Merged Motions and Reports:

This document combines Council motions relating to the Inner Harbour Aerodrome with the attachments from their respective Governance & Priorities and Committee of the Whole committee. The documents are all in chronological order.

Table of Contents

p.2: Presentation from Transport Canada (TC) from the November 8, 2008 public meeting

p.15: Minutes from the December 2, 2009 Special Victoria City Council Meeting – Report of Council Standing Committee on Victoria Harbour Airport

p.18: Minutes from the October 2, 2008, Standing Committee on Victoria Harbour Airport

p.28: Minutes from the May 24, 2012 Council Meeting

p.30: Minutes from the April 11, 2011 Council Meeting: Re-Establishment of Victoria Harbour Aerodrome Community Committee

p.31 Minutes from the July 18, 2013 GPC Meeting: Harbour Aerodrome Regulations TC Letter

p.39 Minutes from the July 25, 2013 Council Meeting: Harbour Aerodrome Regulations TC Letter

p.44 Minutes from the October 24, 2013 Council Meeting and TC Letter dated Sept 4, 2013

p.47 TC Letter dated October 14, 2014

p.49 Minutes from the March 26, 2015 Council Meeting: Rise and Report Inner Harbour

p.50 Minutes from the June 11, 2015 Council Meeting

p.52 July 2016 Motions and Minutes on Harbour Aerodrome Regulations

p.55 July 2017 Motions and TC Letters: Harbour Aerodrome Regulations Resolution

p.59 Minutes and Motion from the October 5, 2017 COTW Meeting: Harbour Noise Exposure with reports

p.108 Minutes from the November 23, 2017 Council meeting: letter from TC dated October 20, 2017.

VICTORIA WATER AIRPORT

City of Victoria Public Meeting

Transport Canada Transports Canada

RDIMS: #4515420

Canada

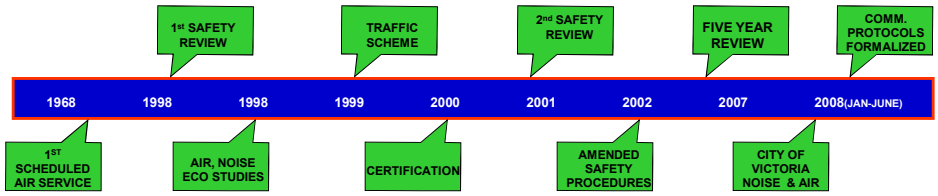
Victoria Water Airport

Presentation

1. **Review of Significant Events**
2. **Air Movement and Occurrence Statistics**
3. **Noise and Safety Procedures**
4. **Legislative/regulatory Framework**
5. **Stakeholder Engagement and Transport Canada response to observations or complaints**
6. **Conclusions from the Five Year Review**

Victoria Water Airport

SIGNIFICANT EVENTS

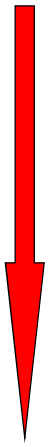


1968 - 2008

3

Victoria Water Airport

1999



2003

SIGNIFICANT EVENTS

1ST TC SAFETY REVIEW
MITIGATION PLAN
TRAFFIC SCHEME DEVELOPED
WATER AIRPORT CERTIFIED
OPERATOR SAFETY COMMITTEE
NOISE & AIR QUALITY COMMITTEE
EMERGENCY RESPONSE PLAN
PRACTICES & PROCEDURES
(MARINE ACT)
AIR QUALITY & NOISE REVIEWS
VIDEO CAMS & HARBOUR PATROL
HARBOUR MASTER APPOINT. APM
MALETEST MGMT & SAFETY REVIEW
LEGAL REVIEW
2ND TC SAFETY REVIEW
EXTENSIVE CONSULTATION:
GVMAAS, CITY OF VICTORIA
& OTHER KEY STAKEHOLDERS
CLOSE MONITORING-ENFORCEMENT

Victoria Water Airport

2003

2006

SIGNIFICANT EVENTS (con't)

MARINE AND AVIATION REPORTING SYSTEM DEVELOPED (MAARS)

ANNUAL PILOT BRIEFINGS

UPGRADE VIDEO CAMERAS

MONTHLY AIR OPERATOR'S MEETINGS

INCIDENT FOLLOW-UP

ENFORCEMENT ACTIONS

ASSESSMENT OF 2nd SAFETY REVIEW MITIGATION

AMENDED PROCEDURES – 70% REDUCTIONS IN FERRY CROSSINGS

NEW OPERATOR BRIEFINGS

CATALOGUE OF DOCUMENTS

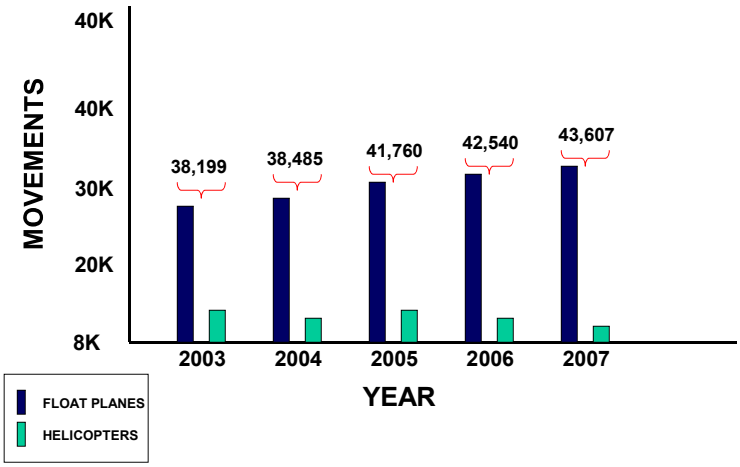
HARBOUR PATROLS

PELLY ISLAND TAXI-WAY

CORRESPONDANCE CONTROL

Victoria Water Airport (2003 - 2007)

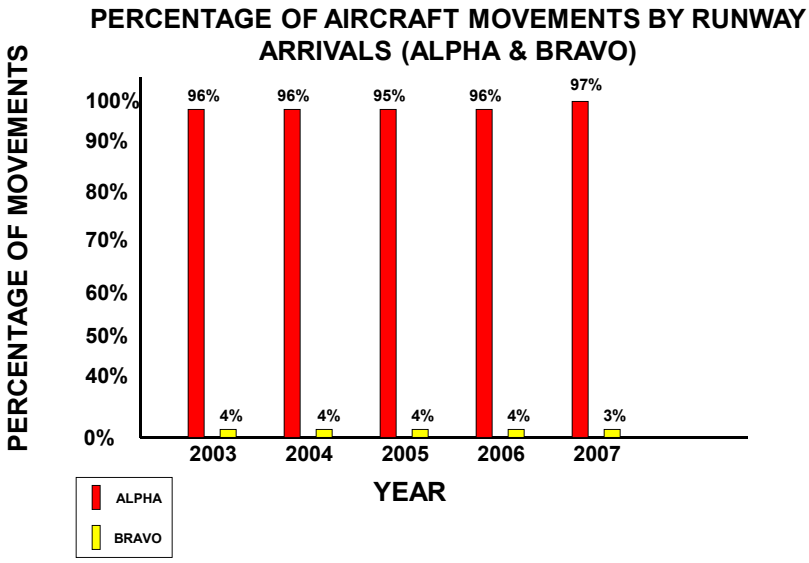
AIRCRAFT MOVEMENTS BY YEAR



SOURCE: MAARS
NOTE: Data for 2008 to date, indicates little or no increase in movements from 2007.

6

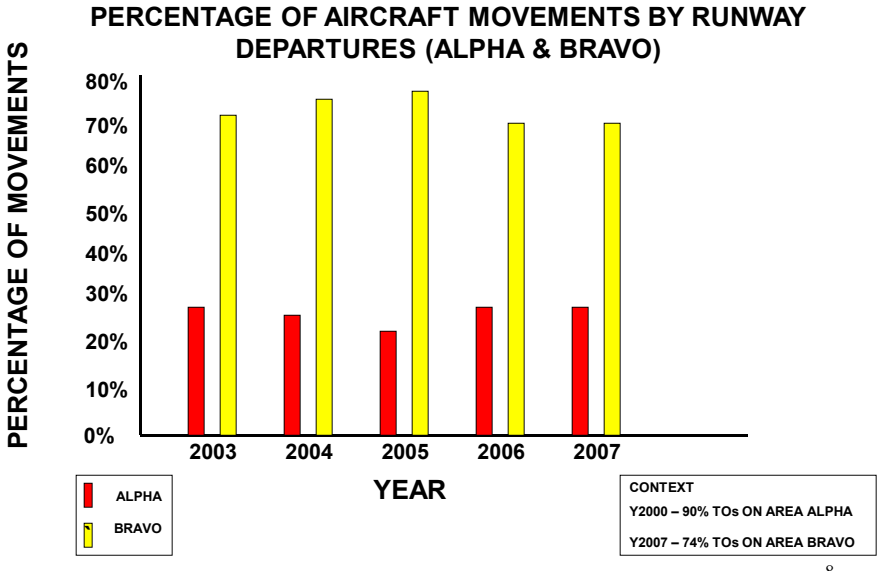
Victoria Water Airport (2003 - 2007)



SOURCE: MAARS

7

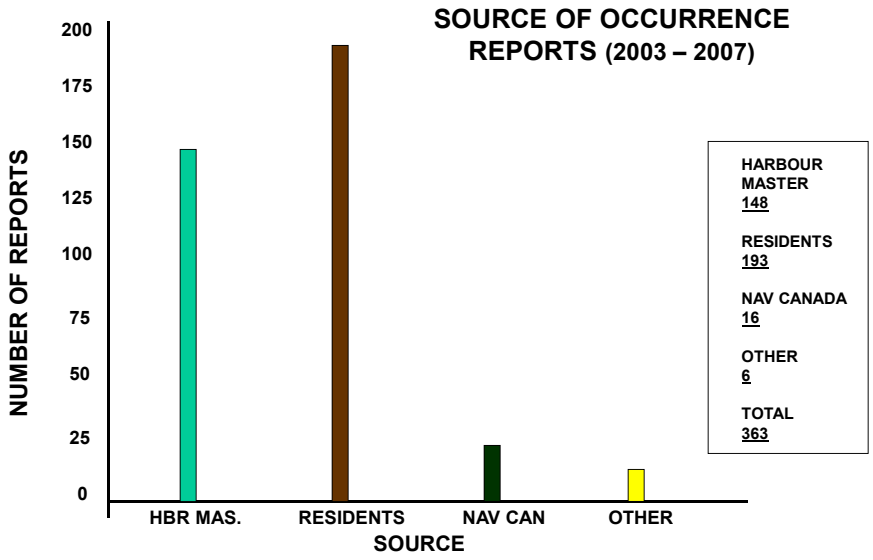
Victoria Water Airport (2003 - 2007)



SOURCE: MAARS

8

Victoria Water Airport (2003 - 2007)



NOTE 1: *Occurrence Types - Speeding, landing after threshold, take-off prior to threshold, less than 50m from vessels, etc.*

NOTE 2: *Of 193 resident observations, 150 originated from three individuals.*

SOURCE: *MAARS*

9

Victoria Water Airport

SAFETY and NOISE ABATEMENT PROCEDURES

- Traffic Scheme
- Aircraft “Runways”
- Mandatory Reporting Points
- Prior Permission Required
- Emphasis On Bravo Operations
- Runway Thresholds
- Avoid Use Of Reverse Thrust

10

SAFETY and NOISE ABATEMENT PROCEDURES (cont)

- Vessel/Aircraft Distance Separation
- Marine Vessel Lanes
- Taxi-Way For Bravo
- Operational Committees
- Recurrent Pilot Training
- Low-Tide Markers
- Reduced Water Taxi Operations – Area Alpha

LEGISLATIVE FRAMEWORK

SAFETY	Aeronautics Act Canadian Aviation Regulations TC Regional Office Oversight
NOISE	Canadian Aviation Regulations
AIR QUALITY	Canadian Aviation Regulations

NOISE and AIR QUALITY

Canadian Aviation Regulations (CARS)

Part V – Airworthiness

Airworthiness Manual Chapter 516

13

All aircraft, both domestic and foreign,
operating within Canada,
must comply with the Noise
and Engine Emissions Standards
at the time of manufacturer and certification,
as established by Annex 16, Volumes I and II,
of the
Convention of International Civil Aviation

14

Noise Abatement/Mitigation Considerations

Transport Canada has worked with the air operators, the airport manager, and the community to introduce Noise Mitigation Procedures such as the preferred use of Bravo over Alpha, however safety must always come first

15

COMMITTEES (Stakeholder Engagement)

Noise and Air Quality Committee **MEMBERS: TCCA, TC Programs, Nav Canada (NC), Resident. Assoc.**	**Annually**
Victoria Harbour Air Carriers Safety Committee **MEMBERS: TCCA, TC Programs, NC, Air Operators, Marine Operators, CEO MV Coho, CEO Harbour Ferries**	**Monthly**
Victoria Harbour Air Operators Safety Committee **MEMBERS: TC Programs, TCCA, NC**	**Monthly**

OPERATIONAL COMPLAINT PROCESS

Complaint submitted to Airport Manager

Airport Manager acknowledges complaint to submitter

Airport Manager reviews supporting information

If complaint supported by independent information
- **alleged regulatory infraction referred to CA Enforcement**
- **Pilot conduct – refers to air operator**

If complaint not supported, report completed & filed

PORT of VICTORIA'S RESPONSE TO OPERATIONAL COMPLAINTS

Your correspondence to the Port of Victoria is acknowledged. Transport Canada staff will investigate your observation and if confirmed, will take appropriate action. Should we require additional information, we will initiate contact with you, otherwise, there will be no further response on this matter.

CONCLUSIONS

IN THE PAST FIVE YEARS:

- **The number of aircraft movements has increased.**
- **Float Plane traffic is increasing; helicopter traffic is decreasing.**
- **The number of CADORS reported incidents is minimal (14 over five years).**
- **The number of founded enforcement actions resulting in sanctions is minimal.**
- **The percent of take-offs in Alpha and Bravo are static.**
- **On average, 70% of take offs are from Bravo.**
- **Civil Aviation, Programs & Nav Canada continue to introduce improvements.**
- **Air and Marine Operator consultation and engagement is a model.**
- **Victoria Harbour is seen as a potential model for other harbours (ie: Nanaimo)**

Victoria Water Airport Five Year Review (2003 - 2007)

CONCLUSIONS (Con't)

- **Mitigative actions for identified risks have proven effective.**
- **There are no new risk indicators that warrant a full Risk Assessment.**
- **Aviation operations are stable with a low number of incidents and minimal enforcement actions and noise complaints.**

RECOMMENDATIONS

- **Continue Civil Aviation's monitoring of & support to the Harbour's operations & management.**
- **Continue enforcement action against alleged infractions.**
- **Continue focus on MAARS & CADORS Reports & follow-up.**
- **Continue encouragement of "good neighbour" and best practices**
  ie: Use of Bravo
  Avoidance of reverse thrust
  Reduced rpm take-offs

VICTORIA HARBOUR TRAFFIC SCHEME
Not To Scale

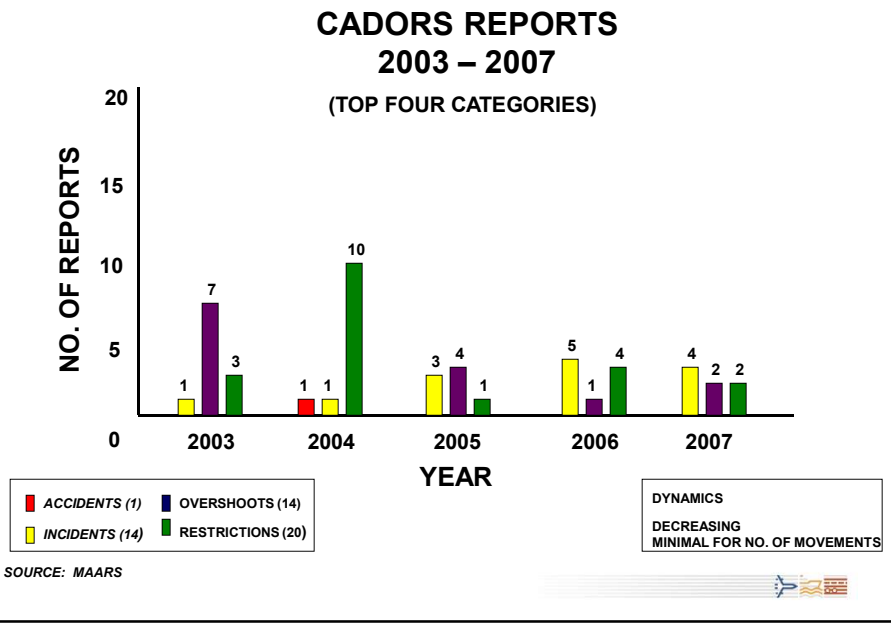
Victoria Water Airport Five Year Review (2008)

MAARS REPORTS
BY TYPE OF OCCURRENCE
(PRIOR TO INVESTIGATION)
2003 - 2007

TYPE	2003	2004	2005	2006	2007	TOTAL
T. O. IN ALPHA WHEN BRAVO AVAIL.	3	0	0	0	7	10
NOISE COMPLAINT	3	9	15	1	6	34
AIR QUALITY COMPLAINT	8	6	7	1	2	24
NON-COMPLIANCE WITH VHTS	11	9	4	3	1	28
T.O./LNDG PRIOR TO 07:00	1	0	0	0	0	1
PPR NOT OBTAINED	3	1	0	0	0	4
SPEEDING/STEP TAXIING	15	13	1	8	11	48
LESS THAN 50M FROM VESSEL	15	21	6	9	4	55
T.O. BEFORE THE THRESHOLD	0	4	0	3	1	8
LANDING AFTER THRESHOLD	2	2	6	2	10	22
LANDING BEFORE THRESHOLD	7	0	2	10	14	33

SOURCE: MAARS

Victoria Water Airport Five Year Review (2003 - 2007)



SOURCE: MAARS

ICAO Airport Standards

Annex 14 used to include provisions for water aerodromes in its earlier editions in 1950's. Since 1964 when Amendment 19 to Annex 14 was taking place, those provisions have been removed from the Annex. Therefore, the existing Annex 14, Volume I is not intended to cover water aerodromes.

25

MINUTES – VICTORIA CITY COUNCIL
SPECIAL MEETING OF WEDNESDAY, DECEMBER 02, 2009, AT 7:30 p.m.

PLACE OF MEETING: Council Chambers, City Hall

PRESENT: Acting Mayor Young in the Chair; Councillors Chandler, Coleman, Hunter, Luton, Madoff, Thornton-Joe and Young

ABSENT: Mayor Fortin and Councillor Lucas

APPROVAL OF AGENDA

It was moved by Councillor Madoff, seconded by Councillor Chandler, that the meeting agenda be approved.
Carried

REPORT OF COUNCIL STANDING COMMITTEE ON VICTORIA HARBOUR AIRPORT

Acting Mayor Young said that the presentation from the Standing Committee on Victoria Harbour Airport will be presented in three parts by members of the Committee, Councillors Madoff, Coleman and Luton.

Councillor Madoff said that this has been a long detailed and thorough process and appreciates the assistance of staff members Janice Schmidt, Soki Kaur and Robert Woodland. She would also like to thank the public for informing the process with written comments and at public meetings.

Since May 2008, the Standing Committee has investigated floatplane noise and air pollution impacts on residents' quality of life; they consulted key stakeholders, such as residents, Transport Canada and other jurisdictions; they held two public meetings, reviewed numerous written submissions and examined potential mitigating strategies to address issues.

The presentation tonight is to report on the Committee's findings and provide final recommendations that will be passed on to the Federal Government, as the regulatory authority for the airport.

What the Standing Committee has heard from residents is that there has been an unacceptable level of noise and air pollution since the 1990's affecting their quality of life. Their concerns include: increased number of floatplane movements, proximity of aircraft to residential buildings, type/age of aircraft, perceived pilot non-compliance with operating procedures and a lack of clear jurisdiction and regulations governing noise and air pollution.

The Committee initially assumed the City could take some direct action, through property leases, business licenses or zoning, but learned otherwise. The management of the aerodrome is a Federal undertaking and the City has no authority to control floatplane operations. The Committee agrees that noise and air quality are impacting residents' quality of life. The Committee believes in finding a balance between maintaining a vibrant harbour and quality of life. Victoria City Council can influence the Federal Government by advocating strongly on the citizens' behalf.

The Committee acknowledges that the harbour airport is under the sole jurisdiction of the Federal Government and municipal bylaws are unenforceable because they impact the core of Federal jurisdiction.

The Committee has developed recommendations in two parts:
1. Guiding principles, (policy statement), to articulate how the City wishes the airport to be managed:
That Council supports:

a. *An airport that balances public safety with quality of life expectations;*
b. *A viable working harbour as a valuable contributor to the local and regional economy and a key transportation link; and*
c. *Ongoing scheduled aircraft operations in the harbour, managed in an economically and environmentally sustainable manner that considers the impact of noise and air pollution on the environment, neighbours and residents*

.

2. Specific recommendations for action:
That Council urges the Minister of Transport to adopt the following recommendations:

a. *Manage the harbour airport with a long-term vision that incorporates a quality of life perspective; includes short, intermediate and long term plans and considers the triple bottom line;*
b. *Manage growth of floatplane traffic by investigating current passenger loads, determining future capacity and establishing sustainable number of daily flights;*
c. *Improve community communication/consultation by implementing a public complaint mechanism and employing an ongoing consultative committee;*
d. *Conduct new studies that incorporate a quality of life perspective; conduct an independent aeronautical study; study the impact of noise and air quality and apply new standards that consider liveability impacts; and*
e. *Revisit Canadian Aviation Regulations and Standards (CARS) by adjusting the draft CARS to include quality of life factors, location, dense urban environment and address airport airspace surfaces.*

Councillor Coleman said that the Committee learned through their research that there are things the City of Victoria could not influence and things that Transport Canada has no authority over or does not want to embrace for their own reasons. Examples of actions that are not included in the Committee's recommendations are:

1. *Greater use of City authorities around property leases, business licenses and zoning*
   - *There are only two floatplane properties that the City could apply these powers to, but it would probably result in the operators moving to locations over which the City has no control. The City has no authority over aircraft operations as operations are conducted off-site; and the City's rezoning authority cannot be exercised for activities within the Federal domain.*

3. *Impose noise and maximum air quality levels*
   - *There are no benchmarks, but Transport Canada would be open to the installation of permanent noise monitoring stations and they would be used to build benchmarks.*

4. *Constructing one aircraft terminal under one authority*
   - *In order to have an airport authority, there must be at least 60,000 annual flights, among other conditions, and there is no one entity to assume the authority role.*

5. *Close / move runway Alpha*
   - *This is not a viable option as it would remove pilot discretion and could compromise safety. Transport Canada is working toward more takeoffs using Bravo and landings using Alpha.*

6. *Regulate floatplane movements, schedules and spacing and dock floatplanes until take-off*
   - *Transport Canada does not have the authority to regulate floatplane movements, schedules and spacing, but they are working with the operators for compliance, which will take time.*

7. *Impose minimum separation distance*
   - *These claims have been determined by Transport Canada as unfounded and an amendment was made to Restriction #3 in the Canada Flight Supplement to clarify the definition of take-off and landing, which requires pilots to begin their take-off slide to an altitude of 150' ASL and descent from an altitude of 150' ASL.*

8. *Employ quieter and less polluting engines*
   - *No such floatplanes exist and there is no recertification process. Aircraft must meet international noise and engine emission standards at the time of initial certification and manufacture. If a plane has a lesser load, there will be less rev at takeoff.*

9. *Penalize pilots for non-compliance*
   - *Transport Canada and floatplane operators advise that pilots are complying with operating procedures and avoid reverse-thrust and Transport Canada will continue to monitor and reinforce avoidance of reverse thrust.*

10. *Close regulatory gap*
    - *Transport Canada has acknowledged that there is a legislative/regulatory gap in regard to noise and air quality. New Water Airport Regulations and Standards are currently being drafted by the Federal government. The present standards and practices are not enforceable due to lack of supporting regulation. The proposed new regulations and standards (Canadian Aviation Regulation (CAR) 306 Water Airport Regulations and CAR 326 Water Airport Standard) will provide minimum safety criteria at certified water airports. The public will be able to review the draft in the near future, and the City will subject these proposed changes to careful scrutiny.*

11. *Apply International Civil Aviation Organization Standards*
    - *These only apply to airports located on land.*

Councillor Luton said that Transport Canada has expressed a willingness to:
1. *Conduct noise and air quality studies in consultation with key stakeholders such as NavCanada and residents;*
2. *Install ongoing noise monitoring systems and establish benchmarks;*
3. *Reinforce aerodrome procedures/avoidance of reverse thrust at monthly air carrier meetings and continue to monitor to ensure compliance;*
4. *Aim to improve communications and invite others to the Air Carriers Safety Committee meetings.*

In conclusion, Victoria airport and floatplane operations must be managed with a broader perspective than just the safety mandate and Victoria City Council will advocate strongly that:
- *Quality of life of residents is considered;*
- *Dense population and harbour environment is considered;*
- *Needs of floatplane operators are balanced with the needs of harbour residents;*
- *The harbour is sustainable for the long term, and*
- *The harbour remains a vibrant working harbour.*

The City has limited authority over aircraft operations as the City's authority does not extend to Crown lands and does not supersede Federal authority; the City cannot use it business licence, property lease or zoning authorities and the City's regulatory bylaws are unenforceable against Federal undertakings.

The Standing Committee on Victoria Harbour Airport recommendations acknowledge and focus priority on the quality of life issues in the harbour and Victoria City Council will continue to engage the local MP to advocate for these issues in Ottawa.

