Lighthouse Lot 1

Harvest Plan

Prepared for:

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Executive Summary

In accordance with Section 219 of the Land Title Act, Guiding Owl Investment Company (“Guiding Owl”) retained Strathcona Forestry Consulting to prepare a harvest plan for Lot 1 at Guiding Owl’s Lighthouse Property at Shirley, BC. The lot is registered under a Section 219 covenant (Tree Protection Covenant) enacted in 2008 between the property owner and the Sheringham Point Lighthouse Preservation Society. The Sheringham Point Lighthouse is situated next to the lot. In accordance with the covenant, Guiding Owl is proposing to clear no more than 20% of the land at this time in order to develop Lot 1 for residential purposes. At this time, none of Lot 1 has been cleared. The lot is vegetated with trees and dense brush. Guiding Owl wishes to fully comply with the conditions of the Section 219 Tree Protection Covenant.

Section 219 covenants provide the public with the means to preserve land or its special attributes. The Tree Protection Covenant is an agreement between a private land owner (Guiding Owl) and an organization (Sheringham Point Lighthouse Preservation Society) registered on the land title, and is legally binding on future owners of the property. The Tree Protection Covenant includes provisions for the protection of natural, environmental, wildlife, and plant-life values.

As of this date, the area proposed for development has not been confirmed and flagged in the field. This report provides Best Management Practices (BMPs) to ensure harvesting activities at Lot 1 meet the requirements of the Section 219 covenant.
**Background:** In accordance with Section 219 of the Land Title Act, The Guiding Owl Investment Company ("Guiding Owl") retained Strathcona Forestry Consulting to prepare a general harvest plan for Lot 1 at the Lighthouse Property at Shirley, BC. The entire Lighthouse Property consisted of 17 lots, of which 16 have been sold. Lot 1 is 80 acres. Lots 1 and 17 are the only lot registered under a Section 219 covenant (Tree Protection Covenant), which was enacted in 2008 between the land owner and the Sheringham Point Lighthouse Preservation Society. The Sheringham Point Lighthouse is situated on land adjacent to and downslope of Lot 1. Under the covenant, no more than 20% of Lot 1 may be harvested in any five year period. No activity has taken place in the last five years. In accordance with the covenant, Guiding Owl would like to develop just under 6.5 ha for residential purposes. Lot 1 is currently vegetated with trees and dense brush. Guiding Owl wishes to fully comply with conditions of the Section 219 Tree Protection Covenant during the harvesting activities.

**Assessment:** This report included an assessment of biophysical characteristics at the subject lot and its environs. Assessment criteria are modeled after the Natural Resources Best Management Practices (2014 Develop with Care – Environmental Guidelines for Urban and Rural Land Development in BC). These guidelines establish program priorities of relevant Ministries, and other provincial and federal agencies, promoting ways to retain and create environmental function and resilience as communities develop. The assessment also considered the wildfire hazard (Rating Interface Wildfire Threats in British Columbia [https://www2.gov.bc.ca/], FireSmart (FireSmart, Protecting Your Community From Wildfire (Second Edition. Partners in Protection Partners in Protection, 2003 [https://www.firesmartcanada.ca/]), and the Home Owners FireSmart Manual (BC Edition - [https://www2.gov.bc.ca/assets/gov/public-safety-and.../homeowner-firesmart.pdf]).

**Field Inspection:** Strathcona Forestry Consulting visited the subject site on July 28, 2019, accompanied by Dave McClimon. A second site visit took place on August 3, 2019. Field investigation entailed an assessment of biophysical features of the lot, general area, local sites, and proposed and existing structures in the general vicinity, up to 100+ m from property boundaries, where feasible.

**Location and Description of Proposal:** As noted above, Lighthouse Lot 1 is 80 acres (see map, pg. 3; site plan, pgs. 4, 5; photos, Appendix 2). Lot 1 straddles common property road (Lighthouse Road), with the bulk of the lot on the upland side of the road. A small portion of the lot downslope of the road is located adjacent to the Sheringham Point Lighthouse land. Public access to the lighthouse is provided through a parking lot on Lighthouse Point Road, a short walk on Lighthouse Pt. Rd., and then down a service road.

Lot 1 sits on a moderate slope with mature timber and dense brush, and also includes some mossy outcroppings. A Capital Regional District trail (The Lighthouse View Trail) winds 3.4 km around Lots 1 and 17 (see next pg.).

Tree cutting is proposed for approximately twenty percent of Lot 1, in the southwest portion of the lot, with the bulk of the area on the upland side of Lighthouse Pt. Road, and a small area on the ocean side of Lighthouse Pt. Road.
At the time of assessment, the area proposed for timber harvesting and development was conceptual; it was not flagged in the field.

