



*Inspired by
Location*

National Alliance of Preservation Commissions

CRSurveyor Field Maps Deployment Solution

Louisiana Administrator Guide

March 2021

Geographic Information Services, Inc.
A Continental Mapping Company
2100 Riverchase Center, Suite 105
Birmingham, AL 35244
www.gisinc.com

Contents

Change Log.....	3
Overview.....	4
Understanding the Solution	4
Cultural Resource Database.....	4
Points or Polygons?	4
Domains	5
Subtypes.....	5
Relationships	5
Publish Hosted Feature Layer to Organizational AGO.....	6
Preparing Destination (Client ArcGIS Online) Site.....	6
Publishing Hosted Feature Layer to the Community AGO (ArcGIS Pro)	7
Prevent Deletion.....	8
Enable Editing and Editor Tracking	8
Downloading Hosted Feature Layer from AGO.....	9
Understanding ArcGIS Online Content.....	10
Hosted Feature Layers.....	10
Components of the NAPC Solution.....	10
Naming Conventions	10
Backing Up and Deleting.....	11
\Backups.....	11
\Marked for Deletion.....	11
How To: Configure Web Maps for Field Maps.....	11
Preparing Maps for Disconnected Editing.....	11
Offline, Sync and Editing Settings.....	12
Adding a Reference Layer Offline Download.....	12
Sharing Field Maps.....	13
Configuring Field Maps Webmap Fields and Popups	14
Web Map Bookmarks.....	16
Symbology.....	16
Attachments & Photos.....	18
Downloading/Exporting Data & Related Attachments.....	20
Creating Views.....	21
Collecting Data using ArcGIS Field Maps	23

Field Crew Requirements 23

Download the Field Maps Application 23

Configuring Field Maps App in AGOL..... 23

Collecting Data 25

Go Offline in Field Maps..... 27

 Offline Editing with Reference Layers 30

Web Map for Dashboard 30

Change Log

1/2020	Doreen Groth	Draft Version
2/2020	Emerson Chew	Updates from Pilot Test
2/2021	Slade Nunnery	Updates to Generic Version for all entities

Overview

The CRSurveyor Collector cultural resource survey tool is designed to help your organization survey cultural resources digitally. This solution allows a survey team to take phones or tablets in the field and accurately capture location and specific details about historic sites. The data is saved into a data structure that matches the National Park Service cultural resource standards and catalogs many National Register required fields. This data can be collected offline and 'synced' when the surveyor obtains connectivity.

The solution uses the Esri ArcGIS platform and was designed to collect field data using the ESRI Field Maps ArcGIS Application. The data and maps are stored in the Esri cloud-based ArcGIS Online platform. Your organization has licenses for ArcGIS Online to utilize the solution.

This document provides an overview of the modifications made and the deployment to your ArcGIS Online Organization.

Understanding the Solution

Cultural Resource Database

The Master Geodatabase was created in a joint effort between the National Alliance of Preservation Commissions (NAPC), the National Park Services (NPS), and GISinc and is meant to manage and maintain point and polygon features representing historic buildings.

Points or Polygons?

The goal is to provide a choice to a Community to collect in either point or polygon format. Both schemas are identical. Both Point and Polygon feature layers are available in the deployment.

Schema Change

The Point Master Geodatabase was downloaded from NAPC's ArcGIS Online Organization. Using ArcGIS Pro a schema change could be conducted based on your organizations request.

The following table lists the changes made to the Master Geodatabase Schema:

Action	(Table) Field	Requirement	Domain	Default Value
Add Field	(Buildings) County	Not Required	N/A	N/A
Add Field	(Buildings) Identification Number	Not Required	N/A	N/A
Add Field	(Structure) Elevated	Not Required	Yes, No, Unknown	N/A
Add Field	(Structure) Approximate Date of Elevation	Not Required	Pre-1800, 1800-1900, 1901-2000, 2001-Present, Unknown	N/A

Domains

Domains were modified in ArcGIS Pro from the Domains view based on the client's request and have been applied to the point feature and associated tables.

For more information: <https://pro.arcgis.com/en/pro-app/help/data/geodatabases/overview/create-modify-and-delete-domains.htm>

Subtypes

Subtypes and associated domains have been configured for the Cladding table – they can be accessed in Pro using the Subtypes view.

