QuickMark Layout
Operator Manual

Introduction

Thank you for choosing QML800 (QuickMark Layout) for your interior layout needs. QML will enable you to locate points on your jobsite quickly and accurately. Before using your QML, read this operator's manual carefully. Included is information about operation, safety and maintenance.

Consider also, tutorial videos that can be accessed from www.spectralasers.com

Your comments and suggestions are welcome; please contact us at:

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Laser Safety Use of this product by people other than those trained on this product may result in exposure to hazardous laser light.
• Do not remove warning labels from the unit.
• The QML800 is a Class 2 (642nm) laser product .
• Never look into the laser beam or direct it to the eyes of other people.
• Always operate the unit in a way that prevents the beam from getting into people's eyes.

General Care, Safety And Storage General safety rules
1) Check the condition of the tool before use.
2) The user must check the accuracy of the tool after it has been dropped or subjected to other mechanical stresses.
3) Although the tool is designed for the tough conditions of jobsite use, as with other measuring instruments it should be treated with care.
Cleaning and drying
1. Blow dust off the windows.
2. Use only a clean, soft cloth for cleaning. If necessary, moisten the cloth slightly with pure alcohol or a little water.
NOTE Do not use any other liquids as these may damage the plastic components.
Storage
The temperature limits for storage of your equipment must be observed, especially in winter / summer. Remove the tool from its pouch if it has become wet. The tool, its carrying case and accessories should be cleaned and dried (at maximum40°C). Repack the equipment only once it is completely dry. Check the accuracy of the equipment before it is used after a long period of storage or transportation.
Transport
Use the original packaging or packaging of equivalent quality for transporting or shipping your equipment.

QML800 includes 2 laser transmitters, 2 tripods in a nylon bag, Nexus 7 controller, LP30 pointer, Interceptor target, laser glasses packaged in a hard case with foam insert.

Controller

1) Google Nexus 7
2) Bobj Rugged Case

If you purchased a configuration without a controller, or if you lost or damaged the controller. Go to Google Playstore to download the QML Application
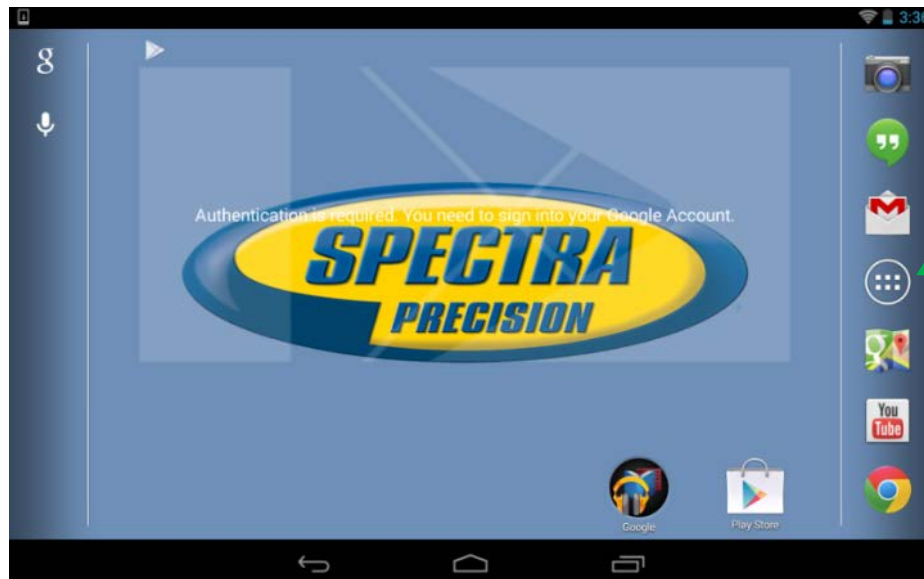
Operator Manuals and Instructional videos

How the QML800 WiFi network operates.

Green 360° sensor

Blue 360° sensor

Green laser
unit - HOST

Blue laser
unit - CLIENT

Controller unit (CU)

Power ON one Laser Unit (LU) at a time- waiting 3 to 5 seconds between powering laser units. The first LU powered on becomes the Wi-Fi Host and shows a green 360 sensor. The second LU powered on becomes the Client and shows a blue 360 sensor. If powered on at the same time, they may both become hosts with green lights. If this happens power off one laser unit and then power on again.

After the Laser Units are powered on, launch the QML application on the controller. It will search for a QML network and join it. If the Laser Units are not powered on, you can only work off-line.

If the QML app symbol does not appear on the screen, tap this function button

The controller is an off-the-shelf tablet. YouTube videos and other useful control information is available on the internet.
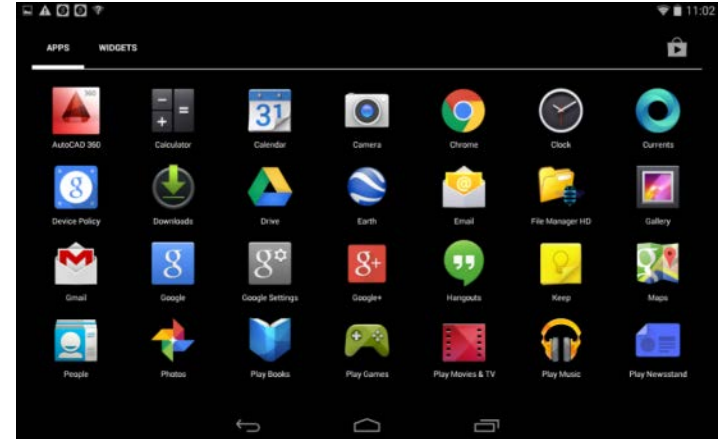
Back arrow. Also = undo

Opens and closes keypad

Navigate to other open applications

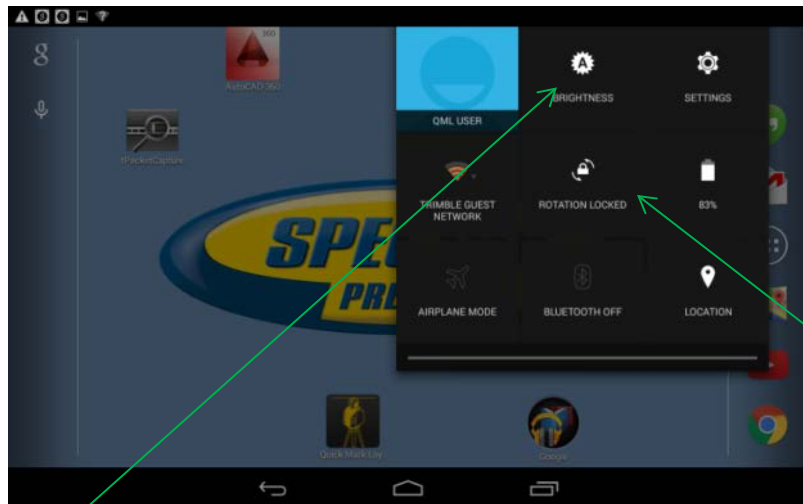In the QML application, "dismiss" means to close the dialog box.

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Swipe down from here to bring up key settings below
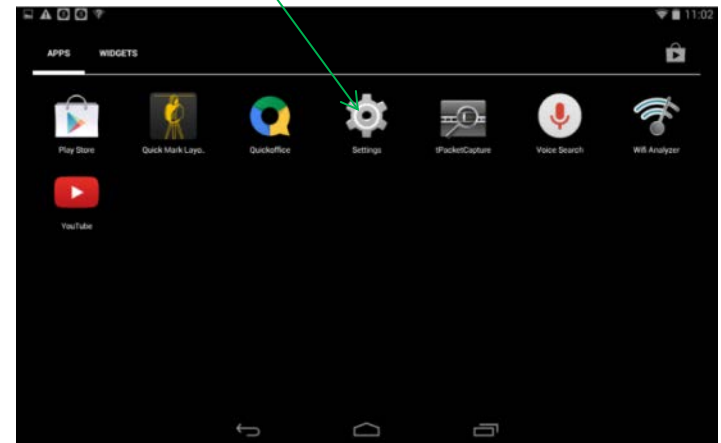

Or tap here to select all functions on the right

Swipe right or left . Find settings icon.

Full brightness – about 6 hours of CU runtime
50% brightness – about 9 hours of CU runtime

Rotation lock may be desired

In Settings, you can navigate to brightness and rotation lock and time out.

It is recommended that you occasionally check for software updates. Software updates are distributed through Google Playstore.

- Job files loaded on the controller will be deleted during software updates. It is recommended that you export jobs you wish to save by placing them in the Export Folder. You need not remove them from the controller. Later you can Import them.

- Connect Controller (Nexus 7) to the internet (note: you cannot have a job open)
    - Find a hot spot (work office, Starbucks, etc.)
    - Go to settings, select WiFi
    - Select appropriate WiFi network to connect (you may need username and/or password if network is secure) Public places such as Starbucks, airports, Panera have open networks that do not require usernames and passwords) However, you may need to open the browser (Google Chrome) and accept network terms and conditions.
- Go to app store (Google Playstore) – Search "Trimble QuickMark Layout"
- If an upgrade is available, it will be indicated.

Application Download

The <u>QML application</u> is approved for 7" Android devices. The application may not work well on other size devices. Use of other Android devise sizes is not supported.

Go to the Google Playstore. Search:
Trimble QuickMark Layout

<u>AutoCAD 360</u> can be uploaded (free application) from Google Playstore. This will enable opening a floor plan CAD file, or QCAD file.

Go to Google Playstore. Search:
AutoCAD 360.

Pairing

Products provided with controllers are paired in the factory so the controller and lasers have communication established.

If you download the QuickMark Layout application from Google Playstore, it is necessary to establish communication between your controller device and the two lasers via a pairing process.

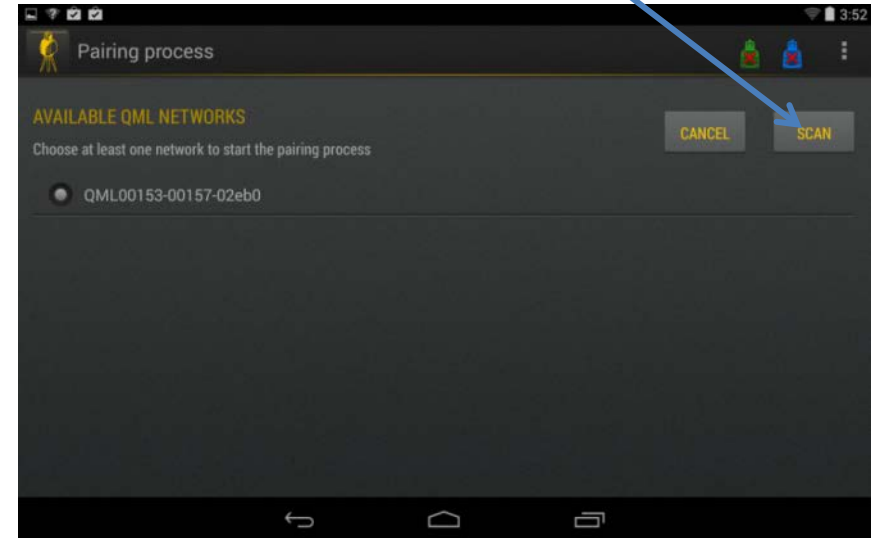Do not accept the EULA until after pairing as described on the following page.
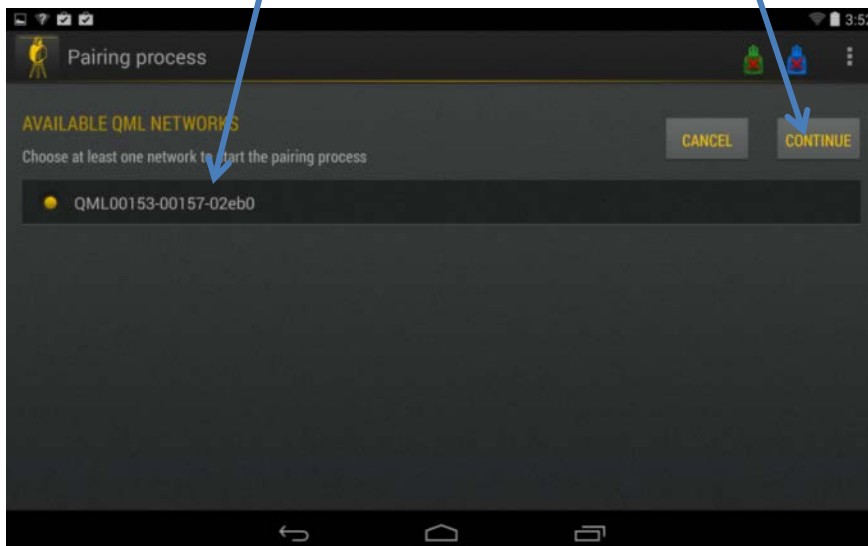
Do Not Accept EULA before pairing!

Tap QuickMark Layout button 5 times
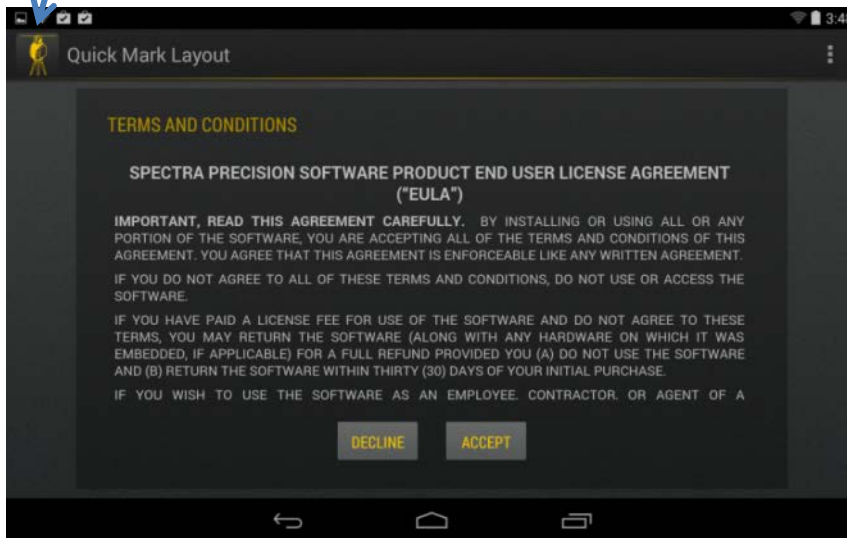
If no networks appear, select "scan"

Select QML network and then select continue

Select Continue

Detailed steps follow on the next pages.

Loosen tripod head

Remove tripod head

Attach tripod head to laser

Return tripod head to tripod base and **tighten**

To **remove laser from tripod** for storage, it is easier to turn the laser while attached to tripod base
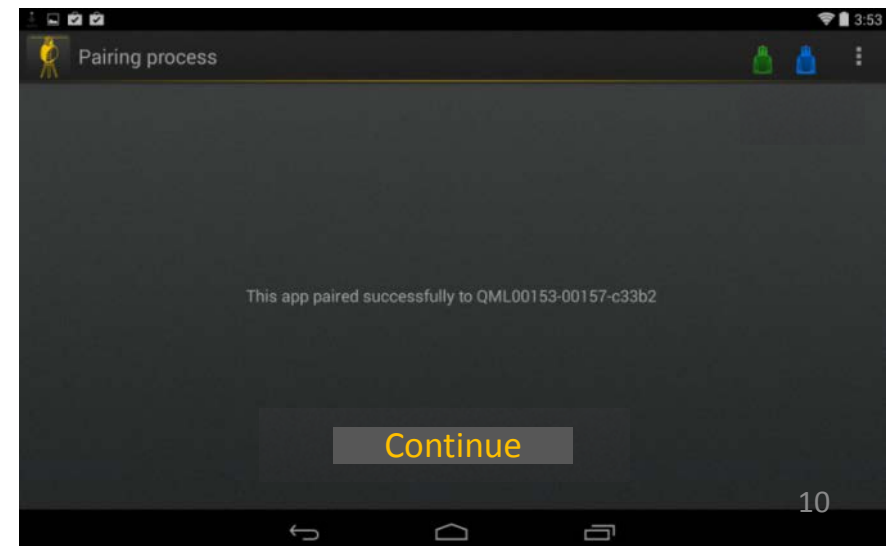
Set Up and Getting Started

1) Set up both laser transmitters 20 – 60' (7-20m) apart.
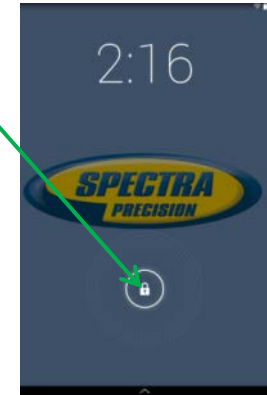2) Power on a laser, then the other, before launching QML800 application on the controller

3) Turn on Controller. (hold 3 seconds)
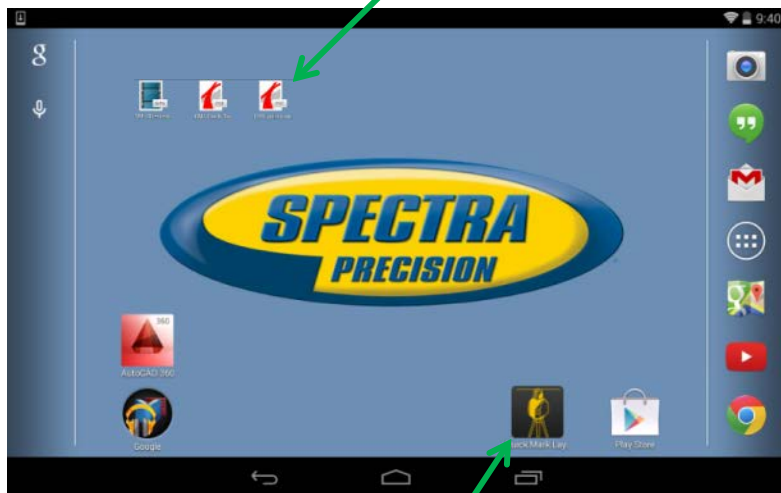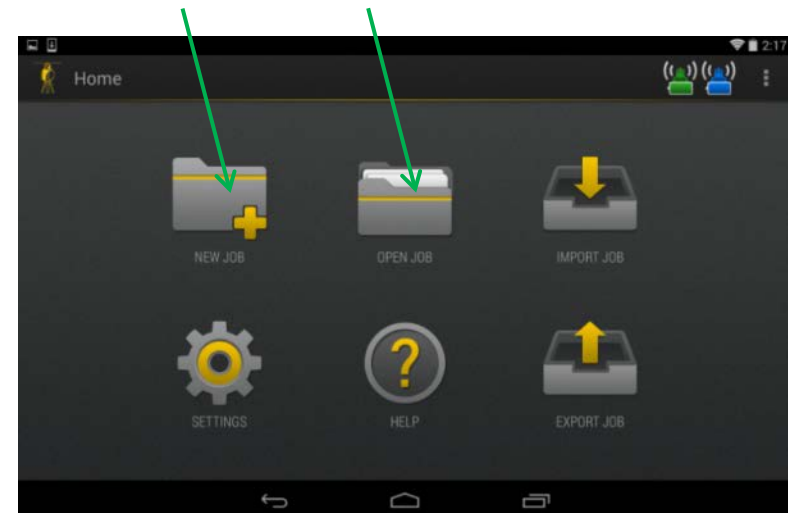
4) Swipe the "lock" symbol

20 - 60 ft
7 – 20m

Power on/off

2:16

Operator manuals and videos

Open existing job or start new job

6) Launch QML application   Accept EULA.
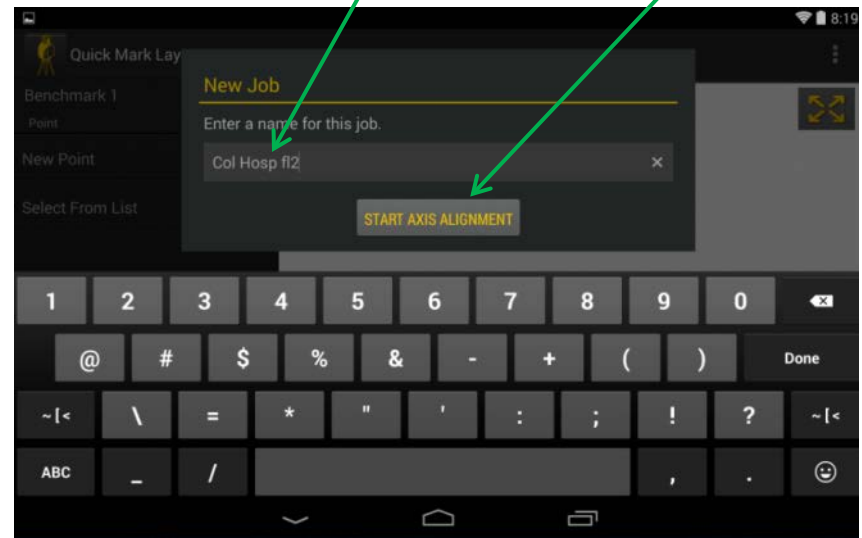
To open existing job, Select job from list
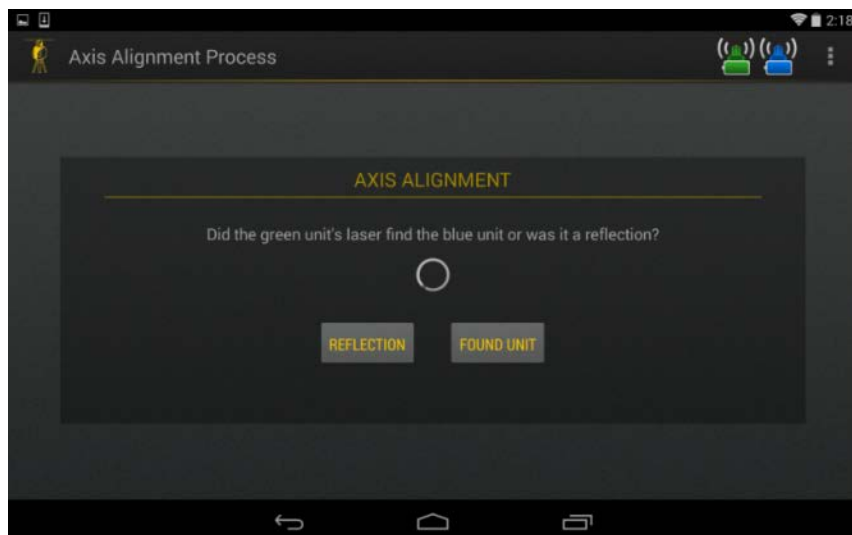Tap "open" job, then "start axis align"
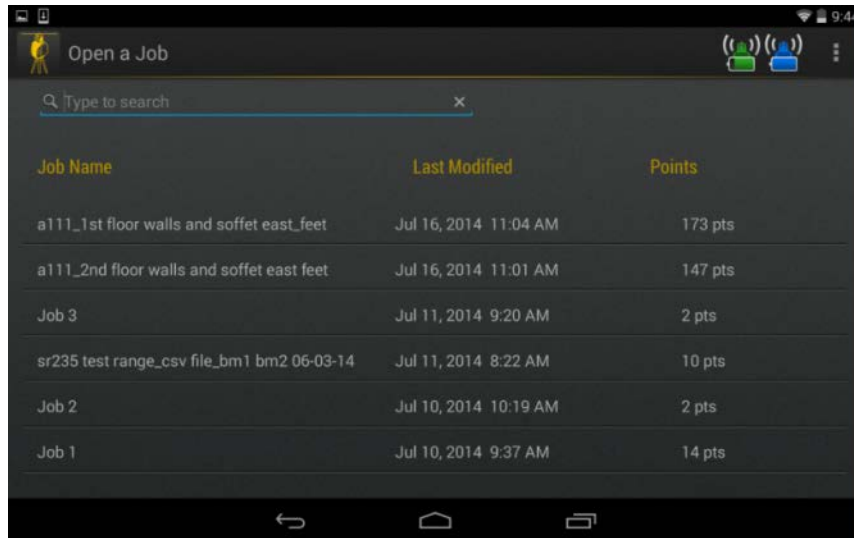
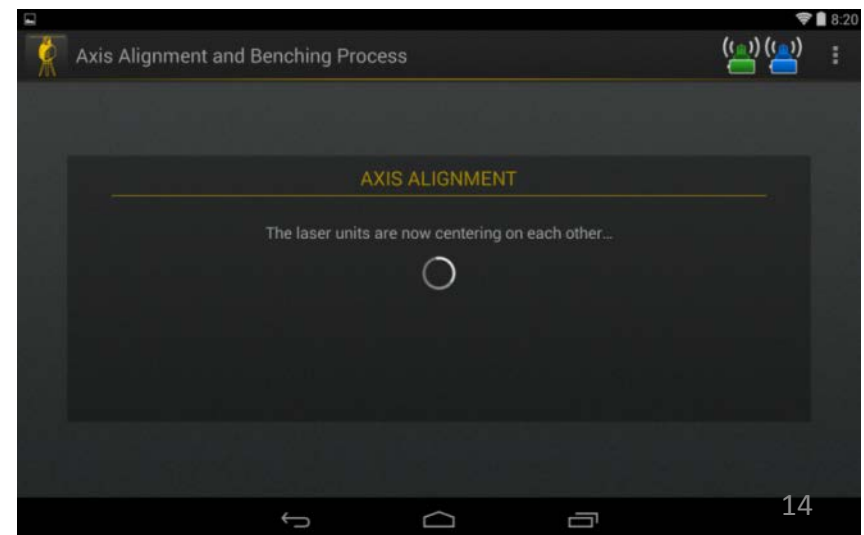To open new job, type in job name, Then "start axis align"

