



STAFF REPORT

File No.: 12-MA-6500-20-2019
Housing Bylaw & Policy
Review

DATE OF MEETING: February 28, 2022
TO: Mayne Island Local Trust Committee
FROM: Narissa Chadwick, Island Planner
Southern Team
COPY: Robert Kojima, Regional Planning Manager
William Shulba, Senior Freshwater Specialist
SUBJECT: Flexible Housing Options

RECOMMENDATION

- 1. That the Mayne Island Local Trust Committee request staff to expand the flexible housing pilot project to include the areas identified in the staff report to be most optimal.**
- 2. That the Mayne Island Local Trust Committee request staff to organize a Community Information Meeting to discuss the areas identified for the flexible housing pilot project.**

REPORT SUMMARY

The purpose of this staff report is to identify areas most optimal for the flexible housing pilot zoning. It identifies and evaluates a number of different areas based on a set of criteria which includes proximity to amenities, uptake potential, impacts to groundwater vulnerability and saltwater intrusion potential.

BACKGROUND

At the November 22, 2021 Mayne Island Local Trust Committee Meeting (LTC) the LTC was presented with draft bylaws to support the flexible housing concept. At the time the pilot area was limited to an area that was not in a water service area and was identified to not be in a critical area with respect to groundwater vulnerability.

Trustees requested that staff discuss the option of expanding the flexible housing pilot into the Surfside Estates water service area with CRD staff. Staff indicated that further investigation into freshwater sustainability implications and consideration of other criteria could provide options for further expansion of the pilot area into other locations that are not within water service areas.

The following resolutions were passed at the November 22/2021 LTC meeting:

That the Mayne Island Local Trust Committee endorse Draft Bylaw No. 184 cited as “ Mayne Island Land Use Bylaw No. 146, 2008, Amendment No. 2, 2021”.

That the Mayne Island Local Trust Committee request staff to amend the Official Community Plan to enable the Land Use Bylaw amendments proposed in Draft Bylaw No. 184 cited as “ Mayne Island Land Use Bylaw No. 146, 2008, Amendment No. 2, 2021”.

That the Mayne Island Local Trust Committee request staff to explore options related to expanding the flexible housing pilot area to include portions of Wooddale Drive, lots along Fernhill Road, and the Gallagher Bay Road area outside of the Mt. Parke Estates Improvement District.

ANALYSIS OF PILOT AREA EXPANSION OPTIONS

In evaluating options for the expansion of the flexible housing pilot project into other areas on Mayne Island staff developed a number of criteria to evaluate the benefit and impacts. The use of this criteria allowed staff to look at areas beyond those initially identified by the LTC. The comparison chart containing the criteria below and the ratings provided to each area option can be found in Appendix 1.

BENEFIT CRITERIA:

Benefits criteria considers lot size, potential for uptake and distance to amenities. Benefit criteria is rated on a scale of 1-3 and are detailed below.

Not in water service area – As previously determined, water service areas were to be kept out of the pilot for the time being as it would require additional process to connect with each water service area to gauge their support. Water districts that were engaged in earlier consultation did not support the pilot in their areas. CRD staff stated that they would not be supportive of including portions of Wooddale Drive which are in the Surfside Estates Water District due to shortages of water experienced in the summer months. Groundwater mapping confirms that this area is in a water region that is critically vulnerable. Water service areas are greyed out in the maps in Appendix 3, which identifies the areas for potential expansion of the pilot area.

Lot size – This project had originally focussed on lots under 5 acres in the Settlement Residential zone. Trustees expressed interest in expanding this to all zones allowing residential that are under 5 acres. Staff have identified some suitable subdivisions that contain lots under 5 acres as well as larger lots, expanding options evaluated to residential areas with lots up to 10 acres that are part of a subdivision that includes lots of 5 acres or less. The maps in Appendix 2 and 3 identified the lots meeting this criteria.

Potential uptake – This value is difficult to clearly determine. For the time being the value applied reflects the number of vacant lots in the area. Potential uptake could also be determined by interest that has been expressed by current owners as well as the existence of older buildings that may be torn down to build newer units. The value applied to this criteria should be considered by the Trustees based on local expectations. The Map 1 in Appendix 2 identifies vacant lots.

Close to amenities – This value is based on proximity to Miner’s Bay shopping area, the school and community centre, healthcare and the Fernhill centre. Ability to access at least 2 of these within 15 minutes by foot achieves the highest rating. Walk time has been determined using google maps. Being able to access amenities by foot and not needing a car for daily trips can be a tremendous contribution to affordability.

