

SITE SCAN FOR ARCGIS

By

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WHAT IS SITE SCAN FOR ARCGIS?

- Site Scan for ArcGIS provides drone flight planning, fleet management, image processing, and analysis capabilities as Software as a Service (SaaS). Site Scan delivers a complete end-to-end solution for drone imaging projects.
- With Site Scan, drone operators can:
 - Plan and execute drone flights and manage flight data and metadata to support project requirements
 - Manage their drone fleet to run safe and efficient drone operations
 - Generate 2D and [3D mapping](#) and analytics products from drone imagery
 - Publish drone mapping products to ArcGIS Online, ArcGIS Enterprise, and Autodesk BIM 360



SITE SCAN APPLICATIONS

Site Scan Flight Planning



Mobile application

Site Scan Manager



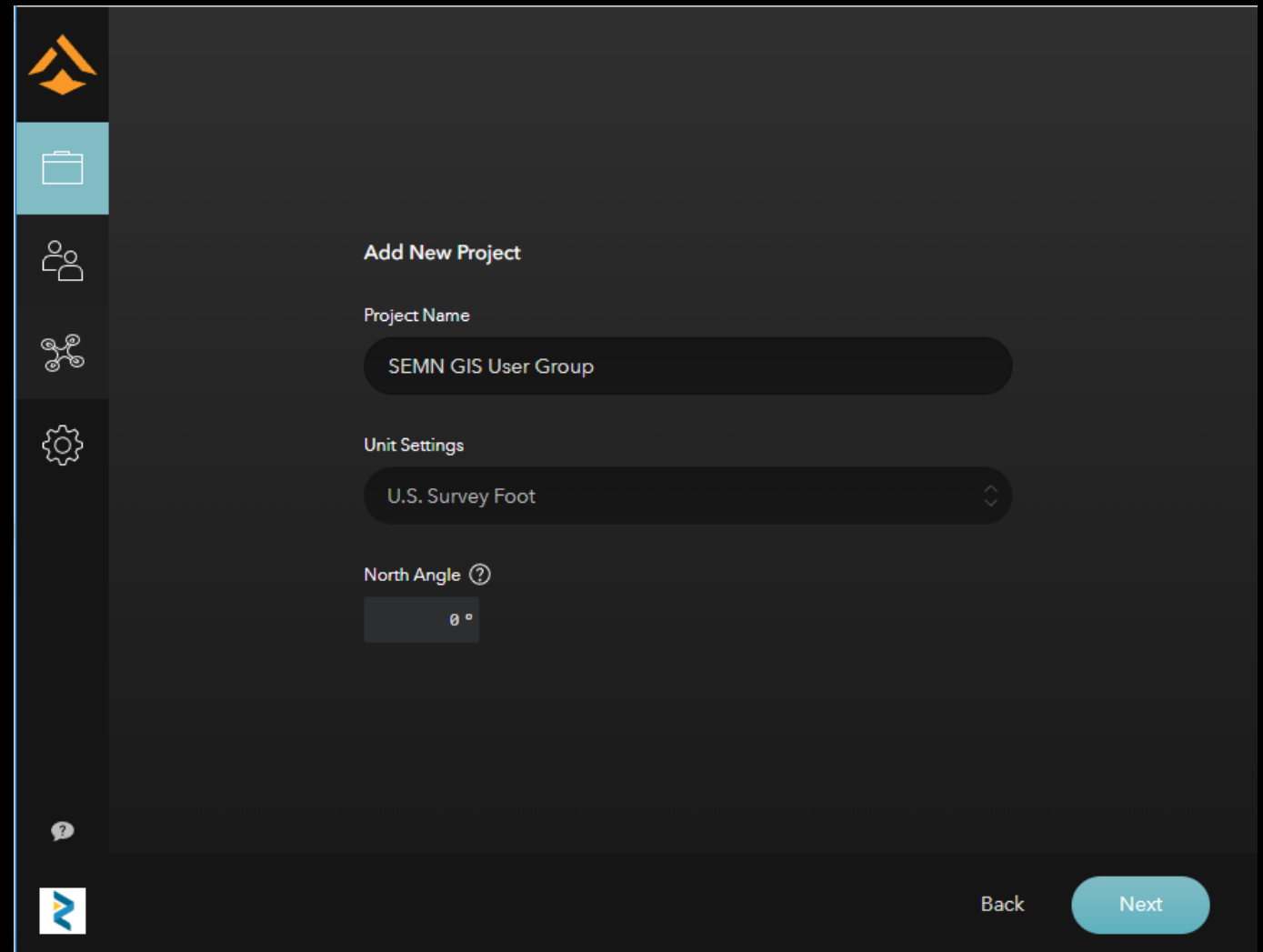
Web application
(SaaS)

Site Scan Manager. Like ArcGIS Online, Site Scan Manager is a software as a service (SaaS) application. Because this software is served to you through a web browser, you do not need to download or install the software to use it.

GET STARTED WITH SITE SCAN MANAGER (WEB)

Create a new project

- Click the Project Icon
- Click New Project
- Enter Name and Units
- Click Next



The screenshot displays the 'Add New Project' form in the Site Scan Manager web application. The interface is dark-themed with a vertical sidebar on the left containing navigation icons: a home icon, a folder icon (highlighted in light blue), a group of people icon, a network icon, and a gear icon. The main content area is titled 'Add New Project' and contains three input fields: 'Project Name' with the value 'SEMN GIS User Group', 'Unit Settings' with a dropdown menu showing 'U.S. Survey Foot', and 'North Angle' with a value of '0°'. A help icon (?) is visible next to the 'North Angle' label. At the bottom of the form, there are 'Back' and 'Next' buttons, with 'Next' being a prominent light blue button.

GET STARTED WITH SITE SCAN MANAGER (WEB)

Create a new project (Cont.)

- Navigate the map or search for the area
- Click Next

The screenshot shows a web application interface for creating a new project. The main window is titled "New Project - Set Location" and features a sidebar with navigation icons. The central area contains a map of Rochester, MN, USA, with a search bar and a location pin. The longitude is -92.45932999999997 and the latitude is 44.01932000000004. The "Next" button is highlighted in blue.

New Project - Set Location

Longitude: -92.45932999999997
Latitude: 44.01932000000004

Rochester, MN, USA (Olm)

Earthstar Geographics | Esri, HERE, Garmin
Powered by Esri
Click the map to set project location

Cancel **Next**

GET STARTED WITH SITE SCAN MANAGER (WEB)

Create a new project (Cont.)

- Optional – Invite other members to this project
- Members can be invited later

The screenshot shows a web application interface for inviting members to a project. The dialog is titled "Invite Members to Project" and has a close button (X) in the top right corner. On the left side of the dialog, there is a search bar with the text "Team Member" entered. Below the search bar, the text "Rochester Public Utilities Team Members" is displayed. A table lists the members with columns for "Current", "Full Name", and "Project Access". The "Current" column has checkboxes, the "Full Name" column lists the names, and the "Project Access" column has dropdown menus. Below the table, there is a link "Add New Team Members" with a downward arrow. At the bottom of the dialog, there are three buttons: "Skip this step", "Cancel", and "Invite to Project".

Current	Full Name	Project Access
<input checked="" type="checkbox"/>	Ryan Moore	Administrator
<input type="checkbox"/>	Jeff Atkinson	Read-Only
<input type="checkbox"/>		

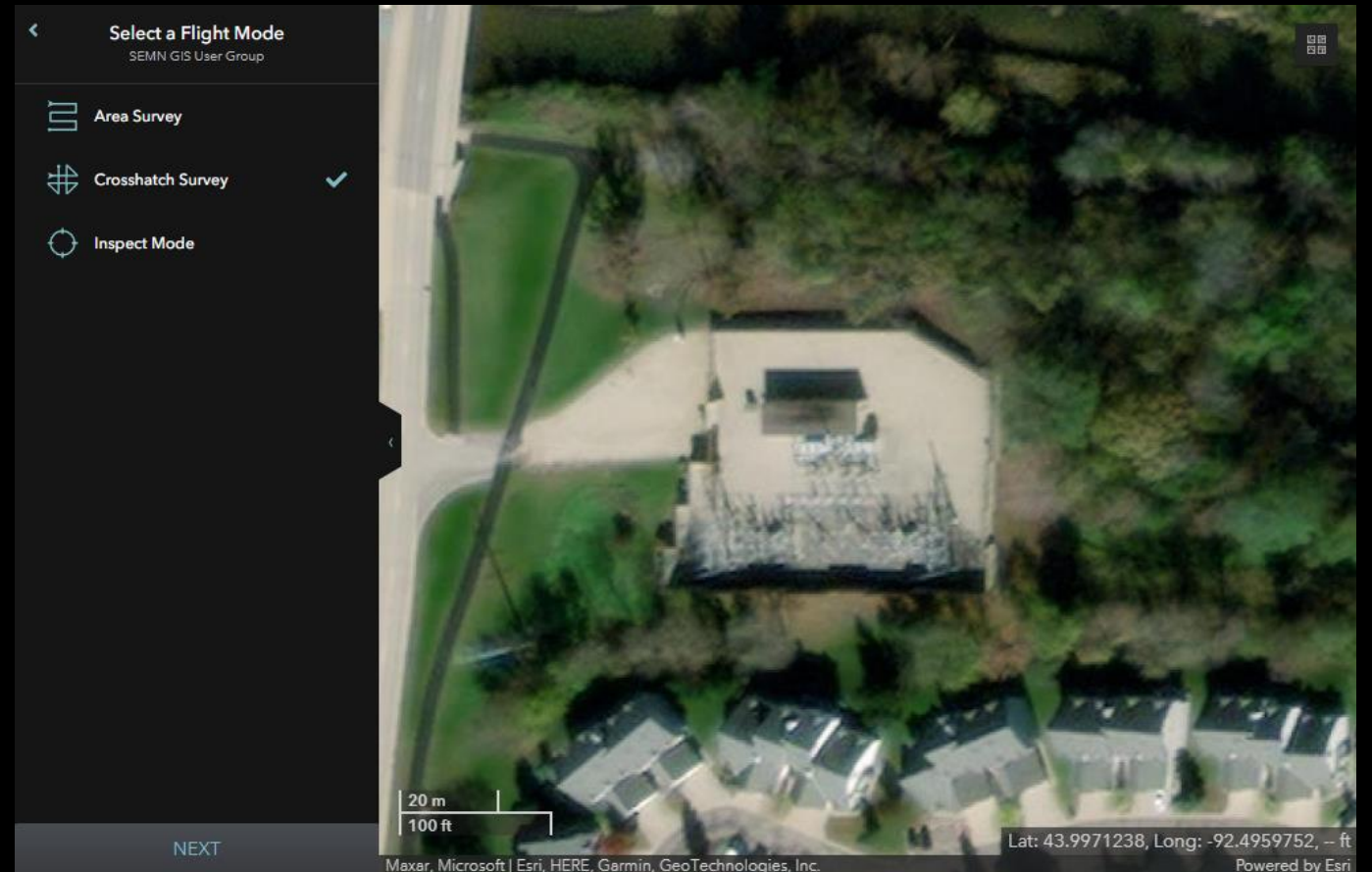
▼ Add New Team Members

Skip this step Cancel Invite to Project

GET STARTED WITH SITE SCAN MANAGER (WEB)