The Sheringham Point Lighthouse is indicated by the red arrow. The orange arrow points to approximate centre of the proposed harvest area.

Next page: Site Plan Lighthouse Lot 1 (provided by Guiding Owl).
Only 20% of the area is proposed for tree cutting in the southwest portion of the lot.
LOT 1, SURVEY PLAN
80.9 ACRES

The dashed lines indicate the buildable area.
Sheringham Point Lighthouse Preservation Society and Tree Protection Covenant. In 2010, the Sheringham Point Lighthouse was declared surplus by the Government of Canada. In 2015, the lighthouse was declared a Heritage Lighthouse, and ownership transferred to the Sheringham Point Lighthouse Preservation Society. The society is committed to the conservation of restoration of the lighthouse, and wishes “to ensure that the Lighthouse and surrounding lands are preserved, protected and available for everyone to visit and appreciate for many generations to come.”

In 2008, a Section 219 covenant was registered on the Lighthouse land. The agreement was made between the landowner (the Grantor) and the Sheringham Point Lighthouse Preservation Society (the Covenantee).

A covenant is an agreement to conserve land or protect features relating to it. The agreement between the private land owner (represented by Guiding Owl) and the organization (Sheringham Point Lighthouse Preservation Society) registered on the land title is legally binding on any future owners of the property. A covenant may include provisions for the protection of natural, historical, cultural, architectural, environmental, heritage, scientific, wildlife or plant-life values. Section 219 covenants provide the public with the means to preserve land or its special attributes.

As stated in this specific Tree Protection Covenant (Sec. 2.1), the intent is to:

- Minimize the impact of building and site development on the land
- Minimize removal of trees and associated disturbance of vegetation

As stated in the covenant (Sec. 3.1), except for the tree removal or alteration by the Grantor as permitted under Sections 3.2, 3.3, 3.4, and 3.5, there will be no cutting, trimming, damaging, defoliating or removal of any trees from the land. The intent of the covenant is to prohibit clear cutting or production logging of the land, and to respect the natural forest ecosystem integrity, natural habitat, and visual quality of the land.

As stated in the covenant (Sec. 3.2/ Sec 3.3), tree removal or alteration by the Grantor is permitted for the purposes of providing for pedestrian, vehicle, services and access route from one location on the boundary of the land or any parcel to a Permitted Development Area provided that the access area created crosses as near as is reasonably possible at a 90 degree angle within 15 metres of the boundary or any statutory right of way which is registered on the land for pedestrian trail purposes.

As stated in the covenant (Sec. 3.2), trees may be cut, trimmed or removed within a permitted development area on the land.

As stated in the covenant (Sec. 3.4), the Grantor may trim or remove a tree after obtaining written confirmation by a qualified registered professional specifying the tree is unsafe or an immediate hazard to an access route or to a building or structure within a Permitted Development Area, and that the Grantor may cut, trim, or partially defoliate a tree on a parcel provided that the said alteration does not threaten the life or health of the tree.

As stated in the covenant (Sec. 3.5), the Grantor may cut down and remove trees outside the buffer area (defined as within 15 m of the boundary of any statutory right of way which is registered on the land for pedestrian trail purposes) pursuant to an approved harvesting plan provided that:
- The Grantor prepares a written tree harvesting plan that maintains ecosystem function, considers and preserves biodiversity, avoids clearing or disturbance of more than 20% of the land in any five year period, prevents or minimizes disturbance to any watercourse or over land drainage, preserves raptor trees and mature snags, protects the land from soil erosion or compaction, minimizes soil and under growth disturbances, and includes a reforestation plan

Field Assessment.

The focus of the field assessment was on the southwest portion of Lot 1 where Guiding Owl is proposing to harvest for residential purposes.

Lot 1 is generally located on a southwesterly aspect on a midslope (averaging 15-20%). On the upland side of Lighthouse Point Rd, the land rises sharply uphill for approximately 75 m (at 15%+), then levels off slightly for approximately 30+ m (to 10 - 15%). On the upland side of the road there is a mix of stand structures. The forest immediately above the road consists of a mixed stand of conifers with scattered deciduous trees (it is dominated by Douglas-fir, with clumps of western redcedar, isolated Sitka spruce, and scattered big leaf maple and alder). This stand has a somewhat open canopy, which has resulted in a dense understory of salal, evergreen huckleberry, and salmonberry. Approximately 60 m upslope from the road, this stand merges into a younger somewhat dense deciduous stand of red alder. Clearings appear approximately 100 m from the road, at an average elevation of 30 m higher than the road, with the presence of several moss-covered rocky outcroppings that are generally devoid of any tall trees. The dense stand of alder continues upslope.

