

Airport Land Use Plan & Development Guidelines

Kenora Airport



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Sign-off Sheet

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1.0 Introduction

The Kenora Airport (also referred to as “the Airport”) is a strategic regional asset with the capacity to support local economic development. Located in the north-east section of the City of Kenora, the Airport has a total land area of approximately 380 hectares, a 6000 ft. x 100 ft. asphalt runway, and 2 paved taxiways. **The facilities are owned and operated by the Kenora Airport Authority Inc.** and have seen several recent upgrades, including runway, taxiway, and apron rehabilitation in 2001-2002, new wildlife fencing in 2010-2011, and an upgraded emergency power supply in 2013. **The property has a high level of municipal servicing including power, water, and wastewater infrastructure.** Meanwhile, the City of Kenora is experiencing a period of revival, with a number of new projects and initiatives implemented in recent years. In light of these facts, the Airport is well positioned to meet current and long-term market demands. **Stantec Consulting Ltd. has been retained to provide a rational and comprehensive framework for the development and use of airport lands.** This framework will address the long term capacity requirements of the airport, as well as a commercial/light industrial park.

1.1 BACKGROUND

The Kenora Airport was established in 1939 to serve the region’s aviation needs. In 1996, as part of a gradual devolution from government ownership, Airport ownership was transferred to the Kenora Airport Authority. Certified as a public aerodrome, the Airport operates in accordance with applicable Transport Canada standards listed in TP 312 – Aerodrome Standards and Recommended Practices. The facility caters to scheduled flights by Bearskin Airlines and charter flights by Walsten Air, Voyageur Airways, and others. The Airport also serves as a base for Ornge (formerly Ontario Air Ambulance), the Ministry of Natural Resources (MNR), Discovery Air, and a number of private aircraft owners. The Airport is a popular mid-point for sportsmen and cargo destined for communities and fishing and hunting areas to the north.

The City of Kenora was established on January 1, 2000 through an amalgamation of three former towns: Kenora, Keewatin and Jaffray Melick. The three communities created a City with a population of 15,177 residents and 6,500 households. Over time, the fur trade, multiple local gold rushes, the CPR, hydro-powered flour mills, and the construction of the Trans-Canada Highway through Kenora’s downtown, have shaped the City and surrounding area (Grant Thornton, 2007). Since 2005, the City’s economy has seen a dramatic shift. A decline in the forestry sector, the region’s primary employer, resulted in the closure of the pulp and paper mill, two local saw mills, and the loss of 750 jobs. Nonetheless, **Weyerhaeuser’s TimberStrand® Laminated Strand Lumber (LSL) operation remains as the largest laminated strand lumber facility in the world, with a 400,000 square foot facility in Kenora (City of Kenora, 2013). The facility is located in close proximity to the airport, just south of Airport lands, and the supply of 3 phase power and other services to the site run along the Airport Road and the Jones Road.**

To address their changing economy, the City has taken a proactive approach by developing a revitalized and diversified economic blueprint. In 2006, the Lake of the Woods Development Commission adopted

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the “Economic Development Plan”, which outlines a transition from a resource-based economy to a “destination and lifestyle community”. With access to Lake of the Woods and its 14,522 islands, the City of Kenora has rebranded itself as “North America’s Premier Boating Destination” (City of Kenora, 2012).

As part of the City’s “2014 Strategic Business Plan”, economic infrastructure and labour force development are listed as key areas of focus (City of Kenora, 2014). Furthermore, *the “Economic Development Plan (2012)” lists job retention and creation, increased assessment, and population retention and attraction as its prime goals.* Although no specific actions are addressed, this document addresses working with the Kenora Airport Authority Inc. as part of their “Destination Kenora” initiative. Ultimately, airport development presents several opportunities to meet the objectives of the Airport Authority, local businesses, and the City of Kenora in unison.

1.1.1 Location

The City of Kenora is located in Northwestern Ontario, approximately 200 km east of Winnipeg and 560 km northwest of Thunder Bay. The community is situated on the northeast quadrant of Lake of the Woods, Canada’s second largest inland lake and a popular getaway location with over 8,000 summer cabins (Grant Thornton, 2007). The nearest airport with scheduled passenger service is Dryden, located roughly 140 km east.

1.1.2 Community Demographics

Kenora has a rich First Nations and Metis heritage. Nine First Nations communities and the Kenora Metis Council are located within the greater Kenora Service Area (City of Kenora, 2013). Additionally, the City is becoming well established as a regional retirement community; a result of its proximity to Winnipeg and the availability of extensive medical services at the Lake of the Woods Hospital and the Patterson Medical Centre. In 2011, the median age in Kenora was 44.4, compared to 40.4 in Ontario and 40.6 in Canada (Statistics Canada, 2012).

According to City documents, the most recent population estimate for the City of Kenora is 15,806 people. The City is expected to experience slow population growth over the next 5-10 years, with the addition of roughly 1,000 individuals (Table 1).

Table 1 – City Populations

POPULATION	
Total Estimated Population:	15,806
Census Population 2006:	15,177
Census Population 2011:	15,348
POPULATION PROJECTIONS	
Projected Population 2018:	16,019
Projected Population 2023:	16,202

(City of Kenora, 2013)

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During the summer season, there is a rapid influx of tourists and seasonal residents that see the local population peak around 20,000 individuals. In fact, approximately one-third of private dwellings are not occupied year-round (Grant Thornton, 2007). Statistics collected from local Visitor Information Centres reveal that most visitors originate from Manitoba and further west (Table 1), with the majority of visits between June and September (Table 2). It should be noted that the Pavillion Information Centre only operates from May through August, leading to small discrepancies in visitor data. Local authorities see a booming western economy as a key to their tourism success (City of Kenora, 2012). ***Despite the obvious benefits, seasonal populations can pose a problem for businesses and the local labour force, which rely on a few months of operations to meet their income and employment needs.***

Table 2 – Visitor Origins

Location of Origin	Number of Individuals	Percentage
Kenora	617	8.10%
Manitoba	3546	46.70%
U.S.A	807	10.60%
Overseas	374	4.90%
West	1114	14.70%
East (Maritimes/Quebec)	532	7.00%
Ontario	602	7.90%

(City of Kenora, 2013)

Table 3 – Monthly Visits

Month	Count
January	117
February	124
March	123
April	349
May	859
June	3346
July	7941
August	8028
September	1837

