

**W8475-20ILS1/B ILS Replacement Project (RCAF) is cancelled and replaced by W8475-20ILS1/C ILS Replacement Project (RCAF).**

**DND analyzed the options related to the ILS replacement project and determined Options 0-2 are not viable. Options 3 and 4 were updated and Option 5 remains ILS as a Service. Option 3 and 4 now read as follows:**

- 1) DND purchasing the ILS equipment only and;**
- 2) DND purchasing the ILS equipment with an In Service Support contract.**

**Canada is focused on moving the project forward and is seeking Industry feedback on the updated options. Canada is also requesting updated pricing A pricing sheet has been included with this RFI and can be found at Appendix A.**



ROYAL CANADIAN  
AIR FORCE



AVIATION ROYALE  
CANADIENNE



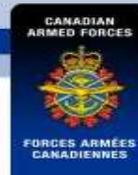
# Information Update

## ROYAL CANADIAN AIR FORCE INSTRUMENT LANDING SYSTEMS FOR AIR TRAFFIC CONTROL (ILS) W8475-20ILS1

15 Jan 2024

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Directorate Air Domain Development (DADD) 4-3-2

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# Overview

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- Overview
- Background
- Current Situation
- Business Need
- Scope Outcomes
- Scope of Work
- Support from Industry

# Background

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- **The Department of National Defence (DND)** has an ongoing requirement to provide accurate reliable precision navigation approaches to Royal Canadian Air Force (RCAF), civilian, and allied aircraft, at all it's RCAF Main Operating Bases (MOBs).
- **Instrument landing systems (ILS)** enable aircraft to conduct a safe, precision approach to a runway, during conditions of low cloud ceiling and low visibility.

# Background



Without near term replacement equipment, the current cadre ILSs (three OEMs presently utilized by DND) will experience an increased failure rate, reducing the ability of DND aircraft to effectively conduct missions during periods of inclement weather.



# Current Situation



The Estimated Life Expectancy (ELE) and present locations for the various RCAF ILS equipment:

Original Equipment Manufacturer (OEM)	ELE	3 Wing	4 Wing	5 Wing	8 Wing	14 Wing	15 Wing	19 Wing	Totals
		Bagotville, QC	Cold Lake, AB	Goose Bay, NL	Trenton, ON	Greenwood, NS	Moose Jaw, SK	Comox, BC	
<b>Philips 7801</b>	<b>2015</b>	<b>1</b>	<b>1</b>	<b>1</b>		<b>1</b>		<b>1</b>	<b>5</b>
<b>Thales 420</b>	<b>2027</b>	<b>1</b>			<b>2</b>			<b>1</b>	<b>4</b>
<b>Selex 2100</b>	<b>2030 (est.)</b>						<b>2</b>		<b>2</b>
<b>Total ILS per Wing</b>		<b>2</b>	<b>1</b>	<b>1</b>	<b>2</b>	<b>1</b>	<b>2</b>	<b>2</b>	<b>11</b>

# Solution Requirement

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DND requires an affordable, safe, reliable, sustainable precision approach navigational aid at our RCAF MOBs, which meet the High-Level Mandatory Requirements set forth.

The aim of the ILS replacement project is to procure a replacement capability for existing Canadian Forces fixed-base precision approach ILS equipment at Canadian Forces aerodromes that are reaching the end of their Equipment Life Expectancy (ELE) and are no longer economically sustainable.

**The Instrument Landing System Replacement Project** shall procure between eleven (11) and fourteen (14) new Instrument Landing Systems (ILS) for DND operated Aerodromes. Also in consideration for the project is contracting ILS as a service, rather than procuring and owning the systems outright.

# ILS Project High-Level Mandatory Requirements



1. The ability to assure Category I precision approach capability (both a primary and an alternate) is available to military and civilian aircraft within the parameters as specified in International Civil Aviation Organization (ICAO) document Annex 10.
2. The ability to support future Category II and Category IIIA approach capability.
3. The ability for Air Traffic Management (ATM) personnel to remotely monitor the integrity of the ILS equipment, to ensure it is operating within acceptable parameters.