Motion:
It was moved by Councillor Luton, seconded by Councillor Coleman, that Victoria City Council:

1. Accept the report of the Standing Committee on Victoria Harbour Airport;
2. Adopt the proposed Council policy position statement;
3. Approve the five recommendations for action by Transport Canada;
4. Direct staff to prepare correspondence to the Minister of Transport detailing Council's position and advice regarding harbour airport issues;
5. Request the City Manager assign staff to monitor the status of the recommendations with Transport Canada on an ongoing basis and work with them to advance the studies and other actions; and
6. Disband the Standing Committee on Victoria Harbour Airport.

Councillor Hunter said that this is a comprehensive report and she appreciates the work. There is a lot of frustration among Council and citizens about the perceived intransigence of Transport Canada and this is a strong document to go on from. From reading this document Transport Canada must see that there is public pressure on the way they operate. If the City cannot regulate and Transport Canada cannot regulate, and the operators want the public to know that they are operating safety, then the only way for this to happen is to have a regulator overseeing them and not have it based on trust. She commends the Committee and staff, although it is disappointing that the City does not have the authority to act directly.

Councillor Chandler said that she appreciates the consideration of the Committee, specifically the triple bottom line in tandem with the working harbour, which is valued. Urbanization is about capacity and the impact on the working harbour and on the community. It is not just about density in the harbour, but applies across the City. There are some strong suggestions in the report and she hopes the Federal government will listen. It is a starting point to speak on behalf of the residents. The sustainability theme is consistently used and it is because we want it to continue to exist in perpetuity.

Councillor Thornton-Joe said that there is frustration from Council and the community on this issue and the need to balance a vibrant harbour and address the liveability of residents in the area. This is a start of discussions and they will be continuing.

Councillor Madoff said that she is disappointed in the tools available to Council to regulate floatplane operations, but one cannot underestimate the power of these recommendations from Council. Council is committed to a sustainable and working harbour and safety is not enough. Quality of life has to be taken into consideration and that is woven into all the recommendations. Council will apply pressure and try to influence their Federal colleagues that quality of life has to be addressed.

Councillor Young said that he will support for the reasons that have been outlined. The City does value the activity in the harbour and the economic benefit of the floatplanes, but Council has to weigh the benefits against the quality of life of the citizens who live and work around the harbour.

Carried

Acting Mayor Young advised the members of the public if they wanted to express their views they should forward them to Mayor and Council.

ADJOURNMENT

It was moved by Councillor Chandler, seconded by Councillor Coleman, that the Council meeting adjourn.
Time: 8:10 p.m.

CERTIFIED CORRECT:

CORPORATE ADMINISTRATOR

ACTING MAYOR OF THE CITY OF VICTORIA

Minutes of the Standing Committee on Victoria Harbour Airport
Information Meeting
Held Thursday, October 02, 2008, 7:00 p.m.

Committee Members Present:	Councillor Holland in the Chair
Committee Members Present:	Councillors Coleman and Madoff
Staff Present:	R. Woodland, Corporate Administrator; J. Schmidt, Manager, Corporate Planning and Policy; S. Kaur, Policy Analyst; J. Hawkins, Council Secretary

1. CALL TO ORDER

The Chair called the meeting to order at 7:10 p.m.

The Chair said that this is an information sharing meeting and is the first of at least two meetings as the City moves towards the development of recommendations to address some ongoing issues that have been raised by the community.

It is disappointing that Transport Canada could not attend the meeting tonight. They are unable to participate in public meetings during a Federal election campaign. They will be part of the next meeting.

2. OVERVIEW OF STANDING COMMITTEE AND MEETING

The Chair said the Committee was established by the Mayor in March 2008 to look into the issues around harbour airport operations and concerns that have been expressed by the community. Specifically, the main issues the Committee has focused on are noise and air quality, while acknowledging the safety and capacity concerns, which are linked to these two issues. The objectives of the Committee are to listen to and investigate stakeholder concerns; facilitate communication between Transport Canada and the community; provide recommendations to City Council and to provide strategic advice to Transport Canada.

The Committee reviewed a large amount of correspondence and other material; they have also had discussions with the Port Manager and other Transport Canada officials to understand their position and what has been done to date. Legal advice was also sought with respect to the jurisdictional matters governing the harbour airport. While the Federal government has the regulatory authority, the City may be able to bring some influence to the situation.

3. SUMMARY OF ISSUES AND ACTIONS IDENTIFIED TO DATE

The Chair said that the Committee felt that it was important that everyone have a common understanding of the issues that have been forwarded, so staff have prepared a high-level summary of the concerns and recommendations for further action that the City has heard from the community.

Janice Schmidt, Manager, Corporate Planning & Policy delivered a PowerPoint presentation covering the following points:

Overview:

- The Victoria Harbour Airport was certified as an airport in 1999;
- In 2001 the economic impact of the harbour airport was estimated at $54 million;
- Aircraft flights grew 14%, from 38,199 to 43,607 flights between 2003 and 2007;
- In 2007 there were 119 flights per day
- Between 1995 and 2007 aircraft flights increased 47%, so the perception of significant growth over the past 10-12 years is borne out by the data.

Community Concerns – Key Themes, Citizen Issues and Citizen Recommendations

- **Noise levels - Issues**
  - Primarily propeller noise;
  - Proximity of aircraft to shoreline buildings (predominant use of Alpha runway);
  - Transport Canada acknowledge a problem does exist;
  - Engine noise mitigated to a degree by retrofitting with newer, quieter technology.

- **Noise levels – Recommendations**
  - Conduct new noise study;
  - Implement noise reduction measures and noise monitoring system;
  - Use modern aircraft;
  - Do not permit noise level over 90dBA;
  - Restrict/prohibit floatplane operations;
  - Reduce or cap the number of flights;
  - Limit any future expansion.

- **Air quality – Issues**
  - Noxious fuel fumes linger for many hours and enter homes;
  - Poor air quality affects health and causes anxiety and stress;
  - No recent air quality assessments have been conducted.

- **Air quality – Recommendations**
  - Conduct air quality assessment;
  - Consider impacts on health of residents in air quality studies;
  - Require/encourage floatplane operators to use new aircraft that generate lower emissions.

- **Non-compliance with regulations and standards - Issues**
  - Inappropriate use of Alpha (East-West) runway instead of Bravo (North-South) runway;
  - Proximity of aircraft to shoreline buildings;
  - Takeoff and landing practices.

- **Non-compliance with regulations and standards – Recommendations**
  - Close or restrict use of Alpha runway;
  - Ensure take-off and landing occur in designated areas;
  - Ensure floatplanes adhere to all restrictions and procedures;
  - Monitor runway usage and enforce rules;
  - Impose fines for violations.

- **Safety – Issues**
  - Airport is seen as operating in violation of airspace design standards governing proximity to shoreline buildings;
  - Congestion in harbour increases likelihood of accidents.

- **Safety – Recommendations**
  - Restrict/prohibit number of floatplane movements;
  - Apply same safety standards as applied to airports located in built-up areas in Canada;
  - Provide more space between take-off and landing areas and condominiums;
  - Relocate sightseeing and charter operations to new site.

- **Jurisdiction/Authority to Regulate**

  City's legal advice confirmed:
  - Seaplane operations, air and noise pollution is the exclusive jurisdiction of the Federal government;
  - The City cannot impair matters that fall within the *Aeronautics Act;*
  - The City's bylaws have no force on a Federal undertaking;
  - Municipal bylaws that attempt to regulate floatplane operations, such as related to health or environmental concerns are invalid.

Transport Canada's Documented Position

- **Noise and Air Quality**
  - All aircraft are certified when they are built, but it is not repeated;
  - Transport Canada does not regulate noise and emissions;
  - There are noise abatement restrictions and operational practices in place for Victoria Harbour.

- **Compliance**
  - Establishment of current runways and taxi areas are seen by Transport Canada as reasonable response to community concerns;
  - Weather, traffic and other safety considerations are assessed by pilots when taking off and landing;
  - 73% of all take-offs in 2007 were from Bravo runway;
  - Water Airport Regulations and Standards are currently being drafted.

- **Safety**
  - Pilots and floatplanes must meet safety standards;
  - Airports in built up areas are certified and provide and maintain a safe operating environment for take-off and landing;

- Pilots are governed by regulations that require them not to fly in a reckless or negligent manner.

- **Jurisdiction/Authority**
  - Federal government has jurisdiction of the Victoria Harbour Airport;
  - The City and other stakeholders can work with Greater Victoria Harbour Authority to develop noise procedures for Transport Canada's consideration.

Transport Canada Actions to Date

- Introduced mechanism for community dialogue on issues (Noise & Air Quality Management Committee);
- Developed Traffic Separation Scheme;
- Implemented safety regulations and standards;
- Authorized one entity to manage the Victoria Harbour Airport;
- Implemented operational/procedural changes to reduce the overall impact of aircraft noise;
- Finalized Noise Abatement Checklist for community use;
- Initiated development of *Water Airport Regulations and Standards*.

3. REQUESTS TO ADDRESS STANDING COMMITTEE

1. <u>Jack Bragg, President, Greater Victoria Marine Air Safety Society</u>

He has been Involved with water aerodromes and airports since 1995 and this Victoria harbour was the first water airport certification in Canada. The major problem is the design and construction of the water airport space and the 'vertical transitional' surface measurements in close proximity of a residential community. Transport Canada is not treating the area as urban topography with condominiums, but rural topography, thus creating the excessive noise and pollution; no airplane is made to operate within 100 meters of condos. He would suggest that the E-W runway should be moved closer to Pelly Island to allow at least 300 meters separation from a condo building to a height of 45 meters.

2. <u>Marc Pakenham</u>

Safety is a concern. He worked in Safety and Accident Prevention for the Coast Guard for 35 years. 20 years ago when an Airwest Twin Otter crashed in the harbour they had to find a rescue facility. Concerns over increased traffic falls by the wayside until there is a serious accident. We need to have some contingency in case of a capsize or collision. Having taken the flight many times, he is terrified of landings with wind speed in excess of 55 km/hour as it seems the craft is pushed to its limit and operated on the margins of safe flying conditions. He noted that the heliport must also be taken into consideration and be part of these discussions as it has become a permanent fixture, despite when it was opened it was to be temporary and consultation was promised before it was made permanent. Most airports in Canada have an airport authority to connect the airport to the community and he does not see why Victoria

Harbour can't have an authority that is connected to but autonomous from the Greater Victoria Harbour Authority.

3. Frank Gatto, Victoria Harbour Noise & Air Quality Management Committee/Royal Quays Strata Council

He is relatively new to Victoria, but this noise is not new. In 1973, harbour noise data was already being gathered. In 1984, a Victoria Harbour Baseline Study stated the redevelopment of the Songhees will increase the numbers of people exposed to noise problems. There seemed to be progress being made in 1997 with the Victoria Harbour Noise Committee, but somehow the momentum died. He would request that this work be looked at as there were some good recommendations. The float plane issue is boiled down to a love or hate and whether it is good for the economy. It is an environmental and quality of life problem. He thinks the time has come for this matter to be dealt with. Another Working group made up of City of Victoria, Transport Canada, floatplane operations and residents need to sit down and solve this problem. The issue has gone on for too long and it is not going to go away, it is only going to get worse.

4. Brian Scarfe

He runs a small business and is a harbour resident and he is often disturbed by the harbour noise. The social costs of the growing use of the harbour exceeds the benefits. The main social benefit provided by the harbour is a travel time savings for business and government employees. The number of tourists brought by floatplane is insignificant to the total Victoria tourist travel. It actually may reduce the number of overnight stays. If allowed to continue, aircraft noise and pollution will also lower property tax revenues by causing residential and commercial property values all around the harbour to be lower than they could be without these adverse impacts. City Council should request Transport Canada to place a ceiling on the number of aircraft movements as was done at Lake Union in Seattle.

5. Susan Woods, Queens Port Strata Council

For more than eight years residents have submitted recommendations to Transport Canada regarding noise and air quality arising from the harbour operations, with minimal success. Resident's quality of life is negated by the impacts of the noise and fumes. The following are the underlying causes and possible solutions:

(1) Superimposing an airport on the shipping channel – recommend that floatplanes should stay at the dock until the channel is clear for them to takeoff, schedules should be adjusted accordingly and prohibit the use of reverse thrust.

(2) Discriminatory application of vertical zoning – recommend Transport Canada apply standards here as applied to all other certified airports in built-up areas in Canada; and move the E-W runway further west, away from the buildings.

(3) Lack of minimum separation distance – recommend Transport Canada include buildings in their 50 meter minimum separation distance as applied to vessels.

(4) Uncontrolled expansion of floatplane operations – recommend Transport Canada put a cap on the annual volume of floatplane movements; and Transport Canada should conduct a saturation study.
(5) Lack of environmental standards – recommend Transport Canada establish noise and air quality standards equivalent to the City of Victoria bylaws and install a permanent noise monitoring station.
She would ask that the City take these recommendations to Transport Canada and that the City be involved in the new water airport regulations.

6. Charlene Simon, Victoria West Community Association

In May 2008 Victoria West Community Association wrote to the City in support of the Committee being established and stated their desire to find a solution. They support that the harbour is a 'working harbour' with a balance given to preserve the quality of life. Some steps have been taken to mitigate issues but there are still issues. Some residents cannot hold conversations in their homes without the doors and windows closed; there is also the smell of fuels and exhaust in their homes. The issues are not new and are extreme frustration for harbour residents for many years. The Victoria West Community Association would request that the Committee take the following actions: restrict the number of floatplane movements; a saturation study be conducted; regular attendance at the Transport Canada Victoria Harbour Noise and Air Quality Management Committee; the City establish a complaints procedure for residents; have a noise monitoring system installed; have planes upgraded to reduce noise and emissions; conduct an air quality study; and review the Water Airport Regulations and Standards when it is published.

7. Marg Gardiner, James Bay Neighbourhood Association

In 1998 Council stated that they supported the aerodrome and asked staff to determine the maximum level of noise to be achieved in a reasonable time frame and it is 10 years later, which is not reasonable. Improvements in noise depend on where you live. Noise levels doubled overnight when the flights moved west. Residents shouldn't have to lock up their doors and windows to have some peace. Transport Canada is not using noise mitigation, but the City can ask them to. The City can control zoning and licensing as the planes use City property. The City has influence with Transport Canada and they will listen to the City. There should be no further development west of Laurel and Songhees Points within 1,000 feet of the harbour until a Noise Exposure Forecast (NEF) has been completed. Air quality test should be done. The issue is not about a harbour airport being compatible with residential uses, but the other way around. The City is committed to a working harbour, but an aerodrome is not essential part of a working harbour. If noise was being monitored, the levels would be lowered; right now it is free for all. The Boeing website contains information on noise and emission surcharges in some jurisdictions.

8. Miza Yu

She moved to James Bay in 2003 and last year she moved to the North side of Shoal Point. The noise from the floatplanes have made it an uncomfortable summer for her as she has had to keep her windows closed due to the noise. She has had to go to coffee shops and other places

during the day as she found being at home mentally exhausting and stressful. The landing and takeoff areas should be away from homes.

9. Gordon Tweddell

He also lives at Shoal Point and he would like to congratulate the Committee for holding this meeting. The floatplane noise disrupts his daily activities, particularly his enjoyment of the outdoors. He has five main points – (1) Harbour airport operations are a significant source of noise and disruption to the neighbourhood; (2) The volume and aircraft movement are increasing and affecting the neighbourhood; (3) The City has the jurisdiction and influence over the solutions; (4) The reasons to act are clear and arguments against are untenable; (5) The City should enact and recommend that Transport Canada enact measures to address the problem in the short and long term. The calculation of the sound levels is confusing and problematic. World Health Organization guidelines with respect to noise outdoors is between 50dBA and 55dBA. The City of Victoria Noise Bylaw states levels in the range between 45dBA and 65dBA. Transport Canada's Aircraft Noise Measurement Project in 2001 reported noise levels between 63.4dBA and 64.7dBA and a Shoal Point Residents' Study measures the noise levels frequently at 90dBA. The noise has increased due to the increase in the number of flights. While Transport Canada has direct control over aircraft operations, the City of Victoria issues the business licences and provide the facilities for the aircraft and they can enforce restrictions on noise levels. The City should take leadership in this. Arguments against restrictions are untenable as the City has a duty of care for its residents. (1) Some will argue the economic benefits out weigh the concerns; (2) that the floatplanes were here first; but residents were here before the airplane was invented; and we are all here now. (3) Some will argue if the residents don't like it then they should move. City Council determines where residential development should occur, so the City has a duty to ensure there is a proper living environment. (4) Some will argue that floatplanes are a feature of Victoria's charm, but that is becomes a serious annoyance over time. (5) Some will argue restrictions will close the airport, that is not true. The City has the duty and power to act and put in place the actions to solve the problem.

10. Jim Gauer

He is a frequent flyer on Kenmore Air. Discussion regarding noise and air pollution is long overdue, but discussions get bogged down in misinformation, contained in the following thirteen myths:

1. Seaplanes were here first – planning and promoting of residential development since 1983, when seaplane traffic was less than 12,000 flights per year, traffic now exceeds 36,000 per year.
2. Seaplane traffic is compatible with residential development – Victoria is the only city in Canada that permits airport runways in such close proximity to residential development.
3. Noise pollution is not so bad – in 1999 average noise level was found to be at the upper limit of the acceptable range, since then activity has increased 68%, pushing noise levels to the unacceptable range.

4. Air pollution is not so bad – fuel used emits pollutants and on the Alpha runway planes emit fumes 50 meters from people's homes.
5. Seaplanes are essential to a working harbour – it is a stretch to call it a working harbour, most of the marine traffic is generated by tourism and recreation.
6. Seaplanes are essential to tourism – only 15% of seaplane passengers are tourists, the majority are business and government travelers.
7. Seaplanes are essential to economic vitality – no evidence to support this.
8. Seaplanes are essential to the provincial government as the jobs would move to the mainland – no evidence to support this.
9. Noise and air pollution are a small price to pay – increasing environmental awareness of issues does not support this.
10. It is economic unfeasible to require that seaplanes be upgraded – this argument was also used by car manufacturers 30 years ago.
11. Transport Canada is powerless to do anything about the noise – Transport Canada can limit the number of flights and enforce its own procedures.
12. Enforcement of runway procedures is not required as pilots voluntarily follow procedures – in the first four months of 2008 runway Alpha was used 68% of the time, compliance is possible.
13. Only Transport Canada can regulate harbour activity – the City can do whatever it has the political will to do such as limiting flights, requiring upgraded planes and closing runway Alpha.

11. <u>Don Roughley</u>

There was a lot of work done between 1996 and 1999, but do not depend on Transport Canada to look after your interests. He has reviewed the application for the community marina in front of the Royal Quays and they have made their application to Transport Canada and not the City as it is the Province that handles leases of the waterfront. There are issues with respect to the marina as there will be an impact on the taxiing corridor around Pelly Island. The number of government employees that move between Vancouver and Victoria is quite large. The issue of environmental impact on residents of the City is not just those adjacent to the harbour, but also the general public, the boaters and recreational users of the harbour. With the continued growth of floatplane trips and the impacts of that increase on the pollution and noise, the increase will continue. He would suggest that there will be a major impact of quality of life in community. There needs to be coordination between airlines.

12. <u>Lynn MacDonald</u>

She has been a Songhees resident since 1990. The Committee stated that safety issues are out of scope. The issue of zoning for other areas of water lot areas will seriously impact the use of the harbour by water groups such as paddlers, the Coho, etc. and people walking. Part of the marina plan is to put a parking lot in the harbour. How can that be an acceptable use of the harbour? There needs to be studies done and they need to meet with City staff. The zoning in that area is critical.

13. Miriam Nelson

There used to be three flights a day. Her white balcony is black with the pollution from the floatplanes. She suffers whenever the wind blows north and west. It is beautiful to see the planes coming and going, but she is worried about all the planes. She has a terminal illness and she believes it is due to the fumes. People have told her to move, but it is the planes that should leave the harbour. She was a member of the Greater Victoria Marine Harbour Committee. Why are the planes still there? This is an illegal airport. Why should people have to close their windows and doors against the noise and fumes? The City is the landlord and they should evict the floatplanes, but they are concerned about being sued due to the loss of revenue the companies will experience. Great things are being done in the harbour. Please do something and help us. Don't let this go on for another 12 years.

14. Don Prittie, Greater Victoria Harbour Authority Chair

The GVHA does not have the authority, but he thinks meetings like this are good. It will take a compromise to make changes. He believes it is a working harbour and floatplanes have a place there. A balance is needed.

15. Arthur. Garner, Resident of Montreal Street

Kenmore Air comes in and out and you never hear anything about them. If Seattle can do it (caps on flights) then we can do it and the planes are the same.

4. CONCLUSIONS AND NEXT STEPS

The Chair said that the Committee will review all the information presented tonight and they will also review the Noise Abatement Procedures process and its applicability/implications for our use. The Committee will also do some research into the best methods and techniques for measuring noise so that any measurement process proposed will be meaningful. The Committee will also review the proposed new Water Airport Regulations and Standards.

The Chair encouraged those present to also review the Water Airport Regulations and Standards and provide their feedback to Transport Canada.

Councillor Madoff said that often the community's concerns have been characterized as extremist, but tonight that notion is put to rest as those speaking have shown a level of detail and thought and willingness to recognize the element of compromise that will come into this. She noted a recent experience at the Vancouver Airport which closes certain runways in consideration of the neighbours at certain hours. The quality of life is an issue, but it is tied to the success of the industry. The solution is simple - it involves the principles of willingness and cooperation of the Federal government. There are commonsense measures that could be taken.

Councillor Coleman thanked those that have submitted their written comments and requested that those who spoke and have not submitted their comments in writing to please do so as they are important. The Committee will review all comments and the solution will involve some form of working together that will work for the

majority. The airport at Lake Union does not have a cap on flights, but there is a voluntary noise abatement program. He is looking forward to finding a resolution that works for the majority which will allow the harbour to continue to be a working harbour which is more peaceful.

5. ADJOURNMENT

Councillor Holland adjourned the meeting at 8:54 p.m.

_____

Councillor Holland, Chair

HEARINGS – REQUEST TO ADDRESS COUNCIL

It was moved by Councillor Madoff, seconded by Councillor Coleman, that the following speakers be permitted to address Council. Carried Unanimously

2. Bob Vander Steen, Emissions:

He lives in James Bay and his presentation focused on the harbour emissions that affect Victoria, noting that the City of Victoria is a landlord for float plane operations and is involved in zoning. He provided statistics from several studies on harbour emissions, as outlined in his report *Preliminary Analysis of the SO_2 Levels measured at the Daniels Electronics Monitoring Site during the 2011 Cruise Ship Season*, dated May 22, 2012, that was provided to Council. The studies contemplated cruise ship emissions, float plane movement and how they are affected by the levels of wind direction, concluding that long term and continual monitoring is needed. He requested that the City take steps to put in place a comprehensive program to monitor emissions.

3. Motion - Harbour Emissions – Air Monitoring:

It was moved by Councillor Madoff, seconded by Councillor Isitt, that Council:

1. Refer this issue to staff and direct staff to report back to Council and provide reports from past studies on this issue.
2. Direct staff to invite the following organizations to present to Council on this issue:
   a. The Greater Victoria Harbour Authority
   b. The University of Victoria
   c. Vancouver Island Health Authority
   d. Capital Regional District
   e. Transport Canada, and
   f. Any other organizations.

Councillor Madoff noted that bringing it together in this format with scientist informing the discussion will provide a good foundation of information. There is a lot to take in and if they are considering an air monitoring endeavour, it should be a joint endeavour, because they all have a role to play in air monitoring. She also requested that all members of Council have past reports before the presentation.

Councillor Isitt said he accepts the premise that public interest can get lost and his impression of harbour issues is that there is a real vacuum of anyone taking responsibility for the protection of air quality, monitoring noise levels and water quality as use of the harbour increases. Also of note is that the Greater Victoria Harbour Authority is a landowner, not a regulator and in the absence of other agencies monitoring, there is an obligation to ensure it's a healthy environment. Close to half of the City's budget is on safety as it is directed to the Fire and Police Departments and he sees environmental safety as fitting into the public safety mandate. Partners should be brought in and senior government support is necessary, but if they don't act, it is incumbent on the City to act, particularly if it allows such activities on its own lands.

Mayor Fortin suggested advice is needed to start this undertaking noting that the Task Force on this issue involved three Councillors over 18 months of hearings. A report is needed to understand the scope of what is required and then decide if it should go to Governance and Priorities Committee. The first step is for staff to come back and give us an idea.

Gail Stephens (City Manager): They can invite the organizations noted in Councillor Madoff's motion to do a presentation and provide background information on previous work done on this issue.

Carried Unanimously

REPORTS OF THE COMMITTEE

5. Governance and Priorities Committee – April 04, 2013

3. Re-Establishment of Victoria Harbour Aerodrome Community Committee

It was moved by Councillor Madoff, seconded by Councillor Isitt, that Council:

1. Appoint Councillor Madoff, Councillor Coleman (liaison to James Bay) and Councillor Helps (Liaison to VicWest and Downtown) as liaisons for the Victoria harbour aerodrome community committee.
2. That Councillor Madoff, Councillor Coleman and Councillor Helps attend the meeting with Transport Canada on April 25, 2013 to discuss terms of reference and scope of work for the community committee.

Carried Unanimously

6.1 Transport Canada – Victoria Harbour Water Aerodrome

At its meeting of July 11, 2013, Council referred a letter dated June 27, 2013 from Transport Canada, to the July 18, 2013 Governance and Priorities Committee. The letter was seeking the City of Victoria's input regarding the potential ownership and operation of the Victoria Harbour water aerodrome. The Director of Legislative & Regulatory Services provided Committee with a memo dated July 17, 2013, that advised that clarity is required to determine Transport Canada's specific intention with respect to any role of the City of Victoria with the Victoria Harbour Water Aerodrome beyond stakeholder consultation.

Councillor Helps returned to the meeting at 11:50 a.m.