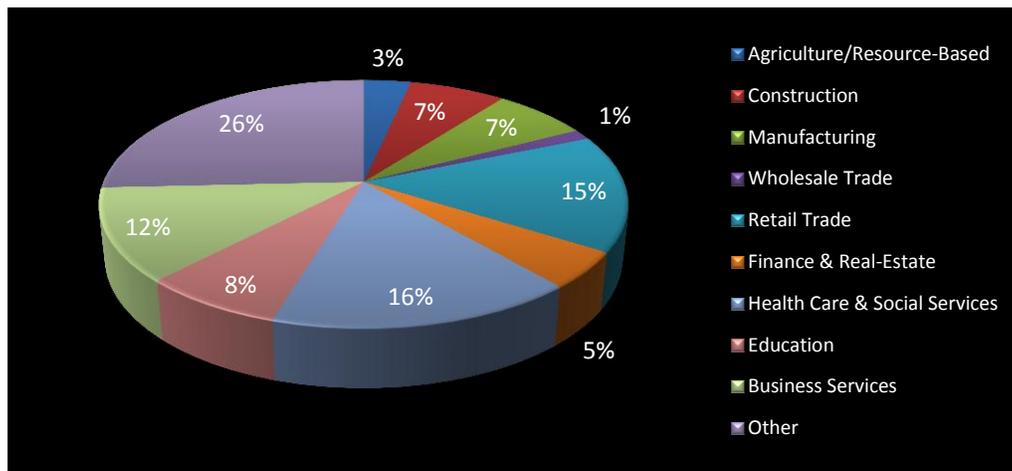
(City of Kenora, 2013)

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Due to the elimination of the long form census in 2011, 2006 Census data is used to reflect many of the economic characteristics of the City. Overall, Kenora has above average unemployment at 10.09% (City of Kenora, 2013), compared to 7.5% for the province of Ontario, and 7.0% for Canada (Statistics Canada, 2014). The health care and social services industry is the primary employer at 16% of the labour force, or 1,310 individuals (Figure 1). Meanwhile, **tourism contributes approximately \$200 million annually to the local economy and creates jobs for 2,500 people** (City of Kenora, 2013). The benefits of tourism are obvious; however, it is important to encourage a diversified labour market. In particular, **industrial operations that support recreation and tourism can offer year-round employment and address the issues associated with a seasonal population.** Manufacturing and wholesale trades can be seen as opportunities to further diversify Kenora's regional economy in a manner that is consistent with current trends. Specifically, the value added forestry is listed as a primary industry focus within the Kenora market (City of Kenora, 2013).

FIGURE 1 – EMPLOYMENT BY INDUSTRY



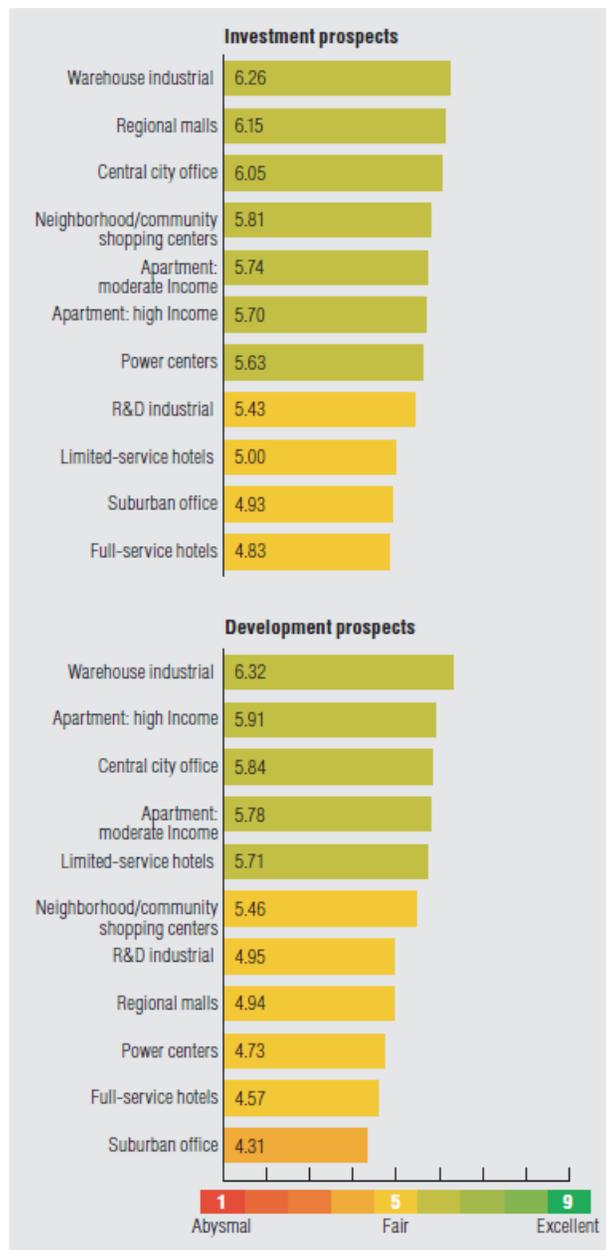
(Statistics Canada, 2007)

According to research from the Urban Land Institute and PwC (2013), the North American industrial real estate market owns the strongest investment and development prospects among all commercial property types. These findings are driven by retailers' and manufacturers' efforts to shorten the supply chain, along with an expanding e-commerce market. Within Canada, the "warehouse industrial" commercial subsector is considered to have the best prospects for investment and development (Figure 2). The study, which incorporates the opinions of over 1,000 real estate experts, considers the industrial subsector to have "modestly good" investment prospects for Canada in 2014, with opportunities to earn a decent return (Urban Land Institute & PwC, 2013).

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FIGURE 2 – PROSPECTS FOR CANADIAN COMMERCIAL SUBSECTORS (2014)



(Urban Land Institute & PwC, 2013)

1.2 PROJECT GOALS & OBJECTIVES

Based on data analysis and stakeholder inputs, Stantec Consulting Ltd. aims to provide the Kenora Airport Authority Inc. with ***a rational and comprehensive planning and development framework for the long term ‘highest and best use’ of airport lands.*** The resulting framework will meet the current and long-term needs of the airport, including a commercial/light industrial park, and will meet all requirements of TP 312 5th edition including any other relevant regulations or by-laws.

