

To: Development Services Committee

From: Paul D. Ralph, BES, RPP, MCIP, Commissioner,
Development Services Department

Report Number: DS-16-67

Date of Report: April 14, 2016

Date of Meeting: April 18, 2016

Subject: Airport Capital Implementation Plan Related to the
Reconstruction of Runway 12/30 at the Oshawa Executive
Airport

File: F-2510

1.0 Purpose

The purpose of this report is to obtain Council approval to retain engineering consulting firms to peer review/audit the drawings and construction documents related to the reconstruction of the primary Runway 12/30 at the Oshawa Executive Airport.

Attachment 1 is a plan showing the location of Runway 12/30 at the Airport.

2.0 Recommendation

That the Development Services Committee recommend to City Council:

That, pursuant to Report DS-16-67, Total Aviation & Airport Solutions (T.A.A.S.), the City's airport contract management firm, be authorized to retain two qualified independent engineering firms to support the quality control and quality assurance provisions of the airport safety management system relating to the preparation of the drawings and construction documents for the work related to the reconstruction of Runway 12/30 project and the extension of the Runway End Safety Areas at the Oshawa Executive Airport in a total amount not to exceed \$55,000 excluding HST.

3.0 Executive Summary

Not applicable.

4.0 Input From Other Sources

The following have been consulted:

- Executive Director of Finance/Treasurer
- Director of Engineering Services
- Airport Business Plan Working Group
- Airport Manager
- Manager of Purchasing Services

5.0 Analysis

5.1 Airport Business Plan

The City has committed to operate the Airport to not less than 2033, regardless of whether Pickering opens, in order to attract new investment and allow the Airport to fulfill its supporting role as an economic driver of the City, Regional and East GTA economies.

Infrastructure renewal and maintenance is critical at the airport for safety and liability reasons and to meet the formal obligation to operate the airport as a certified airport within Transport Canada standards.

In June of 2015 Council approved the 2015–2019 Oshawa Airport Business Plan. The Airport Business Plan included an Airport Infrastructure Assessment and a 20 year capital plan prepared by WSP Consultants.

The Business Plan included the following goals:

- That a plan be developed to undertake the airport's capital needs as outlined in the 20-year capital plan;
- That a strategy to implement the capital works identified in the capital plan be developed to minimize the impact of the required work on the airport operations, its users and the corresponding loss of revenue associated with airport closures necessary to complete the work; and,
- That the major reconstruction work identified for Runway 12/30 be completed before the closure of Buttonville Airport. Buttonville Airport is anticipated to close as early as October 2016 however there is speculation that it will remain open until the fall of 2017.

The majority of the airport runway surface and electrical infrastructure is nearing the end of its life cycle. The capital plan recommends the work be completed as each item and area

reaches the end of its life cycle with the majority of work being required between 2015 and 2020.

Runway 12/30 (see Attachment 1) is the primary runway at the airport and the airport capital plan recommended the reconstruction of Runway 12/30 and its corresponding stopway in 2016. The reconstruction includes the removal of the existing pavement and granular base and the installation of a new granular base and new pavement. The estimated lifespan for this work is 20 years.

The airport capital plan further recommended that the airport taxiway and apron pavement surfaces be reconstructed in 2016.

The Airport Business Plan also identified that the Runway End Safety Areas (RESA) associated with Runway 12/30 must be increased from 90 metres to 150 metres due to a change in the Transport Canada standards. It is appropriate to undertake this work when the runway pavement reconstruction takes place (See Attachment 1).

It is also appropriate to undertake all electrical capital reconstruction such as runway lights and signs when the corresponding pavement reconstruction is undertaken in order to maximize cost efficiencies and to minimize the impact on airport users due to runway closures that may be necessary to complete the work.

5.2 Engineering Review of Airport Pavement of Runway 12/30

In 2015, the City's Engineering Services Branch and the Airport Manager undertook a review of the pavement surface and subsurface structure of Runway 12/30.

The review showed an inconsistent pavement surface and subsurface structure including the presence of organic material which is contrary to sound engineering practices.

The review also indicated that Runway 12/30 currently has approximately 14 lateral frost heaves crossing the runway and a total of 2,826 metres (9,272 ft.) of cracks.