Action: Councillor Alto moved that Committee recommends that Council:

1. Respond to the Transport Canada letter dated June 27, 2013, requesting information regarding Transport Canada's role in the regulation and operation of the Victoria Harbour Aerodrome, including information regarding its regulatory authority, budgeting and ownership's responsibilities; and
2. Request additional time from Transport Canada for the City of Victoria to consider this matter.

Councillor Isitt advised Committee that he had prepared a motion, as follows:

Be It Resolved that Council schedule a non-statutory public hearing to receive comments from the general public, interested parties and other stakeholders on the offer from Transport Canada regarding the ownership and operation of the Victoria Harbour Water Aerodrome;

And Be It Further Resolved that Council direct the Mayor to write to Transport Canada, requesting:

1. An extension of time of at least three months to allow the City to undertake a proper assessment of its interest in the ownership and operation of the Victoria Harbour Water Aerodrome;
2. A schedule showing costs and revenues for the operation of the Victoria Harbour Water Aerodrome for a period covering the past 10 years;

- An independent risk assessment based on ISO/IEC 31000;
- Noise Exposure Forecasts (NEFs) and Noise Exposure Projections (NEPs) for the Victoria Harbour Water Aerodrome.

In light of the motion on the table, he would defer some of the topics to a later meeting, but proposed an amendment to the motion.

Action: Councillor Isitt moved that Committee amend the motion:
That Council

1. Respond to the Transport Canada letter dated June 27, 2013, requesting information regarding Transport Canada's role in the regulation and operation of the Victoria Harbour Water Aerodrome, including information regarding its regulatory authority, budgeting and ownership responsibilities; and

2. Request additional time from Transport Canada for the City of Victoria to consider this matter.
3. **Following the receipt of the requested information, that Council schedule a non-statutory public hearing to receive comments from the general public, interested parties and stakeholders on the offer from Transport Canada regarding the ownership and operation of the Victoria Harbour Water Aerodrome.**

Committee discussed the motion as follows:

- Support for the need for further information rather than speculating on something they have little knowledge on; clarity on the scope of management required for the harbour aerodrome.
- The westward movement of operations on the harbour runways and the impact this may have on Esquimalt; would constraints be applied to Victoria with respect to geographical locations of runways?
- Would ownership and management of the aerodrome come with constraints imposed by federal regulations?
- The suggestion that the Greater Victoria Harbour Authority (GVHA) manage the aerodrome and the degree to which they represent the views of the public.
- The basic principle of a working harbour and discussing the relationship with the Coast Guard and other entities.
- The five recommendations put to Transport Canada by the Victoria Harbour Task Force, namely:
    1. *Manage the harbour airport with a long-term vision that incorporates a quality of life perspective; includes short, intermediate and long term plans and considers the triple bottom line;*
    2. *Manage growth of floatplane traffic by investigating current passenger loads, determining future capacity and establishing sustainable number of daily flights;*
    3. *Improve community communication/consultation by implementing a public complaint mechanism and employing an ongoing consultative committee;*
    4. *Conduct new studies that incorporate a quality of life perspective; conduct an independent aeronautical study; study the impact of noise and air quality and apply new standards that consider liveability impacts; and*
    5. *Revisit Canadian Aviation Regulations and Standards (CARS) by adjusting the draft CARS to include quality of life factors, location, dense urban environment and address airport airspace surfaces.*

    - Concerns that a non-statutory public hearing will happen before relevant information is received from Transport Canada.
    - Inviting Esquimalt and Saanich to discuss Transport Canada's proposal.
    - Concerns with respect to managing a harbour aerodrome not being on Council's list of priorities and that it should be referred to the priorities setting session;
        - Extraordinary matters that need to be considered.
    - Concerns that scheduling a non-statutory public hearing implies that the City of Victoria is contemplating a new initiative.
        - The risk of choosing a path and then changing direction and the impact that may have on community expectations.
        - Focusing on gathering information at this point.

- The intent of a public hearing would be to receive input from the public and stakeholders as a key piece of information on the aerodrome.

Action: Councillor Isitt moved that Committee amend the amendment:
That Council

1. Respond to the Transport Canada letter dated June 27, 2013, requesting information regarding Transport Canada's role in the regulation and operation of the Victoria Harbour Water Aerodrome, including information regarding its regulatory authority, budgeting and ownership responsibilities; and
2. Request additional time from Transport Canada for the City of Victoria to consider this matter.
3. Following the receipt of the requested information, that Council schedule a non-statutory public hearing to receive comments from the general public, interested parties and stakeholders on the offer from Transport Canada regarding the ownership and operation of the Victoria Harbour Water Aerodrome.
4. **That Council invite comment from the Township of Esquimalt, the District of Saanich and the Capital Regional District.**

Committee discussed the following:

- The intent of the amendment may be captured in the earlier statement "interested parties and stakeholders".
- Requesting six months to consider this matter which would coincide with the priority setting session in the Fall.
- Allowing time for information received from Transport Canada to be digested by the public before a hearing.
- Using the term "public meeting" as opposed to "non-statutory public hearing";
  - Council can convene a meeting on any matter; ensuring the public understands that the meeting would be to receive feedback on the information provided by Transport Canada.

On the amended amendment:
DEFEATED 13/GPC355

For: Councillors Isitt and Young
Against: Acting Mayor Madoff, Councillors Alto, Coleman, Gudgeon, Helps and Thornton-Joe

Action: Councillor Alto moved that Committee amend the amendment:
That Council

1. Respond to the Transport Canada letter dated June 27, 2013, requesting information regarding Transport Canada's role in the regulation and operation of the Victoria Harbour Water Aerodrome, including information regarding its regulatory authority, budgeting and ownership responsibilities; and
2. Request additional time from Transport Canada for the City of Victoria to consider this matter.
3. Following the receipt of the requested information, that Council schedule a ~~non-statutory public hearing~~ **Special Council Meeting** to receive comments from the general public, interested parties and stakeholders on the offer from

Transport Canada regarding the ownership and operation of the Victoria Harbour Water Aerodrome.

On the amended amendment:
CARRIED UNANIMOUSLY 13/GPC356

Action: Councillor Alto moved that Committee amend the motion:
That Council

1. Respond to the Transport Canada letter dated June 27, 2013, requesting information regarding Transport Canada's role in the regulation and operation of the Victoria Harbour Water Aerodrome, including information regarding its regulatory authority, budgeting and ownership responsibilities; and
2. Request an additional **three months** time from Transport Canada for the City of Victoria to consider this matter.
3. Following the receipt of the requested information, that Council schedule a Special Council Meeting to receive comments from the general public, interested parties and stakeholders on the offer from Transport Canada regarding the ownership and operation of the Victoria Harbour Water Aerodrome.

On the amendment:
CARRIED UNANIMOUSLY 13/GPC357

Committee discussed if part of the request to Transport Canada should be regarding funding in order to properly engage the region in this matter. It was suggested this would be step two of the process.

On the main motion:
CARRIED UNANIMOUSLY 13/GPC358

CITY OF VICTORIA

Governance & Priorities Committee Memo

Date: July 17, 2013 **From:** Robert Woodland

Subject: Transport Canada letter dated June 27, 2013 – Victoria Harbour Airport

The City of Victoria received a letter from Transport Canada dated June 27, 2013 seeking the City's "views as to a potential interest of the City of Victoria with respect to the ownership and operation of the airport going forward". Council directed that the letter be placed on the agenda of the Governance & Priorities Committee meeting of July 18, 2013 for consideration.

The letter advises that Transport Canada is seeking the City's input regarding future options for the ownership and operation of the Victoria Harbour Aerodrome. However, it is not clear from the letter what Transport Canada's specific intention is with respect to any role of the City of Victoria beyond stakeholder consultation. The Committee may wish to request clarification from Transport Canada on the intent of the letter before providing a formal response.

The City is the lessor to the Harbour Air Terminal from which Harbour Air and Kenmore Air offer scheduled float plane services. However, the City of Victoria is not involved in the regulation or operation of the Victoria Harbour Aerodrome. Further information regarding Transport Canada's specific role in the regulation and operation of the aerodrome, including information regarding its regulatory authority, budgeting and resourcing for aerodrome operations and ownership responsibilities is needed to inform any subsequent discussion.

Finally, the letter requests that the City reply to Transport Canada officials within four weeks of receipt of the letter. The Committee may wish to provide an interim response requesting the additional information noted above before providing a definitive response. A request for additional time to consider the requested information before providing a formal reply may also be needed.

Respectfully submitted,

Robert Woodland
Director, Legislative & Regulatory Services

3. **Intergovernmental Relations – Transport Canada**

It was moved by Councillor Alto, seconded by Councillor Isitt, that Council refer the Transport Canada letter dated June 27, 2013 to the July 18, 2013 Governance and Priorities Committee.

Carried Unanimously

Transport Canada

Assistant Deputy Minister
Programs

Phone / Téléphone 613-990-3001

Place de Ville
Ottawa ON K1A 0N5

Transports Canada

Sous-ministre adjointe
Programmes

Fax / Télécopieur 613-990-1427

JUN 2 7 2013

His Worship Mayor Dean Fortin
City of Victoria
c/o 1 Centennial Square
Victoria BC V8W 1P6

Dear Mr. Mayor:

Transport Canada is committed to an efficient, safe, secure and environmentally responsible transportation system. In 1994, Transport Canada introduced its National Airports Policy (NAP), which put forward a vision for airports that would ensure a safe, secure, and viable national airports system that would serve Canada well into the future. The introduction of the NAP also initiated a significant shift in Transport Canada's approach to the management and ownership of airports in Canada. This Policy focused on moving Transport Canada's role in airports from owner and operator towards landlord and regulator. Although the NAP was established in the early 1990s, the principles outlined in the strategy remain as relevant today as they did when they were first introduced.

Over the years, Transport Canada has transferred ownership of 128 airports to local interests. Experience has shown that airport operation by local interests has been more viable and more responsive to community needs by better matching service levels to local demands and resources.

Today, there are 18 airports that remain under the sole responsibility of Transport Canada, including the Victoria Harbour water aerodrome. As a key stakeholder with respect to the Victoria Harbour water aerodrome and given your understanding of the needs of its local users, I am writing to you today to seek your views as to a potential interest of the City of Victoria with respect to the ownership and operation of the airport going forward.

Should such a possibility be of interest to you, I invite you to advise my colleague, Michael Henderson, Regional Director General for the Pacific Region, in writing within four weeks of receipt of this letter so that a discussion regarding your interests and views and objectives can be arranged.

Canada

I would like to underscore that these discussions are informal and exploratory in nature, and are intended to serve as an opportunity for Transport Canada to gain an understanding of your organization's interests with respect to the Victoria Harbour water aerodrome; they do not represent a shift in Transport Canada's existing policy with respect to its airports. Instead, Transport Canada is taking this opportunity to identify alternative, low-cost options to address the ownership and operation of these assets in the future with the intention of assessing viable cost-effective options identified through these discussions.

Mr. Henderson can be reached by email at michael.henderson@tc.gc.ca, by phone at (604) 666-5849, or at the following address:

Michael Henderson
Regional Director General, Pacific
Transport Canada
Regional Director General's Office – Pacific Region
800 Burrard Street
Vancouver BC V6Z 2J8

We look forward to hearing from you at your earliest convenience so that we can make the appropriate arrangements to meet, if desirable.

Yours sincerely,

Helena Borges

4. **Transport Canada – Victoria Harbour Water Aerodrome**

It was moved by Councillor Helps, seconded by Councillor Coleman, that Council:

1. Respond to the Transport Canada letter dated June 27, 2013, requesting information regarding Transport Canada's role in the regulation and operation of the Victoria Harbour Water Aerodrome, including information regarding its regulatory authority, budgeting and ownership responsibilities; and
2. Request an additional three months time from Transport Canada for the City of Victoria to consider this matter.
3. Following the receipt of the requested information, that Council schedule a Special Council Meeting to receive comments from the general public, interested parties and stakeholders on the offer from Transport Canada regarding the ownership and operation of the Victoria Harbour Water Aerodrome.

Carried Unanimously

CITY OF VICTORIA

Governance & Priorities Committee Memo

Date: July 17, 2013 **From:** Robert Woodland

Subject: Transport Canada letter dated June 27, 2013 – Victoria Harbour Airport

The City of Victoria received a letter from Transport Canada dated June 27, 2013 seeking the City's "views as to a potential interest of the City of Victoria with respect to the ownership and operation of the airport going forward". Council directed that the letter be placed on the agenda of the Governance & Priorities Committee meeting of July 18, 2013 for consideration.

The letter advises that Transport Canada is seeking the City's input regarding future options for the ownership and operation of the Victoria Harbour Aerodrome. However, it is not clear from the letter what Transport Canada's specific intention is with respect to any role of the City of Victoria beyond stakeholder consultation. The Committee may wish to request clarification from Transport Canada on the intent of the letter before providing a formal response.

The City is the lessor to the Harbour Air Terminal from which Harbour Air and Kenmore Air offer scheduled float plane services. However, the City of Victoria is not involved in the regulation or operation of the Victoria Harbour Aerodrome. Further information regarding Transport Canada's specific role in the regulation and operation of the aerodrome, including information regarding its regulatory authority, budgeting and resourcing for aerodrome operations and ownership responsibilities is needed to inform any subsequent discussion.

Finally, the letter requests that the City reply to Transport Canada officials within four weeks of receipt of the letter. The Committee may wish to provide an interim response requesting the additional information noted above before providing a definitive response. A request for additional time to consider the requested information before providing a formal reply may also be needed.

Respectfully submitted,

Robert Woodland
Director, Legislative & Regulatory Services

3. **Intergovernmental Relations – Transport Canada**

It was moved by Councillor Alto, seconded by Councillor Isitt, that Council refer the Transport Canada letter dated June 27, 2013 to the July 18, 2013 Governance and Priorities Committee.

Carried Unanimously

Transport Canada

Assistant Deputy Minister
Programs

Phone / Téléphone 613-990-3001

Place de Ville
Ottawa ON K1A 0N5

Transports Canada

Sous-ministre adjointe
Programmes

Fax / Télécopieur 613-990-1427

JUN 2 7 2013

His Worship Mayor Dean Fortin
City of Victoria
c/o 1 Centennial Square
Victoria BC V8W 1P6

Dear Mr. Mayor:

Transport Canada is committed to an efficient, safe, secure and environmentally responsible transportation system. In 1994, Transport Canada introduced its National Airports Policy (NAP), which put forward a vision for airports that would ensure a safe, secure, and viable national airports system that would serve Canada well into the future. The introduction of the NAP also initiated a significant shift in Transport Canada's approach to the management and ownership of airports in Canada. This Policy focused on moving Transport Canada's role in airports from owner and operator towards landlord and regulator. Although the NAP was established in the early 1990s, the principles outlined in the strategy remain as relevant today as they did when they were first introduced.

Over the years, Transport Canada has transferred ownership of 128 airports to local interests. Experience has shown that airport operation by local interests has been more viable and more responsive to community needs by better matching service levels to local demands and resources.

Today, there are 18 airports that remain under the sole responsibility of Transport Canada, including the Victoria Harbour water aerodrome. As a key stakeholder with respect to the Victoria Harbour water aerodrome and given your understanding of the needs of its local users, I am writing to you today to seek your views as to a potential interest of the City of Victoria with respect to the ownership and operation of the airport going forward.

Should such a possibility be of interest to you, I invite you to advise my colleague, Michael Henderson, Regional Director General for the Pacific Region, in writing within four weeks of receipt of this letter so that a discussion regarding your interests and views and objectives can be arranged.

Canada

I would like to underscore that these discussions are informal and exploratory in nature, and are intended to serve as an opportunity for Transport Canada to gain an understanding of your organization's interests with respect to the Victoria Harbour water aerodrome; they do not represent a shift in Transport Canada's existing policy with respect to its airports. Instead, Transport Canada is taking this opportunity to identify alternative, low-cost options to address the ownership and operation of these assets in the future with the intention of assessing viable cost-effective options identified through these discussions.

Mr. Henderson can be reached by email at michael.henderson@tc.gc.ca, by phone at (604) 666-5849, or at the following address:

Michael Henderson
Regional Director General, Pacific
Transport Canada
Regional Director General's Office – Pacific Region
800 Burrard Street
Vancouver BC V6Z 2J8

We look forward to hearing from you at your earliest convenience so that we can make the appropriate arrangements to meet, if desirable.

Yours sincerely,

Helena Borges

REPORTS OF THE COMMITTEE

3. Governance and Priorities Committee – October 17, 2013

1. Letter from Minister of Transport Regarding Victoria Harbour Water Airport

It was moved by Councillor Gudgeon, seconded by Councillor Alto, that Mayor Fortin write to the Minister of Transport requesting notification of the publication of new Water Aerodrome regulations, and that the Mayor's letter also respond to the other issues that are identified in the letter dated September 4, 2013 from the Minister of Transport.

Councillor Gudgeon asked if there will be enough time to conduct the public consultation within the 30 day time limit that was given.

Robert Woodland (Corporate Administrator): He has received an update from the Ministry advising that the consultation framework and the scope of authority to delegate will not be ready until the spring of 2014.

Councillor Gudgeon asked about inclusion of the study and safety case within the letter.

Robert Woodland: That is the intent of wording; Committee had two motions which were condensed into this one.

Councillor Coleman said he felt the letter should reflect the five recommendations made by the task force and the Minister's letter is only addressing one, there are still four more issues outstanding.

Carried Unanimously

CITY OF VICTORIA

Minister of Transport | Ministre des Transports

Ottawa, Canada K1A 0N5

SEP 04 2013

His Worship Dean Fortin
Mayor
City of Victoria
1 Centennial Square
Victoria BC V8W 1P6

Dear Mr. Mayor:

I am responding to your correspondence of February 18, 2013, to my predecessor regarding issues pertaining to the Victoria Harbour Water Airport. Please accept my apology for the delay in replying.

I should note that studies conducted with respect to noise and air quality issues in Victoria Harbour have shown impacts characterized as annoyances rather than risks to health. Over the years, there has been a significant decrease in aircraft movements to below the levels found in previously conducted studies. Based on this downward trend, there is no merit in conducting another study at this time. Transport Canada will continue to closely monitor aircraft movements on an annual basis and look at conducting further studies, should there be a significant increase above previous levels.

At the June 22, 2012, teleconference between the City of Victoria and Transport Canada, it was noted that, due to the decrease in noise and air complaints, there is less urgency in re-establishing a Citizen's Committee at this time. Transport Canada officials are committed to working with the City of Victoria to establish the committee mandate, develop the Terms of Reference, work to identify community representation, and implement a venue for constructive and meaningful dialogue. I have been informed that a preliminary meeting with staff and councillors from the City of Victoria to discuss these matters occurred in April, 2013, with the intention to hold further discussions in the coming months.

With respect to the Canadian Aviation Regulations (CARs), the draft water aerodrome regulations, with which Victoria Harbour has complied, are expected to be published in the *Canada Gazette, Part I,* this year. The regulations remain unchanged from when they were used for Victoria Harbour's certification. For further information regarding the proposed publication dates, please refer to the Transport Canada website at **www.tc.gc.ca** for updated information.

I would like to reiterate that safety with respect to aviation and marine activities in the harbour is a significant priority for Transport Canada. We will continue to work with the City of Victoria to identify and manage issues wherever possible through continued collaboration and involvement, and as prescribed by our respective mandates.

Thank you for your interest in these matters.

Sincerely,

The Honourable Lisa Raitt, P.C., M.P.
Minister of Transport

c.c. Mr. Murray Rankin, M.P.
Victoria

Transport Canada **Transports Canada**

Assistant Deputy Minister
Programs

Sous-ministre adjointe
Programmes

Phone / Téléphone 613-990-3001 Fax / Télécopieur 613-990-1427

Place de Ville
Ottawa ON K1A 0N5

OCT 14 2014

His Worship Dean Fortin
Mayor of City of Victoria
#1 Centennial Square
Victoria BC, BC V8W 1P6

Dear Mr. Mayor:

The Government of Canada is committed to an efficient, safe, secure and environmentally responsible transportation system. In 1994, the federal government introduced its National Airports Policy (NAP), which put forward a vision for airports that would ensure a safe, secure, and viable national airports system that would serve Canada well into the future. The introduction of the NAP also initiated a significant shift in the federal government's approach to the management and ownership of airports in Canada. This Policy focused on moving the Government of Canada's role in airports from owner and operator towards landlord and regulator. Although the NAP was established in the early 1990s, the principles outlined in the strategy remain as relevant today as they did when they were first introduced.

Since the NAP was introduced, Transport Canada has successfully transferred ownership and/or operation of 128 sites to local interests. There are 18 airports, located in four provinces that remain under the sole responsibility of the federal government. In the summer 2013 you received a letter inviting you to participate in informal discussions with Transport Canada in order for my department to gain an understanding of the potential interest in these airports. As part of these informal discussions, departmental officials committed to keep stakeholders informed of the progress of these informal discussions as well as next steps.

I am writing to you today to advise that Transport Canada is now moving forward with additional discussions on the future of its remaining regional/local airports. A particular focus will be on those airports where interest has been expressed, including:

Penticton, British Columbia
Victoria Harbour Aerodrome, British Columbia
Port Hardy, British Columbia
Churchill, Manitoba
Sept-Iles, Québec
Schefferville, Québec
Wabush, Newfoundland and Labrador

Canada

Over the next few weeks Transport Canada will engage in a dialogue and information sharing on these assets in order to ascertain the level of interest to acquire these airports and to determine the possible parameters of a new program in the future should there be a policy change and a process put in place to transfer these assets. I anticipate that this engagement process will conclude in the fall.

Yours sincerely,

N Rascanin

Natasha Rascanin

RISE AND REPORT

4. Intergovernmental Negotiations

That Council requests the Mayor write a letter to Transport Canada indicating the City's continued interest regarding the possible divestiture of the Harbour Airport and direct staff to provide advice on governance models for the Harbour Airport.

REPORTS OF THE COMMITTEES

1. Governance and Priorities Committee – June 4, 2015

1. Quarterly Report and New Operational Plan Aligned with Strategic Plan

It was moved by Councillor Isitt, seconded by Councillor Alto, that Council:

1. Direct staff to develop plan metrics and a public engagement/survey opportunity for measuring the 13 strategic objectives on an annual basis as they contribute to achieving the goal as stated in the Strategic Plan.
2. Refer the *Parks Consultation Bylaw* and *Creating a Park Zone* to the Parks Master Plan process.
3. Direct that the review of CALUC processes be included in work that is underway.
4. Refer the following issues to the Mayor's Task Force on Housing Affordability:
   Housing Initiatives:
   i. Develop rental housing policy
   ii. Create and implement Housing Action Plan
   iii. Establish housing pilot projects
   iv. Establish targets and create monitoring tools
5. Refer the *Inner Harbour Vitality Principles Implementation Strategy* to work that is underway.
6. Refer *Specific projects identified in the Greenways Plan and Pedestrian Master Plan* to the 2016 Capital Budget process.
7. Consider *Victoria Harbour Noise & Nuisance Issues* at Council's quarterly report after the Federal Election.
8. Refer the *Secondary Suite Enforcement Policy* to the work being done on the new Building Bylaw.
9. Direct that *CR-754 – Report on Railway Crossing* be completed as it is aligned with direction to get the railway running between Victoria and Langford.
10. Direct staff to report on models for the Greater Victoria Harbour Authority's governance.
11. Direct staff to provide information on the *Antenna Siting Protocol* issue and the *Implementation of Green Building Policy (in relation to landscape standards)* issue.
12. Direct staff to report back on the operational plan impacts of completing *R1-A Zoning Update* and *C-1 Zone Improvements.*
13. Refer *Projects listed in the Official Community Plan Implementation and Downtown Core Area Plan Implementation Strategies* to the Mayor's Task Force on Economic Development and Prosperity*:*
    - *Develop a Downtown Retail Strategy*
    - *Develop a Downtown Core Area Beautification Strategy*
14. Direct that staff provide a scope of work update to Committee on the following:
    Projects listed in the Official Community Plan Implementation and Downtown Core Area Plan Implementation Strategies:
    - *Review potential for heritage building retrofits through review of Heritage Tax Incentive program (expanding scope of program)*
15. Refer the following item to the Local Area Planning process:
    Projects listed in the Official Community Plan Implementation and Downtown Core Area Plan Implementation Strategies:
    - *Prepare key amendments to existing local area plans, policies, DPAs and HCAs to correct egregious inconsistencies*
16. Direct staff to report quarterly on August 20, 2015, November 5, 2015 and the first meeting in February 2016.

Carried Unanimously

REPORTS OF THE COMMITTEES

1. Governance and Priorities Committee – July 16, 2015

3. Request to Transport Canada – Victoria Inner Harbour Airport

It was moved by Councillor Loveday, seconded by Councillor Alto, that Council approve the following motion:

Be it resolved that Council requests Transport Canada send appropriate staff to a Governance and Priorities Committee meeting to make a presentation and answer questions about current and future operations and regulation of the Victoria Inner Harbour Airport (YWH).

Carried Unanimously

CITY OF VICTORIA

Council Member Motion
For the Governance and Priorities Committee Meeting of July 16, 2015

To: Council **Date:** July 8, 2015

From: Councillor Jeremy Loveday, Councillor Margaret Lucas and Councillor Ben Isitt

Subject: Request to Transport Canada re: Victoria Inner Harbour Airport (YWH)

Background:

Victoria's Inner Harbour is a busy working harbour, a hub of regional transportation and is a jewel at the heart of our City.

Currently, the Inner Harbour Airport (YWH) is still operating under draft regulations. While there have been several indications that publication of final regulations is pending in the *Canada Gazette*, the timing of this regulatory step remains unclear, creating uncertainty for residents who reside in the vicinity of the harbour airport and for business operators involved in airport operations.