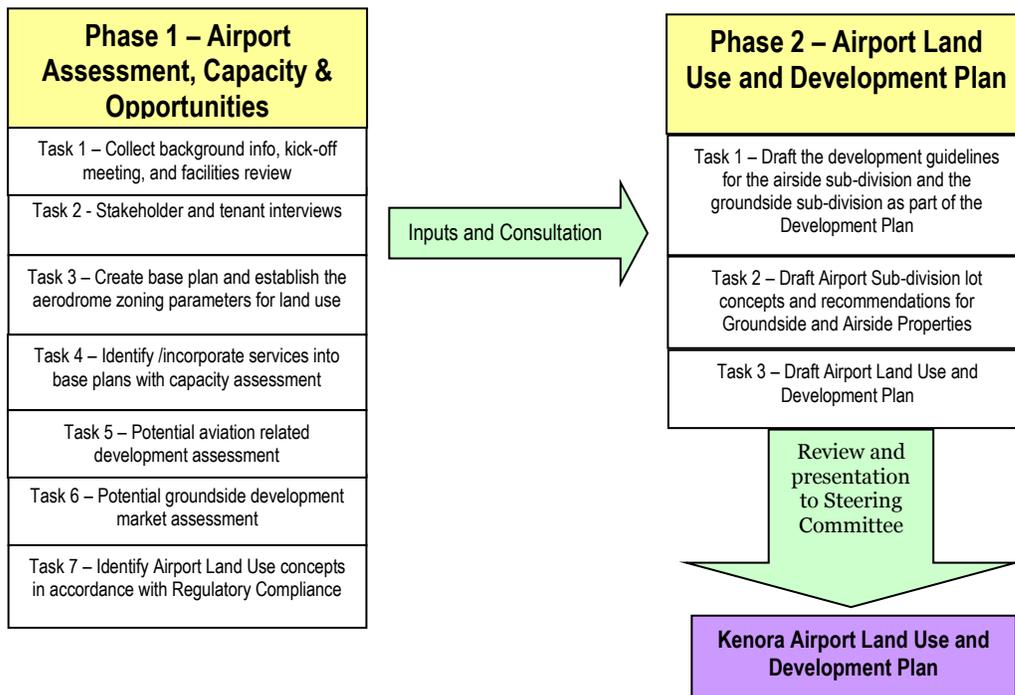
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1.3 METHODOLOGY

Producing a comprehensive development framework requires a holistic assessment of the facility’s capacity and market opportunities. The methodology below has shaped this study, with each task shaping the next. Although the process is completed in succession, it is considered to be more iterative, with tasks being revisited based on the information collected. This approach demonstrates a strong link to the Kenora Airport Authority and appropriate stakeholders for inputs, feedback, and collaboration throughout the project.

FIGURE 3 – PROJECT METHODOLOGY



The Project Team has engaged in a thorough analysis of available background information, a detailed facilities review, and stakeholder engagement. The knowledge obtained through this process has been aligned with base plans and existing services, allowing several development opportunities to be identified.

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2.0 The Airport Infrastructure

2.1 THE CURRENT ENVIRONMENT

The existing airfield and pavements are in relatively good condition for the airport. The main apron area is congested, at times, and the facilities are not located in areas that support servicing of aircraft or passengers. The airport is presently considering replacement and upgrade of its airfield lighting. The airport has a small staff and handles the fuelling at the site, as the dealer for Shell.

The Critical Aircraft:

TP312 5th edition (draft) is a change from the 4th edition in that it is designed, from the outset, to provide an airport environment from an aircraft perspective. It sets out rules for classifying aircraft into Aircraft Group numbers which are determined from physical and performance factors.

It is reasonable to assume that for near-term planning, based on its growing use for smaller market airports, the Bombardier Q-400, an economical 78 seat turboprop, be selected as the current critical aircraft. The Q-400 falls under classification Critical Group Number (AGN) 111A, as does the Bombardier CL 415 water bomber already based at Kenora.

2.2 THE RUNWAY PROTECTIONS

The project team presented preliminary zoning and development options to the Kenora Airport Authority Board, LOWBIC executive, the Mayor of Kenora and other stakeholders and it was determined that the long-term protection should be related to the critical aircraft being the B737 and planning opportunities refined around this airfield protection and zoning. The overall site plan is included as Appendix A, with further contour detail, obtained through Google Earth, included as Appendix B.

Precision vs. Non Precision Approaches

Kenora Airport Runway 08-26 is not equipped with an instrument landing system (ILS) and is classified as having Non Precision approach runways. In the future, with rapid technology expansion including the wide area augmentation system (WAAS) to provide improved vertical positioning to Non-Precision GPS approaches with relatively low visibility minimums, and at relatively low cost, it is likely Kenora airport will retain a Non-Precision runway environment.

Runway End Safety Areas (RESA's)

For Kenora Airport Runway 08-26, the TP 312 5th edition (draft) mandates runway end safety areas (RESAs) starting at runway end, twice the width of the runway (45 m x2) and extending at least 150 m from the runway end (threshold). For the portion of the RESA within the runway strip (60 m) the maximum longitudinal gradient is 1.75% while for the remaining 90 m the gradient can increase to 5%.

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At Kenora this can be easily be achieved at the 08 threshold (that in the past has been displaced about 60 m), but it is not feasible from the 26 threshold due to a steep incline beyond the threshold to the Jones Road. To construct the required RESA beyond the 26 threshold, a displaced threshold of about 120 m will be required. This will reduce the existing runway length from 5800' x 150' (1760 m x 45 m) to 5400' x 150' (1646 m x 45 m).

Runway Length

The takeoff distance for the CL 415 (disposable load) is listed at 2750' (540 m) and for the Q-400 it is 4600' (1402 m) at standard maximum weather and payload conditions, so the proposed 26 threshold displacement to runway length 5400' will permit Q-400 operations. With appropriate markings (chevrons) and offset threshold lighting, the TORA (takeoff run available) could remain unchanged.

Existing Runway 08 Displace Threshold

To determine the reason for the existing runway 08 displaced threshold (approximately 200 feet / 60 m), a profile of the extended runway centerline and approach surface was created from available contours (Google). The apparent reason is a hydro transmission corridor crossing this extended runway centerline about 800 metres west of the threshold. Based on the contour-created profile, and assuming an 80' (24 M) line height, these lines could have been identified as obstacles resulting in the threshold displacement. The created ground profile along the extended runway centerline is otherwise relatively flat for roughly 5900' (1800 m) (see Appendix C). This indicates that runway 08-26 could physically be extended west to over twice its present length if the hydro lines were to be relocated underground for the distance across the runway stop/ approach surface / transitional Surface (approximately 1000 m).