Start Axis alignment (units find each other)
- Acknowledge when one laser passes by the other laser unit
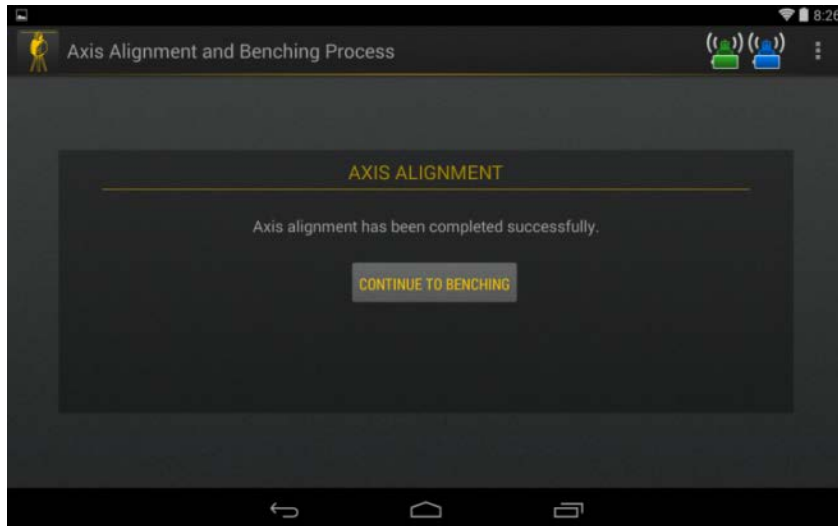- Tap "reflection" if not sure

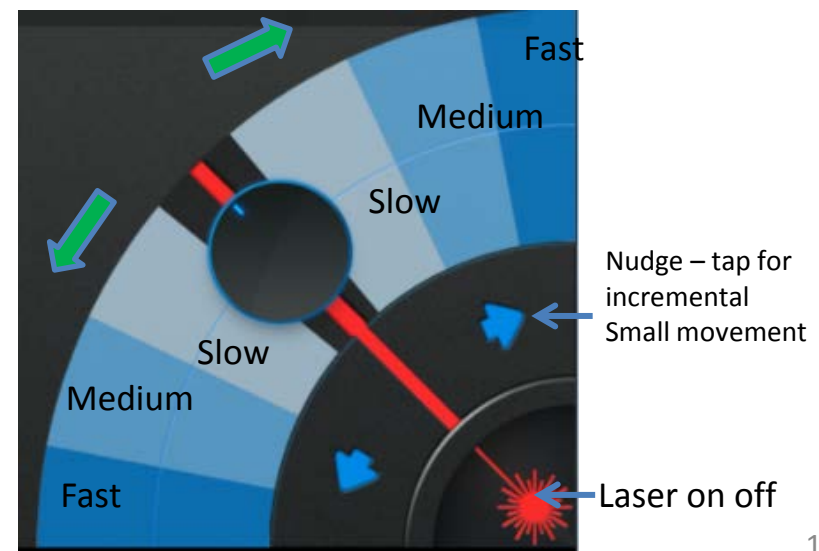Axis align takes about 2 minutes

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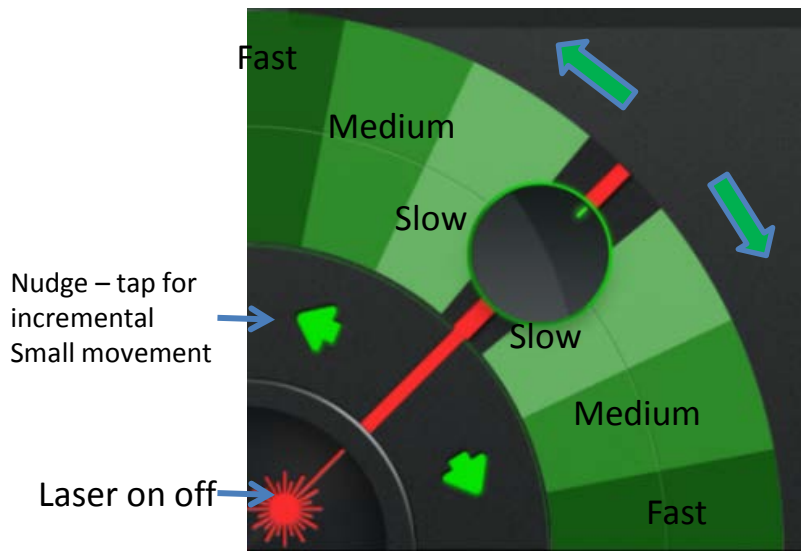When axis alignment is complete, continue to benching (locate 2 known points)

Drive both lasers to Benchmark 1

Laser control
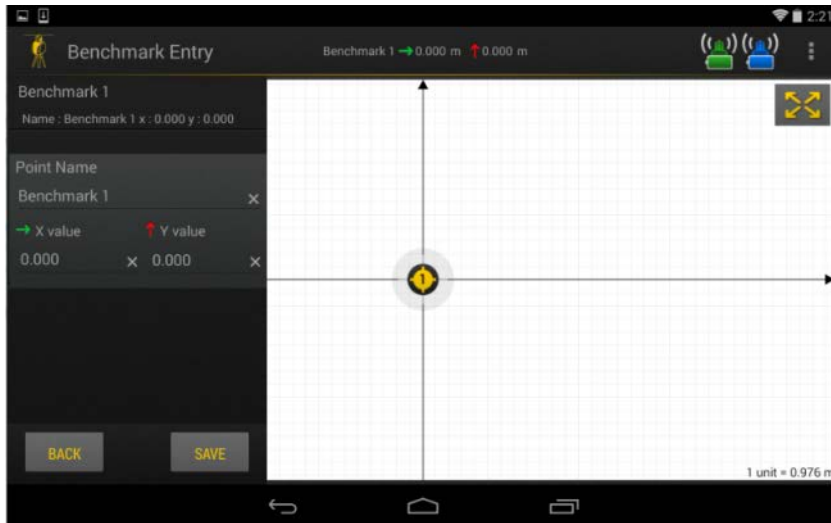

Fast

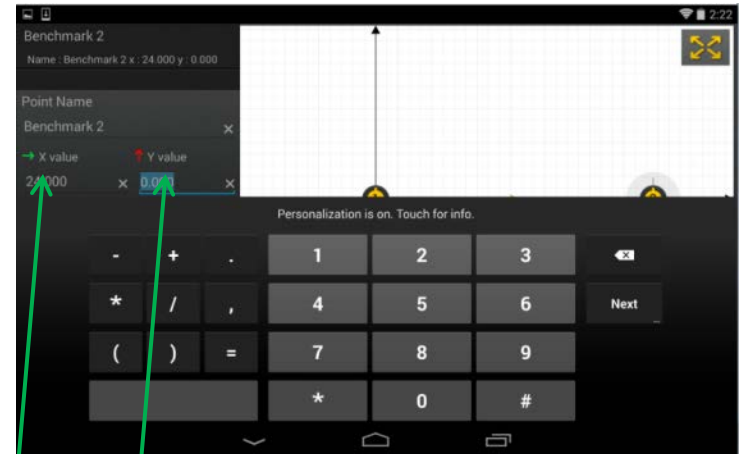Medium

Slow

Nudge – tap for incremental Small movement

Slow

Medium

Fast

Laser on off

Fast

Medium

Slow

Nudge – tap for incremental Small movement

Slow

Medium

Fast

Laser on off

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Drive both lasers to **Benchmark 1**

Enter benchmark 1 coordinates

- Enter coordinates manually or select existing job point
- Tap on x and y coordinates to bring up key pad
- Save coordinates

Drive both lasers **to Benchmark 2** and enter coordinates or select another existing job point
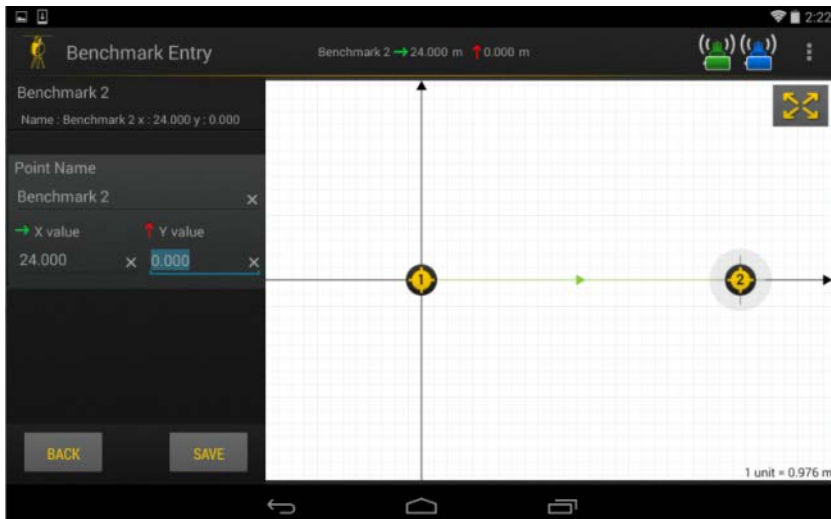
Recommended: verify set up by following the steps to measure the distance between 2 points

Setup Verification

Benching is complete. Verify the setup is correct by manually measuring the distance between two points?

VERIFY SETUP   SKIP VERIFICATION
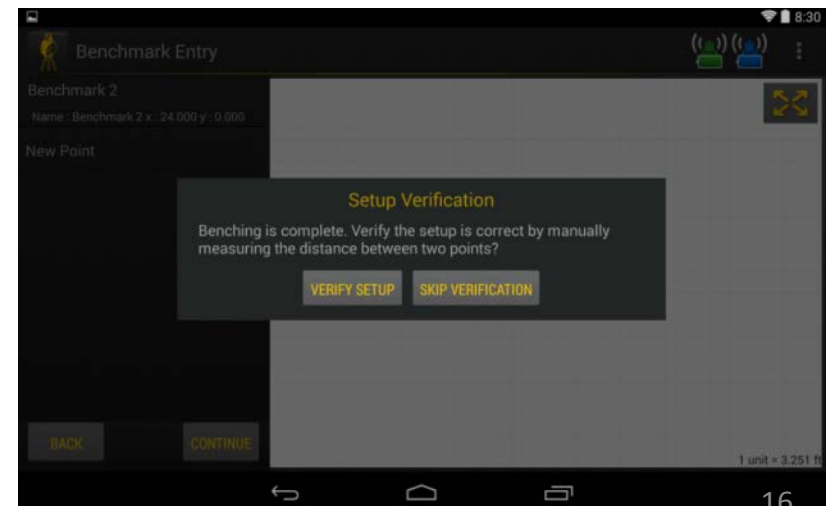
Or tap "continue" to skip this step

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You can edit /change a Benchmark if you open a new job.

You cannot edit benchmark coordinates if you open an existing job with Benchmarks already identified.

If you want to change a benchmark in your job file, you can create a new benchmark to replace the existing benchmark

In this case, select "Create new BM" and follow steps as indicated. You have the option to create a new Benchmark or select a point from the list

At any point during benchmark set up, you can tap the "back" button to go back. You can tap the "back" button multiple times to go back several steps.

This is helpful to modify Benchmark positions or to re-check set up verification.
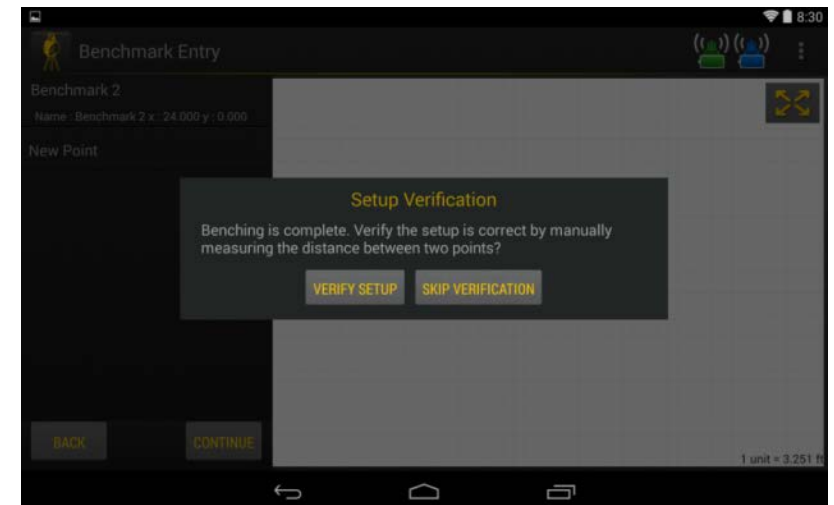
Set Up Verification

If you choose "Verify Set Up" an explanation appears. Read it and close it.
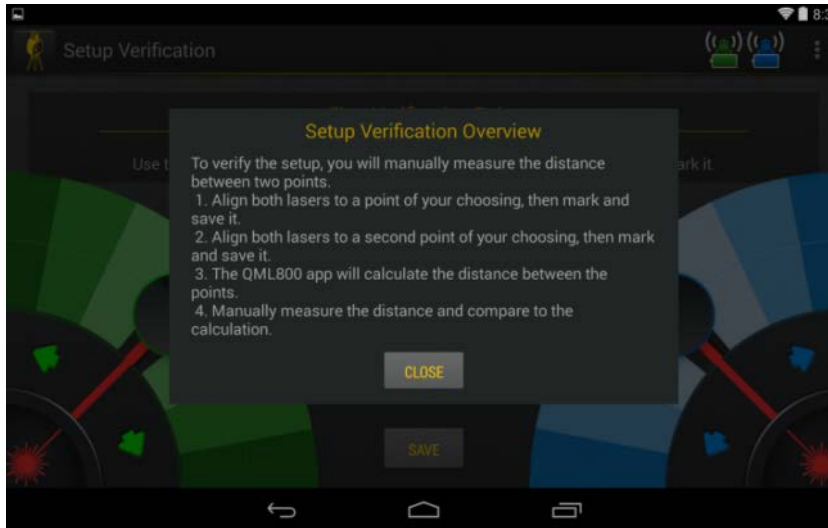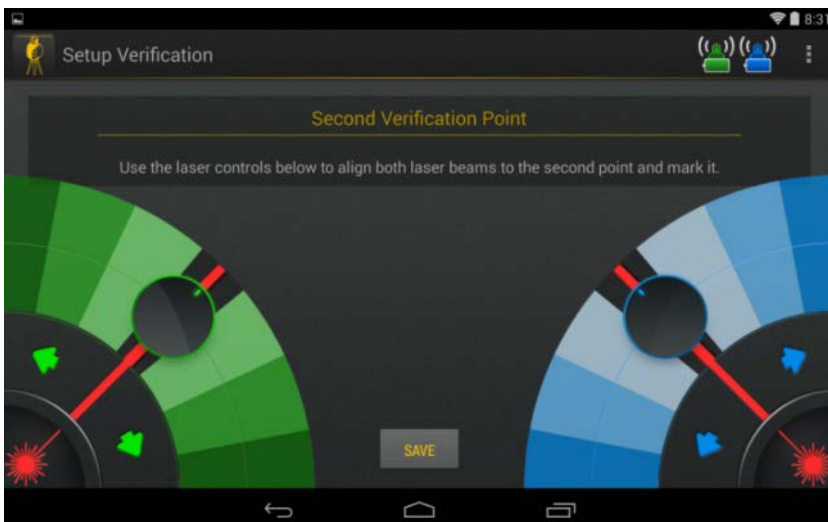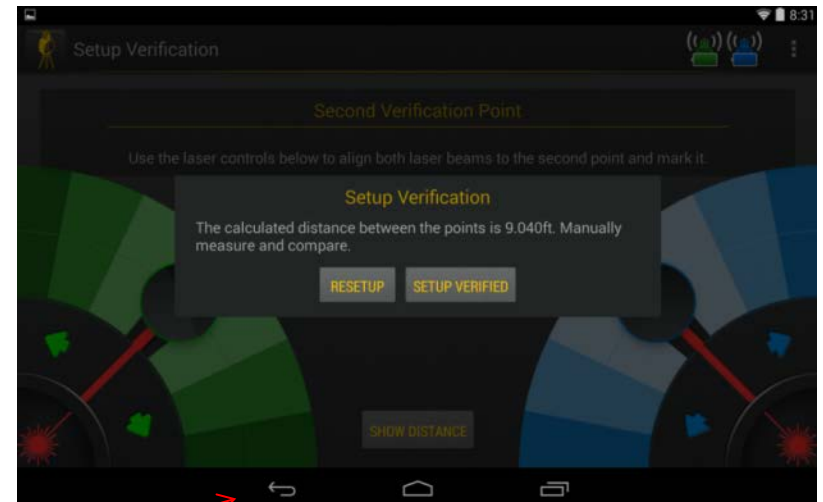

Setup Verification Overview

To verify the setup, you will manually measure the distance between two points.
1. Align both lasers to a point of your choosing, then mark and save it.
2. Align both lasers to a second point of your choosing, then mark and save it.
3. The QML800 app will calculate the distance between the points.
4. Manually measure the distance and compare to the calculation.

CLOSE

SAVE

Drive both lasers to a point, mark it and save it

First Verification Point

Use the laser controls below to align both laser beams to the first point and mark it.

SAVE

Drive both lasers to a 2nd point, mark it and save it. Measure the distance between the 2 points.

Second Verification Point

Use the laser controls below to align both laser beams to the second point and mark it.

SAVE

The calculated distance is provided. If the measured distance matches, tap "set up verified"

Second Verification Point

Use the laser controls below to align both laser beams to the second point and mark it.

Setup Verification

The calculated distance between the points is 9.040ft. Manually measure and compare.

RESETUP   SETUP VERIFIED

SHOW DISTANCE

(Tap "back" button to run verification again)

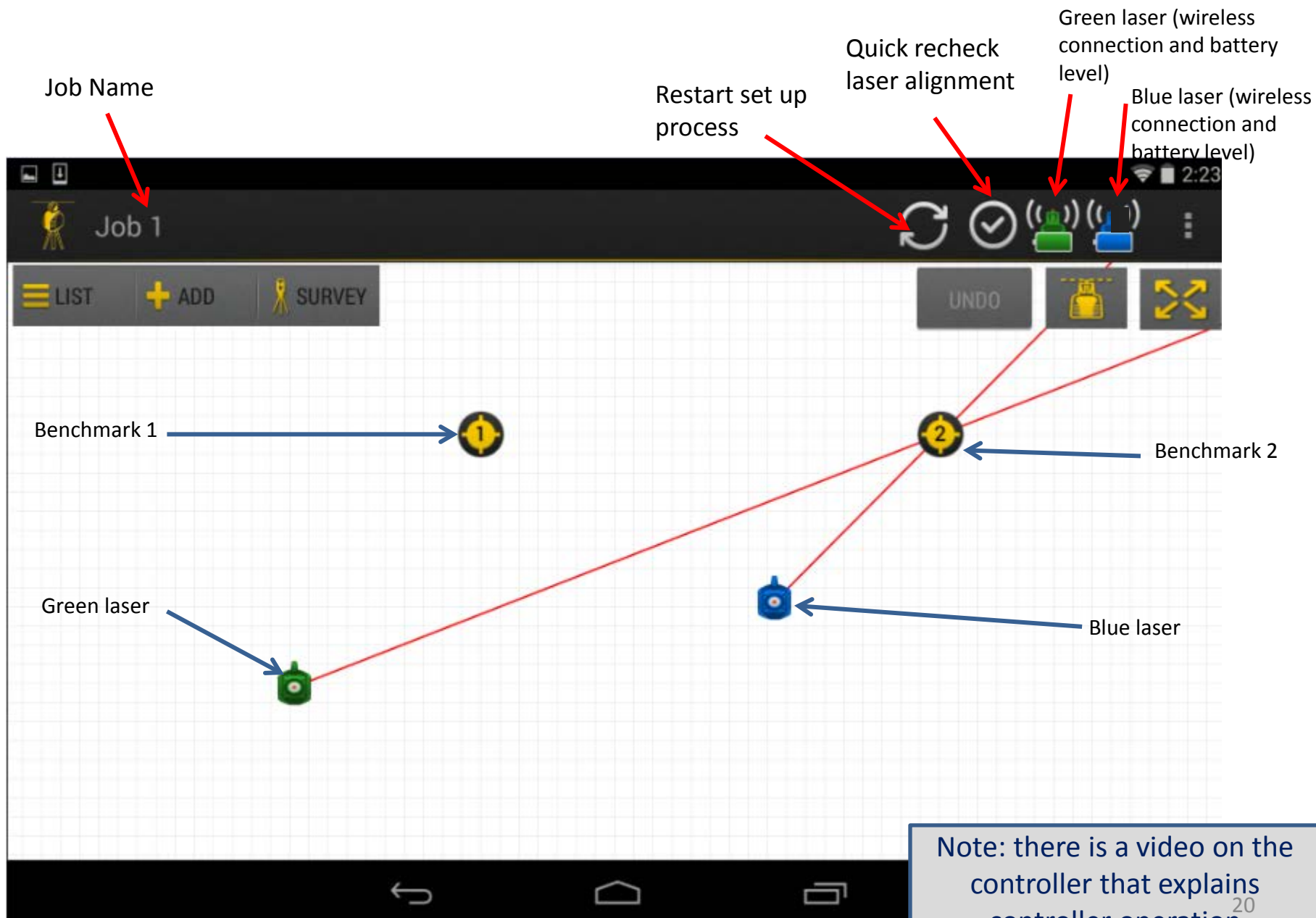Set Up verification option appears after tapping "Back" button.
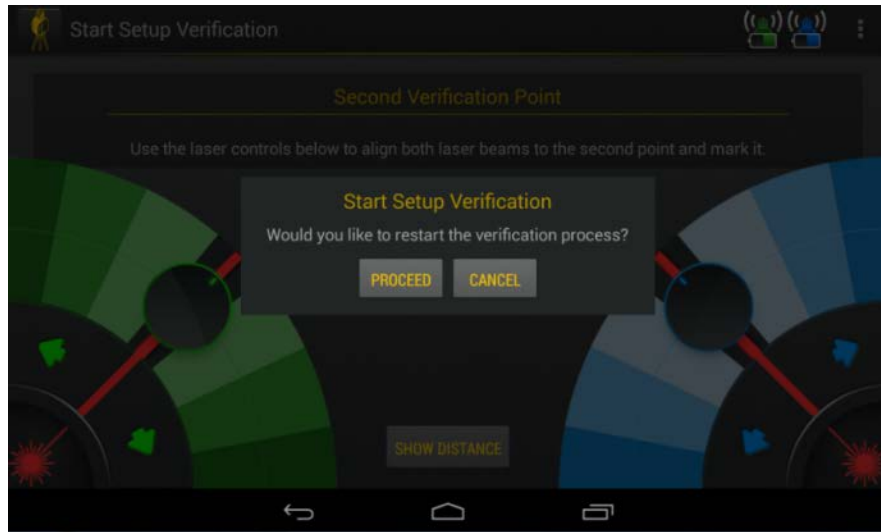
If you want to re-do benchmarks, tap "back" arrow again.

