To: Housing & Schools Public Input Committee, Seymour Local Plan

From: David L. Cook P. Eng., FGAC; Biologist/Geologist

Date: June 13, 2001

Subject: Proposed Housing Development in Three Green Space Areas within the Confines of the Seymour Local Plan.

The following is a summary of our meeting of June 8th and the results of my research on three of the areas presented.

On June 8 you presented a map on which DNV Planning had shown 12 areas in the Seymour area being considered for housing development, some of which required your input. These areas are:-

1. Riverside Terrace (Provincial)
2. Riverside Terrace-Gravel Pit (Privately owned)
3. Northlands (CMHC)
4. Anne Macdonald Way (DNV)
5. Mystery Crescent (DNV)
6. Private land between Indian River Crescent and Indian River Drive
7. Badger Road (DNV)
8. Summerside (DNV)
9. Roche Point East (DNV)
10. Roche Point West (DNV)
11. Mount Seymour Parkway (South) (DNV)
12. Mount Seymour Parkway (North) (DNV)

See figures 1 to 6 for location and configuration of these areas.

Areas 1, 5 to 8 and 10 were to be considered "on hold" pending environmental studies and area 4 had already been approved by Council for development. This left areas 2, 3, 9, 11 & 12 for immediate consideration. Of these five areas, your committee was primarily interested in my comments on areas 2, 3 & 9 which are presently green space.

My comments and recommendations on these three areas are as follows:-

Area 2 (Figure 1):- A privately owned area of approximately 6 hectares (14.8 acres) to the north-east of Hogan's Pools Conservation Park and described as Riverside Terrace Gravel Pit. The area is bound to the

east by single family residential which is located along the west side of Berkley Road and to the north-west by coniferous forest on Provincial land.

The vegetation type is deciduous-salmonberry, with red alder and black cottonwood as dominant tree species and salmonberry as the dominant understory species. Area 2 is a raised terrace of unconsolidated deltaic gravel, sand, silt & clay (the Capilano Formation) which were laid down during the retreat of glaciation. Since the deposition of these fluvial sediments, the Seymour River has removed them to about a 30 m depth down to its present flood-plain, forming an escarpment known as the Seymour River Escarpment. Gravel and sand mining operations have cut into the escarpment west to east centrally through Area 2 thus modifying the trace of the escarpment so that the original escarpment survives only in the north-west section of Area 2. The raised terrace survives mainly in the northern part of Area 2 and to a very limited extent on its eastern margin along the west side of the cul-de-sac segment of Browning Place.

Recommendations for Area 2:-

I recommend that the area <u>not</u> be developed for the following reasons:-

1. The area constitutes part of the Seymour River Wild-life Corridor and Greenway. If development takes place, the Corridor will be reduced from its present 450 m width to approximately 100 m.

2. The area is an important buffer zone for Hogan's Pools Conservation Park which was protected from development because it is the wetland source of Maplewood Creek, as well as being an important wild-life habitat. Area 2 is a vital part of the Hogan's Pools-Maplewood Creek eco-system and should not only be conserved in its present state to maintain the viability of that system, but be added to the park as insurance against future attempts for development.

3. During my very brief field study of the area, I noted the intensity of song-bird activity in the alder-cottonwood forest, which was in stark contrast to the silence of the coniferous forest on provincial land to the north-west. Because of this rich song-bird habitat, raptor habitat should be expected, with platform nests likely in the black cottonwoods and cavity nests in snags of the older coniferous forest. Because of the open canopy of this forest and the well developed understory, habitat for black-tailed deer is well developed. Signs of deer were noted by the writer and sightings have been made (Alf Cockle pers. com.)

4. Maplewood Creek is a salmon bearing stream and therefore the creek's water quality, hydrologic regime and habitat conditions must be maintained. The Capilano Formation is the aquifer for water collecting in Hogan's Pools which subsequently flows into Maplewood Creek. The impact of development on the water quality and hydrology within the Capilano Formation aquifer should be addressed.