For more information: <https://pro.arcgis.com/en/pro-app/help/data/geodatabases/overview/an-overview-of-subtypes.htm>

Relationships

The *Building* point feature is related to a series of tables that hold additional information about the features. Relationships between the features and tables are based on **GlobalID** on the feature and another **GUID** field (**CR_ID**) on each related table.

Figure 1: Relationship Details

The image displays two screenshots from ArcGIS software illustrating a relationship between two layers: 'Buildings (PilotPoint)' and 'Chimney'.

Top Screenshot: Buildings (PilotPoint) Fields

Visible	Read Only	Field Name	Alias	Data Type	Allow NULL
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	OBJECTID	OBJECTID	Object ID	<input type="checkbox"/>
<input checked="" type="checkbox"/>	<input type="checkbox"/>	SHAPE	SHAPE	Geometry	<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	GlobalID	GlobalID	Global ID	<input type="checkbox"/>
<input checked="" type="checkbox"/>	<input type="checkbox"/>	RES_CAT	Resource Type	Text	<input type="checkbox"/>
<input checked="" type="checkbox"/>	<input type="checkbox"/>	ADDRESS	Address from Imported Data	Text	<input checked="" type="checkbox"/>

Relationship Details

Relationship Class	Buildings_Chimney
Type	Simple
Cardinality	One to many
Notification	None (no messages propagated)
Origin Name	Buildings
Origin Primary Key	GlobalID
Origin Foreign Key	CR_ID
Destination Name	Chimney

Bottom Screenshot: Chimney Fields

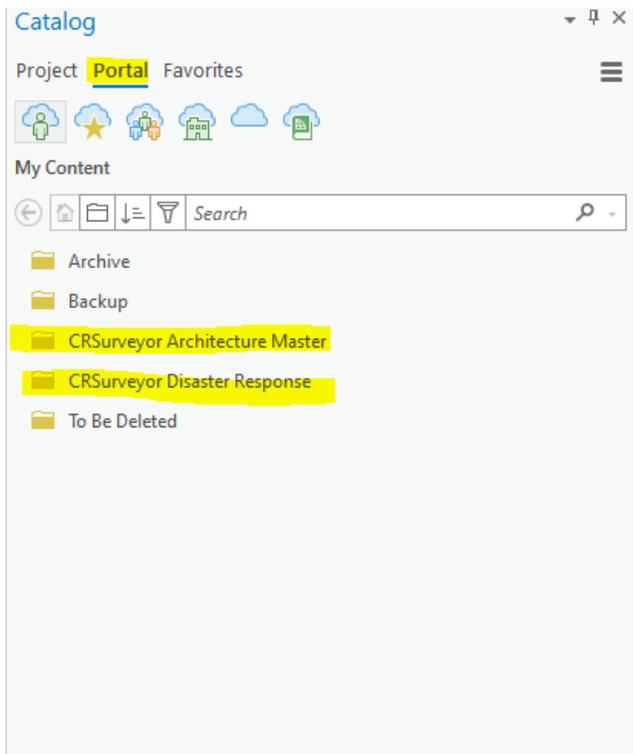
Field Name	Alias	Data Type	Allow NULL	Domain	Default	Length
OBJECTID		Object ID	<input type="checkbox"/>			
CHIM_MAT	Chimney Material	Text	<input checked="" type="checkbox"/>	dChimneyMaterials		25
CHIM_FEAT	Chimney Features	Text	<input checked="" type="checkbox"/>	dChimneyFeature		25
CHIM_ID	Chimney ID	Text	<input checked="" type="checkbox"/>			50
CHIM_TYPE	Chimney Location	Text	<input checked="" type="checkbox"/>	dChim_Type		50
CHIM_COUNT	Chimney Count	Short	<input checked="" type="checkbox"/>			
CHIM_LOS	Chimney Location	Text	<input checked="" type="checkbox"/>	dLocation		50
created_user	created_user	Text	<input checked="" type="checkbox"/>			255
created_date	created_date	Date	<input checked="" type="checkbox"/>			
last_edited_user	last_edited_user	Text	<input checked="" type="checkbox"/>			255
last_edited_date	last_edited_date	Date	<input checked="" type="checkbox"/>			
CHIM_DESC	Chimney/Flue Notes	Text	<input checked="" type="checkbox"/>			500
CR_ID	Cultural Resource ID	Guid	<input checked="" type="checkbox"/>			

Publish Hosted Feature Layer to Organizational AGO

Preparing Destination (Client ArcGIS Online) Site

A home folder for the solution was created to organizations AGO to hold the feature layers, web maps and dashboard.