In the fall of 2015 two significant frost heave repairs on Runway 12/30 were undertaken. This work allowed the reconstruction of Runway 12/30 to be deferred for a short period of time beyond 2016.

In consultation with the City's Engineering Services Branch it has been determined that Runway 12/30 should be reconstructed as soon as practical potentially as early as 2017. This work will also include the reconstruction of small sections of the taxiways connecting to Runway 12/30 in order to avoid disruption in airport operations when the remainder of the taxiway and apron work is completed in the future (See Attachment 1).

It has also been determined that the reconstruction of the remaining parts of airport taxiway and apron pavement surfaces may be deferred until 2021 provided small localized repairs are undertaken to the deteriorating areas as the need arises. The airport maintenance budget was increased in 2016 by \$20,000 to cover the costs associated with these localized repairs.

This report is intended to advance work related to the reconstruction of Runway 12/30 as identified in the airport capital plan.

Prior to 2021 the Airport Manager and City staff will report back to Council with a capital implementation plan related to the balance of the capital work such as the reconstruction of the balance of the taxiway and apron surfaces and corresponding electrical upgrades.

5.3 Runway 12/30 Proposed Reconstruction Strategy and Safety Management System Compliance

The Runway 12/30 reconstruction project has been divided into the following two phases:

- Phase 1: Runway 12/30 design, design quality assurance and costing.
- Phase 2: Tender, construction and as-built quality assurance.

As mandated by Transport Canada, the airport has a robust safety management system (SMS) which requires that all functions of airport operations including the reconstruction of airport surfaces and facilities include both a quality control and quality assurance function.

In the case of the Phase 1 work as noted above:

- The quality control function will include designing the pavement and RESA areas to meet the appropriate Transport Canada standards.
- The quality assurance function will be to peer review/audit the completed drawings and construction documents to ensure compliance with the Transport Canada standards.

The City's Engineering Services Branch can prepare the runway pavement and RESA drawings, construction documents and costing provided that the pavement and RESA design standards specific to the aircraft using the airport are provided to staff by a qualified independent engineering firm.

A qualified independent engineering firm is required to be retained to provide the pavement and RESA design standard and to complete the electrical drawings and related construction documents and costing.

Collectively the City's Engineering Services Branch and the above noted independent engineering firm will complete the quality control function of Phase 1.

In order to meet the quality assurance provisions of the Airport SMS as specified by Transport Canada a second qualified independent engineering firm is required to undertake the peer review/audit of all the drawings (e.g. pavement, RESA and electrical drawings) and construction documents. This second independent engineering firm will complete the quality assurance function of Phase 1.

In the case of the Phase 2 work as noted above:

- The quality control function will be to monitor the construction to ensure that the work is completed in accordance with the approved drawings and construction documents. This will be completed by the City's Engineering Services Branch.
- The quality assurance function will be to peer review/audit the as-built drawings, prepared by the contractor, to ensure compliance with the Transport Canada standards. This work will be completed by the same independent engineering firm providing the quality assurance function of Phase 1. This second engineering firm will also support the City's Engineering Services Branch during the construction phase, as necessary.
- Both the Phase 1 and Phase 2 quality assurance engineering work will be tendered together in order to meet the SMS requirements with the Phase 2 component subject to the reconstruction project proceeding in a timely manner.

Consistent with the SMS it is appropriate for T.A.A.S. to retain the engineering firms required to support the quality control and quality assurance functions.

T.A.A.S. will obtain competitive bids consistent with its management contract with the City and the City's purchasing policies.

The City's Purchasing staff will provide assistance and oversight of the engagement of the engineering firms by T.A.A.S.

The Airport Manager and City staff will report back to Council with a recommended plan of construction, timeline, costing and source of funds for the reconstruction work related to the Runway 12/30 project and the extension of the Runway End Safety Areas later this year.

6.0 Financial Implications

The cost to retain the two qualified engineering firms is not to exceed \$55,000 excluding HST. This will be funded through the Airport Development Reserve.

