



5.4 NOISE MANAGEMENT Bylaw 7794 2004/11/23

ISSUE:

There are three general types of urban noise, which affect Richmond:

- Noise from construction activity;
- Ambient noise, such as traffic noise;
- Aircraft noise.

Construction Noise

The City's Noise Bylaw regulates the hours of construction activity.

Ambient Noise

It is increasingly important that noise issues are addressed as the volume of City activity and the number of people affected increases.

Airport Noise

Airport noise falls under the Vancouver International Airport's (VIAA) jurisdiction. Both the VIAA and the City work towards managing airport noise and aircraft noise sensitive development in a complementary manner.

The City's goal is to:

- Better co-ordinate and balance City, VIAA and other stakeholder interests to achieve economic and social development, and environmental protection, while minimizing aircraft noise related complaints and legal challenges to restrict or curtail airport operations;
- Enable the VIAA to continue to operate and expand as a World Class Gateway airport and business which operates on a 24-hour per day (day time and night time) basis;
- Create high quality livable environments;
- Improve aircraft noise sensitive land use and mitigation requirements;
- Enable residents who choose to live in airport noise sensitive areas to:
 - Be aware of the airport noise characteristics which may affect them and the risks that they are choosing to accept;
 - Not experience unacceptable airport noise nuisance through proper building construction techniques and indoor liveability noise standards, given their conscious choice to live in such areas;
 - Have little reason to complain or bring legal challenges against the City or the VIAA regarding airport noise nuisance.



An effective aircraft noise sensitive land use and area management system will establish:

- Areas where aircraft noise sensitive land uses will be prohibited;
- Areas where aircraft noise sensitive land uses will be considered, which may or may not actually be allowed based upon City priorities and requirements;
- For areas where aircraft noise sensitive land uses will be considered, requirements to better:
 - Match aircraft noise sensitive uses to the different aircraft noise areas;
 - Mitigate indoor aircraft noise;
 - Minimize aircraft noise outdoors;
 - Notify landowners and the public (e.g., developers, existing and potential residents) regarding the effects of aircraft noise and of the aircraft noise characteristics of areas in which they may choose to live, so that complaints and legal challenges to curtail airport operations will be avoided.

OBJECTIVE 1:

Manage urban development noise to maintain and enhance livability.

POLICIES:

- a) Establish guidelines to reduce the noise exposure for multifamily residential development along high traffic streets;
- b) Continue to encourage traffic noise reduction (e.g., signage to request truck drivers to avoid using engine brakes within West Richmond);
- c) Reduce exposure to noise from construction by reviewing the Noise Bylaw to improve regulation and enforcement;
- d) Preserve and create positive acoustic environments in public spaces, such as sound sculptures or acoustic playgrounds in City parks;
- e) Establish quiet recreational areas to meet emerging needs for refuge from urban noise;
- f) Foster public courtesy regarding noise issues and promote respect for the City’s Noise Bylaw through educational campaigns in partnership with regional health authorities.



Quiet recreational areas



OBJECTIVE 2:

To encourage the effective management of aircraft noise at the source.

POLICIES:

- a) Continue to cooperate with the VIAA to manage and reduce aircraft noise to minimize its disturbance to the community;
- b) Encourage the VIAA to reduce aircraft noise at the source, where feasible;
- c) Encourage regular reviews and implementation of the VIAA’s Noise Management Plan to achieve maximum noise reduction;
- d) Ensure community input through participation in the VIAA Noise Management Committee initiatives.

OBJECTIVE 3:

To manage aircraft noise sensitive development, areas and nuisance.

POLICIES:

Terms

“Aircraft noise sensitive land uses” include:

Use Category	Meaning
Residential	Defined as all residential uses, including live/work and work/live uses, nursing homes.
School	Defined as public and private places in which K-12 education is offered, as per provincial requirements.
Day Care	Defined as licensed day care uses.
Hospital	Defined as places which provide medical services, as per provincial requirements where patients stay overnight or for longer periods of time.



Aircraft Noise Sensitive Development Management

a) Relationship to Other OCP Policies

The Aircraft Noise Sensitive Development Policies, Table and Map are to be applied in conjunction with other OCP policies (e.g., OCP and area plan policies). All OCP policies are to be met.