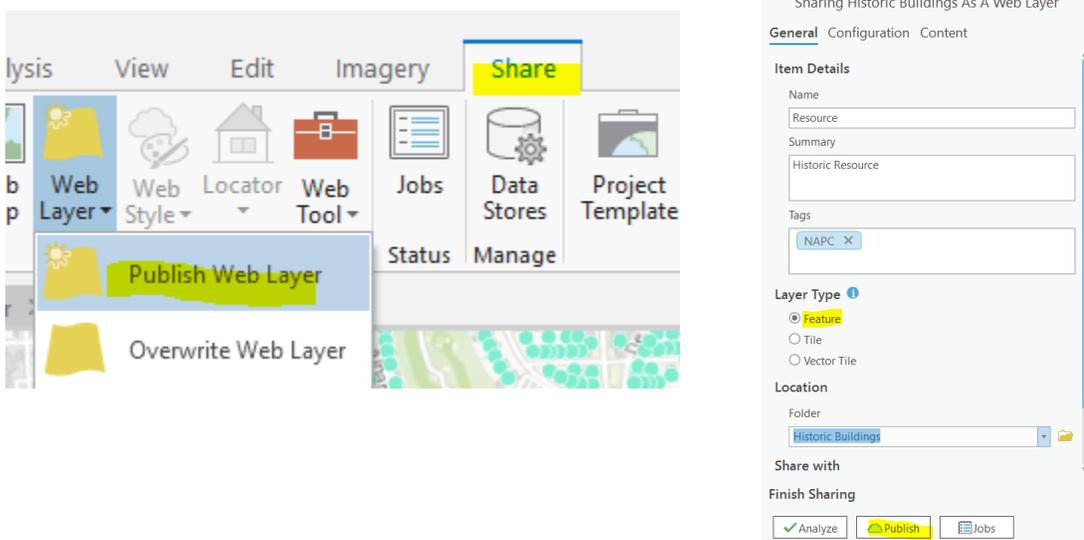
Figure 3: Home folder called Historic Buildings



Publishing Hosted Feature Layer to the Community AGO (ArcGIS Pro)

To successfully edit and collect data, a hosted feature layer for the historic buildings and related tables is needed. From the ArcGIS Pro Ribbon Select Share | Web Layer.

