

2017

## Integrated Airport Systems Ltd.



## Capital Development and Business Plan Report Elk Point Airport, Alberta

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**CEJ6**



# Capital Development and Business Plan Report Elk Point Airport, Alberta

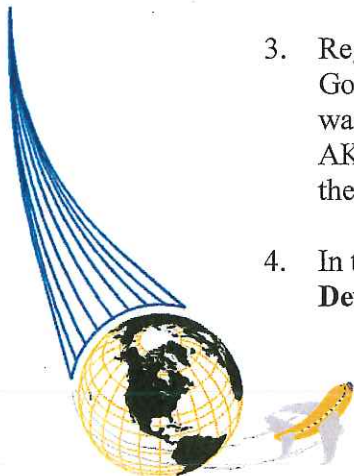
## 1.0 Objectives:

The Objectives of this Report are;

1. Review past history and the existing Management and Operations of Airports in Alberta, as well as the Elk Point Airport as a backdrop to moving forward.
2. Review the existing Airport infrastructure to determine TP 312 5<sup>th</sup> Edition Code compliance and identify existing operational shortcomings.
3. Identify future potential Airport infrastructure requirements to support Community, Business and Corporate aviation needs.
4. Identify potential business opportunities which could enhance and support Airport operations.
5. Provide information in support of a funding application through the Strategic Transportation Infrastructure Program (STIP).

## 2.0 History, Past Practice, Devolution and Responsibility:

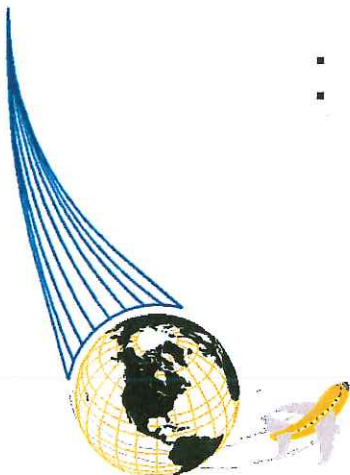
1. Prior to the early 1990's the majority of the public Airports were designed, constructed and operated by the Federal Department of Transport and the Alberta Provincial Department of Transportation i.e. Airport dedicated units. All Airports were designed to meet Transport Canada TP -312 Standards.
2. Past practices, were that Alberta Transportation dedicated units worked closely with their Federal counterparts to design, construct and operate all registered Airports to "**Certified Standards**". The "**Authority Having Jurisdiction**" for all Airports was **Transport Canada**.
3. Regular inspections of all public use Airports were conducted by experienced Government Engineers and technical inspectors to ensure Airport infrastructure was **Safe and Code Compliant**. **TP-312 Codes and Standards** and Federal **AK Standards** were developed from many years of experience to supplement the **Codes** and provide design and operational guidance.
4. In the early 1990's both the Federal and Provincial Governments decided to **Devolve Airport Responsibilities** to local authorities.



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## 2.0 History, Past Practice, Devolution and Responsibility: (Cont'd)

5. The Federal Government **Devolved** their “**Certified**” Airports to Airport Authorities through leases i.e. Edmonton International Airport Authority, Calgary Airport Authority etc.
6. The Alberta Provincial Government **Devolved** their “**Registered**” Airports to local governments i.e. Cities, Towns, Municipalities etc.
7. In both cases Federal and Provincial Airport Engineering specialized technical units were disbanded without a comprehensive program of technology transfer to the new Airport operators.
8. However the Elk Point Airport has never been transferred to the Local Authority which was originally formed in 1977 and further reorganized in May 2011. The Airport Commission is represented by both the County St. Paul No. 19 and the Town of Elk Point. To date ownership and responsibility remains with the Alberta Provincial Government.
9. The Town of Elk Point and Airport Commission continue to operate the Airport under a Service Lease Agreement recently renewed for a 10 year term with the Provincial Government. Liability for airport deficiencies on code compliances and any safety related accidents resulting from the airport use clearly rests with the Alberta Provincial Government.
10. Under the County of St. Paul No. 19 By-law No. 1575 dated the 10<sup>th</sup> day of May 2011, it was agreed that the Elk Point Airport be owned and operated by the Town of Elk Point and the County of St. Paul. The Elk Point Municipal Airport Authority was established to operate the Airport.
11. The Elk Point Municipal Airport Authority is comprised of the following membership:
  - Two Council Members from the Town of Elk Point
  - Two Council Members from the County of St. Paul
  - Three members appointed at large and one being a member of the Elk Point and District Chamber of Commerce
  - One appointed by the Town of Elk Point
  - One appointed by the County of St. Paul