For example, where:

- Aircraft noise sensitive developments (e.g., residential) are proposed, the Aircraft Noise Sensitive Development Policies, Table and Map also apply;
- Non-aircraft noise sensitive developments (e.g., assembly, places of worship, offices, commercial, institutional uses) are proposed and not affected by the Aircraft Noise Sensitive Development Policies, Table and Map, the other OCP and City policies apply.

b) Non-Aircraft Noise Sensitive Uses

Developers and property owners of non-aircraft noise sensitive uses (e.g., assembly, places of worship, offices, commercial, institutional uses) are encouraged to:

- Consider:
 - The location of their developments in relation to existing aircraft noise areas;
 - The location of their developments in relation to possible future aircraft noise areas;
 - The degree of sensitivity of the uses in their development to aircraft noise;
- Where appropriate, provide aircraft noise mitigation, to minimize aircraft noise nuisance.

c) Conformity

Aircraft noise sensitive land uses shall conform to the Aircraft Noise Sensitive Development Policies, Table and Map, and related City policies (e.g., Area Plans) and requirements (e.g., Zoning and Development Bylaw).

d) The Aircraft Noise Sensitive Development Table

Aircraft noise sensitive land uses are to be managed as indicated in the table entitled: Aircraft Noise Sensitive Development Table.



e) Aircraft Noise Sensitive Development Map

The map entitled “Aircraft Noise Sensitive Development Map” indicates where:

- The OCP aircraft noise sensitive land uses policy applies spatially;
- Certain aircraft noise sensitive land uses are prohibited;
- Certain aircraft noise sensitive land uses (e.g., residential) may be considered;
- City aircraft noise conditions, mitigation and insulation requirements apply.

f) Caution

The “Aircraft Noise Sensitive Development Map” means that, in the areas where aircraft noise sensitive land uses are “considered”, those uses (e.g., residential) may or may not actually be developed, due to a wide range of City priorities and requirements, and senior government, stakeholder and private sector decisions.

g) Aircraft Noise Sensitive Development Considerations

In areas where aircraft noise sensitive land uses may be considered, the following factors are to be taken into account, to determine if, where, how, to what degree, and to which requirements, aircraft noise sensitive land uses may occur in a specific location:

A. GROWTH NEEDS

1. Richmond’s limited land resource base.
2. As Richmond develops, the need for a wide range of land uses (e.g., assembly, residential, commercial, industrial, agricultural, office, institutional).
3. RAV and Oval supportive development.

B. CITY CORPORATE NEEDS

1. City Corporate land use and development needs (e.g., for community facilities and safety buildings, parks, infrastructure, environmental protection).
2. Achieving City policies.

C. CORPORATE POLICIES

1. The City’s Corporate Vision - appealing, livable, well managed.
2. City Strategies which include the:
 - Agricultural Viability Strategy;
 - Economic Strategy;



- Industrial Strategy;
- Land Acquisition Strategy;
- Parks and Trails Strategy;
- Recreational Strategy;
- Waterfront Strategy.

D. COMMUNITY PLANNING CONSIDERATIONS

1. The Official Community Plan including:
 - Neighbourhood Residential policies;
 - High-Density Mixed Use policies;
 - Neighbourhood Service Centre policies;
 - Area Plan policies (e.g., City Centre).
2. Livability Considerations:
 - Where aircraft noise sensitive land uses are permitted in an area or on a site, they are to achieve a high level of livability and maximize aircraft noise mitigation requirements;
 - The livability and aircraft noise mitigation considerations include:
 - Varying the development mix:
 - Mixing aircraft noise sensitive development (e.g., residential) with other non-aircraft noise sensitive land uses (e.g., parks, commercial, office);
 - Mixing various aircraft noise sensitive developments including residential land uses (e.g., single-family, mid-rise, high-rise, live/work, work/live);
 - Varying the density of aircraft noise sensitive land uses;
 - Varying the degree of aircraft noise sensitive land use site coverage;
 - Orienting and facing land uses and buildings to minimize aircraft noise;
 - Ensuring land use compatibility;
 - Encouraging high quality, innovative urban design and landscaping.
3. The City's Public Hearing (e.g., OCP, rezoning), subdivision, Development Permit, Building Permit approval processes.



E. SERVICES AND INFRASTRUCTURE

1. The availability of City services and infrastructure.
2. The availability of Community amenities, parks, and facilities.

