



**Smart Construction
Edge**

**Smart Construction Edge Release Notes
Update**

FW VERSION : "10.5.4"

OS VERSION : "7.2.0"



Confidential

Update Steps(Online Update)

1. Connect Edge to charger during update
2. Connect Edge to Ethernet
3. Update Edge
4. Confirm the version after the update

※iPad is recommended to update to IOS 18.7.1 or higher

<Updating from Edge FW v7 or later>

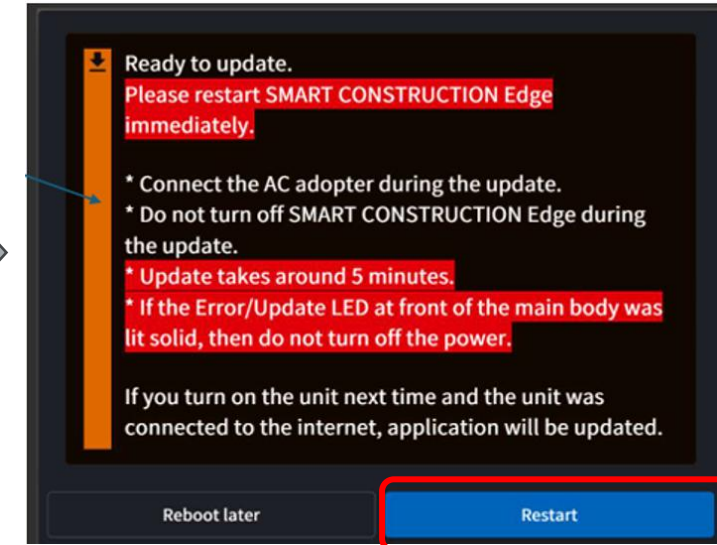
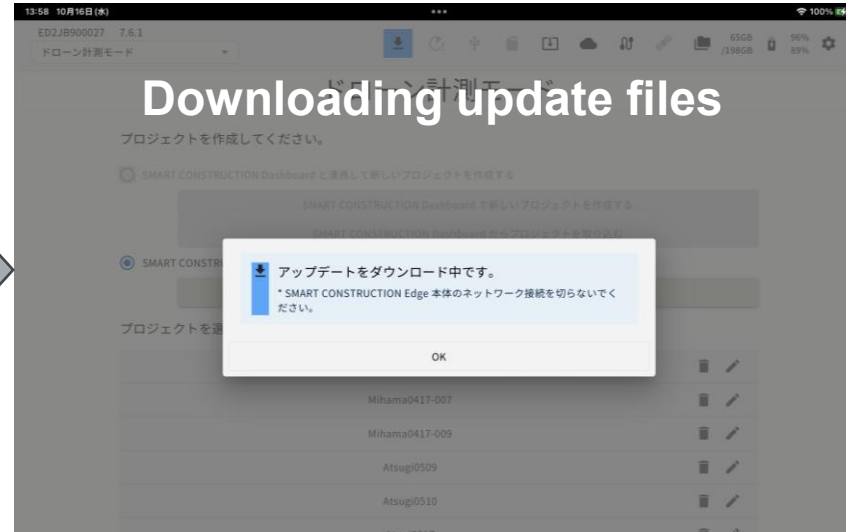
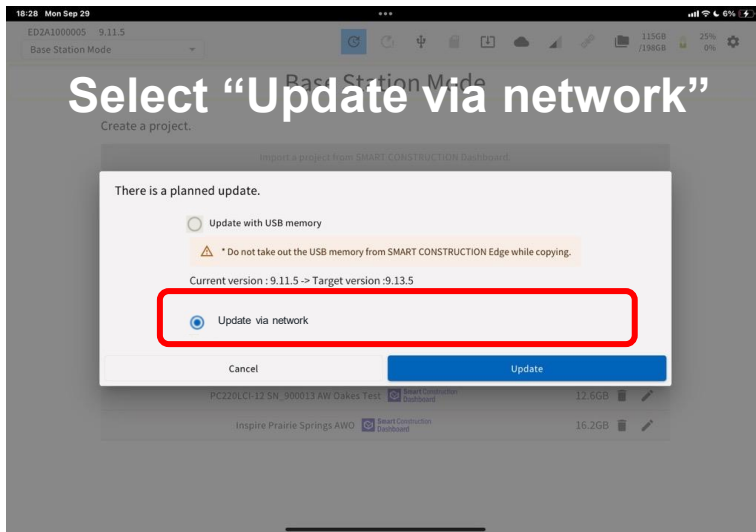
- Connected to Internet, download the files to update, then press “Restart”
- If the operation LED turns flashing green to solid green, update has completed for the both FW and OS.