Long Term Airport Land Use Planning Parameters

A desirable objective expressed by the Airport Authority is to provide for B737-600 type (130 passengers) charter service. This aircraft falls under AGN 111B which has the same airside pavement geometrics as AGN 111A (Q-400) but has heavier gear loadings and a longer runway requirement (roughly 7000 feet depending on payload and weather). The major geometrics criteria difference between non-precision AGN 111A and 111B is in obstacle limitation surfaces. The strip width is 75 m each side of runway centerline for AGN 111A and 122 m for AGN 111B. As a result, the strip edge lower and upper segment transitional surfaces are similarly offset.

In some circumstances because of airport development close to the runway, the strip width difference would have a heavy impact on buildings, structures, and aprons. However, for Kenora Airport the adoption of AGN 111B obstacle limitation surfaces for future long term planning, has minimal impact. As a result, this report has adopted the AGN 111B surfaces for long-term planning. While existing buildings in the airport operations area are generally outside the AGN 111B surfaces, the customs building constitutes an obstacle and the present air terminal building is borderline. Since the long-term concept plan proposes replacement of all the operational area buildings, with the exception of the NAVCAN Control tower, a consolidated passenger processing facility (ATB, CBSA, Admin, Pilot Lounge, FBO, etc.) and a Combined Services Building (CSB) and yard (maintenance garage), these obstacles, plus possibly several communications towers, are planned to conform to AGN 111B.

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2.3 APRON DEVELOPMENT

The B737 was utilized in designing the main apron to ensure it has both the taxiing and maneuvering capability, as well as parking for 3 aircraft at the passenger processing facility. There is a reconfiguration of the apron layout as well as a height limit line that is protected for the tail height of the 737 aircraft. Apron reconfigurations and appropriate future airside/groundside delineations are displayed in Appendix D. The apron reconfiguration:

- Honours the primary existing geometric alignments of the airport (Runway 08/26) and the existing taxiway/commercial apron;
- Optimizes use of the existing apron pavement;
- Provides B 737 – 600 tail height clearance for three (3) power in/ power out gate stands; and
- Provides facility airside face with a convex curvature to provide better power in/power out clearances at gate stands than with a straight face facility.

Further detail is demonstrated in Appendix E, which displays existing pavement and transposed development plans.

Apron Layout

The objective of the revised main apron layout and passenger processing facility is to allow for 3 future power in / power out gate stands for B737 600 aircraft and a bypass / access taxi lane. No allowance is provided for aircraft long-term parking on this apron although it is provided elsewhere, as well as a probable location for central deicing, and general aviation tie-downs.

The reason for the absence of aircraft parking on the main apron is to allow sufficient room for adequate groundside car parking associated with the passenger processing facility, the facility itself, and the ability to provide aircraft gate stands with adequate clearance below the lower segment of the transitional surface to allow for the B737 600 12.6 m tail height.

In the long-term, the cost of burying the hydro lines may not be cost effective in relation to a B737-600 runway extension; however, provision of the option in the airport plan is prudent. In any case, the more generous obstacle limitation surfaces for AGN 111B is a safety bonus since all criteria given are minimums.

The addition of a new taxiway Bravo is shown to provide improved flow and access for the Apron 2 area as well as circulation for the main apron. The future development of airside lots could see the expansion of a parallel taxiway C and relabelling of the MNR taxiway as D.

2.4 AIRSIDE OPERATIONAL SUPPORT

The airport could utilize a combined services building, at a future point in time, and this would be best located adjacent to the passenger processing area and provide direct and easy access to airside. The current groundside parking area would be reconfigured for parking and there would be a requirement for realignment of airside and groundside fencing integrated into a new maintenance site.

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2.5 THE PASSENGER PROCESSING FACILITIES

The passenger processing facilities and passenger experience are not at the level they should be, nor are they consistent with the level of service that is provided for passengers and the pilot community. The facilities at the Kenora Airport are dated and lacking an effective layout and processing flows for the current operating environment. There are **several buildings that are not suitable for re-purposing or investment in renovating to address the passenger processing** and associated activity at the airport in its land use planning. The Shell FBO, the passenger terminal, the customs facility, the old Nav Canada site, the old flight training facility, and a storage building have all been identified as properties to remove at a time when suitable replacement facilities could be established. The land use plan addresses a realignment of the access road, proper vehicle parking (potential for 110 – 120 cars with careful alignment), employee parking, airport maintenance facilities (combined services building and yard) and **an integrated structure for passenger processing that could house the new terminal with Customs space and facilities for both international and domestic traffic as well as an FBO with pilot's lounge and passenger facilities (see Appendix F)**. The new facility is positioned with a convex airside face to better accommodate aircraft maneuvering and is sized as 30 meters by 134 meters to accommodate the above noted integrated facilities. The fuelling operations would have the bowsers access the property through the airside gate adjacent to the maintenance facilities and the bowser fuellers would be stationed at the east end of the facility in the area prior to accessing entry to the Apron 2 area for easy access to the FBO and GA clientele.

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3.0 Potential Aviation Related Development Assessment

A successful development strategy should always consider the internal environment and existing relationships. This process will address any capacity issues and reduce organizational risk. By completing an assessment of aviation related development, the Project Team will ensure the Airport's current needs can be sustained and external development will align with their operations and objectives. Specific aviation related development opportunities have been identified within the general aviation market (including fixed base operations and fuelling), airline scheduled and charter service market, aircraft maintenance and value-added services, and the Ministry of Natural Resources (MNR) aviation services.

3.1 GENERAL AVIATION

The Kenora Airport serves several private aircraft owners on a year-round basis, and a number of seasonal residents during the summer months. Appealing to the general aviation community also aligns well with the City's tourism initiatives and vision as a "lifestyle community". Opportunities may exist to offer enhanced general aviation facilities and services including parking tie-downs, aircraft handling, and other incentives. The local private aircraft ownership market is seeing fewer aircraft owners, but there is likely to be an increase in high end private jet aircraft activity in the near to mid-term as seasonal lake property owners fly-in to their properties. ***The airport could benefit from an improved FBO facility that caters to both pilots and their passengers in a physical environment that would match the high- end service they receive at the airport.*** The ability to attract additional general aviation activity would benefit from collaboration with the City of Kenora through an awareness campaign targeted to the general aviation market.

