

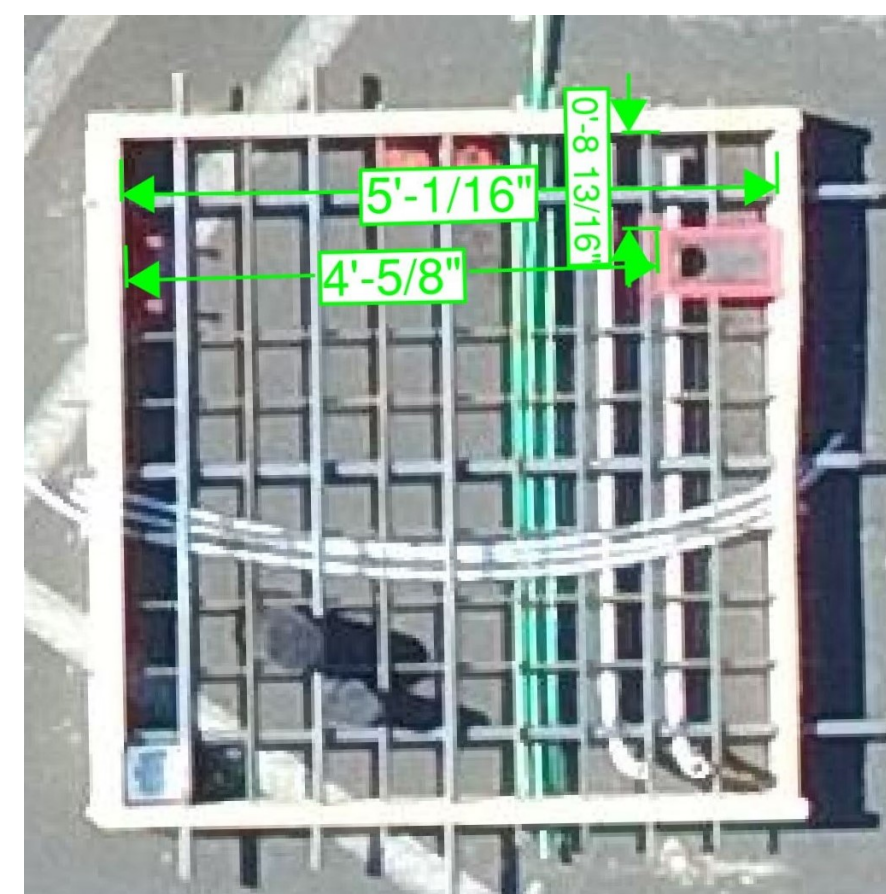
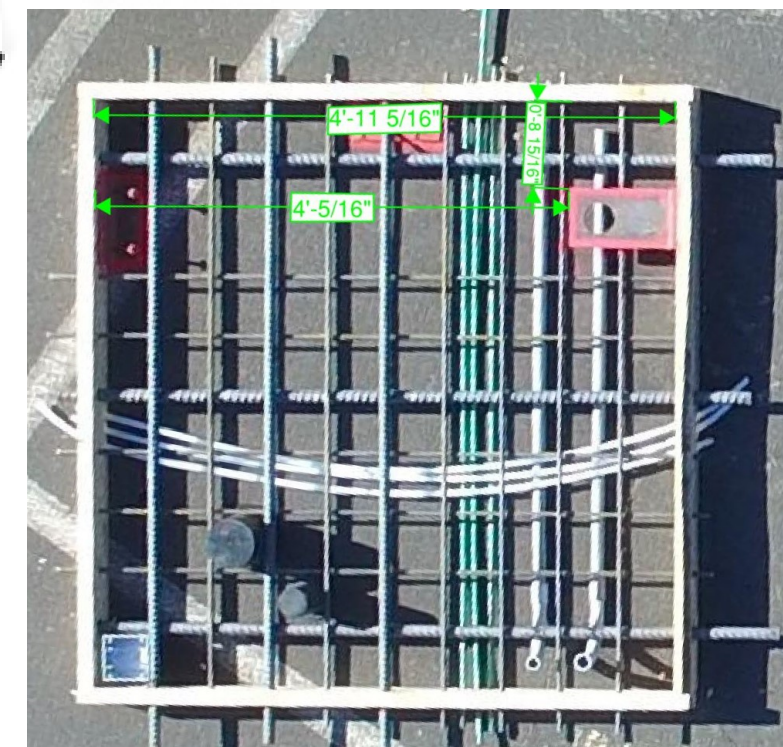
Documentation of Concrete Slabs Prior to Pours