F. STAKEHOLDER CONSIDERATIONS

1. Transport Canada guidelines.
2. VIAA considerations.

G. OTHER

Other, as determined by Council.

h) Interpretation

Where necessary, Council, or its designate, shall make the final decision regarding interpretations of the aircraft noise sensitive development policies, guidelines, table, and maps (e.g., exact boundaries of areas).

i) Improved City-VIAA Co-operation

The City will continue to co-operate with the VIAA, to improve common City-VIAA airport and aircraft noise research, modelling, interior noise level limits, covenants, full disclosure statements, noise insulation standards, building design elements, community design elements, public document notification and the Richmond-VIAA Accord.



OCP Aircraft Noise Sensitive Development Table			
A. AIRCRAFT NOISE SENSITIVE LAND USES DEFINED:			
Residential	Defined as all residential uses, including live/work, work/live uses, nursing homes.		
School	Defined as public and private places in which K-12 education is offered, as per provincial requirements.		
Day Care	Defined as licensed day care uses.		
Hospital	Defined as places which provide medical services, as per provincial requirements. where patients stay overnight or for longer periods of time.		
B. AIRCRAFT NOISE SENSITIVE AREAS			
Areas <small>NOTE 1</small>	Reference NEF Contours	Objective	Requirements
1A. Restricted Area	Approximately Greater than NEF 35	<ul style="list-style-type: none"> Objective: To avoid all new aircraft noise sensitive land uses. New Aircraft Noise Sensitive Land Uses are prohibited. 	<ul style="list-style-type: none"> Restrictive Covenants ^{NOTE 2}
1B. Restricted Area	Approximately NEF 30 to NEF 35	<ul style="list-style-type: none"> Objective: To avoid all new residential land uses. New Residential Land Uses are prohibited. Consider other aircraft noise sensitive land uses. 	<ul style="list-style-type: none"> Restrictive Covenants ^{NOTE 2} An Acoustic Report ^{NOTE 3} Noise mitigation incorporated in construction
2. High Aircraft Noise Area	Approximately NEF 30 to NEF 40	<ul style="list-style-type: none"> Objective: To consider all new aircraft noise sensitive land uses, except single-family. All new Aircraft Noise Sensitive Land Uses may be considered, except single-family, more specifically: New single-family detached development requiring amendments to the OCP, Area Plan, or existing zoning other than Single-Family Housing District (R1) are prohibited, however, Rezoning from one Single-Family Housing District (R1) Subdivision Area to another Subdivision Area (A to K) may be considered, subject to all applicable Policies (e.g., Sub-Area Plans, 702 Policies, and Bylaw 5300 - Division 600 - Subdivision of Land). 	<ul style="list-style-type: none"> Restrictive Covenants ^{NOTE 2} An Acoustic Report ^{NOTE 3} Noise mitigation incorporated in construction Mechanical ventilation incorporated in construction Central air conditioning system incorporated in construction ^{NOTE 4} Required Design Guidelines for siting and/or replacement of outdoor amenity areas with indoor amenity areas (e.g., enclosed balconies and increased size and type of indoor amenity areas)
3. Moderate Aircraft Noise Area	Approximately NEF 30 to NEF 35	<ul style="list-style-type: none"> Objective: To consider all new aircraft noise sensitive land uses. All Aircraft Noise Sensitive Land Uses may be considered. 	<ul style="list-style-type: none"> Restrictive Covenants ^{NOTE 2} An Acoustic Report ^{NOTE 3} Noise mitigation incorporated in construction Mechanical ventilation incorporated in construction Central air conditioning capability (e.g., ductwork) ^{NOTE 4}