You can then re-do benchmarks. This is faster than starting self alignment again. QML will drive to BM1. You can modify set up as desired.

Following BM1, you are can "continue" to Benchmark 2.

Controller Operation

Job Name

Restart set up process

Quick recheck laser alignment

Green laser (wireless connection and battery level)

Blue laser (wireless connection and battery level)

Job 1

LIST   ADD   SURVEY

UNDO

Benchmark 1

Benchmark 2

Green laser

Blue laser

Note: there is a video on the controller that explains controller operation
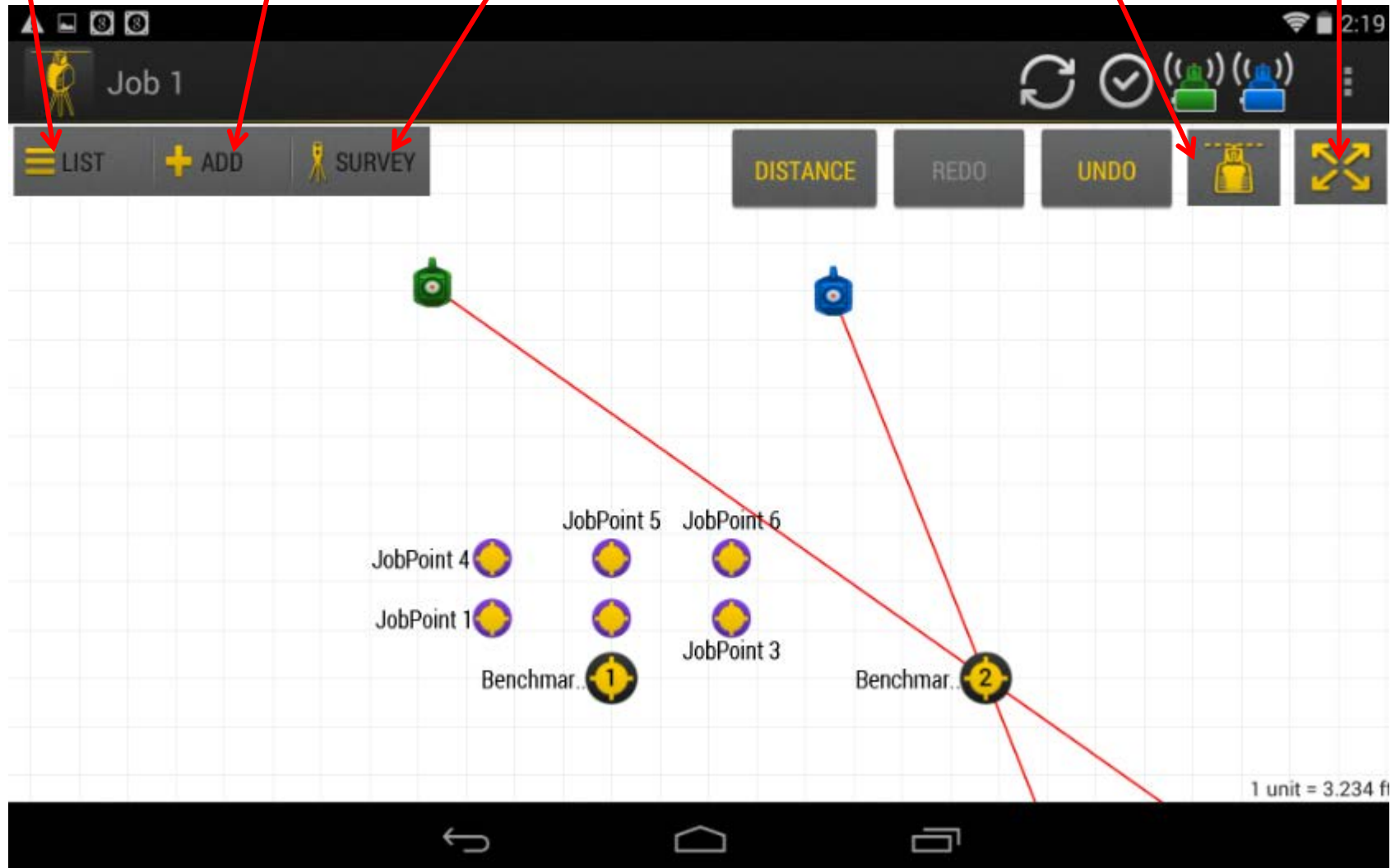
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Controller Operation

Brings up list of all points

Add a new Point
Add an arc
Add a circle

Survey mode – to find coordinates of a point

Flash lasers on and off alternatively

Expand screen

Job 1

LIST   ADD   SURVEY   DISTANCE   REDO   UNDO

JobPoint 5   JobPoint 6

JobPoint 4

JobPoint 1

JobPoint 3

Benchmar.. 1

Benchmar.. 2

1 unit = 3.234 ft

Exit (go back)   Home screen   Show other open Programs

Point Management

Open to see point list

Tap on point to activate options

Tap icon to: edit, delete, or stake out (drive lasers to a point)
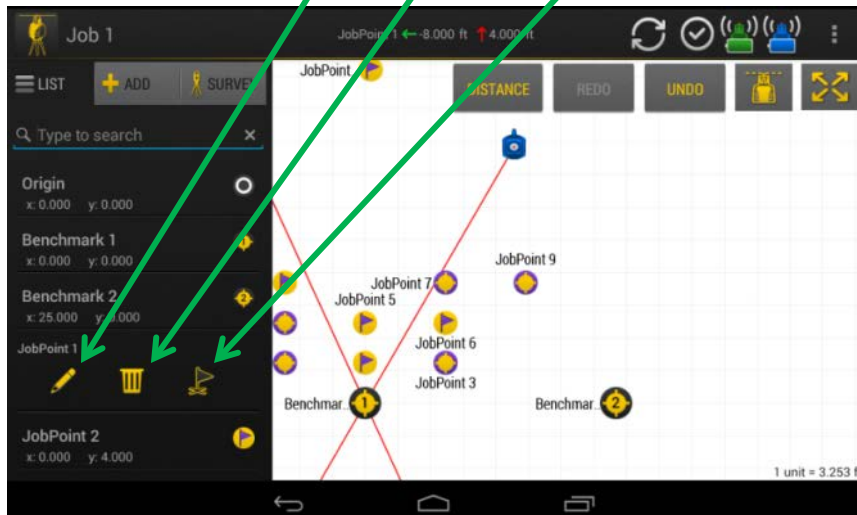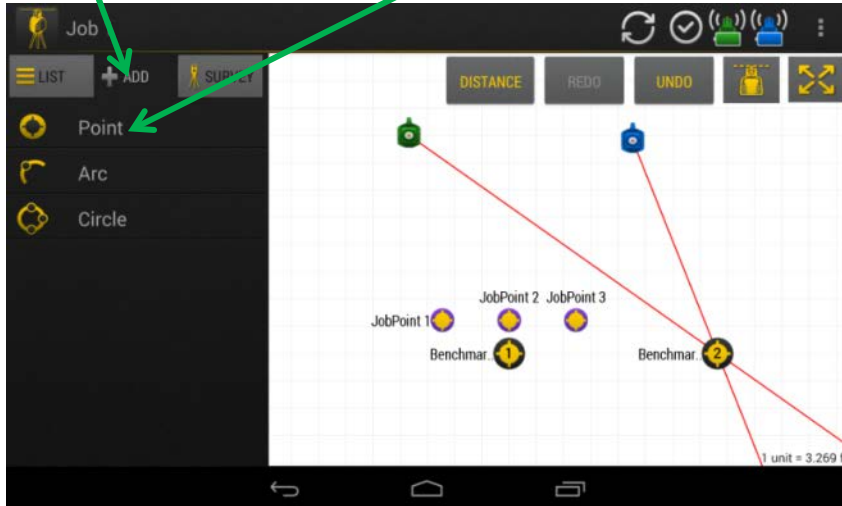
Points turn into flags once staked
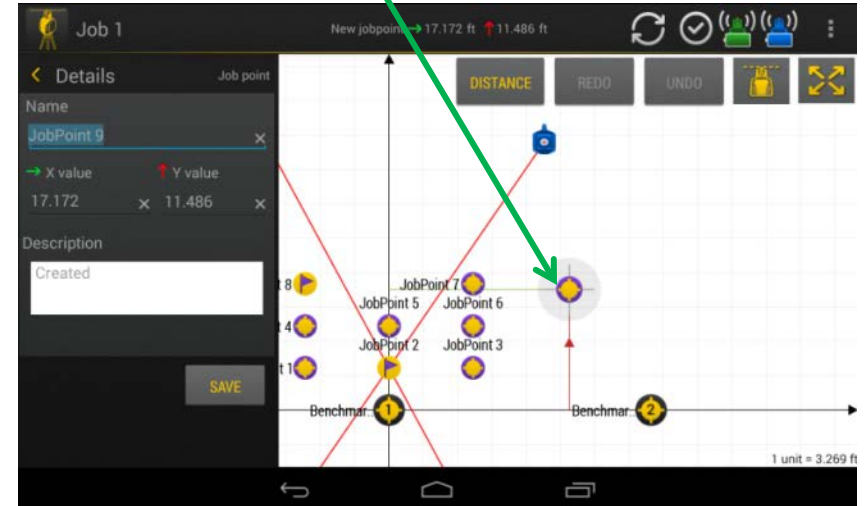
You can tap "list" to close the open list

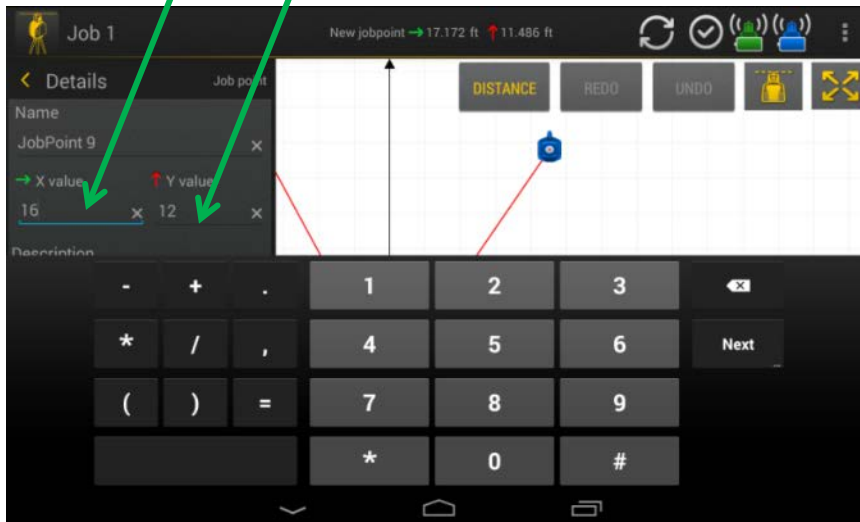# Add a New Point

Add a point, arc, circle

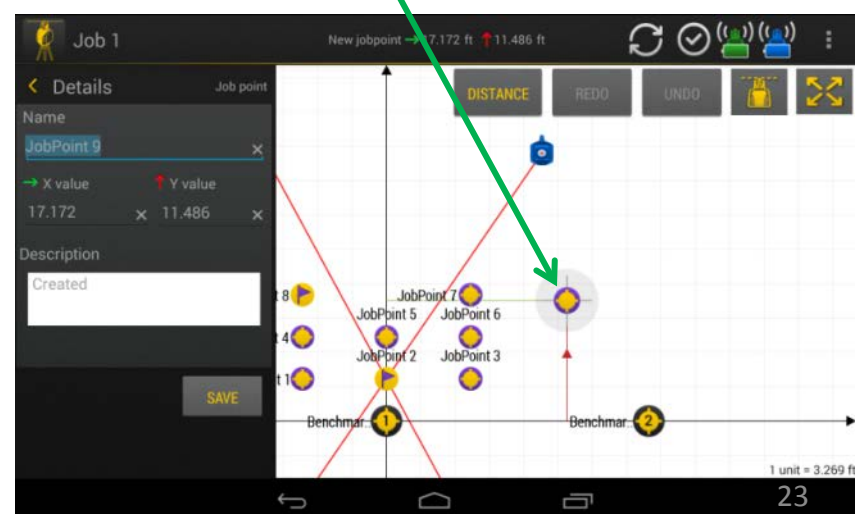Tap on "point" to manually add a point

When the point appears, you can drag it with your finger to approximate position. You can see coordinates update.

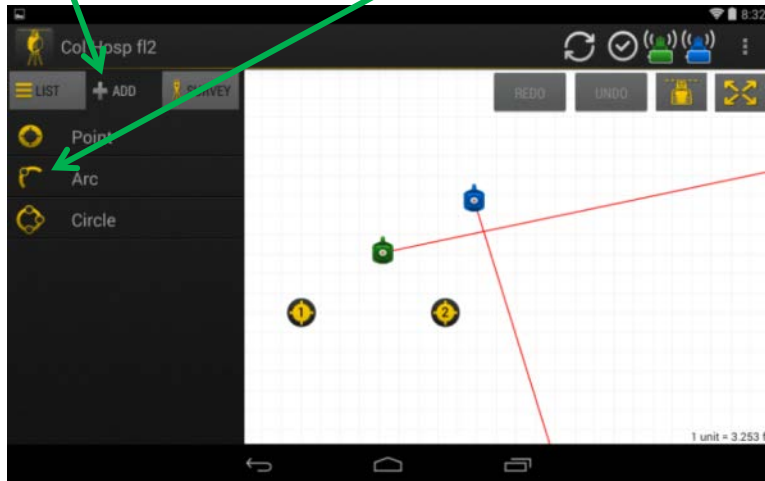

Enter exact coordinates of the added point. Save. Point.

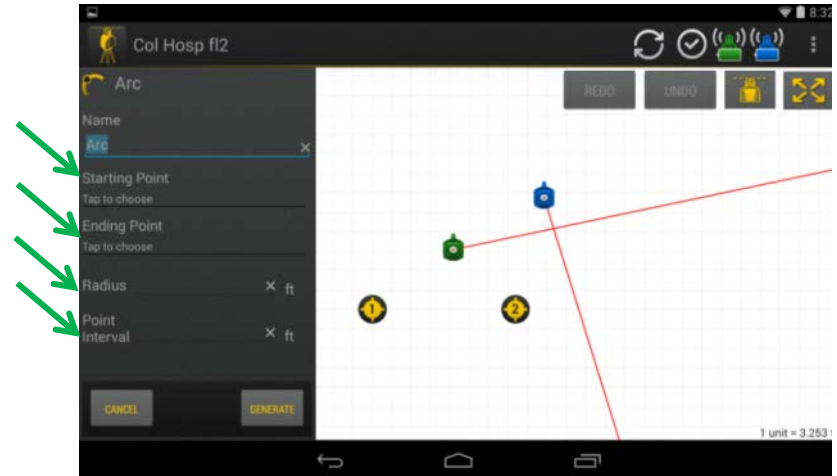The added point remains purple color, un-stacked

Add an Arc

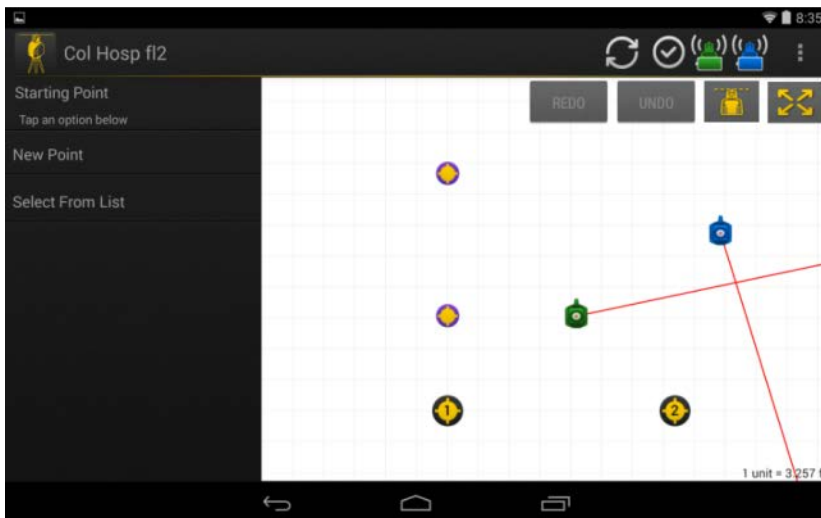Add a point, arc, circle

Tap on "arc" to manually add an arc

Input:
Starting point   End Point
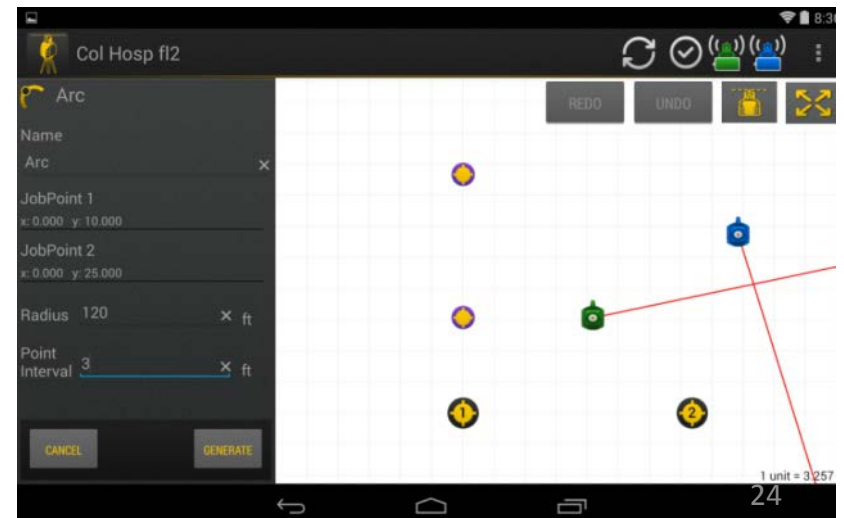Radius   Point interval spacing

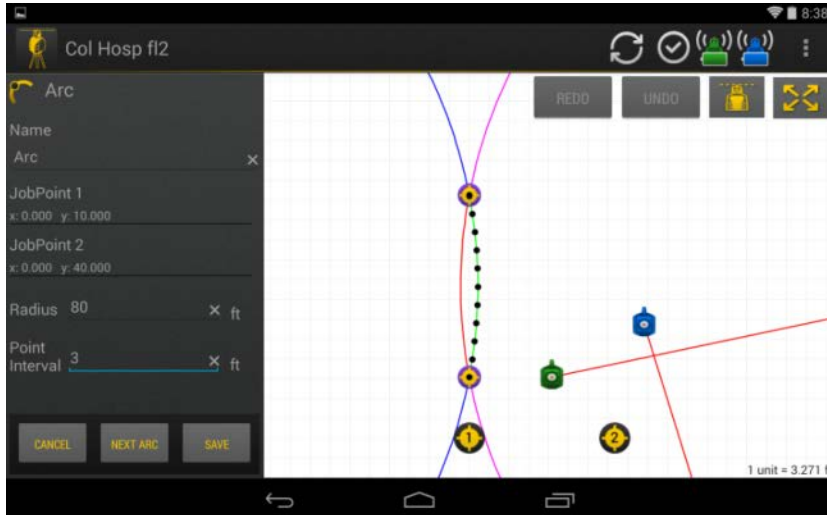For Starting Point and Ending Point, you may select existing points, or create a new point

Example showing starting point, ending point, radius and interval. Tap "generate"
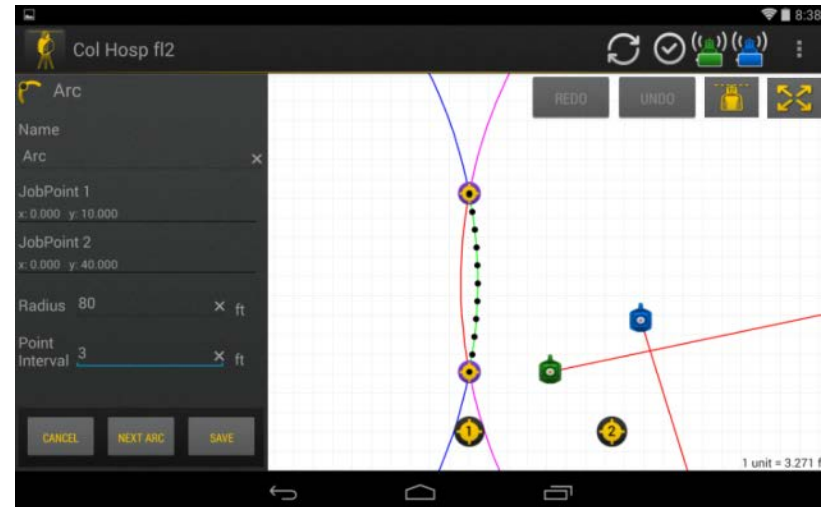
Add an Arc

There are 2 or 4 possible arcs connecting the starting and ending point.