3.2 AIRLINE SCHEDULED AND CHARTER SERVICE

Bearskin Airlines currently offers scheduled service through the Kenora Airport. Bearskin is a regional airline that serves a number of communities in Northern Ontario, with major destinations that include Winnipeg and Ottawa. ***The Airport is served by Customs on-site, which is an advantage for the community versus other northwestern Ontario airports that do not offer this service.*** Acquiring additional scheduled carriers is an attractive opportunity for the Kenora Airport, however, seasonal population movements present an obstacle. Securing two-way passenger traffic may prove difficult, as few individuals travel to Kenora by air during the winter months. Despite these obstacles, with a growing number of visitors from western Canada, there may be opportunities to offer direct flights to Kenora from key locations during the summer months through charter or extra sections for carriers including Delta partners in the US market.

3.3 AIRCRAFT MAINTENANCE

The airport has the land and the capacity to position itself as an ***aviation maintenance centre and its easy access to the by-pass may provide a market for aircraft owners to leave their planes for winter storage and maintenance.*** It could also be an easy stop for regular maintenance in the general aviation community. The Discovery Air operations as well as MNR facilities could provide a base for aircraft servicing, although this is a competitive and challenging market.

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3.4 MINISTRY OF NATURAL RESOURCES

The Government forest fire fighting program has a couple of its CL415 water bomber aircraft based at the airport and there is a substantial facility for its operations established on a long term lease with the Kenora Airport. The MNR has a significant presence at the Dryden Airport, which is not expected to diminish in the near-term. The Ontario HQ for the MNR forest fire and water bomber program is in Sault Ste. Marie, where the majority of the aircraft maintenance is performed. This market will also prove difficult to penetrate, as a simulator for training on these unique aircraft has been recently added to their operations. The ongoing relationship with MNR is important, and the acquisition of their waterfront operations, for a remote float plane base with oversight by the Kenora Airport Authority, should be considered in the future.

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Potential Groundside Development Market Assessment
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4.0 Potential Groundside Development Market Assessment

Groundside development occurs on lands without direct access to airside operations. Groundside development offers opportunities to increase airport revenues, often through leases, while creating new business and employment opportunities for the community. Given the scale of available land and high level of municipal servicing, significant opportunities exist for groundside development on Kenora Airport lands. The airport has approximately 96.3 acres of groundside land available to develop, with a significant section in the northwest quadrant. Appendix G provides a conceptual plan to develop this section into an industrial business park, as highlighted during stakeholder consultations. ***The groundside lands have great access to the Kenora by-pass for trucking activity as well as easy access to the city of Kenora.*** Adjacency to the airport is a benefit, but not seen as a key driver for groundside development. Four primary markets have been identified for potential groundside development: Industrial, Commercial, Residential, and Training.

4.1 INDUSTRIAL

Given the City of Kenora's seasonal population and the characteristics of its labour force, industrial development presents opportunities to meet the needs of a broad market segment and align with objectives outlined in the City's "2014 Strategic Business Plan" and "Economic Development Plan (2012)". Through conversation with Lake of the Woods Business Incentive Corp. (LOWBIC) and the Federal Economic Development Initiative in Northern Ontario (FedNor), ***opportunities to develop groundside industrial operations, on the serviced lands at the airport, have been identified.*** These opportunities, not specifically named in this plan, include the potential to construct industrial facilities and secure long-term leases for the Airport. The Project Team prefers the option of leasing airport lands because it offers a continuous stream of income and allows the airport to retain a greater level of control on the purpose and use of the land. This will be further discussed in the Development Guidelines section of this plan.

The industrial opportunities, in the short term, could result in ***the development of up to 10 acres of serviced land adjacent to the Airport Road.*** This is a tremendous opportunity to provide industrial facilities, and the associated job creation, at a location with great access and enough land to ensure compatible land use in the vicinity. Industrial development, both logistics/distribution facilities as well as manufacturing, are good land uses for the airport vicinity. A caveat is to be cautious about the manufacturing processes, and exhaust or other elements that may cause a visual impairment for the aviation environment, when approving development projects. In the long-term, the potential for industrial land development is likely to experience a slower absorption rate, but the land and servicing capacity is available and can be phased-in to accommodate future demand. The land use would need to protect future industrial lands and ensure the surrounding properties are zoned in a compatible manner.

4.2 RESIDENTIAL

Residential development already exists along Airport Road approaching the Kenora Airport. This demonstrates an interest in residential property in the area, and necessitated a review and assessment of future expanded residential as part of groundside development planning. ***Given the strong***

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preference of individuals to own residential real estate and the high levels of maintenance required to rent such properties, the Project Team is not in favor of residential development. The expansion of residential in the groundside lands will potentially constrain the further expansion of industrial development, as there is a point where these are not compatible adjacencies. Given the benefits of leasing groundside property, residential development is not advised. The older residential properties along Airport Road and in closer proximity to the terminal development area may be considered for purchase and integration into the airport lands in future.

4.3 TRAINING

The airport location and level of activity, combined with its ease of access from both air and ground perspectives, present opportunities to consider a training centre on the airport property. This type of development and training does not require airside use but is adjacent to the airport for easy facilitation of student learning and visual familiarization with the airfield. The programs could direct training to collaborative training initiatives with Seven Gen, aimed at apprenticeship opportunities in aviation. This could be aircraft maintenance engineering, including avionics, as well as aircraft fuelling, or other aviation services. This is a niche opportunity but it is worth pursuing on airport property.

4.4 COMMERCIAL DEVELOPMENT

Lands in the immediate vicinity of the terminal reserve area also have the potential to serve as commercial sites. The commercial potential is primarily related to passenger activity and traffic and there are several development opportunities. One is to ***consider an on-site hotel/motel operation***, which would serve the traveler as a stop-over, targeted to the expanding general aviation market as well as early morning fly-in fishing guests. This facility could also provide accommodation for the training environment in future. This is likely not a near-term opportunity but could evolve and enhance other aspects of the airport operations such as the GA, fuelling, and charter operations by offering accommodation on-site. The other potential development could be to ***expand fuelling and provide a small retail outlet***, which could be available to industrial vehicles, passengers, and regional traffic in the area. The market and drive-by activity is likely insufficient, but a card lock system may generate some groundside development and activity at a reasonable investment.

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5.0 Development Guidelines

5.1 THE OWNERSHIP

The Kenora Airport Authority and its airport management are challenged by managing a capital intensive environment with a constantly changing airline and aviation market. Airports that can best diversify their revenue base and activity while controlling airport lands, by establishing sound development or zoning caveats on surrounding properties, are well positioned to face the challenges of the aviation industry. Setting rates, charges, and fees are also a critical element of establishing a solid cost-recovery environment for the airport, its tenants, and users.