Caution

Firmware file size is very Large (~5GB)

- **For online update: Please connect Edge to Ethernet** during update process to avoid SIM card data use.

Once update completed restart



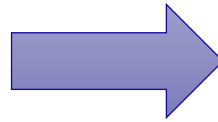
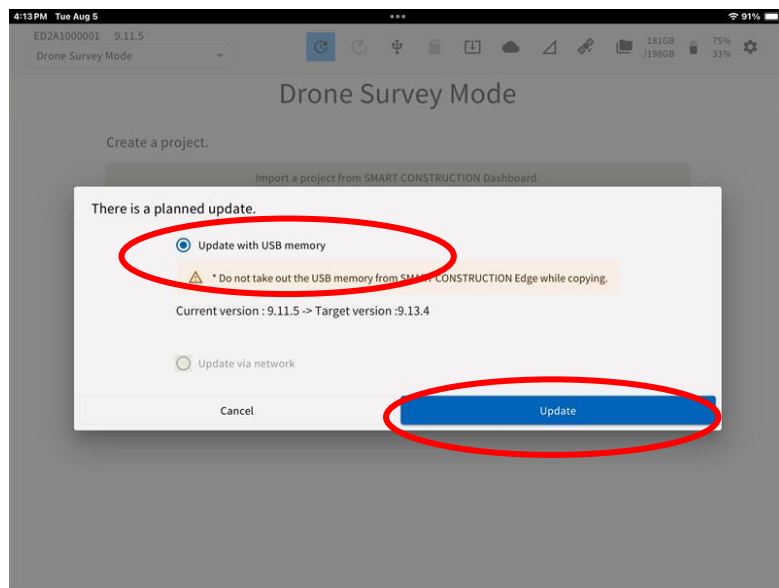
Update steps with USB drive(Local Update)

- **Save Update files in your USB drive**

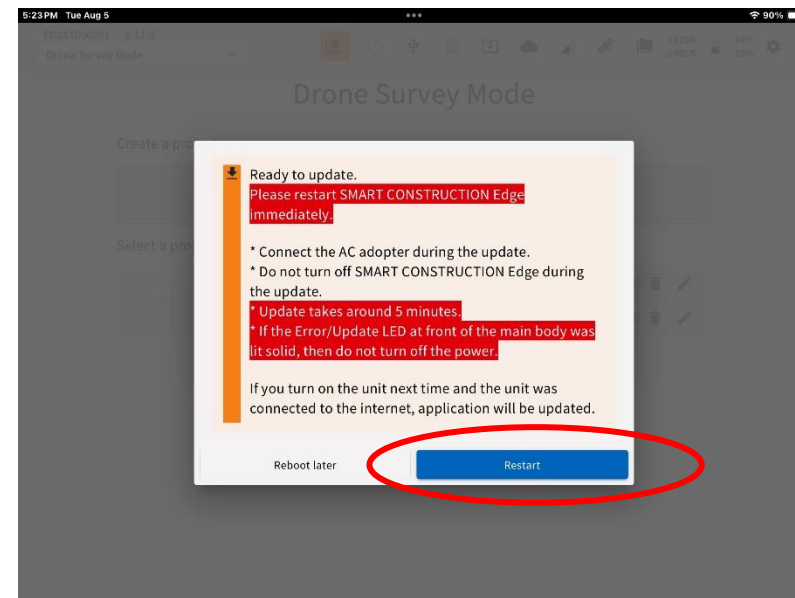
Download 3 files (firmware.md5, firmware1.bin, firmware2.bin) and copy **directly** to root folder of USB drive. If the files are in folder, Edge won't recognize.