5 Because of modification to the escarpment by the gravel mining operation, it winds through Area 2 for approximately 400 m. This feature, combined with the fact that the Capilano Formation is unconsolidated sand and gravel, creates slope stability problems for much of the area. Slope instability would of course be accentuated by clearing and development for housing, even with the escarpment left forested, so that considerable set-backs from the escarpment would be necessary. This would reduce the area for development to about 100 m X 200 m along the northern margin of

the area, enough space for about 8 lots and an access road.

Area 3 (Figure 2):- Approximately 32 hectares (79.2 acres) of Canadian Mortgage & Housing Corporation (CMHC) land bound by Northlands Drive, Hyannis Drive, Mountain Forest Park, Northlands Golf Course and Mt. Seymour Parkway. It encompasses the former Blair Rifle Range expropriated from the District of North Vancouver and used by the Department of Defence between 1927 and 1967 following which it was sold to the CMHC. Seven firing berms 100 m apart north to south through the area were subsequently leveled with the result that bullets (both spent and unused) and casings are probably spread over a large area. A survey by Golder Associates in 1995 (Environmental Investigation of the Blair Rifle Range, North Vancouver, B.C.) was carried out in conjunction with Kerr, Wood, Leidal Associates Ltd. for CMHC and the B.C. Ministry of Lands over the target area to the north of the berms and the small arms range to the east which showed copper, lead and zinc contamination in the soils above acceptable limits. The survey did not include the berm area and therefore the extent of metals in the soil was not assessed for about 60% of Area 3. Lead dust dispelled from the barrel during firing could also be a widespread problem, particularly as it would be more readily transferred into the biomass and hydrology. While no analyses were carried out for antimony, this element should also be expected as a contaminant. Reports of a grenade dump or dumps which have not been positively located are particularly alarming. The cost of decontaminating these soils and the risks from live ordnance would be restrictive to residential development ever taking place in this area.

The vegetation type is deciduous-salmonberry with red alder and black cottonwood as the dominant trees and salmonberry as the principal understory shrub. Dense young groves of western hemlock and individual specimens of western hemlock and western red cedar are scattered throughout and represent the next successional forest. The well developed understory of this forest type provides an ideal habitat for song-birds. As a result raptor species such as owls and hawks should be expected.

The area receives considerable recreational use by walkers, hikers, bikers, birders etc. and gives access to Mountain Forest Park and the network of trails through the forests of the North Shore Mountains. The area also contributes in a significant way to the functioning of the Mountain Forest-McCartney Creek-Maplewood Flats Wild-life Corridor.

Recommendations for Area 3:-

1. The difficulty of decontaminating the soils and of removing all live ordnance from the site, renders the area unsuitable for residential development.

2. The area's role as a segment of the Mountain Forest-McCartney Creek wild-life Corridor should be maintained.

3. A wild-life study should be undertaken for the area.

Area 9 (Figure 5):- This area comprises twenty lots surveyed for single family homes which flank the surveyed but undeveloped extension of Roche Point Drive (South) and which are referred to on Figure 5 as Roche Point East. Their present zoning is RS3 (i.e. Single Family Residential of area 660m² with

approximate minimum frontage 18 m). These 20 lots and the road extension are part of a 23.55 hectare (58.2 acres) area known as Roche Point Forest which was recommended for conservation in a report by this writer dated September 18, 2000 (updated June 6, 2001) and entitled A Proposal for Rezoning of an Important Forest and Wild-life Ecosystem which Comprises a Significant Fragment of the Cates Greenway and Wild-life Corridor.

In that report, the ecological sensitivity of the area was demonstrated and recommendations were made for conservation by rezoning to PRO/NPL (Parks, Recreation & Open Space/Natural Park Land) for all 23.55 hectares. Development of the lots and road would slice significantly into Roche Point Forest, threatening its ecological viability. The habitat of nesting bald eagles in an old growth Douglas-fir (Heritage Tree No. 12) would be threatened.

Recommendations for Area 9:-

As recommended in my report of September 18, 2000 (updated June 6, 2001), there should be no development of these 20 lots nor the red alder strip of forest between them and the area should be rezoned (together with the rest of Roche Point Forest) to PRO (NPL).

Copies to:-

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