5.2 THE EXISTING DEVELOPMENT ENVIRONMENT

The Airport's property consists of approximately 380 ha. While a majority of these lands are reserved for airport operational requirements (i.e. runways, taxiways, navigational aids, parking, aprons, etc.), the Land Use and Development Plan does identify three (3) specific development areas for attention, each of which are phased developments as shown in the overall site plan in Appendix A.

The areas are as follows:

- Passenger Processing Area and site redevelopment;
- Airside development; and
- Groundside commercial and industrial development.

5.3 LAND DEVELOPMENT PRINCIPLES

The Kenora Airport Authority and airport management has approximately roughly 131.1 acres available for development (see Appendix H) and it is essential that there is a clear land use plan and set of land development principles to guide and direct the land related activities of the Kenora Airport Authority. It is also worth noting that the more aviation activity that occurs at an airport, the more valuable the airport's land becomes. Thus the efforts to generate diversified revenues and secure land development opportunities will be enhanced through the activity that stimulates the aviation environment. In reviewing the aviation industry and airport lands, several related issues are now explored.

5.3.1 The Land Use Plan

The airport lands are defined through an Airport Land Use Plan, which also identifies the planning hierarchy and areas that are necessary to protect airside operational requirements, future airfield requirements, air terminal building (passenger processing facilities) and reserve areas, while providing land for general aviation, airside commercial, groundside industrial/commercial lands, and ground transportation reserves. The Land Use Plan is specific to the lands that are owned by the Airport. It may identify future land requirements for acquisition while coordinating the protection of these lands through the municipal planning authority, as they are not directly under the Airport's control. Airport Area

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Studies and Vicinity Development Plans act as planning tools to broaden the reach of the airport and its control, while protecting lands it does not own but are affected by airport zoning. Land is the most valuable asset for an airport and primarily provides protection for the aviation environment.

Once the capital investment and airside infrastructure is developed, there is a requirement to establish fees and charges for the use of the airfield that support the overall capital cost recovery. There are few airports that recover all the airfield costs through its airfield fees and charges. The airport would lose some ability to be cost competitive if it simply recovered the airside costs through the air carrier user community. Thus the airport must look to develop alternate revenue streams. The other benefit of land development on airport property is that it is not as sensitive to economic swings, and rents can be a stable source of income in periods of slower aviation activity. Land development is an excellent source of airport revenue and can provide new investment into the airport as well as securing a long-term client base.

The lands to consider for development will be designated as industrial or commercial lands with further definition for airside access or groundside development only. This is an important designation as the **lands that have direct access to the airport's airside and airfield are premium properties that generally command a higher price than airport groundside lands**. The other factor in the valuation of the land is the level of servicing. **Fully-serviced lots command a higher rate and price** that reflects the full-service costs while un-serviced land has limited use and/or implications for the developer to provide the services to the land.

5.3.2 Airport Vicinity Development

Most airports, like Kenora Airport Authority, own their own land and designate land uses that identify areas for business parks or industrial and commercial development that is consistent with the overall Airport Development Plan. The issue is a little more tenuous when there is adjacent development not owned by the airport. The proper aeronautical zoning does provide protections for height and hazards on approaches that are critical for aviation activity, but it still requires a careful watch and active communication with the surrounding properties and their owners to protect the aviation environment.

5.3.3 Leasehold vs Fee Simple Ownership

The decision to develop airport lands, as is the case with Kenora Airport Authority and its three (3) distinct development areas, requires a framework and the approach to attracting interest in the airport lands for development. The positioning of airport lands into a Business Park or Trade Zone is a common practice at airports (particularly larger airports). The zones or business parks are tailored to support the core businesses at the airport. The Stantec proposed land use plan has done that to a degree, with its three areas, and this will be further reviewed later in this module.

The framework for the Airport starts with the significant decision to strictly lease land or consider land sales, and under what conditions. The industry norm is to lease land and not to sell unless it is surplus to the airport's immediate and long-term requirements and airfield protections. This surplus land can be sold for the benefit of generating cash to reinvest in the airport (or put into a reserve fund) and to remove the land from its inventory and reduce its tax (or grant in lieu of tax) exposure and cost. There are occasionally reduced operating costs associated with the sale of airport land. **Land is the only asset**

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category that does not depreciate and the airport can hold onto this asset through leasing, while providing the future tenant/lessee the opportunity to develop the ‘improvement’ on the property that is depreciable. The improvement is the structure or development that is added to the land, consistent with the purpose clause in the lease, and its scope and investment is generally tied to the length of term of the lease. The more significant the capital and financing required to pay for the ‘improvement’ (or asset), the longer the lease term that is usually granted. Leasing of land is the common practice on airports around the world to provide tighter control over the property’s use as well as generating a return on the land, which is a valuable income stream for the airport.

There is occasion where a developer or prospective airport client has difficulty getting financing associated with leasing of land. This is generally not strictly related to the concept of leasing but rather the term and the renewal opportunities associated with the lease. **The financing party wants to have security to hold against the loan or mortgage and this can be simplified if it has title to the land.** The provision of a legal description and the naming of the financial institution in any insurance policy against the leased land as well as their interest in the asset developed can assist in meeting the security requirements.

The selling of land is referred to as **Fee Simple transaction** and it transfers permanent title to the buyer. Fee simple is “absolute ownership unencumbered by any other interest or estate, subject only to the limitations imposed by the governmental powers of taxation, etc.” It is imperative that all parties involved in this process, including users, are familiar with both the implications of such an action and the procedures that must be followed. A change in use of airport property has the potential to endanger the survival of the airport through incompatible land use, encroachment, safety implications, and loss of revenue, all combining to decrease the viability of the airport.

In many cases, use of airport property for non-aviation revenue-producing activities is not necessarily an adverse activity. **What is important is that the airport benefits from that activity, usually financially.** It is important to ensure that any development at or near the airport provides appropriate airport land-use compatibility, which primarily focuses on safety and noise-related issues. Creating land-use compatibility between airports and proposed developments near airports will help protect the airport's future viability.