IMPACT CRITERIA:

Impact criteria includes saltwater intrusion potential, freshwater vulnerability and the potential impact of increased sewage on groundwater. Impact criteria are given negative values as increasing density would have a negative impact related to the evaluation conditions. Maps used to evaluate impacts are in Appendix 2.

Saltwater Intrusion potential – This value has been determined using saltwater intrusion mapping from Simon Fraser University (Allen and Klassen, 2016; see Map 3 in Appendix 2). In coastal areas, freshwater aquifers are in direct contact with the ocean and under normal conditions, fresh groundwater flows towards the ocean. In areas with risk of saltwater

intrusion seawater moves into a freshwater aquifer (Allen and Klassen, 2016). Wells proximal to the coast are at higher risk for saltwater intrusion and when it occurs one well or more wells can be impacted making water unpotable and unlawful to operate under the Groundwater Protection Regulation. . Staff do not encourage increasing density in areas have high to moderately high risk for saltwater intrusion (area covered predominantly by red on the saltwater intrusion map in Appendix 2) have not been included in the analysis unless they have been previously identified as potential options for flexible housing such as Gallagher Bay w/shore and Beechwood (lower).

Impact on groundwater availability – This value has been determined using Southern Gulf Islands Groundwater Availability Assessment project (GW Solutions 2021c) as part of the Islands Trust Groundwater Sustainability Science Program.. The groundwater availability assessments estimate the monthly potential evapotranspiration, soil moisture storage, actual evapotranspiration, soil moisture deficit, and soil moisture surplus that are computed into runoff and groundwater recharge. Using proxy data from a variety of sources, surface and groundwater use on Mayne Island was computed. Using the results from the water balance model, percentage of groundwater use relative to aquifer recharge was estimated for each groundwater region. The results reveal regional disparities in groundwater use across the southern gulf islands. Use in some areas on Mayne Island, North Pender Island and Galiano Island reaches over 10% of groundwater recharge which is a significant amount of groundwater withdrawal that has the likelihood to create stress on environmental needs and may result in water conflicts.

Two groundwater regions on Mayne are estimated to be significantly vulnerable to aquifer stress during the driest periods based on climate modelling from the Pacific Climate Impacts Consortium. . For this reason these regions have been disregarded for consideration and are shaded grey on the map in Appendix 3. This includes the groundwater region containing the Surfside Estates Water District. The groundwater regions and the corresponding availability assessments are presented in Appendix 4.

Potential Impact of Increased Sewage - This analysis is based on the likelihood of septic impacts to aquifers using intrinsic fractured media aquifer vulnerability mapping (Denny and Allen, 2007). The methodology is known as “DRASTIC”. D = Depth to water; R = Net Recharge; A = Aquifer Media; T = Topography; I = Impact of Vadose Zone (vadose zone is the area above the water table); C = Conductivity of the Aquifer (this refers to how fast the water moves) . Senior Freshwater Specialist worked with planning staff to identify how DRASTIC data could be effectively used for this project. With respect to rating, staff have focussed on areas of high vulnerability coverage with some consideration of moderately high vulnerability. For more information on DRASTIC mapping for the Gulf Islands see :

https://a100.gov.bc.ca/pub/acat/documents/r42387/DRASTIC_March2014_1396286363816_6285348741.pdf

OVERALL RATINGS

The ratings reveal areas that are Optimal (scoring > 2 points), Medium Optimal (scoring 0-1.5 points) and Less Optimal (scoring >0 points) options for pilot project locations. The detailed criteria for these ratings can be found in the chart in Attachment 1. A summary is included below. The map in Appendix 3 identifies the locations of the flex housing options that were evaluated.

Area	Rating
1 Gallagher Bay with shore	-3
2 Gallagher Bay w/out shore	0
3 Fernhill Rd 1	2.5
4 Fernhill Rd 2	1.5
5 Fernhill Rd/Horton bay Junction	0
6 Felix Jack Subdivision	2
7 Campbell Bay Rd	2
8 Glen Echo Area	1
9 Beechwood 2- elevated	0.5
10 Beechwood 2- lower	-3.5



RATIONALE FOR RECOMMENDATION

Staff have used an evidence-based approach to analyze the impacts and benefits of the potential increase in density in different areas in order to identify suitable areas. Given the introduction of new data leading to the identification of the most optimal areas staff, recommend that a community information meeting be held to enable the public to comment on the proposed pilot areas. Also, the community may have information related to criteria such as uptake potential that could influence the over all rating.