## 2.0 History, Past Practice, Devolution and Responsibility: (Cont'd)

12. While the Airport Authority had originally intended to accept responsibility for the Airport in 2013 from the Alberta Provincial Government, it changed its position upon becoming aware of the numerous Airport Safety Code violations. Cost impact to correct the violations would have been directly tied to the community and would have required immediate funding for a safe code compliant operation. The community does not have funding available. Until the violations are corrected through funding arrangements from the Province, the ownership transfer agreement remains unworkable. This lack of funding has put the community in a high risk position, medevac operations are severely restricted and airport usability is very limited.
13. Once an agreement is negotiated between the Municipal Airport Authority and the Provincial Government then the transfer of ownership can be finalized.
14. After transfer, the responsibilities for the promotion of Airport business opportunities would be with the Municipal Airport Authority. The local Aviation Community, Chamber of Commerce, Business Leaders etc. are the most knowledgeable of the potential aviation business opportunities. The primary economic drivers in the Elk Point trading catchment area are oil / gas operations and development, agricultural, salt mining, manufacturing and tourism.
15. The Airport is a critical business attractor to Elk Point and surrounding Community in that it facilitates and supports corporate aircraft movements, resource company aircraft, local flying requirements and Medevac emergency air access to distant critical health care facilities.
16. Unfortunately Community Airports, like most transportation related infrastructures, cannot generate sufficient revenue from airside operations to sustain themselves. The "economy of scales" for aviation related businesses like pilot training, aircraft repair, maintenance and overhaul, electronic, radio and navigation system services, aircraft suppliers etc. cannot generate sufficient income from local aviation demand to support this type of local business.
17. In August of 2015, an Engineering study was completed to evaluate the conditions and code compliance of the Airport facilities. (Report Attached in Appendix A). The report identified a number of serious infractions that affect safe operation of the Airport. Most notably were tree obstructions within the approach paths on both ends of the Runway and a completely deteriorated Runway lighting system. These code infractions have downgraded the usability of the Airport to a "Day Visual Flight Rules" (VFR) facility. The impact to the Town and surrounding Community is significant because fixed wing medevac services are fully restricted to day visual good weather flight conditions only. A patient with critical injuries needing Medevac Airlift for specialty emergency services to larger service care hospitals will not have this available at night or during inclement weather conditions.



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### 3.0 Airport Operational Requirements:

On September 15, 2015 Transport Canada issued and promulgated T.P. 312 5<sup>th</sup> Edition of Aerodrome Standards and Recommended Practices. These standards are referenced by the Canadian Aviation Regulations (CARs). They set out Airport requirements to support safe aircraft operations such as:

- Physical Characteristics
- Obstacle Limitation Surfaces
- Visual Aids
- Technical Services

This new T.P. 312 5<sup>th</sup> Edition incorporates an operationally based concept that aligns with the International Civil Aviation Organization (ICAO). The implementation of standards under the operational concept is primarily based on Aerodrome operational level and physical aircraft characteristics such as:

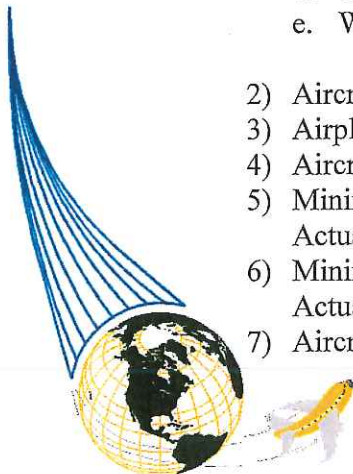
- Size and type of Critical Aircraft
- Type of Runway Classification i.e. non instrument, non-precision or precision
- Aerodrome Operational Limits i.e. obstacle clearance, transitional approach, Zoning etc.