5.3.4 Pros and Cons of Selling Airport Land

Pros of Selling Airport Land	Cons of Selling Airport Land
It generates greater cash up front for the airport;	The airport loses title to the land and can lose some control over its environment and protection of its investment in the longer term;
It can support airport development in underdeveloped areas of the airport;	The revenue potential is mostly up-front and then it is reduced compared to the leasing of land;
It can be of assistance in financing significant private investments and developments at the	The land owner has rights of quiet enjoyment and can create a disruptive environment for the airport while

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airport through title transfer (and land transfer in perpetuity);	still meeting the terms of sale;
It can secure a long-term commitment from a desirable partner/investor;	The land owner may dispute fees associated with the airport and it may create a challenging environment to isolate or remove access for the owner to the airport once the land is sold;
It can reduce the airport's footprint and reduce its tax or grant in lieu of taxes;	The land owner may not maintain the property to a degree that is satisfactory to the airport and there is limited ability to enforce on the land owner's property;
The airport can minimize its exposure to environmental concerns and liability;	Despite purpose intent, the land use could change to be somewhat compatible (ie airside commercial to groundside commercial) but affect the access and utilization of the airfield and its significant investment;
	The land owner has the right to re-sell and can benefit from the expansion and development of the airport while not participating in its continuing investment or development.

5.3.5 Leasing of Airport Lands

Commercial real estate developers and investors often favor total **fee simple ownership** of income property. The propensity to own - and the emotions attached to it - sometimes result in misguided decisions, poor strategies, and lost opportunities. Once developers move beyond the notion of ownership as an investment goal, new opportunities such as ground leases, become apparent. ***In its most basic form, a ground lease, or land lease, separates the ownership of land from the ownership of the improvements on the land, such as an office building or aircraft hangar.*** The landowner leases the land to the developer of the improvements, who pays rent for use of the land. Typically ground leases are long-term and include set rent escalations, foreclosure rights should the lessee default, and a ***reversionary right, which means property improvements revert to the landowner at the end of the lease term.*** While such lease terms do not particularly favor developers, ground leases offer some distinct advantages.

Ground leases transfer control - not ownership - of a property, and for landowners are considered one of the most secure forms of real estate investment. Landowners are still investors through supply of the land and may be open to developers who offer them a stake in the improvements erected on their land. ***Generally the land lease will have 20 to 50 year terms, which provide the timeframe to properly amortize the investment and provide it with a correlated 'useful life' of the asset.*** Prior to the end of the lease there may or may not be the opportunity to re-lease the land and/or the improvement. The developer/lessee is responsible for the operating costs associated with the leased property (ie. parking lot and landscaping/grass cutting) and contribute to other common use costs

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(airport maintenance costs or AMC) associated with the airport. The general structure for revenue of the Land Lease includes the following components:

- **Land Rent** (market based);
- **Improvements** (facilities – market based; if the improvement has been developed or transferred to the landlord/airport);
- **Common use charges (AMC);**
- **Taxes;** and
- **Operating costs are tenant responsibility** (there can be an additional service fees for handling the tenant's requirements such as snow clearing parking lots and aprons that can be profit centres for the airport).

5.3.6 Vesting Principles

The reversionary right or vesting of improvements to the landowner occurs in a leasing environment where there is an improvement on the land that has reached or surpassed its useful life and the land owner has not requested removal of the improvement. The developer/lessee enters a lease with a reasonable term for properly financing and generating a higher cash flow for its business than would be the case in a fee simple environment. ***The developer's requirement for cash is reduced because of the land value that the landowner brings to the deal.*** The reduction in cash usually causes the investment yield to increase when the income stream is extended into the future.

The reality is that this can be a positive environment on Day 1 but contentious as the lease nears expiry. This can be mitigated through other Ground Lease considerations that include the length of the lease term, the approach to the reversion covenants (to provide clarity on vesting and some added benefit to the lessee), and extension and renewal rights and options. These renewal rights may provide the lessee additional use of the improvement at existing conditions based on upgrades and new investment credit that relates to term extensions. Additionally, there may be preferable treatment outlined that provides the lessee the opportunity to utilize the improvement (recognizing it has transferred to the land owner) at an additional rent to be determined at that time and based on a predetermined rate.

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5.3.7 Pros and Cons of Leasing Airport Land

Pros of Leasing land for airport	Cons of Leasing Airport lands
Lower entry price for the developer/tenant than Fee Simple property;	The lessee improvements revert to the Land owner at end of the Lease and this can cause conflict with Lessees/tenants (this is known as vesting and will be discussed later);
Lease payment may be tax deductible where Fee Simple land cannot be depreciated or written off against income;	
The airport can generate a good rental income with annual increases that match inflation and cost indexes;	There may be some environmental exposure to the land use (although this is passed along to the tenant in the Lease, there is always some residual responsibility of the land owner);
The airport can recover common use charges and taxes on the property with no concerns about payment (terms for disputes and non-payment are clearly spelled out);	
A tenant that has not maintained the property or breaches the conditions of the agreement can be dealt with and can lead to termination of the lease and forfeiture of the improvements;	
The airport maintains complete development control over the land and its improvements;	
The airport can coordinate the long term development of the airport through its leasing environment while protecting its assets;	
The airport can have improvements removed or transferred to the airport in title through vesting;	

5.3.8 Through the Fence

There are instances when the owner of a public airport permits access to the public landing area by independent operators offering an aeronautical activity or by aircraft based on land adjacent to, but not a part of, the airport property. This type of arrangement is commonly called a through-the-fence operation. Through-the-fence operations include businesses or individuals that have access to the airport infrastructure from outside airport property, or that utilize airport property to conduct a business but do not rent business space at the airport. The Kenora Airport may have something on the south side in the future but this is not likely.

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There is no obligation for an airport to provide such access; rather the issue is dependent on negotiating an agreement, which will benefit the airport. If an airport allows such access, the service provided by the newcomer should include some type of compensation, similar to those paid by other business tenants at the airport. **Frequently, a yearly fee, percentage of the gross profits, or access fees are satisfactory ways of allowing this type of operation.** Again, it is important that the airport operator ensure that a through-the-fence operator be subject to conditions similar to those applicable to the businesses at the airport.

The development of neighboring airport property for use by an individual or firm that utilizes the airport can provide the airport additional service, or introduce "airport friendly" neighbours. However, the airport must contend with the legal, insurance, safety, and management implications of such development. Allowing access to one through-the-fence operator may invite future or previously denied operators the opportunity for the same privilege. Ultimately, the airport will have to consider all of the pros and cons of through-the-fence agreements at their airport.

Airport businesses, the majority of them small businesses, invest billions of dollars in creating on-airport service facilities that provide for the needs of the flying public. Airport businesses are controlled by stringent oversight by the airport sponsor to ensure their services support the needs of the airport and the public.