Save the arc shown or select "next arc"

When you select save, the arc points are created.
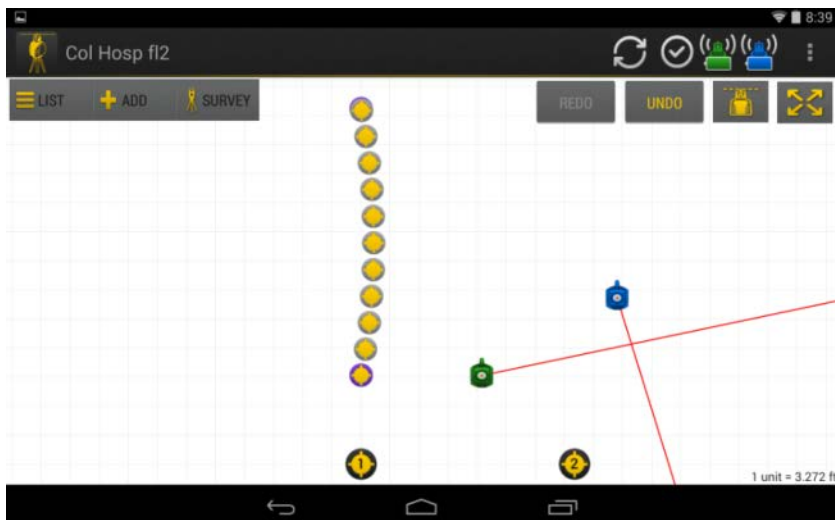
Add a Circle

Add a point, arc, circle

Tap on "circle" to manually add a circle

Circle: You are prompted to input a name for the circle
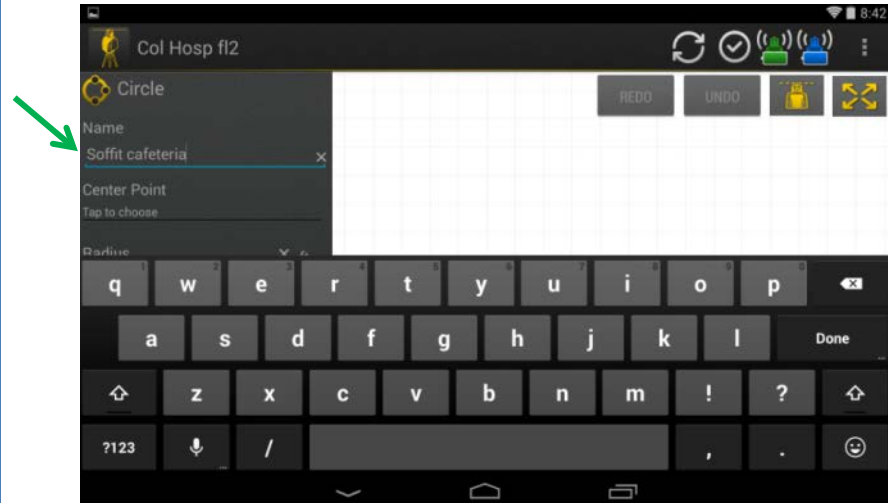
Input: center point, radius point interval
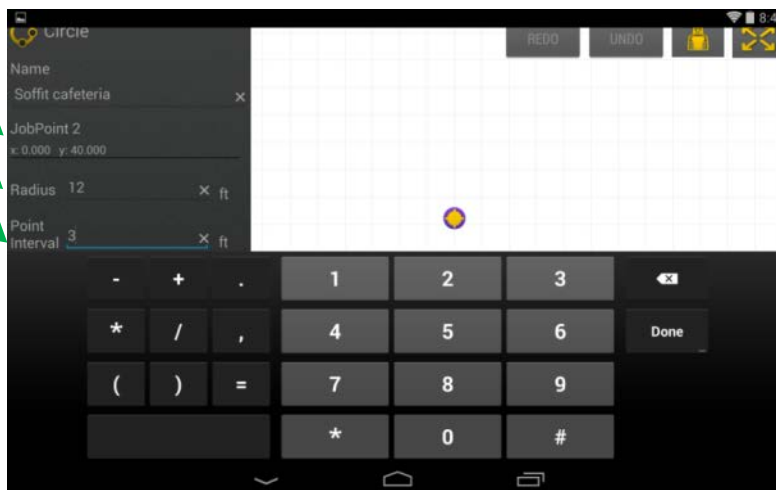
Example showing center point, radius and interval. Tap "generate"
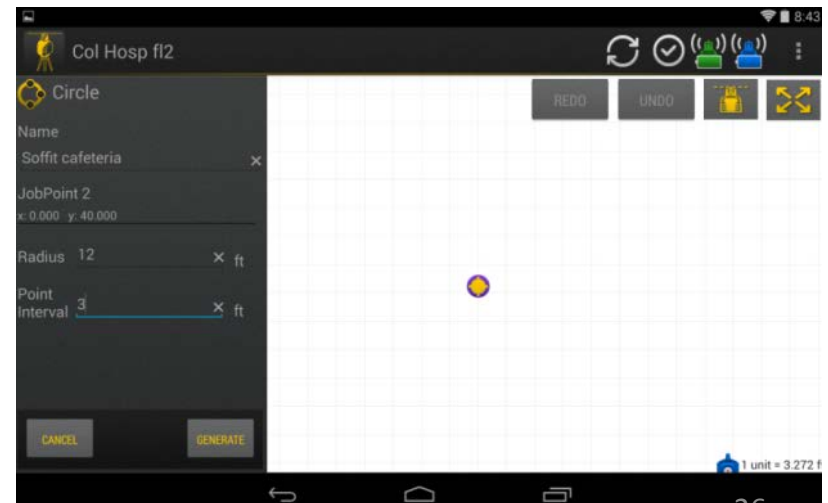
The Circle is shown.
Tap "save"
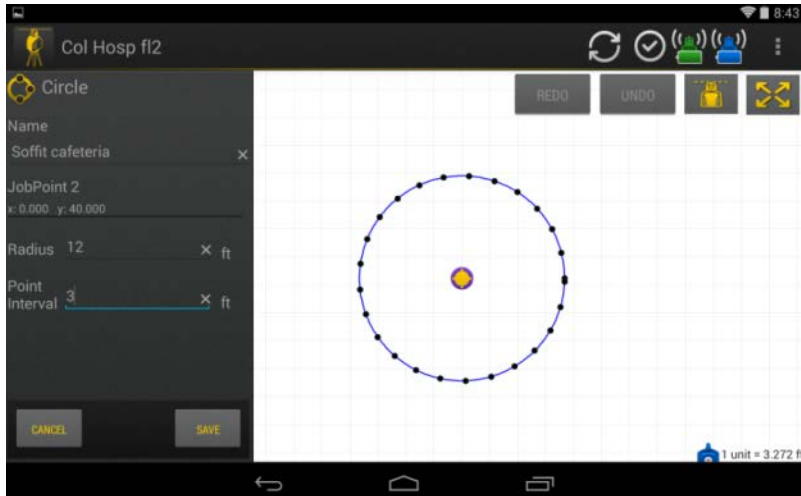
The circle points are generated
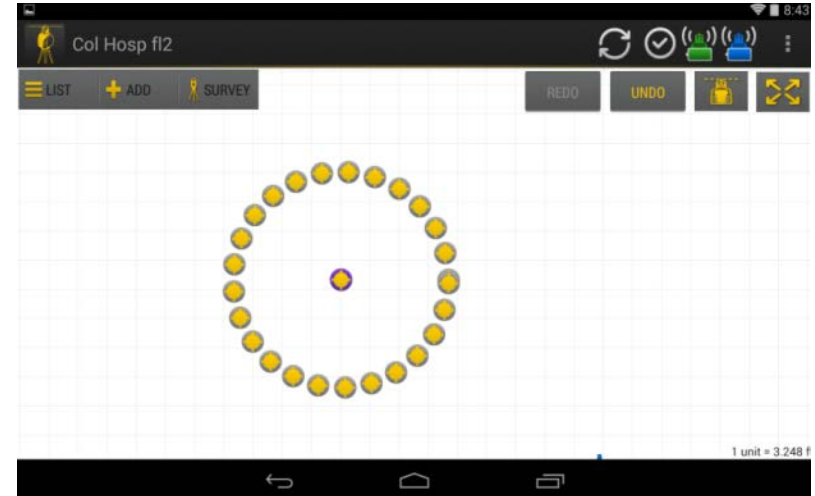
Survey Mode (to find coordinates of a point on the job site)
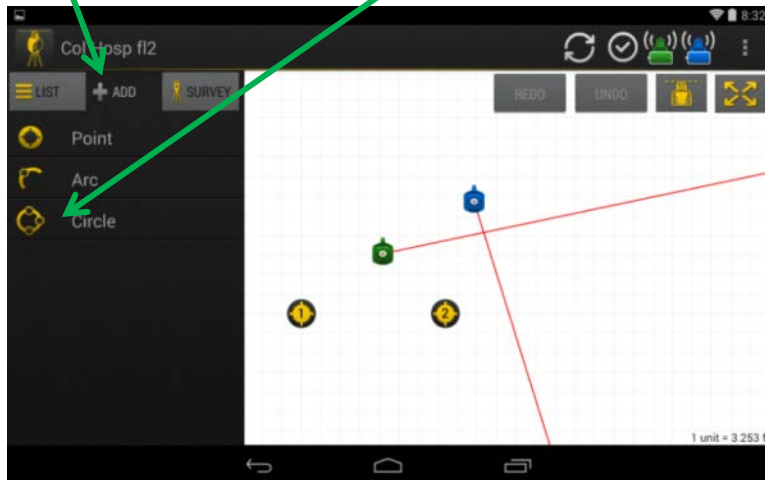
To find coordinates of a point on the job site
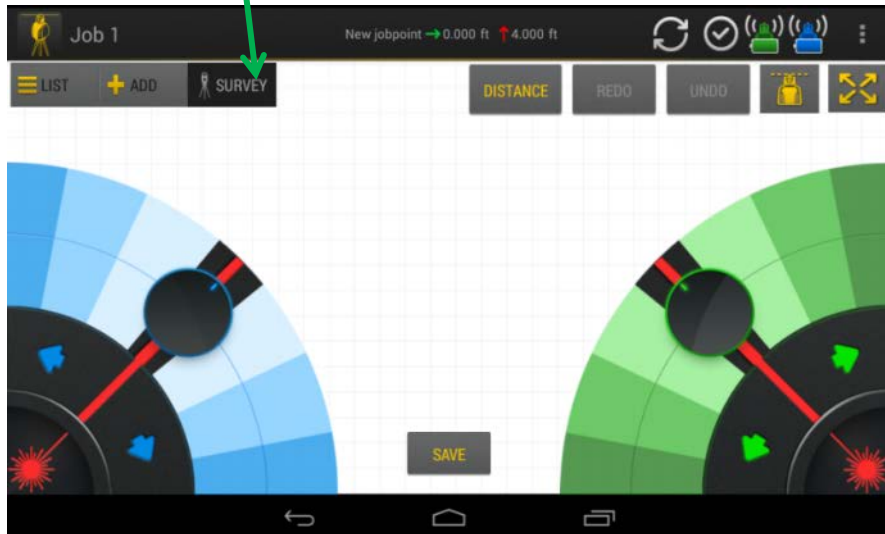
Use controls to drive lasers to a point on the job site. Position "X" at the point of interest
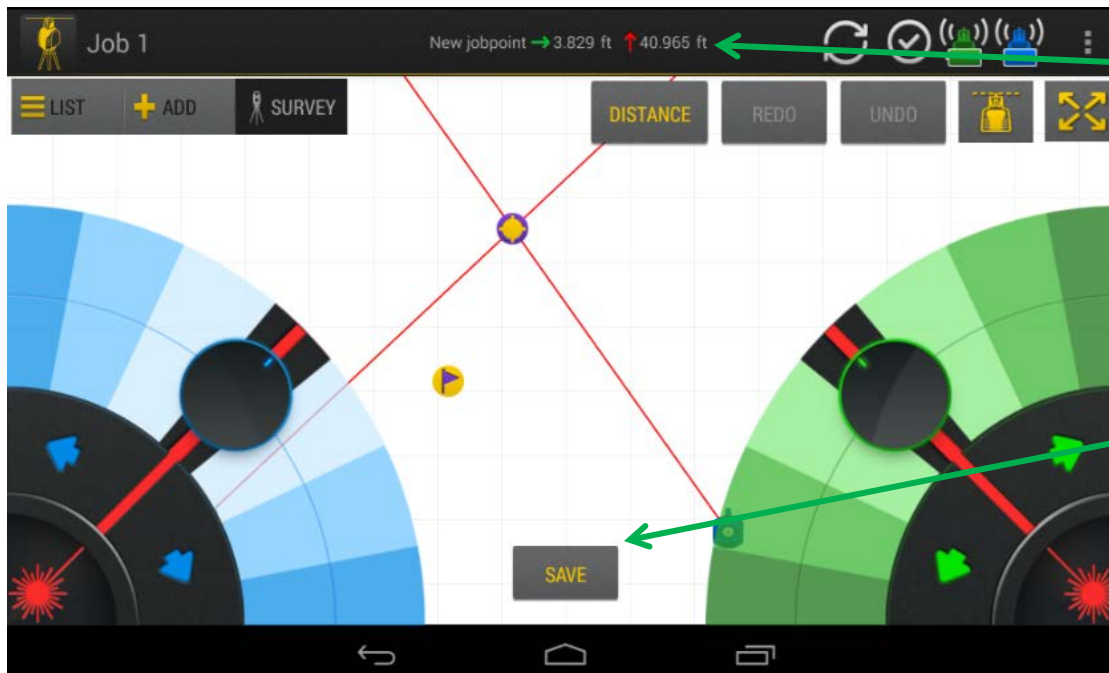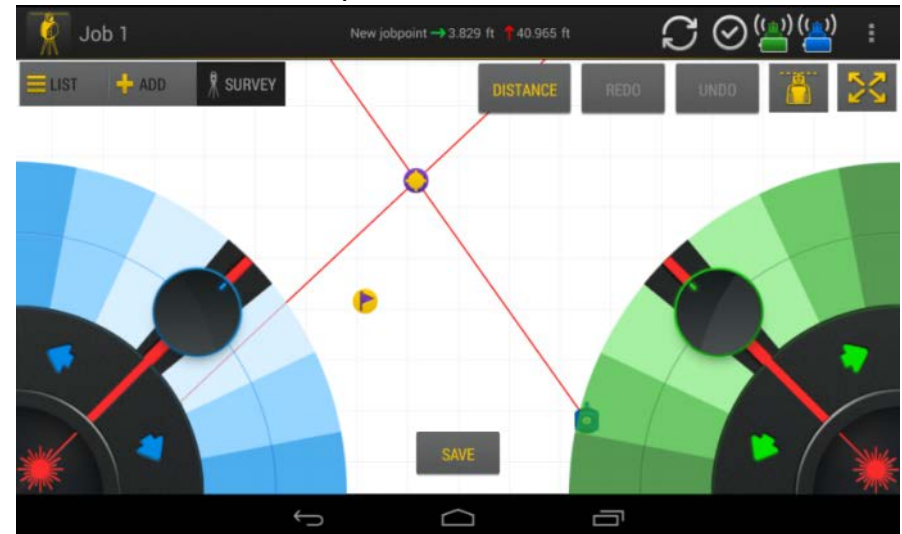
Note Point Coordinates!

The point can be saved. You are prompted for a point name.

Advanced Function – Add a Relative Point

If you would like to add a new point a specific distance from another point, follow these steps

Green Arrow   New Point   Red Arrow

Click "Add" and then "Point" (as normal)
Notice that the red and green arrows pointing toward the new point show the coordinate direction from the origin point x =0, y=0 (same as Benchmark 1 in the example)

Also notice that the coordinates at top show the distance from origin.
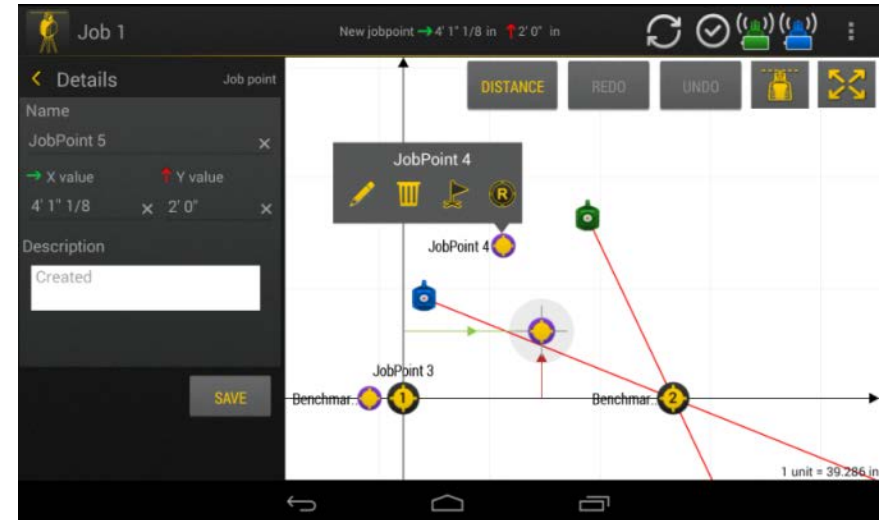
Now tap and hold the point from which you to establish a new point. On this example, JobPoint 4.
Notice the options: edit, discard, stake (to go) and an "R" in a circle. R means relative. Tap the R to select JobPoint 4 as your new reference point.

Next appears a warning that you are changing the reference for your new point to JobPoint 4 (instead of the origin point 0,0).
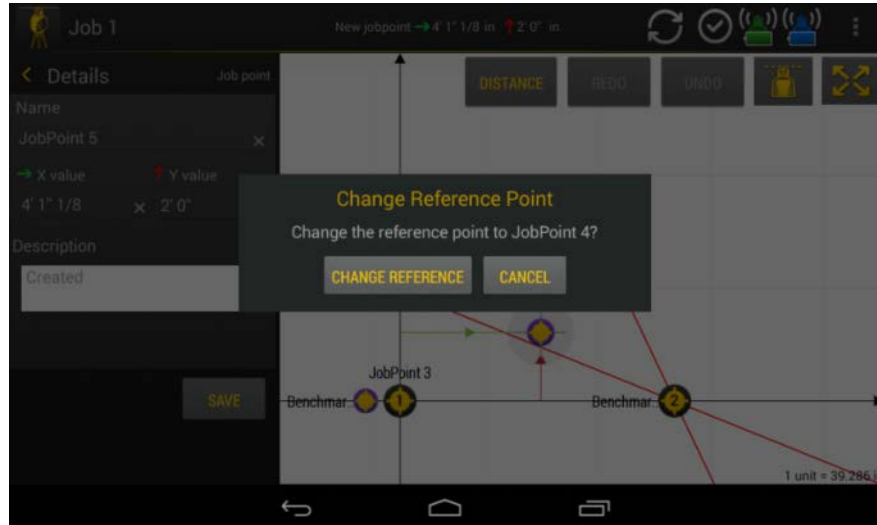
Confirm by tapping "Change Reference"

Notice that now the green and red arrow show JobPoint 4 as the new origin.
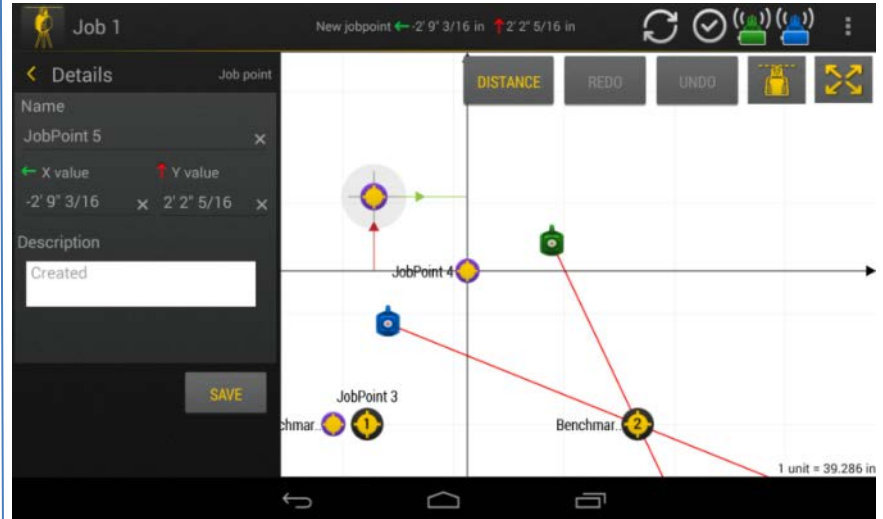
The coordinate at the top now show the distance from JobPoint 4 instead of from origin point x=0, y=0.

You can move the point to the desired location or input coordinates as per normal, except the coordinates will be the distance from JobPoint 4.

Symbols and Icons

Symbol	Name	Source
	Job Point	Added by user
	Job Point Staked	Added by user
	Job Point	Imported from point file
	Job Point Staked	Imported from point file
	Job Point	Generated from function (arc, circle)
	Job Point Staked	Generated from function (arc, circle)
	Benchmark 1	Added or imported
	Benchmark 1	Added or imported
	Origin (Point 0,0)	Calculated
	Circle / Arc starting point	Generated from function (arc, circle)
	Circle / Arc ending point	Generated from function (arc, circle)

Symbol	Description
	Battery 100%
	Battery 75%
	Battery 50%
	Battery 25%
	Battery 10%
	Battery 0% - Shutdown
	Networt available - not connected
	Battery charging 0%
	Battery charging 50%
	Battery charged 100%

Laser Unit Dome Light Colors

Color	Flashing frequency	Description	Action
Green+Blue+Red	Alternating	Startup sequence until WiFI is connected.	None
Green	Solid	Unit Configured as Host	None
Blue	Solid	Unit configured as Client	None
Green	Flashing	Unit is leveling	None
Blue	Flashing	Unit is leveling	None
Red	Fast flashing	Bump alert, laser detected possible movement	Check set up. Re-setup.
Red	Slow flashing	Low Battery indication	Connect charger.
Yellow	Flashing	Charging	None
Yellow	Solid	Charger connected. Fully charged	None
Blue/Green	1 Flash every 5 seconds	Unit is not within self leveling range	Level tripod better
Blue/Green	2 Flashes every 5 seconds	Communication error laser to controller	Power lasers off and on and re-set up.
Blue/Green	3 Flashes every 5 seconds	Communication error laser to laser	Power lasers off and on and re-set up.
Blue/Green	4 Flashes every 5 seconds	Communication error. Send for servicing.	Send for servicing

Press and Hold Power key for 3 seconds to turn off
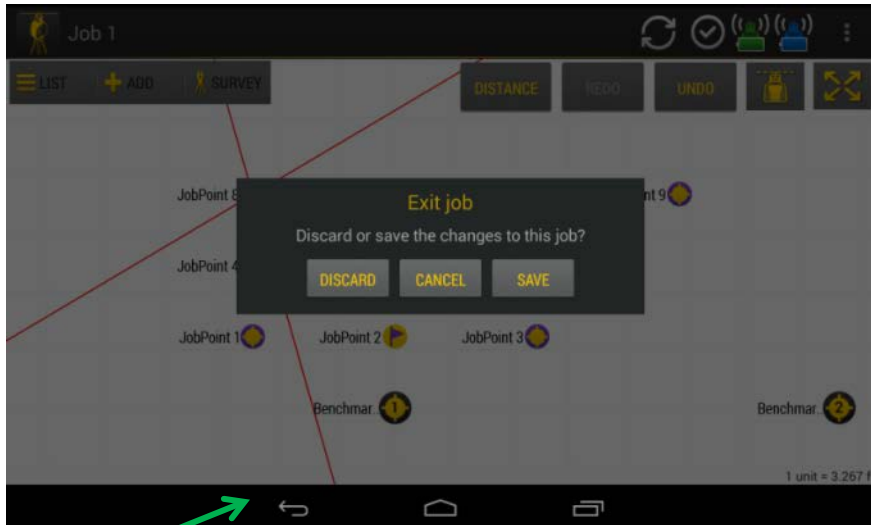
Press Back Key to exit job. Press again to exit QML applications

The Interceptor enhances the "X" visibility and transfers the intersection point to the floor.

The Interceptor may also be helpful when benchmarking – to clearly see when the lines are intersecting over the Benchmarks

By sliding the tab out, the up beam will improve visibility on the ceiling.

Slide the LP 30 forward on the mount. Be sure to unlock the pendulum.

System	
Feature	**QML800**
Size laser instrument packaged case	700 x 445 x 254mm (28 x 18 x 10 in) 267 x 165 x 165mm(10.5 x 6.5 x 6.5 in)
Weight laser instrument packaged case	10.5 kg (23 LBS) 2.7 kg (6 LBS)
Accuracy	3mm (1/8") typical (see chart)
Self Leveling range	4 +/-1 deg from true level.
Working range **- typical work area** **- laser visible distance**	- 30m x 30m (100ft x 100ft) - 22m (70ft)
Environmental **- IP** **- Operating Temperature** **- Storage temp**	IP54 -10C – 45C (14F to 113F) -20C - 60C (-4F to 140F)
Battery **type and rating** **operating time** **charge time**	Lithium ion xxxx mAh, x.x V hrs hrs
Charger	Input: 100 - 240V AC xxxmA Output: 5V DC xxx ma
Laser Class	Laser class II
Laser type	642nm red
Tripod **height** **attachment**	0.48m -0.84m (19 in to 33 in) 5.8 x 11

Controller	
Feature	**QML800**
Model	Google Nexus 7
Manufacturer	Asus
Size (diagonal active screen)	7 inch (178mm)
Weight (in protective case)	0.6 LB (0.3Kg
Protective case	Bobj rugged case
Wireless **Protocal** **Range typical**	 Wifi 802.11 30m (100 ft)
Other	As per manufacturer specifications

The WiFi protocol has been thoroughly tested and is robust and reliable. Like any mobile device, extremely heavy WiFi usage across the WiFi spectrum can cause interference. In such cases, it is recommended to move the system.

