

PIONEER DRONE SERVICES

HIGH-RESOLUTION AERIAL DATA CAPTURE & REMOTE SENSING SOLUTIONS

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FAA PART 107 COMMERCIAL REMOTE PILOT • FULLY INSURED

Company Profile: Pioneer Drone Services provides high-precision aerial imaging, radiometric thermal inspection, and geospatial data collection across Hillsborough County and West Central Florida. Backed by field experience in civil engineering workflows and land surveying environments, we bridge the gap between raw aerial sensor data and engineering-grade deliverables.

CORE CAPABILITIES & SERVICES

Radiometric Thermal & Infrastructure Scouting

- **Subsurface Anomaly Detection:** Underground steam line & utility leak locating.
- **Facility Envelopes:** Commercial roofing moisture intrusion & thermal loss scans.
- **Utility & Solar:** Electrical panel/substation hot-spot analysis & corridor inspections.
- **Storm Readiness:** Baseline hardening documentation & rapid disaster damage assessments.

High-Density Photogrammetry & Surface Modeling

- **High-Resolution Orthomosaics:** Sub-centimeter GSD spatial maps.
- **3D Elevation Models:** Digital Surface Models (DSM), DTMs, and point cloud generation.
- **Progression Tracking:** Working face, slope, and berm stability monitoring for landfills, quarries, and construction sites.
- **Volumetrics:** Accurate stockpile measurements and cut/fill balance reporting.

Environmental, Trail & Municipal Asset Inventory

- **Asset Condition Mapping:** Geo-referenced photo logging for parks, bridges, and trails.
- **Corridor & ROW Analysis:** Right-of-way, easement, and land management documentation.
- **GIS Ingestion Ready:** Seamless export to Esri ArcGIS Pro, Drone2Map, and WebODM.

TECHNICAL SPECIFICATIONS & FLEET

Aerial Fleet:	Enterprise multi-sensor systems (Thermal 640×512, Tele/Wide RGB, Electronic Rolling Shutter)
Positioning:	High-precision RTK / NTRIP via Florida Permanent Reference Network (FPRN)
Deliverables:	.GeoTIFF, .LAS/.LAZ, .OBJ, .DXF, .SHP, Thermal Radiometric Matrices, PDF Inspection Reports
Software:	ArcGIS Pro, Drone2Map, WebODM, CAD/GIS spatial suites

KEY DIFFERENTIATORS

Engineering & Survey Workflow Literacy Deep familiarity with coordinate systems, field surveying practices, and civil engineering data pipelines ensures clean CAD/GIS integration.
Rapid County & Regional Deployment Centrally based in Hillsborough County for swift dispatch on critical facility leaks, utility inspections, and time-sensitive progress flights.
Standardized Data Hygiene Structured metadata compliance and standard folder hierarchies for instant archiving and client team onboarding.
Survey & Engineering Collaboration: Pioneer Drone Services provides remote sensing data collection, modeling, and spatial analytics. Certified boundary and final land surveys are coordinated in direct collaboration with client-licensed Professional Surveyors & Mappers (PSM/PLS).