<p>4. Aircraft Noise Notification Area</p>	<p>Approximately NEF 25 to NEF 30</p>	<ul style="list-style-type: none"> • Objective: To consider all aircraft noise sensitive land uses. • All Aircraft Noise Sensitive Land Uses may be considered. 	<ul style="list-style-type: none"> • Restrictive Covenants ^{NOTE 2} • An Acoustic Report ^{NOTE 3} • Noise mitigation incorporated in construction (as required)
<p>Residential Uses on the Fraser River New residential uses (e.g., house boats) on the Fraser River which are above the 30+ NEF contour are only allowed in certain areas (see OCP Map).</p>			
<p>Not Designated</p>	<p>Approximately Less than NEF25</p>	<ul style="list-style-type: none"> • Objective: No aircraft noise sensitive concerns or considerations. • All Aircraft Noise Sensitive Land Uses may be considered. 	<p>Not required</p>
<p>C. PLANNING CONDITIONS</p>			
<p>Single- Hatched</p>	<p>Approximately NEF 35 to NEF 40</p>	<p>Objectives:</p> <ul style="list-style-type: none"> • No new rezonings may proceed prior to Area Plan updates. 	<ul style="list-style-type: none"> • Restrictive Covenants ^{NOTE 2} • An Acoustic Report ^{NOTE 3} • Noise mitigation incorporated in construction • Mechanical ventilation incorporated in construction • Central air conditioning system ^{NOTE 4} incorporated in construction • Required Design Guidelines for siting and/or replacement of outdoor amenity areas with indoor amenity areas (e.g., enclosed balconies and increased size and type of indoor amenity areas)
<p>Cross- hatched</p>	<p>Approximately NEF 30 to NEF 40</p>	<ul style="list-style-type: none"> • Objective: To support the 2010 Olympic Speed Skating Oval <ul style="list-style-type: none"> • Residential use: Up to 2/3 of the buildable square feet (BSF); • Non-residential use: The remaining BSF (e.g., 1/3). 	<ul style="list-style-type: none"> • Restrictive Covenants ^{NOTE 2} • An Acoustic Report ^{NOTE 3} • Noise mitigation incorporated in construction • Mechanical ventilation incorporated in construction • Central air conditioning system ^{NOTE 4} incorporated in construction • Required Design Guidelines for siting and/or replacement of outdoor amenity areas with indoor amenity areas (e.g., enclosed balconies and increased size and type of indoor amenity areas)



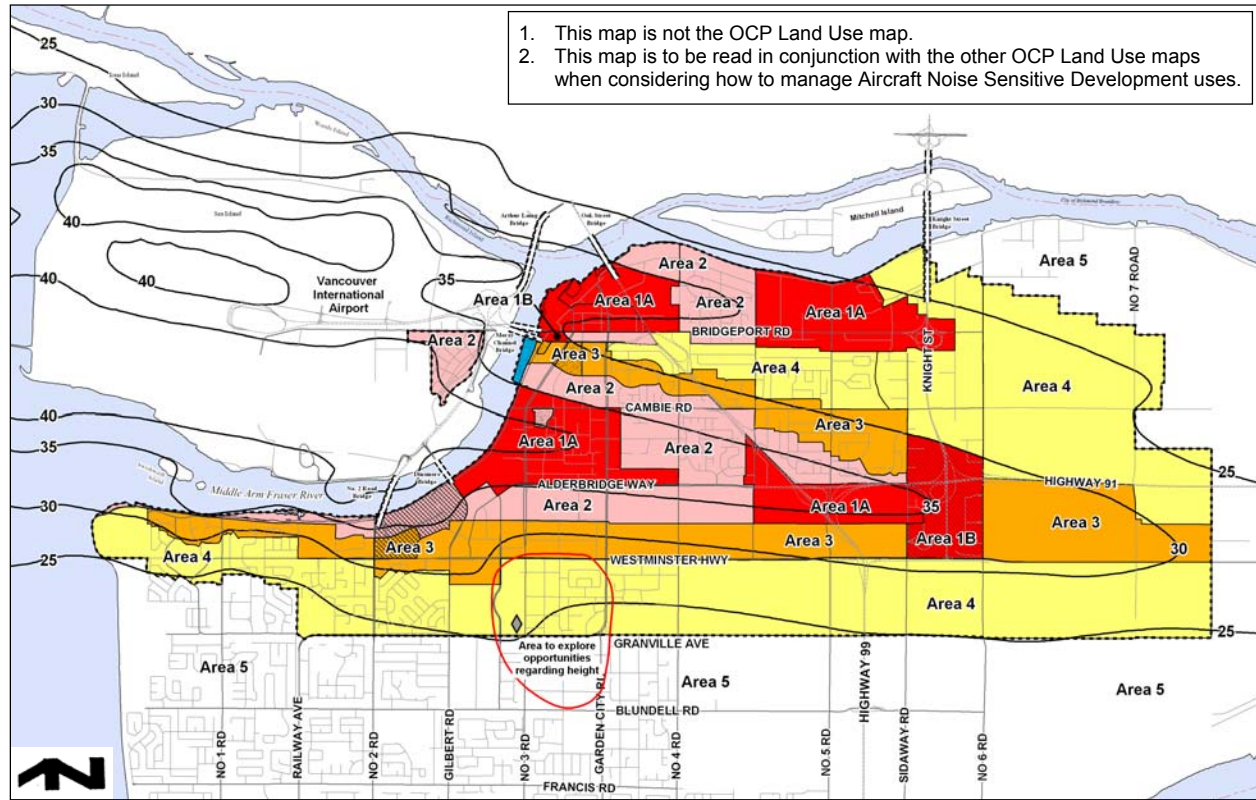
Dotted	Approximately NEF 30 to NEF 40	<ul style="list-style-type: none"> • Objective: Current 2004 rezoning applications (i.e., Aberdeen, Suntech, Wall) may proceed, prior to Area Plan updates, based on the formula: <ul style="list-style-type: none"> • Residential use: Up to 2/3 of the buildable square feet (BSF); • Non-residential use: The remaining BSF (e.g., 1/3); • The Aberdeen residential component is limited to the conversion of the previously approved hotel. 	<ul style="list-style-type: none"> • Restrictive Covenants ^{NOTE 2} • An Acoustic Report ^{NOTE 3} • Noise mitigation incorporated in construction • Mechanical ventilation incorporated in construction • Central air conditioning system incorporated in construction ^{NOTE 4} • Required Design Guidelines for siting and/or replacement of outdoor amenity areas with indoor amenity areas (e.g., enclosed balconies and increased size and type of indoor amenity areas)
NOTES			
1. The Areas in the above Table are identified on the "Aircraft Noise Sensitive Development Map".			
2. Restrictive Covenants on Land Titles include information to address aircraft noise mitigation and public awareness.			
3. Indoor Sound Level Mitigation - Building Components (e.g., walls, windows) must be designed to achieve the following indoor sound level mitigation criteria (with doors and windows closed):			
Portions of Dwelling Units		Noise Levels (decibels)	
- Bedrooms		35 dB	
- Living, dining, and recreation rooms		40 dB	
- Kitchen, bath, hallways, and utility rooms		45 dB	
4. The standard required for air conditioning systems and their alternatives (e.g. ground source heat pumps, heat exchangers and acoustic ducting) is the ASHRAE 55-2004 "Thermal Environmental Conditions for Human Occupancy" standard and subsequent updates as they may occur.			

