





# Quality Report

PIX4Dmatic v1.54.2

<b>Camera</b>	DJI_M3E_12.3_5280x3956
<b>Average GSD</b>	0.065 ft
<b>Project CRS</b>	NAD83 / Arizona Central (ft) + NAVD88 height (ft) - EPSG:2223+8228 [GEOID18]

## Quality check

<b>Matches</b>	Median of 20930 matches per calibrated image	
<b>Dataset</b>	100% calibrated (197/197)	
<b>Camera optimization</b>	0.03% relative difference between initial and optimized internal camera parameters	
<b>GCPs</b>	4 GCPs, Mean RMS position error 0.036 ft / Sigma 0.034	
<b>Checkpoints</b>	0 Checkpoints	
<b>MTPs</b>	0 MTPs	
<b>mITPs</b>	0 mITPs	
<b>ATPs</b>	1168566 ATPs	

# Cameras

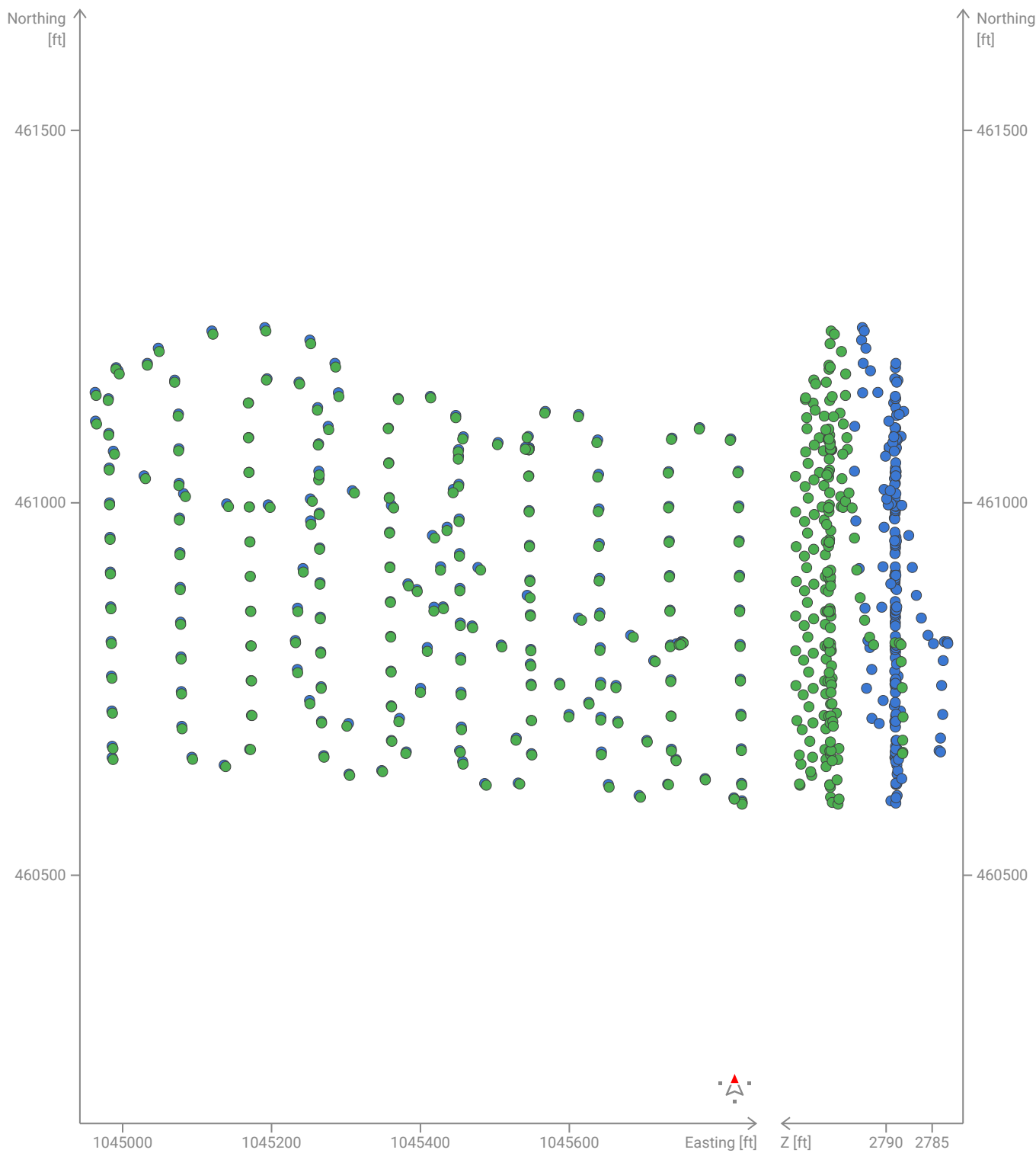


## Internal camera parameters

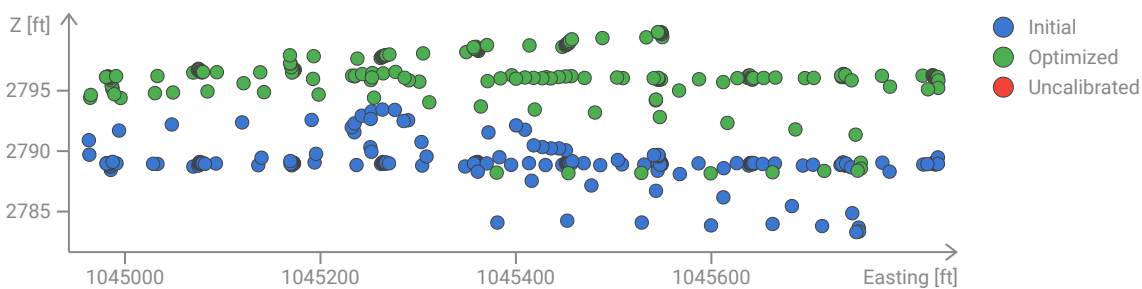
DJI\_M3E\_12.3\_5280x3956. Sensor dimensions: 17.424 mm x 13.055 mm

	Focal length	Principal point x	Principal point y	R1	R2	R3	T1	T2
<b>Initial</b>	3721.0 px 12.279 mm	2644.9 px 8.728 mm	1967.9 px 6.494 mm	-0.1113980	0.0122439	-0.0269388	-0.0002050	-0.0001195
<b>Optimized</b>	3719.9 px 12.276 mm	2670.8 px 8.814 mm	1920.2 px 6.337 mm	-0.1093627	0.0028867	-0.0180406	0.0001876	-0.0002570
<b>Uncertainties (Sigma)</b>	0.0 px 0 mm	0.0 px 0 mm	0.0 px 0 mm	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000