*(The aviation standard ILS Categories listed below determine how close an aircraft can get to the ground on approach before deciding whether to land, with lower altitude possibilities (larger category numbers) being more desirable for increased performance).*

**1. Category I** ILS – 200ft (60m)

**2. Category II** ILS – 100ft to 200ft (30m to 60m)

**3. Category III** ILS – < 100ft (< 30m)

# Solution Options 1/2



Option 0 – Status Quo	Option 1 – Replace Philips 7801s	Option 2 – Replace Philips 7801s Add Second Approach
<p><b>Not viable.</b></p>	<p><b>No longer considered viable.</b></p> <p>Replace the existing 5 Philips 7801’s, with one unit each presently located at:</p> <ul style="list-style-type: none"> <li>•Bagotville, QC;</li> <li>•Cold Lake, AB;</li> <li>•Goose Bay, NL;</li> <li>•Greenwood, NS; and</li> <li>•Comox, BC.</li> </ul> <p>Total ILS – 5</p>	<p><b>No longer considered viable.</b></p> <p>Replace the existing 5 Philips 7801’s as in Option 1, and add a second ILS in:</p> <ul style="list-style-type: none"> <li>•Cold Lake, AB;</li> <li>•Goose Bay, NL; and</li> <li>•Greenwood, NS.</li> </ul> <p>Total ILS - 8</p>

## Solution Options 2/2



<b>Option 3 – Replace all existing ILS systems in service.</b>	<b>Option 4 – Replace all ILS systems, add second approach.</b>	<b>Option 5 – Operate ILS as a service.</b>
<p>Replace all of the existing ILS equipment (from the three OEMs) and provide in-service-support at:</p> <ul style="list-style-type: none"> <li>•Bagotville, QC;</li> <li>•Cold Lake, AB;</li> <li>•Moose Jaw, SK;</li> <li>•Goose Bay, NL;</li> <li>•Trenton, ON;</li> <li>•Greenwood, NS; and</li> <li>•Comox, BC.</li> </ul> <p><b>Total ILS - 11</b></p>	<p>Replace all of the existing ILS equipment and provide in-service-support at the seven CFB Wings, plus add an additional approach and provide in-service-support at:</p> <ul style="list-style-type: none"> <li>•Cold Lake, AB;</li> <li>•Goose Bay, NL; and</li> <li>•Greenwood, NS.</li> </ul> <p><b>Total ILS – 14</b></p>	<p>Install, Maintain, and Operate 2 ILS precision approaches at each of the 7 RCAF Wings at:</p> <ul style="list-style-type: none"> <li>•Bagotville, QC;</li> <li>•Cold Lake, AB;</li> <li>•Moose Jaw, SK;</li> <li>•Goose Bay, NL;</li> <li>•Trenton, ON;</li> <li>•Greenwood, NS; and</li> <li>•Comox, BC.</li> </ul> <p><b>Total ILS – undefined</b></p>

# Business Need

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The aim of the Instrument Landing System (ILS) replacement project is to procure a replacement capability for existing Canadian Forces fixed-base precision approach ILS equipment at Canadian Forces aerodromes. These new ILS will be a replacement or an addition to the existing ILS capability and will improve airport capabilities under Instrument Meteorological Conditions (IMC).

DND has a requirement to procure eleven (11) Instrument landing Systems (ILS) for delivery to 3 Wing Bagotville, 4 Wing Cold Lake, 19 Wing Comox, 14 Wing Greenwood, 5 Wing Goose Bay, 15 Wing Moose Jaw, and 8 Wing Trenton with an option for up to three (3) additional systems at locations previously identified.

# Business Need



1. Each of the ILS systems provided by the Contractor shall be a fully functional (latest COTS version) system and should include the following:
  - a) Localizer sub-system (including, electronics, antenna and monitoring system);
  - b) Glide Path sub-system (including, electronics, antenna and monitoring system);
  - c) Siting of the new Localizer and Glide Path sub-systems, including recommendations regarding physical positioning of all components, control cables, electrical power and ground layouts, and grading and drainage;
  - d) The Contractor shall conduct any additional siting or geotechnical surveys that may be required, including work related to optional systems;
  - e) remote control and monitoring unit (RCMU) with interlock feature in the Technical room;
  - f) local/remote maintenance sub-system;
  - g) status, control and monitoring components including, but not limited to, monitor status, input/output ports for government owned status and control systems, integral monitoring, and mechanical monitoring;
  - h) equipment shelters for the Localizer and Glide Path sub-systems electronics;
  - i) antenna support structures/towers (including lightning protection system);
  - j) power subsystem (including backup power source);
  - k) Initial Cadre Training;
  - l) all documentation, planning, meetings and reports to be specified in the Data Item Deliverables (DIDs); and
  - m) any other mandatory deliverables, to be identified in the Statement of Work (SOW).