It is therefore prudent for City Council to request a presentation and meeting with Transport Canada, to receive information and provide input on the approval of permanent regulations and safety provisions relating to the Victoria Inner Harbour Airport.

Motion:

Be it resolved that Council requests Transport Canada send appropriate staff to a Governance and Priorities Committee meeting to make a presentation and answer questions about current and future operations and regulation of the Victoria Inner Harbour Airport (YWH).

Respectfully submitted,

Councillor Jeremy Loveday Councillor Margaret Lucas Councillor Ben Isitt

REPORTS OF COMMITTEES

2. Committee of the Whole – July 13, 2016

1. Regulation of Victoria Harbour Water Airport

Motion:
It was moved by Councillor Isitt, seconded by Councillor Alto, that Council endorse the following resolution and request that the Mayor, on behalf of Council, write to the federal Minister of Transport, copying the Prime Minister, the Vancouver office of Transport Canada - Civil Aviation Division, and the Victoria Harbour Master, requesting favourable consideration:

Resolution: Regulation of Victoria Harbour Water Airport

WHEREAS Residents living in proximity to Victoria Harbour have expressed concern over the current ad-hoc regulation of the Victoria Harbour Water Airport, specifically the operation of the airport by the Government of Canada under interim regulations;

AND WHEREAS The Government of Canada through the Minister of Transport has provided assurances to the City of Victoria and local residents that Canadian Aviation Regulations and Standards will be published in the Canada Gazette, providing an opportunity for public comment prior to adoption of permanent regulations for the Victoria Harbour Water Airport;

AND WHEREAS Transitioning the Victoria Harbour Water Airport from an interim to a permanent regulatory framework is in the best interests of the community, to provide certainty for people residing in proximity to the harbour, as well as passengers, employees and businesses involved in Victoria Harbour Water Airport operations;

THEREFORE BE IT RESOLVED THAT The City of Victoria requests that the Government of Canada move forward with publication of Canadian Aviation Regulations and Standards for the Victoria Harbour Water Airport, to allow for public comment prior to adoption of a permanent regulatory framework for the Victoria Harbour Water Airport, and provide certainty for residents, operators and passengers.

Amendment:
It was moved by Councillor Isitt, seconded by Councillor Madoff, that the motion be amended by adding the following clause:

AND BE IT FURTHER RESOLVED THAT the City of Victoria requests that the Government of Canada provide a Noise Exposure Forecast (NEF) for the Victoria Harbour Water Airport.

On the amendment:
Carried Unanimously

Main motion as amended:
That Council endorse the following resolution and request that the Mayor, on behalf of Council, write to the federal Minister of Transport, copying the Prime Minister, the Vancouver office of Transport Canada - Civil Aviation Division, and the Victoria Harbour Master, requesting favourable consideration:

Resolution: Regulation of Victoria Harbour Water Airport

WHEREAS Residents living in proximity to Victoria Harbour have expressed concern over the current ad-hoc regulation of the Victoria Harbour Water Airport, specifically the operation of the airport by the Government of Canada under interim regulations;

AND WHEREAS The Government of Canada through the Minister of Transport has provided assurances to the City of Victoria and local residents that Canadian Aviation Regulations and Standards will be published in the Canada Gazette, providing an opportunity for public comment prior to adoption of permanent regulations for the Victoria Harbour Water Airport;

AND WHEREAS Transitioning the Victoria Harbour Water Airport from an interim to a permanent regulatory framework is in the best interests of the community, to provide certainty for people residing in proximity to the harbour, as well as passengers, employees and businesses involved in Victoria Harbour Water Airport operations;

THEREFORE BE IT RESOLVED THAT The City of Victoria requests that the Government of Canada move forward with publication of Canadian Aviation Regulations and Standards for the Victoria Harbour Water Airport, to allow for public comment prior to adoption of a permanent regulatory framework for the Victoria Harbour Water Airport, and provide certainty for residents, operators and passengers.

AND BE IT FURTHER RESOLVED THAT the City of Victoria requests that the Government of Canada provide a Noise Exposure Forecast (NEF) for the Victoria Harbour Water Airport.

On the main motion as amended:
Carried Unanimously

CITY OF VICTORIA

Council Member Motion

For the Committee of the Whole meeting of July 13, 2017

To:	Committee of the Whole	**Date:**	June 12, 2017
From:	Councillors Jeremy Loveday, Councillor Ben Isitt, and Councillor Pam Madoff		
Subject:	Regulation of Victoria Harbour Water Airport		

RECOMMENDATION:

THAT Council endorse the following resolution and request that the Mayor, on behalf of Council, write to the federal Minister of Transport, copying the Prime Minister, the Vancouver office of Transport Canada – Civil Aviation Division, and the Victoria Harbour Master, requesting favourable consideration:

Resolution: Regulation of Victoria Harbour Water Airport

WHEREAS Residents living in proximity to Victoria Harbour have expressed concern over the current ad-hoc regulation of the Victoria Harbour Water Airport, specifically the operation of the airport by the Government of Canada under interim regulations;

AND WHEREAS The Government of Canada through the Minister of Transport has provided assurances to the City of Victoria and local residents that Canadian Aviation Regulations and Standards will be published in the Canada Gazette, providing an opportunity for public comment prior to adoption of permanent regulations for the Victoria Harbour Water Airport;

AND WHEREAS Transitioning the Victoria Harbour Water Airport from an interim to a permanent regulatory framework is in the best interests of the community, to provide certainty for people residing in proximity to the harbour, as well as passengers, employees and businesses involved in Victoria Harbour Water Airport operations;

THEREFORE BE IT RESOLVED THAT The City of Victoria requests that the Government of Canada move forward with publication of Canadian Aviation Regulations and Standards for the Victoria Harbour Water Airport, to allow for public comment prior to adoption of a permanent regulatory framework for the Victoria Harbour Water Airport, and provide certainty for residents, operators and passengers.

Respectfully submitted,

Councillor Loveday | Councillor Isitt | Councillor Madoff

Attachments:
Minister of Transport Letter, 2013
Report of Standing Committee on Victoria Harbour Airport, 2009
Minutes of Standing Committee of Victoria Harbour Airport, October 2008

Minister of Transport | Ministre des Transports

Ottawa, Canada K1A 0N5

SEP 04 2013

His Worship Dean Fortin
Mayor
City of Victoria
1 Centennial Square
Victoria BC V8W 1P6

Dear Mr. Mayor:

I am responding to your correspondence of February 18, 2013, to my predecessor regarding issues pertaining to the Victoria Harbour Water Airport. Please accept my apology for the delay in replying.

I should note that studies conducted with respect to noise and air quality issues in Victoria Harbour have shown impacts characterized as annoyances rather than risks to health. Over the years, there has been a significant decrease in aircraft movements to below the levels found in previously conducted studies. Based on this downward trend, there is no merit in conducting another study at this time. Transport Canada will continue to closely monitor aircraft movements on an annual basis and look at conducting further studies, should there be a significant increase above previous levels.

At the June 22, 2012, teleconference between the City of Victoria and Transport Canada, it was noted that, due to the decrease in noise and air complaints, there is less urgency in re-establishing a Citizen's Committee at this time. Transport Canada officials are committed to working with the City of Victoria to establish the committee mandate, develop the Terms of Reference, work to identify community representation, and implement a venue for constructive and meaningful dialogue. I have been informed that a preliminary meeting with staff and councillors from the City of Victoria to discuss these matters occurred in April, 2013, with the intention to hold further discussions in the coming months.

With respect to the Canadian Aviation Regulations (CARs), the draft water aerodrome regulations, with which Victoria Harbour has complied, are expected to be published in the *Canada Gazette, Part I,* this year. The regulations remain unchanged from when they were used for Victoria Harbour's certification. For further information regarding the proposed publication dates, please refer to the Transport Canada website at **www.tc.gc.ca** for updated information.

I would like to reiterate that safety with respect to aviation and marine activities in the harbour is a significant priority for Transport Canada. We will continue to work with the City of Victoria to identify and manage issues wherever possible through continued collaboration and involvement, and as prescribed by our respective mandates.

cc. cancil ✓
10/04

Canada

Thank you for your interest in these matters.

Sincerely,

The Honourable Lisa Raitt, P.C., M.P.
Minister of Transport

c.c. Mr. Murray Rankin, M.P.
Victoria

THE CITY OF VICTORIA

OFFICE OF THE MAYOR

February 18, 2013

The Honourable Denis Lebel
Minister of Transport, infrastructure and Communities
Tower C- 330 Sparks Street
Ottawa, Ontario K1A 0N5

Dear Minister Lebel:

Re: Progress on Victoria Harbour Aerodrome Issues

On behalf of Victoria City Council, I would like to express my appreciation for the presentation provided by Transport Canada officials on December 6, 2012, regarding the Safety Management System for the Victoria harbour. We were interested in learning about this work, and were encouraged by the progress and positive safety results that have been realized.

We remain concerned, however, about the lack of progress on other issues we have been bringing to the attention of Transport Canada staff and elected officials over the past three years. I refer to the recommendations forwarded in December 2009 to address ongoing issues related to air quality and noise at the Victoria harbour aerodrome. Specifically, I would like to know what action Transport Canada will be taking, and when, with respect to noise and air studies in the harbour, and the reestablishment of a community committee, both of which were committed to by your predecessor. In addition, the significant delay in finalizing the Canadian Aviation Regulations and Standards (CARS) is a source of great concern to many in our community, and an indication of the anticipated resolution of this matter would be appreciated.

I recognize the fiscal challenges the federal government is dealing with at this time but would suggest that improved community consultation and quality of life for Victorians are mutually beneficially outcomes for both the City of Victoria and Transport Canada. To that end, the City is committed to working with your officials and other stakeholders to move forward on these issues.

I look forward to your response regarding Transport Canada's plans to address the concerns raised by the City of Victoria, and trust that all parties can work together to mitigate the floatplane-related issues in Victoria Harbour in a timely manner.

Sincerely,

Dean Fortin
MAYOR
cc: Victoria City Councillors
Hon. Murray Rankin, MP Victoria

1 Centennial Square Victoria British Columbia Canada V8W 1P6
Telephone (250) 361-0200 Fax (250) 361-0348 Email mayor@victoria.ca
www.victoria.ca

REPORTS OF COMMITTEES

1. Committee of the Whole – October 5, 2017

1. Noise Exposure Forecast for Port of Victoria Harbour Airport

Motion:
It was moved by Councillor Isitt, seconded by Councillor Loveday, that Council request that the Mayor, on behalf of Council, write to the Executive Regional Director Issues and Program Management, Pacific Region, Transport Canada, requesting that Transport Canada provide the City of Victoria within 30 days with the current Noise Exposure Forecast (NEF).

Carried Unanimously

Council Member Motion
For the Committee of the Whole Meeting of October 5, 2017

Date: September 21, 2017

From: Councillor Jeremy Loveday and Councillor Ben Isitt

Subject: Noise Exposure Forecast for Port of Victoria Harbour Airport

---

Background:

Residents of Victoria, particularly those who live along the shoreline of Victoria's middle Harbour in Victoria West and James Bay, have long expressed concerns regarding the safety and quality-of-life impacts of the Port of Victoria Harbour Airport operations. One of these concerns relates to the noise impacts of airport operations.

Transport Canada recognizes noise exposure contours, specifically Noise Exposure Forecasts (NEFs) and Noise Exposure Projections (NEPs), as accurate assessments of "the annoyance resulting from exposure to aircraft noise", and essential tools for municipalities located in proximity to airport operations (See TP 1247E, "Aviation - Land Use in the Vicinity of Airport," attached). Transport Canada recommends the completion of NEF documents to inform the public of noise-sensitive areas in the vicinity of airports. Both NEFs and NEPs undergo a rigorous review and approval process within Transport Canada Aviation before public release. Preparation of NEFs and/or NEPs is the responsibility of the airport operator, which in the case of the Port of Victoria Harbour Airport is Transport Canada Programs Branch.

It is therefore recommended that the City of Victoria write to Transport Canada, requesting copies of the NEF for the Port of Victoria Harbour Airport, to provide the public with accurate information on noise impacts of airport operations.

Recommendation:

That Council request that the Mayor, on behalf of Council, write to the Executive Regional Director Issues and Program Management, Pacific Region, Transport Canada, requesting that Transport Canada provide the City of Victoria within 30 days with the current Noise Exposure Forecast (NEF).

Respectfully submitted,

Councillor Jeremy Loveday

Councillor Ben Isitt

Attachments:
Port of Victoria Traffic Scheme, 2014
TP 1247E, "Aviation - Land Use in the Vicinity of Airports," 2014
Noise Exposure Forecasts for nearby airports

Transport Canada Transports Canada Canada

PORT OF VICTORIA TRAFFIC SCHEME

*** Vessels using inbound/outbound traffic lanes shall "KEEP YELLOW BUOYS CLOSE TO PORT AT ALL TIMES".**

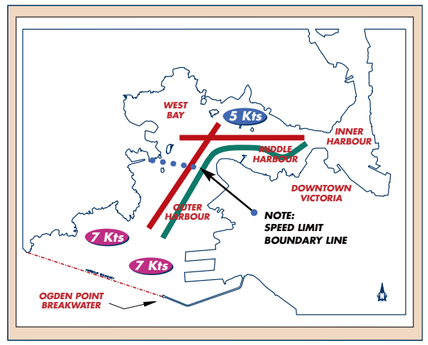
UPPER HARBOUR
Village Marina
Point Hope Shipyard
WEST BAY
POWER BOATS
5 Kts
Coffin Island Point
Colvile Island
Sleeper Rock
Pelly Island
SEAPLANE TAXIWAY AREA
SEAPLANE TAKE OFF AND TAXIING
SEAPLANE TAKE OFF AND LANDING
SEAPLANE TAKE OFF & LANDING AREA "A" AND VESSELS 20m (65 ft) OR MORE
Berens Island
OUTBOUND TRAFFIC LANE
INBOUND TRAFFIC LANE
MIDDLE HARBOUR
SEAPLANE TAKE OFF & LANDING AREA "B" AND VESSELS 20m (65 ft) OR MORE
FLIGHT SERVICE STATION CCG
SHOAL POINT
Transport Canada Harbour Master VHF 18A
Fisherman's Wharf (Public)
Canada Customs
RAYMUR POINT
Coast Harbourside Floats (Public)
SONGHEES POINT
INNER HARBOUR
LAUREL POINT
Ocean Point Float
JOHNSON STREET BRIDGE
Johnson Street Floats (Public)
HYACK AIR
Wharf Street (Public)
HARBOUR AIR
WESTCOAST AIR
KENMORE AIR
Ship Point (Public)
JAMES BAY
Clipper Terminal (Fast Passenger Ferry)
Coho Terminal (Car Ferry)
Causeway Floats (Public)
Empress Hotel
7 Kts
Canadian Coast Guard (CCG) Base
OUTER HARBOUR
James Bay Boat Ramp
NO BOATS
HELIJET
* Vessels less than 20m (65 ft) follow this route
MACAULAY POINT
PIER "B" Ogden Point
PIER "A"
Pacific Pilotage
HARBOUR BOUNDARY

"PARTNERSHIP IN SAFETY"

This chart does NOT replace the official marine navigational chart #3412 published by the Canadian Hydrographic Service.

April 1, 2014

Transport Canada Transports Canada Canada



LEGEND

- Centre Line Buoy
- Red Aid To Navigation Light
- Dolphins
- Runway Commencement Point
- Fender Piles
- Seaplane Arrival And Departure Route
- Green Aid To Navigation Light
- Seaplane Docks
- Heavy Traffic — Use Extreme Caution
- Seaplane Holding Area
- Helicopter Landing Pad
- Seaplane Inclement Weather Operating Area
- Information Buoy
- Seaplane Tide Marker
- Pumpout Facility
- Strobe Light
- Recommended Area For Non-Power Driven Vessels
- Windsock
- Canada Customs
- Speed Limit Boundary Line (5 Kts / 7 Kts)

NOT TO SCALE

• Printed in Canada on Recyclable Waterproof Bond •
Published by Transport Canada • Drafted by D.S. Kalsi • Graphic Design by Archetype Print Ltd.

Transport Canada Transports Canada

Canada

"PARTNERSHIP IN SAFETY"

PORT OF VICTORIA TRAFFIC SCHEME

INTRODUCTION

The Port of Victoria is home to many activities including international ferry services, commercial tugs and barges, fishing fleets, harbour ferries and water taxis, whale watching operations, seaplanes and numerous power driven and non-power driven recreational craft such as kayaks and sculls. There are also numerous "Special Events" that have an impact on port traffic and general operations.

Aviation and marine traffic in the Port of Victoria has increased over the past few years and your cooperation is needed to ensure effective operations and safety in the port. The following rules, special procedures and restrictions have been developed jointly by port users and regulatory authorities and apply to **all vessels and seaplanes** operating in the Port of Victoria.

Note: For official information on marine aids to navigation, water depths, etc., please refer to **Chart #3412** published by the Canadian Hydrographic Service.

HARBOUR CHARACTERISTICS

For the purpose of this traffic scheme, the Port of Victoria may be considered in four parts:

- the **OUTER HARBOUR** extending from the breakwater to Shoal Point,
- the ***MIDDLE HARBOUR** extending from Shoal Point to Laurel Point,
- the **INNER HARBOUR** extending from Laurel Point to the Johnson Street Bridge, and
- the **UPPER HARBOUR** extending north of the Johnson Street Bridge to the Selkirk Trestle.

Located in the middle of the **MIDDLE HARBOUR** and extending into the **OUTER HARBOUR** are two unmarked ***Seaplane Take Off and Landing Areas***, as well as an unmarked Seaplane Taxiway area just north of Pelly Island.

Located on the south of the **MIDDLE HARBOUR** and extending into the **OUTER HARBOUR** are two **Inbound/Outbound Traffic Lanes**. The eastern portion of the division between the **inbound** and **outbound** traffic lanes is **marked** with **five lighted yellow cautionary buoys** flashing every 4 seconds.

Located just off the north shore of the **MIDDLE HARBOUR** are four information buoys, white and orange in colour. These buoys mark the eastern most limit of the seaplane take off and landing area and as well serve to separate non-power driven vessel traffic from seaplanes on the water.

The vertical clearance under the Johnson Street Bridge at highwater is 5.9m (19ft) and the width of the channel between pilings is 37m (122ft).

CAUTION

White strobe lights are located at **Shoal Point**, **Laurel Point**, **Berens Island** and on **Pelly Island** and are activated by the Flight Service Station to alert mariners of the imminent take off or landing of a seaplane. When these strobe lights are activated, use extreme caution.

THE RULES OF THE ROAD: "COLLISION AVOIDANCE"

A seaplane on the water shall, in general, keep well clear of all vessels and avoid impeding their navigation. In circumstances, however, where risk of collision exists, vessels (including seaplanes) are required to comply with the **REGULATIONS FOR THE PREVENTION OF COLLISIONS (Collision Regulations)**.

Mariners are directed to, and are reminded that Part B – Steering and Sailing Rules of the Collision Regulations describe responsibilities between vessels in all conditions of visibility.

***Note:** Marine Chart #3412 and the Canada Flight Supplement show the Inner Harbour as consisting of both the Middle and Inner Harbour areas.

Note: All references to vessel includes ships as defined in the Canada Marine Act (CMA) 2. (1).

VESSEL OPERATING PROCEDURES

Power Driven Vessels less than 20m (65 ft) in Length, including sailboats, shall transit the **OUTER HARBOUR** and the **MIDDLE HARBOUR** via the vessel ***Inbound/Outbound Traffic Lanes***, as indicated on the chart.

Power Driven Vessels of 20m (65 ft) in Length or greater shall transit the **MIDDLE HARBOUR** via the ***Seaplane Take Off and Landing Areas***, or via the **Inbound Traffic Lane** and shall transit these areas without stopping or delay.

Non-power Driven Vessels including row boats, rowing sculls, kayaks and canoes are authorized to use the **OUTER, MIDDLE, INNER** and **UPPER HARBOUR** for recreational purposes. While in the **MIDDLE HARBOUR**, or in transit to the **OUTER HARBOUR**, non-power driven vessels shall transit by using the ***Outbound Traffic Lane*** or by operating close to the north shore, north of the four white information buoys until west of Colville Island. While in transit from the **OUTER HARBOUR** to the **UPPER HARBOUR**, non-power driven vessels shall transit by using the ***Inbound Traffic Lane*** or by remaining close to the north shore, north of the four white information buoys. Non-power driven vessels should use **"extreme caution"** when operating in larger vessel docking areas such as Fisherman's Wharf and Seaplane Terminals.

All Vessels entering or exiting the ***Inbound/Outbound Traffic Lanes*** shall merge gradually into the appropriate traffic lane and shall avoid crossing traffic lanes. However, if the crossing of a traffic lane is unavoidable, vessels shall cross at right angles to the traffic lane. All vessels navigating in the area between Songhees Point and Laurel Point, near the ***Inbound/Outbound Traffic Lanes*** should use extreme caution, as it is a congested area and is often used by non-power driven vessels to transit between the north and south shores. Additional caution is also required in the area between Berens Island and Shoal Point where traffic from West Bay, the Middle Harbour and the Outer Harbour all converge near the north/south Seaplane Take Off and Landing Area.

All vessels are reminded there is a **black water discharge prohibition** in effect for waters in the Port of Victoria. Pump out locations are noted on the Chart side of this publication for the convenience of boaters.

Harbour Ferries/Water Taxis: Due to the nature of the service these vessels provide, they are required to "criss-cross" the **INNER HARBOUR** on a continual basis in various locations. Harbour ferries will use the ***Inbound/Outbound Traffic Lanes*** whenever possible. However, when crossing ***Seaplane Take Off and Landing Area "B"*** they are required to yield to seaplanes prior to entering and, having entered the area, to maintain course and speed until exiting. In addition, prior to crossing a seaplane take off and landing area, the water taxi operator must monitor VHF 122.2 to ensure he (she) is aware of aircraft in the area. When transiting a take off and landing area a water taxi must exhibit a flashing yellow light.

Note: Harbour Ferries are authorized to transit along the north shoreline, in a westerly direction only, remaining north of the four white information buoys while enroute to West Bay.

Seaplanes are to operate in accordance with the **Canada Flight Supplement** and the **Water Aerodrome Supplement** as appropriate.

Three short blasts of a large ferry's whistle (the Coho) means it is in astern propulsion. **Stay well clear.** Never cross in front of a ferry or in its wake. Tugs and barges have limited maneuverability. **Stay well clear.**

SEAPLANES: "WHAT BOATERS NEED TO KNOW"

Aviation procedures request that pilots take off southbound in the north/south seaplane take off and landing area. Landings will most likely occur either eastbound or westbound in the east/west seaplane take off and landing area or northbound in the north/south take off and landing area. However, wind, water and aircraft load conditions may be such that aircraft will take off or land in either area, in either direction.

A Seaplane Inclement Weather Operating Area in West Bay may be used for take off in some high wind conditions. Because of varying weather conditions, boat operators should not count on pilots always being able to operate completely within the designated areas. Therefore, boaters must remain vigilant at all times. To aid boaters, **four white strobe lights**, located at **Shoal Point, Laurel Point, Berens Island** and **Pelly Island**, are activated by the Flight Service Station up to 60 seconds prior to a seaplane taking off or landing. Also, seaplanes so equipped will normally activate on board landing/pulsating lights prior to take off.

Seaplanes may have to leave the **Seaplane Take Off and Landing Areas** to make way for other seaplanes and may use the **Inbound/Outbound Traffic Lanes** until being able to return to the **Seaplane Take Off and Landing Areas**. *In addition, a Seaplane Taxiway has been established North of Pelly Island for the use of taxiing seaplanes during certain tide conditions.*

A Seaplane Holding Area is located southeast of Laurel Point and has been designated for seaplanes to hold for short periods of time while waiting for a berth at one of the seaplane docks, or for a clear outbound taxi route.

Seaplanes operate in Victoria Harbour from 7 a.m. local time until 30 minutes past sunset.

CONTACTS

Canadian Coast Guard: In the case of a "Marine Emergency" contact the Canadian Coast Guard radio on VHF channel 16, or *16 on a cellular telephone, or the Joint Rescue Co-ordination Centre at 1-800-567-5111 or #SAR(727) on a cellular telephone.

Harbour Master: For general Port information or to report marine incidents such as navigational hazards or pollution, contact the Harbour Master on VHF channel 18A or 250-363-3578.

Berthage: For public berthage call on VHF 66A.

Canada Customs: The Canada Customs clearance float is located on the south side of the **MIDDLE HARBOUR** as shown on the chart, telephone 1-888-226-7277.

Flight Service Station: The Flight Service Station is owned and operated by NAV CANADA, telephone 250-953-1510.

Johnson Street Tilt Bridge, at the NE extremity of the **INNER HARBOUR**, is operated by the City of Victoria. Radio communications with the bridge operator can be made on VHF channel 12. Hours of operation are Monday through Friday, 8 a.m. to midnight and weekends and statutory holidays, 8 a.m. to 4 p.m. Rush hour vehicular traffic requires daily bridge closures from 7 a.m. to 9 a.m. and 4 p.m. to 6 p.m. Monday to Friday. The after office hours telephone number is 250-385-5717.

RULES AND RESTRICTIONS

Speed Limit: All ships maneuvering in waters of the Port of Victoria north of a straight line between the westerly end of the Ogden Point breakwater and Macaulay Point to a straight line drawn between Shoal Point and Berens Island shall proceed at a safe speed at all times and shall not exceed 7 knots. All ships maneuvering in waters of the Port of Victoria north and east of a straight line drawn between Shoal Point and Berens Island and south of the Selkirk Trestle Bridge shall proceed at a safe speed at all times and shall not exceed 5 knots.

Minimize Wake: All vessels are required to minimize their wake in order to prevent damage to shore facilities and other vessels.

No Sailing: Sails shall not be used in the **MIDDLE**, **INNER** and **UPPER HARBOUR** and all sails shall be lowered even when under power.