ALTERNATIVES

1. Request further information

The LTC may request further information prior to making a decision. This may delay the project timeline.

That the Mayne Island Local Trust Committee request that staff provide additional information related to.....

2. Do not request that staff schedule a Community Information Meeting

The LTC may decide not to hold a community information meeting before confirming the locations of the pilot areas and request staff return with the draft bylaw with map of pilot areas for first reading.

That the Mayne Island Local Trust Committee request staff return to the LTC with the draft bylaw, containing the map identifying pilot areas (name areas), for first reading.

3. Delay endorsement of pilot area until after community engagement

While the LTC is encouraged by staff to identify their supported option for pilot project areas so that the community has a starting point for discussion, the LTC may choose to engage the community before endorsing their preferred option for the location of the pilot project areas.

That the Mayne Island Local Trust Committee wait until after the Community Information Meeting before endorsing their preferred option for the location of the flexible housing pilot areas.

NEXT STEPS

If the LTC supports staff recommendations, the next steps are as follows:

- Staff will schedule a community information meeting.
- The information gathered at the CIM will be shared and reviewed at a future LTC meeting.
- The OCP amendments needed to support flexible housing will be presented at the March 28th meeting for endorsement.
- Once the flexible housing areas are confirmed through LTC resolution the LUB and OCP bylaw amendments will move to first reading.

Submitted By:	Narissa Chadwick, Islands Planner	February 16, 2022
Concurrence:	Robert Kojima, Regional Planning Manager	February 16, 2022

ATTACHMENTS

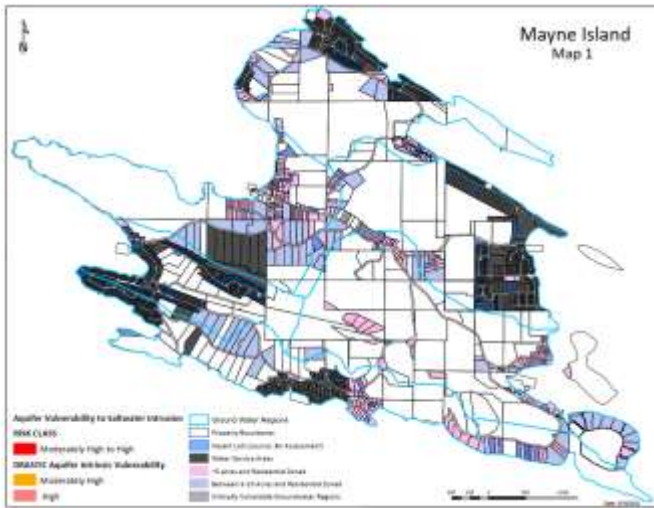
1. Evaluation Chart
2. Flexible Housing Criteria Layers
3. Pilot Area Options
4. Southern Gulf Islands Groundwater Availability Assessment data

APPENDIX 1 – Evaluation of Areas for Extension of Flexible Housing Pilot

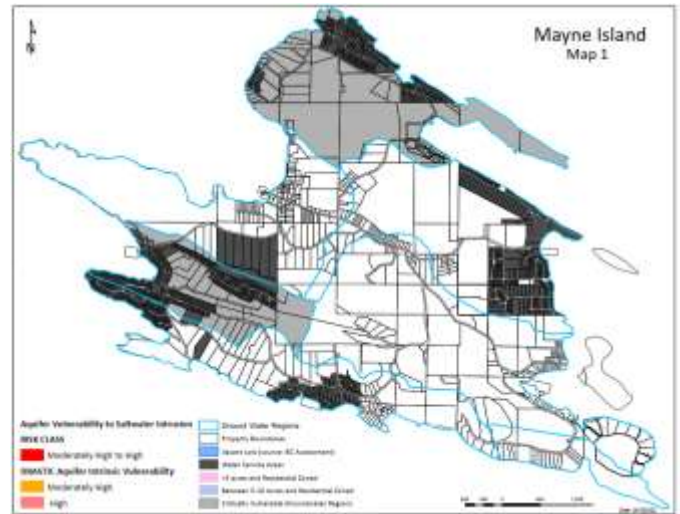
	Gall Bay w/ shore	Gall Bay w/ out shore	Fernhill Road 1	Fernhill Road 2	Fernhill Rd /Horton Bay	Felix Jack Subdivision	Campbell Bay Rd	Glen Echo Area	Beech wood 1	Beech Wood 2
BENEFITS										
0- very limited to no benefit, 1- limited benefit, 2- medium benefit, 3- high benefit										
Size 3 = all <5 acres 2 = 50%+ <5acres 1 = 0-50% <5acre	3	3	3	3	2	1	2	3	3	2
Uptake potential 3 = 30%+ vacant 2= 10%+ vacant 1= 1-10% vacant	1	1	3	2	1.5	2.5	2	2	1	2
Amenity/walk time 3 = 0- 15 min 2= 15-30 min 1=30-45min -1 =45-60 min -2 = 60mim +	1	1	3	3	2	3	2.5	1	-2	-2
IMPACTS										
0 = no impact, -1 = limited impact, -2 = medium impact,-3 = high impact										
Saltwater intrusion -3 high coverage -2 med coverage -1 low coverage	-3	-1.5	-2	-2	-2	-1	-1	-1	0	-3
G/water availability impact - 3 higher - 2 medium - 1 low	-2	-2	-2	-2	-2	-2	-2	-2	-1	-1
Septic Impact -3 high coverage -2 med/mod -1 low coverage	-3	-1.5	-2.5	-2.5	-1.5	-1.5	-1.5	-2	-0.5	-1.5
Total	-3	0	2.5	1.5	0	2	2	1	0.5	-3.5