# Scope Outcomes

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To define the work requirements for the acquisition and implementation of new Commercial-Off-The-Shelf (COTS), all weather, state-of-the-art, Category 1, Instrument Landing Systems (ILS).

# Scope of Work

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Site Surveys

Removal of existing equipment

Site Preparation

Factory Acceptance Tests

Site Installations

Site Acceptance Tests

Flight Checks/OT&E/ Commissioning

Completion of all ILS System's Installations and Flight Checks

# RCAF Wings Across Canada



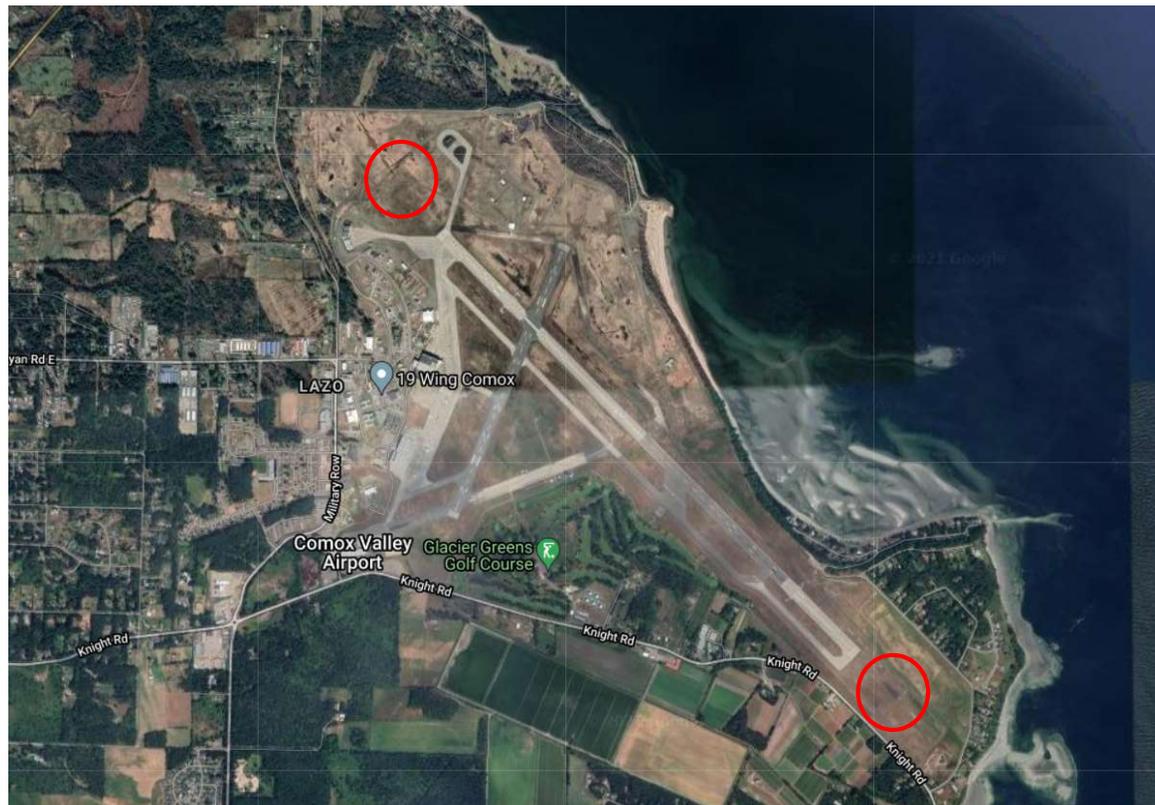
# RCAF Wings - Canada West



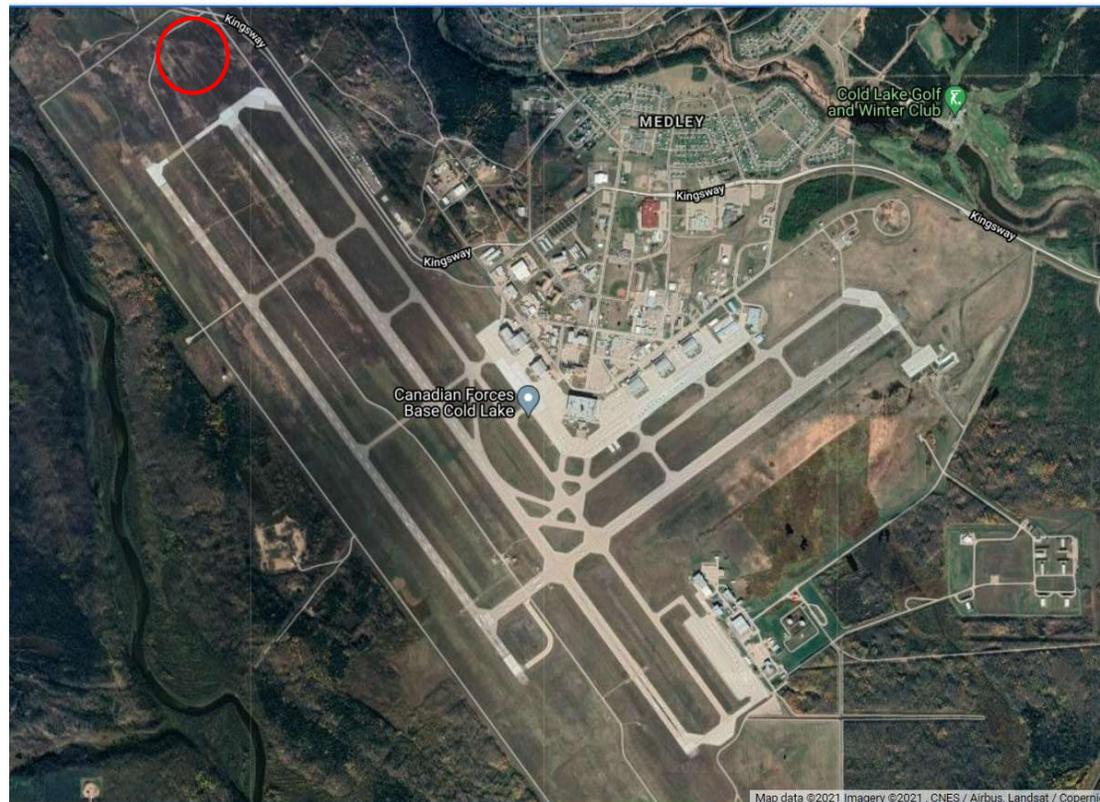
# RCAF Wings – Canada Central & East



# 19 Wing – Comox, BC



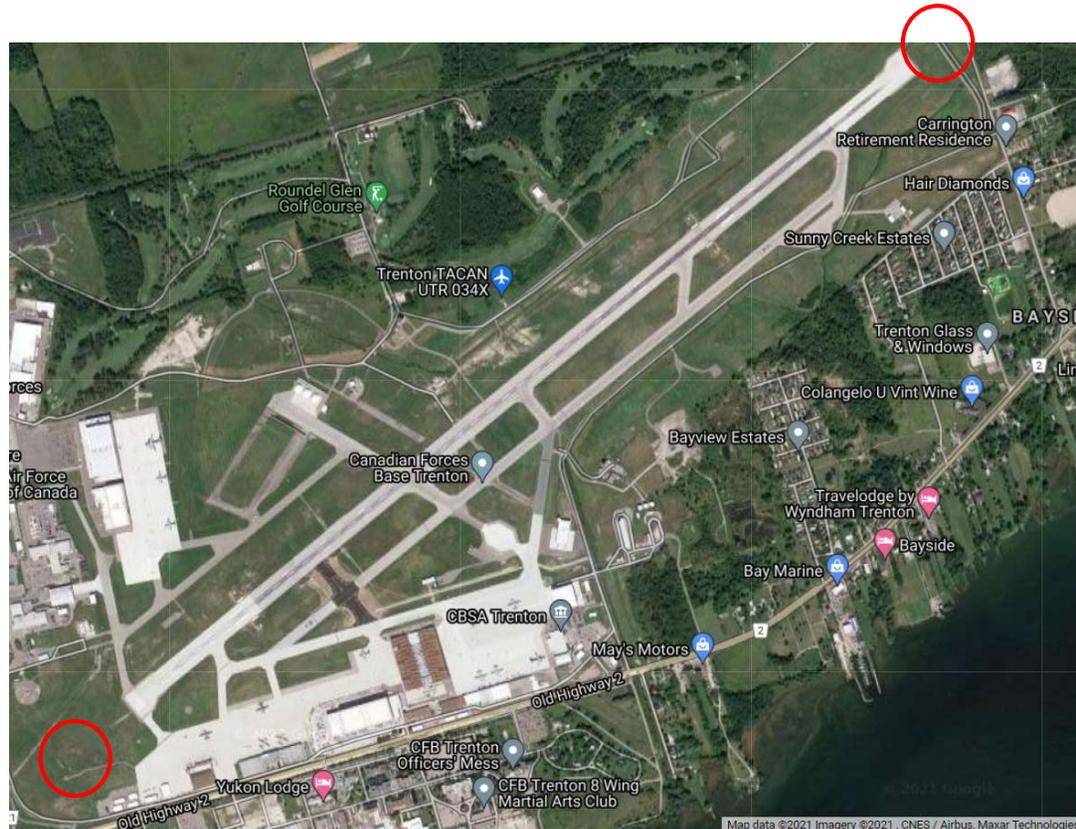
# 4 Wing – Cold Lake, AB



# 15 Wing – Moose Jaw, SK



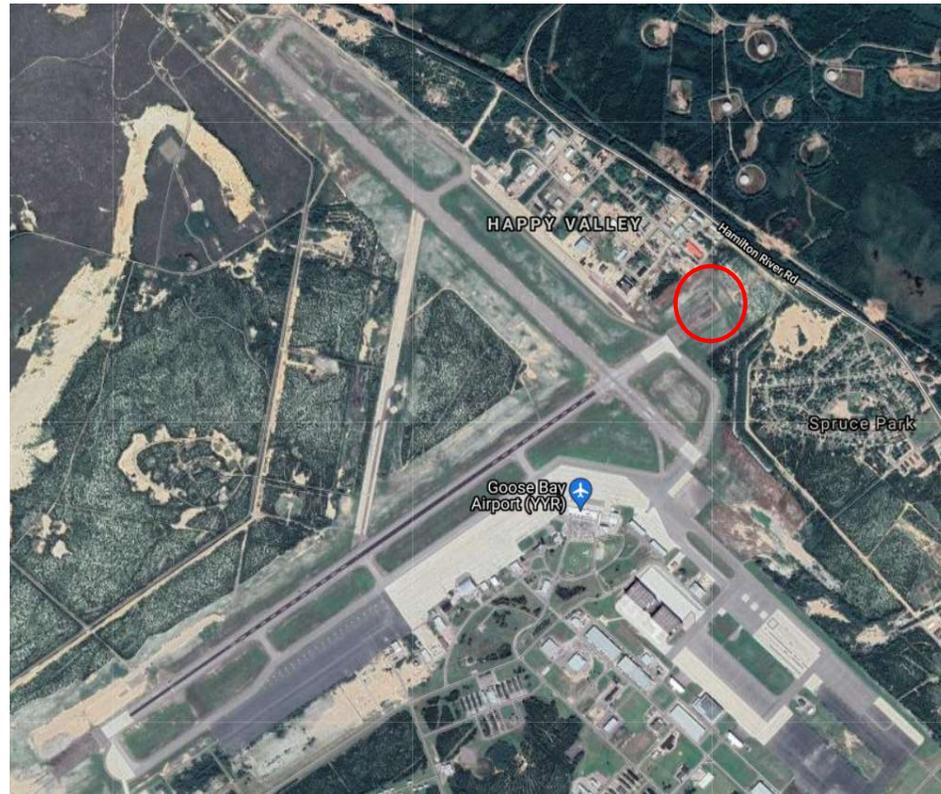