Create a New Flight Plan

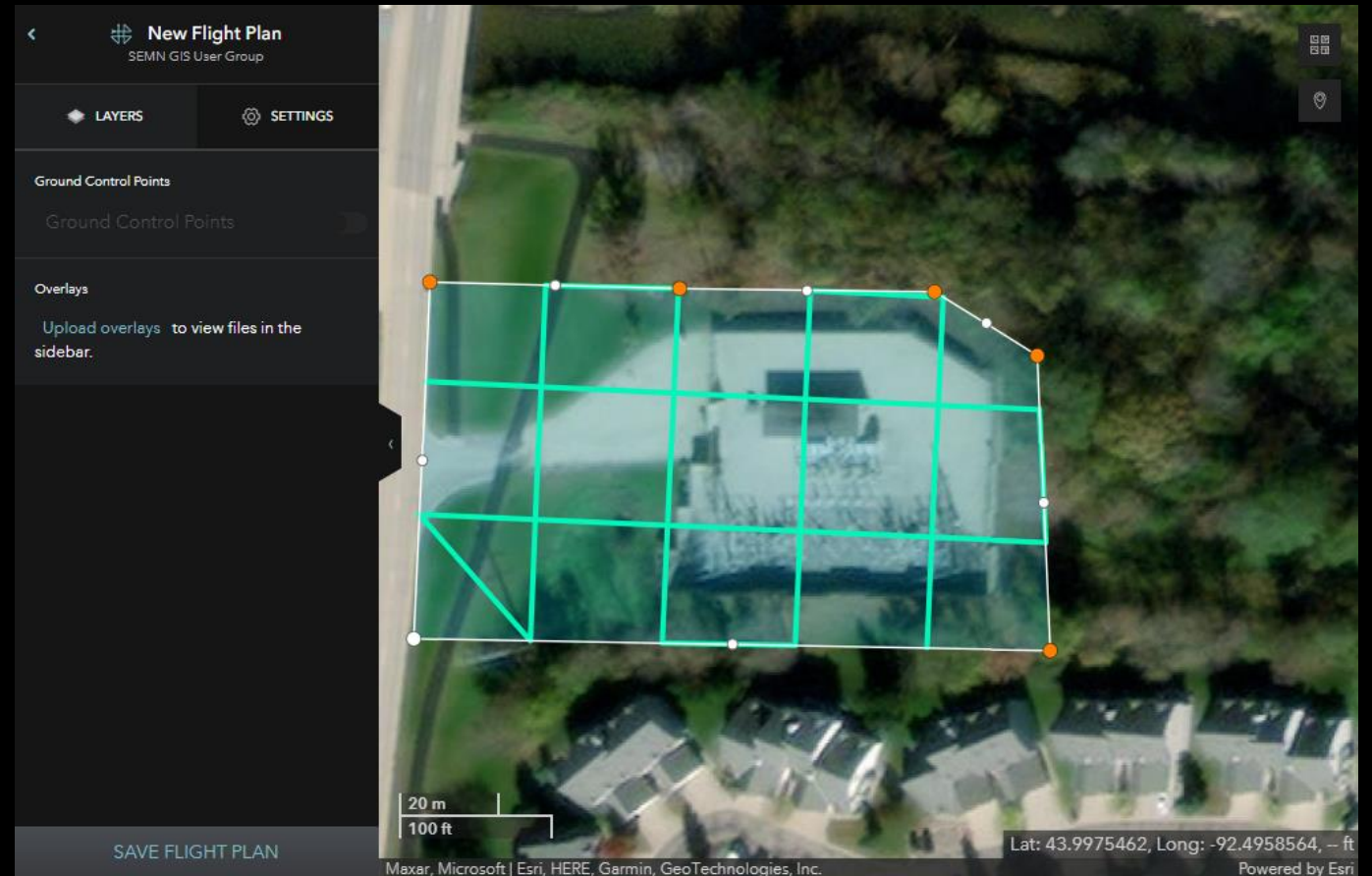
- Choose the type of flight
- Click Next



GET STARTED WITH SITE SCAN MANAGER (WEB)

Create a New Flight Plan (cont.)

- Drag vertices to area you desire to fly
 - Additional vertices can be created by hovering over white points
 - Vertices can be deleted by right clicking over orange points
 - Flight lines are shown in cyan



GET STARTED WITH SITE SCAN MANAGER (WEB)

Create a New Flight Plan (cont.)

- Click the Settings Tab
 - Set desired parameters
 - Flight lines will change based on settings you specify
- Click Save Flight Plan

The screenshot displays the 'New Flight Plan' interface for the SEMN GIS User Group. On the left, a settings panel is visible with the following parameters:

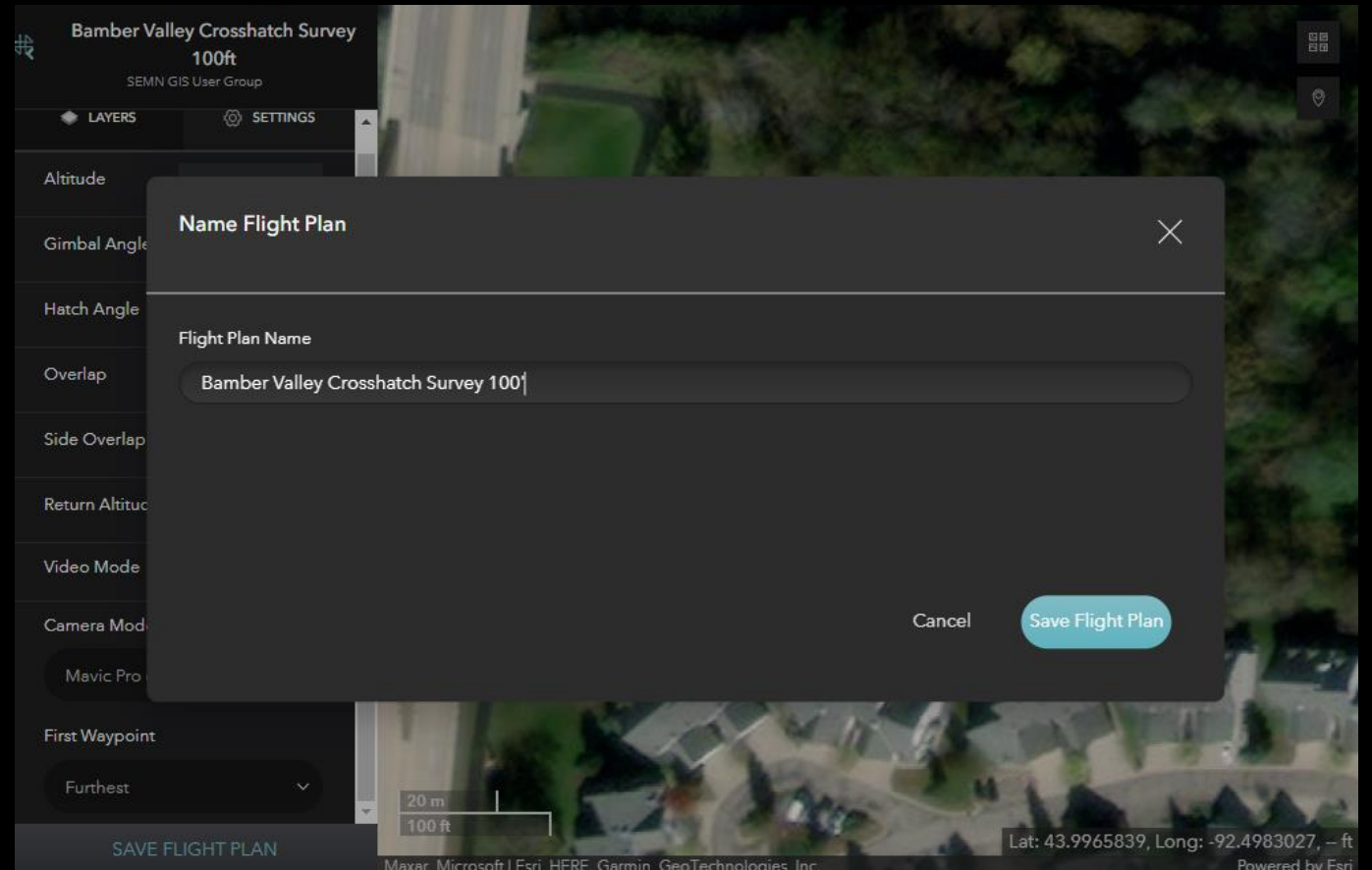
- Altitude: 100 ft
- Gimbal Angle: 35 °
- Hatch Angle: 90 °
- Overlap: 70 %
- Side Overlap: 65 %
- Return Altitude: 200 ft
- Video Mode:
- Camera Model: Mavic 2 Pro camera
- First Waypoint: Furthest

The main area shows an aerial map of a residential area with a green grid overlay representing the flight plan. A scale bar at the bottom left indicates 20 m and 100 ft. The bottom right corner shows the coordinates: Lat: 43.9962103, Long: -92.4980895, -- ft. The interface is powered by Esri.

GET STARTED WITH SITE SCAN MANAGER (WEB)

Create a New Flight Plan (cont.)