- **Insert USB drive with files to Edge USB port**

Proceed Update from notification message



Update process could take up to 5 minutes. When you see the right message, tap "Restart" to reboot Edge to complete update.



After restarting, wait for the green LED to change from flashing to solid (about 5 minutes)

Update items SC Edge v10.5.4

Classification	Item	Summary	Detail Page
Improvement	Download Mount Point List	In the Edge2 settings screen, specifying the mount point for the network RTK service has changed from manual entry to a download-based method	P4
	GCP annotation improvement	We have introduced a feature that automatically detects Ground Control Point (GCP) markers when processing Drone with GCP	P5-P7
	Drone Process Quality Improvement	Improve the quality of Point Cloud and DTM with lower noise	P8
	Distance unit added	We have added coordinate Unit in Edge installation point screen	P9
	DJI MATRICE400 Support (Only Zenmuse P1 Camera)	Support DJI Matrice400 (with Zenmuse P1 Camera) for drone processing https://enterprise.dji.com/matrice-400	N/A
	ACSL RTK-SOTEN (Japanese Drone) Support	Support RTK So-TEN for drone processing with +/- 10cm level accuracy https://product.acsl.co.jp/en/product/post-369/	N/A

Update items SC Edge v10.5.4

Classification	Item	Function
Bug Fix	Fixed a bug where point cloud generation with GCP failed under certain specific conditions	Drone
	Fixed a bug of Drone processing, when merging multiple flights data from DJI Matrice4E	Drone
	Fixed a bug where Smart Construction account authentication error remains after recovered from offline	Drone
	Fixed a bug where correction data could not be stopped after broadcasting if an external radio was not connected.	Base Station
	Unsupported RTCM3.2 MSM3 format option is removed	Base Station

Download Mount Point List

Downloading the mount point list instead of entering the mount point manually.

Network RTK setting menu

Settings

interwork Service Settings

List of network RTK services

Service Name	Host	Mount Point	Port	User ID
No. 1				

Network RTK Service Settings

Please enter the host and port, then update the list of mount points using the refresh button on the right.

Service name: Wisconsin

Host: mncors.dot.state.mn.us

Port: 9000

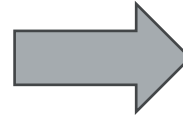
Mount Point: AGCMRP

User ID:

Password:

Cancel Registration

Select this button to open mount point list.



Settings

interwork Service Settings

List of network RTK services

Service Name	Host	Mount Point	Port	User ID
No. 1				

Network RTK Service Settings

Please enter the host and port, then update the list of mount points using the refresh button on the right.

Service name: Wisconsin

Host: mncors.dot.state.mn.us

Port: 9000

Mount Point: AGCMRP

User ID:

Password:

Cancel Registration

- AGCMRP
- AGCMRX
- AGRTCM31
- CMR_Plus_NAD83(1996)
- CMR_Plus_NAD83(2011)
- CMRx_NAD83(1996)
- CMRx_NAD83(2011)
- RTCM_23_NAD83(2011)
- RTCM_31_NAD83(1996)
- RTCM_31_NAD83(2011)
- RTCM_34_NAD83(1996)
- RTCM_34_NAD83(2011)
- AGRTCM34


