

Using Survey 123 for Field Inspections

Iowa DOT



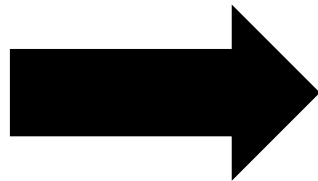
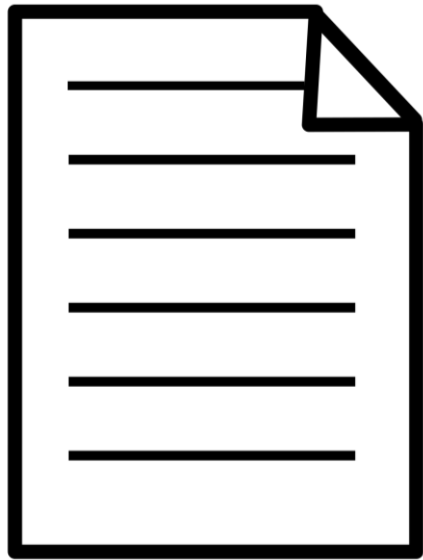
Devices to use:

- ▶ iPads, Smartphones, Laptops



Workflow Changes?

- ▶ Same processes?
- ▶ Replacing paper with an electronic device



Survey 123

- ▶ Currently have one survey in production, one in test and several in development.
- ▶ In production - 193 Form: Identification of Samples
- ▶ In test - HMA Sample Locations
- ▶ In development - PCC Lab Calibration - Summer of 2018

193 Form (Survey)

- ▶ Replaces paper form
- ▶ Can be partially filled out before job
- ▶ Some fields are autofilled
- ▶ Information can be reviewed on app or AGOL
- ▶ Previous submissions can be copied to new surveys
- ▶ Includes barcodes
- ▶ Includes geopoints

SECURING SAMPLES

INTRODUCTION

This IM is intended to provide instructions on how to secure verification samples. Verification samples can be transported by the contracting authority without additional security measures. Verification samples not transported by the contracting authority must make use of the following procedures unless directed otherwise by the District Materials Engineer (DME). For materials not able to be secured through one of the following methods, contact your local DME for additional guidance.

PROCEDURES

To obtain the required security supplies, contact your local District Materials Office. These are examples of the security supplies available.



TAMPER PROOF TAPES

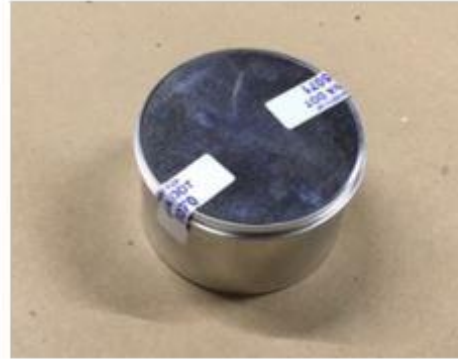
Tamper proof tapes can be used to secure boxes, binder tins, and other similar containers.



Here are some examples of how the tamper proof tape can be utilized.



Standard practice is to place the 193 form inside the box prior to securing the box. For loose asphalt mix, on the outside of the box several pieces of information are recorded including the date, mix design number, sender's number, project number and sample number.



When using the numbered security tape the number is recorded on the 193. The **paper 193 (if used)** must accompany the sample. The secured binder tin may be placed inside the box of loose mix.

TAMPER PROOF TAGS

Tamper proof tags are used to secure bags. Examples of the tamper proof tags and how they are applied to the bags are as follows:



The security number on the tag is recorded on the 193 form and the **paper 193 (if used)** placed inside the bag prior securing the bag for delivery.

DOCUMENTATION

The identification number on the tamper proof tag is recorded on the 193 form and the 193 is then secured with the sample prior to submitting to the District Materials Office. Arrangements can be made to submit the 193s electronically with notification to the DME.