Accuracy is dependent up lasers 20' – 60' apart, benchmarks minimum 20' apart, benchmarks minimum 15' from lasers
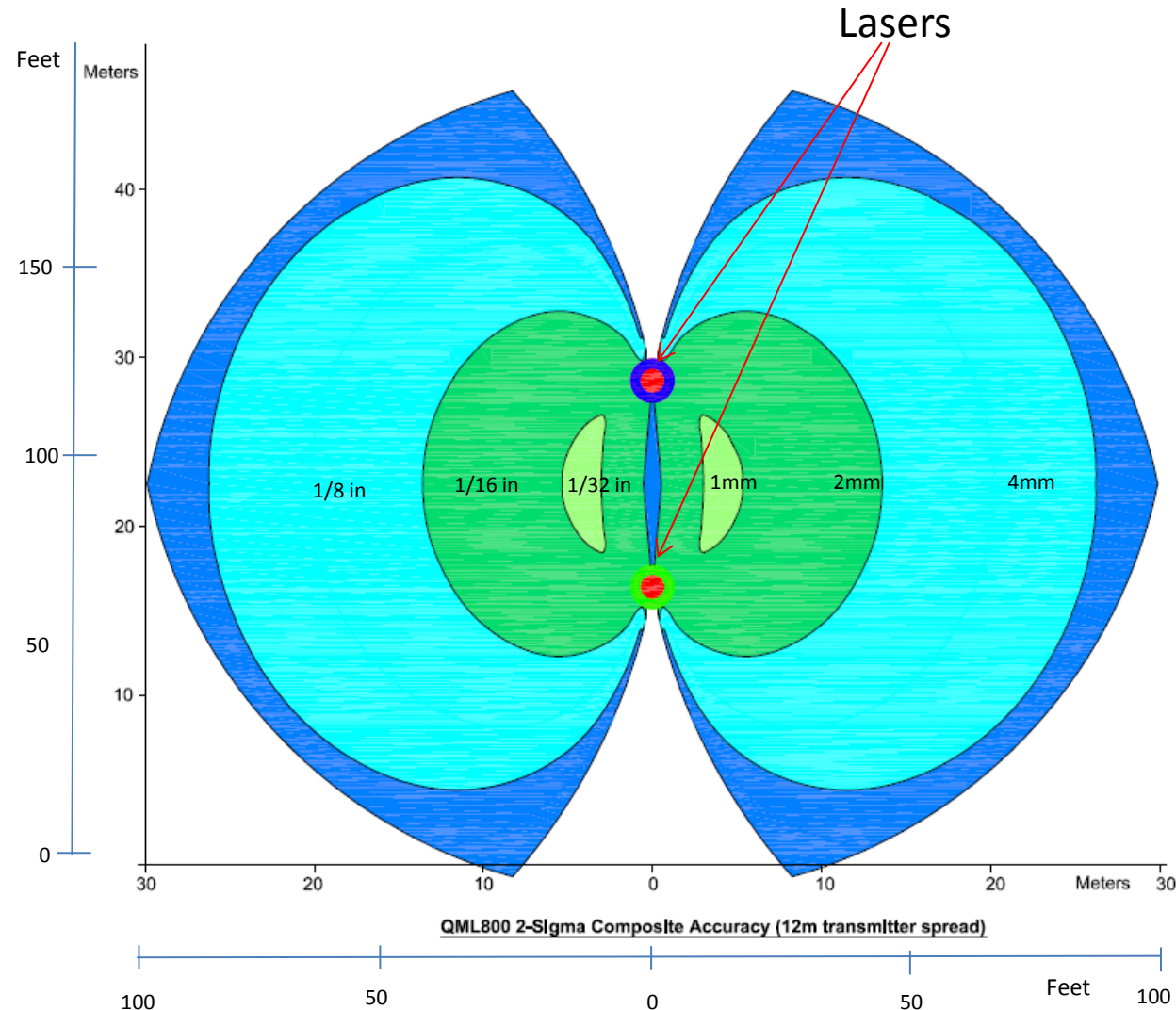
Lasers

The X intersection goes from floor to ceiling and is not affected by floor holes or bumps in the way a single elongated spot it.

Laser placement
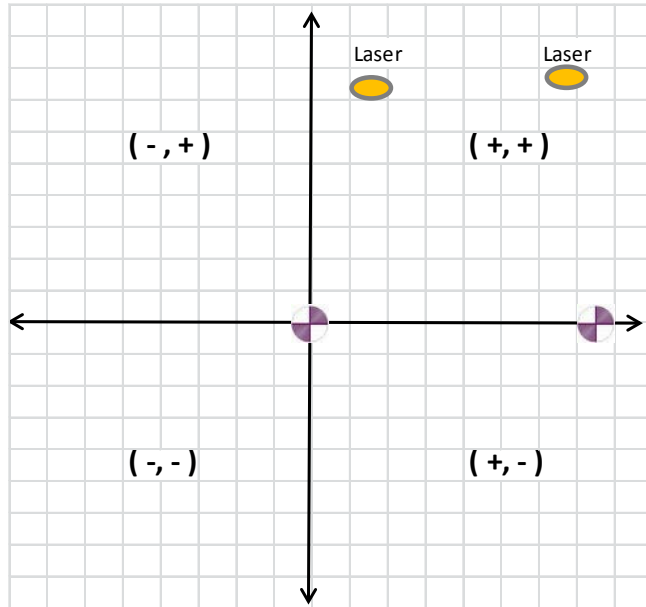
QuickMark works with positive and negative numbers.

Depends upon laser and benchmark locations.
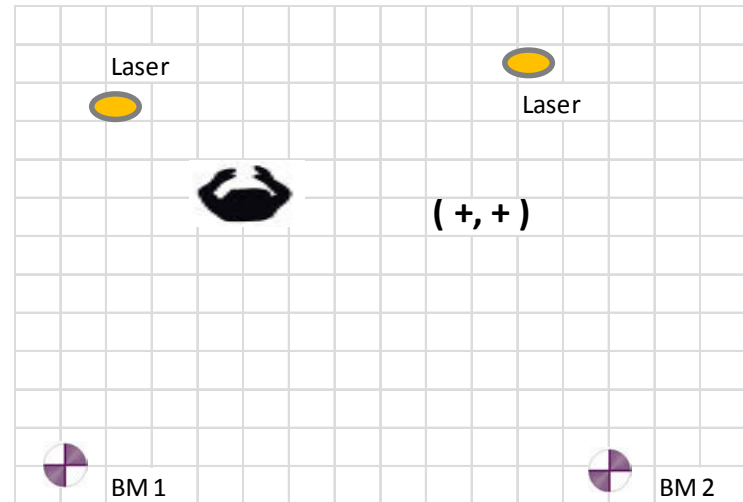
Behind left should rule. If BM 1 is behind your left shoulder compared to lasers, you will generally work with positive coordinates (+,+)

If you create Point Files using QCAD (or other CAD software), you need not concern yourself with positive and negative coordinates – QCAD and QML will manage the points regardless if positive or negative

Job Site Orientation – Set up Control Lines and Benchmarks

Measure 2 ft (0.5m) from column centers to establish control lines

Snap 2 control lines along 2 intersecting column lines

See slide 38 – 39 for control line and benchmark details

Measure a distance of 20 – 25 ft (7-10m) along one control, mark it as benchmark 2

Use the intersection of the control lines as BM 1 (benchmark 1) and use the mark along a control line as BM2

Note: there is a video on the controller that explains job site set up

Laser Placement

Choose laser locations
- With few points between lasers
- Few points are blocked by columns

Columns

Lasers

Job Site Orientation
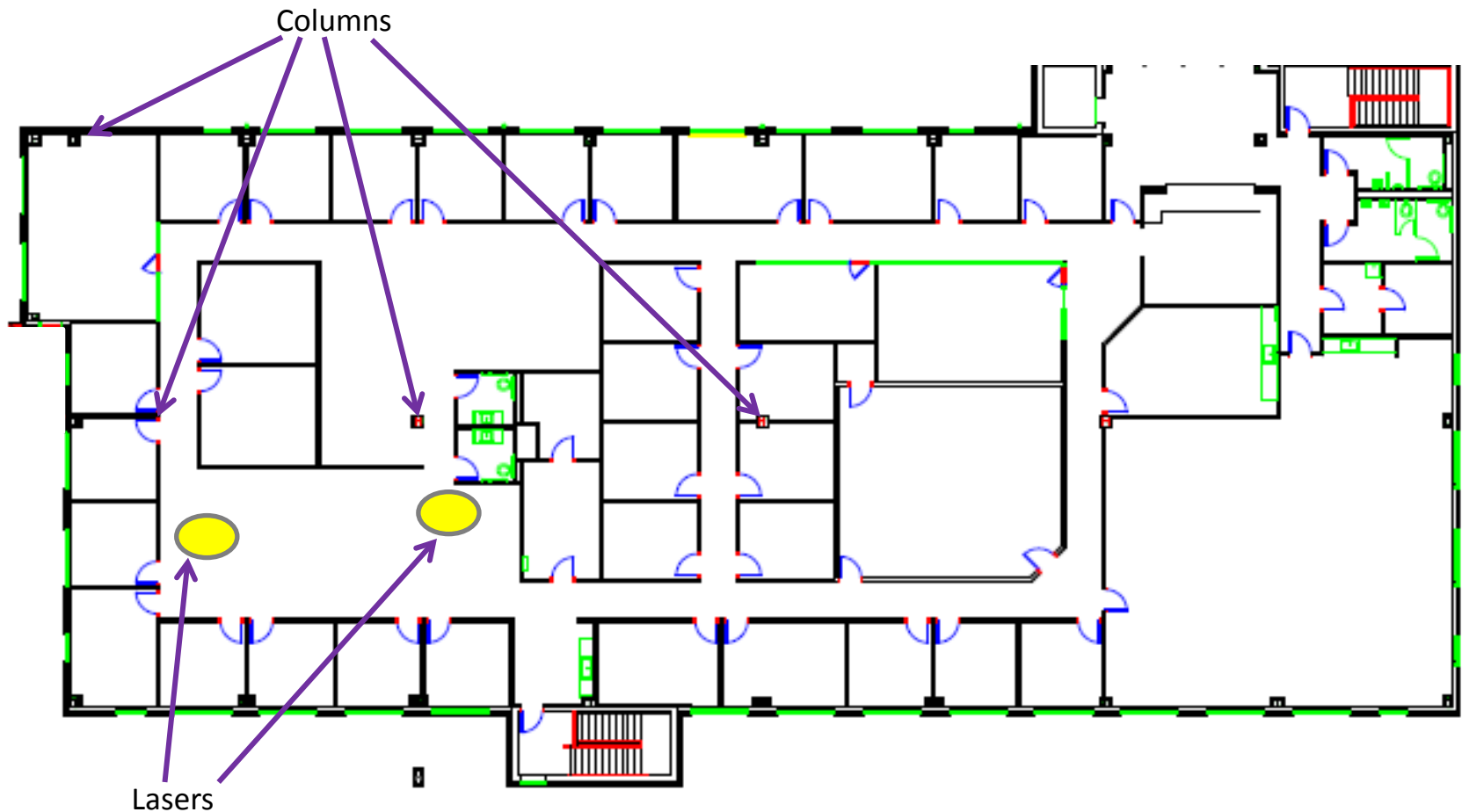
Control Lines

- Place 2 control lines on the job site at 2 ft (or 0.5m) from column centerline
- Pick the 2 benchmarks selected in the QCAD file

Columns

2 ft

2 ft

Control Lines

Columns
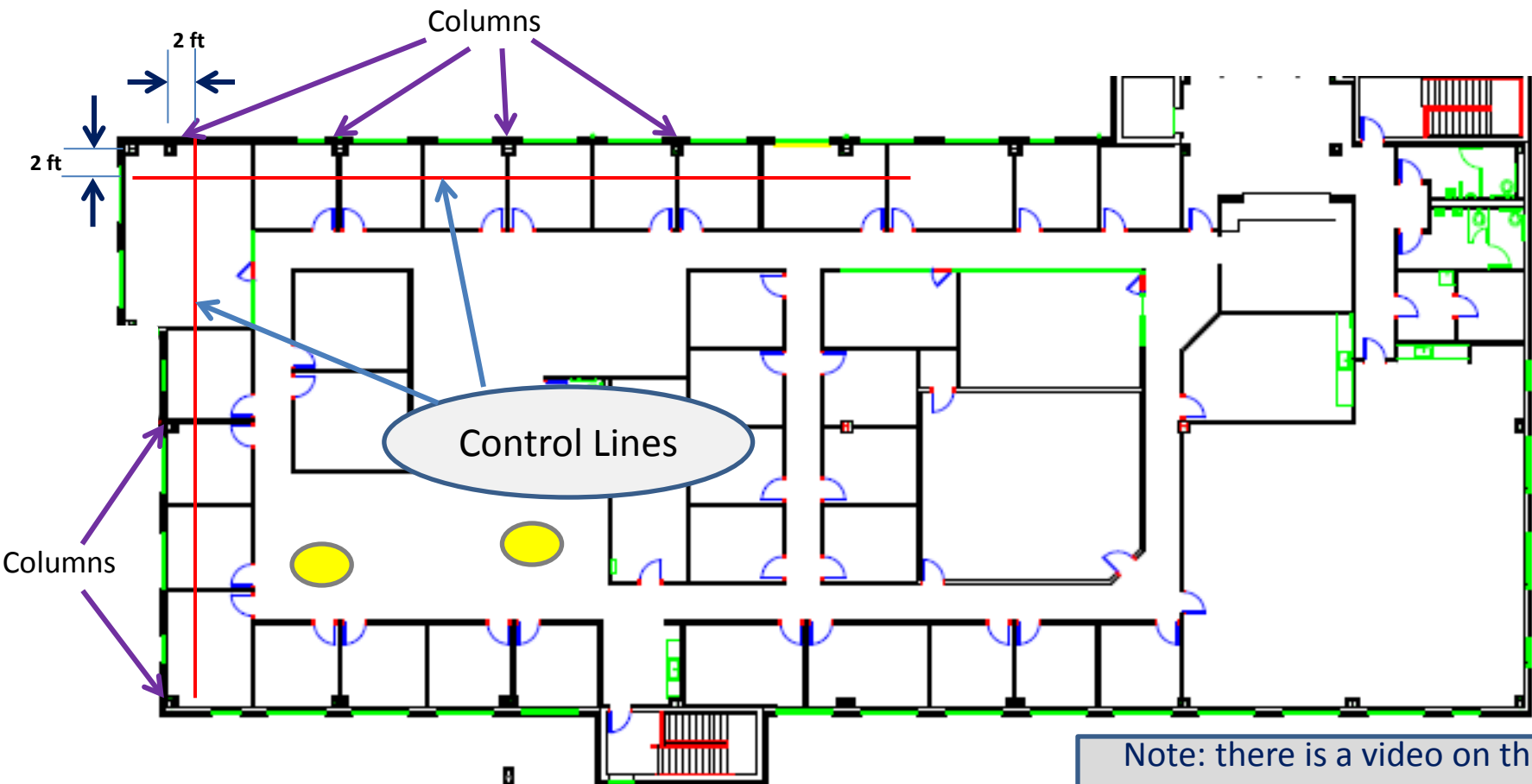
Note: there is a video on the controller that explains job site control lines and benchmarks

Benchmarks

- Establish the intersection of the 2 control lines as Benchmark 1
- Measure and mark a distance of 20 – 30 ft along one or the other control lines to establish benchmark 2
- Choose the same benchmarks as picked in the QCAD file

2 ft

BM1   BM2

2 ft

Control Lines
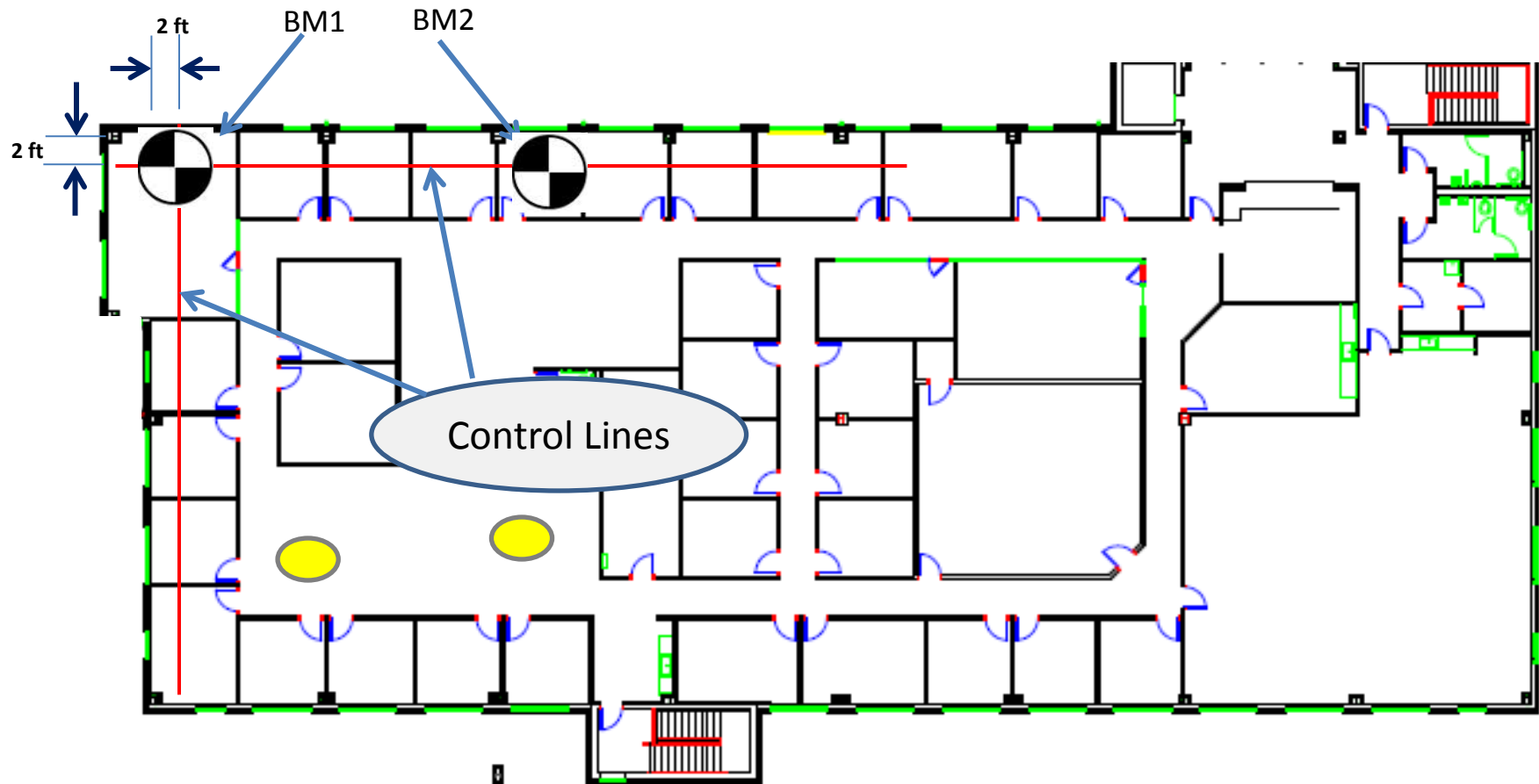
Point Creation Options

1) Create a point file from CAD drawings (recommended) using QCAD or other CAD software
   - Best for large point files and least chance for errors
   - Proceed to the next page

1) Manually enter new points on controller
   - For on-the-job-site adjustments and additions
   - See page 21

2) Create an Excel spreadsheet with point coordinates and export to csv
   - Off-line method without the need for CAD
   - Manually entering coordinates can lead to typo errors
   - See page 64

Create a Point File from an Architect's CAD file

Recommendation:
Download a copy of QCAD from www.spectralasers.com to your computer. You will need your QML800 System Serial number.

- If you already have CAD and point creation software, you need not use QCAD
- QCAD is an open source application for computer aided drafting (CAD). With it you can create technical drawings.
- The version of QCAD at www.spectralasers.com has been modified to allow creation of control lines, control points and point files. This version is not open source. It can be downloaded only by purchasers of QML800
- Familiarity with CAD is helpful
- QCAD tutorials are available on-line at www.qcad.org

If you have only pdf plans for your job, contact your architect or general contractor and request CAD files

CAD - Computer Aided Design. It is a 2D and 3D computer drafting tool used for engineering design.

AutoCAD - The brand of CAD designed and developed by Autodesk, Inc. This brand of CAD dominates the architectural design community. AutoCAD is quite expensive.

Sketchup – 3D modeling computer program used for architecture, interior design, civil and mechanical engineering, owned by Trimble Navigation.   Sketchup has an enormous 3D Warehouse of components that can be used in designs and can link with Google Earth. The base version of Sketchup is free.

QCAD – 2D engineering design software that is generally free for use with DXF drawings.

DWG – the native format of AutoCAD. AutoCAD files are developed in DWG.

DXF – Drawing Exchange Format, a CAD file format developed by Autodesk to allow interoperability between CAD and other programs.

A point file is created via the following process.

Open the CAD file of the floor you want to layout. CAD files typically have many layers. Turn off the layers that are not of interest.

1. **Control lines** – place control lines in the CAD floor plan at the same location they will be placed on the floor.   The intersection of the control lines will be a 1st control point.

2. **Reference line** - place a reference line at a distance of 5-10m (15 – 30ft) along one of the control lines. The intersection of the control line and the reference line will be used as a 2nd control point.

3. **Control Points** - Place Control Point 1 and Control Point 2 at the intersections mentioned above.

4. **Point Selection** - Select layout points that you wish to layout.

5. **Save** - Save the point file on your computer as a .csv file.