Professional and Amateur Training: Due to the volume of activity, rowers, canoers, scullers and kayakers shall not conduct any professional or amateur training after 7 a.m. in the **INNER HARBOUR**, or the **MIDDLE HARBOUR**.

Anchoring: No ship shall anchor in the Port of Victoria unless authorized by the Port Official.

A Blackwater Discharge prohibition is in effect for all Port of Victoria waters north of Ogden Point as far as the Selkirk Trestle Bridge.

Vessel Operating Procedures, as indicated in this Traffic Scheme, are to be followed.

Seaplane Restrictions:

1) Prior permission is required from the Port of Victoria Airport Manager before operating in the Port of Victoria
2) No step taxiing is permitted, and taxi speed is 5 knots maximum north and east of a straight line drawn between Shoal Point and Berens Island
3) Seaplanes shall maintain a distance of at least 50m from surface vessels during take off or landing
4) No take offs or landings are allowed prior to 0700 unless authorized by the Harbour Airport Manager
5) The Pelly Island Taxiway Area is not authorized for use when the white horizontal tide markers are visible (located on the concrete bases of Pelly Island and Tuzo Rock marine lights)
6) Westbound take offs and landings shall not commence until west of a line joining the north and south markers as indicated on the chart
7) Eastbound landings shall be completed and seaplanes shall be at or below 5 knots before crossing east of a line joining the north and south markers as indicated on the chart
8) Pilots are to ensure a minimum water depth of 1.8m is available prior to using the inclement weather operating area (see chart #3412)
9) No Ab Initio or aircraft training.

Note: Persons failing to comply with these rules and restrictions may be subject to summary conviction and/or fines. The Port of Victoria Traffic Scheme is not a "traffic separation scheme" as defined in Rule 10 of the Collision Regulations. Authority is derived from the Canada Marine Act, Practices and Procedures for Public Ports.

Version française disponible au bureau du directeur de port, 12 rue Erie ou en communiquant avec la bibliothèque de Transports Canada au (604) 666-5868. # TP 13410-F.

April 1, 2014 TP 13410-E

BE ALERT, BE SAFE, THINK SAFETY FIRST

Transport Canada Transports Canada Canada

TP1247E
2013/14

Transport Canada Transports Canada

AVIATION
Land Use In The Vicinity of Aerodromes

Ninth Edition

Canada

Abstract

This publication describes not only the operational characteristics of aerodromes but also different types of land uses outside the aerodrome property boundary and recommends, where applicable, guidelines for those land uses in the vicinity of aerodromes. In addition, the source documents have been linked to further explain the technical aeronautical requirements.

This publication was prepared by the Flight Standards division of the Standards Branch of the Civil Aviation Directorate of Transport Canada. Enquiries relating to the document's content and suggested amendments should be directed to:

Chief
Flight Standards
Standards Branch
Civil Aviation Directorate
Transport Canada
Place de Ville, Tower "C"
330 Sparks Street
Ottawa, Ontario
K1A 0N8

Part I -- Introduction

This publication is designed to assist planners and legislators at all levels of government in becoming familiar with issues related to land use in the vicinity of aerodromes.

Municipal planners and developers must understand that how land is used around an aerodrome will have an impact on the aerodrome's operations. The land use around aerodromes can have significant impacts on safety at the aerodrome and can negatively impact the operational viability of the aerodrome to the detriment of the local community that depends upon it.

The compatible land use planning concept is an outgrowth of the focus of attention on the environmental relationship between aerodromes and their community neighbours. This planning concept is relatively simple and the results can be impressive, but the implementation requires careful study and co-ordinated planning.

Some community/aerodrome situations have reached the point where the effect of land use planning guidelines may be minimal. However, there are still instances where the use of these guidelines will result in more compatible aerodrome and community development. Implementation of this guidance may result in provincial/municipal legislation or bylaws for compatible land uses, easements or land zoning.

As new and non-traditional uses of land become more prevalent (e.g. windfarms) ,the public and aviation stakeholders have advanced concerns to Transport Canada over items that may be viewed as impediments to access or as safety items. The ninth edition of TP 1247 has been revised to address these issues.

Where units of measure are quoted in this document, the metric numbers are to be heeded as the equivalent imperial units are approximations only.

For the purposes of this document, where the word *aerodrome* is used, it includes certified aerodromes, non-certified aerodromes, heliports and water aerodromes; where the word *airport* is used, it specifically means certified aerodromes.

Enquiries relating to the application of these guidelines should be directed to the appropriate Regional Director Civil Aviation. Addresses for the Regional Civil Aviation officials are listed in Appendix A.

TABLE OF CONTENTS

Part I -- Introduction **2**
Definitions **6**
1.1 General **7**
1.2 Slopes and Surfaces **7**
1.3 Outer Surface **9**
1.3.1 Dimensions of Outer Surface 9
1.4 Take-Off/Approach Areas and Surfaces **10**
1.4.1 Delimination 10
1.4.2 Dimensions of the Takeoff/Approach Areas and Surfaces 10
1.5 Transitional Surface **12**
1.5.1 Delimination 12
1.6 Width of Strip **12**
1.6.1 Dimensions of the Runway Strips 12
Part II -- Telecommunications and Electronic Systems **13**
2.1 General **13**
2.2 Radar Systems **13**
2.2.1 Air Traffic Control (ATC), Air Defence or Military Radars 14
2.2.2 Weather Radar 14
2.3 VHF/UHF Radio Communication Systems **14**
2.4 Navigational Aids **14**
2.4.1 General 14
2.4.2 Non-Directional Beacons (NDB) 15
2.4.3 VHF Direction Finding Systems (VHF/DF) 15
2.4.4 VHF Omni-Directional Range (VOR) 15
2.4.5 Distance Measuring Equipment (DME) 15
2.4.6 Tactical Air Navigation System (TACAN and VORTAC) 16
2.4.7 Instrument Landing Systems (ILS) 16
Part III -- Bird Hazards and Wildlife **17**
3.1 General **17**
3.2 Hazardous Land-use Acceptability **17**
Part IV -- Aircraft Noise **19**
4.1 General **19**
4.1.1 Noise Measurement 19
4.1.2 Predicting Annoyance 20
4.1.3 The Noise Exposure Forecast System (NEF) 20
4.2 Production of Noise Contours - Aerodromes That Are Neither Owned Nor Operated and Managed by Transport Canada **20**
4.3 Noise Exposure Contours **21**
4.3.1 Noise Exposure Forecast (NEF) 21
4.3.2 Noise Exposure Projection (NEP) 21
4.3.3 Planning Contour 21
4.4 Production of Noise Contours: DND Aerodromes **21**
4.5 Noise Contour Maps **22**
4.6 Community Response to Noise **22**
4.6.1 New Aerodromes and Community Response to Noise 22
4.7 Recommended Noise Control Action **23**
4.8 Recommended Practices **23**
PART V -- Restrictions to Visibility **31**
PART VI -- Wind Turbines and Wind Farms **32**
6.0 General **32**

6.1 Wind turbine marking and lighting **32**
6.2 Wind turbines and airport radar **32**
6.3 Navigation aids and communication systems **32**
6.4 Weather Radar **33**
6.5 Parachute Landing Areas (PLA) **33**
6.6 Light Pollution. **33**
PART VII -- Exhaust Plumes **34**
PART VIII -- Solar Array Installations **35**
Appendix A - Regional Offices of Transport Canada – Civil Aviation **37**

Transport Canada Land Use Role

From a regulatory perspective, the authority for the designation of and control of the use of lands located outside of aerodrome property rests with provincial/municipal levels of government. The only exception to this fact, in the aviation case, occurs where an airport zoning regulation, made pursuant to the Aeronautics Act, is in force.

The Minister of Transport may exercise authority only over lands that are included in an Airport Zoning Regulation made pursuant to the Act. An Airport Zoning Regulation contains restrictive clauses that describe the activities and uses that are restricted or prohibited and contains a legal description of the lands to which it applies.

Restrictions and or prohibitions contained in a zoning regulation may range from limiting the height of structures to prohibiting specified land uses or to prohibiting facilities that may interfere with signals or communications to/from aircraft.

Airport zoning regulations cannot be made for non-certified aerodromes.

Individual zoning regulations are included in a listing of regulations made pursuant to the Aeronautics Act and may be found at the following internet address:

http://www.tc.gc.ca/eng/acts-regulations/acts-1985ca-2.htm

Definitions

The following definitions are provided for the purposes of this document only;

Airport: An aerodrome for which, under Part III of the *Canadian Aviation Regulations*, an airport certificate has been issued by the Minister.

Aerodrome: Any area of land, water (including the frozen surface thereof) or other supporting surface used or designed, prepared, equipped or set apart for use either in whole or in part for the arrival, departure, movement or servicing of aircraft and includes any buildings, installations and equipment situated thereon or associated therewith.

Note: *This definition of "Aerodrome" includes water aerodrome and heliports.*

Aerodrome Reference Point: The designated point or points on an aerodrome normally located near the geometric centre of the runway complex that:

(a) establishes the geographical location of an aerodrome for charting purposes, and
(b) establishes the locus of the radius or radii of the outer surface as defined in a Zoning Regulation.

Graded Area: An area surrounding the runway which is graded to a specified standard to minimize hazards to aircraft which may accidentally run off the runway surface.

Heliport: An aerodrome or a defined area on a structure intended to be used wholly or in part for the arrival, departure and surface movement of helicopters.

Obstacle Limitation Surface: A surface that establishes the limit to which objects may project into the airspace associated with an aerodrome consisting of the following; a takeoff surface, an approach surface, a transitional surface and an outer surface.

Runway Strip: A defined area including the runway, and stopway if provided, intended to reduce the risk of damage to aircraft running off a runway and to protect aircraft flying over it during takeoff or landing operations.

Water Aerodrome: means an aerodrome that uses an area of water, excluding the frozen surface of that area, for the arrival, departure, movement or servicing of aircraft.

1.1 General

This part will give the reader some insight into those aerodrome operational factors which can affect land uses outside the aerodrome property boundary. Each factor is considered separately and in enough detail to allow general planning conclusions to be drawn. It is important that any particular land use under consideration be judged from the point of view of all relevant factors. The referenced Manual for Part I is: Aerodrome Standards and Recommended Practices (TP 312E).

Obstacle Limitation Surfaces are established to ensure the required level of safety. These surfaces normally extend beyond the boundary of the aerodrome and therefore benefit from protection by the enactment of an Airport Zoning Regulation which will prohibit the erection of structures which would violate any of the defined plane surfaces.

Where enacted, zoning regulations apply to all the lands, including public road allowances, adjacent to or in the vicinity of an airport; the specific lands are described in the Schedule of the relevant airport zoning regulation. Lands within an airport boundary are therefore not included in an airport zoning regulation; however, all structures within an airport boundary must comply with obstacle limitation surface requirements, as stated in TP312 Aerodrome Standards and Recommended Practices.

For those airports at which an Airport Zoning Regulation has been enacted under the Aeronautics Act, details of the registered zoning plans are available from the Land Registry Office for the district within which the airport is located.

Note: It is of the utmost importance to be aware that the proximity of obstacles, for example, wind turbines, telecommunications towers, antennae, smoke stacks, etc., may have an impact on the current and future usability of an aerodrome. Therefore, it is critical that planning and coordination of the siting of obstacles should be conducted in conjunction with an aerodrome operator at the earliest possible opportunity.

1.2 Slopes and Surfaces

There are three types of surfaces in place at an aerodrome that should be protected to avoid penetration by objects or structures. Protection of these surfaces is done by limiting the height of structures, including appurtenances or objects on the ground, to heights that are less than that of the slope surface thereby avoiding penetration of that surface.

Airports that have an Airport Zoning Regulation have these surfaces protected by law and these zoning regulations apply to land that is located outside the property boundary of the airport. At aerodromes that do not have an Airport Zoning Regulation, the cooperation of adjacent communities is sought to obtain provincial/municipal zoning protection against development that would compromise the operational airspace, as defined by the description of these surfaces, around the aerodrome facility.

Where the facility is an airport, objects penetrating any of these surfaces may affect the operations of the airport and the certification status of the airport. Where the facility is a non-certified aerodrome, penetration of these surfaces may affect the operations at the aerodrome. Where the facility is a non-certified aerodrome, the standards in TP312 Aerodrome Standards and Recommended Practices can be used but are not enforceable; however, the operational integrity of the non-certified aerodrome is enhanced if the designation of the use of land adjacent to the facility is done in line with technical portions of the standards.

The three types of surfaces in place at an aerodrome are the outer surface, the takeoff /approach slope surface and the transitional surface as shown in Figure 1.

A complete description of the standards related to these surfaces may be accessed at the following website:

http://www.tc.gc.ca/eng/civilaviation/publications/tp312-menu-4765.htm

The following figure will assist the reader in developing a visual picture of the surfaces discussed above.

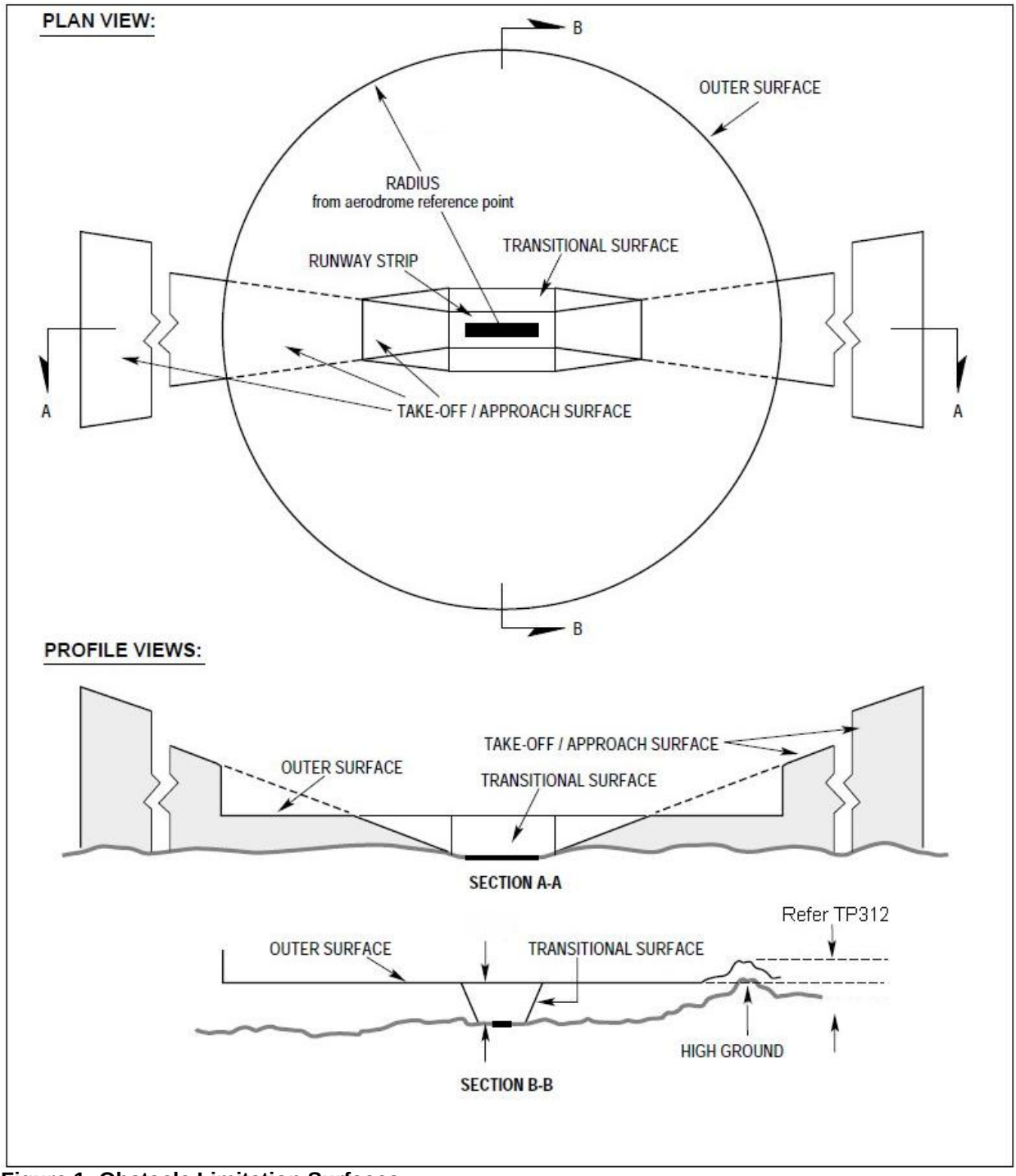


Figure 1: Obstacle Limitation Surfaces

1.3 Outer Surface

An outer surface shall be established where required for the protection of aircraft conducting a circling procedure or manoeuvring in the vicinity of an aerodrome. The outer surface establishes the height above which it may be necessary to rake one or more of the following actions:

(a) restrict the erection of new structures which would constitute an obstruction; or
(b) remove or mark obstacles to ensure a satisfactory level of safety and regularity for aircraft manoeuvring visually in the vicinity of the airport before commencing the final approach phase (See Figure 2).

1.3.1 Dimensions of Outer Surface

Where an outer surface is established, it shall be as follows:

(a) a common plane established at a constant elevation of 45 m above the assigned elevation of the aerodrome reference point; and
(b) when the common plane described in paragraph (a) is less than 9 m above the surface of the ground, an imaginary surface shall be established at 9 m above the surface of the ground (See Figures 2 and 3).

Note: *When the outer surface elevation cannot be held to 45 m, a semi-circular outer surface may be established permitting a circling procedure on one side of the runway. If this compromise solution is not possible, circling as part of an instrument approach procedure should not be recognized, thus eliminating the need for an outer surface.*

The outer surface measured from the designated aerodrome reference point or points, shall extend to a horizontal distance of at least:

(a) 4000 m is recommended where the code number is 1, 2 or 3.
(b) to be determined by an aeronautical study where the code number is 4, but never less than 4000 m.

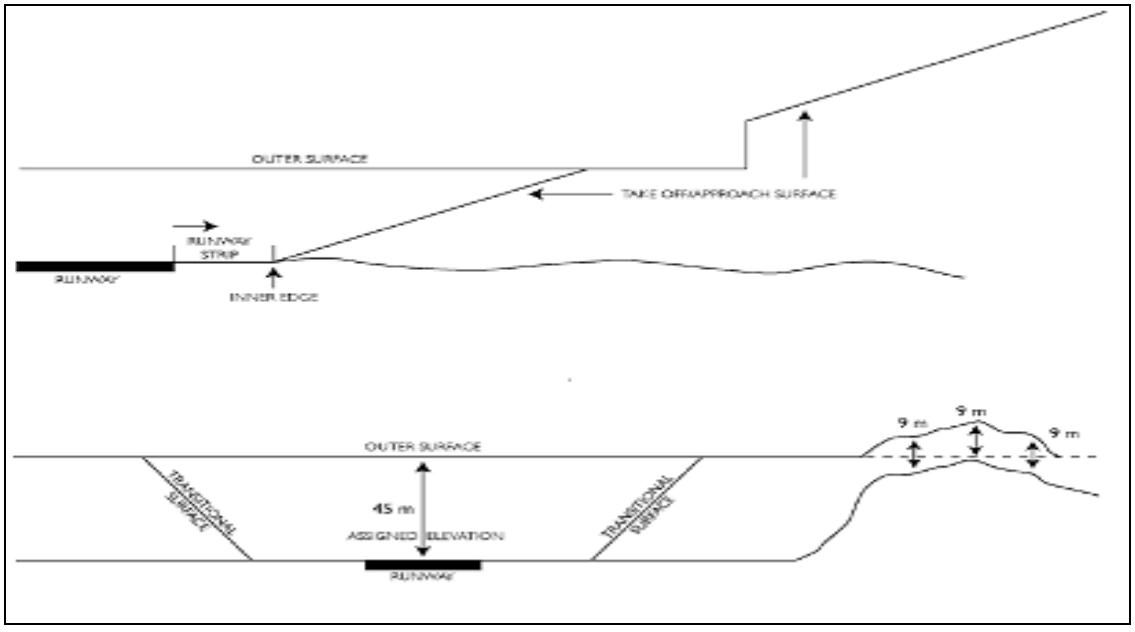


Figure 2 – Obstacle Limitation Surface – Side View

1.4 Take-Off/Approach Areas and Surfaces

1.4.1 Delimination

They are established for each runway direction intended to be used for the take-off and landing of aircraft.

(a) An inner edge, perpendicular to the runway, begins at the end of the runway strip (normally 60 m from the runway threshold). The length of the inner edge is dependent on the strip width.
(b) Two sides originate at the ends of the inner edge and diverge uniformly at either 10% or 15% from the extended runway centre line (Note: See divergence minima information in paragraph 1.4.2).
(c) Final Width will be the product of the divergence and length of the area, and will be parallel to the inner edge.

1.4.2 Dimensions of the Takeoff/Approach Areas and Surfaces

The dimensions of the takeoff/approach areas and surfaces shall be:

(a)

Precision Approach Runway - Category I and II	
Length of inner edge	As per strip width
Divergence (min)	15%
Length (min.)	6 000 m
*Slope (max.)	Cat. II Runways, 2% where the code number is 3 or 4. Cat. I Runways, 2% where the code number is 3 or 4. Cat. I Runways, 2.5% where the code number is 1 or 2.

* Where applicable, for new runways at major aerodromes the slope should be 1.66% for the first 3000 m and 2% thereafter for a total length of 15 000 m.

For the purposes of registered zoning, the takeoff approach surfaces of Code 3 and 4 Precision Approach Runways shall be defined by using slopes appropriate for a glide path extending for a maximum of 6 KM. If local terrain precludes the use of a glide path, then the lowest usable glide slope should be selected.

(b)

Non-Precision Approach Runway				
Code Number	1	2	3	4
Length of inner edge	As per strip width			
Divergence (min.)	10%	10%	15%	15%
Length (min.)	2 500m	2 500m	3 000m	3 000m
* Slope (max.)	3.33%	3.33%	2.5%	2.5%

* Where practicable, the slope should be 2%.

(c)

Non-Instrument Runways				
Code Number	1	2	3	4
Length of inner edge	As per strip width			
Divergence (min.)	10%	10%	10%	10%
Length (min.)	2 500m	2 500m	3 000m	3 000m
Slope (max.)	5%	4%	2.5%	2.5%

Note: *The lengths given in (a), (b) and (c) above, are measured horizontally, unless otherwise specified. Regardless of the slope specifications in (a), (b) and (c) above, all objects considered by the certifying authority to be hazardous shall be marked and/or lighted.*

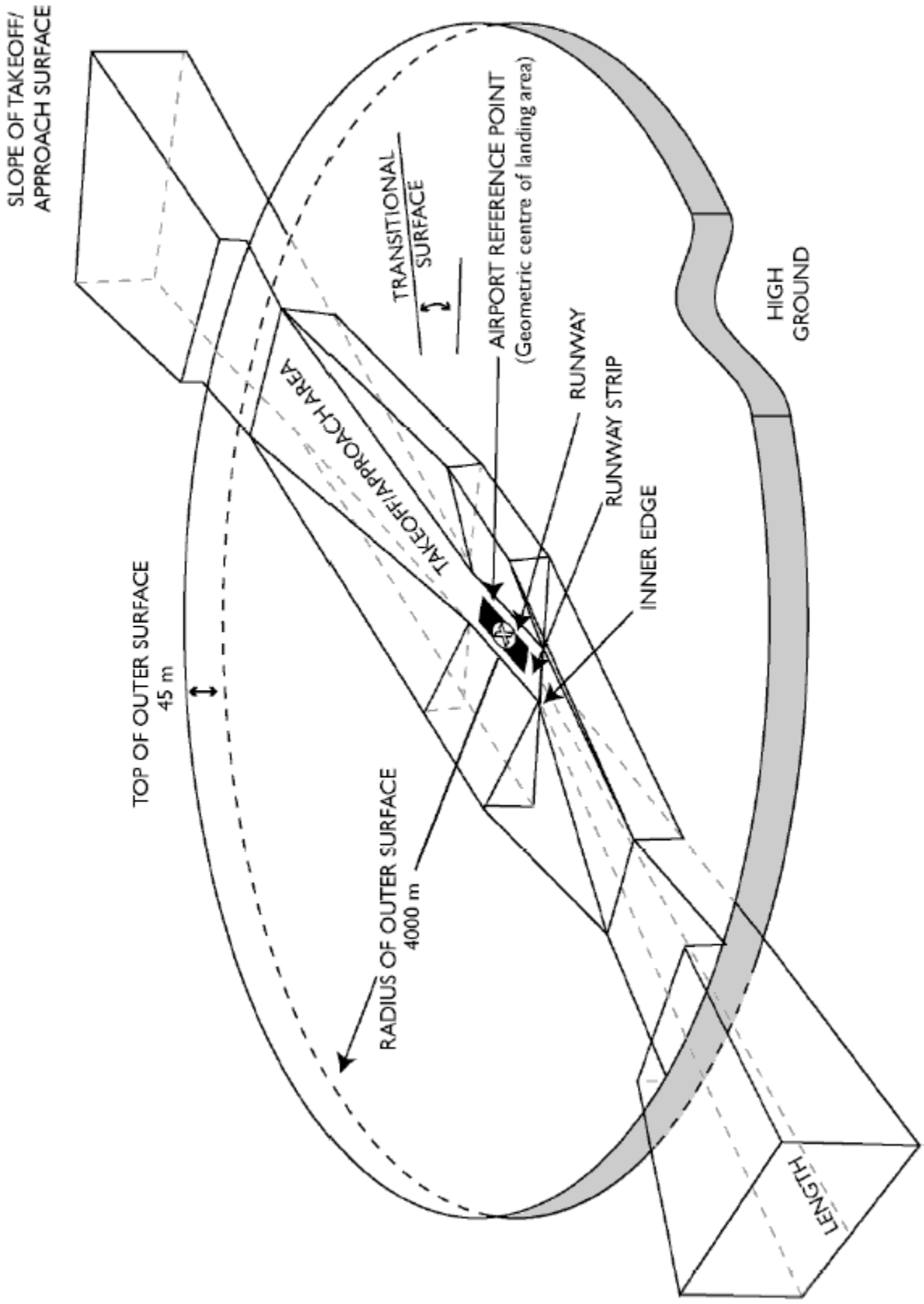


Figure 3 – Obstacle Limitation Surfaces

1.5 Transitional Surface

1.5.1 Delimination

Transitional surface is a complex surface along the sides of the runway strip and pan of the approach surface that slopes up to the outer surface. Its purpose is to ensure the safety of aircraft at low altitudes displaced from the runway centre line in the approach or missed approach phase. The slope of a transitional surface measured in the vertical, perpendicular to the runway shall be:

- 14.3% for an Instrument runway and non-Instrument runways, Code 3 and 4
- 20.0% for non-Instrument runways, Code 1 and 2

Where topographical or natural obstructions make it economically unreasonable and in the opinion of the Certifying Authority, an equivalent level of safety will be achieved, the transitional surfaces for runways where the code number is 1 or 2, used in Visual Meteorological Conditions (VMC) may be steepened or eliminated provided the strip width is widened in accordance with the following:

Strip Width			
Code Number	90 m	120 m	150 m
1. Transitional Surface	33%	Vertical	Vertical
2. Transitional Surface	33%	50%	Vertical

Note: *This is intended to provide relief for small aerodromes in mountainous regions, used in VMC, where river valleys, etc. are the only sites, available. At other locations an aeronautical study and Headquarters' approval is required before applying the above criteria.*

1.6 Width of Strip

1.6.1 Dimensions of the Runway Strips

1. **Width of Strip - Instrument Runways**

   The runway strip shall extend the following distances each side of the centre line of the runway.