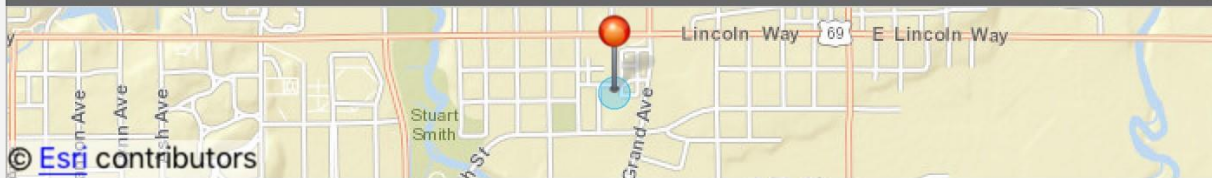
How to:

- ▶ Scan Barcodes
- ▶ Work Offline
- ▶ Confirm Geopoints

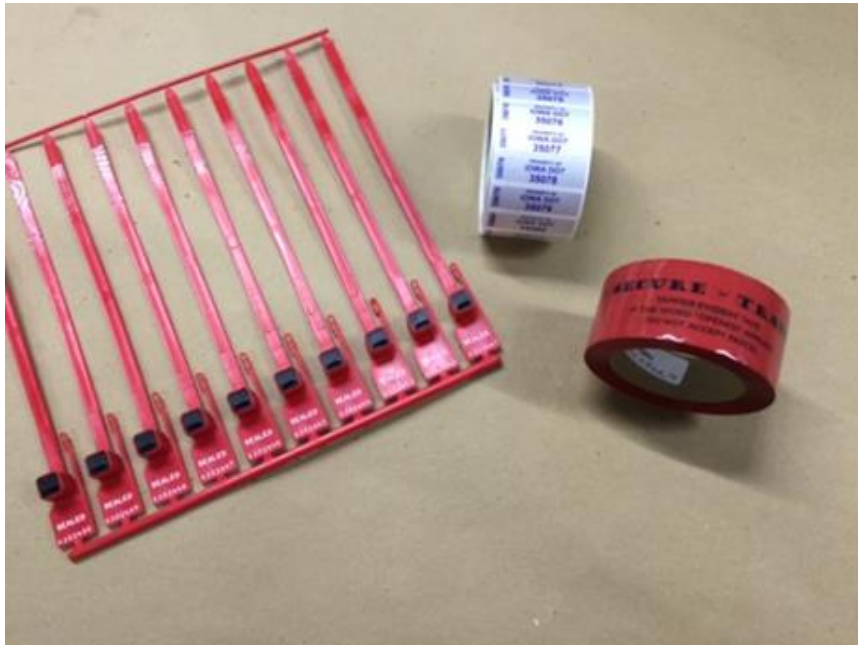


Sample Location *

42°1'N 93°37'W ± 65 m



Barcodes: Materials

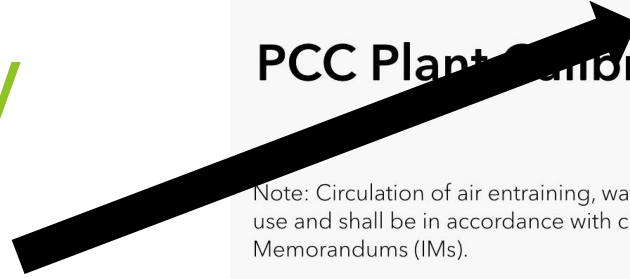


Barcodes: Technique



Navigating Pages within the Survey

Back and forth



iPad 7:22 AM 55%

My Survey

PCC Plant Calibration Worksheet and Form 820917

Note: Circulation of air entraining, water reducing, and retarding admixtures is required PRIOR to use and shall be in accordance with current IowaDOT Specifications and/or Instructional Memorandums (IMs).

Product Information and Calibration

Submit To District:

1 - Ames 2 - Mason City 3 - Sioux City 4 - Atlantic 5 - Fairfield
 6 - Cedar Rapids

Report to Others:
Enter emails you wish to send this form to, separated by commas.