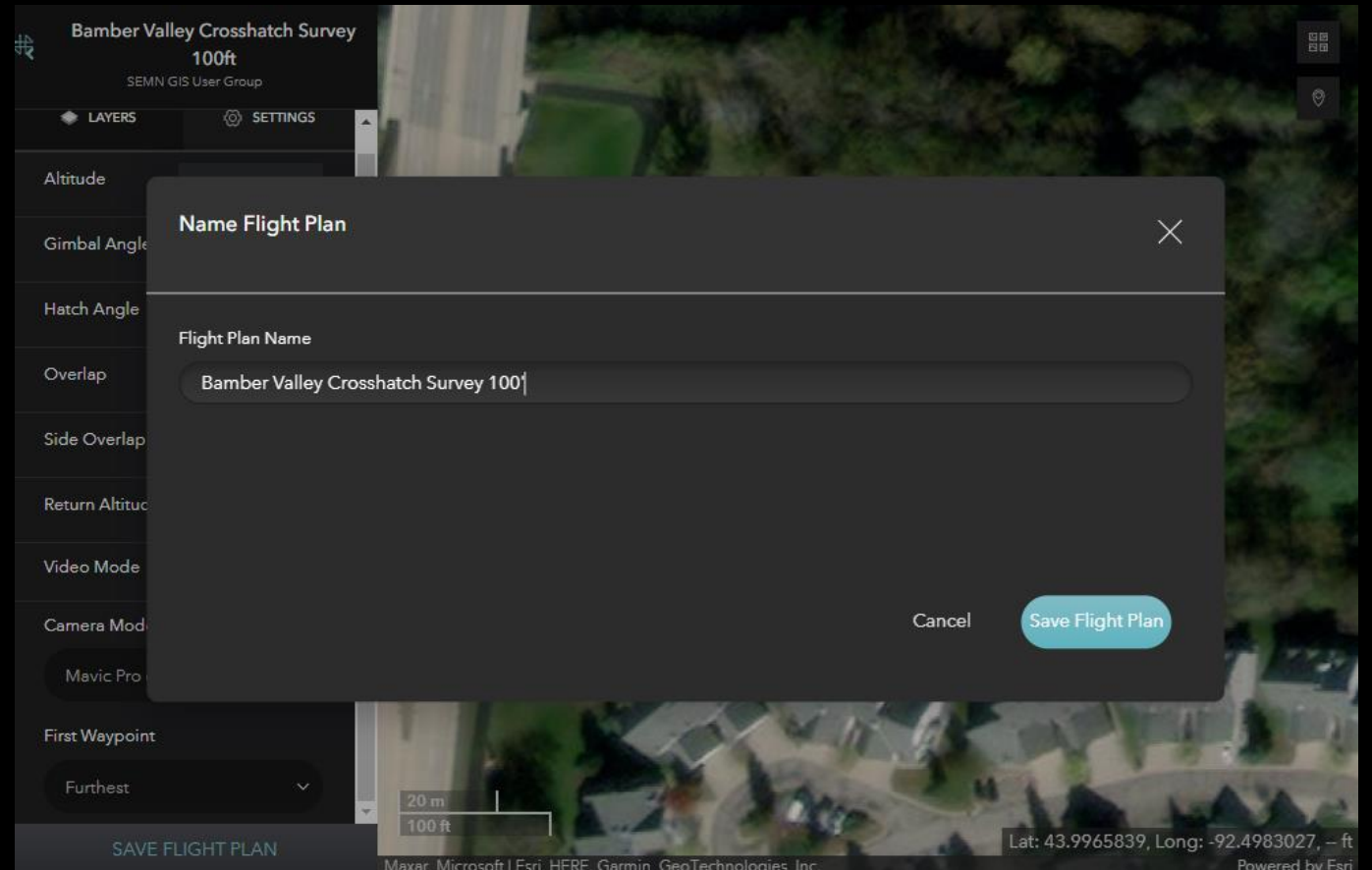
- Type in a descriptive name for the flight plan
- Click Save Flight Plan Button



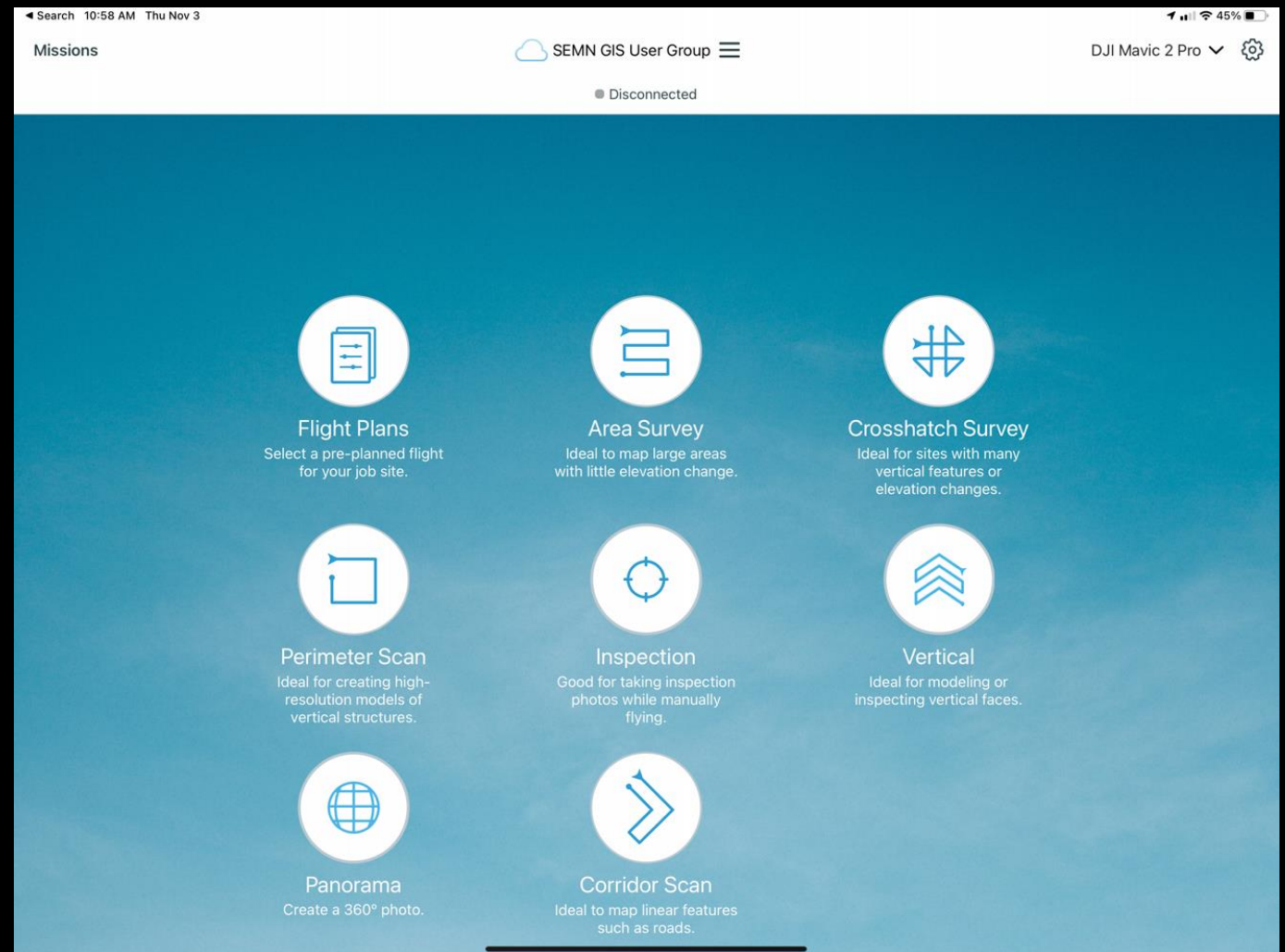
GET STARTED WITH SITE SCAN MANAGER (WEB)

Create a New Flight Plan (cont.)

- Type in a descriptive name for the flight plan
- Click Save Flight Plan Button

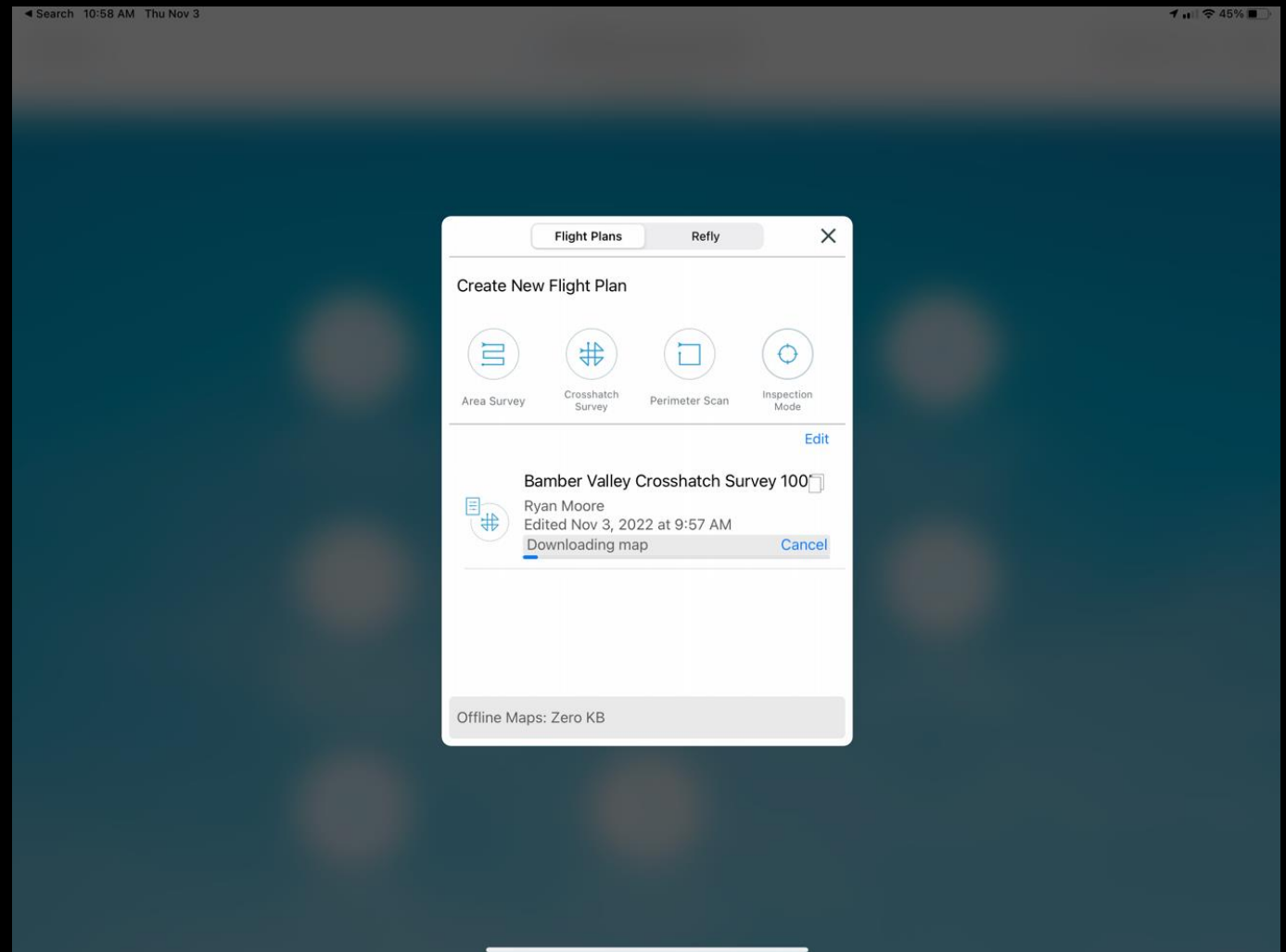


TIME TO FLY – SITE SCAN APP (IOS)