Leica ScanStation P40 3D Laser Scanner



DJI Inspire 2 Drone

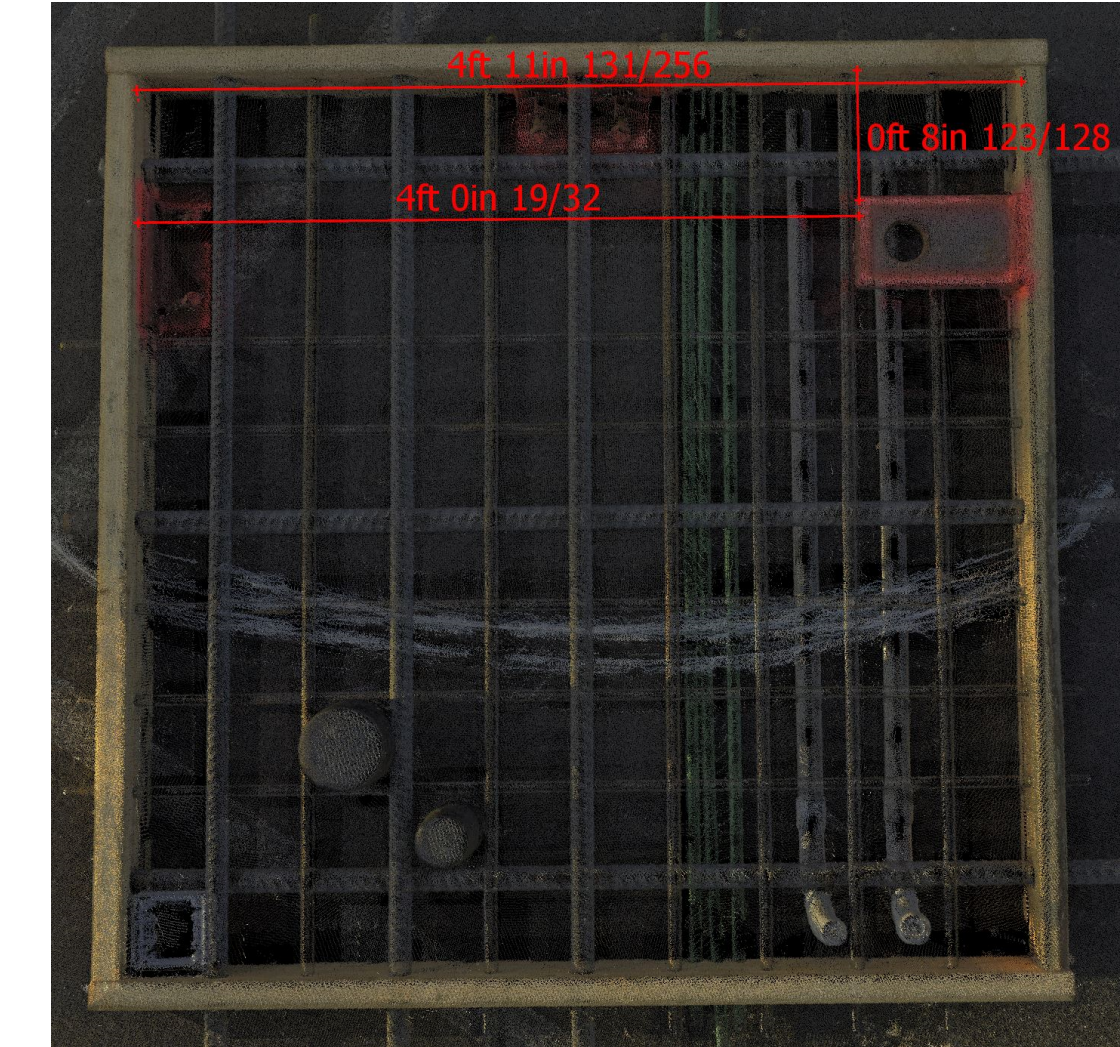


Abstract: Concrete slabs contain many building components that become no longer visible when concrete has been poured. As building designs continue to locate components in concrete, it is important to document what these slabs contain in order to verify accurate craftsmanship and allow for future building modernizations. The case study conducted tested multiple document-capturing devices on a mock-up of a typical concrete slab. Factors such as cost, interoperability, and level of expertise required for operation were considered as well.