   Precision Approach Runway:

   1. 150 m where the code number is 3 or 4,
   2. 75 m where the code number is 1 or 2.

   Non-Precision Approach Runway:

   3. 150 m where the code number is 4,
   4. 75 m where the code number is 3,
   5. 45 m where the code number is 1 or 2.

2. **Width of Strip - Non-instrument Runways**

   Runway strips containing a non-instrument approach runway shall extend each side of the centre line as follows:

   1. 75 m where the code number is 4,
   2. 45 m where the code number is 3,
   3. 30 m where the code number is 1 or 2.

Part II -- Telecommunications and Electronic Systems

2.1 General

The guidance contained in this part is aimed at protecting navigational aids, radars and telecommunications systems which include systems for civil, military, and environmental applications. Transport Canada approval of the location and/or construction of structures and facilities considered incompatible would only be required for structures located on lands to which an airport zoning regulation applies.

Local land use planners and those wishing to erect structures are encouraged to contact regional Transport Canada Civil Aviation offices for assistance in locating any nearby aerodromes and NavCanada for assistance in locating any potentially impacted radars, navigation aids or telecommunications facilities. Local planners and those wishing to erect structures are encouraged to consult with identified airport and aerodrome operators and NavCanada. NavCanada can be contacted at 1-866-577-0247 or by email at landuse@navcanada.ca.

The information contained in this part represents the criteria normally applicable for the protection of navigational aids, radars and telecommunications systems. More specific guidance on structures conforming to these values should be available from the owner of the radar, navigational aid or telecommunications system.

Planners should also be aware that, where airport zoning regulations are in effect, specific structures which contravene the values contained within said zoning regulations may sometimes be acceptable, provided that the applicant demonstrates by a technical analysis that such approvals will not cause harmful interference.

Consultation with the radar, navigational aid or telecommunication system owner should take place at an early stage in the project in order to avoid costly redesign or undue pressure when seeking building and site approvals. It is recommended that consultation take place at the building concept stage, before site approval is sought.

The radar, navigational aid or telecommunication system owner should ensure that full coordination takes place with aerodrome and local authorities where there is any air navigation system change that may impact local communities.

Note: *The development and promulgation of the requirements for the protection of radar, navigational aid or telecommunication systems are the responsibility of the facility owner.*

2.2 Radar Systems

The radar coverage volume for all types of radar systems can be reduced by a structure blocking the transmit or receive signal path. The severity of this blockage is proportional to the size of the structure and varies according to its location.

The size and construction material of buildings and other structures can be controlled to ensure that the radar coverage volume is maintained and that the number of false targets detected is not increased.

False targets are usually a problem only with Air Traffic Control (ATC) Radar Systems (including military and weather radar systems). They are created by transmitted or received signals being reflected from structures. The magnitude of the reflection is proportional to the size of the structure and the electrical behaviour of the material used. Non-metallic materials can reduce the magnitude of the reflection.

The protection criteria presented in this section are provided for general guidance purposes only. For more precise criteria suitable to the location/structure being proposed, proponents should contact local aerodrome operators and/or the radar/navigation aid/communication systems owner.

2.2.1 Air Traffic Control (ATC), Air Defence or Military Radars

(a) Primary Surveillance Radar (PSR)

(i) within 300 m of the radar site, no building or other structure should exceed a height of 5 m below the geodetic height of the antenna platform. The preference is to have no structure at all or to have trees surrounding the site.
(ii) from 300 to 1,000 m from the radar site, the upper limit on the height of a structure is increased at a rate of approximately 0.007 m per metre. Thus, at a distance of 1,000 m from the site, the structure can be as high as the geodetic height of the antenna tower platform.
(iii) beyond 1,000 m from the radar site, no site protection requirement is specified; however, it is preferable not to have any large structure exceeding 0.25° above the radar horizon. Large structures are defined as having an azimuth of more than 0.43°. The consequences of building such structures should be brought to the attention of the local land use authority responsible for approving the proposal for construction.

(b) Secondary Surveillance Radar (SSR)

The provisions given above for a Primary Radar System apply as well for an ATC Secondary Surveillance Radar System. In addition, all buildings or other structures within 1,000 m of the radar should be constructed with non-metallic materials having a low reflectivity at frequencies from 1.0 to 1.1 GHz.

(c) Precision Approach Radar (PAR)

Within 900 m of the approach area to a runway served by a Precision Approach Radar System, no reflecting objects (trees, buildings or other structures) are allowable.

(d) Airport Surface Detection Equipment Radar (ASDE)

No structure should be built that blocks the line-of-sight from the ASDE radar antenna to any runway, taxiway, intersection, etc., unless it is approved by the owner of the equipment. Any exception would have to demonstrate that the blockage would be operationally insignificant.

2.2.2 Weather Radar

No structures exceeding the height of the radar antenna should be built within a radius of 300 m of weather radars. Environment Canada is the entity responsible for siting weather radars in Canada. The owner or proponent of the structure is responsible for any coordination with Environment Canada.

2.3 VHF/UHF Radio Communication Systems

Metallic structures may cause reflection of communication signals. In cases where such structures are proposed to be constructed within 300 m of a VHF/UHF transmitter/receiver installation, consultation with the owner of the communications systems is recommended.

The protection criteria presented in this section are provided for general guidance purposes only. For more precise criteria suitable to the location/structure being proposed, proponents should contact local aerodrome operators and/or the radar/navigation aid/communication systems owner.

2.4 Navigational Aids

2.4.1 General

Although several different standardized types of navigational aids are used to support air navigation, they share the common characteristic that the navigation guidance is derived partially as a function of the direction from which the navigation signals are received. Any structure that causes unwanted reflections of guidance signals will cause some of those signals to be received from a different direction, altering the navigation guidance in a potentially hazardous way. For this reason, it is important to screen and assess any developments in the vicinity of navigational aids.

The protection criteria presented in this section are provided for general guidance purposes only. For more precise criteria suitable to the location/structure being proposed, proponents should contact local aerodrome operators and/or the navigational aid owner.

2.4.2 Non-Directional Beacons (NDB)

The following types of structures should be assessed prior to construction to determine the potential impact on navigation signals from an NDB:

(a) All proposed structures within 200 m of an NDB antenna; and
(b) All proposed steel towers, power lines, metal buildings, etc., within 1,000 m of an NDB antenna, for which the subtended vertical angle measured from the base of the NDB antenna structure exceeds 3°.

2.4.3 VHF Direction Finding Systems (VHF/DF)

Siting requirements for VHF/DF are of major importance. In particular, the equipment requires that:

(a) within 45 m of the antenna: ground to be level ±1º and surface roughness ±30 cm
(b) within 90 m of the antenna: ground to be clear of trees, masts, metal fences and vehicles.
(c) within 180 m of the antenna: ground to be clear of buildings, car parks and small metal structures.
(d) within 365 m of the antenna: ground to be clear of built-up areas, hangars, railways and other metallic structures.

In general, a clear line-of-sight should be maintained between the antenna system and local flying aircraft.

The VHF/DF antenna should be separated from any VHF air/ground communication (transmitting) antenna to the greatest extent practical, but by at least 2 km, and be separated from any antenna transmitting a high power broadcast by at least 8 km.

2.4.4 VHF Omni-Directional Range (VOR)

For standard VOR facilities, the following constraints should be applied to maintain the required accuracy of navigation signals:

(a) Within 300 m radius of the VOR antenna array, the area should be clear of trees, fences, wire lines, structures, machinery or buildings;
(b) Within 600 m radius of the VOR antenna array, structures and buildings having large metal content, wire lines and fences should not subtend a vertical angle of more than 1.2° or extend above the horizontal plane as measured from the array centre, except that the subtended vertical angle may be increased by 50% for fences or lines which are essentially radial or which subtend an angle of not more than 0.2° measured in the horizontal plane;
(c) Within 600 m radius of the VOR antenna array, wooden structures or buildings with negligible metallic content should not subtend a vertical angle of more than 2.5°; and
(d) Outside of 600 m radius of the VOR antenna, proposed large continuous metallic objects such as overhead power lines, masts, water towers or large metal-clad buildings which will penetrate beyond above the horizontal plane as measured from the array centre, or which will subtend a vertical angle of more than 1.2°, should be assessed prior to construction to determine the potential impact on VOR navigation signals.

The above criteria for standard VOR also apply to Doppler-type VOR facilities, except that the radius of 300 m may be reduced to 150 m, and the radius of 600 m may be reduced to 300 m.

2.4.5 Distance Measuring Equipment (DME)

DME may be installed as a stand-alone facility, or may be collocated with a VOR or ILS facility.

The following types of structures should be assessed prior to construction to determine the potential impact on navigation signals from a DME:

(a) All proposed structures within 150 m of a DME antenna; and
(b) All proposed steel towers, power lines, metal buildings, etc., within 3,000 m of a DME antenna, for which the subtended angle of elevation measured from the base of the DME antenna structure exceeds 1°.

2.4.6 Tactical Air Navigation System (TACAN and VORTAC)

TACAN is a military navigational aid whose functions are similar to those of a combined VOR and DME. TACAN may be installed as a stand-alone facility, or may be co-located with a VOR (VORTAC). Criteria outlined above for VOR and DME are applicable to TACAN.

2.4.7 Instrument Landing Systems (ILS)

An ILS supporting operations to a given runway generally consists of two complementary components: a localizer transmitter installed near the stop end of the runway and a glide path transmitter installed alongside the runway roughly 300 m from the beginning of the runway.

ILS supports all-weather precision approach and landing operations. To maintain the safety of landing aircraft, it is critical that the accuracy of ILS navigation signals not be compromised by unwanted reflections or interference.

The most significant sources of interference for ILS facilities are metallic objects having appreciable horizontal dimensions such as structural steel towers, metal-clad buildings and power/telephone transmission lines. These objects may reflect the ILS signals in unwanted directions, distorting the information provided to aircraft. Planners involved in siting and approval of these sources of interference should contact the ILS facility owner. For planning purposes, all runways should be considered to be equipped with an ILS at each end.

Any proposed structure on or in the vicinity of an aerodrome should be subjected to a detailed assessment for possible interference to ILS facilities unless it falls outside the Building Restricted Area (BRA) surfaces for ILS as defined in the document, European Guidance Material on Managing Building Restricted Areas[1]. (Buildings within the ILS building restricted area are often acceptable after a detailed assessment. In some cases, measures such as appropriate orientation of the building, shape of reflecting surfaces, etc. can significantly reduce the impact on ILS navigation signals.)

Some ILS localizers provide “back course” approach navigation guidance to the reciprocal end of the runway. For these localizers, the applicable restrictions apply in both directions from the antenna array.

High voltage power lines and substations radiate Electromagnetic Noise (EMN). In addition, EMN radiated by Industrial-Scientific-Medical (ISM) apparatus may inhibit reliable reception of ILS signals. Power lines and substations should be designed, constructed and maintained using state of the art techniques to minimize radiated EMN in the ILS frequency bands. In general, the following should be avoided:

(a) power lines with voltages greater than 100 kV that are closer than 1.8 km from the runway centre line and closer than 3.2 km from the ends of the runway;
(b) AC electrical substations for voltages greater than 100 kV that are closer than 3.2 km from the centre line of the runway and closer than 16 km from the ends of the runway;
(c) ISM apparatus operating within the rectangular area extending 1.5 km on either side of the centre line of the runway to the outer markers.

[1] International Civil Aviation Organization (ICAO) European and North Atlantic Office:
ICAO EUR DOC 015, European Guidance Material on Managing Building Restricted Areas, Second Edition (2009)

Part III -- Bird Hazards and Wildlife

3.1 General

In its many civil aviation responsibilities, Transport Canada remains focused sharply on the safety of air travelers. This focus has led the department to examine numerous potential hazards, including those found on and in areas around Canadian aerodromes.

Working with industry experts, and based on extensive international scientific research, Transport Canada has confirmed that these hazards include many forms of wildlife, from birds and deer which are often struck by aircraft, to smaller prey animals that attract more hazardous species. Wildlife of all types can be hazardous to aircraft because they can cause structural or engine damage. The hazard is greatest at and in the vicinity of aerodromes due to the concentration of aircraft activity close to the ground, where the majority of wildlife lives. In addition, aircraft involved in takeoffs or landings are at low altitudes and in a critical phase of flight where any disruptions to the operation could be catastrophic.

The presence of birds at or near aerodromes presents particular hazards. Aerodromes are naturally attractive areas to many species of birds because the wide open, short grass areas provide the basic elements of security from predators and humans, a place to nest and loaf (just generally sit about) and access to food and water sources. Wildlife Management programs at aerodromes effectively reduce this natural attraction of birds to aerodrome lands, primarily through major habitat management and manipulation projects, as well as through day to day vigilance and the use of bird scaring techniques. While these on aerodrome activities are effective, they can be neutralized by the presence of attractive land use or activities outside the aerodrome boundary. Hazardous bird species will be persistent in their attempts to use the aerodrome as a convenient stop over and resting place before or after feeding at a nearby location. It is therefore important that land in the surrounding area be used in a manner that is compatible with the wildlife control measures in use on the aerodrome, to minimize the attraction to birds and other potentially hazardous species.

Wildlife respects no boundaries, physical or regulatory, and often congregates in and passes through air-traffic corridors, such as take-off, departure, approach and landing areas. The result is risk to aircraft and air travelers that can be minimized when aerodrome area stakeholders work together and systematically integrate their efforts to:

- identify wildlife hazards and risks;
- plan, coordinate and implement management and mitigation measures; and
- measure results.

These activities can prevent lands in the vicinity from being used or developed in a manner that is incompatible with the safe operation of aircraft due to hazardous wildlife activity.

The following information provides guidance on the acceptability of different land use practices in the vicinity of aerodromes. General land use practices have been evaluated on their relative attractiveness to traditionally hazardous bird species.

Note: *Where land in the vicinity of aerodromes is targeted for development, local land use authorities should consult a wildlife/bird hazard specialist to identify and address any issues relative to attractant and habitat concerns prior to approval of the development.*

3.2 Hazardous Land-use Acceptability

Not all potentially hazardous activities possess the same level of potential risk and cannot be treated equally when planning land uses in the vicinity of an aerodrome. The acceptability of land use activities can be classified using specific zones created around the aerodrome property, as defined in *Safety Above All* - http://www.tc.gc.ca/eng/civilaviation/publications/tp8240-awmb38-appendix-a-5031.htm.

Primary Hazard Zones generally enclose airspace in which aircraft are at or below altitudes of 1500 feet AGL (above ground level). These are the altitudes most populated by hazardous birds, and at which collisions with birds have the potential to result in the greatest damage.

Secondary Hazard Zones (4km beyond the Primary Hazard Zone) are buffers that account for:

- variables in pilot behaviour and technique;
- variations in departure and arrival paths that are influenced by environmental conditions, ATC (air traffic control) requirements, IFR versus VFR flight, etc.; and
- unpredictability of bird behaviour, and variations in bird movements around specific land uses.

Special Hazard Zones, though often distant from aerodromes, may regularly attract potentially hazardous species across primary or secondary zones.

Table 1. Hazardous land-use acceptability by hazard zone

LEVEL OF RISK	LAND USE	LAND-USE ACCEPTABILITY BY ZONE		
		Primary	**Secondary**	**Special**
Potentially High	Putrescible waste landfills	No	No	No
	Food waste hog farms	No	No	No
	Fish processing/packing plants	No	No	No
	Horse racetracks	No	No	No
	Wildlife refuges	No	No	No
	Waterfowl feeding stations	No	No	No
Potentially Moderate	Open or partially enclosed waste transfer stations	No	No	Yes
	Cattle paddocks	No	No	Yes
	Poultry factory farms	No	No	Yes
	Sewage lagoons	No	No	Yes
	Marinas/fishing boats/fish cleaning facilities	No	No	Yes
	Golf courses	No	No	Yes
	Municipal parks	No	No	Yes
	Picnic areas	No	No	Yes
Potentially Low	Dry waste landfills	No	Yes	Yes
	Enclosed waste transfer facility	No	Yes	Yes
	Wet/dry recycling facility	No	Yes	Yes
	Marshes, swamps & mudflats	No	Yes	Yes
	Stormwater management ponds	No	Yes	Yes
	Plowing/cultivating/haying	No	Yes	Yes
	Commercial shopping mall/plazas	No	Yes	Yes
	Fast food restaurants	No	Yes	Yes
	Outdoor restaurants	No	Yes	Yes
	School yards	No	Yes	Yes
	Community & recreation centers	No	Yes	Yes
Potentially Limited	Vegetative compost facilities	Yes	Yes	Yes
	Natural habitats	Yes	Yes	Yes
	Inactive agricultural fields	Yes	Yes	Yes
	Inactive hay fields	Yes	Yes	Yes
	Rural ornamental & farm ponds	Yes	Yes	Yes
	Residential areas	Yes	Yes	Yes

Land-use acceptability is site sensitive, and can be determined only through detailed assessments of each aerodrome and its surroundings. The table indicates general land-use suitability in primary, secondary and special hazard zones.

Although the table lists discreet categories, land-use suitability is dynamic and subject to change based on a variety of factors, including seasonal considerations and the range of activities that may be associated with a specific site. For example, agricultural fields can be classified as posing limited risk as long as they remain inactive. The moment cultivation begins; the degree of risk escalates, since the turning of soil, seeding, etc., increase the attraction to wildlife.

Risk may also escalate incrementally due to concentrations of land uses. For example, a golf course's attractiveness to birds may increase if the facility is bordered by a storm water management pond, marsh or agricultural operation.

Finally, it's important to note that risks associated with many land uses can be reduced through appropriate mitigation and monitoring. The acceptability of a commercial shopping plaza in a primary hazard zone, for example, would depend on the effectiveness of facility design-or the property owner's active, calculated interventions-to minimize the operation's attractiveness to potentially hazardous bird species.

For remedial actions please consult the Wildlife Control Procedures Manual (TP 11500) available at the following website:

http://www.tc.gc.ca/eng/civilaviation/publications/tp11500-menu-1630.htm

The information contained here provides a brief explanation and appreciation of the compatibility issues between aerodromes and wildlife. Land use planners are invited to obtain more details by accessing the following website:

http://www.tc.gc.ca/eng/civilaviation/publications/tp8240-awmb38-appendix-a-5031.htm

Part IV -- Aircraft Noise

4.1 General

An assessment of the annoyance resulting from exposure to aircraft noise is often essential to both aviation planners and those responsible for directing the nature of development of lands adjacent to aerodromes. This section will discuss noise measurement, annoyance prediction, the Noise Exposure Forecast and the Noise Exposure Projection. It also contains an assessment of various land uses in terms of their compatibility with aircraft noise.

4.1.1 Noise Measurement

The sound pressure level created by an aircraft (or any other noise source) can be measured by means of a sound level meter. The microphone of the sound level meter senses the pressure fluctuations over a short period of time. The sound pressure is the root mean square value of the difference between atmospheric pressure and the instantaneous pressure of the sound, the mean being read over several periodic cycles. For mathematical convenience, the logarithmic parameter called sound pressure level (SPL) is used. The unit of sound (noise) measurement is the decibel (dB).

A particular sound signal may comprise several different frequencies to which the human ear may respond in various ways. In order that noise measurements may relate more closely to loudness as judged by the average person, sound level meters are equipped with weighting networks which make use of information related to the frequency response characteristics of the human ear. Some sound level meters have the capability of reading on A, B, C, and D weighting scales, and decibel values are correspondingly indicated as dB(A), dB(B), dB(C) or dB(D), according to the weighting network used. However, the dB(A) is the most common.

The noise metric known as Perceived Noise Level (PNL), measured in the unit PNdB, provides a frequency weighting system which attempts to more closely approximate the subjective reaction of the human ear to an aircraft noise stimulus. Although weighting networks are available which provide a means of directly measuring approximate PNL values, i.e., dB(D), true PNL values are determined by the analysis and treatment of sound pressure levels in various 1/3 octave bands.

A more sophisticated noise metric, the Effective Perceived Noise Level (EPNL), expressed in the unit EPNdB, was developed specifically for use in the measurement of aircraft noise. The EPNdB is the metric that forms the basis of noise certification of aircraft. This metric is basically similar to the PNL except that corrections have been applied to account for the effects of discrete tones and the duration of the noise event, i.e., factors which contribute to the annoyance of the listener.

4.1.2 Predicting Annoyance

In addition to the annoying characteristics of an individual noise signal, overall subjective reaction to noise is dependent on the number of times the disturbance occurs as well as the daily distribution of these events. These factors must be included in any noise forecasting system if it is to be applicable to the communities located in the vicinity of aerodromes. The Noise Exposure Forecast (NEF) system made available by Transport Canada takes into consideration all of these factors.

The NEF system provides for the summation of noise from all aircraft types operating at an aerodrome based on actual or forecast aircraft movements by runways and the time of day or night the events occur. The large number of mathematical calculations necessary for the construction of NEF contours requires the use of computer techniques for the practical application of this system.

4.1.3 The Noise Exposure Forecast System (NEF)

The Effective Perceived Noise Level is the basis for estimating noise annoyance in the Noise Exposure Forecast system.

The data required for determining NEF contours consist of EPNL versus distance information for various aircraft types, along with generalized aircraft performance data. In calculating NEF at a specific location, the EPNL contribution from each aircraft operating from each runway is assessed by considering the distance from the point in question to the aircraft, and then obtaining EPNL values from the appropriate EPNL versus distance curve. The noise contributions from all aircraft types operating on all runways are summed on an anti-logarithmic basis to obtain the total noise exposure at that one location. Thus, the determination of NEF contours is strictly a numerical calculation procedure. As stated previously, due to the large number of mathematical calculations involved, computer techniques provide the only practical means of constructing NEF contours.[2]

4.2 Production of Noise Contours - Aerodromes That Are Neither Owned Nor Operated and Managed by Transport Canada

The preparation and approval of noise contours for aerodromes that are neither owned, nor operated and managed by the Federal Government is not a responsibility of Transport Canada. Transport Canada will conduct a technical review of an NEF, NEP or Planning Contour if requested by the sponsoring aerodrome operator or airport authority provided that:

(a) the Aerodrome owner or operator initiates this action;
(b) the Aerodrome owner or operator supplies or approves a projection of aircraft traffic, both as to type and numbers; and
(c) the Aerodrome owner or operator uses the noise impact prediction methods, procedures and recommended practices relating to aircraft operations as established by Transport Canada.

[2] Kingston, Beaton and Rohr, A Description of the CNR and NEF Systems for Estimating Aircraft Noise Annoyance (R-71-20), Department of Transport, 1971

4.3 Noise Exposure Contours

There are three types of noise exposure contours produced depending on the time element involved. These are Noise Exposure Forecasts (NEFs), Noise Exposure Projections (NEPs) and Planning Contours. Transport Canada may provide, upon request from a sponsoring aerodrome operator or airport authority, a technical review of any contours calculated to determine if the NEF computer model has performed accurately and has been applied correctly.

4.3.1 Noise Exposure Forecast (NEF)

The Noise Exposure Forecast (NEF) is produced to encourage compatible land use planning in the vicinity of aerodromes. Traffic volume and aircraft type and mix used in calculating the noise contours are normally forecast for a period of between five and ten years into the future (See NOTE). Runway geometry should be the current layout plus any changes forecast to be completed prior to the end of the forecast period. Noise contours (NEFs, NEPs and Planning Contours) are the property of the sponsoring aerodrome operator or airport authority which may be make them available to provincial and local governments. The use of the contours will enable planners to define compatible land use in the vicinity of aerodromes.

Note: *Transport Canada does not retain copies of NEFs and NEPs submitted to it for technical review. Upon completion of the review, all materials submitted are returned to the sponsoring aerodrome operator or airport authority. These materials are the property of the sponsoring aerodrome operator or airport authority.*

Transport Canada does not support or advocate incompatible land use (especially residential housing) in areas affected by aircraft noise. These areas may begin as low as NEF 25. At NEF 30, speech interference and annoyance caused by aircraft noise are, on average, established and growing. By NEF 35 these effects are very significant. New residential development is therefore not compatible with NEF 30 and above, and recommends that it not be undertaken.