- Launch QCAD
- Open CAD file from Architect
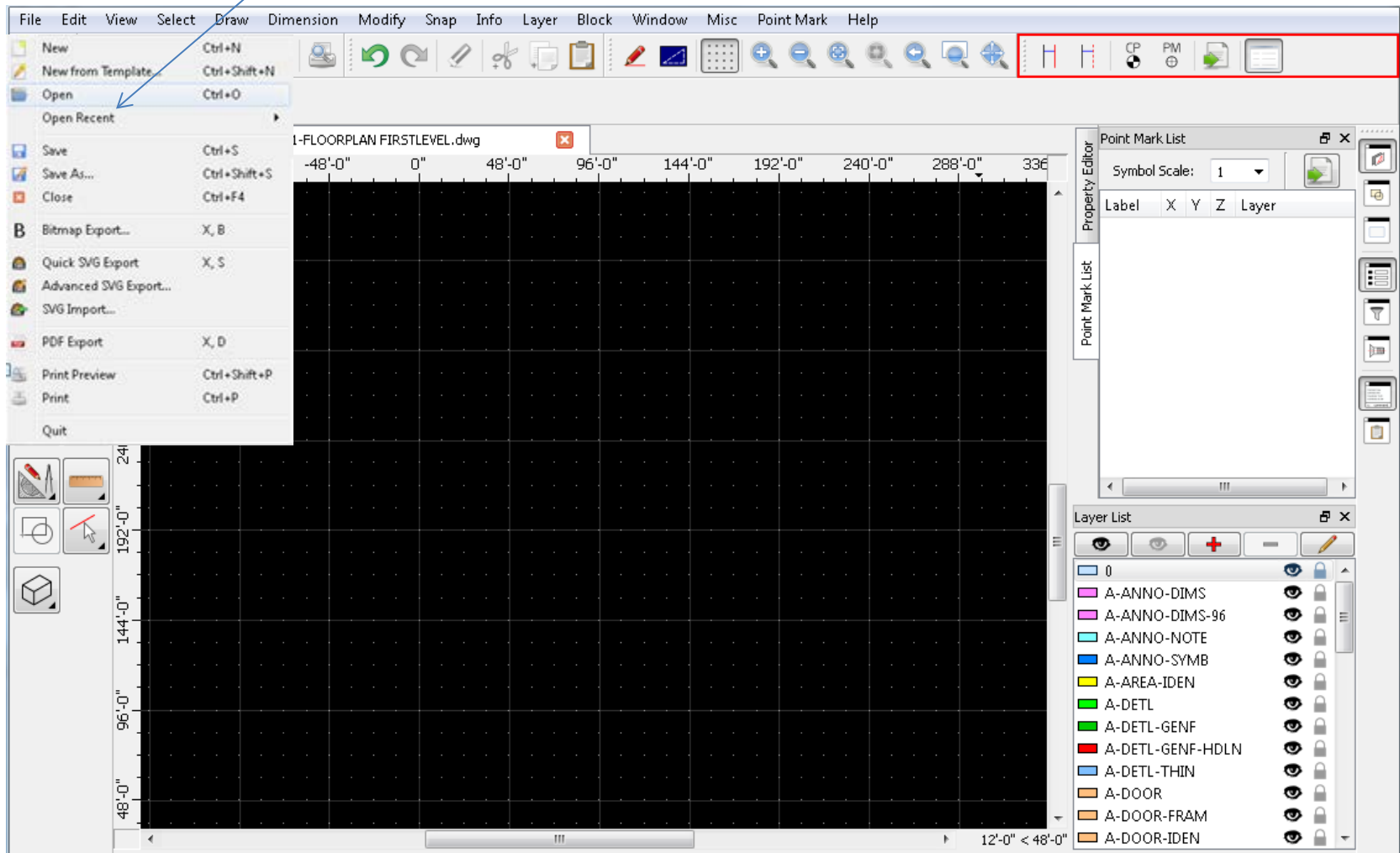
Controls to Create Point Files

Point File Creation Controls

Use only these 5 functions to create point files.
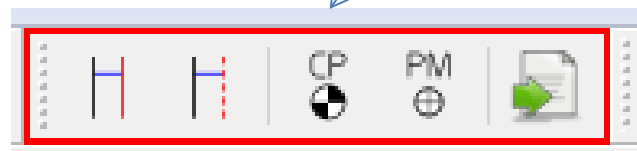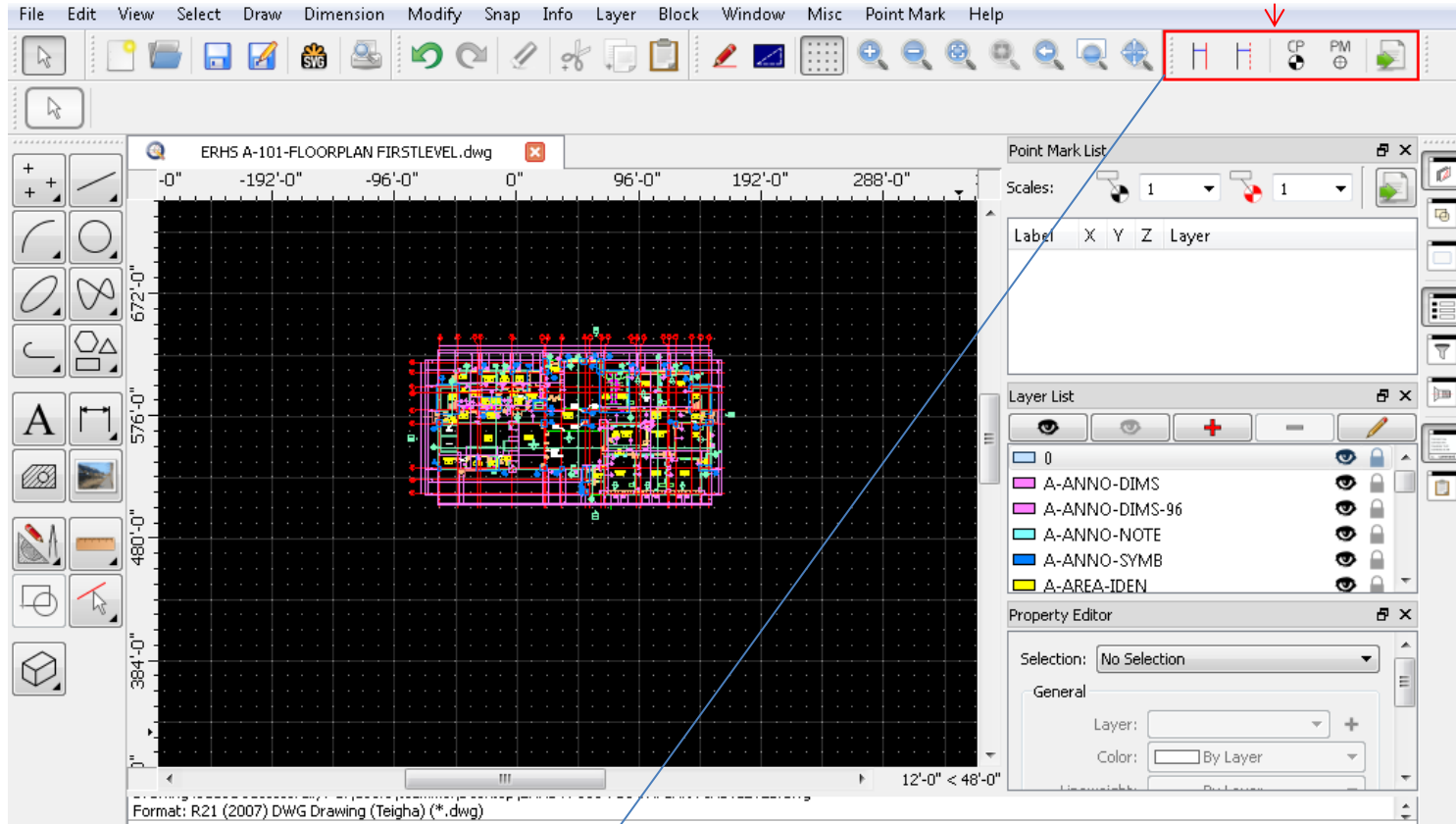
Control Line

Reference Line

Control Point

Point Manager

Export

QCAD Navigation

General CAD File Controls (not used except for Un-Do button)

Point File Creation Controls
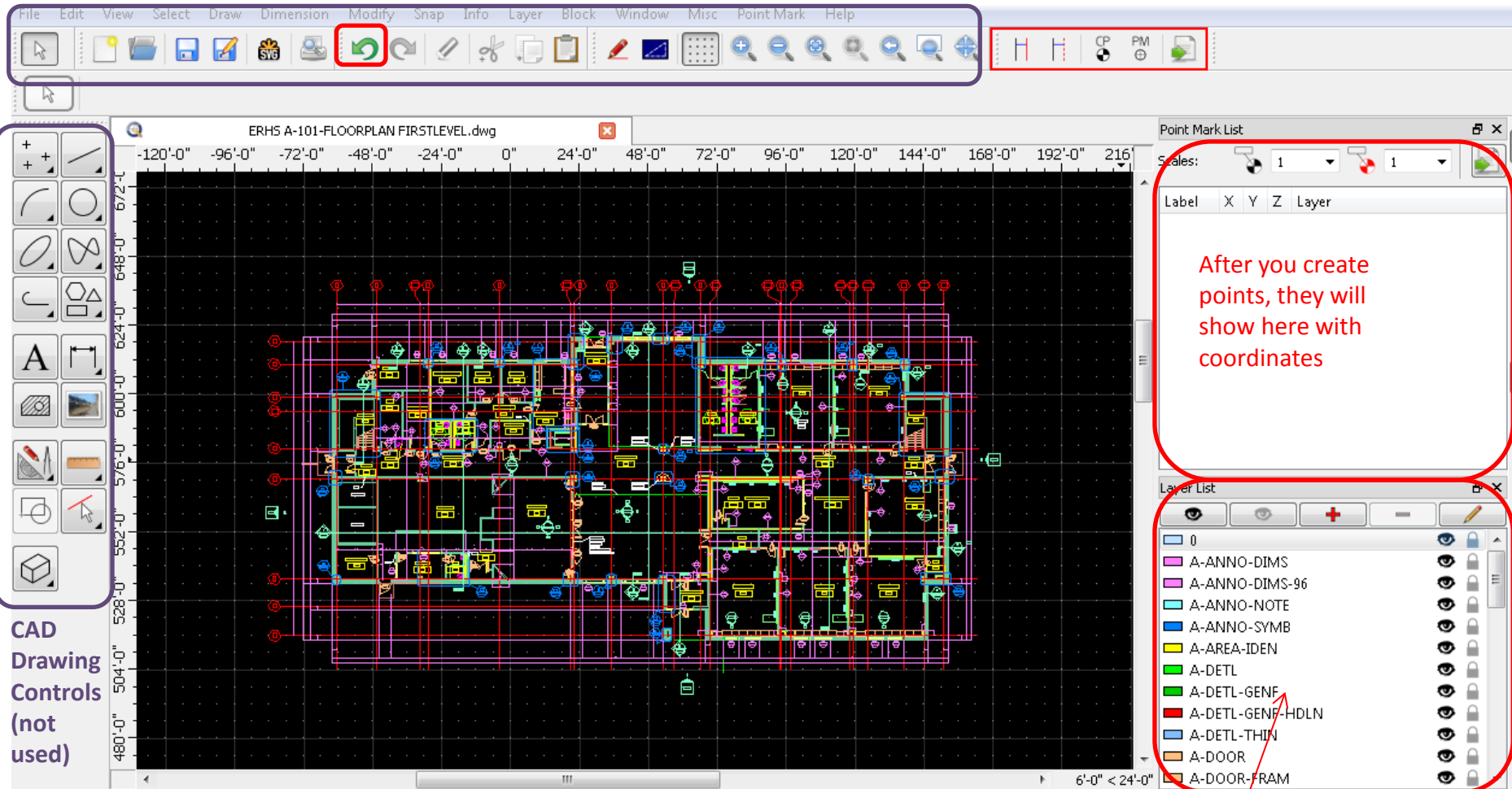
CAD Drawing Controls (not used)

ERHS A-101-FLOORPLAN FIRSTLEVEL.dwg

Point Mark List

Scales: 1   1

Label	X	Y	Z	Layer

After you create points, they will show here with coordinates

Layer List

- 0
- A-ANNO-DIMS
- A-ANNO-DIMS-96
- A-ANNO-NOTE
- A-ANNO-SYMB
- A-AREA-IDEN
- A-DETL
- A-DETL-GENF
- A-DETL-GENF-HDLN
- A-DETL-THIN
- A-DOOR
- A-DOOR-FRAM

Layers - we will next learn to manage Layers

The Scroll Wheel is critical for QCAD (and other CAD) navigation.

- The scroll wheel zooms in and out from the point of the cursor.
- Press the scroll wheel and hold to move the CAD file position within the window

Escape button is used to end a function

- Typically, a CAD file has about 40 layers
- The "shadow eye" icon turns all layers off
- The dark eye icon turns all layers on
- Turn on/off individual layers using the eye
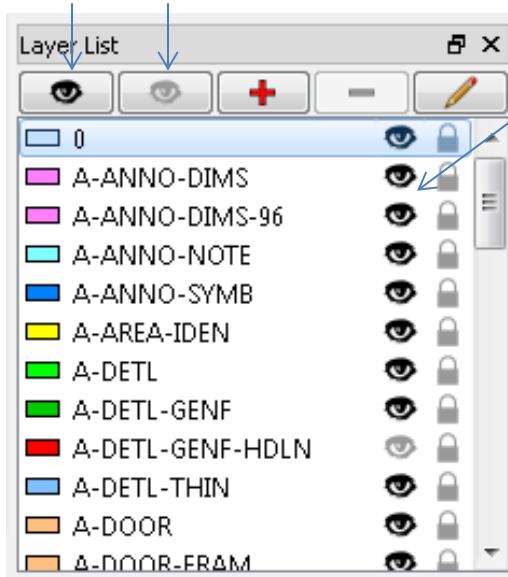
Recommend: Turn off all layers using the "shadow eye"
Turn on the layers listed below by clicking on the eye

A-DOOR	doors
A-DOOR-FRAM	door frames
A-GLAZE	window
A-WALL	wall
I-Wall	wall track
S-GRID	column lines
S-GRID-IDEN	column line labels

For reference only:
Standard layer names.
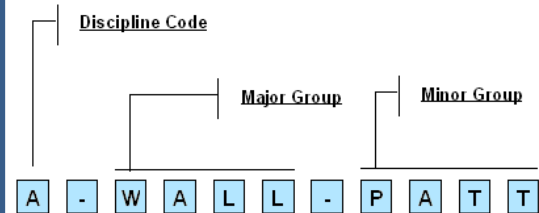
A Architectural
C Civil
E Electrical
F Fire Protection
G General
H Hazardous Materials
I Interiors
L Landscaping
M Mechanical
P Plumbing
Q Equipment
R Resource
S Structural
T Telecommunications
X Other Disciplines
Z Contractor Shop Drawing

QCAD – Managing the Layers
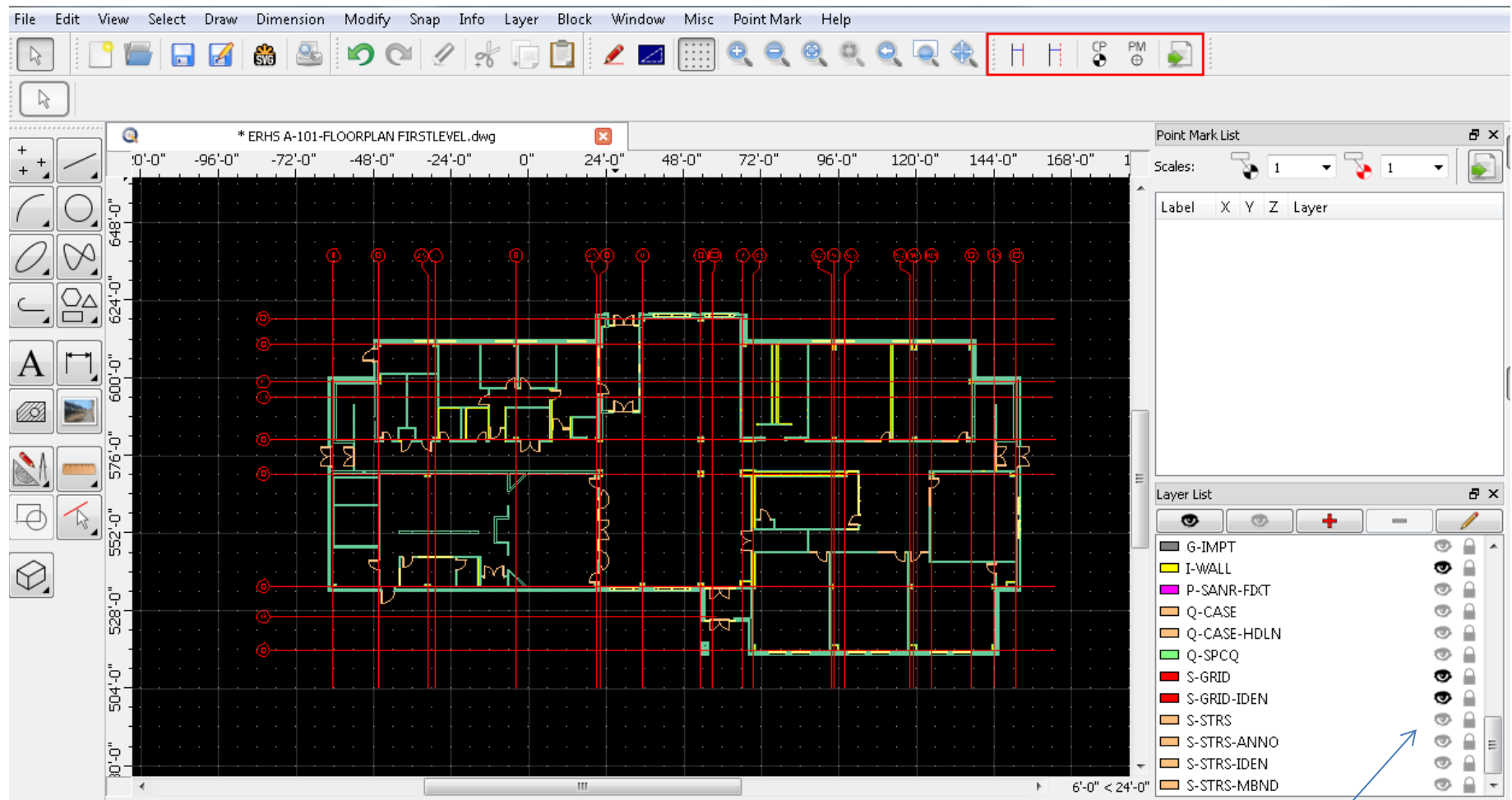
Notice most layers are now gone.
Only desired layers appear.

Notice most layers are "off"
(shadow eye).

QCAD – Establish Control Lines

Step 1: Select Control Line icon
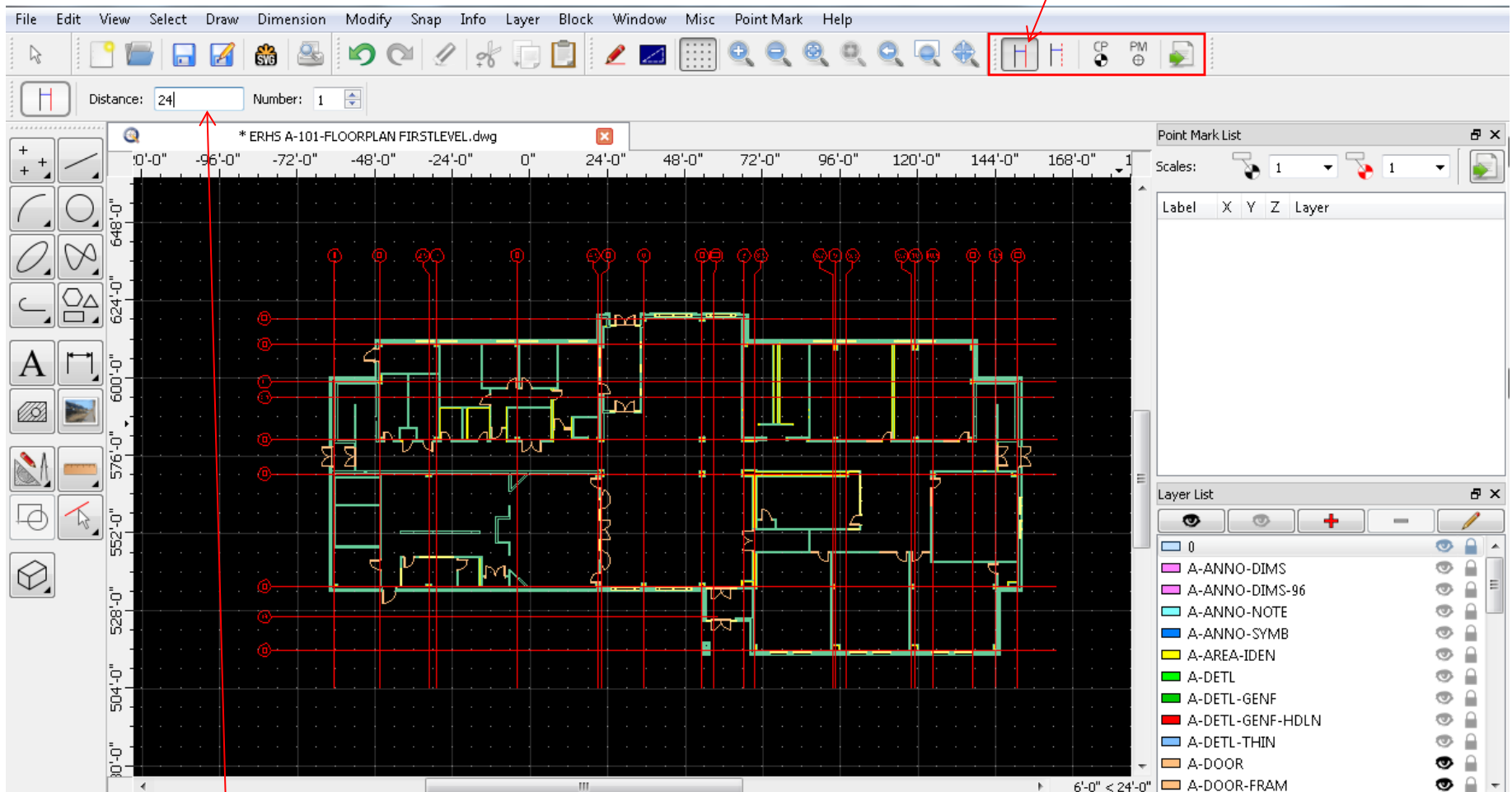
Step 2: input off-set distance . 24 inches, 0.5m for example
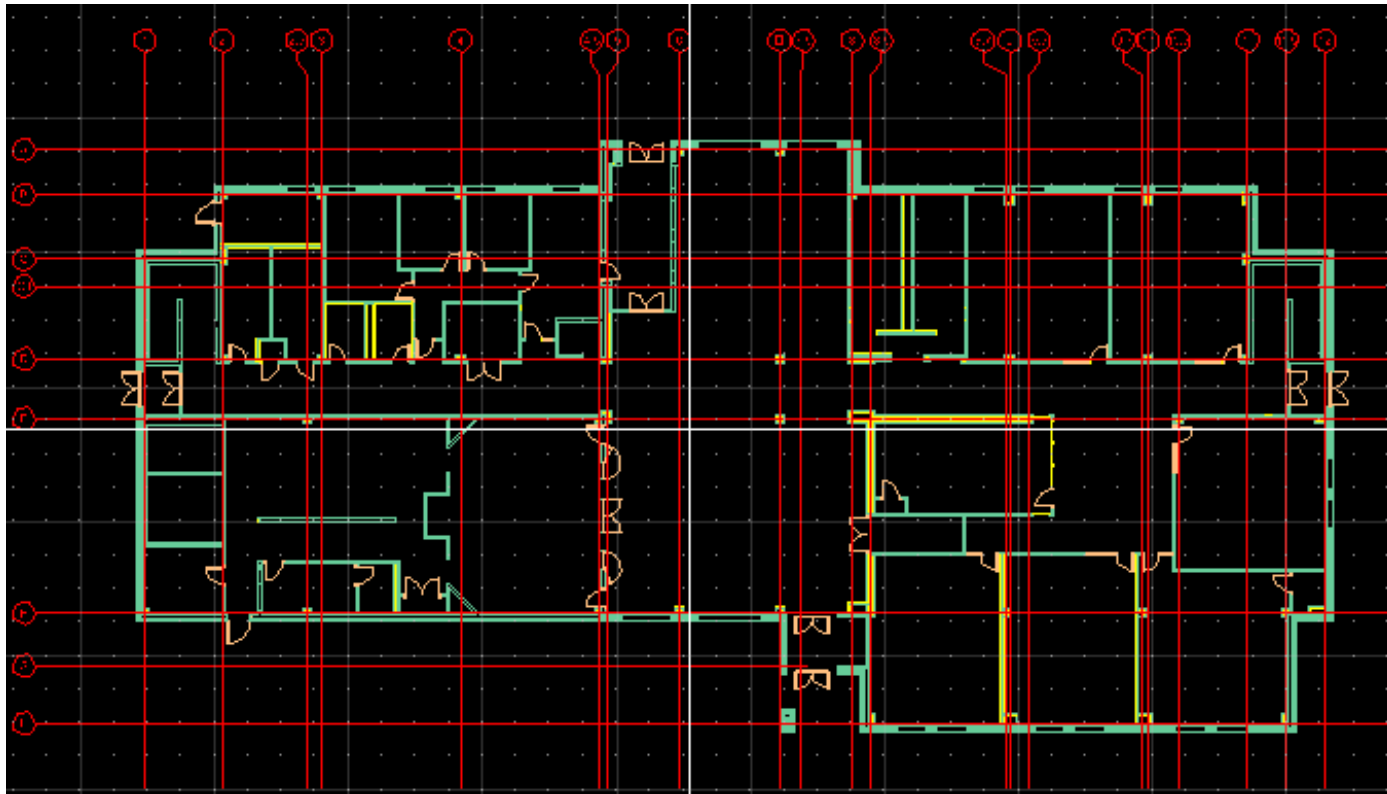
After selecting the control line icon and inputting the offset distance, QCAD shows the control line as you hover near lines. Select the column line and **left** click to place the first control. QCAD is automatically ready to place the second control line. Again hover near the column line and **left** click to place the control line. Hit **escape** to get out of Control Line Function.