The Beech King Air 200 was selected as the “Critical Design Aircraft.” Various models of the Beech King Airs are used by many private corporations, charter operators and Alberta Health Services Medevac operators.

While the existing airport is not serviced with a GPS approach it has been categorized as a Non-Precision facility to ensure it will meet minimum corporate standards.

#### **Beechcraft King Air 200**

- 1) Specifications:
  - a. Maximum Take-off Weight (M.T.O.W.) 12,500 lbs.
  - b. Approach Speed 103 knots
  - c. Wing Span 54.5 ft. (16.61 m)
  - d. Tail Height 15 ft. (4.57M)
  - e. Wheel Base 15 ft. (5 m)
- 2) Aircraft Approach Category B
- 3) Airplane Design Group II
- 4) Aircraft Reference Code (ARC) B II (Runway)
- 5) Minimum Runway Width 75.4 ft. (23 m) (Non-Precision)  
Actual Runway Width 75.0 ft. (22.86)
- 6) Minimum Taxiway Width 10.5 m  
Actual Taxiway Width 9.14 m
- 7) Aircraft Load Rating 2.4



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#### **4.0 Airport Business Management and Strategic Planning:**

While the primary function of the Airport is aviation related activities, there is a significant land base available that should and can be utilized for secondary “non-aviation” related business opportunities. With a focused aggressive Airport Development Program it is not unreasonable to attain sufficient revenue to support day to day operations and maintenance. A suggested list of potential business opportunities and revenue streams is:

##### **Airside Business**

- Hangar Lot Development – Sales / Leasing
- Aviation Fuel Sales and Aircraft Parking Fees
- Agricultural Crop Spraying
- Medevac Operations

##### **Ground Side Business**

- Personal Holiday Secure RV Storage.
- Agricultural i.e. Green House Operations, Grains, Crops, Feed Lots, etc.
- Community Garden Area, U-Pick, Commercial Tree Farm.
- Oil Field Laydown and Pipe Storage Facilities/Heavy Equipment.
- Biofuel Plant Operations.
- Forestry Fire Wood / Pellet Production Plant.
- Tire Recycling / Rubber Reprocessing Plant.
- Vehicle / Appliance Recycling Plant.
- Household Recycling and Sorting Centre.
- Transportation Companies Warehousing, Storage and Distribution.
- Heavy Equipment Auction Yard.
- Tourist Overnight Camp Ground Operations.
- Go-Cart / Dirt Bike Track.
- Community Sports Fields i.e. Soccer, Baseball, Football etc.
- Out Door Hockey Rink.
- Fenced Off Leash Dog Walk Area.
- Specialized Manufacturing Plants i.e. Green Technology Business, Electrical, Mechanical, Structural, Architectural, Pre-fabrication.
- Driver Training Area.
- Emergency Services Training Area.
- Municipal Storage Compound i.e. Equipment.
- Municipal Sand and Gravel Storage Yard c/w Salt / Calcium Chloride Shed.
- Golf Driving Range.
- Car Dealership – Vehicle Storage.
- Vehicle Impound Storage Area.
- School Bus Storage Compound.
- Industrial/Commercial Land Development i.e. Well Servicing, Work Camps etc.
- Airport User / Pilot Use Vehicle Services.



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## 5.0 Project Rational:

The existing capital investment in the Airport Infrastructure is estimated at a minimum of 20.0 million dollars. This project renewal investment in the Airport will maximize the potential benefit to the community for a minimum of 30 years (Life Cycle).

