance to the school.

Community Issues

There has been overwhelming support for this project from businesses, organizations and individuals across Mayne Island, but we've had written and verbal concerns expressed by some of the neighbours of the proposed development. The principal issues seem to be in three main areas: noise and traffic; wells and water; and surface water drainage. These are very reasonable concerns and we've done our best to address them, both directly and through our submissions to the Island Trust.

- **Noise and traffic**
The project will be at least 500 feet away from neighbouring homes. With access from Village Bay Road, and sited on the new walking/biking pathway from the ferry terminal to Miner's Bay, the project should have little or no impact on the Maple Drive neighbourhood. It is within easy reach of the Miner's Bay commercial area.
- **Wells and water**
MIHS has had a very productive well drilled on the site. The hydrogeological engineering report details flow tests showing that there was no impact on neighbouring wells even in the driest time of the year. This area, at the northern foot of Mount Parke, has some of the best natural aquifer replenishment on the island.
- **Surface water drainage**
This site and adjacent properties have been logged multiple times over the years. Areas of the site are heavily compacted, and there is significant seasonal surface runoff. The sensitive site design, with careful location of the buildings, is in keeping with the ecologist's report. We have also commissioned a study from a wetland restoration specialist to create a plan to improve the site ecology, de-compact much of the historical damage, reduce surface runoff, and create one or more natural ponds.

Conclusion

The Mayne Island Housing Society has been dedicated to providing the community with essential housing for seniors and working families, while providing remediation and protection of a now-damaged, rare and sensitive ecosystem. The site design described herein illustrates the due diligence undertaken, is respectful of community concerns and follows the recommendation of the ecological report. This development should be an asset to community for its 60+ year lifetime.

Respectfully submitted
Board of Directors
Mayne Island Housing Society
March 5, 202