Figure 4: Publishing to AGO

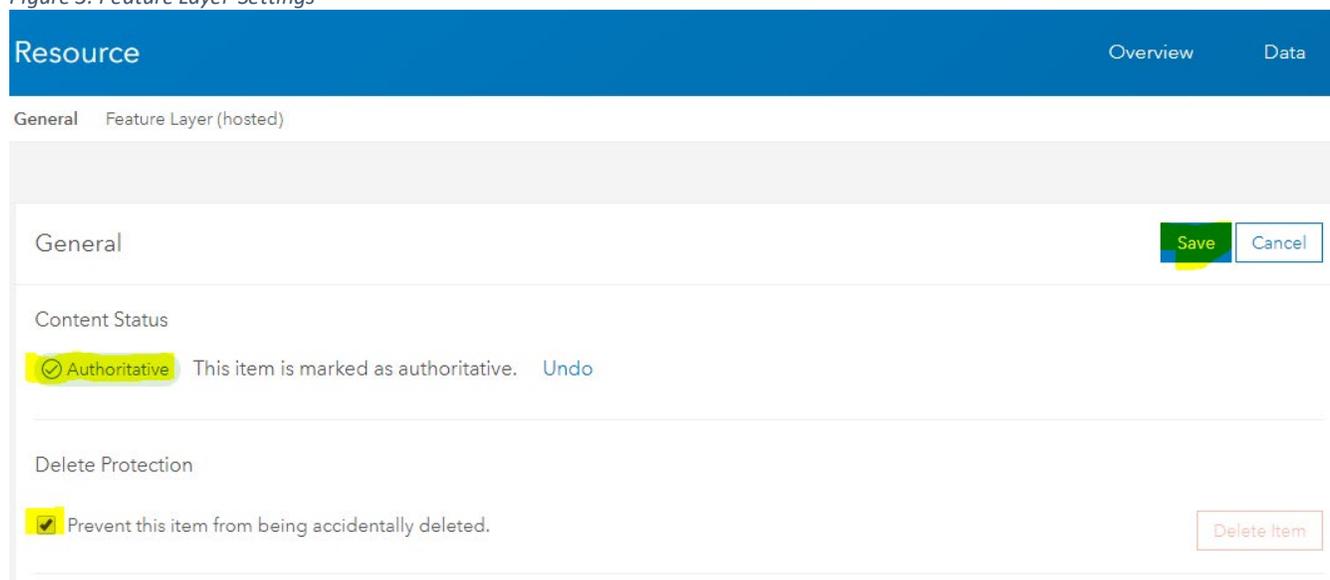


The Service was named “Resource” and published to the Historic buildings folder.

Prevent Deletion

We checked “Prevent this item from being accidentally deleted.” In the settings and marked the status for the hosted feature as authoritative.

Figure 3: Feature Layer Settings



The screenshot shows the 'Resource' settings page for a 'Feature Layer (hosted)'. The 'General' tab is active, and the 'Content Status' is set to 'Authoritative'. The 'Delete Protection' checkbox is checked, indicating that the item is protected from accidental deletion. There are 'Save' and 'Cancel' buttons at the top right of the settings panel.

Enable Editing and Editor Tracking

Feature Layer (hosted)

Editing

- Enable editing.
- Keep track of created and updated features.
- Keep track of who created and last updated features.
- Enable Sync (required for offline use and collaboration).

• Who can edit features?

Share the layer to specific groups of people, the organization or publicly via the Share button on the Overview tab. This layer is not shared.

• What kind of editing is allowed?

- Add, update, and delete features
- Add and update features
- Add features
- Update features
- Update attributes only

• What features can editors see?

- Editors can see all features
- Editors can only see their own features (requires tracking)
- Editors can't see any features, even those they add

Under the setting of the hosted feature layer editing was enabled as well as editor tracking. Capturing this information adds a total of 4 additional fields to the hosted feature layer and all related tables. The editor's name and the date are captured automatically - therefor it is best to hide those field in the Field Maps Web Map.

Downloading Hosted Feature Layer from AGO

In the event the hosted feature layer needs to be exported from AGO, the following steps should be taken to ensure the attachments and all related tables come through. Please NOTE: If this file geodatabase needs to overwrite the existing hosted feature layer, take great caution. In some events overwriting the hosted feature layer can lead to broken related tables and popups. Proceed with caution if the need to overwrite arises.

1. Navigate to the authoritative Hosted Feature Layer
2. In the overview section select Export Data | Export to FGDB

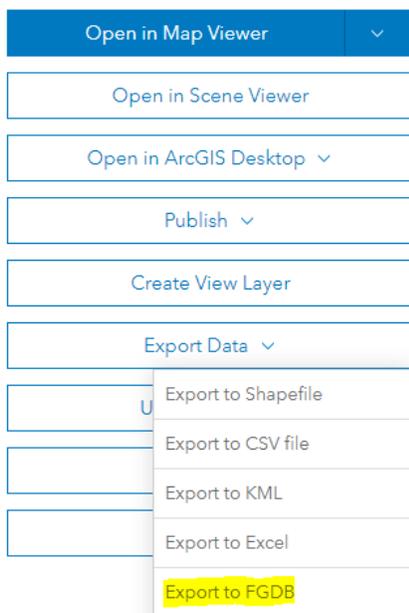


Figure 2 Export to File Geodatabase

3. Give the File Geodatabase a name and export it. This will produce a new item in your Content—a File Geodatabase.

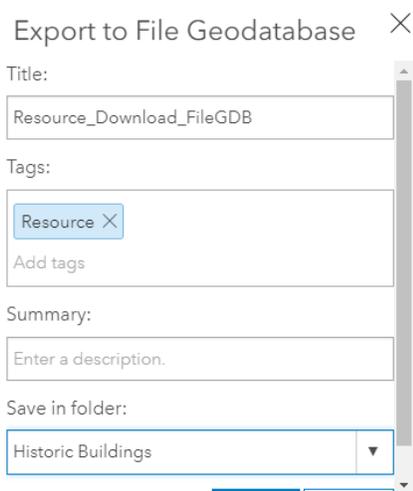


Figure 3. Export to File Geodatabase

4. After exporting select the File Geodatabase in AGO and download.
5. This will bring the file geodatabase down to your local workstation.
6. Attachments and relationships will persist in the File GDB.