Downslope, on the ocean side of Lighthouse Pt Road, a triangular-shaped portion contains a mature conifer stand (dominated by Douglas-fir, with a lesser component of western redcedar) with an understory of discontinuous to continuous salal. There are approximately 10+ mature cedar snags. One clump of cedar snags contains Class 3 trees (trees are still alive; they have needle retention). Another clump of cedar snags comprises Class 4 trees (dead and or dying).

Characteristics of tree species at the proposed development area are listed in Appendix 1.

Any proposed development must take place more than 15 m from the Lighthouse View Trail which winds along the perimeter of Lot 1.

No raptor nests were observed during the field assessment. Forest cover in the general area has attributes that would provide suitable habitat for bald eagles, northern goshawks, and other raptors.

Evidence (scat, browsed berry bushes) of black bear(s) was observed on the forested slope above Lighthouse Pt. Rd.

During the field assessment an old road grade was identified that traverses Lot 1. The old grade, which was heavily brushed in with alder, was distinguishable on an old map ca 1911 (as seen on the Sheringham Lighthouse info board).

Assessment of wildfire threat determined the property has a high wildfire risk rating. This is based on a combination of factors: continuity and extent of fuel loading (forest vegetation), terrain features (sloping topography), response (volunteer fire department), and current lack of access and fireflow. FireSmart strategies are recommended to reduce the wildfire risk. Risk of wildfire can be reduced by appropriate planning and fuel (natural vegetation) management.
Site Map

The area proposed by Guiding Owl for harvesting is roughly outlined below in purple. The site, which is just under 6.5 ha, straddles Lighthouse Pt. Rd.
Harvest Plan

Best Management Practices

This Plan should be referenced before and during harvest activities.
Safety is the number one objective.

Best Management Practices (BMPs) for site-level environmental protection will help protect key public environmental values during harvest activities. Best Management Practices may require refinement based on specific site conditions.

Planning

- Ensure treatment area boundaries are clearly understood and marked;
- Develop a contingency plan to manage risks during unplanned events or changes in weather;
- Conduct a review of risks associated with the planned activities;
- Ensure operators have adequate levels of experience and supervision to make the project successful.
- Ensure that site level plans and design meet or exceed the environmental goals and objectives at the community level. Ensure that the site development will not negatively impact on neighbouring properties.

Wildfire Considerations

Wildfires are a natural process of B.C.’s forests and grasslands. For detailed information on reducing risk from wildfires, see FireSmart: Protecting Your Community from Wildfire.

- Ensure any land clearing activities are conducted in compliance with BC’s Wildfire Act local bylaws.
- As per the BC Wildfire Act, if a high risk activity (i.e., land clearing) is taking place between 1 April and 31 October, the operator must keep at the activity site fire fighting hand tools, in a combination and type to properly equip each person who works at the site with a minimum of one fire fighting hand tool, and an adequate fire suppression system (onsite portable water tanker and fire fighting tools – shovels, pulaskis, portable water backpacks). In addition, efforts must be made to maintain an adequate fire break between any high risk activity and areas of continuous forest to ensure a fire originating at the site does not escape the site.
- During any land clearing activities, develop an Emergency Plan of Action, listing key contact information in case of fire and/or other emergency at the site.
- Hazard abatement (removal of slash/disposal of debris piles) must take place in compliance with local bylaws.
- Ensure workers and site visitors are made aware of the risk of fire in the interface zone, especially during dry summer weather.

Hazard Tree Assessment

- If hazard trees need to be removed, follow the guidelines of the Best Management Practices for Hazard Tree and Non-Hazard Tree Limbing, Topping or Removal. Note that a hazard tree assessor is the only qualified professional for assessing danger trees. Consider topping any
identified danger tree (at 5 m to 10 m or more) as an alternative to removal, and retaining this as a **wildlife tree**. Where hazard removal is unavoidable, the work should be as non-intrusive as possible.

**Tree Falling**

**Universal FallSafe (applied to hand falling or machine falling):**

1. Plan the work/work the plan.
2. Identify/remove obstructions to safe fall of tree.
3. Maintain control of the tree, work area, and worker(s)
4. Watch for/recognize dangers and deal with them.
5. Work from clear-to-safest position.
6. Have a Plan B.
7. Find alternatives to falling, i.e., machine assistance.
8. Do not be afraid to ask for help from your partner.
9. Tell your co-workers if they are not working safely.
11. Exercise your freedom to choose to do the right thing and follow safe work procedures at all times.

Remember that if you encounter an unsafe situation or falling difficulty, stop work! Note that the OH&S Regulation supercedes all other legislation. Seek qualified assistance to determine a safe alternative.

