# Building Assessment – Duluth International Airport (DLH)

Duluth Airport Authority (DAA) Board Retreat - August 19, 2018

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## Overview

- Introduction
- Building Inventory and Assessments
  - 45 total buildings
    - Inventory all 45 (age, construction type, size, general condition, use, ownership)
    - Twelve (12) buildings identified for further assessment –
      - All items noted above
      - Architectural, structural, electrical and mechanical evaluations
  - Deliverable for Master Plan includes
    - Summary report for each building
    - Includes general overview of condition for all building components
    - Recommendations for maintenance, repair, replacement
    - High level cost estimations for planning purposes
- Development of Two (2) Categories
  - Critical – dependent upon use, condition, or potential for redevlopment
  - Non-critical – all other buildings

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## Critical Buildings

***Defined as critical based on use, condition, or redevelopment potential***

- Terminal Building
- Air Traffic Control Tower (ATCT)
- Electrical Vault Building
- Snow Removal Equipment (SRE) Building
- Building 103 - Lake Superior College
- Hangar 104
- Building 305 - Hydrosolutions
- Building 311 - Cirrus Training Facility
- T / Ranch Hangar Complex



## Terminal Building

### Key Issues

- Architectural – Roof leaks causing considerable maintenance issues
- Structural – No structural deficiencies noted, aside from minor floor cracking in mechanical room and lobby area
- Mechanical – Fan and pump motor bearing failures due to use and variable frequency
- Electrical – Minor lightning protection upgrades and consideration for converstion to LED lighting

# Air Traffic Control Tower (ATCT)

## Key Issues

- Architectural –
  - Exterior windows and doors in poor condition
  - Cracks/deterioration of bricks and masonry
  - Concrete panel joints need re-sealing
  - Water intrusion in lower level mechanical room
- Structural – No structural deficiencies other than noted in architectural
- Mechanical –
  - Replacement of steam boiler system
  - Replacement of original stormwater lift station
- Electrical –
  - Replacement of electrical service equipment
  - Replacement of fire alarm equipment

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# Electrical Vault Building

## Key Issues

- Architectural – No major deficiencies or concerns noted.
- Structural – No structural deficiencies noted, aside from lintel above louver on east side has a significant crack
- Electrical – Most of the electrical gear is old, 20 years with a life expectancy of 25 years

## Other considerations:

- Continued replacement of key electrical equipment in concert with associated replacement of airside lighting and navigational aids
- Located in a key development area

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## Snow Removal Equipment (SRE) Building

### Key Issues

- Architectural –
  - Replacement of joint sealant in wall panels and other locations
  - Large bi-fold garage doors requiring regular maintenance; consider planning for replacement
- Structural – Noted need for joint sealant replacement as part of regular maintenance
- Mechanical –
  - Gas piping on roof not anchored; moved by wind
  - Gas piping not painted – rusted
  - Condensing unit has hail damage; consider replacement and addition of hail guards
- Electrical – Replacement of generator



## Building 103 – Lake Superior College

### Key Issues

- Architectural –
  - Snow and ice dam build up at bottom of roof; maintenance issue
- Structural –
  - Cracks in floor at midpoints of slab joints
- Mechanical –
  - Single HVAC zone
- Electrical –
  - Service is oversized due to a large amount of obsolete testing equipment

## Hangar 104

### Key Issues

- Architectural –
  - Issues with north side doors – don't open
- Structural –
  - Minor cracking, but no noted structural deficiencies
- Mechanical –
  - None
- Electrical –
  - Part of a group of hangars (104-108) that are fed with the same electrical system, which needs replacement

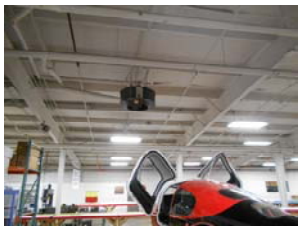


## Building 305 - Hydrosolutions

### Key Issues

- Architectural – Building in very poor condition
- Structural – Membrane and masonry block re-roof
- Mechanical –
  - No fire sprinklers
  - Minimal ventilation
  - Inefficient electrical heat
- Electrical –
  - Electrical system replacement

## Building 311 – Cirrus Training Facility



Key Issues

- Architectural –
  - Roof leaks and roof insulation failure
- Structural –
  - Rust on exterior roof overhangs requiring repainting
- Mechanical –
  - Multiple obsolete hot water heaters
  - Boiler replacement
- Electrical –
  - Electrical system replacement



## T/Ranch Hangar Complex

Key Issues

- Architectural –
  - Generally good condition
  - Some issues with seals on bottom of doors and freezing in the winter
- Structural – No structural deficiencies
- Mechanical – None
- Electrical – No issues noted

## Next Steps

- Master Plan
  - Completion of summary report for each building
  - Recommendations for addressing key issues –
    - Maintenance
    - Rehabilitation
    - Replacement
    - Remove/Salvage/Redevelop
- Eligibility Determinations
- Financial Planning



## Questions?