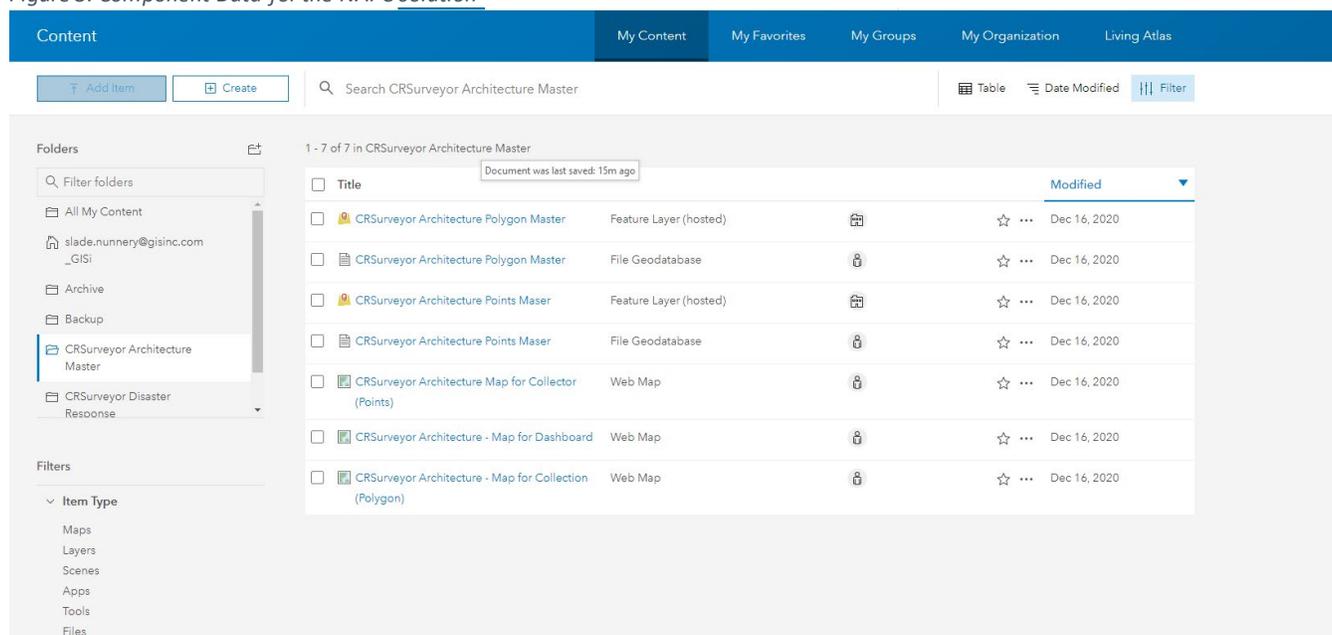
Understanding ArcGIS Online Content

Hosted Feature Layers

The data for this solution will be hosted in your organizations ArcGIS Online account. The data will be managed by AGO.

More information on Hosted Feature layers: <https://doc.arcgis.com/en/arcgis-online/manage-data/hosted-web-layers.htm>

Figure 3: Component Data for the NAPC solution



The screenshot shows the ArcGIS Online interface for a folder named "CRSurveyor Architecture Master". The interface includes a navigation bar with "Content", "My Content", "My Favorites", "My Groups", "My Organization", and "Living Atlas". Below the navigation bar are buttons for "Add Item" and "Create", and a search bar containing "Search CRSurveyor Architecture Master". The main content area displays a list of items within the folder, with a "Modified" column showing the date "Dec 16, 2020" for all items. A notification at the top of the list states "Document was last saved: 15m ago".