5.4 FEES AND CHARGES FRAMEWORK

The following principles are identified as a possible framework for the fees and charges environment for Kenora Airport Authority.

5.4.1 Establishing Land Rental Rates

Most rental rates are established by using local market rates to reflect the supply of and demand for rental land in a local area. The general approach used to determine an appropriate rental rate is to gain information on a lease transaction in the region. This can be difficult with few comparable transactions, so a market capitalization rate is often used. **Where sufficiently detailed information is not available, the capitalization rate will be useful in calculating out a rent.** It should be noted that competitive airport rates from larger (and high land value) airports can provide a cost advantage for an operator in targeting a prospective tenant.

Capitalization rates, or cap rates, provide a tool for investors to roughly value a property based on its Net Operating Income. **Reciprocally, when there is an indication of the value of property, it can use a cap rate to determine the appropriate rent to charge an occupant.**

The variables are the land value, the cap rate, and the rental rate.

A comparatively lower cap rate for a property would indicate less risk associated with the investment (increasing demand for the product), and a comparatively higher cap rate for a property might indicate more risk (reduced demand for the product). Some factors

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considered in assessing risk include creditworthiness of a tenant, term of lease, quality and location of property, and general volatility of the market.

5.4.2 Airport Maintenance Charge

The ***Airport Maintenance Charge*** for the airport should be added to all Lease properties. The airport maintenance charge is to be applied to all airport properties and recalculated every five years with an annual Consumer Price Index (CPI) increase to adjust the charge. The recalculation is based on the common use costs of the development areas (roads, utility corridors, and public access areas that are utilized by airport tenants and maintained by the Airport) and divided by the total area of the developed and land planned for development within the next five years.

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The Land Use Development Recommendations
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6.0 The Land Use Development Recommendations

There are some general recommendations for guiding the airport and its land tenure approach:

1. **Reconfiguration of the passenger processing area:** this will require a systematic process of removing buildings to create the footprint required to site a new integrated facility for the airport. The new integrated passenger processing facility would incorporate the air terminal building, CBSA facilities, FBO, and pilot's lounges. The facility would utilize a convex design that both provides better aircraft maneuvering on the main apron and also could enhance the airside visibility for passenger interest. The airport would benefit from the improved access roadway system, defined parking areas, and enhanced facilities and services for the travelling public. The airport would see a small realignment of the Apron 2 area in a property exchange (if the apron is Walston leased property) to accommodate the appropriate parking area serving a new integrated passenger processing facility.
2. **The main apron redevelopment for future B737 activity:** integrated into the passenger processing facility, the apron work will require some expansion and minor realignment to 'fit' with the new passenger facility.
3. **Prioritize the industrial development of the Airport Road adjacent lots:** the industrial land use plan has the advantage of being fully-serviced and can be developed quickly to establish an anchor development in the Airport Business Park, as well as increase the visibility of its expansion and development potential. This will also generate a revenue stream for the airport to undertake future projects, such as the relocation of maintenance areas.
4. **Consider relocation or redevelopment of a combined services facility:** the airport maintenance and its equipment storage and maintenance areas could be enhanced and repositioned adjacent to the airside with easy groundside and airside drive-through bays. This is likely an intermediate development project but can substantially improve the operations support for the airside and its users.
5. **Consider land acquisition of residential lands:** the lands along Airport Road in proximity to the passenger processing area should be considered for purchase to further protect and optimize the industrial development potential for the airport Business Park.
6. **Begin the dialogue with the province to bury the power line:** the power line to the west of the runway should be buried to remove the obstacle and provide a clear approach slope for both future runway extension potential and proper RESA protection.
7. **Establish airside lots to the east of the main apron as demand dictates:** airside demand can be met through the lot configuration identified in the Land Use Plan and the associated apron and taxiway connections can be added consistent with demand. Larger developments that may consider Kenora Airport can be accommodated parallel to the runway and a future parallel taxiway C can be installed with a button to the east.

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The Land Use Development Recommendations
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8. **Future role and development linkage:** consider the potential to acquire the MNR waterfront site to establish a satellite base for float plane operations and oversight by the Airport Authority.

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Bibliography

- City of Kenora. 2012. *Economic Development Plan*. Lake of the Woods Development Commission. Accessed Online: [Mar. 12, 2014].
- City of Kenora. 2013. *Casino Package*. Lake of the Woods Development Commission. Accessed Online: [Mar. 12, 2014].
- City of Kenora. 2014. *2014 Strategic Business Plan*. Lake of the Woods Development Commission. Accessed Online: [Mar. 11, 2014].
- Grant Thornton. 2007. *Proposed Performing Arts and Conference Centre & Downtown Opportunity Assessment*. Accessed Online: [Mar. 11, 2014].
- Statistics Canada. 2007. *Dryden, Ontario (Code3560027) (table). 2006 Community Profiles. 2006 Census*. Statistics Canada Catalogue no. 92-591-XWE. Ottawa. Released March 13, 2007. <http://www12.statcan.ca/census-recensement/2006/dp-pd/prof/92-591/index.cfm?Lang=E>. (accessed March 11, 2014).
- Statistics Canada. 2012. *Kenora, Ontario (Code 598) and Ontario (Code 35) (table). Census Profile. 2011 Census*. Statistics Canada Catalogue no. 98-316-XWE. Ottawa. Released October 24, 2012. <http://www12.statcan.gc.ca/census-recensement/2011/dp-pd/prof/index.cfm?Lang=E> (accessed March 12, 2014).
- Statistics Canada. 2014. *Labour force characteristics, seasonally adjusted, by province (monthly)*. Accessed Online [Mar. 12, 2014]. <http://www.statcan.gc.ca/tables-tableaux/sum-som/l01/cst01/lfss01b-eng.htm>.
- Urban Land Institute & PwC. 2013. "Emerging Trends in Real Estate - 2014." Washington, D.C.

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Appendix A Overall Site Plan
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Appendix A Overall Site Plan

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Appendix B Contoured Site Plan
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Appendix C Approach Slope Profile
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Appendix C Approach Slope Profile

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Appendix D Apron Reconfiguration & Airside Development
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Appendix D Apron Reconfiguration & Airside Development

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Appendix E Existing Pavement Comparison
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Appendix F Airside & Groundside Delineation
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Appendix F Airside & Groundside Delineation

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Appendix G Industrial Business Park
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Appendix H Airport Development Areas
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