This Airport electrical rehabilitation component utilizes new proven "Green Technology" and will provide energy cost savings of over \$650,000.00 over the 30 year life cycle. In addition the obstacle clearance and zoning corrections will ensure a safe code compliant operational Airport.

These minimum enhancements will provide the necessary facilities to support economic development opportunities in the oil and gas, agricultural, tourist, commercial and forest fire suppression support services. A safe, code compliant Airport will ensure medevac services can be provided to maintain a quality health system for the community and surrounding area.

This eligible project fully complies with the stated objectives of the Government of Alberta's four priority areas:

1. **Economic:**

- Direct and indirect job creation numbers projected during construction
- Number of estimated permanent jobs that will be created by the investment
- Potential for new business/industry development due to the project
- Increased sales projections for local business during and after construction
- Potential for enhanced tourism

2. **Social:**

- Ways in which the project connects residents and communities to goods and services.
- Access to health care, education or recreational opportunities.

3. **Environmental:**

- Ways in which the project will use construction methods that will protect the local environment.
- Improvements to local carbon footprint by shortened travel distances
- Use of green materials.

4. **Innovation:**

- Use of new structure types and materials that reduce the cost of the project.
- Use of new structure types and materials that reduces the environmental impact of the project or improves the carbon footprint in the area.





## 5.0 Project Rational: (Cont'd)

Community airports are considered a necessary part of the transportation infrastructure and provide access to communities for resource industry, commercial, medical, tourism and personal travel.

Alberta's overall goal is to maintain and protect the existing network of public-use community airports to support safe airport operations, general aviation operations and commercial air charters, forest fire suppression, medevac operations, local and regional economic development, and protection of provincial investment in airports.

## 6.0 Safety Benefits:

The safety and use benefits for Airfield Lighting systems and Zoning Criteria are considered a basic need to operate an Airport. Airfield Lighting Systems enable a pilot to land or take-off from an Airport at night and during inclement weather conditions, Zoning ensure Obstacles will not infringe on Operational Surfaces for Aircraft using the Airport.

### Safety:

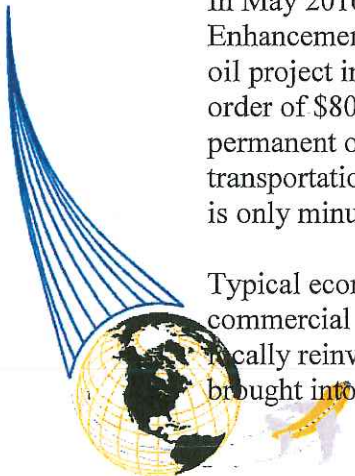
- 1) As previously referenced all installations at Airports must meet minimum code requirements as set out in the Canadian Aviation Regulations (Promulgated on October 10<sup>th</sup>, 1996) [CARS](#) and TP-312 5<sup>th</sup> Edition recently amended in September 15<sup>th</sup> 2015. [\(TP 312\) 5th Edition - Transport Canada](#)
- 2) The standards have been developed to ensure minimum installation and operational requirements for Aerodromes meet accepted safety criteria which have been mandated by the International Civil Aviation Organization. [ICAO](#).
- 3) The program of work identified in the Engineering reports detail minimum upgrades needed to adhere to the standards and codes to ensure a safe operational facility.

## 7.0 Economic Benefits / Master Plan:

In May 2016 development plans were approved through the Environmental Protection Enhancement Act (EPA) for the expansion of a steam assisted gravity drainage (SAGD) oil project in the immediate Elk Point area. The cost of this expansion project is in the order of \$800 million dollars and will create approximately 250 construction jobs and 50 permanent operational jobs. The Elk Point Airport can play a pivotal role in the transportation of construction and operational workers to and from the site as the Airport is only minutes from the project development site.