(The intersection of the 2 control lines will be used as Control Point 1)

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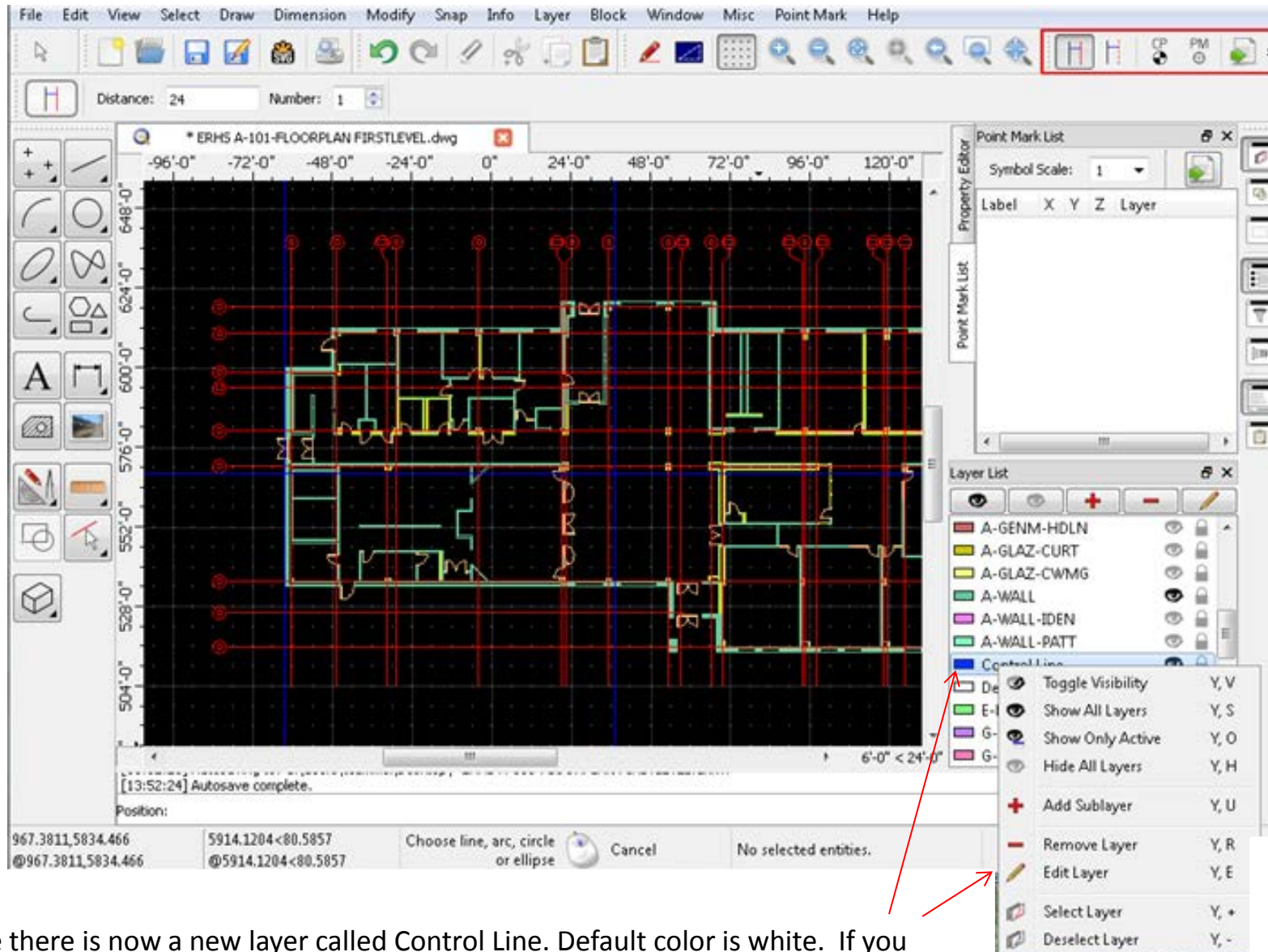
Notice there is now a new layer called Control Line. Default color is white. If you wish to change color, move cursor to Control Line layer and **right** click, then click Edit Layer. A box opens where you can change color. Above the color has been changed to blue.

Place Reference Line

The reference line is used to establish a second control point. The intersection of the 2 control lines will be used for Control Point 1. The intersection of the control line and reference line will be used for Control Point 2.
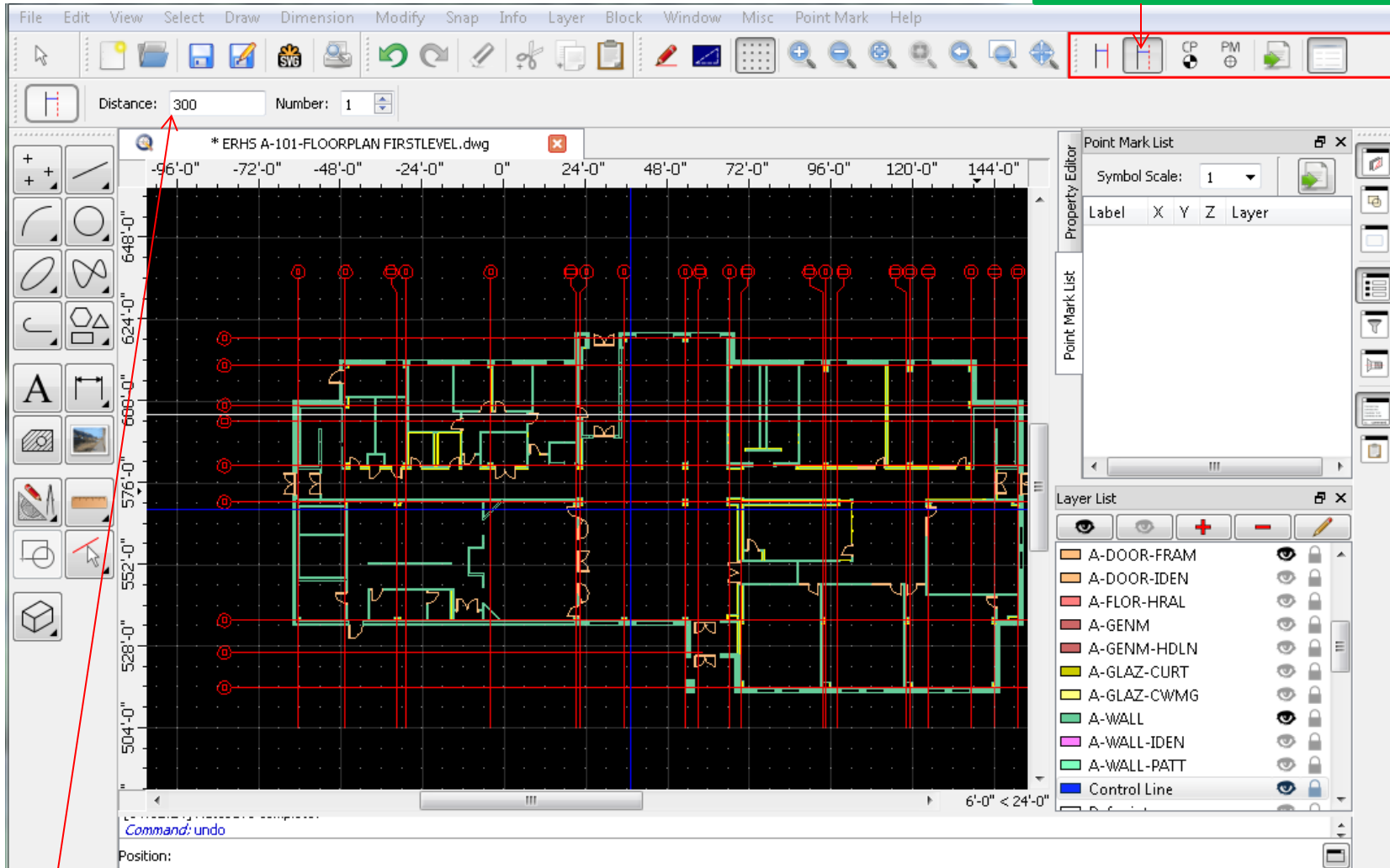
Step 2: Input Offset. Minimum 200 inches or 5m

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Notice there is now a new layer called Reference Line. Default color is white. If you wish to change color, move cursor to Control Line layer and **right** click, then click edit. Above the color has been changed to green.

Reference Line

Manager Layers Before Placing Points

Step 3: Select Control Point – CP icon
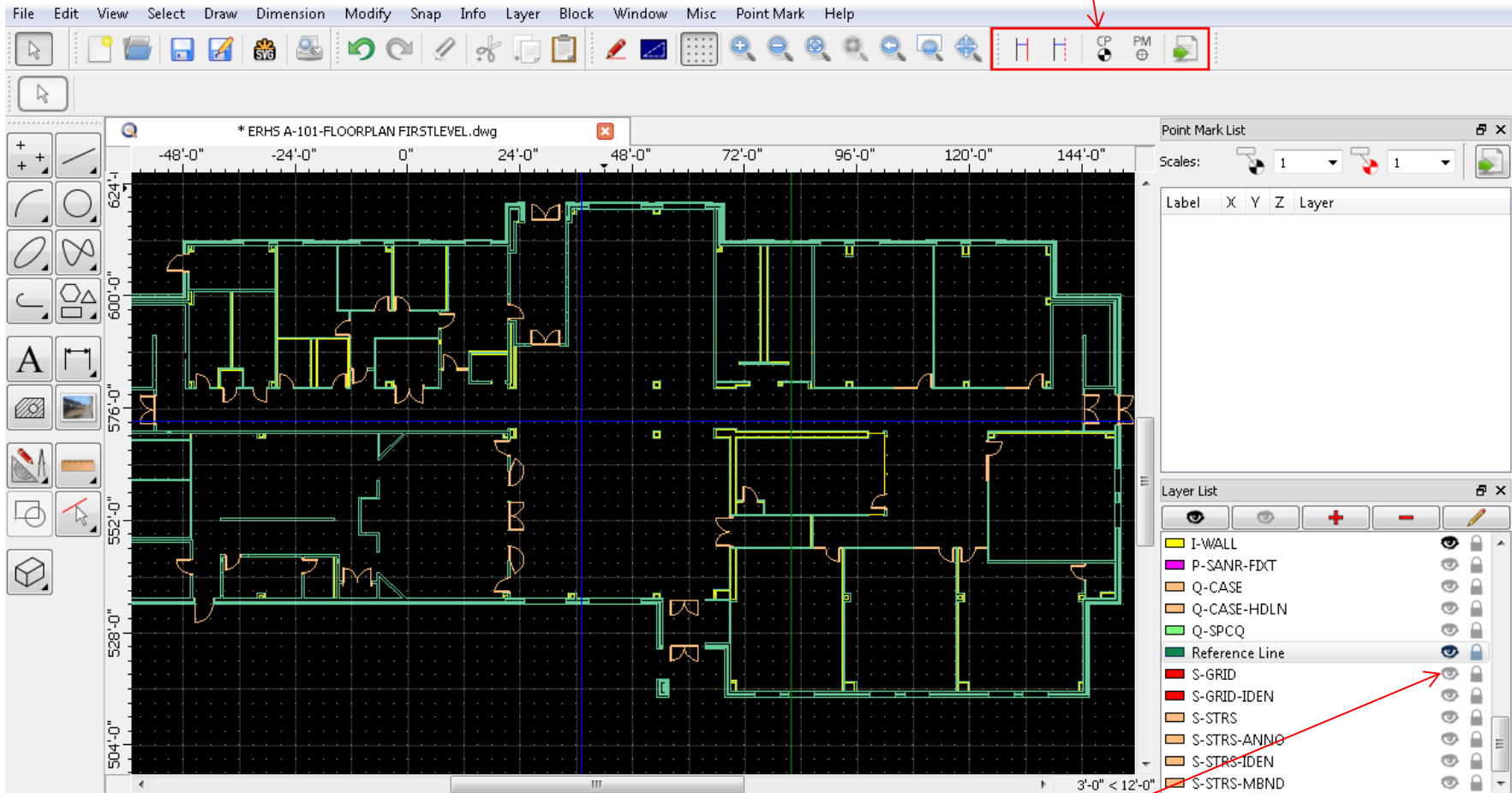
Step 1 (Optional) You can now turn off red grid lines and Grid identifiers

Step 2: Zoom in with scroll wheel so you can clearly see intersections of control lines and reference line

56
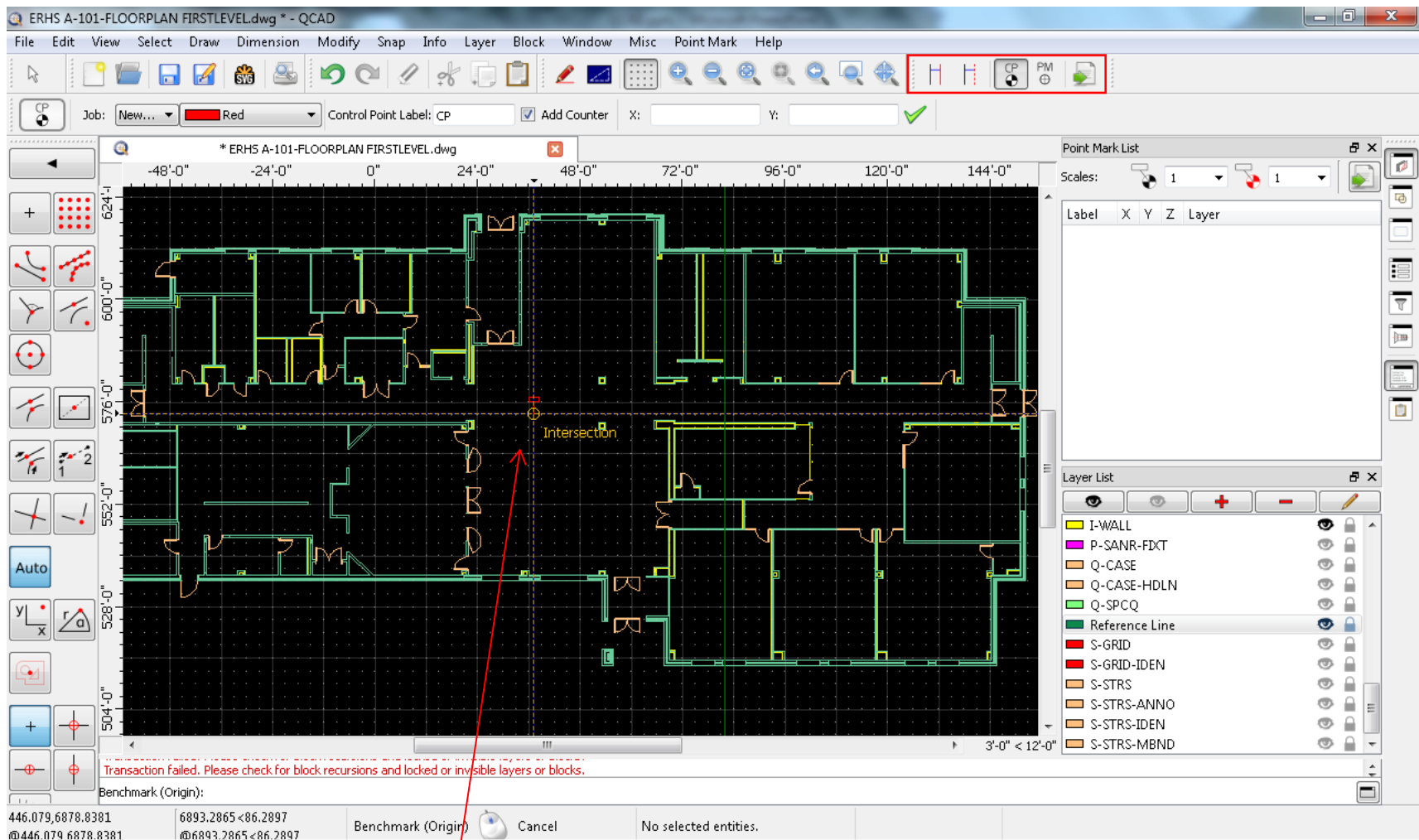
Step 1: Place CP 1 at the intersection of the 2 control lines. QCAD will indicate when you are at an intersection. Click once to place CP 1, click a second time to position the label that appears.

Step 2: Place CP 2 at the intersection of the control line and reference line. Click one to place CP2, click a second time to place the label location

Click escape to exit CP

57
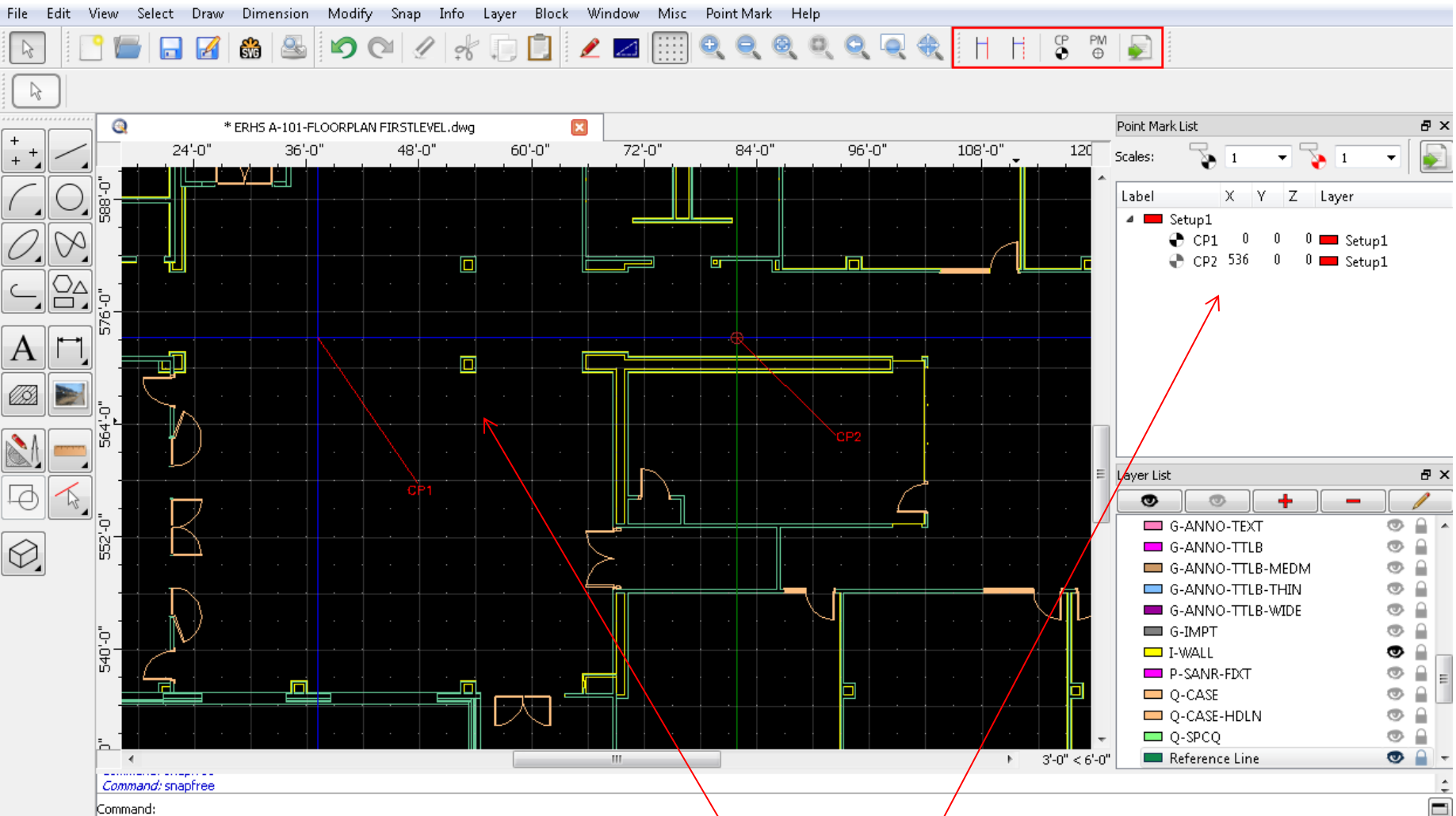
Notice CP1 and CP2 at intersections.
Notice CP1 and CP2 coordinates are now shown.

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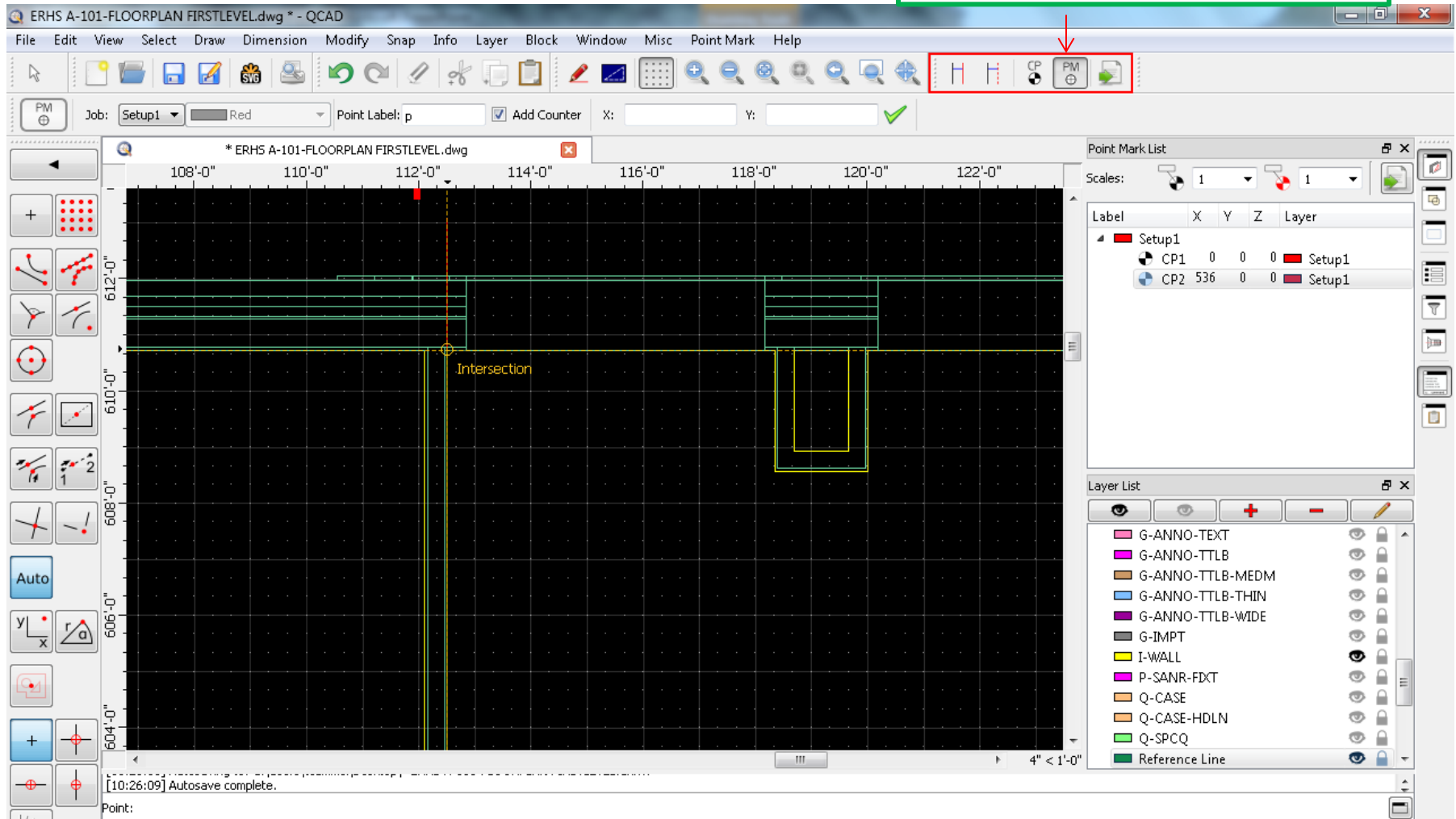
Place Points

Step 2: Place points at desired locations. QCAD will show intersections, end line and mid line.
Click once to place the point
Click a second time to place the point label.
Repeat for all points. Use the scroll wheel to zoom and navigate.