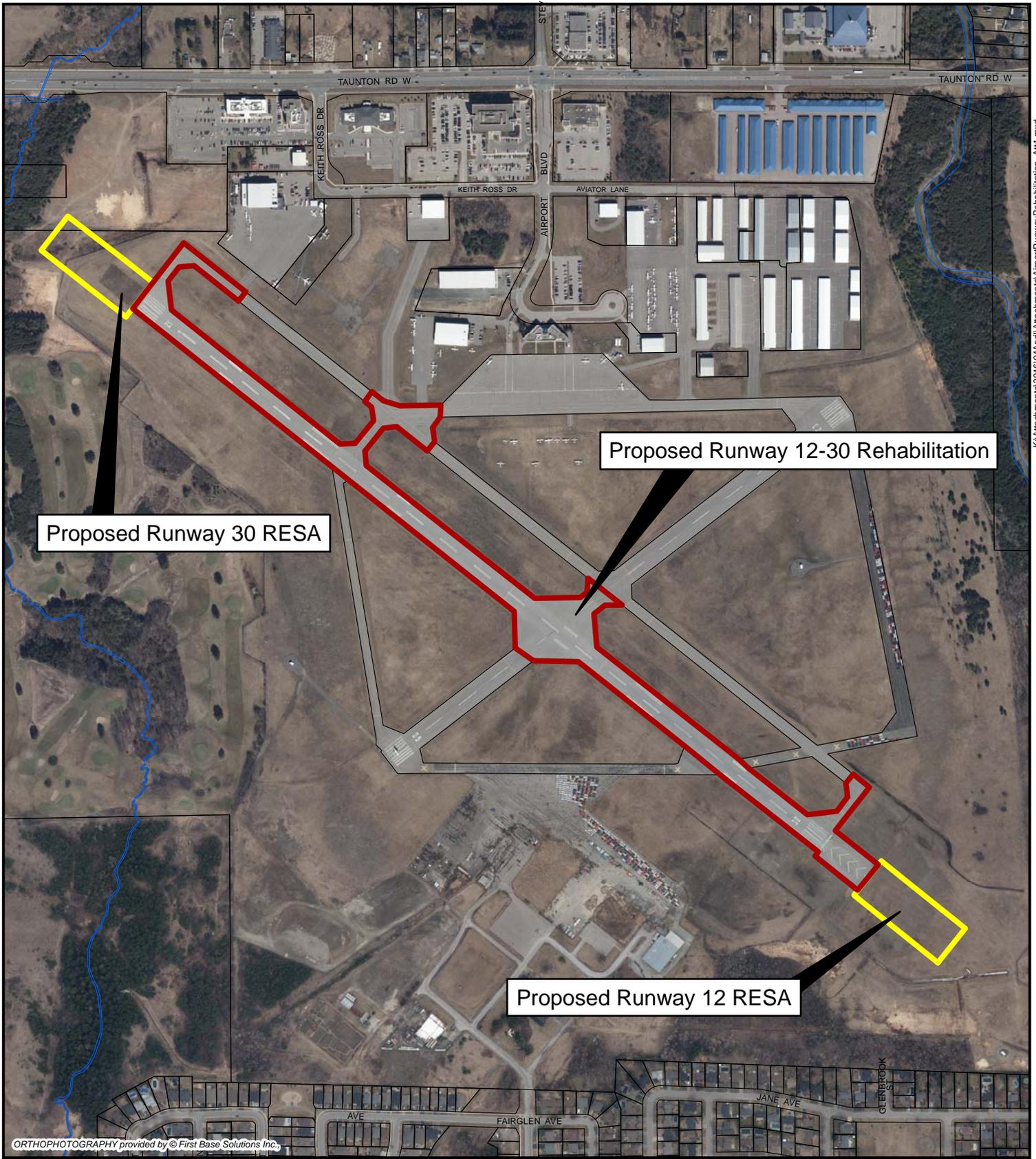
As per the Airport Business Plan the estimated cost (in 2014 dollars) to undertake the reconstruction of Runway 12/30 including the associated lighting and the reconstruction of the small sections of the attached taxiways is \$3.2m.

7.0 Relationship to the Oshawa Strategic Plan

The recommendation in this Report advances the Accountable Leadership and Financial Stewardship and Economic Prosperity goals of the Oshawa Strategic Plan.

A handwritten signature in black ink, appearing to read "P. D. Ralph". The signature is written in a cursive style with a horizontal line above the letters.

Paul D. Ralph, BES, RPP, MCIP, Commissioner,
Development Services Department



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ORTHOGRAPHY provided by © First Base Solutions Inc.

Attachment 1

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