Bylaw 8561
2010/01/18



Aircraft Noise Sensitive Development Map Bylaw 8561 2010/01/18

1. This map is not the OCP Land Use map.
2. This map is to be read in conjunction with the other OCP Land Use maps when considering how to manage Aircraft Noise Sensitive Development uses.



LEGEND

Aircraft Noise Sensitive Development (ANSD) Policy Areas (see Aircraft Noise Sensitive Development Policy Table)

No New Aircraft Noise Sensitive Land Uses:

- AREA 1A
New Aircraft Noise Sensitive Land Use Prohibited
- AREA 1B
New Residential Land Uses Prohibited

Areas where Aircraft Noise Sensitive Land Uses may be considered: subject to Aircraft Noise Mitigation requirements

- AREA 2
All Aircraft Noise Sensitive Land Uses (except new single family) may be considered (see Table for exceptions)
- AREA 3
All Aircraft Noise Sensitive Land Use types may be considered
- AREA 4
All Aircraft Noise Sensitive Land Use types may be considered

No Aircraft Noise Mitigation Requirements

- AREA 5
All Aircraft Noise Sensitive Land Use types may be considered

- Objective: Current rezonings may proceed prior to Area Plan updates, based on the formula:
 - Residential use: Up to 2/3 of the buildable square feet (BSF);
 - Non-residential use: The remaining BSF (e.g., 1/3)
- Objective: To support the 2010 Olympic Speed Skating Oval:
 - Residential use: Up to 2/3 of the buildable square feet (BSF);
 - Non-residential use: The remaining BSF (e.g., 1/3)
- On Fraser River Above 30 NEF Residential (e.g., house boats) may be considered
- Area to explore opportunities regarding height Potential would be subject to application process
- 2015 Noise Exposer Forecast (NEF) Contours
- Extent of Aircraft Noise Insulation
- City Hall