



RTX Site calibration

RTX broadcasts in ITRF 2008 (current epoch) and receiver transforms to 2005 epoch

- If customer wants to work in a Trimble Access project using the state plane NAD83 datum, they have 2 options:
 - o Use the RTK to RTX offset
 - Requires you to shoot in a point with RTK and RTX before you can shoot in and apply the offset
 - This may not be the best option for some customers since they may not be using RTK in this particular setup
 - o Use a Site calibration
 - You **must** have control data (in terms of NAD83(some epoch)) loaded in your project beforehand
 - Perform a site calibration
- A 3rd option would be to work in the same datum as the RTX corrections
 - o Work will need to be performed before going out into the field.
 - o Convert the project data to ITRF2008 before loading onto a data collector, then when you use RTX there would be no transformation.
 - o Use the HTDP tool from NGS to transform the coordinates
 - http://www.ngs.noaa.gov/TOOLS/program_descriptions.html#HTDP

in this paper we will be describing RTX Site calibration in 5 easy steps

RTX Site calibration Steps

Step 1: Run static on at least one point, or 2 points to check.

Step 2: Submit to OPUS and get a solution

Step 3: key in control points in the data collector

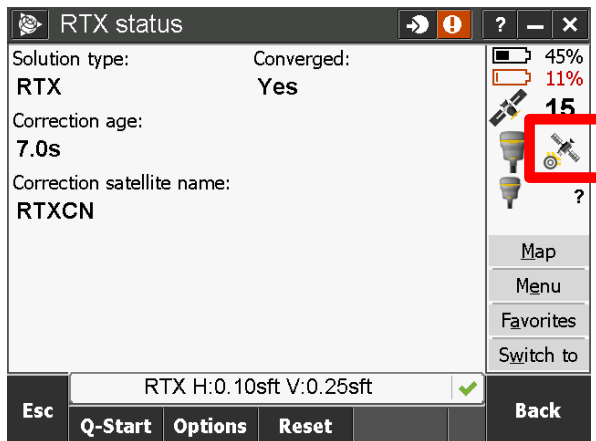
Step 4: Site calibration RTX ITRF 2008 to Control point NAD 83

Step 5: Start measuring RTX in the NAD 83 calibrated site

Workflow:

Start a new project with state plane NAD 83 then start measurement using RTX survey style

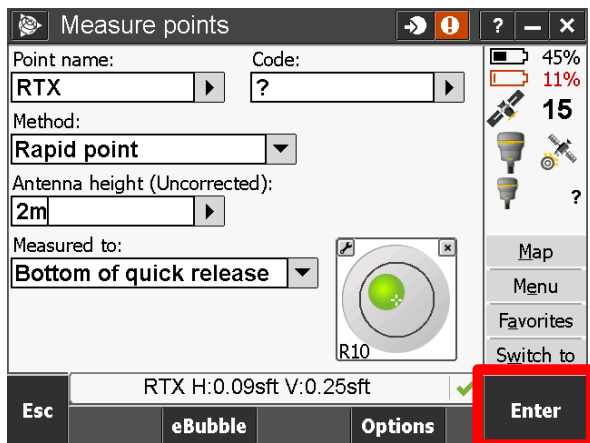
Wait 30 minutes for the satellite signal to Converge, click on the satellite icon to view RTX status



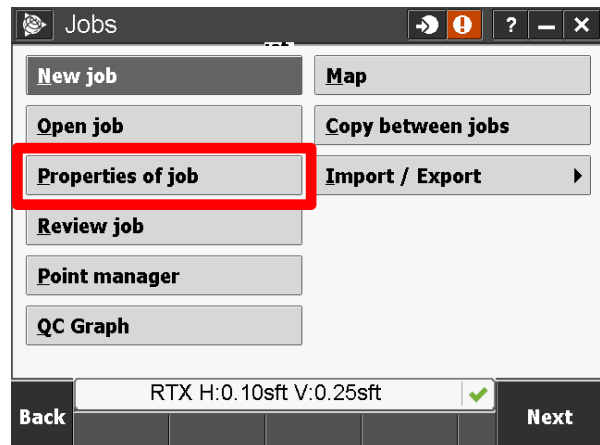
Go back to Jobs to inset your points as a csv file or **Key in** to enter the OPUS coordinates measured in NAD 83



Take a measurement with RTX



Click on Properties of job





Click on Linked files

Job name: NEI-RTX

Properties

Coord. sys.: Louisiana South 1702 (United States)