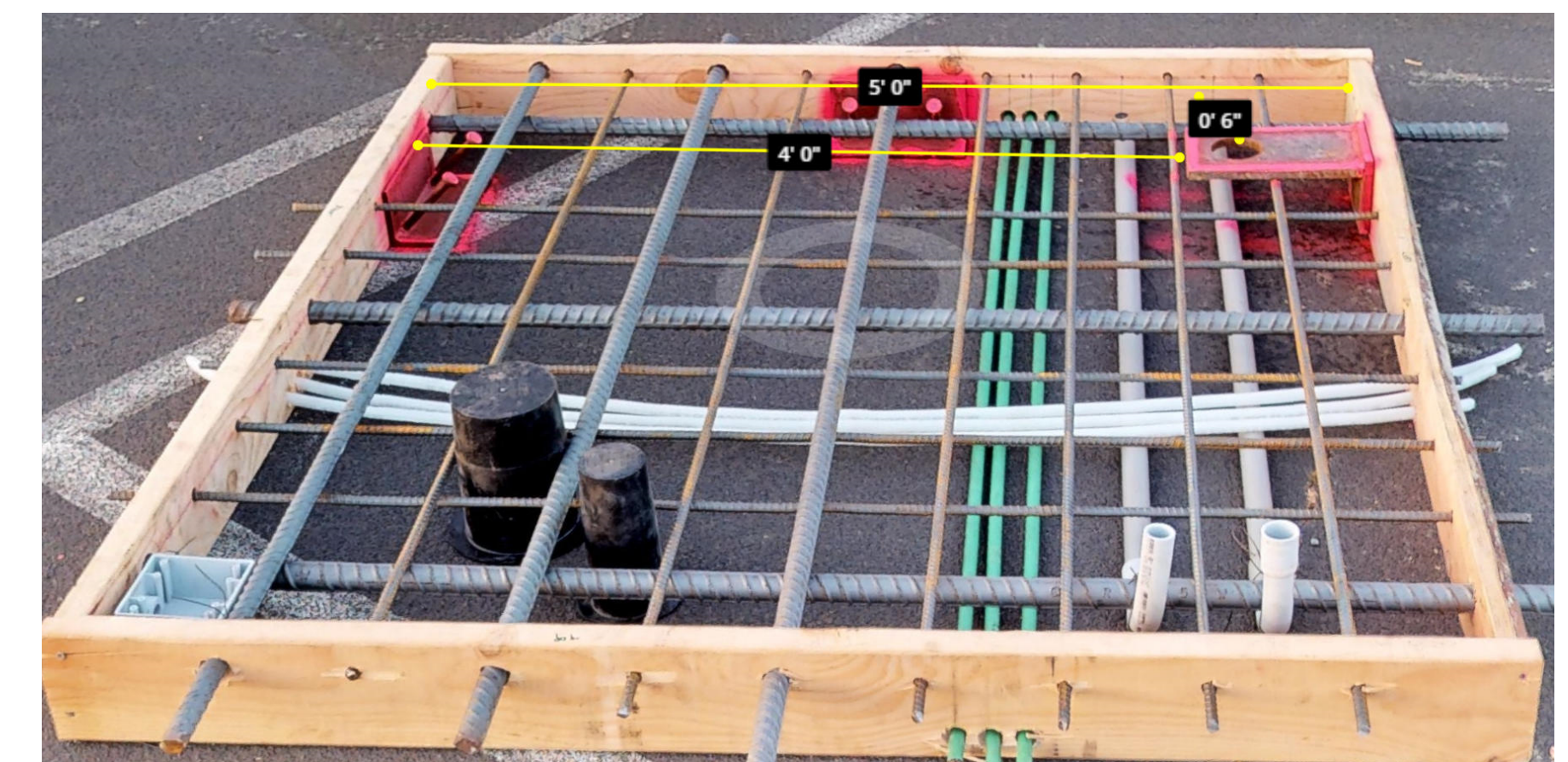
Keywords: Laser Scanning, Drone, 3D Camera Concrete Slab, BIM, As-Built

Device	Measurement	Recorded (Decimal Feet)	Actual (Decimal Feet)	Difference (Inches)
Leica P40	1	4.039	4.083	17/32
	2	4.976	5	9/32
	3	0.737	0.75	5/32
Leica RTC	1	4.049	4.083	13/32
	2	4.959	5	1/2
	3	0.746	0.75	1/16
Drone (30')	1	4.026	4.083	11/16
	2	4.942	5	11/16
	3	0.744	0.75	1/16
Drone (60')	1	4.052	4.083	3/8
	2	5.005	5	1/16
	3	0.734	0.75	3/16
Drone (100')	1	4.098	4.083	3/16
	2	4.968	5	3/8
	3	0.755	0.75	1/16
Matterport	1	4	4.083	1
	2	5	5	0
	3	0.5	0.75	3

Leica RTC360 3D Laser Scanner



Matterport Pro2 3D Camera



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