Title	Type	Modified
CRSurveyor Architecture Polygon Master	Feature Layer (hosted)	Dec 16, 2020
CRSurveyor Architecture Polygon Master	File Geodatabase	Dec 16, 2020
CRSurveyor Architecture Points Maser	Feature Layer (hosted)	Dec 16, 2020
CRSurveyor Architecture Points Maser	File Geodatabase	Dec 16, 2020
CRSurveyor Architecture Map for Collector (Points)	Web Map	Dec 16, 2020
CRSurveyor Architecture - Map for Dashboard	Web Map	Dec 16, 2020
CRSurveyor Architecture - Map for Collection (Polygon)	Web Map	Dec 16, 2020

Components of the NAPC Solution

The CRSurveyor Architecture Master and CRSurveyor Disaster Response folders holds all the components of the NAPC solution. Including the hosted feature service, maps for ArcGIS Field Maps and Dashboard for ArcGIS. The web maps are the basis for the Field Maps Application and the dashboard and hold both the Resource feature layer, the related tables (chimneys, fences, cladding, etc) and a base map. To ensure access to the application in the Esri Field Maps mobile application, all components must be shared to a group of which the user is a member.

Naming Conventions

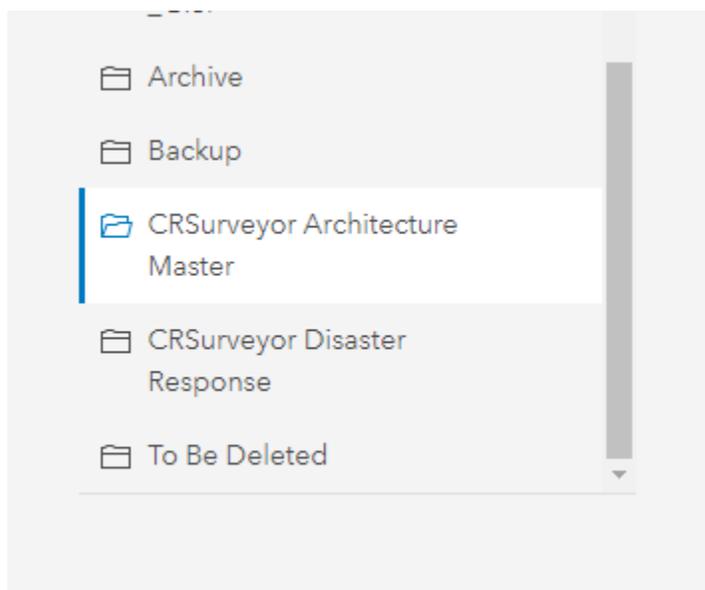
We used the following best practice:

- Use short but meaningful names.
- Do not rely on the folder to identify items. Just because the map is in the Field Maps folder does not mean it won't be moved some day. Include all meaningful information in the item name.

- There are multiple web maps in each folder. Each serves a different purpose and has a different configuration. It is best practice to always include the destination of your web map in the name, so it is clear which application is using that web map:
 - • Dashboard Map – consumed by the dashboard
 - • Field Maps Map – consumed by Field Maps

Backing Up and Deleting

Other folders have been created for content backup and To Be Deleted. It is very important to keep content organized as you maintain the project.



Move items to To Be Deleted and Backups as you go.

\Backups

It is highly recommended to create a new backup anytime you make changes to the Web Map.

- Do so after you verify it is working.
- Backups are created by “Save As”

\Marked for Deletion

Always move items to **\To Be Deleted** rather than deleting so that you can verify they are truly no longer needed.

How To: Configure Web Maps for Field Maps

Preparing Maps for Disconnected Editing

If your field crews will not have internet or wifi, they may want to utilize the “offline” function of ArcGIS Field Maps. This requires a few key steps to authoring your map for offline use to allow data collectors to view, collect, and update features when disconnected from the Internet. Once reconnected, data collectors can synchronize with your map, send any updates they have, and get map updates from other collectors. In Field Maps, an offline option appears on maps authored to meet the offline requirements. Data collectors can go offline with maps hosted in your ArcGIS organization if they are configured for offline use.

You have the following two options for taking a map offline. Some apps may support one or the other, or both.