Units (Dist.): US survey feet

Linked files: None

Active map: None

Feature library: None

Cogo settings: Ground

RTX H:0.10sft V:0.24sft

Esc Accept

One file should be linked now

Job name: NEI-RTX

Properties

Coord. sys.: Louisiana South 1702 (United States)

Units (Dist.): US survey feet

Linked files: 1

Active map: None

Feature library: None

Cogo settings: Ground

RTX H:0.10sft V:0.25sft

Esc Accept

Select CSV file that has the points OPUS solution

Name	Size	T...	Modified	Location
MANU...	4kb	.j...	11/11/2015	\Trimble C
M.I	8kb	i	11/11/2015	\Trimble C
✓ NEI	1kb	...	11/23/2015	\Trimble C
Nikon	2kb	.j...	11/11/2015	\Trimble C
no bt	28kb	.j...	11/11/2015	\Trimble C
NRCS	7kb	.j...	11/11/2015	\Trimble C
NRCS	1kb	...	2/23/2011	\Trimble C
NRCS...	22kb	.j...	11/11/2015	\Trimble C
NRCS	28kb	i	11/11/2015	\Trimble C

RTX H:0.10sft V:0.25sft

Esc Accept

Select Measure

Job: NEI-RTX

45%
8%
15
6.562

Jobs Key in Cogo

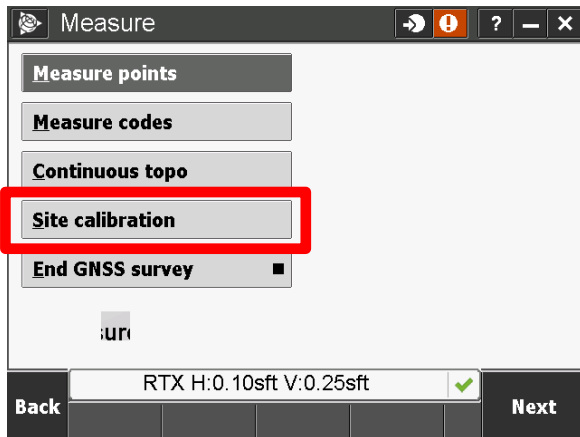
Measure Stakeout Instrument

Map
Menu
Favorites
Switch to

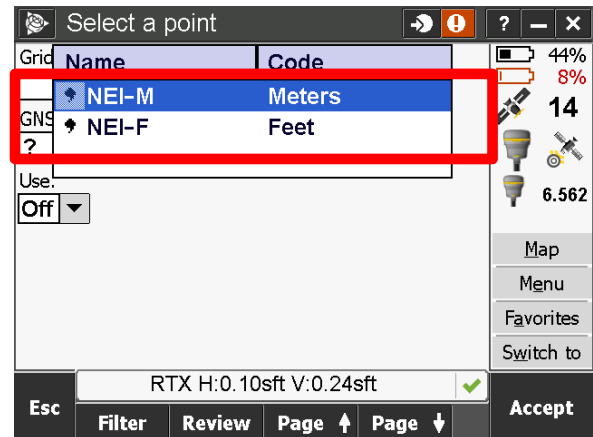
RTX H:0.10sft V:0.24sft

Exit Enter

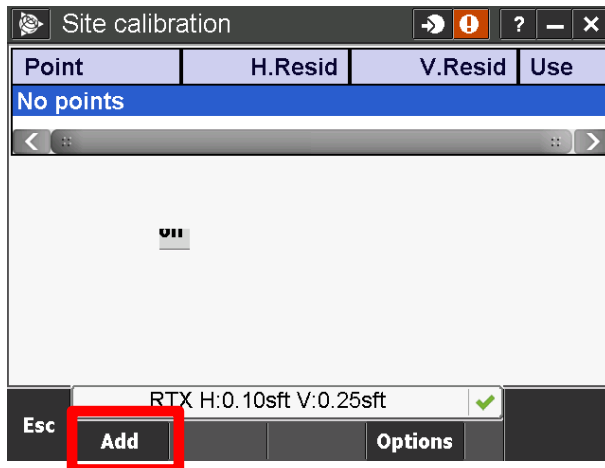
Select Site Calibration



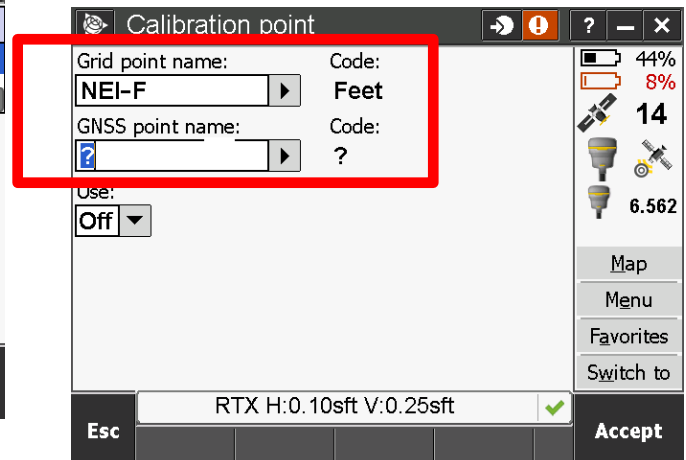
Select the appropriate point