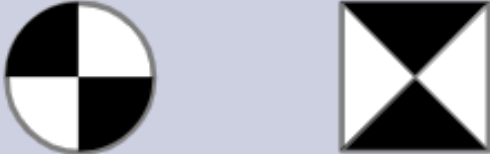
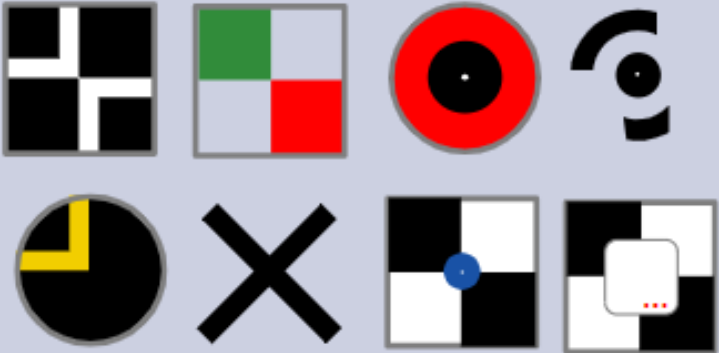
Show mount point list and select

Auto GCP Annotation

In v10, when performing drone processing using GCPs, the positions of the following markers can now be automatically detected.

Detectable markers

Possible, but not confirmed

Detectable	Detectable but not stable	Not Detectable
 Black & White with good contrast		

※Size of GCP markers are 30 cm x 30 cm or bigger. (Black and White)

We have confirmed the auto detection with the condition of GSD 1cm ~ 2cm photo resolution.

GCP color was confirmed only in black and white.

Auto GCP Annotation

During the GCP annotation, GCPs which is close to the coordinates entered will be automatically detected as shown below, and photo of the detected markers will be highlighted in orange.

Add GCP to use

17:02 Thu Jan 29
ED2A1000005 10.5.4
Drone Survey Mode

Cloud SfM test Cartersville 20240819
Local coordinate system(International feet (Int. feet))

Smart Construction Dashboard
Project information

Add coordinates of control point manually or import from other project.

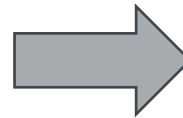
Add Control Point
Import Point Files
Import the points from SMART CONSTRUCTION Dashboard

Associate marker coordinates with the photo and select the point to generate point cloud. If the point is not selected, only PPK will be used to generate point cloud.

Point Name	X(N)	Y(E)	Z	Image Associating
<input type="checkbox"/> EDGE MAIN	2119764.190	1517400.910	1001.667	Not yet
<input type="checkbox"/> EDGE SUB	2119708.966	1517355.419	1001.170	Not yet
<input type="checkbox"/> 3BACD97B	2119949.826	1517087.901	996.511	Not yet

Generation starts

Click to annotate



Automatically detected GCPs are highlighted in orange

17:06 Thu Jan 29
ED2A1000005 10.5.4
Drone Survey Mode

Cloud SfM test Cartersville 20240819
Local coordinate system(International feet (Int. feet))

Smart Construction Dashboard
Project information

Tap and display the photo showing the marker, and specify the position of the marker. To be used for point cloud generation, at least 4 photos with specified positions are required.