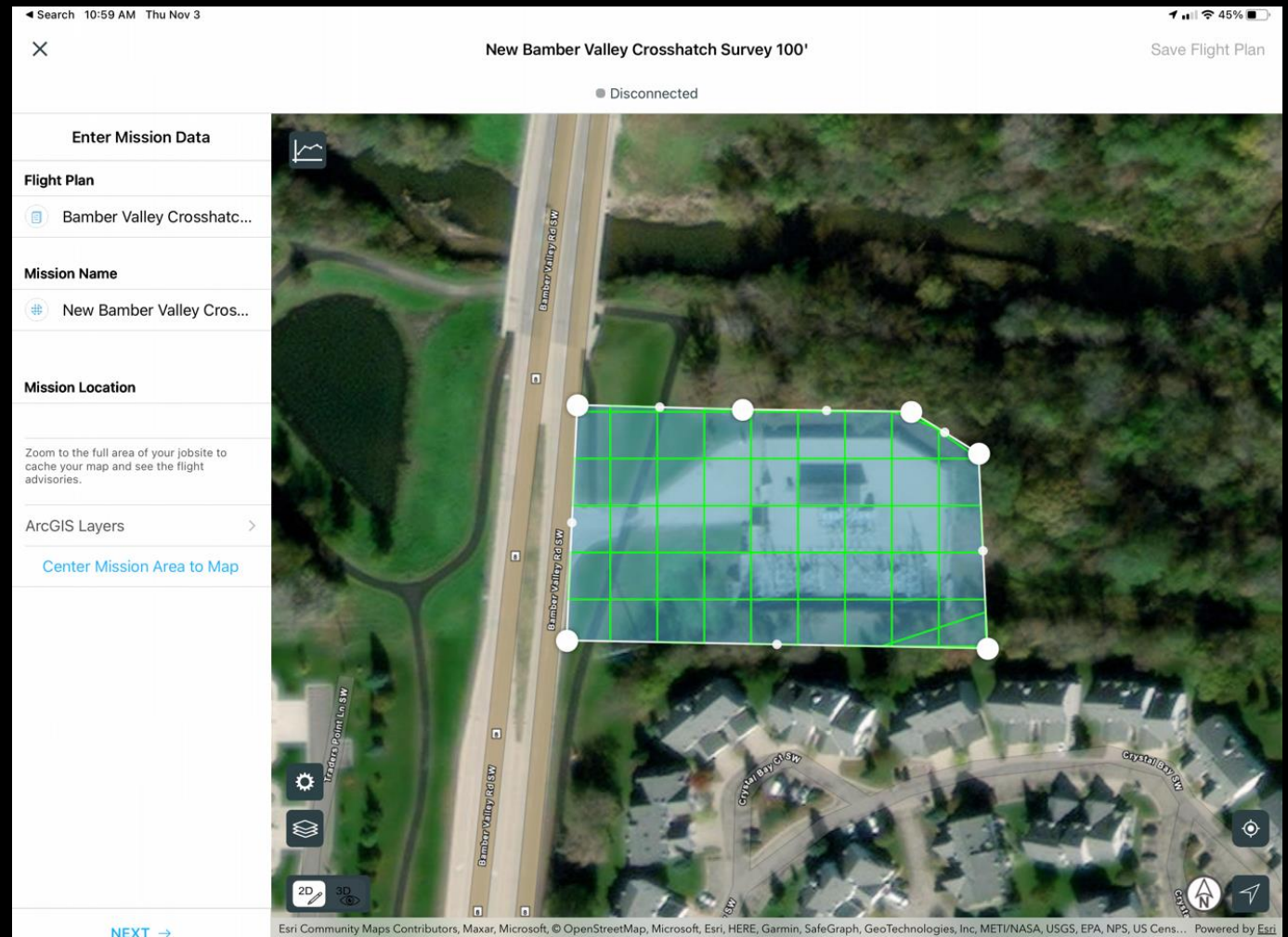
TIME TO FLY – SITE SCAN APP (IOS)

- Select the flight plan you wish to fly



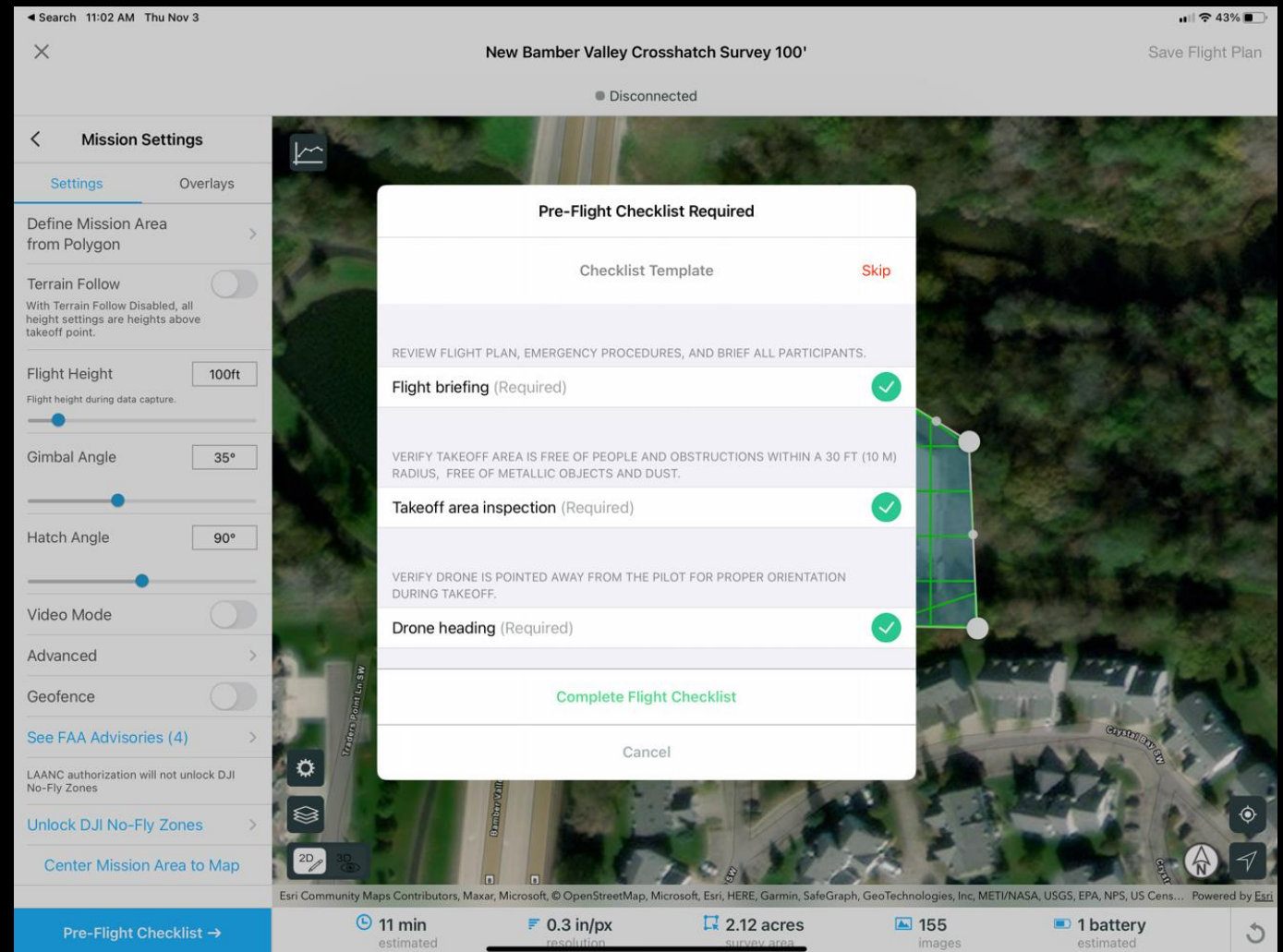
TIME TO FLY – SITE SCAN APP (IOS)

- Rename the Mission Name if desired
- Click Next



TIME TO FLY – SITE SCAN APP (IOS)

- Enter in the flight parameters
 - Estimated Time, Resolution, Survey Area and # of images, and # of Batteries expected are shown on the bottom based on parameters entered.
- Complete the Pre-Flight Checklist
- Click Fly
 - Drone will autonomously fly the mission, no user input is needed unless an unexpected hazard approaches the area



PROCESS THE MISSION

- Upload images to Site Scan Cloud
- Chose the processing options
- Receive an e-mail when processing has finished

Confirm Reprocessing

Processing Summary

Status: Last processed 11/1/2022, 11:14 AM

Photos: 397

GCP Settings

GCP Set:	Northern Hills MN South Uploaded 5/18/2022
GCPs tagged:	6
Checkpoints:	0

Processing Settings

Orthomosaic ⓘ:	Large (default) ▾
Point Cloud Densification ⓘ:	Large (default) ▾
Mesh Engine ⓘ:	On - High ▾
Boundary Cropping ⓘ:	<input checked="" type="checkbox"/>

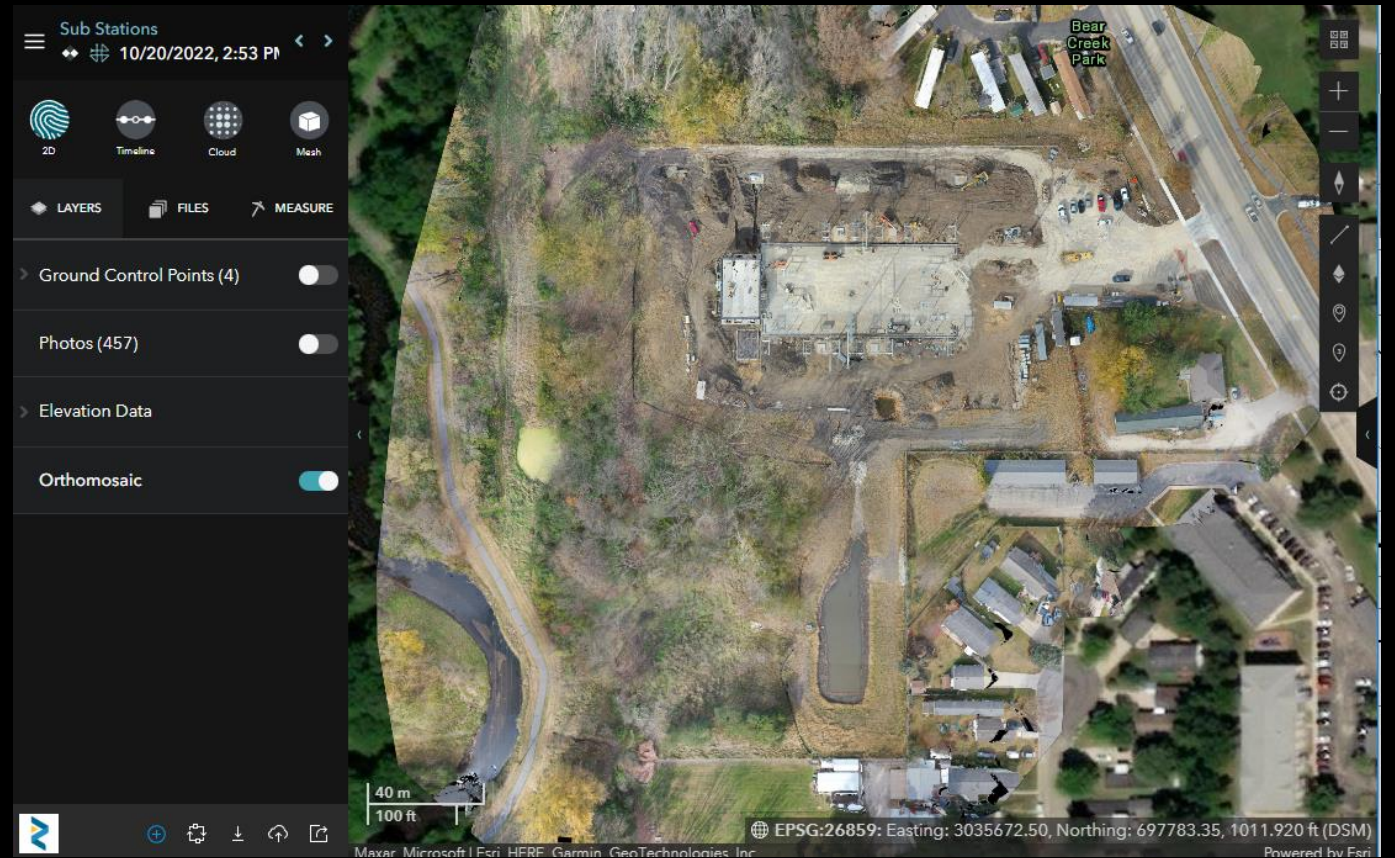
Advanced Processing Settings [Show](#)