# 8 Wing – Trenton, ON



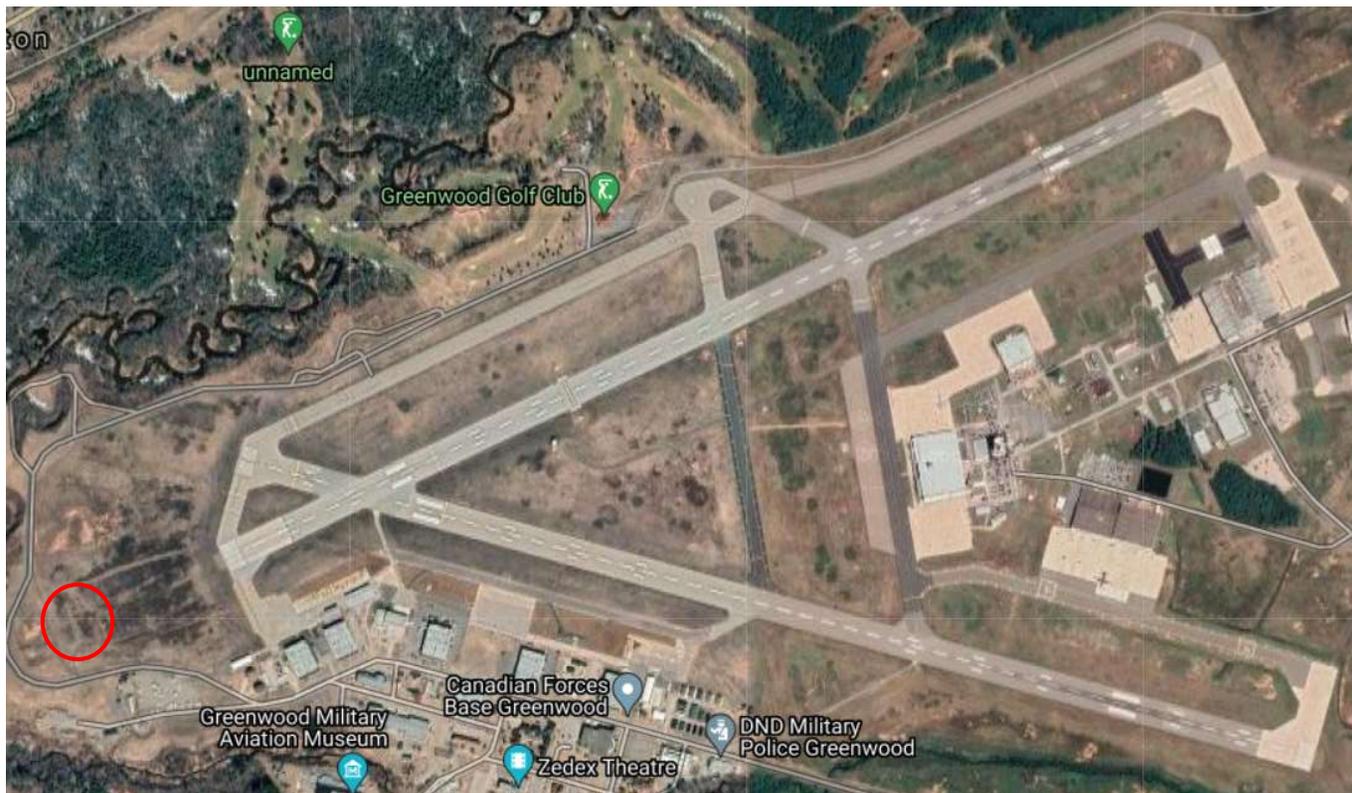
# 3 Wing – Bagotville, QC



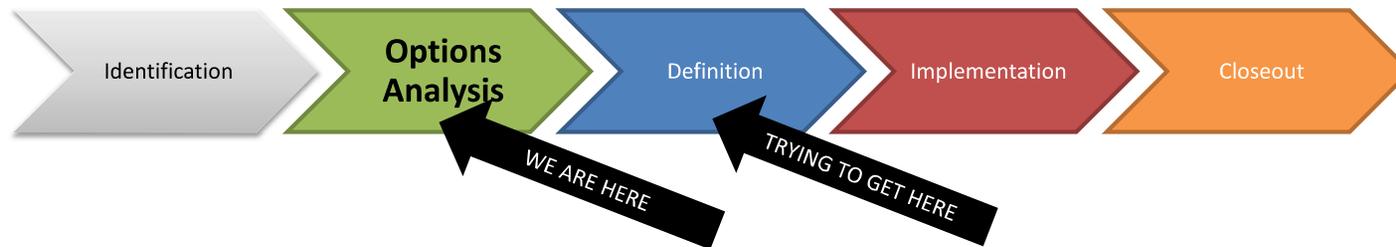
# 5 Wing – Goose Bay, NL



# 14 Wing – Greenwood, NS



# Project Structure



- **Identification:** Identify a need and initiate project
- **Options Analysis:** Analyze options, complete Business Case Analysis (BCA), and obtain indicative project costing.
- **Definition:** Refine requirements, Draft RFP and obtain substantive costing, RFP.
- **Implementation:** Procure equipment and achieve full operational capability.
- **Closeout:** Review, report and close project.

# Support from Industry

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Your expertise in Instrument Landing Systems, and navigational aids.

Feedback on high-level requirements and scope of work presented in the Request for Information document.