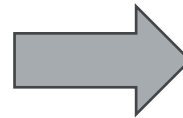
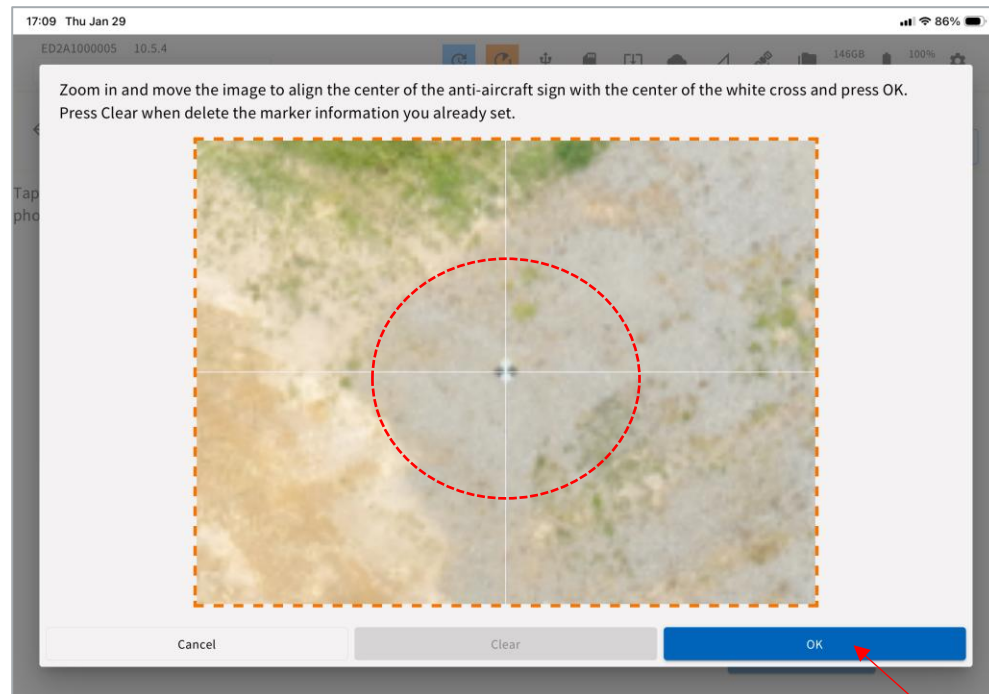
☒ Position specified. ☐ Not specified. (marker detection) ☐ Not specified.

Done

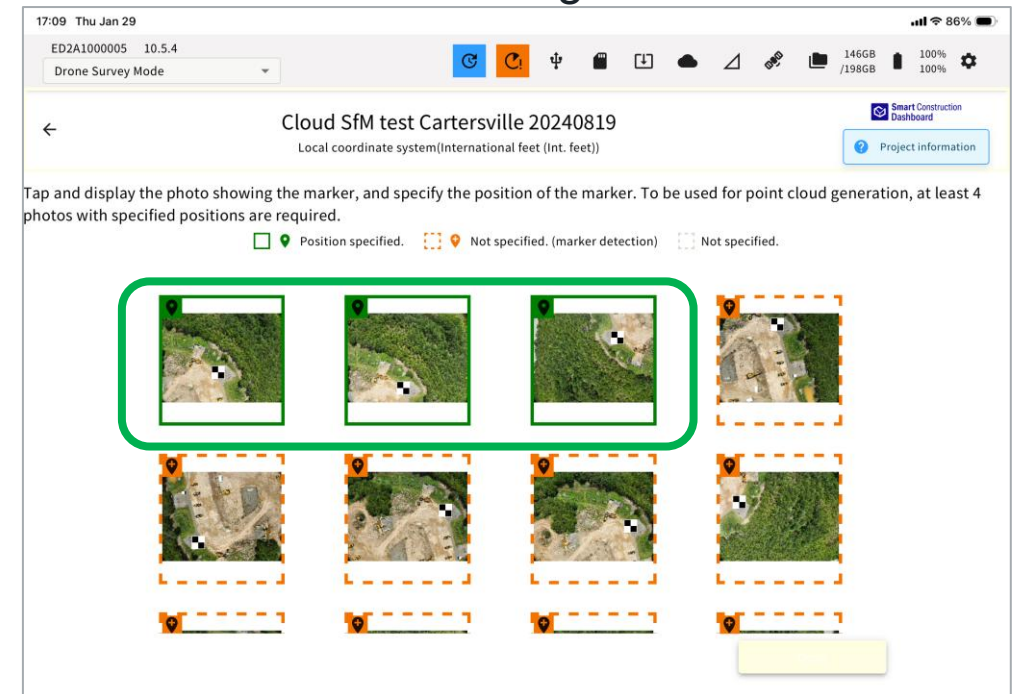
Auto GCP Annotation

Choose one of these orange highlighted GCP photos, then you will see the GCP marker center automatically detected. If it is off-center, adjust it manually and tap OK. Once the GCP center is confirmed, it will be marked as located and turn green.