Type of Plant *
 Ready Mix PCC Paving

Type of Calibration *
 Calibration Check Initial Calibration Change in Material Source

General Information

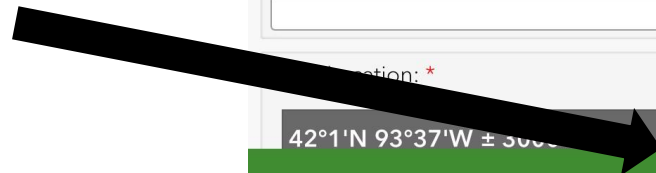
Contractor/Producer: *

Plant Name:

Phone Number:

42°1'N 93°37'W ± 300'

Forward



193 Form: First Glance

Verizon 9:53 AM 16%

Identification of Sample Test

▼ Sampler Information

Date & Time Sampled *
1/11/18 9:53 AM

Sampled By: *
lee.shepard@iowadot.us_lowaDOT

Sampler Email *
lee.shepard@iowadot.us

Sender's Sample #: *

▼ Project Information

Project #: *

County: *

Contract ID #:

Contractor:

Contractor Address:

▼ Sample Information

Material: *

Intended Use: *

✓

Submitting to a District

- Generic lab email per district
- Report to others

iPad 8:32 AM 41%

Identification of Sample Test

Reporting Information

Sample Type: *

Verification Independent Assurance Project Information Mix Design Dept. Information

Warehouse Stock

Submit to District: *

1 - Ames 2 - Mason City 3 - Sioux City 4 - Atlantic 5 - Fairfield

6 - Cedar Rapids

Report to County:
Select a maximum of 4 counties

Report to Residency:
Select a maximum of 2 residency offices

Grimes Jefferson Marshalltown Mason City New Hampton

Sioux City Cherokeee Council Bluffs Creston Mt. Pleasant

Chariton Cedar Rapids Davenport Manchester

Report to Other District Materials:

1 - Ames 2 - Mason City 3 - Sioux City 4 - Atlantic 5 - Fairfield

6 - Cedar Rapids

Report to Others:
Email Addresses Only (Separate with Commas)

Results Needed By:
Date

Additional Comments:

Barcode and Location Information

Security ID #(s) and/or Barcode #:
Must hand type if Barcode does not scan!

D1-000005

iPad 10:40 AM 57%

Identification of Sample Test

Chariton Cedar Rapids Davenport Manchester

Report to Other District Materials:

1 - Ames 2 - Mason City 3 - Sioux City 4 - Atlantic 5 - Fairfield
 6 - Cedar Rapids

Report to Others:

Email Addresses Only (Separate with Commas)

Results Needed By:

Date

Additional Comments:

Barcode and Location Information

Security ID #(s) and/or Barcode #:
Must hand type if Barcode does not scan!