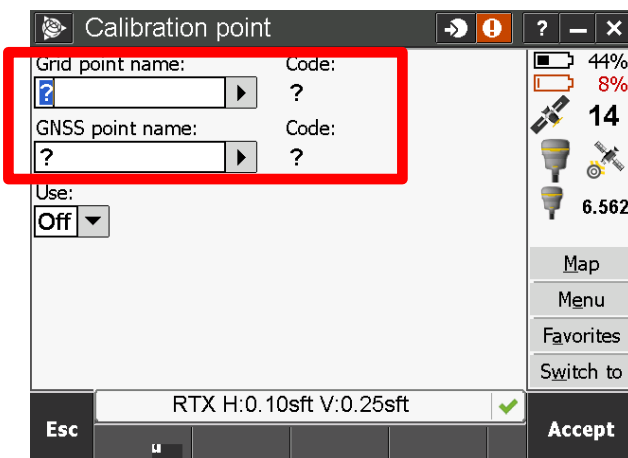
Select Add



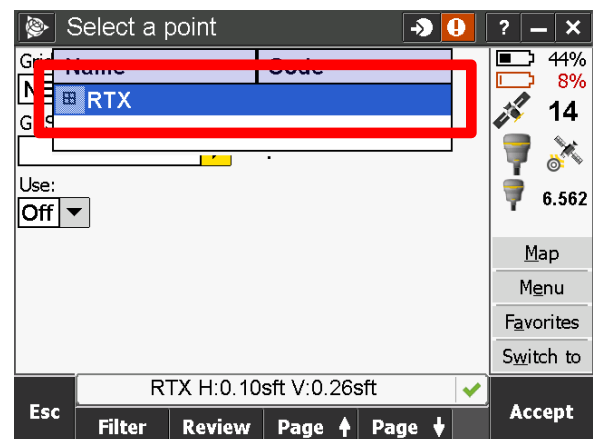
GNSS point should be the point was taken in RTX measurement



From the Grid point list should be the point from CSV file (OPUS solution)



Select RTX shot





USE Horizontal and Vertical select Enter

Calibration point

Grid point name: NEI-F Code: Feet

GNSS point name: RTX Code: ?

Use: Horizontal & vertical

RTX H:0.11sft V:0.27sft

Esc Enter

If you go back to job properties

Jobs

New job Map

Open job Copy between jobs

Properties of job Import / Export

Review job

Point manager

QC Graph

RTX H:0.11sft V:0.27sft

Back Next

Hit Apply to apply Site calibration

Site calibration

Point	H.Resid	V.Resid	Use
NEI-F	0.000sft	0.000sft	H,V

RTX H:0.11sft V:0.28sft

Esc Add Delete Results Apply Edit

Properties of the job the coordinate system will be in Local Site

Job name: NEI-RTX

Properties

Coord. sys.: Local site

Units (Dist.): US survey feet

Linked files: 1

Active map: None

Feature library: None

Cogo settings: Ground

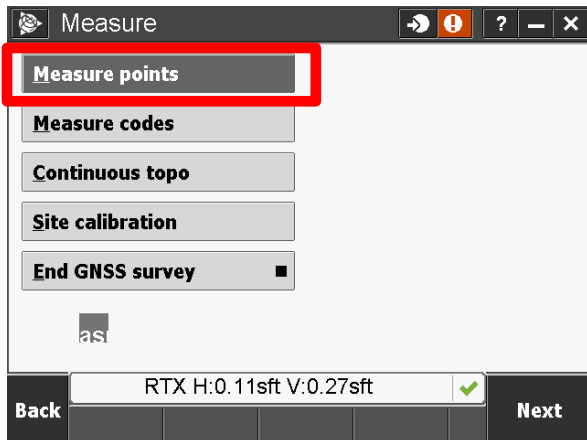
RTX H:0.11sft V:0.28sft

Esc Accept

Back to measure



Measure Point



Any measurement in RTX will be in the calibrated NAD 83 coordinate system after that!