GCPs center is auto detected



Once the GCP center is confirmed, the photo will be highlighted in Green.
Annotate at least 4 images

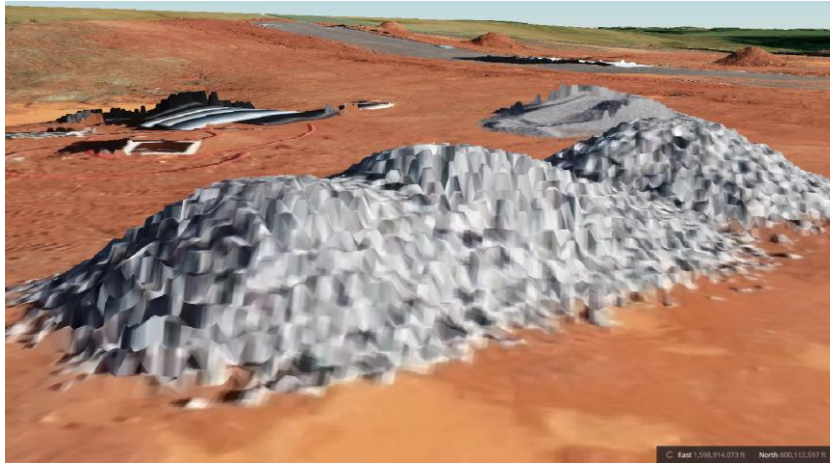


Click to confirm

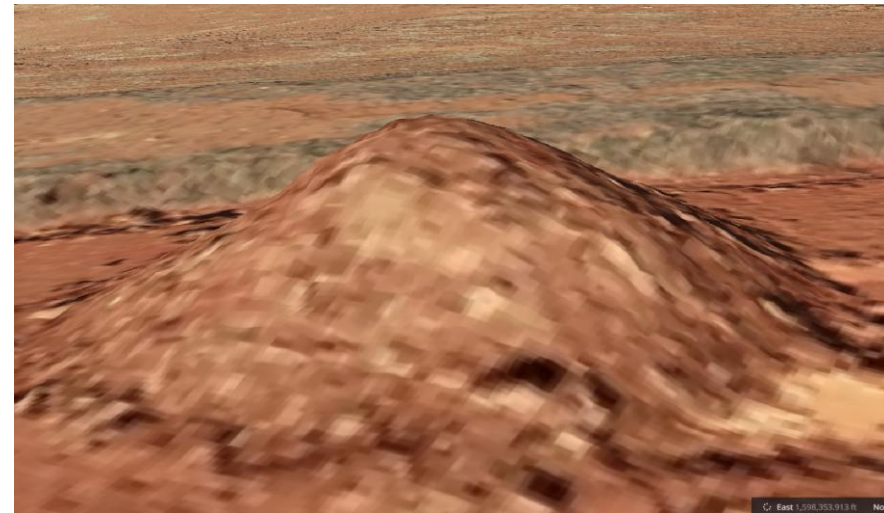
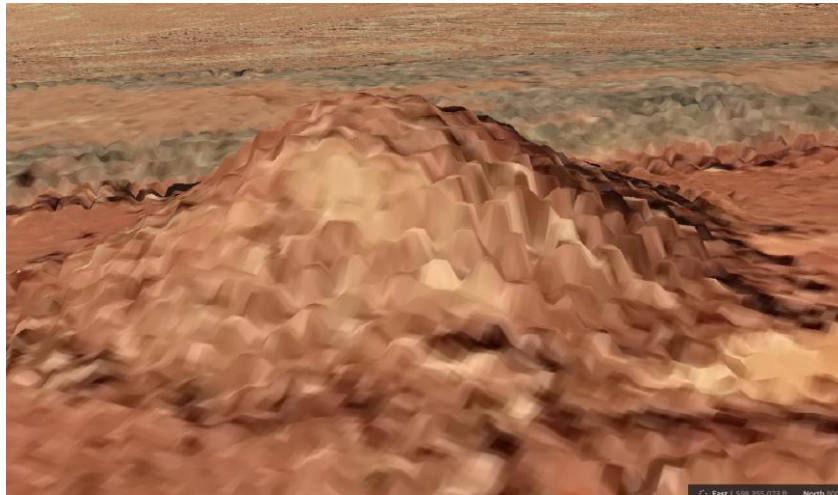
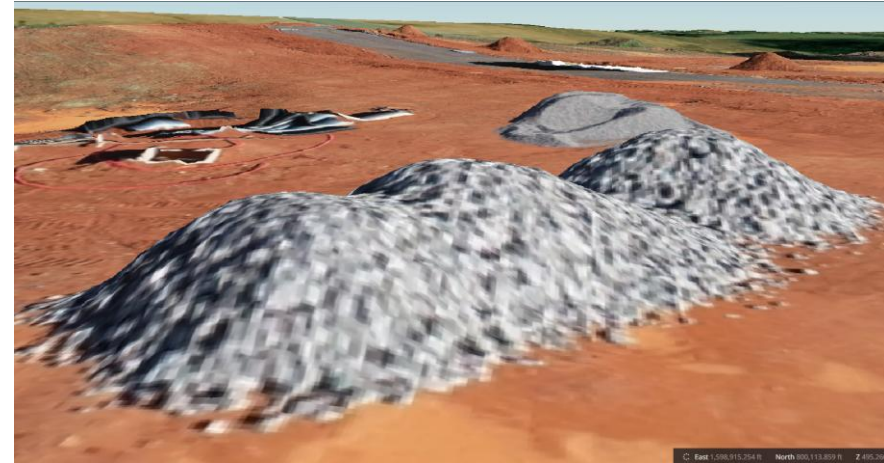
DTM Quality Improvement