Barcode

Sample Location *

42°1'N 93°37'W ± 65 m

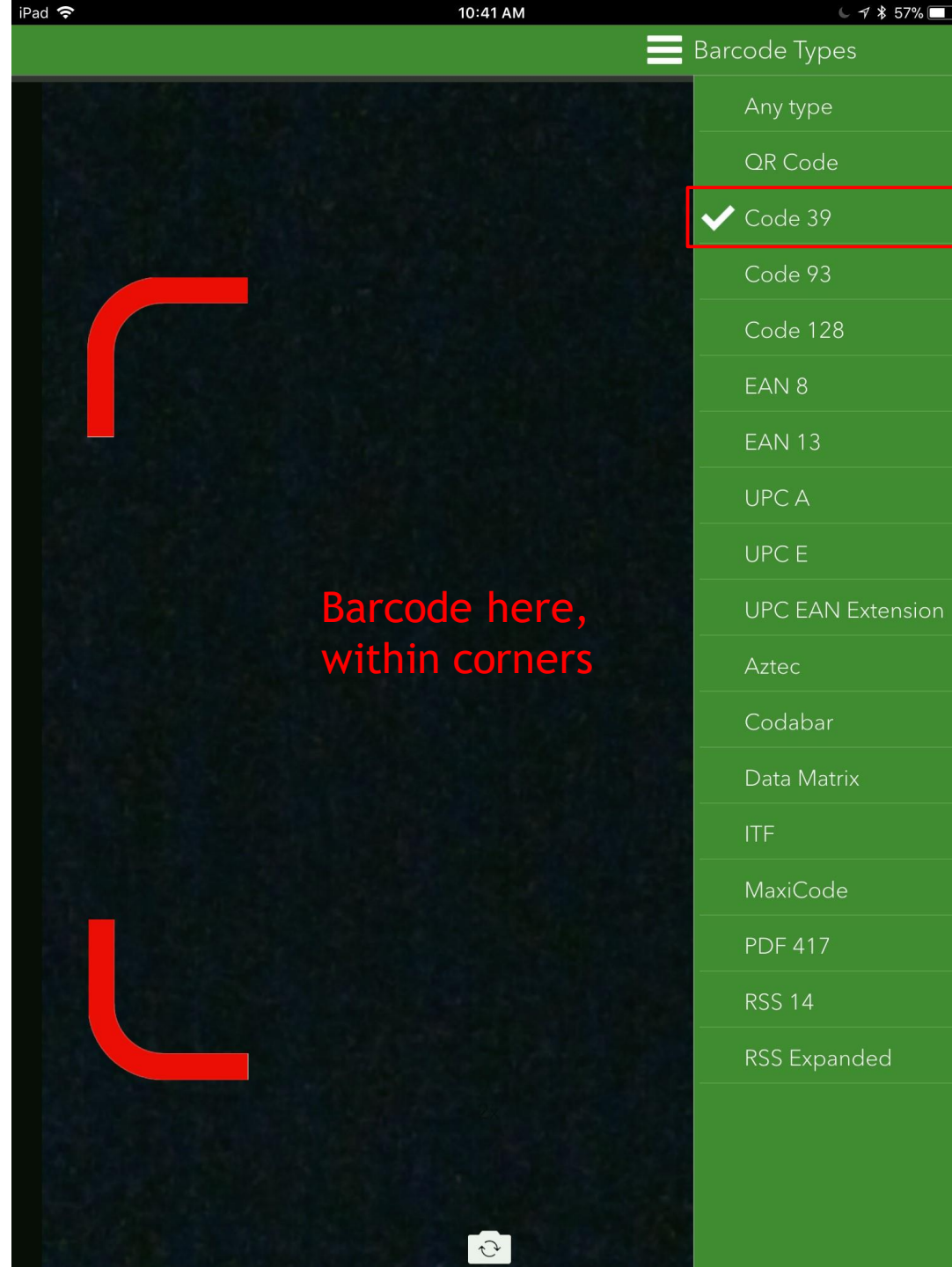
Sample Photo

Photos won't be included in email submissions or be pushed to the database. Support for photos is coming soon.