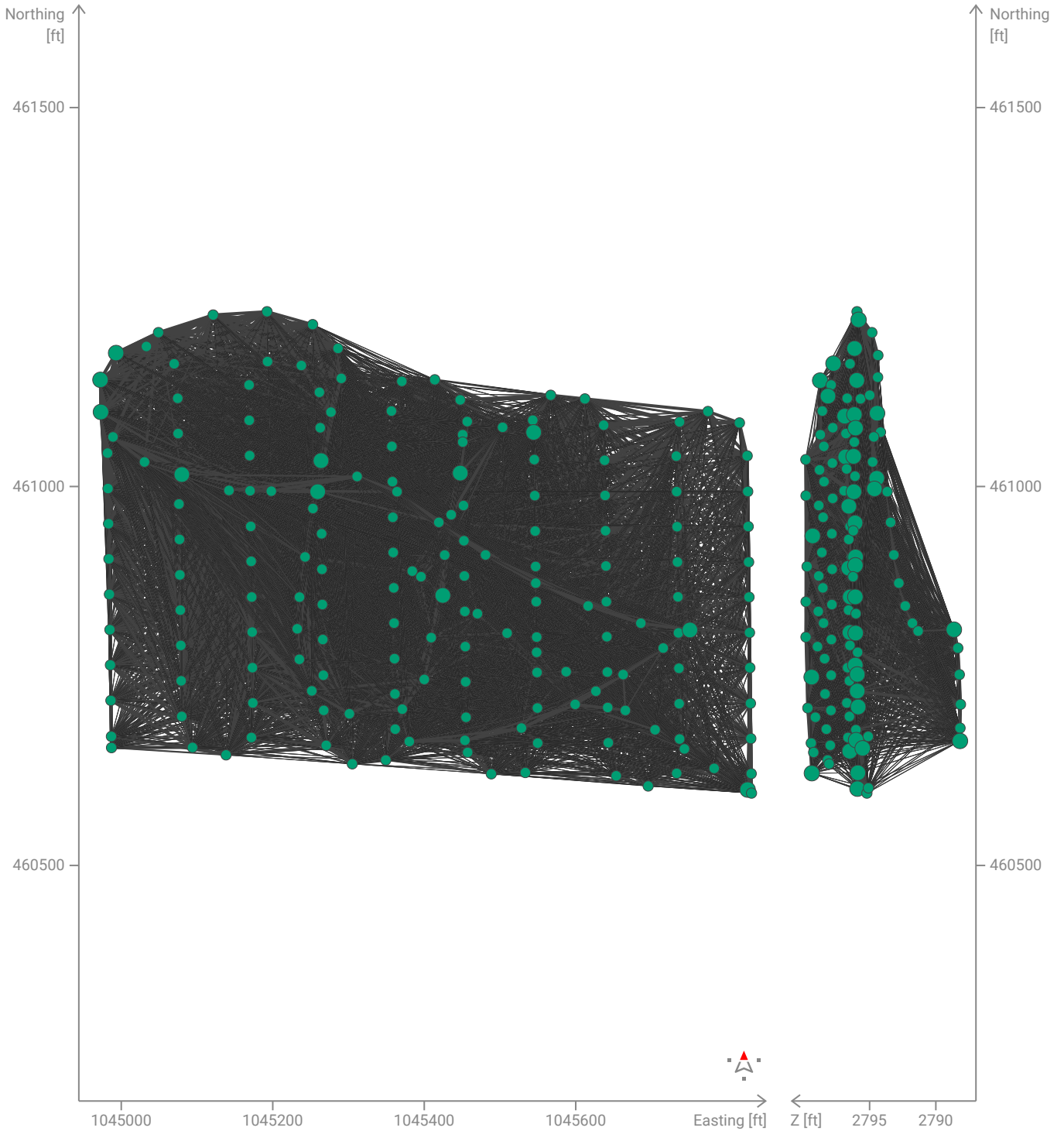
### Camera positions



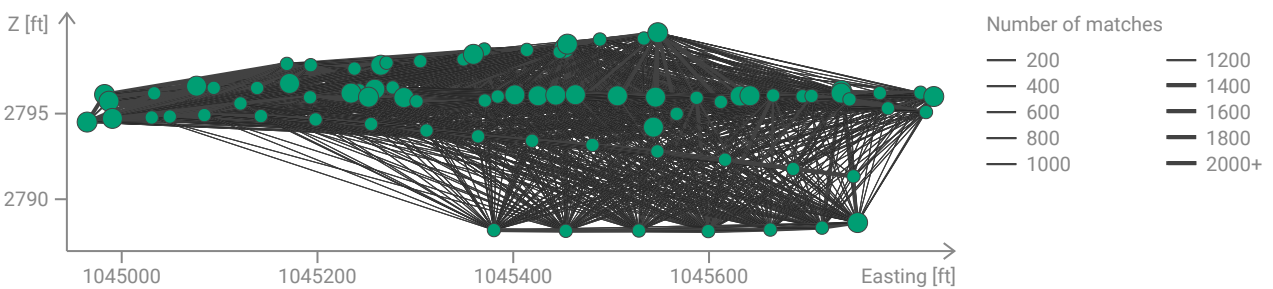
Initial and computed camera positions.



# Matches



Computed camera positions with links between matched cameras. The thickness of the links indicates the number of matched 2D keypoints between the cameras. Thin links indicate weak links and require manual tie points or more cameras. The different colors and shapes identify the distinct calibration blocks. Larger points indicate clusters of cameras.



## Tie points



### Ground control points (GCPs)

Label	Position error			Reprojection error [px]	Accuracy		Verified/Marked
	X [ft]	Y [ft]	Z [ft]		X/Y [ft]	Z [ft]	
001_	0.000	-0.024	0.003	0.8	0.066	0.066	16/16
002_	0.046	0.040	0.045	0.6	0.066	0.066	4/4
003_	-0.039	-0.015	-0.041	0.8	0.066	0.066	4/4
004_	0.010	-0.028	-0.072	0.5	0.066	0.066	4/4
<b>Mean</b>	0.004	-0.007	-0.016	0.7			
<b>Median</b>	-0.039	-0.015	-0.041	0.6			
<b>Min</b>	-0.039	-0.028	-0.072	0.1			
<b>Max</b>	0.046	0.040	0.045	1.5			
<b>RMS</b>	0.031	0.028	0.047	0.8			
<b>Sigma</b>	0.031	0.027	0.045	0.3			

