November 25, 2022

Executive Summary - Review of Air Traffic Service and Airspace Requirements
Nanaimo, British Columbia

NAV CANADA operates a Flight Service Station (FSS) at the airport at Nanaimo, British Columbia that provides Aerodrome Advisory Service (AAS) and Vehicle Control Service (VCS) during the hours 1330Z to 0530Z‡ (0530 to 2130 local), and a surface weather observation program (METAR/SPECI), accomplished with the aid of a Human Weather Observation System (HWOS) 15 hours per day during the hours 1400Z to 0500Z‡ which supports a 13-hour Aerodrome Forecast (TAF) during the hours 1600Z to 0500Z‡.

Aircraft movements have declined from 56,868 in 2016 to 33,451 in 2020 and increased to 37,949 in 2021. The daily average movements are 113 for the first nine months of 2022 which indicate a return to pre-COVID-19 pandemic levels of approximately 40,000 annual aircraft movements. These total annual aircraft movements consistently fall below the aircraft traffic levels and criteria set out in the NAV CANADA Policy for the Delivery of Air Navigation Services for airport control service.

There are two air carriers providing daily scheduled service to Nanaimo and additional air operators provide private scheduled charters for mining company personnel working in Northern British Columbia. An operator providing MEDEVAC service for insurance companies has aircraft based at the airport and a flight school with five aircraft conducts training activity at the airport.

There are three published instrument procedures (IP) providing instrument flight rule (IFR) access to the airport; all of which serve Runway 16. There are currently no instrument procedures providing access Runway 34.

There is surveillance coverage to approximately 900 feet above the ground in the vicinity of the Nanaimo airport and Nanaimo harbour from the secondary surveillance radar (SSR) at Vancouver.

An active registered water aerodrome at the Nanaimo Harbour (CAC8) which has an estimated 20,000 to 22,000 annual aircraft movements is located 8.6 NM north-north-west of the Nanaimo Airport. The water aerodrome is comprised of two landing areas and a public heliport with a published IP for IFR operations. There is an Aerodrome Traffic Frequency (ATF) area of 5 NM to 3,000 feet above sea level (ASL) centred on the water aerodrome, exclusive of the Nanaimo CZ for pilot-to-pilot communication. Three additional registered heliports and a private registered water aerodrome at Long Lake (CAT3) are located within the Nanaimo Harbour ATF area. All six aerodromes have the same ATF.

The Nanaimo Harbour water aerodrome and heliport are used primarily for scheduled air service with service being provided by one helicopter and four floatplane operators.

The lack of IFR access to Runway 34 results in all arriving IFR aircraft at the Nanaimo Airport conducting approaches to Runway 16 and therefore passing through the Nanaimo Harbour ATF area while the pilots are communicating with either Victoria Terminal or Nanaimo FSS personnel with possibly none of the three having any information about the aircraft activity in the Harbour ATF area.

This Aeronautical Study recommends the following:

1) Provide surveillance down to 200 feet above ground level (AGL) in a 5 NM radius of both the Nanaimo Harbour and Nanaimo Airport.
2) Following the establishment of surveillance to 200 feet AGL in a 5 NM radius of the Nanaimo Harbour area:
    a. change the 5 NM water aerodrome ATF area centred on the Nanaimo Harbour water aerodrome (CAC8) to a 5 NM MF area from the surface to 1,200 feet ASL; and

b. install a LWIS and a visibility sensor at the Nanaimo Harbour.

3) Install an Automated Weather Observation System (AWOS) at the Nanaimo Airport.

4) Reduce the size of CYA 118 as necessary to permit the design of an IFR arrival procedure providing IFR access from the south.

5) Publish an IFR arrival procedure to provide IFR access from the south.

6) Reduce the size of CYA 113 as necessary to permit the design of an IFR holding procedure southwest of the Nanaimo Airport.

7) Create a Transition Area (TA) Class E 700 feet AGL to 1,200 feet ASL Mode C (122.9 MHz) and Class C above 1,200 feet ASL to contain the final segment of the current and planned IFR procedures for runway 16 and the departure path for runway 34.

8) Re-design the instrument procedures providing access to runway 16 by increasing the altitude of the Final Approach Fix (FAF) to 2,000 feet ASL and move it and the Initial Fix (IF) further north to accommodate a FAF at 2,000 feet and maintain a 3 degree approach path to the runway.

9) Create a TA Class E 700 feet AGL to 1,500 feet ASL Mode C and above 1,500 feet ASL (Class C) to contain the final segment of the planned RNAV (GNSS) A procedure to provide IFR access to runway 34 and the departure path for runway 16.

10) Publish a Terminal Class C Route between Snake Island or the Entrance Island VFR Check Point (Nanaimo Harbour) and Davis Bay (Sechelt) and the Gower VFR Check Point and sign agreements with the float plane operators providing scheduled service to Nanaimo Harbour to permit access to Class C airspace for VFR OTT flights when weather conditions dictate.

11) Increase the Nanaimo Control Zone from 5 NM to 6 NM with a cut-out area from the CZ and MF area along the coast below 700 feet AGL (Yellow Point to Dodds Narrows).

In addition, this study confirms that the following change would continue to support safe operations and address findings in the NAV CANADA 2021 Safety Review Report Safety Review on the Airspace Surrounding Nanaimo Airport:

12) Replace the 16 hour per day Airport Advisory Service during the hours 1330Z to 0530Z‡ (0530 to 2130 local) with 13.75 hour per day Airport Control Service during the hours 1430Z to 0415Z‡ (0630 to 2015 local) and change the airspace classification of the CZ from Class E to Class D.

Due to time constraints and the ongoing discussions regarding the draft instrument procedures and the related airspace changes beyond the Nanaimo CZ and TA, no recommendations regarding the airspace adjacent to the Nanaimo CZ and TA are included in this report and must be addressed in a subsequent aeronautical study.

Appendix A – Charts

Aerodromes, CZ/MF, ATF and Common Freq. Areas (current)
(Vancouver VTA)

Recommended Nanaimo Harbour MF Area and Nanaimo CZ and TA
(Vancouver VTA, May 2022)

Recommended CYA Modifications

Class F airspace removed from CYA 113 and CYA 118

Class F airspace revised boundaries CYA 113

CYA 118