Barcodes: Survey123



Barcode here,
within corners



Barcode Types

Any type

QR Code

✓ Code 39

Code 93

Code 128

EAN 8

EAN 13

UPC A

UPC E

UPC EAN Extension

Aztec

Codabar

Data Matrix

ITF

MaxiCode

PDF 417

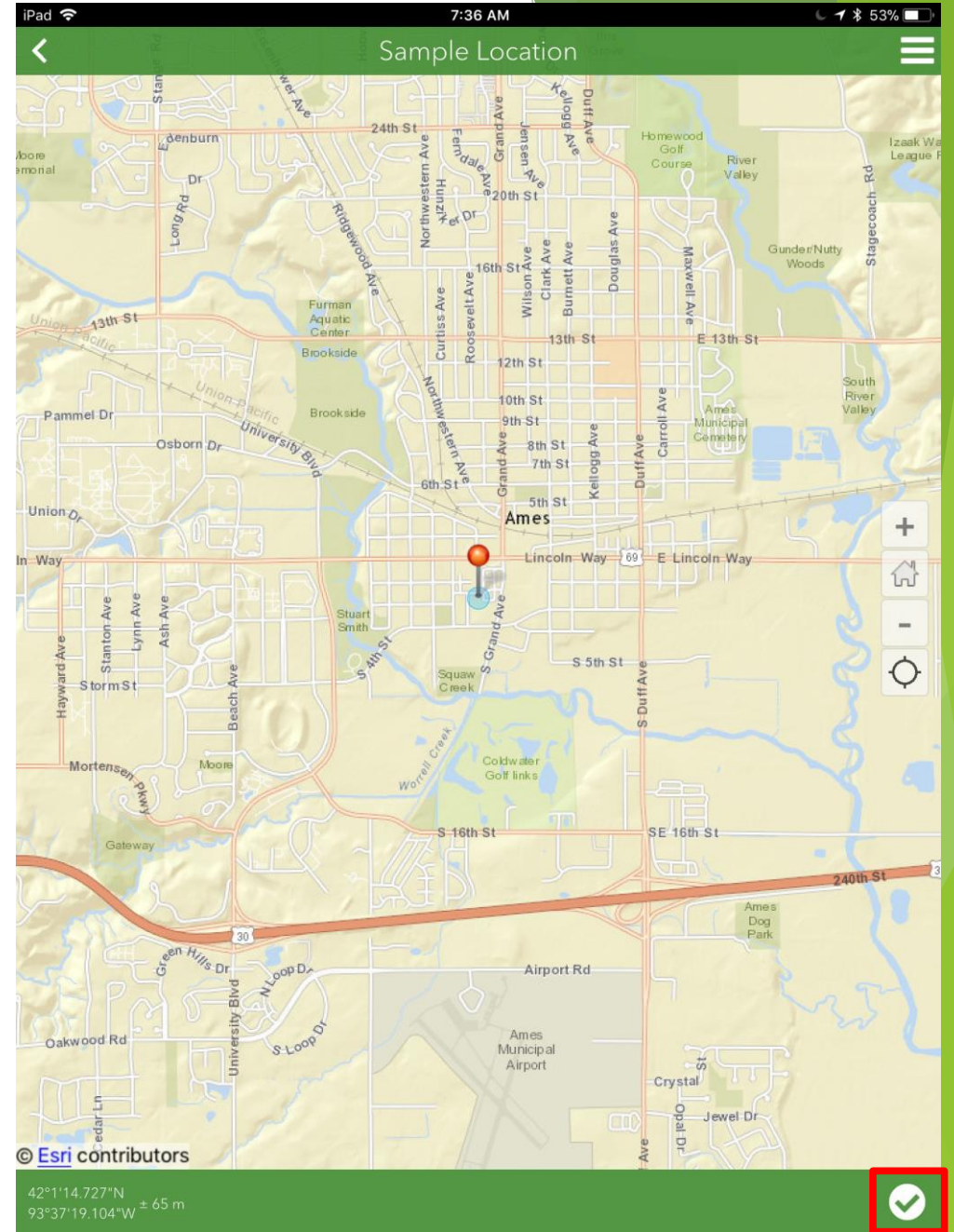
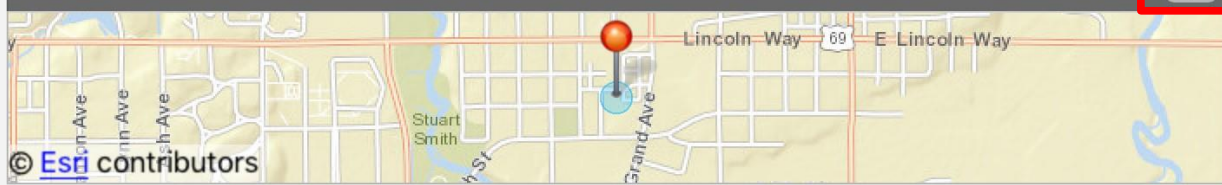
RSS 14