Cancel [Process](#)

VIEWING THE RESULTS

2D VIEW

- Navigate to your Project
- Select the Mission of interest
- 2D will show a orthomosaic image of the images collected.



VIEWING THE RESULTS

2D VIEW - LAYERS

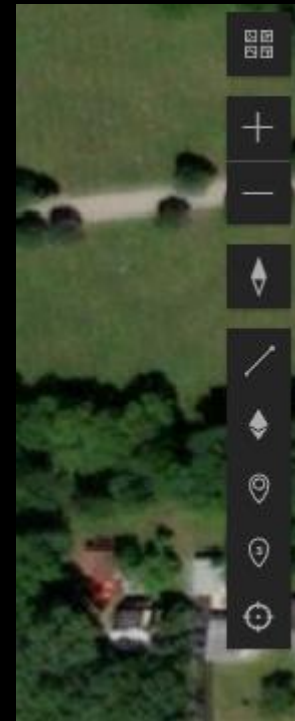
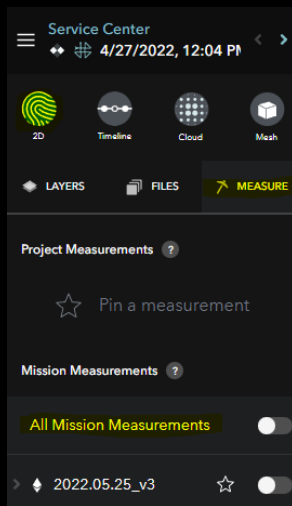
- Ground Control (optional)
- Photos
- Elevation Data
 - Contours
 - Elevation Model
 - Cut Fill
 - Hill shade
- Orthomosaic



VIEWING THE RESULTS

2D VIEW - TOOLS

- Output for all tools shows up in the left pane as a Mission Measurement



Change Basemap

Zoom In

Zoom Out

Reset Compass Orientation

Line Tool (measures distance)

Volume Tool

Marker Tool

Counter Tool

Photo Inspection Tool

VIEWING THE RESULTS 2D VIEW - TOOLS

- Volume Tool – Single Click to Start, Double Click to end
- Single Click on the polygon after drawn
- Optionally open the 3D view by clicking View/Edit Volume in 3D option

Sub Stations
10/20/2022, 2:53 PM

2D Timeline Cloud Mesh

LAYERS FILES MEASURE

Project Measurements ?
Pin a measurement

Mission Measurements ?
All Mission Measurements

2022.11.14_v1

Zoom to Report Pin ...

2022.11.14_v1

Base Surface:	DSM
Comparison Surface:	3D Plane
Cut:	709.58 yd ³
Fill:	2.32 yd ³
Net Volume (cut):	707.25 yd ³
Area:	6,994.30 ft ²

View/Edit Volume in 3D

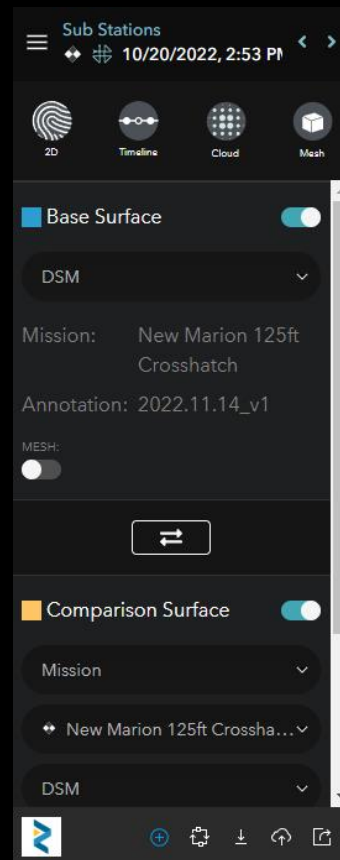
10 m
40 ft

EPSG:26859: Easting: 3035111.87, Northing: 697812.94, 1005.499 ft (DSM)
Maxar, Microsoft | Esri, HERE, Garmin, GeoTechnologies, Inc. Powered by Esri

VIEWING THE RESULTS

2D VIEW - TOOLS

- Volume Tool - 3D model navigation controls
 - Click and hold left mouse button to rotate
 - Click and hold right mouse button to pan
 - Roll mouse wheel to zoom in/out
- Comparison Surface can be changed by Clicking the dropdown arrow underneath the Comparison Surface visibility slider



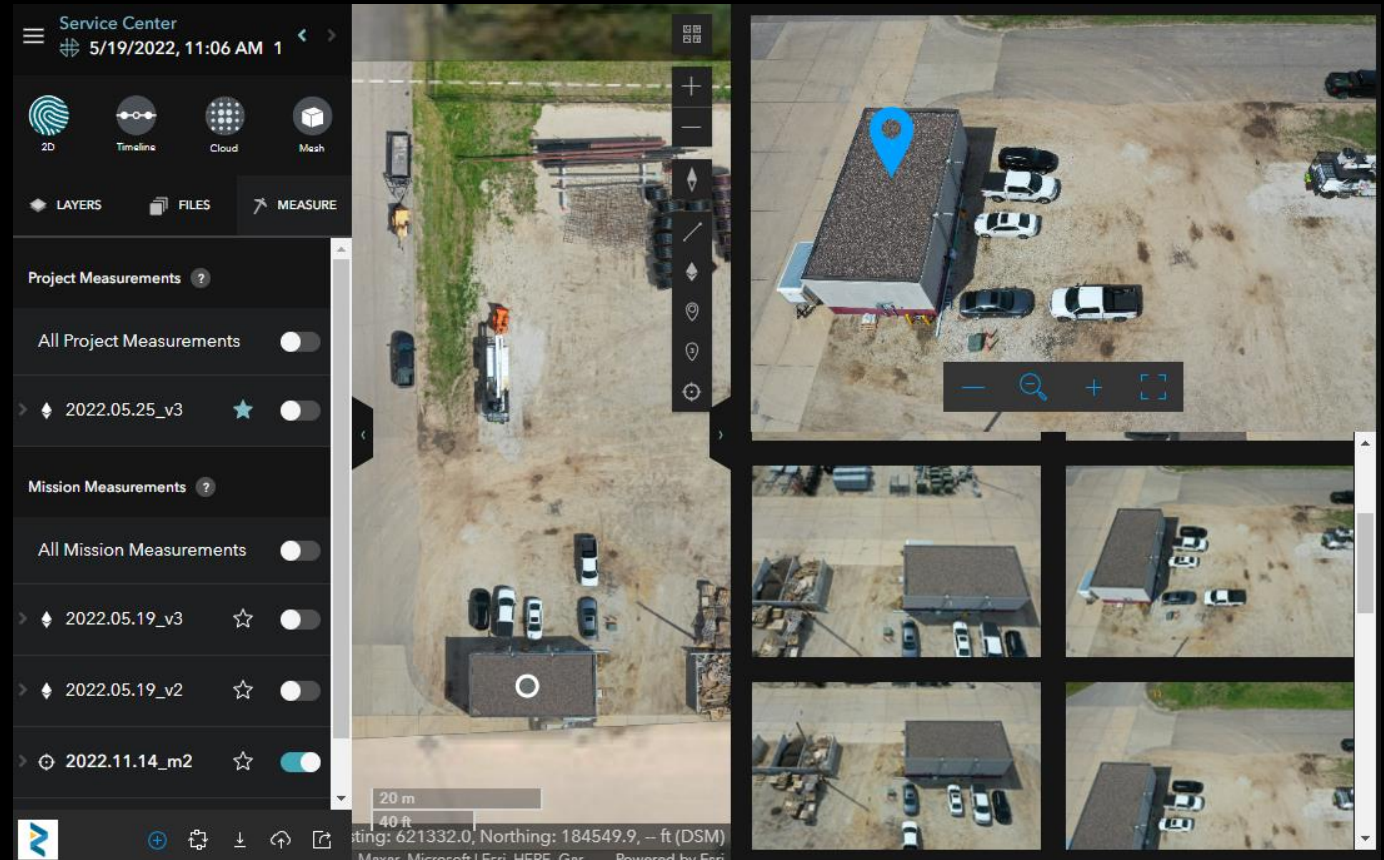
Cut: 0.00 yd³
Fill: 0.00 yd³
Net : 0.00 yd³