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Notice the points and their coordinates

Save Point File
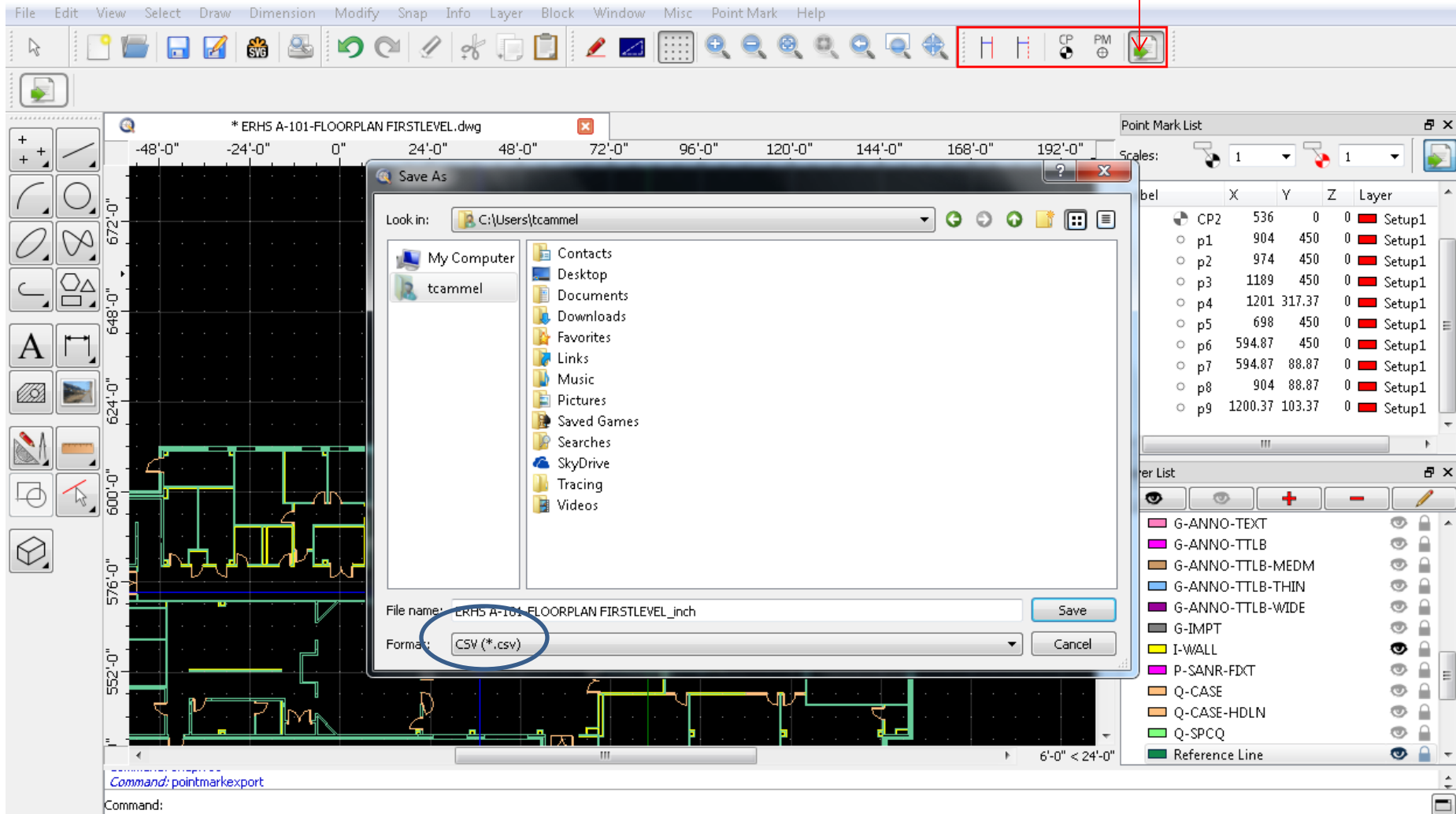
Step 2. Save as csv file on your computer

Drag the Point File to Controller

Import csv point file to QML controller.

1) Connect Controller to computer via USB cable:

2) Open "Device Files"
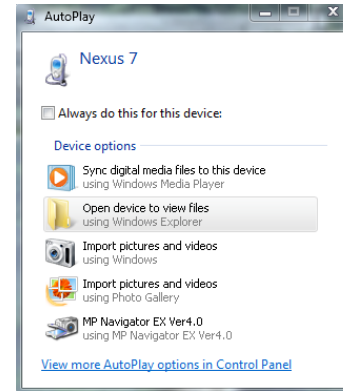
Find the Nexus 7 directory on your computer.

3) Open Internal Storage
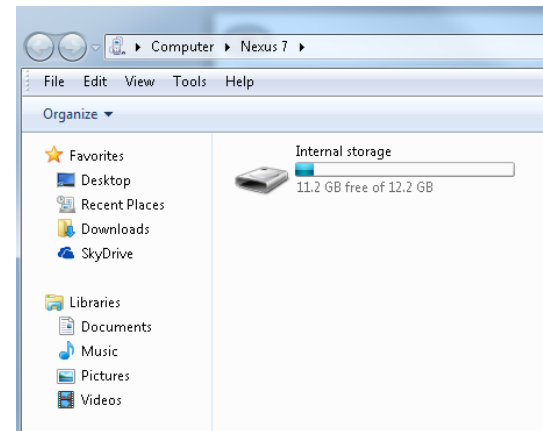
4) Drag to "QuickMark Layout"
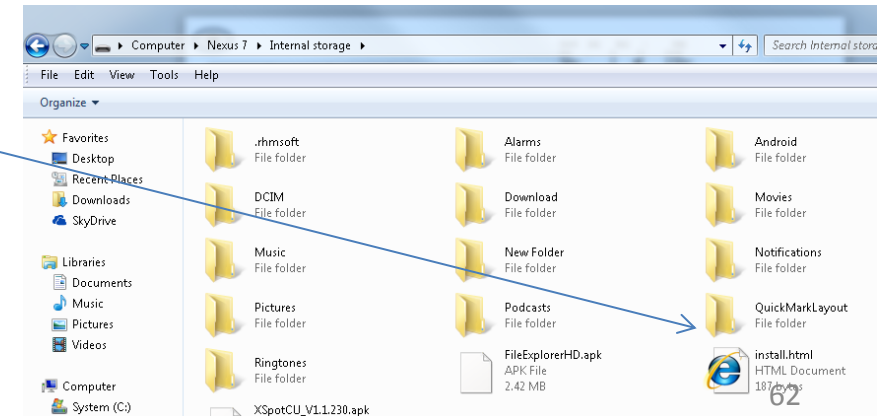
Import Point File into QML Application

Launch the QML application on the controller in "off-line mode.

5) Open "Import jobs"
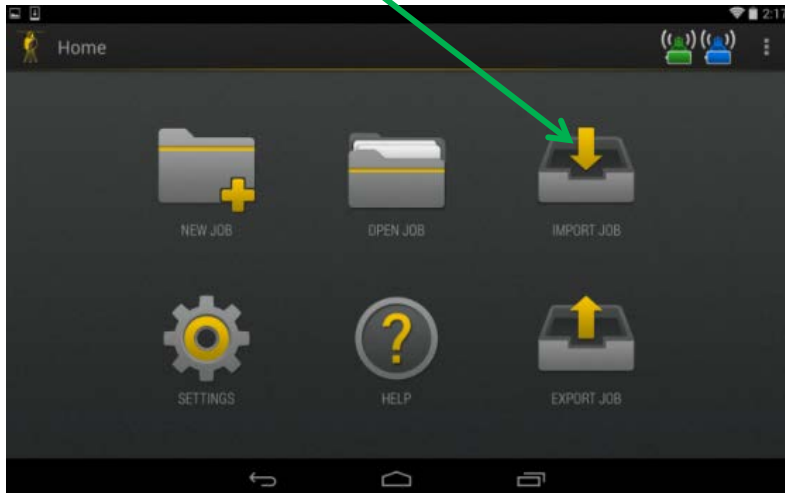
6) Select job and tap "import"
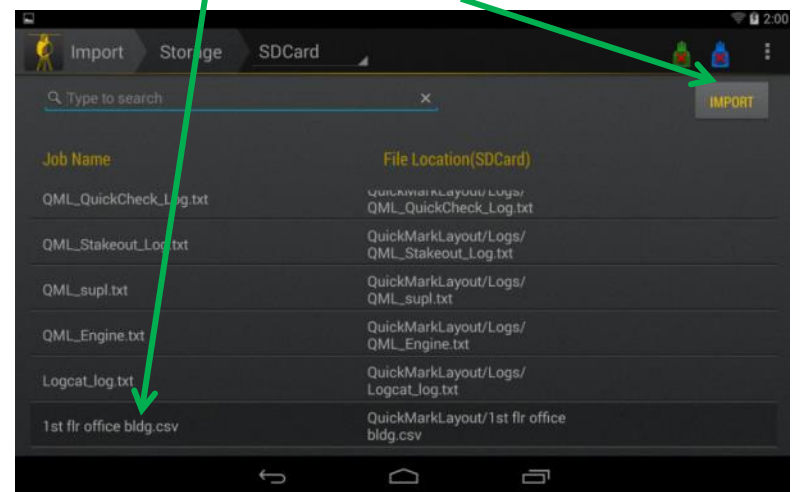
7) Select unit of measure
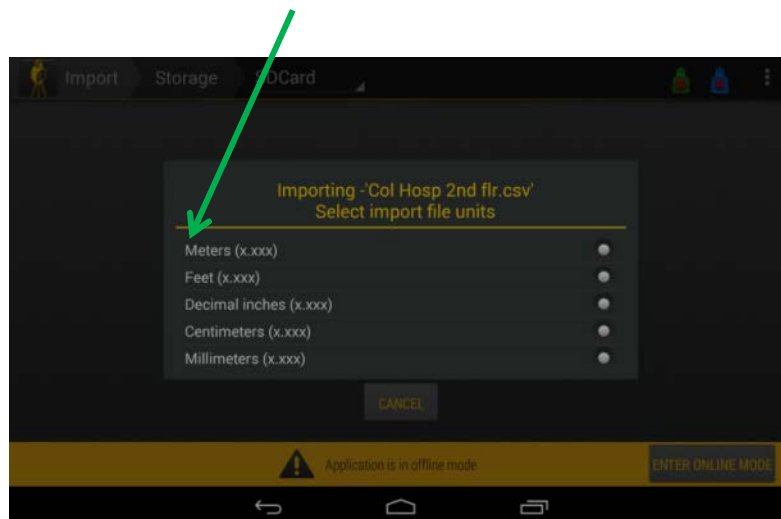
8) Success. You can now fine the job in "open jobs"
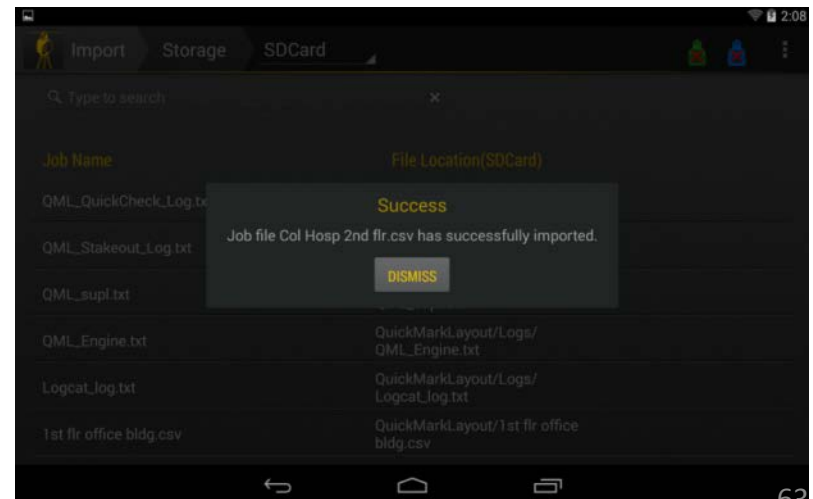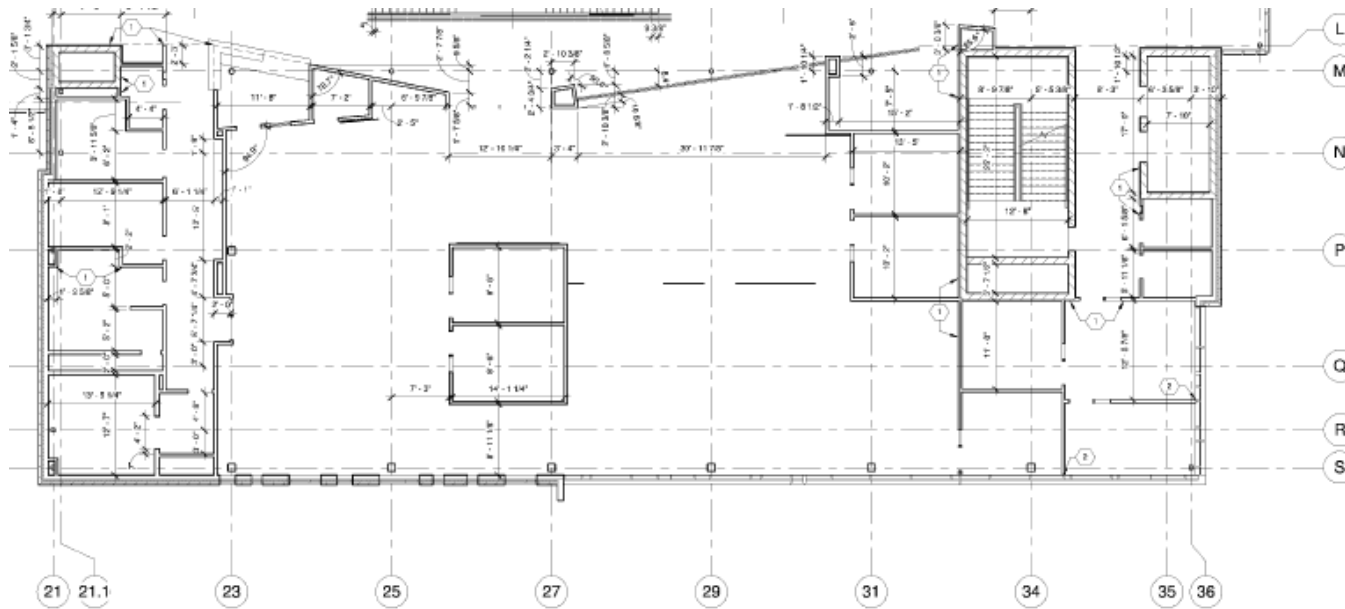
Select Points and enter exact coordinates

NAME	E(x)	N(y)	z	DESC
BM1	0	0	0	BM1
BM2	0	24.42		BM2
POINT1	0	21	0	POINT1
POINT2	133.1013	325.751	0	POINT2
POINT3	23.85126	325.751	0	POINT3
POINT4	23.85126	218.2538	0	POINT4
POINT5	23.85126	192.2538	0	POINT5
POINT6	23.85126	156.2538	0	POINT6
POINT7	23.85126	150.251	0	POINT7
POINT8	133.1013	150.251	0	POINT8
POINT9	23.85126	140.001	0	POINT9
POINT10	23.85126	104.001	0	POINT10
POINT11	23.85126	-17.375	0	POINT11
POINT12	30.625	-17.375	0	POINT12

NAME	E(x)	N(y)	z	DESC
BM1	0	0	0	BM1
BM2	0	24.42	0	BM2
POINT1	0	360	0	POINT1

Make Point File header is exactly as shown here
Put benchmark coordinates at top as shown.
Enter desired points and coordinates.
Export to CSV file

CSV

Save as .csv file

Import csv file into controller as per previous page

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Calibration

Accuracy

The "Set Up Verification" function that follows job set up is the best way to verify system accuracy. Open a job (new or existing), be very careful with benchmarks and then follow the steps for "Set Up Verification." If the measured and calculated distances are the same, the unit is within calibration.

Repeatability

To check repeatability, create several points and mark them on the floor. Return to those points. If the system returns to the same point, within 1/16" (1.5mm), the system is within calibration.

Plumb

Drive to a point where the "X" can be seen on both the floor and ceiling. Use the included LP30 plumb pointer to verify that the "X" on the ceiling is direct plumb with the point on the floor.

Service

There are no maintenance service requirements.

Warranty

System Warranty: Trimble warrants the QML800 to be free of defects in material and workmanship for a period of 2 years. Trimble or its authorized service center will repair or replace, at its option, any defective part, or the entire product, for which notice has been given during the warranty period. If required, travel and per diem expenses to and from the place where repairs are made will be charged to the customer at prevailing rates. Customers should send the product to Trimble Navigation Ltd, or to the nearest authorized service center fro warranty repairs or exchange, freight prepaid. Any evidence of negligent or abnormal use, or any attempt to repair equipment by other than factory-authorized personnel or Trimble certified or recommended parts, automatically voids the warranty. Special precautions have been taken to ensure the calibration of the laser, however, calibration is not covered by this warranty. Maintenance of the calibration is the responsibility of the user. The foregoing states the entire liability of Trimble regarding the purchase and use of its equipment. Trimble will not be held responsible for any consequential loss or damage of any kind. This warranty is in lieu of all other warranties, except as set forth above, including an implied warranty. Merchantability of fitness for a particular purpose is hereby disclaimed. In countries with Trimble Service Subsidiary Centers, the repaired products will be returned to the customer, freight prepaid.

OEM Controller Warranty: The controller is an off-the-shelf Google Nexus 7 controller. Trimble warrants the controller for 6 months under similar terms as from the original manufacturer.

Service Request
To locate your local dealer or authorized Trimble Service Center outside the U.S.A for service, accessories,

Declarations (no change from LT20 except model number)
We declare, on our sole responsibility, that this product complies with the following directives and standards:
EN 50081-1, EN 61000-6-2, 2004/108/EC.
Designation: Laser range meter
Type: LT56
Notice to Our European Union Customers
For product recycling instructions and more information,
please go to: www.trimble.com/environment/summary.html
Recycling in Europe
To recycle Trimble WEEE, call: +31 497 53 2430, and ask for the "WEEE
associate," or
mail a request for recycling instructions to:
Trimble Europe BV

Q Is the laser safe?
A QML is rated class 2 per IEC 60825-1 and CDRH 21. This rating is considered generally safe because the natural blink reflex will limit exposures to no more than 0.25 seconds. It is always recommended to not look directly into a laser

Q Do you need to use tripods?
A No. You can place the lasers directly on the floor . You can also use other tripods. Visibility on the floor is likely better if the lasers are placed on tripods.

Q How accurate is QML
A Typically, about 1/8" (3mm). There are regions of greater and less accuracy. The operator manual includes an illustration showing accuracy regions.

Q What if someone bumps a tripod
A The laser transmitters have a sensor to detect disruption that will alert the operator to recheck alignment. Additionally, there is a quick alignment check function available which can be used at any time.

Q What does it mean when both laser beacons are green.
A The system has lost communication between the controller and lasers. Exit the application and power the lasers off and try again. Note that the controller should indicate communication break.

Q What can be done if communication is lost several times?
A Exit the QML application and turn off both lasers. Power on 1 laser, wait 5 seconds and power on the second laser. If the second laser unit dome light turns blue, launch the QML app. If the second laser dome light turns green (both dome lights are green) then there is too much WiFi congestion. Waiting 1 minute, or moving the lasers may help. Moving the lasers quite close to each other during the power on sequence may also help.

Q Can I use an iphone or ipad as a controller
A No. The QML application works only on Android devices.

Q If I lose the Google Nexus 7 controller, can I use my personal Android tablet?
A Yes, you can download the QML application from Google Playstore.   See the operator manual for more details. Only 7" and smaller devices are supported.

Q How do I get a CAD (.dwg or .dxf file) file of my floor plan?
A The CAD file can be obtained from the architect or general contractor or contract manager. Normally, architects provide pdf or other files that cannot be modified. CAD files are usually provided if requested.

Q What is the difference between .dwg and .dfx files
A A .dwg file is a native CAD file. A .dfx file is "translated" file that can be opened with programs other than CAD. QCAD downloaded from www.spectralasers.com can open either file.

Q Is QML waterproof? Is it dustproof?
A QML is rated IP54, which is considered splash proof dust resistant beyond what is normally present on a construction site.

Q Can QML be used outdoor?
A QML is a visible laser system. Daylight normally limits the ability to see the lasers to indoor areas. At night, QML can be used effectively outdoors.

Q If the floor is sloped, does it affect accuracy?
A No. The laser "X" goes from floor to ceiling, though you can see it only off of surfaces that reflect lasers.

Q If there is a hole or bump in the floor, does it affect accuracy?
A No, the intersection of the X is an accurate location. The use of the Interceptor may help with rough floors.

Q What can be done if columns block the laser beams?
A Initial positioning of lasers so that columns do not block lasers is helpful. When columns do block laser beams, it is suggested to mark an offset, perhaps 2 feet (or 0.5m) away. The lasers can be moved and re-set up in different location.

Q What if the laser beam intersection is beyond the floor
A It is recommended to mark an offset point, perhaps 2 feet (or 0.5m) over the floor. In general, it is recommended to select points 2 feet offset from the edges and snap the chalk line through the points to the edge of the deck.

Q Can I use my existing CAD software to create point files?
A Yes. You may need a point creation software add in. The point file must be saved to a csv file. See the operator manual for more instructions.

Q Is a CAD license needed to create point files
A You can download free CAD software to create point files. See the operator manual for more details. Like most free applications, you likely need to acknowledge terms and accept a license.

Q Can the controller be dropped?
A The controller is an off-the-shelf Google Nexus 7 manufactured by Asus Corporation. It does not include a drop specification and warranty does not cover drops. The protective case is included to increase robustness.

Q If I delete a point, can I "undo" it?
A Yes. Tap the "undo" button.

Q Can I use the controller while wearing gloves?
A Maybe. There may be glove applications available from Google Playstore. Some websites such as www.gearxs.com offer conductive gloves. Trimble does not guarantee that conductive gloves work. You can use a stylus with gloves.

Q What if following set up, I run verification and the calculated distances does not match my measured distance? What difference is acceptable?
A It depends upon the verification distance selected and the accuracy you need. With longer verification distance, you can expect large discrepancies. Generally, discrepancies over 1/8" (3mm) - new set up is recommended.

Q Can I select points from graphics part of the screen?
A Yes. You may need to zoom in. If the point is dense with a large number of points, it may be easier to select a point from the point list.

Q How much charge can I get during lunch for my controller?
A Lasers: About 2 hours of operation. (30 minute charge)
Controller. About 1.5 hours (30 minute charge)

Q Should I power down lasers and/or controller during lunch
A It is not necessary, unless you are concerned about your battery power level. Most crews leave lasers and controller on during lunch.

Q What is the operating range?
A Depends upon lighting conditions and laser placement. Generally an area of 100 x 100 ft (30x30m) can be covered by single set up.

Q If I move only one laser and start the set up process, do I need to drive both lasers to the benchmarks?
A Yes

Q Can I view the CAD file in the controller?
A Yes. You must download AutoCAD 360 or equivalent (generally a fee application)

Q. Can I select points from the CAD file on my controller.
A. No.