RSS Expanded

Confirm Geopoints

Sample Location *

42°1'N 93°37'W ± 65 m

























Working Offline

iPad 10:15 AM 47%

Download Surveys

Search

-  ADA Compliance - Inside
Updated 5/19/17 4:25 PM 
-  ADA Compliance - Outside
Updated 5/8/17 1:02 PM 
-  Agg_Lab_2
Updated 9/14/17 3:08 PM 
-  Agg_Lab_Version3
Updated 10/9/17 2:09 PM 
-  DONOTUSE_Form82097
Updated 5/22/17 2:49 PM 
-  dummy survey
Updated 10/18/17 10:32 AM 
-  Emergency Incident Notification (EIN)
Updated 11/18/16 3:35 PM 
-  FacilitiesAppTEST
Updated 12/13/17 12:37 PM 
-  Facility Condition Assessment
Updated 11/7/17 9:25 AM 
-  Facility Condition Assessment Sree Version
Updated 9/1/17 2:21 PM 
-  Flood Awareness
Updated 1/30/17 9:29 AM 

Output Form:

Form 820193 3-17 (Modified EVersion)

IDENTIFICATION OF SAMPLE FOR TEST

Central Lab No.:

Material: Field Cores

Barcode/Security ID#:

46598

Intended Use: Lab comparison

Senders Sample #:

FC-Surface-3

County: Polk

Contract ID: _____

Mix Design #:

1BD16-002,58-28H

Project: IM-035-4(161)87-13-77

Contractor: Grimes Asphalt

(Name)

DM

(Address)

Supplier: Grimes Asphalt

Source: _____

Producer: Grimes Asphalt

Brand: _____

Lot #./Heat #: _____

Location of Producing Plant: Off of Delaware Ave.

Quantity Represented: _____

Sampled by _____

(name)

(email address)

Date sampled 11/30/2017 13:33

Date Received: _____

Report to District Materials (Check appropriate box (es)): _____

Report to Residency (Write appropriate residency number):

Grimes

Report to Counties (Write appropriate count number): _____

Report to Others: Email Address(es) _____

Results need by Date: 11/30/2017 06:00

Additional Detailed Information: (For paint give analysis printed on container. For tile give grade specified, etc.)

Mix was laid 11-29-17 and tested 11-30-17.

" X " Sample Type

X	Verification
	Independent Assurance
	Project Info.
	Mix Design
	Dept. Info.
	Warehouse Stock

Coming Soon:

iPad 7:22 AM 55%

My Survey

PCC Plant Calibration Worksheet and Form 820917

Note: Circulation of air entraining, water reducing, and retarding admixtures is required PRIOR to use and shall be in accordance with current IowaDOT Specifications and/or Instructional Memorandums (IMs).

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Enter emails you wish to send this form to, separated by commas.

Type of Plant *
 Ready Mix PCC Paving

Type of Calibration *
 Calibration Check Initial Calibration Change in Material Source

General Information

Contractor/Producer: *

Plant Name:

Phone Number:

Plant Location: *

42°1'N 93°37'W ± 3000 m

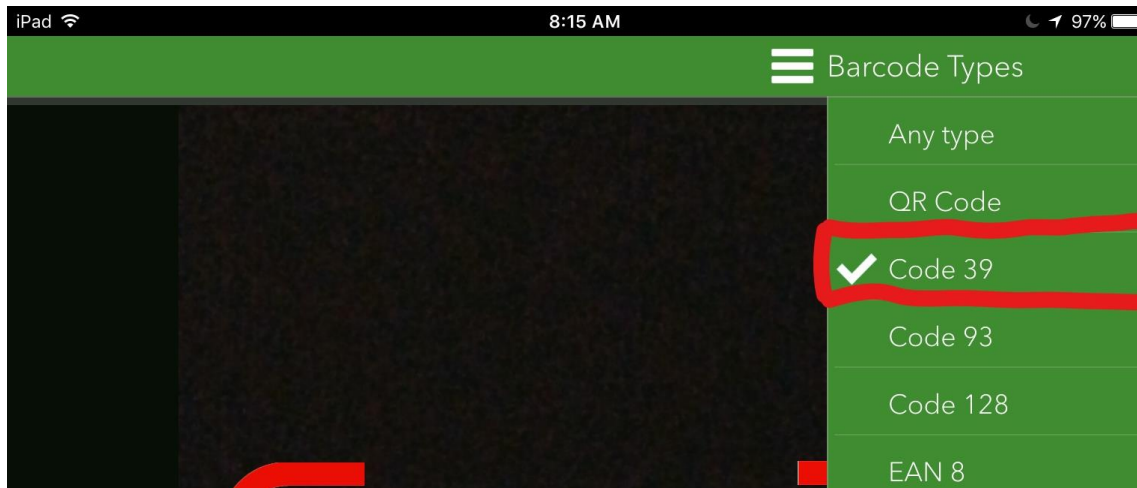
Under the Hood Survey123 Functions

The following slides are some of the functions used to build the intelligence into the form logic. A variety of functions are used - most in calculations field. Often using a work-around

- ▶ Barcodes
- ▶ If Statements
- ▶ Absolute Value (workaround)
- ▶ Hidden questions/relevance

Barcodes

	type	name	label	relevant	calculation
20	select_one	Box	Box ID #:	`\${SampleType} = '1'`	
21	text	BarcodeID	Barcode ID#:	`\${SampleType} = '1'`	`\${Barcode}`
22	barcode	Barcode	Barcode	`\${SampleType} = '1'`	



If Statements

```
if(${AggErrorNote3}<=${AggActualLoad3}*0.0010), "Yes", "No")
```

1	type	name	label	relevant	calculation	choice_1
2	note	note1	This survey is an example of			
3	note	note2	autopopulating another field with an if			
4	text	ConPer	statement. If the contact person is the same as			
5	select_one yes_no	SamePer	the first technician, populate			
6	text	Tech	Are the contact person and the technician the same person?			if(selected(\${SamePer}, 'yes'), \${ConPer}, '')

This survey is an example of autopopulating another field with an if statement.

If the contact person is the same as the first technician, populate technician name field with contact person's name, if no, leave blank.

Contact Person

Are the contact person and the technician the same person?

Yes

No

Technician

Absolute Value Workaround

calculation	choice filter	repeat_count	label::language1
<code>\${AggActualLoad1}-\${AggScaleReading1}</code>			
<code>string-length(\${AggDifference1})</code>			
<code>round(if(substr(\${AggDifference1},0,1)='- ', substr(\${AggDifference1},1,int(\${AggLength1})), \${AggDifference1}), 2)</code>			
<code>if(\${AggErrorNote1}<=(\${AggActualLoad1}*0.0010), "Yes", "No")</code>			

- ▶ First line - initial difference
- ▶ Second line - counts length
- ▶ Third line - says if there is a minus sign in first position, grab everything after it, if there is not grab everything from the first position, also rounds
- ▶ Fourth line - if new resulting variable from third line is less than or equal to another variable multiplied by 0.001 the answer is yes, if not, the result is no.

Hidden Questions/relevance

Type of Plant *

Ready Mix PCC Paving

Are drive-over ramps or suitable dump pits utilized? *

Yes No

Cannot submit survey if one is not utilized!

type	name	label	relevant
7	select_one PlantType	PlantType	Type of Plant
8	select_one yes_no	DumpPits	Are drive-over ramps or suitable dump pits utilized? \${PlantType} = 115
9	note	QuestionNo	Cannot submit survey if one is not utilized! \${DumpPits}='no'

Resources

- ▶ [Geonet.esri.com](https://geonet.esri.com)

- ▶ Discussions

- ▶ Questions

- ▶ Solutions

- ▶ [Github.com](https://github.com)

- ▶ Similar problems, may not always be an Esri product

Future Survey

- ▶ Lab Qualifications
- ▶ HMA Plant Calibrations
- ▶ Patching App access on Survey123





Questions?

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