As shown below, the DTM noise was reduced even at the standard density

Old Version



V10.5.4



Distance unit is added

We have added distance unit in Edge installation point screen

17:44 Thu Jan 29
ED2A1000005 10.5.4
Drone Survey Mode

Edge Training Cartersville
Local coordinate system(US survey feet)

Smart Construction Dashboard
Project information

104 (Known point) Lat./Lon.:DMS

X(N)[ftUS]	Y(E)[ftUS]	Z[ftUS]	Latitude	Longitude	Ellipsoid Height[m]
1516856.317	2119680.850	1019.183	34.100633535	-84.450551037	922.336

Number of satellites in use: 12

GPS:	4
GLONASS:	5
Galileo:	1
BeiDou:	2

Pole Height (up to 3 decimal places) US survey f...

Measuring method of the pole height

Start PPK Logging

17:44 Thu Jan 29
ED2A1000005 10.5.4
Drone Survey Mode

EPSG5703 NAVD88 height GEOID18
EPSG: NAD83(2011) / Illinois East (ftUS)
Vertical Reference: NAVD88 height

Smart Construction Dashboard
Project information

EDGE MAIN (Known point) Lat./Lon.:DMS

X(N)[ftUS]	Y(E)[ftUS]	Z[m]	Latitude	Longitude	Ellipsoid Height[m]
2119764.190	1517400.910	1001.667	42.280892402	-86.212636483	968.086

Number of satellites in use: 12

GPS:	4
GLONASS:	5
Galileo:	1
BeiDou:	2

Pole Height (up to 3 decimal places) US survey f...

Measuring method of the pole height

Start PPK Logging

**If State Plane Coordinate system with Meter(m) datum is used,
Please enter the control point height in Meter(m) value.
(i.e EPSG5703 NAVD88)**

Will be fixed in future