- No falling within the 15 m buffer area along Lot 1 perimeter

**Minimizing Soil Erosion**

Minimize erosion of soils and deposition of soils into streams:

- Manage activities that might increase the risk of erosion of soils into streams during periods of high risk such as heavy rains
- Use appropriate, alternative techniques to minimize rutting and soil compaction. Strive to maintain natural soil drainages.
- Maintain natural hydrologic cycles to retain biodiversity function.
- Install temporary measures such as silt fences and hay bales into ditches to reduce water velocity and trap sediment
- Install appropriate number and size of culverts to manage drainage water
- Re-vegetate with suitable vegetation
- Armour ditches with non-erodible materials
- Reduce water velocity in ditches by minimizing gradient (where appropriate), carefully using ditch blocks, culverts, vegetation, or coarse non-transportable materials
- Incorporate features that will minimise the amount of impervious surface and encourage groundwater recharge, such as narrower driveway widths, vegetated swales and pervious paving materials

**Hazardous Substances**

Improper storage and handling of oil products and fuel can pose a water quality hazard. Spills or leaks can contaminate ground water and seep into streams.
- A spill contingency plan should be in place to ensure due diligence in the storage, handling and cleanup procedures of any hazardous substances
- Ensure spill containment kits are available

Monitoring
- Provide monitoring by a Qualified Environmental Registered Professional (QUERP) to ensure Best Management Practices for tree cutting activities prior to, during, and post-harvest are properly implemented. The frequency and intensity of monitoring will be guided by the level of risk to public environmental values, the approach taken by the developer to protect these values. Timely reporting will ensure that practices are appropriate.

Post-Harvest
- Use native plants and trees (suited to local climatic and terrain conditions) for landscaping as much as possible. This will minimise the possibility of introducing an invasive species.
- Do not use invasive species (e.g. English ivy, English holly, periwinkle, purple loosestrife, etc.) in landscaping, as these could spread into nearby natural areas and displace native vegetation and wildlife. As much as possible, remove any invasive species that are already on the site.
- Avoid the collection, conveyance and concentration of surface water by encouraging it to seep into the soil.
Appendix 1.

**Tree Characteristics:**

The following list indicates key tree species and associated approximate proportion of forest cover, and median size ranges to be removed from the portion of Lot 1 on the upland side of Lighthouse Pt Rd:

<table>
<thead>
<tr>
<th>Species</th>
<th>Douglas-fir</th>
<th>Western hemlock</th>
<th>Sitka spruce</th>
<th>Western redcedar</th>
<th>Red alder</th>
</tr>
</thead>
<tbody>
<tr>
<td>% of forest cover</td>
<td>30</td>
<td>20</td>
<td>10</td>
<td>10</td>
<td>30</td>
</tr>
<tr>
<td>Median Height/ Diameter Range</td>
<td>Ht range: 30-35 m DBH range: 50-60 cm</td>
<td>Ht: 25 m DBH: 45 cm</td>
<td>Ht: 20 m DBH: 80 cm</td>
<td>Ht range: 20-35 m DBH range: 50-75 cm</td>
<td>Ht range: 20-25 m DBH range: 22-30 cm</td>
</tr>
</tbody>
</table>

The following list describes key species, median sizes, and crown characteristics of trees proposed for removal from the portion of Lot 1 on the ocean side of Lighthouse Pt Rd.

<table>
<thead>
<tr>
<th>Species</th>
<th>Douglas-fir</th>
<th>Western redcedar</th>
</tr>
</thead>
<tbody>
<tr>
<td>% of forest cover</td>
<td>85</td>
<td>15</td>
</tr>
<tr>
<td>Height/ Diameter Range</td>
<td>Ht range: 35-45 m DBH range: 65-95 cm</td>
<td>Ht range: 25-35 m DBH range: 60-90 cm</td>
</tr>
<tr>
<td>% Live Crown</td>
<td>30-45%</td>
<td>35-65%</td>
</tr>
<tr>
<td>Ht to Live Crown</td>
<td>15+ m</td>
<td>10+ m</td>
</tr>
</tbody>
</table>
Appendix 2. Photos

Left: west entrance to Lot 1, at end of Seaside Dr.; right: upland side of subject property.

Left: Lighthouse Pt. Rd., looking west toward Seaside Dr; right: forest stand downslope of Lighthouse Pt. Rd.

Left: Forest fuel loading is high along Lighthouse View Trail; right: overgrown road grade
Left and right: forest stand on lower portion of lot, as viewed from Sheringham Lighthouse service road

Midslope natural clearing (rocky outcropping)

Left: Sheringham Pt Lighthouse; right: Sheringham Pt. Lighthouse information board. Old grade at subject property appears on map ca 1911.
Limitations

Evaluation is based on professional judgment. The investigation involved a field observation. Recommended treatment pertains only to the particular site as disclosed at the time of inspection. The report was prepared considering site-specific circumstances and conditions. It is intended only for use by the client for the purpose for which it was commissioned and for use by local agencies regulating the activities to which it pertains.