Typical economic spin-off is a 3 to 1 ratio; feeding economic development for commercial and industrial business back into the community. i.e. Three dollars are locally reinvested complete with employment opportunities for every external dollar brought into the community.

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## 7.0 Economic Benefits / Master Plan: (Cont'd)

To meet minimum standards the Airport requires rehabilitation of the Electrical Systems and corrections to Obstacle Clearance and Zoning infractions.

An analysis of the existing investments and potential cost benefits are as detailed following:

Strategic Planning / Economic Benefits / Master Plan									
Cost / Benefit Analysis									
Item #	Description	Infrastructure Investment	Business Activity	Job Creation		Year	STIP Grant Funding	In-kind Applicant Funding	Other Funding
				Permanent	Construction				
1	Current Airport Infrastructure Investment	\$20,000,000.00	\$6,000,000.00	2	0	Existing	N/A	N/A	N/A
2	LED Electrical - Rehabilitation Capital Renewal	\$1,000,000.00	\$2,000,000.00	2	15	2017	\$1,000,000.00	N/A	N/A
3	Civil - Obstruction and Zoning Corrections	\$450,000.00	\$675,000.00	2	15	2018-20	N/A	\$450,000.00	N/A
4	Civil - Tree Clearing	\$250,000.00	\$375,000.00	0	10	2018	N/A	\$250,000.00	N/A
5	GPS Approach	\$45,000.00	\$90,000.00	0	5	2018-20	N/A	N/A	\$45,000.00
6	AWOS System	\$95,000.00	\$190,000.00	0	5	2018-20	N/A	N/A	*TBD
7	Hangar Lot Sales / Leasing	\$300,000.00	\$1,000,000.00	1	20	2018-27	N/A	*TBD	*TBD
8	Fuel Sales and Aircraft Parking Fees	\$25,000.00	\$15,000.00	1	2	2018	N/A	*TBD	*TBD
9	Airside Business Development	\$150,000.00	\$300,000.00	5	10	2018-27	N/A	*TBD	*TBD
10	Ground Side Business Development	\$350,000.00	\$1,500,000.00	25	25	2018-27	N/A	*TBD	*TBD
11	Oil and Gas Development Investment	\$800,000,000.00	\$2,400,000,000.00	50	250	2018-48	N/A	*TBD	*TBD
12	Community Commercial Business Development	\$500,000.00	\$1,500,000.00	30	35	2017-25	N/A	*TBD	*TBD
13	Recreation and Municipal Services Activities	\$75,000.00	\$112,500.00	4	10	2018-25	N/A	*TBD	*TBD
14	Health and Safety - Medevac	\$100,000.00	\$500,000.00	10	0	2017-18	N/A	*TBD	*TBD
Totals		\$823,340,000.00	\$2,414,257,500.00	132	402		\$1,000,000.00	\$700,000.00	\$45,000.00
Percent Funding Splits							57%	40%	3%
Note: * To Be Determined									

## 8.0 Business Plan:

It has not been the practice for Alberta Community Airports to track and record Aircraft movement statistics. Normally a record book of flights is maintained in the terminal building and pilots are requested to volunteer this information.

Over the past number of years IASL have monitored Aircraft movements through an automated system we developed at a number of similar sized and type community Airports. From our experience and historical data we estimate the Aircraft movements at Elk Point Airport to be in the order of 1000 – 1200 annually. Approximately 40 movements would be attributed to medevac flights.

The existing Airport infrastructure deficiencies are impacting Airport usage and potential economic development opportunities. The Airport is a critical business attractor to Elk Point and the surrounding community in that it facilitates and supports corporate aircraft movements, resource company aircraft, local flying requirements and medevac emergency air access to distant critical health care facilities.