4.3.2 Noise Exposure Projection (NEP)

It is recognized that much land use planning involves projections beyond five years into the future, when aircraft fleet mixes and runway configurations are most likely to be different from the known conditions of today. To provide provincial and municipal authorities with long range guidance in land use planning, Transport Canada introduced the Noise Exposure Projection (NEP). The NEP is based on a projection (not a forecast) of aircraft movements for more than 10 years into the future, and includes aircraft types and runway configurations that may materialize within this period. NEPs may be made available in the same manner as NEFs.

4.3.3 Planning Contour

The third type of noise contour is the Planning Contour which is produced to investigate planning alternatives and should be labelled as such. In the same manner as NEFs and NEPs, these contours are the property of the sponsoring aerodrome operator or airport authority.

4.4 Production of Noise Contours: DND Aerodromes

Production of noise contours for aerodromes used solely by the Department of National Defence (DND) is the responsibility of DND as to data input and production. Production of Noise contours for DND owned joint use aerodromes with a civilian airport authority is the responsibility of DND as to data input and production. When requested, these contours will be published subject to Commander, Canadian Air Division (1CAD)'s approval of the accuracy of the contours.

4.5 Noise Contour Maps

It may be necessary for computer-produced contour lines to be mechanically smoothed to remove irregularities that arise in the plotting process. This should be done particularly in areas of sharp corners or tips. The convention used for depicting the NEF and NEP 40, 35 and 30 contours on maps is a solid line. The printing and any subsequent distribution of contour maps is not the responsibility of Transport Canada. These functions may be undertaken by the sponsoring aerodrome operator or airport authority as they are the property of the aerodrome.

4.6 Community Response to Noise

During developmental work on preliminary noise rating systems, it was established that community response to aircraft noise correlated well with the noise contours then in use. Case histories of noise complaints at twenty-one aerodromes were analyzed as to severity, frequency of complaint, and distribution around the aerodromes to establish a relationship with known noise values. The results of this work, which may be found in Table 1 (see below) have been used for relating land use recommendations to NEF contour levels.

The analysis of the effect of aircraft noise on various working and living environments is a complex matter. For each case where there is a note in the Land Use Tables (Table 2) (see below) it is desirable that a noise climate analysis or a noise reduction requirement analysis be undertaken, since each note indicates a particular specialized problem. Many of the factors that would be considered in such analyses are subject to changing technology. Also, the attitudes of those exposed to the noise environment are subjective and varied. Since these factors evolve, authorities undertaking analyses of noise climates and noise reduction requirements in buildings should consult using most recent information with agencies conducting these reviews. The National Research Council has undertaken work in this area and validated the results of the NEF System and interpretation of noise exposure areas in 1996.

4.6.1 New Aerodromes and Community Response to Noise

For the purposes of this section, "*New Aerodrome*" means any land designated by the Governor in Council as an "*Airport Site*" under the Aeronautics Act after January 1, 2001.

Where an aerodrome is already surrounded by residential or other noise sensitive land uses, the intent of land use planning guidelines is to prevent any increases in incompatible land use. As urbanization increases, any new aerodrome would, by necessity, be planned for and built in non-urban areas. Therefore, where a new aerodrome is planned on land designated as an airport site, an opportunity exists to establish appropriate land use planning guidelines that recognize the unique noise environment of a non-urban area and preserve the balance between the integrity of the future aerodrome and the quality of life of the community that it will serve.

The encroachment of incompatible, sensitive land uses is clearly a vital factor in planning and establishing appropriate protection criteria for new aerodromes. The best and often only opportunity to establish a sufficient buffer zone to control noise sensitive development around a new aerodrome is in the initial planning stage of that new aerodrome. This opportunity diminishes quickly as the aerodrome develops and community land use patterns become established.

In addition to the traditional approach of defining land use planning guidelines, pertinent factors considered in a study of land use guidelines for new aerodromes included not only individual activity interference (speech and sleep) criteria, but also habituation to noise, the type of environment (non-urban versus urban environment), community attitudes toward the noise source, the extent of prior exposure to the noise source, and the type of flight operations causing the noise.

For new aerodromes, Transport Canada recommends that no new noise sensitive land uses be permitted above 25 NEF/NEP. Noise sensitive land uses include residential, schools, day care centres, nursing homes and hospitals. This approach is the single most practical for reasons of ease of implementation and administration since below this threshold, all noise-sensitive land uses would be permitted without restrictions or limitations. The guidelines for all other land uses remain unchanged from Table 2. This

buffer would also offer protection against the long term uncertainties inherent in planning for a new aerodrome.

To implement this NEF 25 criterion, NEF and NEP maps for new aerodromes must depict the 25 contour as a solid line in addition to the noise contour requirements set out in Section 4.5.

4.7 Recommended Noise Control Action

For a specific noise problem, Table 3 (see below) may be used to select different actions.

4.8 Recommended Practices

NEF/NEP contours should be used in conjunction with these guidelines to encourage compatible land use in the vicinity of aerodromes. Therefore, it is recommended that contours be distributed by aerodrome operators or airport authorities to the officials and organizations responsible for land use and municipal zoning of the affected land. This would normally include both provincial and municipal planners, and zoning boards.

Table 1 - Community Response Prediction

Response Area	Response Prediction *
1 (over 40 NEF)	Repeated and vigorous individual complaints are likely. Concerted group and legal action might be expected.
2 (35-40 NEF)	Individual complaints may be vigorous. Possible group action and appeals to authorities.
3 (30-35 NEF)	Sporadic to repeated individual complaints. Group action is possible.
4 (below 30 NEF)	Sporadic complaints may occur. Noise may interfere occasionally with certain activities of the resident.
* It should be noted that the above community response predictions are generalizations based upon experience resulting from the evolutionary development of various noise exposure units used by other countries. For specific locations, the above response areas may vary somewhat in accordance with existing ambient or background noise levels and prevailing social, economic and political conditions.	

Table 2 - Land Use Tables - Aircraft Noise Considerations Only

This land use tabulation should not be considered as an exhaustive listing, but merely as examples of how various land uses would be assessed in the Noise Exposure Forecast zones in terms of community response predictions.

NO	Indicates that new construction or development of this nature should not be undertaken.
NO	Indicates that new construction or development of this nature should not be undertaken. See Explanatory Note B.
A	This particular land use may be acceptable in accordance with the appropriate note and subject to the limitations indicated therein.
YES	The indicated land use is not considered to be adversely affected by aircraft noise and no special noise insulation should be required for new construction or development of this nature.

The land uses contained in the following tables are included for compatibility purposes from a noise perspective only. Caution should be exercised as some of the recommended uses may not be optimal from a safety perspective (i.e bird and wildlife habitat)

Table 2A - Residential

Noise Exposure Forecast Values	> 40	40-35	35-30	< 30
Response Areas	1	2	3	4
Detached, Semi-Detached	NO	NO	NO	A
Town Houses, Garden Homes	NO	NO	NO	A
Apartments	NO	NO	NO	A

Table 2B- Recreational - Outdoor

Noise Exposure Forecast Values	>40	40-35	35-30	< 30
Response Areas	1	2	3	4
Athletic Fields	NO	J	K	YES
Stadiums	NO	NO	K	YES
Theatres - Outdoor	NO	NO	NO	H
Racetracks - Horses	NO	K	K	YES
Racetracks - Autos	YES	YES	YES	YES
Fairgrounds	K	K	YES	YES
Golf Courses	YES	YES	YES	YES
Beaches and Pools	YES	YES	YES	YES
Tennis Courts	NO	K	YES	YES
Playgrounds	K	K	YES	YES
Marinas	YES	YES	YES	YES
Camping Grounds	NO	NO	NO	NO
Park and Picnic Areas	NO	K	YES	YES

Table 2C - Commercial

Noise Exposure Forecast Values	>40	40-35	35-30	< 30
Response Areas	1	2	3	4
Offices	F	E	D	YES
Retail Sales	F	D	YES	YES
Restaurants	F	D	D	YES
Indoor Theatres	NO	G	D	YES
Hotels and Motels	NO	F	G	YES
Parking Lots	YES	YES	YES	YES
Gasoline Stations	YES	YES	YES	YES
Warehouses	YES	YES	YES	YES
Outdoor Sales	E	K	YES	YES

Table 2D - Public

Noise Exposure Forecast Values	>40	40-35	35-30	< 30
Response Areas	1	2	3	4
Schools	NO	NO	D	C
Churches	NO	NO	D	C
Hospitals	NO	NO	D	C
Nursing Homes	NO	NO	D	C
Auditoriums	NO	NO	D	C
Libraries	NO	NO	D	C
Community Centres	NO	NO	D	C
Cemeteries	N	N	N	N

Table 2E - Municipal Utilities

Noise Exposure Forecast Values	>40	40-35	35-30	< 30
Response Areas	1	2	3	4
Electric Generating Plants	YES	YES	YES	YES
Gas & Oil Storage	YES	YES	YES	YES
Garbage Disposal	YES	YES	YES	YES
Sewage Treatment	YES	YES	YES	YES
Water Treatment	YES	YES	YES	YES
Water Storage	YES	YES	YES	YES

Table 2F - Industrial

Noise Exposure Forecast Values	>40	40-35	35-30	< 30
Response Areas	1	2	3	4
Factories	I	I	YES	YES
Machine Shops	I	I	YES	YES
Rail Yards	YES	YES	YES	YES
Ship Yards	YES	YES	YES	YES
Cement Plants	I	I	YES	YES
Quarries	YES	YES	YES	YES
Refineries	I	I	YES	YES
Laboratories	NO	D	YES	YES
Lumber Yards	YES	YES	YES	YES
Saw Mills	I	I	YES	YES

Table 2G - Transportation

Noise Exposure Forecast Values	>40	40-35	35-30	< 30
Response Areas	1	2	3	4
Highways	YES	YES	YES	YES
Railroads	YES	YES	YES	YES
Shipping Terminals	YES	YES	YES	YES
Passenger Terminals	D	YES	YES	YES

Table 2H - Agriculture

Noise Exposure Forecast Values	>40	40-35	35-30	< 30
Response Areas	1	2	3	4
Crop Farms	YES	YES	YES	YES
Market Gardens	YES	YES	YES	YES
Plant Nurseries	YES	YES	YES	YES
Tree Farms	D	YES	YES	YES
Livestock Pastures	M	YES	YES	YES
Poultry Farms	L	L	YES	YES
Stockyards	M	YES	YES	YES
Dairy Farms	M	YES	YES	YES
Feed Lots	M	YES	YES	YES
Fur Farms	K	K	K	K

Explanatory Notes for Table 2

The location of the lines between noise zones cannot be fixed exactly. It will therefore be necessary for the responsible public authority to make an appropriate interpretation of what regulations are to apply at a specific location.

In cases where reference is made to a detailed on-site noise analysis, or to peak noise levels, it will be appreciated that the notes are intended to apply specifically at existing aerodromes, where a field assessment is possible. For planning with respect to new aerodromes, such zones should be considered cautionary. Before reaching a final decision with respect to permitting the particular land-use in question, the authority may wish to consider local topographic effects and ambient noise levels, in conjunction with generalized peak noise level "footprints" for the predominant aircraft types to be using the newaerodrome.

	Annoyance caused by aircraft noise may begin as low as NEF 25. It is recommended that developers be made aware of this fact and that they undertake to so inform all prospective tenants or purchasers of residential units. In addition, it is suggested that development should not proceed until the responsible authority is satisfied that acoustic insulation features, if required, have been considered in the building design. [2]
B	(b) This Note applies to NEF 30 to 35 only. New residential construction or development should not be undertaken. If the responsible authority chooses to proceed contrary to Transport Canada's recommendation, residential construction or development between NEF 30 and 35 should not be permitted to proceed until the responsible authority is satisfied that: (1) appropriate acoustic insulation features have been considered in the building and (2) a noise impact assessment study has been completed and shows that this construction or development is not incompatible with aircraft noise. Notwithstanding point 2, the developer should still be required to inform all prospective tenants or purchasers of residential units that speech interference and annoyance caused by aircraft noise are, on average, established and growing at NEF 30 and are very significant by NEF 35.
	These facilities should not be located close to the 30-NEF contour unless the restrictions outlined in Note D below are applied.
	These uses should not be approved unless a detailed noise analysis is conducted and the required noise insulation features are considered by the architectural consultant responsible for the building design.
	When associated with a permitted land use, an office may be located in this zone provided that all relevant actors are considered and a detailed noise analysis is conducted to establish the noise reduction features required to provide an indoor environment suited to the specific office function.
	It is recommended that this specific land use should be permitted only if related directly to aviation-oriented activities or services. Conventional construction will generally be inadequate and special noise insulation features should be included in the building design.
	Generally, these facilities should not be permitted in this zone. However, where it can be demonstrated that such a land use is highly desirable in a specific instance, construction may be permitted to proceed provided that a detailed noise analysis is conducted and the required noise insulation features are included in the building design.
	Facilities of this nature should not be located close to the NEF 30 contour unless a detailed noise analysis has been conducted.
	Many of these uses would be acceptable in all NEF zones. However, consideration should be given to internally generated noise levels, and acceptable noise levels in the working area.
	Undesirable if there is spectator involvement.
	It is recommended that serious consideration be given to an analysis of peak noise levels and the effects of these levels on the specific land use under consideration.

	The construction of covered enclosures should be undertaken if this use is to be newly introduced to the noise environment. (See Note M below).
	Research has shown that animals condition themselves to high noise levels. However, it is recommended that peak noise levels be assessed before this use is allowed.
	This appears to be a compatible land use in all NEF zones.

Table 3 - Recommended Matrix of Noise Control Actions

		If you have this problem						
	Consider these actions	Noise from taxiing	Departure	Approach	Landing roll	Training flights	Maintenance	Ground equipment
Aerodrome plan	Changes in runway location, length or strength	■	■	■	■	■		
	Displaced thresholds			■		■		
	High-speed exit taxiways	■			■			
	Relocated terminals	■					■	■
	Isolating maintenance runups or use of test stand noise suppressors and barriers	■					■	■
Aerodrome and airspace use	* Preferential or rotational runway use	■	■	■	■	■		
	* Preferential flight track use or modification to approach and departure procedures		■	■		■		
	* Restrictions on ground movement of aircraft	■						
	Restrictions on engine runups or use of ground equipment						■	■
	Limitations on number or types of operations or types of aircraft	■	■	■	■	■	■	■
	US restrictions, rescheduling move flights to another aerodrome	■	■	■	■	■	■	■
	Raise glide slope angle or intercept.			■		■		
Aircraft operation	Power and flap management		■	■		■		
	Limited use of reverse thrust				■			
Land use	Land or easement acquisition	■	■	■	■	■	■	■
	Joint development of aerodrome property	■	■	■	■	■	■	■
	Compatible use zoning	■	■	■	■	■	■	■
	Building code provisions and sound insulation of buildings	■	■	■	■	■	■	■
	Real property noise notices		■	■	■	■	■	■
	Purchase assurance		■	■	■	■	■	■
Noise program management	Noise related landing fees	■	■	■	■	■		
	Noise monitoring		■	■		■	■	
	Establish citizen complaint mechanism	■	■	■	■	■	■	■
	Establish community participation program	■	■	■	■	■	■	■

** These are examples of restrictions that involve TC Aviation's responsibility for safe implementation.*

PART V -- Restrictions to Visibility

Restrictions to visibility at an aerodrome which can seriously limit aircraft operations may be caused by factors other than deteriorating weather conditions. These phenomena are briefly discussed in this Part.

Some industrial/manufacturing/power generation processes may generate smoke, dust or steam in sufficient volume to potentially affect visibility at or near aerodromes under certain wind conditions and temperature inversions. Examples of the types of industries which may be prominent in this regard are pulp mills, steel mills, quarries, municipal or other incinerators, cement plants, sawmills (slash and sawdust burners), power generating plants and refineries.

During the planning stages for new industrial complexes that will generate smoke, dust or steam, it is recommended that individual facility plans include an analysis to deal with potential emission dispersion problems. The results of the analysis should be considered before approving such land uses near an aerodrome. Prospective industrial sites near an aerodrome should be assessed on an individual basis due to the many local factors involved. Sufficient evidence is available from aerodromes across the country to suggest that such industries generating emissions may cause visibility problems near aerodromes that could pose a potential safety problem.

PART VI -- Wind Turbines and Wind Farms

6.0 General

Due to concerns regarding climate change, governments are encouraging the installation of renewable energy sources such as wind turbines for the generation of electricity. Although a wind turbine can be considered as just another object that is deemed an obstacle and thus in need marking and lighting, there are additional issues that should be addressed through consultation in the early stages of planning.

6.1 Wind turbine marking and lighting

Industrial wind turbines are typically more than 90m in height and thus in need of marking and lighting in accordance with Transport Canada's Standard 621.
(http://www.tc.gc.ca/eng/civilaviation/regserv/cars/part6-standard-standard621-3868.htm)

In as much as the wind turbine presents a substantial silhouette, the marking is that of the surface painting in either a white or off-white colour. In Canada, special paint bands for the blade ends is not required for reason that the blades are rotating and the display would not be as effective as that of a fixed object. The lighting is a red medium intensity flashing beacon of 2000 candela nominal output located on the nacelle. Light units are not mounted on the blades because the technical impracticality of such installation. In order to reduce the amount of lighting, the required lights are installed at intervals in the order of 900m such that not all wind turbines of a wind farm need lighting. The lights are provided with means to make them flash in unison.

The wind farm proponent should complete the Aeronautical Assessment Form for Obstruction Marking and Lighting and submit to the local regional office of Transport Canada. This form instructs contact with adjacent aerodromes and information on the planned wind farm.

6.2 Wind turbines and airport radar

Wind turbines can interfere with radar tracking of airplanes. Although the rotational speed of the blades is relatively slow at 10 to 20 rpm, the blade tip can have an angular speed reaching more than 180km/hr. The tip speed is then sufficient to mimic aircraft. The result is shadowing of aircraft, false returns and general cluttering of the radar screen. The wind farm proponent should, therefore, consult with NavCanada on the issue and to develop means of mitigation.

NavCanada can be contacted at ... 1-866-577-0247

or

by email at ... landuse@navcanada.ca

6.3 Navigation aids and communication systems

Similarly wind turbines of a wind farm may have adverse impact on navigation aids and communication systems. Consultation should be again made with NavCanada.

VOR is susceptible to reflection interference from wind turbines; due to the height of wind turbines, they can cause interference to the VOR even if they are far away. Developments of several wind turbines together have a cumulative effect on the VOR signal accuracy. Proposed wind turbine developments must be assessed if within 15 km from the VOR facility. Wind turbines that are less than 52 m in height can be treated like other structures. In most cases, a single wind turbine is acceptable at a distance greater than 5 km from the VOR facility, and developments of less than six wind turbines are acceptable at distances greater than 10 km from the VOR facility. However if VOR performance is already marginal this may not be acceptable.

6.4 Weather Radar

Wind farms can also shadow weather affects or return false information to weather radars. The proponent of a wind farm should contact Environment Canada at (416) 739-4103 or (416) 464-2798.

6.5 Parachute Landing Areas (PLA)

Wind turbines pose a special risk to parachutists, regardless of size, although those over 15m can additionally present a hazard to aircraft used in the activity of parachuting. Consultation with stakeholders is necessary as the existence of wind turbines near the PLA may result in restrictions being placed upon any parachute activity.

6.6 Light Pollution.

Lighting is provided for wind turbines within a wind farm for purpose of warning to aircraft. Extraneous lighting such as that for support buildings should be minimized. Refer to the Royal Astronomical Society of Canada "Light-Pollution Abatement (LPA) Program".

http://www.rasc.ca/lpa

Note: It is of the utmost importance to be aware that the proximity of obstacles, for example, wind turbines, telecommunications towers, antennae, smoke stacks, etc., may potentially have an impact on the current and future usability of an aerodrome. Therefore, it is critical that planning and coordination of the siting of obstacles should be conducted in conjunction with an aerodrome operator at the earliest possible opportunity.

PART VII -- Exhaust Plumes

The purpose of this section is to provide guidance to aerodrome operators and persons involved in the design, construction and operation of facilities with exhaust plumes about the information required to assess the potential hazard from a plume.

The hazard is that both to the aircraft itself in flight and the impact of exhaust upon visibility for landing/takeoff.

Exhaust plumes, of both visible and invisible emissions may pose a hazard to aviation operations. Exhaust plumes can originate from any number of sources; chimneys; elevated smoke stacks at power generating stations; smelters; combustion sources; a flare created by an instantaneous release from pressurised gas systems all create exhaust plumes of one degree or another. High temperature exhaust plumes may cause significant air disturbances such as turbulence and vertical shear. Other identified potential hazards include, but are not necessarily limited to, reduced visibility, oxygen depletion, engine particulate contamination, exposure to gaseous oxides, and/or icing. These hazards are most critical during low altitude flight, especially during takeoff and landing.

In the case of a solid object, Standard 621 provides for marking and/or lighting so that the object's shape is delineated and made visible to pilots. This, however, is not feasible for an exhaust plume and there is a need to assess the hazards to aviation because the vertical velocity from gas efflux that may cause airframe damage and/or affect the handling characteristics of an aircraft in flight, as well as visibility reduction. TCCA may be obliged to consider alternative measures to make sure that pilots are unlikely to encounter the affects of exhaust plumes.

Away from aerodromes, exhaust plumes may also pose a hazard to low level flying operations such as that of specialist flying activities for crop dusting, pipeline inspection, power line inspections, fire-fighting, etc., search and rescue operations and military low-level manoeuvres. The risk posed by an exhaust plume to an aircraft during low level flight can be managed or reduced if information is available to pilots so that they can avoid the area of likely air disturbance.

The proponent of a facility that creates an exhaust plume should provide details of the facility to Transport Canada Civil Aviation (TCCA) so that potential hazards to aircraft safety can be assessed. In determining the need for a Restricted Area, TCCA will consider the severity and frequency of the risk posed to an aircraft which might fly through the plume.

PART VIII -- Solar Array Installations

The geometry of aerodromes is such that there are relatively large open areas which give opportunity for installation of solar energy projects. These projects, however, need to be evaluated in relation to possible problems that such installation may pose.

For example, the following concerns could pose problems:

- Glare to pilots of aircraft approaching to or departing from the aerodrome or glare to ATC (Air Traffic Control) staff.
- Interference with electronic navigational aids.
- Penetration through transitional or approach/departure surfaces.
- Thermal plumes from the central tower of concentrated solar power installations.

There is a variety of solar plants used for production of electrical energy: photovoltaic (PV) panel arrays and concentrator solar power (CSP) systems. The former converts solar energy directly to electricity by a photovoltaic effect whereas the latter involves the heating of a fluid (e.g. molten salt) that activates a turbine coupled to a convention electric generator.

All solar plants involve reflection. In the case of concentrator systems, the reflection necessary to the system and is controlled by purpose so as to focus solar energy upon a central absorbing tube or tower. Because the light is focused, the possibility of glare to ATC and pilots is minimal, but should still be assessed in the preliminary design.

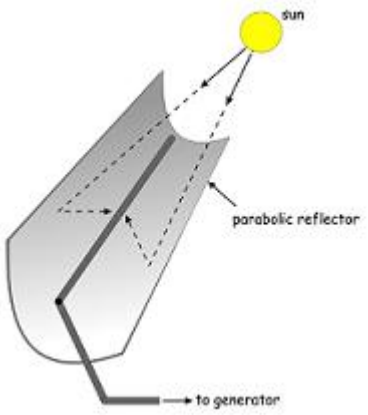


Figure 1. Parabolic trough reflector

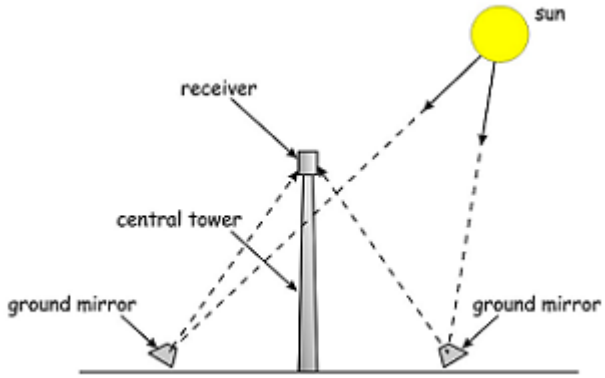


Figure 2. Central tower Concentrator

In the case of photovoltaic panels, electrical energy is produced directly and reflection is a loss factor. For this reason, the panels are designed to have as minimum reflectance as possible. The panels may be installed in a fixed position facing in a generally southern direction or provided with means to follow the sun as it moves across the sky.

Figure 3. Photovoltaic Panel

Also, when viewed from a distance, the sun reflectance tends to be smeared across the array as might be the case for a body of water. Thus the impact for glare to the pilot is inherently minimized. But again this is not a certainty and glare to the pilot should be assessed in the preliminary design. In the case of panels that are automatically rotated with sun movement, a remedy may be to stop the rotation prior to the point at which glare can occur.

The analysis of glare should involve a review of the position of the aircraft for both landing and take-off as well as when performing a circling approach.

Figure 4. Mehringer Höhe Solar Park I, Germany - www.juwi.com

Although for purpose improving efficiency, solar panels are usually provided with a top layer of anti-reflective coating intended to reduce reflectance, this does not mean that there is no reflected light. When viewed from a relatively short distance the affect can be significant, especially when the observer is not moving as would be the case of ATC personnel in the control tower. The designer should review the positioning and orientation of the panels in relation to the control tower to ensure that adverse reflection will not be produced. Figure 4 illustrates the occurrence of reflectance as the sun angle is optimized.