APPENDIX 2: Flexible Housing Criteria Layers

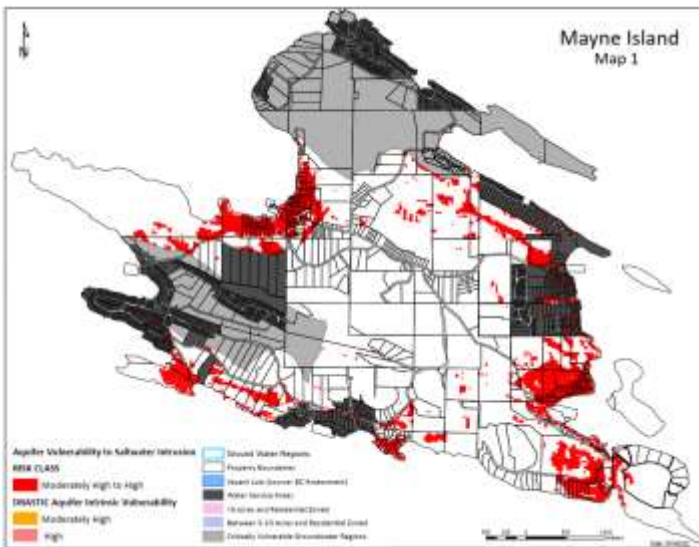
1. Residential Lots, Water Service areas, Vacant Lots