VIEWING THE RESULTS

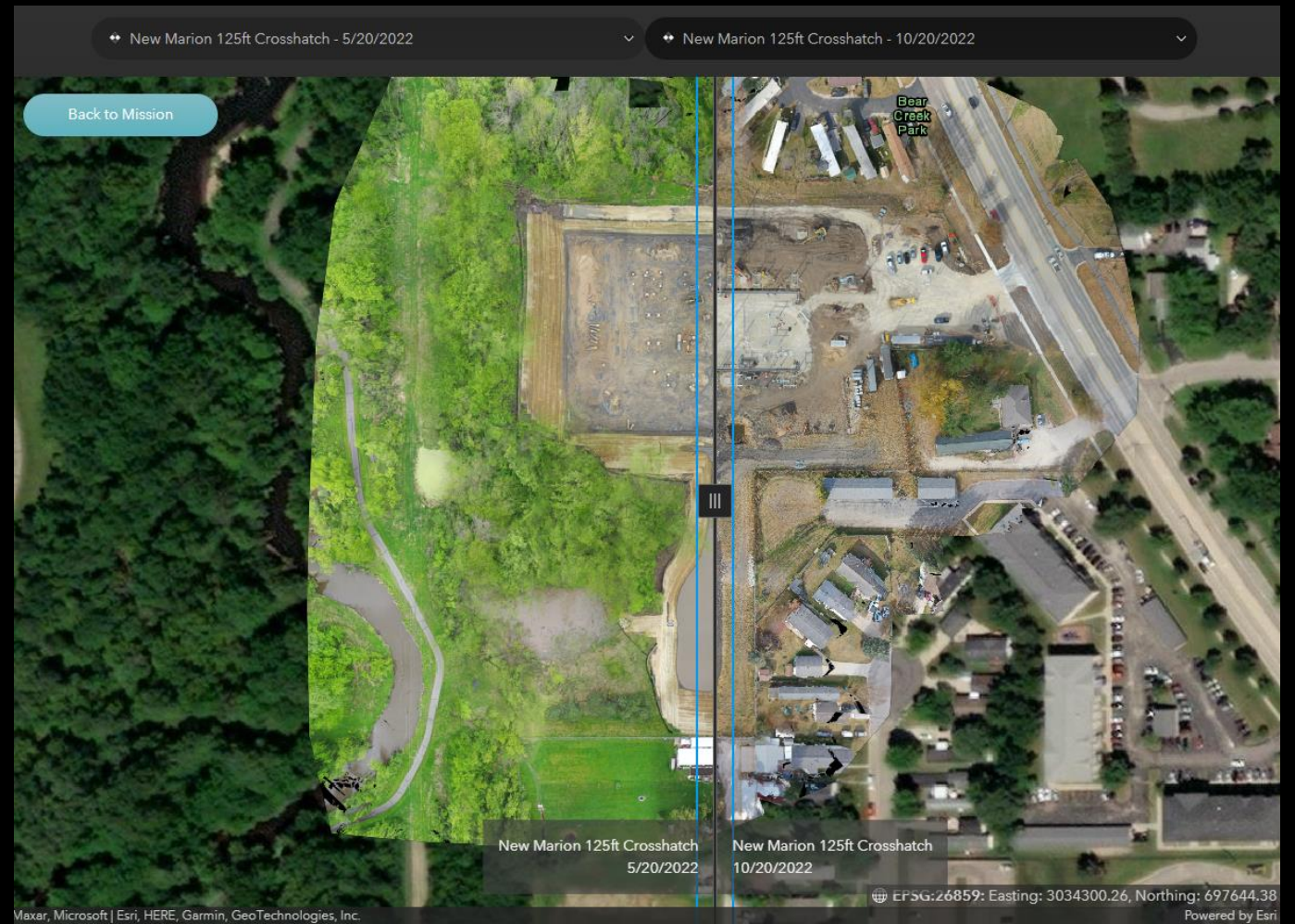
2D VIEW - TOOLS

- Photo Inspector Tool
 - Single click anywhere within the mission extent.
 - Corresponding photos nearby that point are displayed.








VIEWING THE RESULTS TIMELINE VIEW

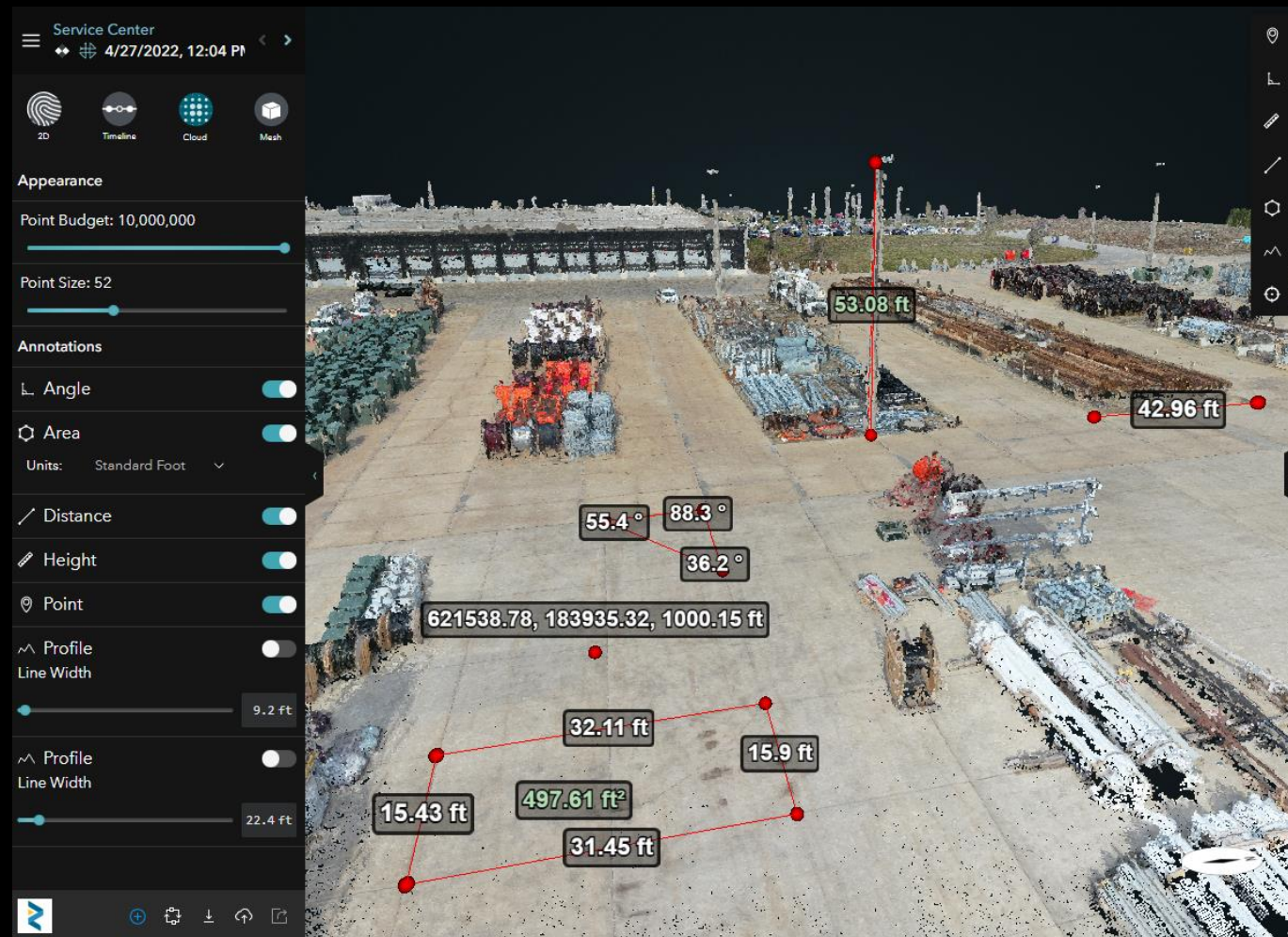
- Used for comparing missions at 2 different times.
- Great for showing site development changes



VIEWING THE RESULTS CLOUD VIEW

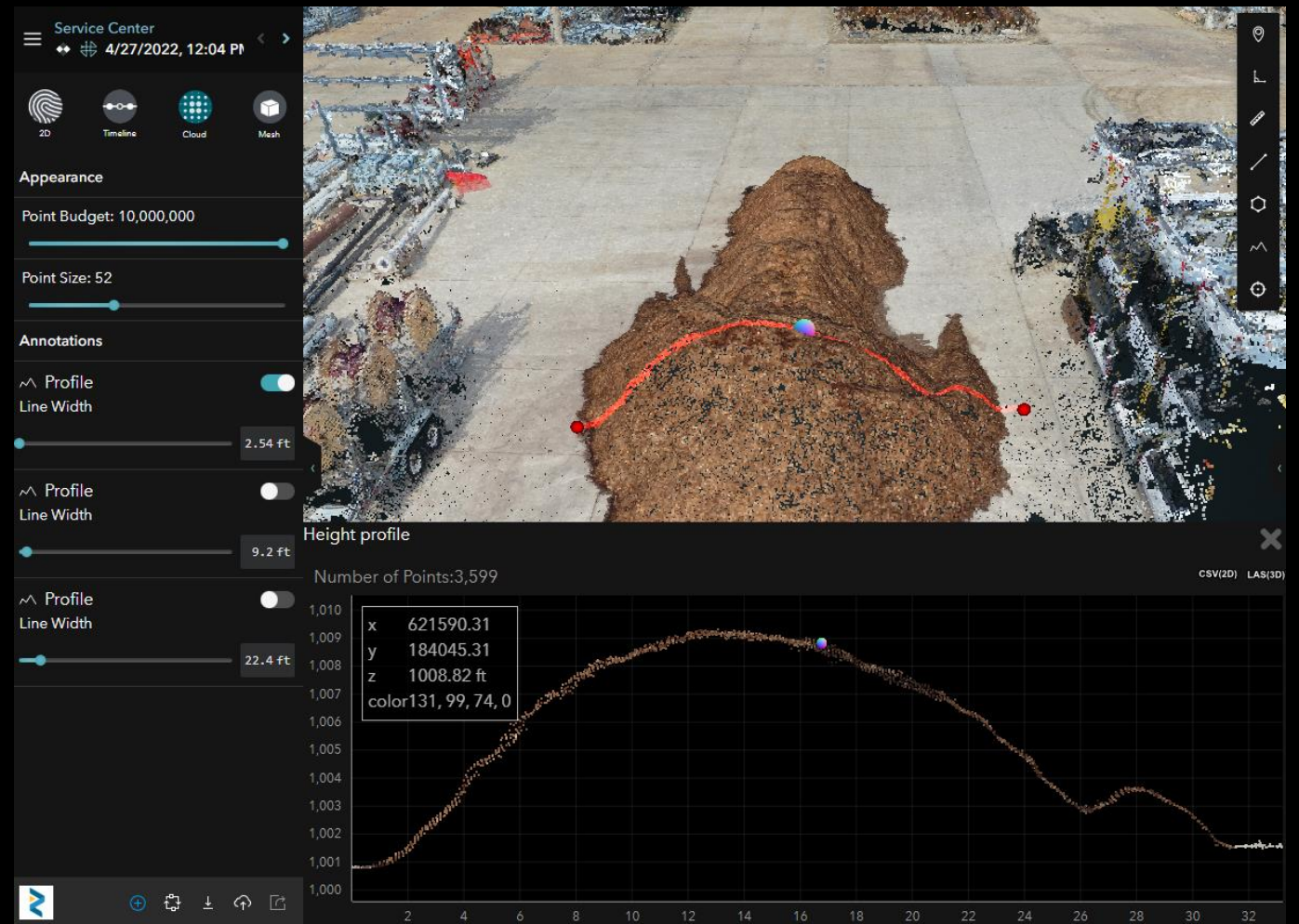
- 3D Point cloud that can be used perform a number of measurements such as:

- Angles 
- Heights 
- Distance 
- Areas 
- Elevation Profiles 



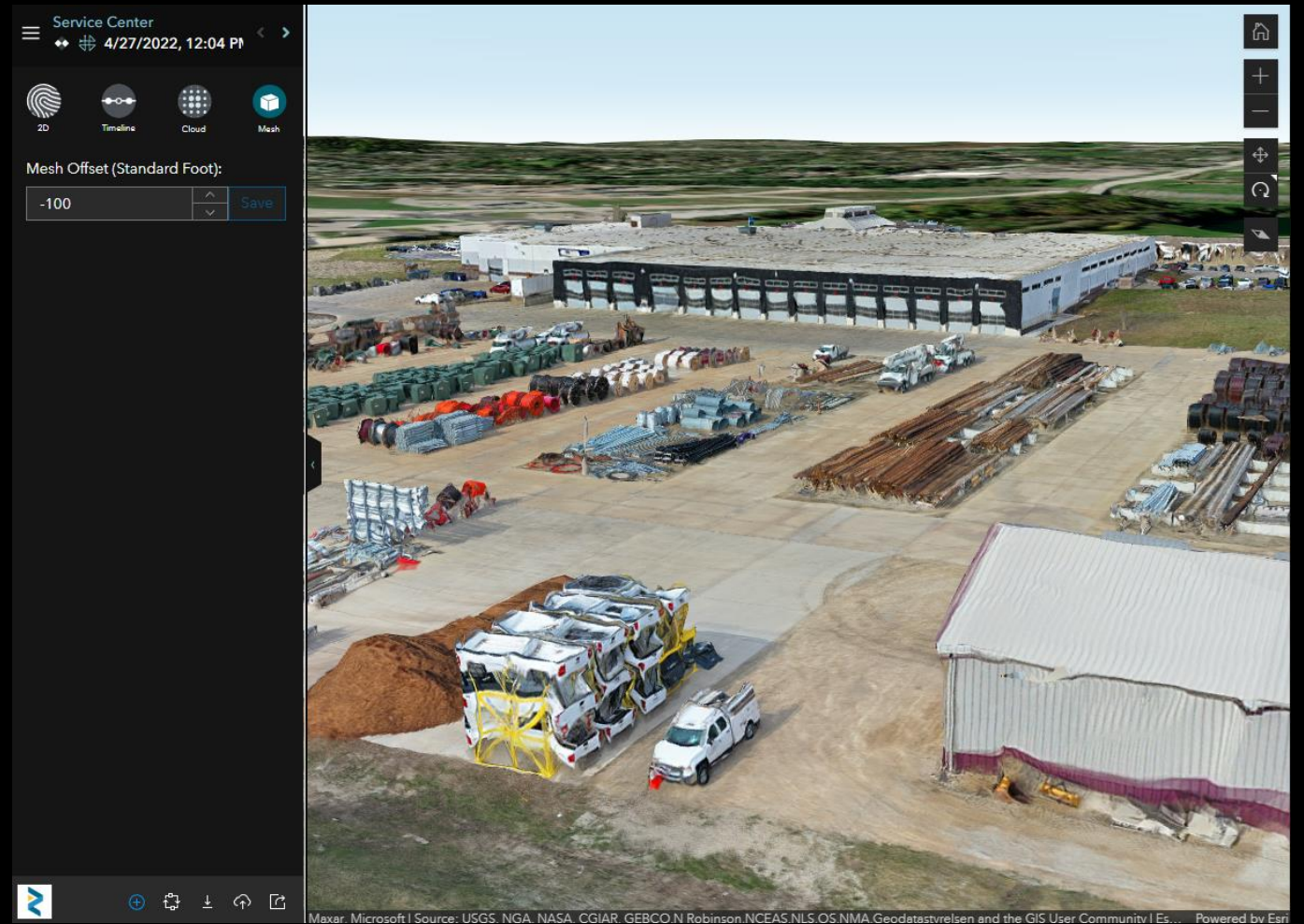
VIEWING THE RESULTS CLOUD VIEW

- Elevation Profile Tool



VIEWING THE RESULTS 3D MESH VIEW

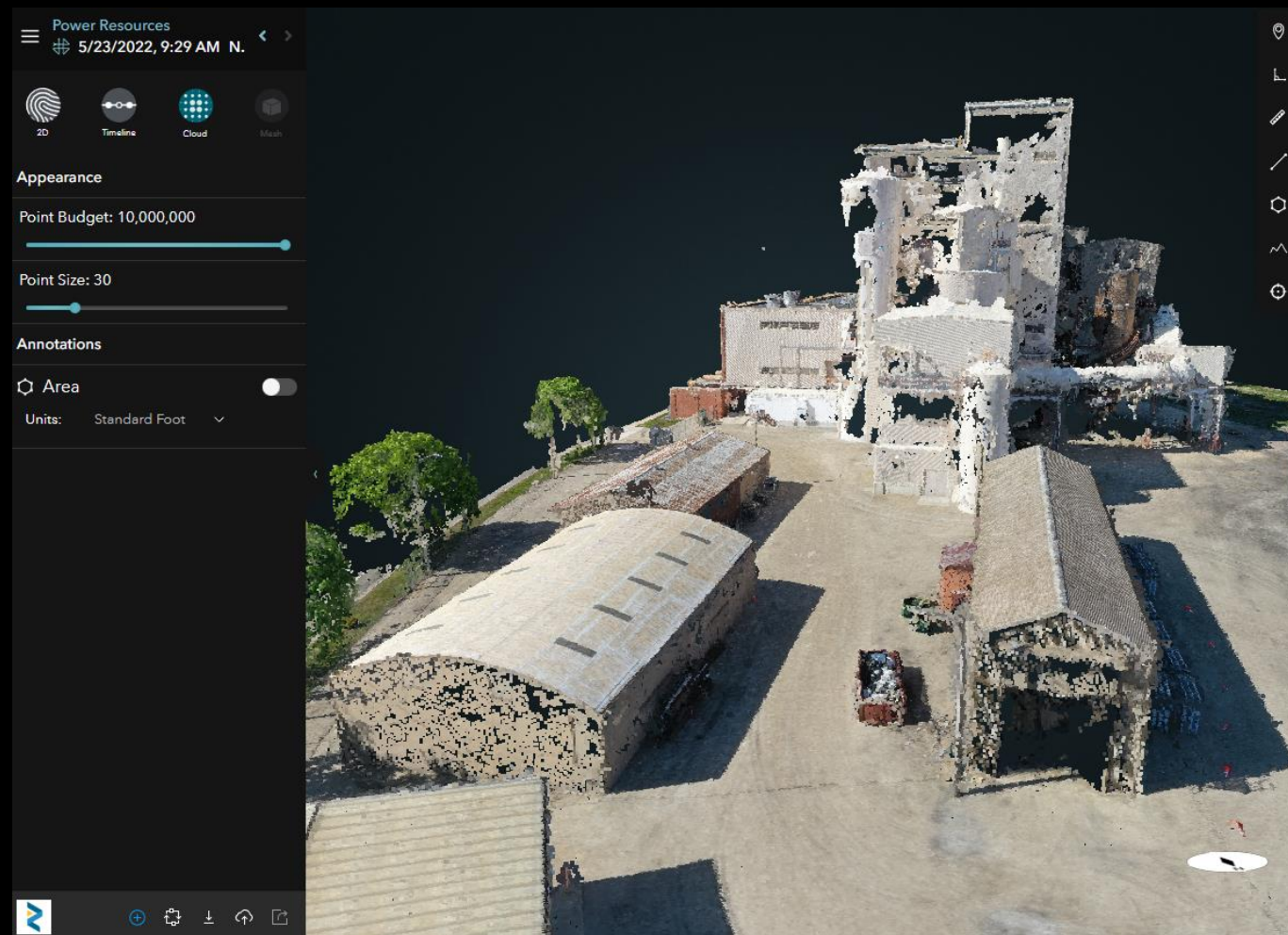
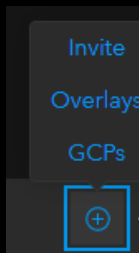
- Explore in 3D with solid surfaces draped over point cloud



EXPORT AND OTHER OPTIONS



- Add Button
 - Invite users to your project
 - Add overlay layers
 - Add Ground Control Points



EXPORT AND OTHER OPTIONS



- Process



Power Resources
5/23/2022, 9:29 AM

2D Timeline Cloud

Appearance

Point Budget: 10,000,000

Point Size: 30

Annotations

Area

Units: Standard Foot

Confirm Reprocessing

Processing Summary

Status: Last processed 5/23/2022, 11:27 AM

Photos: 99

GCP Settings

GCP Set:

GCPs tagged: 0

Checkpoints: 0

Processing Settings

Orthomosaic: Large (default)

Point Cloud Densification: Large (default)

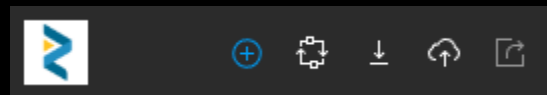
Mesh Engine: Off

Boundary Cropping:

Advanced Processing Settings [Show](#)

Cancel [Process](#)

EXPORT AND OTHER OPTIONS



- Export



Data Exports ✕

Raster Data

↕ Orthomosaic (.tiff)	Share	1.43 GB	↓
↕ Orthomosaic preview (.png)	Share		↓
↕ DSM (.tiff)	Share	822.62 MB	↓
↕ DTM (.tiff)	Share	49.17 MB	↓


Contours

↕ Contour (.shp.zip) (DTM) ?			↓
↕ Contour (.dxf) (DTM) ?			↓

Cancel

EXPORT AND OTHER OPTIONS



- Share to ArcGIS 

Share to ArcGIS

Ryan Moore
rdmoore

Publish Check Status

Share to ArcGIS Online

ArcGIS Online Item Prefix:

ServiceCenter_NewCrosshatchSurvey_150ft

[> Additional ArcGIS Online options](#)

Products:

- Select All
 - Orthomosaic as Tile Layer
 - DSM Elevation as Tile Layer
 - DSM Hillshade as Tile Layer
 - DTM Elevation as Tile Layer
 - DTM Hillshade as Tile Layer
 - Point Cloud as Scene Layer
 - Integrated Mesh (standard) as Scene Layer
 - Drone Processing Report
 - Image Locations as Feature Service
 - Ground Control Point as Feature Service

EXPORT AND OTHER OPTIONS



- Share this map View



Service Center
4/27/2022, 12:04 PM

2D Timeline Cloud Mesh

LAYERS FILES MEASURE

Ground Control Points (8)

Photos (1,155)

Elevation Data

Orthomosaic

Share this map view

<https://sitescan.arcgis.com/share/741c3b90-37d8-4f5e-923a-3b1> Copy

200 ft
Maxar, Microsoft | Esri, HERE, Garmin, GeoTechnologies, Inc. Custom Coordinate System: Easting: 620384.6, Northing: 184566.4, - ft (DSM) Powered by Esri

MANAGE TEAM MEMBERS AND LICENSES

- Operator – Can fly drone
- Fleet Permission
- Roles
 - Administrator
 - Full-Access
 - Read Only