Costing to support our estimates towards next approval gateway.

## Appendix A

- 1) Please indicate the type of currency.
- 2) Respondents are free to choose how they wish to submit their response as long as it is clearly organized and the document format is MS Word or PDF.
- 3) Canada is requesting financial information for the purpose of project costing and budgetary purposes only.
- 4) Canada is requesting that respondents clearly mark each page of all financial and technical documents as **Commercial-in-Confidence**.
- 5) Canada may, at its discretion, contact any Respondents to follow up with additional questions or for clarification of any aspect of a response.
- 6) Any responses provided by Industry will not be evaluated and will only be used to assist Canada in creating budgetary and costing information and furthering the technical specifications.

Option 3 Replace all of the existing ILS equipment			
Location (Column A)	Number of ILS (Column B)	Estimated price per unit (Column C)	Extended price (Column D) (Column B x Column C)
Bagotville, QC	2		
Cold Lake, AB;	1		
Moose Jaw, SK	2		
Goose Bay, NL	1		
Trenton, ON	2		
Greenwood, NS	1		
Comox, BC	2		

Option 3 In Service Support - Contractor is requested to provide the correct labour category and Level of Effort.			
Labour Category (Column A)	Estimated Level of Effort (Column B)	Hourly Rate (Column C)	Extended Price (Column B x Column C)
Senior Technician			
Intermediate Technician			

Junior Technician			

Option 4 Replace all of the existing ILS equipment at the seven CFB Wings, plus add an additional approach at Cold Lake, Goose Bay and Greenwood.

Location (Column A)	Number of ILS (Column B)	Estimated price per unit (Column C)	Extended price (Column D) (Column B x Column C)
Bagotville, QC	2		
Cold Lake, AB;	2		
Moose Jaw, SK	2		
Goose Bay, NL	2		
Trenton, ON	2		
Greenwood, NS	2		
Comox, BC	2		

Option 4 In Service Support - Contractor is requested to provide the correct labour category and Level of Effort and Hourly Rate.

Labour Category (Column A)	Estimated Level of Effort (Column B)	Hourly Rate (Column C)	Extended Price (Column B x Column C)
Senior Technician			
Intermediate Technician			
Junior Technician			

Option 5 Install, Maintain, and Operate 2 ILS precision approaches at each of the 7 RCAF Wings

Location (Column A)	ILS as a Service pricing per unit (Column B)	Estimated price (Column C)	Extended price (Column D) (Column B x Column C)
Bagotville, QC	2		
Cold Lake, AB;	2		
Moose Jaw, SK	2		
Goose Bay, NL	2		
Trenton, ON	2		
Greenwood, NS	2		
Comox, BC	2		