Implementation Procedure Summary for Construction Inspection

Introduction:

UAS provides valuable information for the safety and integrity of the construction sites that improve the quality and the safety of the workers and the public. The steps below illustrate procedures to assist with the successful implementation of using UAS for construction inspection.

Define Mission Objectives

- Data Collection Goals (Monitoring, Quantities, Inspection, As-Built Models, Aerial imagery, etc.)
- Timeframe
- Data Quality and Accuracy (Ground Samping Distance)

Develop System and Staffing Plan

- Team Selection (Internal or Consultants)
- Aircraft Platform (Fixed Wing or Rotorcraft)
- Sensor Selection (RGB Camera, Lidar, Thermal, Multi-spectral)
- Ground Control Point Placement and Collection
- Quality Control Plan
- Software

Develop Flight Plan and Conduct Risk Assessment

- Pre-Flight Plan to Meet Goals (Overlap of Images, Cloud Cover, Lighting and Shadows)
- Site and Operation Analysis for Risk (Airspace, Traffic, Population, Private Property, Wildlife)

Obtain Permits or Waiver

- LAANC
- COA
- National Park
- Airport
- Private Property Notification

Obtain Approval and Perform Flight Operations

- UAS Manager Approval
- Site Preparation (Lane Closures, Take-off and Landing Sites, Signage)
- Perform Flight

Assess Outcomes and Document Lessons Learned

Data Management

- Data Processing Required
- Storage
- Deliverable Formats (Orthomosaic, Point Cloud, Video, Quantity Report, etc.)