## 9.0 Capital Development Plans:

Detailed inspections of all the Airport physical facilities have been completed and a number of Preliminary Designs of the Capital Infrastructure Plans prepared. These Airport Infrastructure Plans meet Transport Canada recommended standards and codes and when implemented will provide safe reliable code compliant public use Airport facilities:



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## 9.0 Capital Development Plans: (Cont'd)

The Development Plan Reports are attached in (Appendix A):

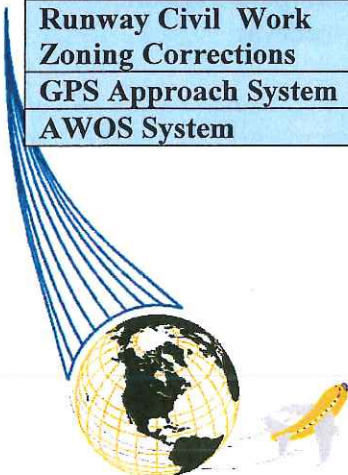
1. Engineering Report - Dated September 30, 2015 (Revised)  
Airfield Lighting Systems and Zoning Review  
Elk Point Airport
2. Elk Point Airport T.P. 312 5<sup>th</sup> Edition  
Zoning September 2015 Rev 1  
Drawings C 1 – C 5 and Cover
3. Airport Electrical Rehabilitation  
LED Light Conversion  
Elk Point Airport, AB.  
Dated October 5, 2016

The Transport Canada T.P. 312 5<sup>th</sup> Edition, includes and provides for “Carbon Reducing” “Green Technology Energy Efficient” Airport Lighting Systems. It is recommended those be incorporated, designed and installed in lieu of the conventional high energy consumption systems (see Report Appendix A).

After a comprehensive review and evaluation of the Airport Capital Projects required to meet Codes and Standards and provide an operationally safe facility, the following Capital Renewal Program is recommended:

### Capital Renewal Development Plan

Project Description	Year	Estimated Cost	Public Safety Requirement	Code Compliance	Aviation Safety Requirement
Energy Efficient Airport LED Electrical Rehabilitation	2017	\$1,000,000.00	Yes	Yes	Yes
Runway Approach & Transitional Zoning Corrections i.e. Tree Removal	2018	\$250,000.00	Yes	Yes	Yes
Runway Civil Work Zoning Corrections	2018-20	\$450,000.00	Yes	Yes	Yes
GPS Approach System	2018-20	\$45,000.00	Yes	+/- 250' Height	Yes
AWOS System	2018-20	TBD	Yes	+/- 250' Height	Yes



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## 10.0 Airport Business Management and Strategic Planning:

### Recommendations

- 1) Obtain a commitment from the Province of Alberta that they will meet their obligations to upgrade the Airport infrastructure to comply with Transport Canada T.P. 312 5<sup>th</sup> Edition Safety Standards and Code.
- 2) Negotiate an agreement for the ownership, management, control and operation of the Airport.
- 3) Obtain Strategic Transportation Infrastructure Program grant funding
- 4) Utilize the Airport Authority to promote and develop both aviation and non-aviation related businesses.
- 5) Maximize the land development potential of the Airport Properties.

## 11.0 Signatures



Stan P. Kolomyjec, P.Eng  
CEO Integrated Airport Systems Ltd.

January 22<sup>nd</sup>, 2017  
Date

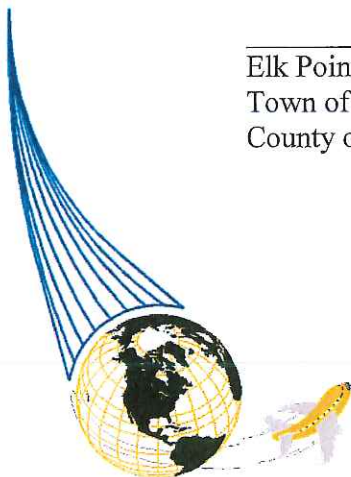


Paul Ouwerkerk, SPM Principal  
Integrated Airport Systems Ltd.

January 22<sup>nd</sup>, 2017  
Date

Elk Point Airport Commission  
Town of Elk Point  
County of St. Paul No. 19

\_\_\_\_\_  
Date



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