Rochester Public Utilities Team Members

Total users: 6
Total Licenses (Access and Operator): 4 in use of 4 available
Operator Licenses: 1 in use of 1 available
Read-only users: 2 (unlimited)

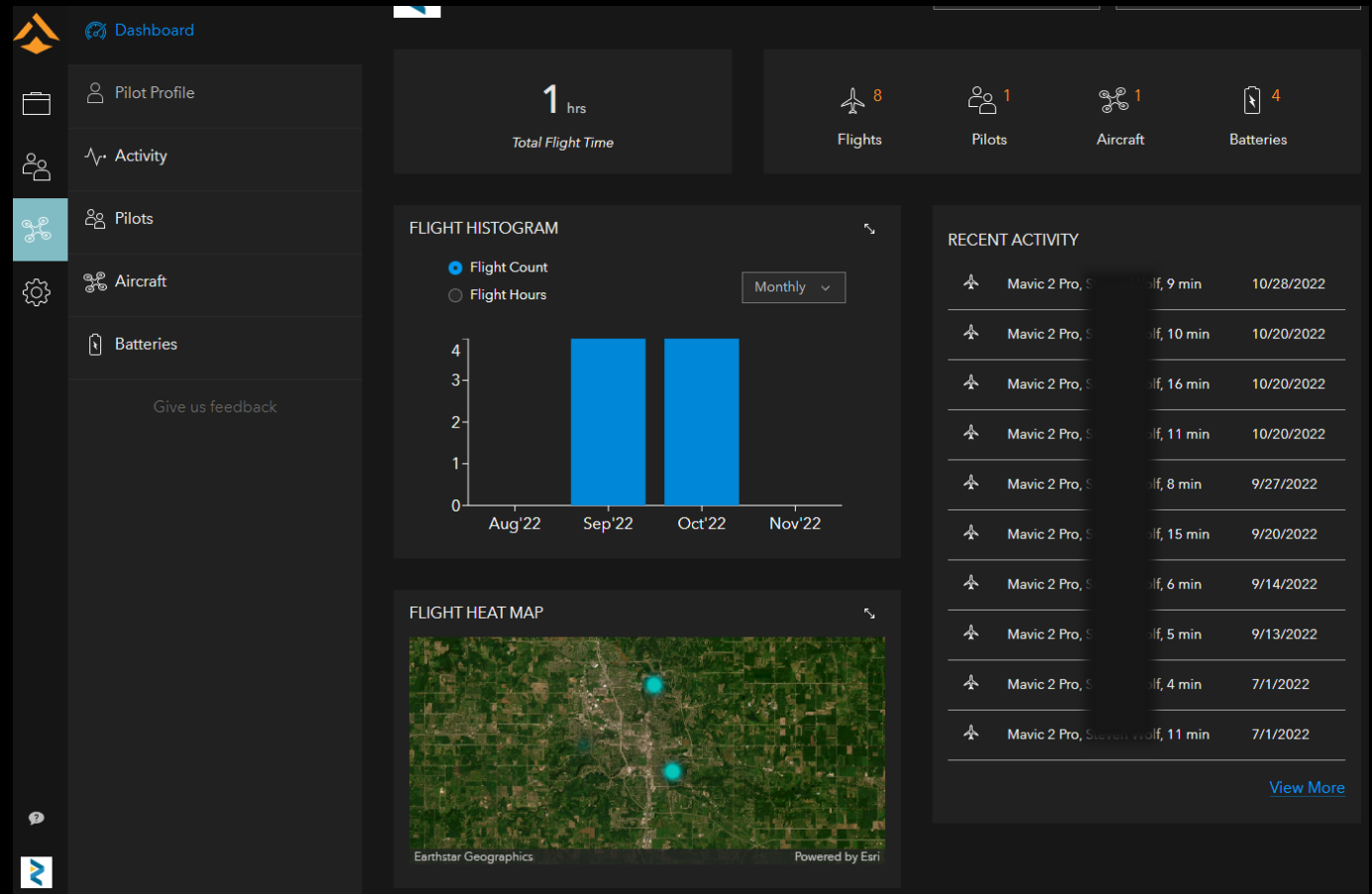
New Team Member

Search Team Member

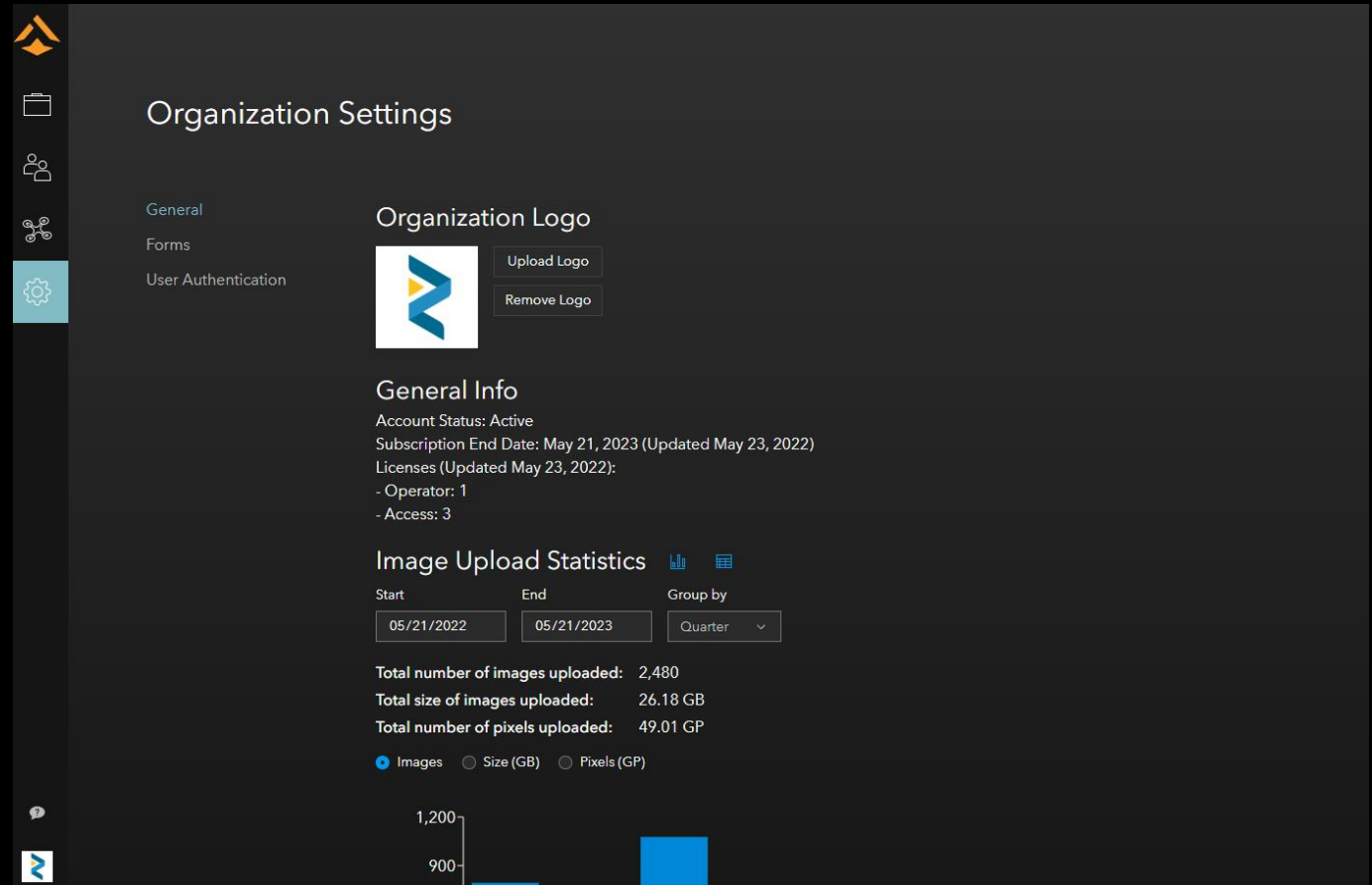
Name ↑	Last Activity	Operator ?	Fleet Permission	Role	
	Today		None	Read-Only	Remove
	October 27, 2022		Fleet-User	Full-Access	Remove
	Unknown		Fleet-User	Full-Access	Remove
	Unknown		Fleet-User	Read-Only	Remove
	Today		Fleet-Manager	Administrator	Remove
	November 9, 2022	<input checked="" type="checkbox"/>	Fleet-Manager	Administrator	Remove

MANAGE DRONE FLEET

- Drones
- Pilot Records
- Batteries



ORGANIZATION SETTINGS



The screenshot shows a web application interface for 'Organization Settings'. On the left is a vertical navigation menu with icons for Home, Dashboard, Users, Roles, and Settings (highlighted). The main content area is titled 'Organization Settings' and contains several sections:

- General**: A sidebar menu with options for 'General', 'Forms', and 'User Authentication'.
- Organization Logo**: A section with a logo placeholder and two buttons: 'Upload Logo' and 'Remove Logo'.
- General Info**: A section displaying account details:
 - Account Status: Active
 - Subscription End Date: May 21, 2023 (Updated May 23, 2022)
 - Licenses (Updated May 23, 2022):
 - Operator: 1
 - Access: 3
- Image Upload Statistics**: A section with a bar chart and summary statistics. It includes filters for 'Start' (05/21/2022), 'End' (05/21/2023), and 'Group by' (Quarter). The statistics are:
 - Total number of images uploaded: 2,480
 - Total size of images uploaded: 26.18 GB
 - Total number of pixels uploaded: 49.01 GPBelow the statistics are radio buttons for 'Images' (selected), 'Size (GB)', and 'Pixels (GP)'.

SITE SCAN FOR ARCGIS RESOURCES

- ESRI Blog
 - <https://www.esri.com/arcgis-blog/?s=#site%20scan>
- ESRI Site Scan FAQ
 - <https://www.esri.com/arcgis-blog/products/site-scan/imagery/drone-imagery-and-site-scan-for-arcgis-frequently-asked-questions/>
- ESRI Support Search
 - https://www.esri.com/en-us/search/?q=SITE%20SCAN&client=esri_support&page=1
- ESRI Training
 - [Getting Started with Site Scan for ArcGIS](#)
 - [Creating Imagery Products with Site Scan for ArcGIS](#)
- ESRI Imagery Workflows
 - <https://doc.arcgis.com/en/imagery/workflows/resources/creating-drone-imagery-products-with-site-scan-for-arcgis.htm>
- Supported Drones and Cameras
 - <https://community.esri.com/t5/imagery-and-remote-sensing-blog/site-scan-flight-for-arcgis-matrix-of-supported/ba-p/1009544?rsource=https://esriurl.com/arcgis-flight-app-supported-drones>

SITE SCAN FOR ARCGIS RESOURCES

- FAQ: What are the flight modes available in Site Scan Flight for ArcGIS? (Best Practices)
 - <https://support.esri.com/en/Technical-Article/000022893>