Figure 5. Reflection off solar panel

Appendix A - Regional Offices of Transport Canada – Civil Aviation

Regional Director, Civil Aviation (TA) – Pacific
Transport Canada
800 Burrard Street
Vancouver, British Columbia
V6Z 2J8
[Telephone: 1-604-666-8317]

Regional Director, Civil Aviation (PA) - Ontario
Transport Canada
4900 Yonge Street
North York, Ontario
M2N 6A5
[Telephone: 1-416-952-0167]

Regional Director, Civil Aviation (NA) - Québec
Transport Canada
Regional Administration Building
700 Leigh-Capreol Place
Dorval, Quebec
H4Y 1G7
[Telephone: 1-514-633-3159]

Regional Director, Civil Aviation (RA) – Prairie and Northern
Transport Canada
344 Edmonton Street
Winnipeg, Manitoba
R3B 2L4
[Telephone: 1-204-983-4373]

Regional Director, Civil Aviation (MA) - Atlantic
Transport Canada
95 Foundry Street
Moncton, New Brunswick
E1C 5H7
[Telephone: 1-506-851-7220]

Noise Exposure Forecasts (NEFs) for nearby airports

Victoria International YYJ

Figure ES-8: 2012 (Existing) Noise Contours at YYJ

Figure ES-9: 2016 NEF at YYJ

Whidbey Island, Washington, USA

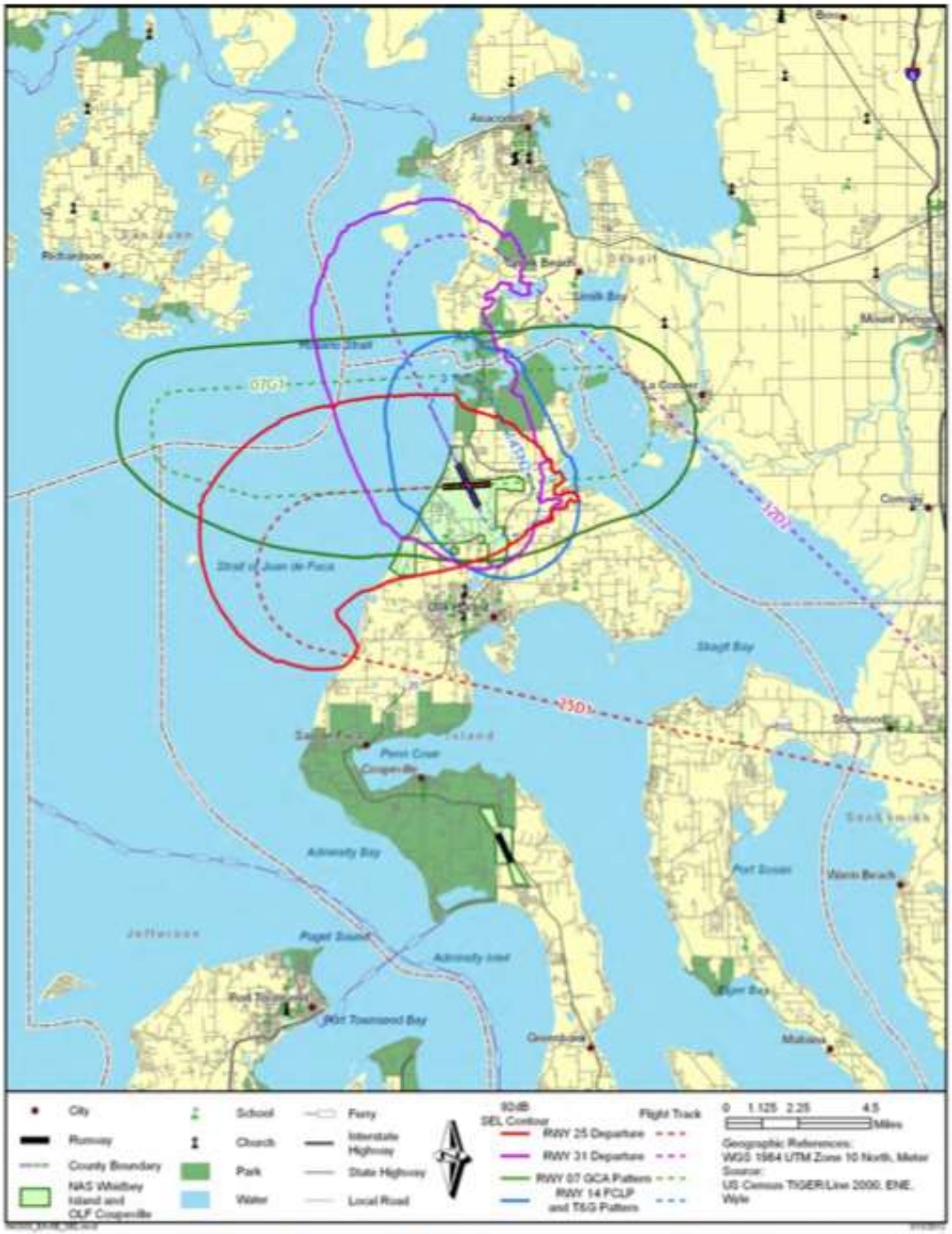


Figure 7-1 SEL Contours of 92 dB for Representative Flight Profiles of the EA-6B

Whidbey Island, Washington, USA (cont.)

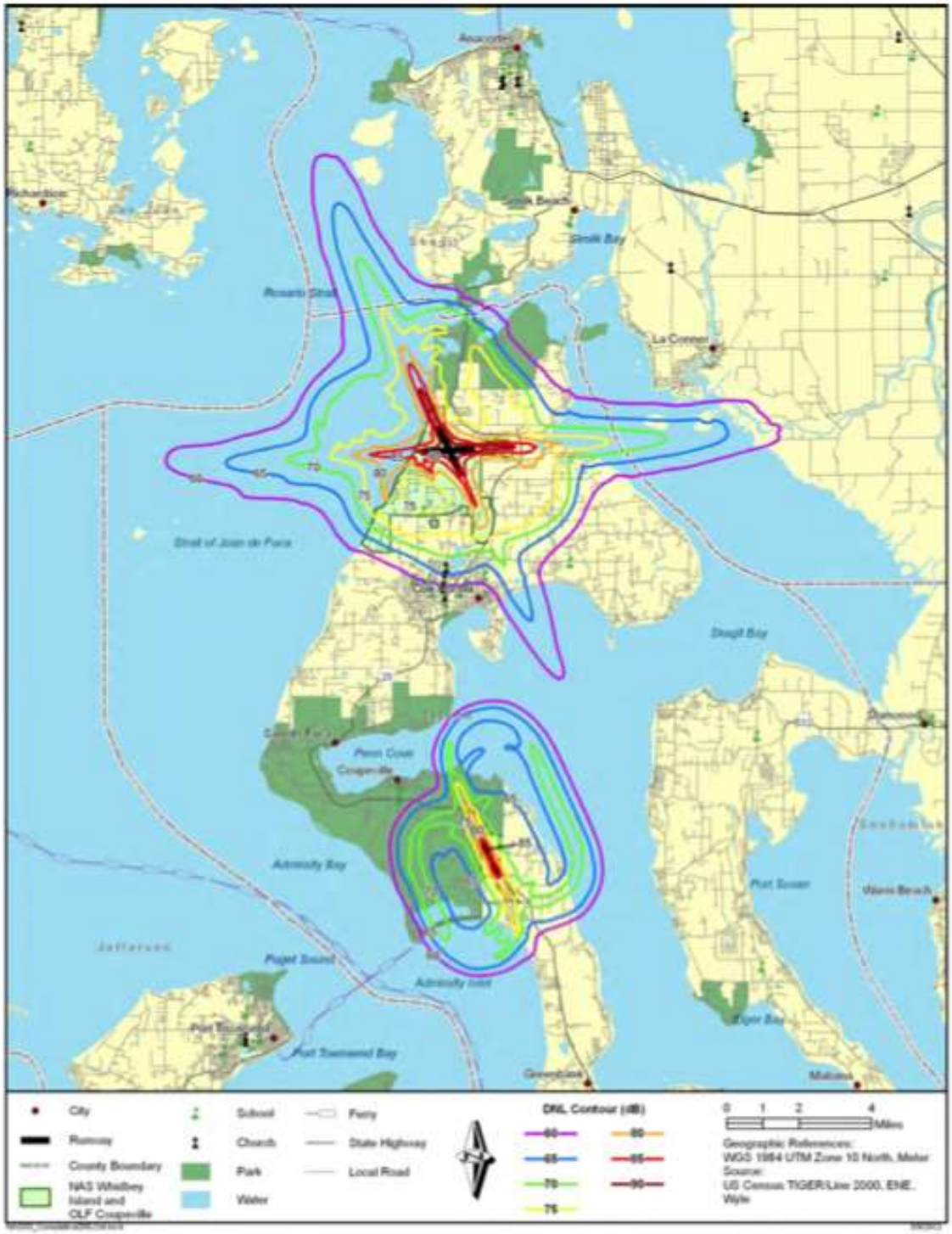


Figure 6-1 DNL Contours for the Cumulative Scenario AAD Aircraft Operations

Whidbey Island, Washington, USA (cont.)

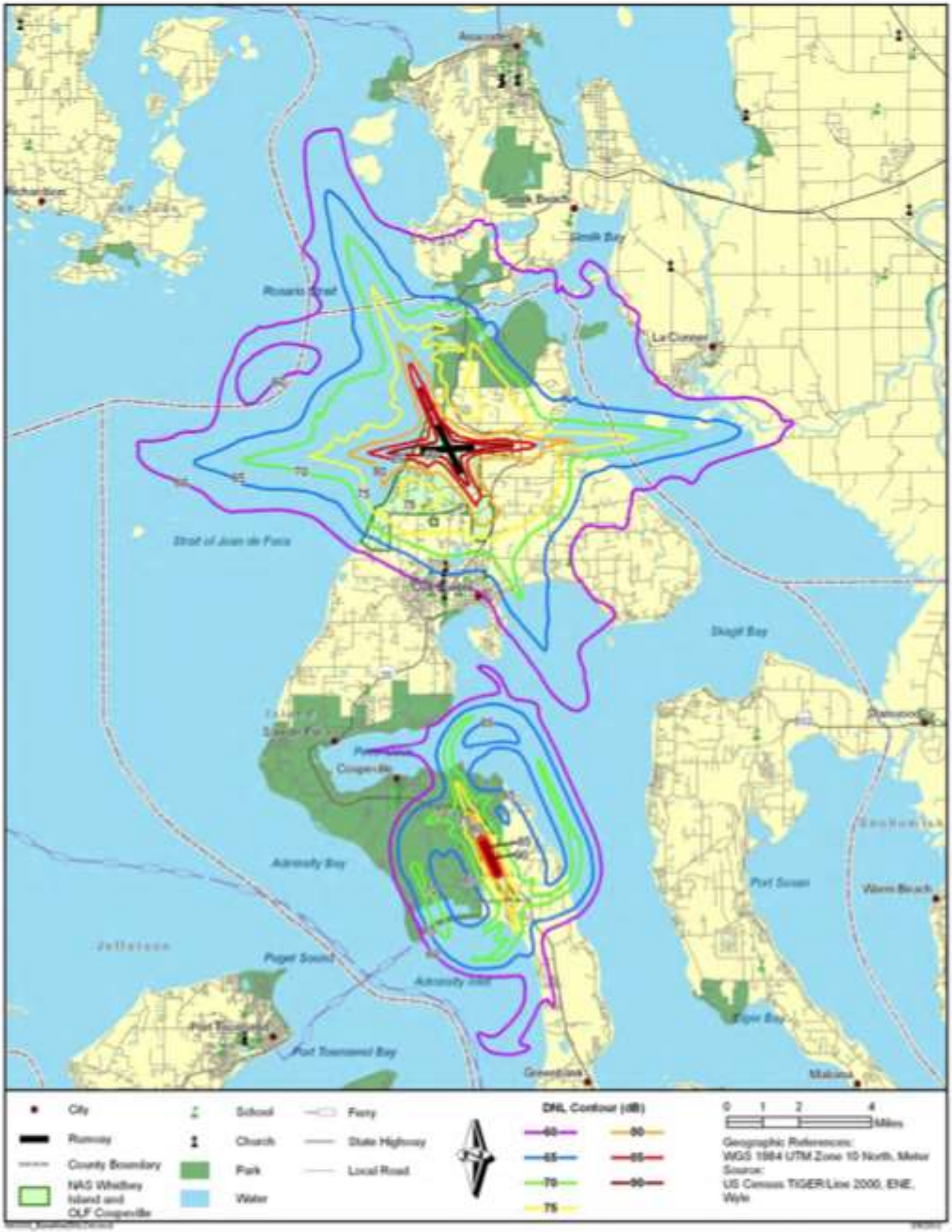


Figure 4-2 DNL Contours for Baseline AAD Aircraft Operations at NAS Whidbey Island

Whidbey Island, Washington, USA (cont.)

Figure 3-2 Vicinity of NAS Whidbey Island and OLF Coupeville

Vancouver - Richmond

Figure 8a. Vancouver Airport Authority Noise Exposure Forecasts (2000)

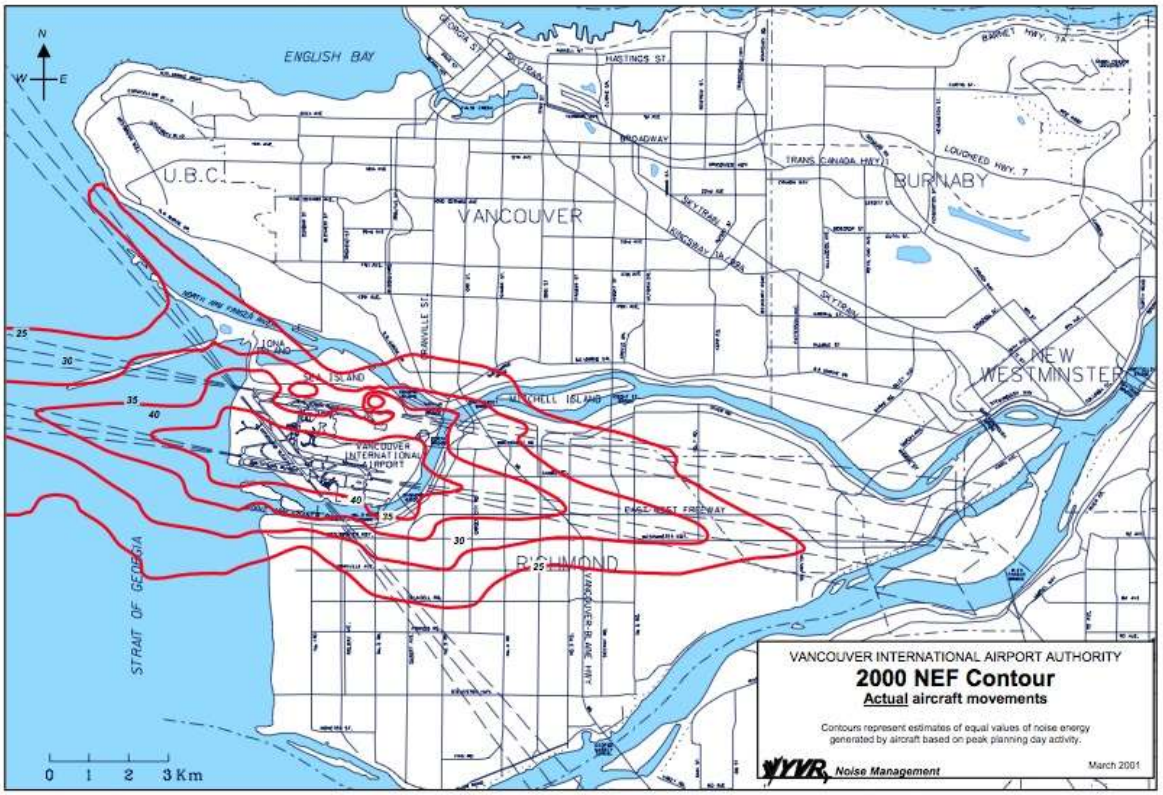
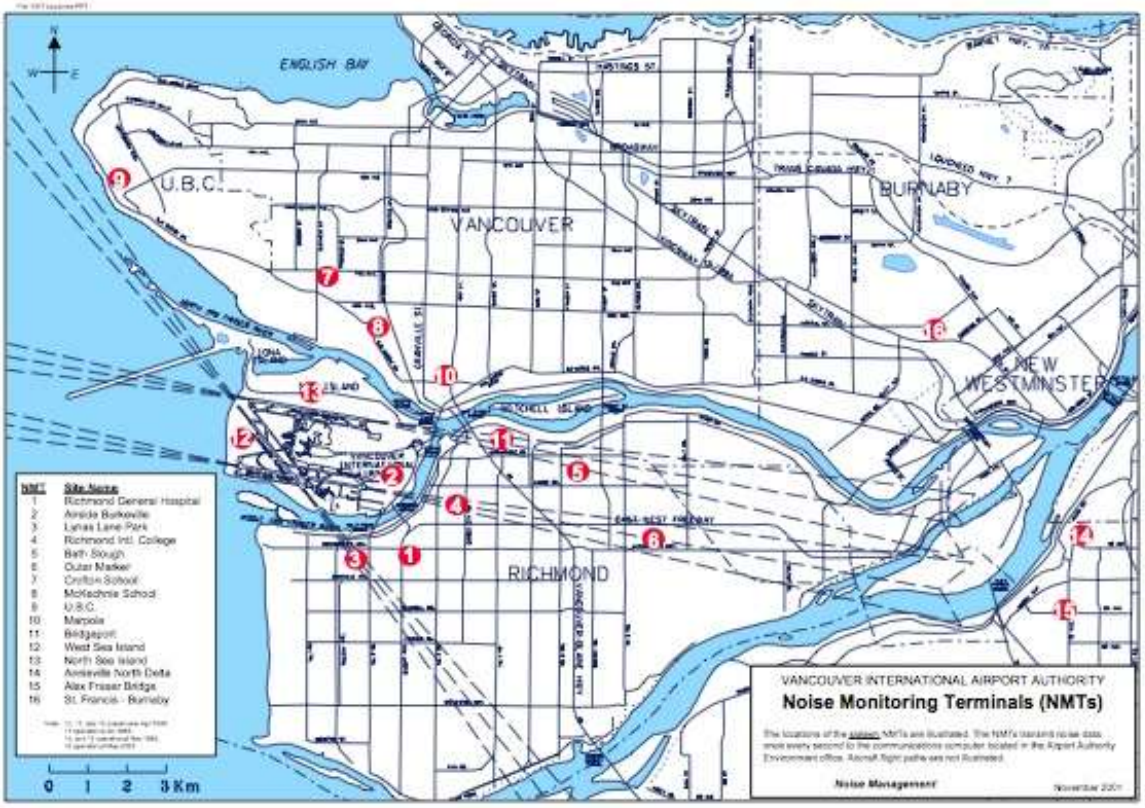
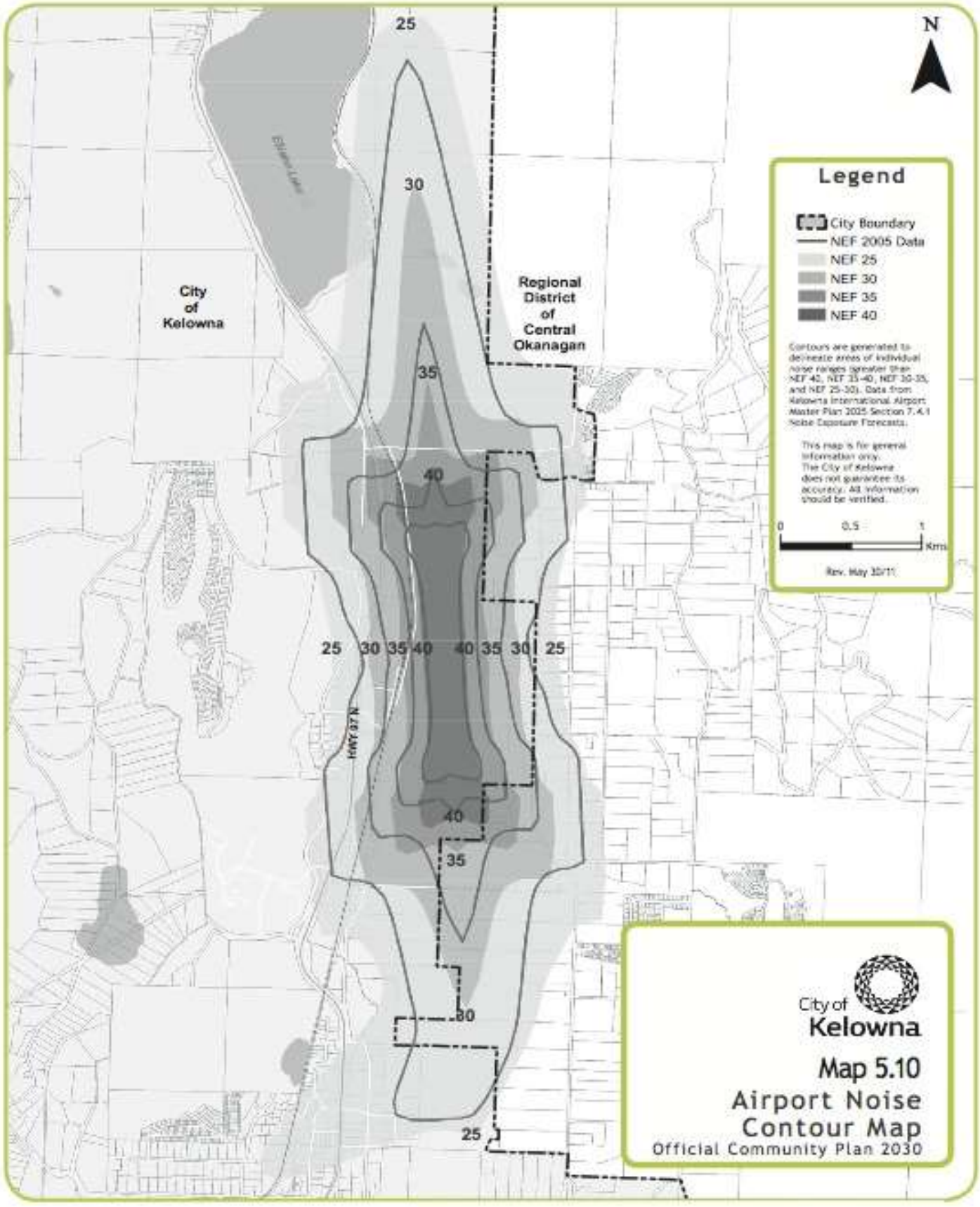


Figure 8b. Locations of Noise Monitoring Terminals in Richmond, Vancouver and Delta



Kelowna YLW


N
Legend
City Boundary
NEF 2005 Data
NEF 25
NEF 30
NEF 35
NEF 40
Contours are generated to delineate areas of individual noise ranges (greater than NEF 40, NEF 35-40, NEF 30-35, and NEF 25-30). Data from Kelowna International Airport Master Plan 2005 Section 7.4.1 Noise Exposure Forecasts.
This map is for general information only. The City of Kelowna does not guarantee its accuracy. All information should be verified.
0
0.5
1
Kms
Rev. May 30/11
City
of
Kelowna
Regional
District
of
Central
Okanagan
25
30
35
40
40
35
30
25
HWY 97 N
City of Kelowna
Map 5.10
Airport Noise
Contour Map
Official Community Plan 2030

UNFINISHED BUSINESS

1. Letter from the Minister of Transport

Council received a letter of response dated October 20, 2017 regarding regulations and standards pertaining to Victoria Harbour Water Airport.

Motion:

It was moved by Councillor Isitt, seconded by Councillor Loveday, that the correspondence dated October 20, 2017 from the Minister of Transport be referred to the December 7, 2017 Committee of the Whole meeting.

Carried Unanimously

Minister of Transport | Ministre des Transports

Ottawa, Canada K1A 0N5

OCT 20 2017

MAYOR'S OFFICE
OCT 28 2017
VICTORIA, B.C.

Her Worship Lisa Helps
Mayor
The City of Victoria
1 Centennial Square
Victoria BC V8W 1P6

Dear Madam Mayor:

Thank you for your correspondence of July 26, 2017, regarding regulations and standards pertaining to Victoria Harbour Water Airport. Please accept my apology for the delay in replying.

It is anticipated that that there will be a 30-day comment period following pre-publication of the proposed regulatory amendments in the *Canada Gazette*, *Part I*, in 2018. Further information on Transport Canada's forward regulatory planning can be found at https://www.tc.gc.ca/eng/acts-regulations/forward-regulatory-plan.htm.

With respect to your request that the Government of Canada provide a Noise Exposure Forecast for the Victoria Harbour Water Airport, I should note that for the year ending December 2016, total annual aircraft movements were 13% lower than the benchmark figures used in the 2002 noise study. Transport Canada continues to monitor aircraft movements annually, and the completion of further noise studies will be revisited should there be a significant increase in aircraft movements above the peak 2002 levels.

Again, thank you for writing and sharing your comments with me.

Yours sincerely,

Marc Garneau

The Honourable Marc Garneau, P.C., M.P.
Minister of Transport

c.c. Office of the Right Honourable Justin Trudeau, P.C., M.P.
Prime Minister

Canada

UNFINISHED BUSINESS

1. Letter from Transport Canada

Council received a letter of response dated November 9, 2017 regarding the City's request for Transport Canada to provide a Noise Exposure Forecast for the Victoria Harbour Water Airport.

Motion:

It was moved by Councillor Loveday, seconded by Councillor Isitt, that the correspondence dated November 9, 2017 from Transport Canada be received for information.

Amendment:

It was moved by Councillor Isitt, seconded by Councillor Loveday, that the correspondence dated November 9, 2017 from Transport Canada be referred to the January 11, 2018 Committee of the Whole meeting.

On the amendment:
Carried Unanimously

On the main motion as amended:
Carried Unanimously