# Hardware & Settings



## System information

Hardware: CPU: Intel(R) Core(TM) i7-7700K CPU @ 4.20GHz, cpus=1, threads=8  
 RAM: 31.96 GB  
 GPU: NVIDIA Corporation NVIDIA GeForce GTX 1070/PCIe/SSE2 (Driver: 4.1.0 NVIDIA 536.23)  
 Operating system: Windows 10 Version 2009

## Coordinate reference systems

<b>Image coordinate reference system</b>	WGS 84 - EPSG:4326
<b>Ground control point (GCP) coordinate reference system</b>	NAD83 / Arizona Central (ft) + NAVD88 height (ft) - EPSG:2223+8228 [GEOID18]
<b>Project coordinate reference system</b>	NAD83 / Arizona Central (ft) + NAVD88 height (ft) - EPSG:2223+8228 [GEOID18]

## Processing settings

Calibration <span>Completed</span>	Dense point cloud <span>Completed</span>
<b>Template:</b> Large scale and corridor <b>Pipeline:</b> Scalable standard <b>Image scale:</b> 1/1 <b>Internals confidence:</b> Low <b>Max extracted keypoints:</b> Automatic <b>Reoptimized:</b> No <b>Use automatic ITPs:</b> Disabled	<b>Algorithm:</b> Hardware accelerated <b>Image scale:</b> 1/2 <b>Density:</b> Optimal <b>Min number of matches:</b> 3 <b>Multiscale:</b> Enabled <b>Noise filter:</b> Enabled <b>Sky filter:</b> Disabled
6m 59s	18m 29s