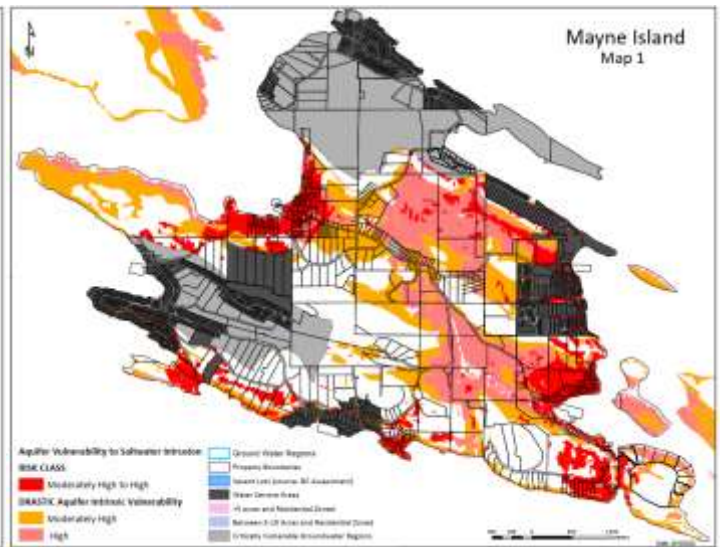
2. Groundwater Regions



3. Aquifer Vulnerability to Saltwater Intrusion (SWI)

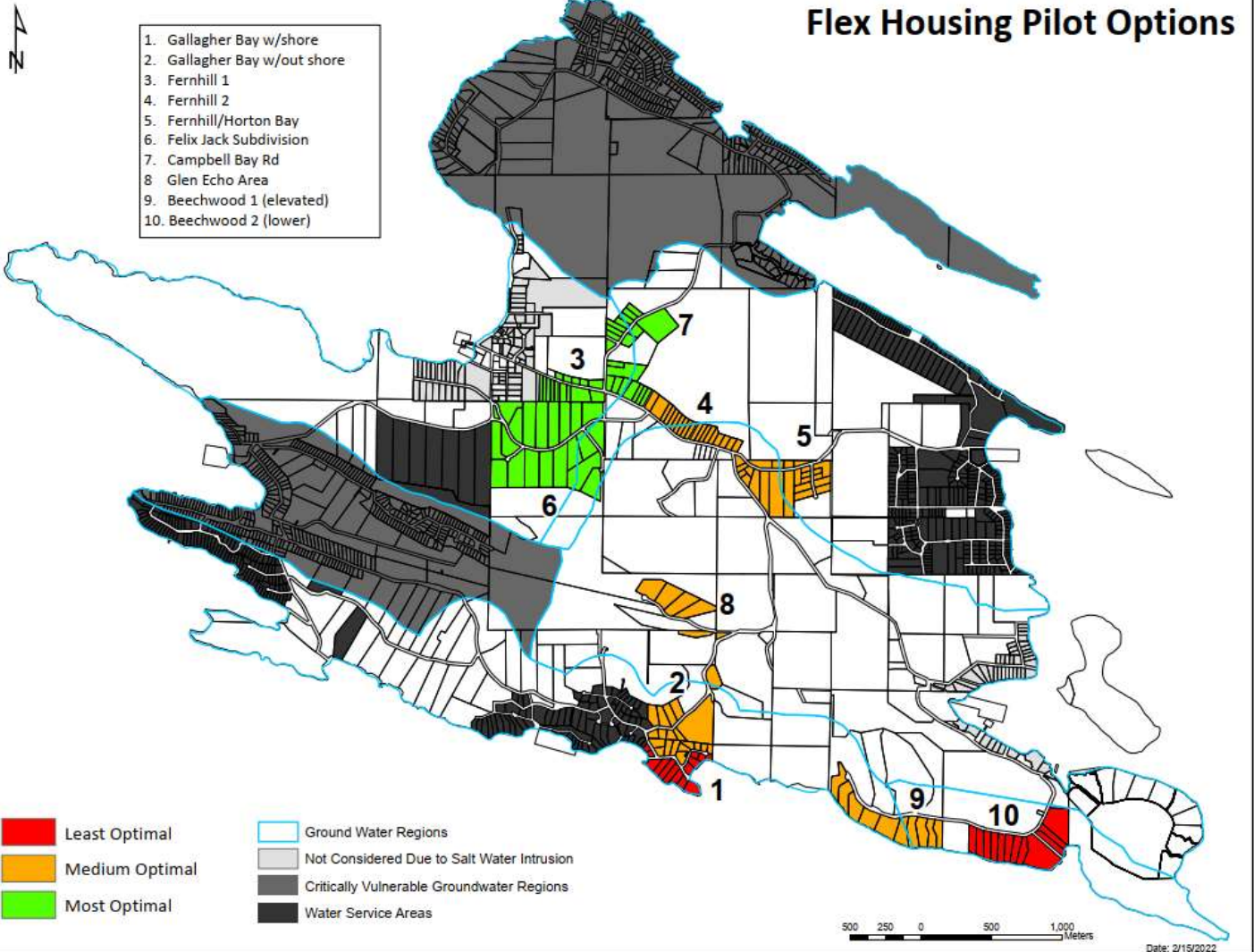


4. DRASTIC Aquifer Intrinsic Vulnerability with SWI



Appendix 3 – Flexible Housing Pilot Location Options

Flex Housing Pilot Options



Date: 2/15/2022

Mayne Island Groundwater Availability Assessments

<https://islandstrust.bc.ca/programs/freshwater-sustainability/>



Island	Groundwater Region ID	Groundwater Region Name	Groundwater Recharge-Normal (dam ³)	Groundwater Recharge-Driest (dam ³)	Groundwater Use (dam ³)	% of Use from Recharge-Normal	% of Use from Recharge-Driest	% of Use from Recharge (Normal-Driest)
Mayne Island	MAY01	Georgina Pt_HallHill_North	888	455	75	8.5%	16.5%	8-17%
	MAY02	Center1_East	909	446	31	3.4%	6.9%	3-7%
	MAY03	Center1_West	871	449	24	2.8%	5.4%	3-5%
	MAY04	Center2_East	1185	584	33	2.8%	5.6%	3-6%
	MAY05	Center2_West	439	219	35	8.1%	16.2%	8-16%
	MAY06	Navy Channel_Westside	632	321	16	2.6%	5.0%	3-5%
	MAY07	Navy Channel_Eastside	170	86	1	0.7%	1.5%	0.7-1.5%