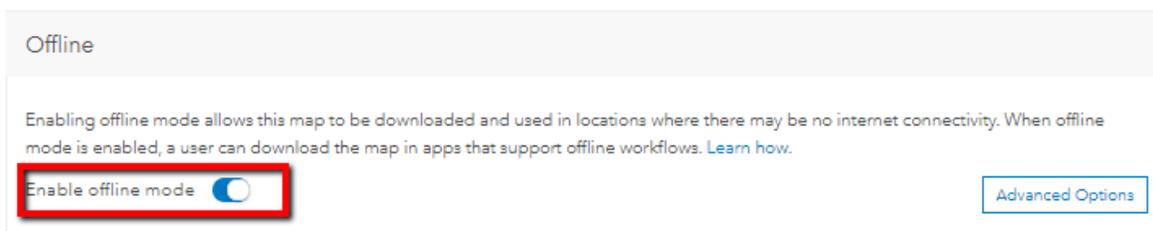
- On demand—Field users can download any portion of the map whenever they need it. The field user specifies the area they want to take offline along with the details of the basemap required.
- [Create map areas](#)—Map authors can create map areas to package data for specific areas ahead of time. Map areas speed up and simplify the map download process for field workers.

Key steps are outlined in the Esri help documents:

<https://doc.arcgis.com/en/field-maps/ios/help/prepare-maps-for-download.htm>

<https://www.esri.com/content/dam/esrisites/en-us/media/pdf/implementation-guides/take-your-web-maps-offline-field-maps.pdf>

Offline, Sync and Editing Settings



Adding a Reference Layer Offline Download

A referenced layer from ArcGIS Server Manager can be added to the Field Maps application and downloaded using the following steps.

You can enable the following **types of map layers** for offline use:

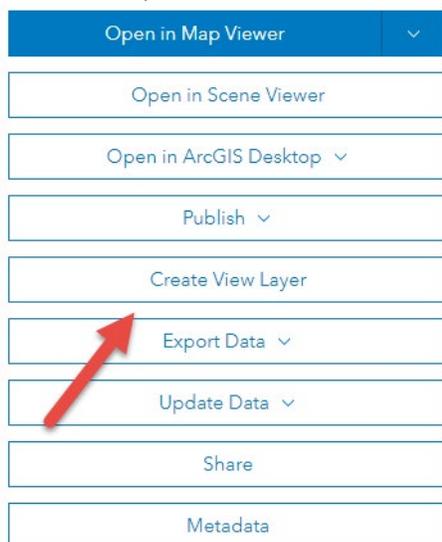
- **Cached ArcGIS Server map services** (from ArcGIS Server 10.3 or later) and cached ArcGIS Server image services (from ArcGIS Server 10.5.1 or later)—Check the Allow clients to export cache tiles check box in Advanced Settings. See Available map and image cache properties in the ArcGIS Server help for more information.
- **ArcGIS Server feature services** (from ArcGIS Server 10.3 or later or, if using map areas, 10.6.1 or later)—Choose the Query and Sync options to enable offline use. If you want the data to be editable, also choose any combination of Create, Delete, and Update.
- **Hosted feature layers**—Check the Enable Sync check box on the Settings tab of the item page.
- **Hosted tile layers**—Check the Allow this layer to be downloaded and used in an offline map check box on the Settings tab of the item page.

- To determine whether vector hosted tile layers can be used offline in a specific ArcGIS app, see the app documentation.
- **NOTE – map services cannot be downloaded to go offline, they must match the above criteria**

Sharing Field Maps

NAPC expressed the desire to share data with certain contractors or surveyors. For example, Surveyor A would not be able to see or collect data that Surveyor B would be collecting. We can accomplish this with the use of Hosted Feature Layer Views and Groups.

1. First, create the necessary groups for each surveyor/group/contractor. Invite the users who would need access to the group.
2. Navigate to the authoritative Hosted Feature Layer. In this case, it would be “Resource”. From the list of options in the Overview section, select Create View Layer



3. Give the Hosted View Layer a name that makes sense and lines up with the group name.
4. Share the Hosted View Layer with the appropriate group.
5. We now need to ensure only edits that belong to the appropriate person/group are visible. Navigate to the Hosted View Layer and select Visualization.



6. Select the Filter Button.
7. For the Filter, set the Editor to equal the appropriate person. This may require more than one set of expressions if there are multiple editors that belong to one group.

Filter: CRSSurveyor Architecture Points Maser_1

Create

+ Add another expression Add a set

Display features in the layer that match the following expression

Creator is test

Value Field Unique

Ask for values

APPLY FILTER APPLY FILTER AND ZOOM TO CLOSE

8. This will ensure that this hosted feature layer only shows up to the people who need to see it.
9. Create a web map with the hosted feature layer view in it.
10. Share that web map with the appropriate group.
11. Test in Field Maps to ensure edits are being shared correctly.

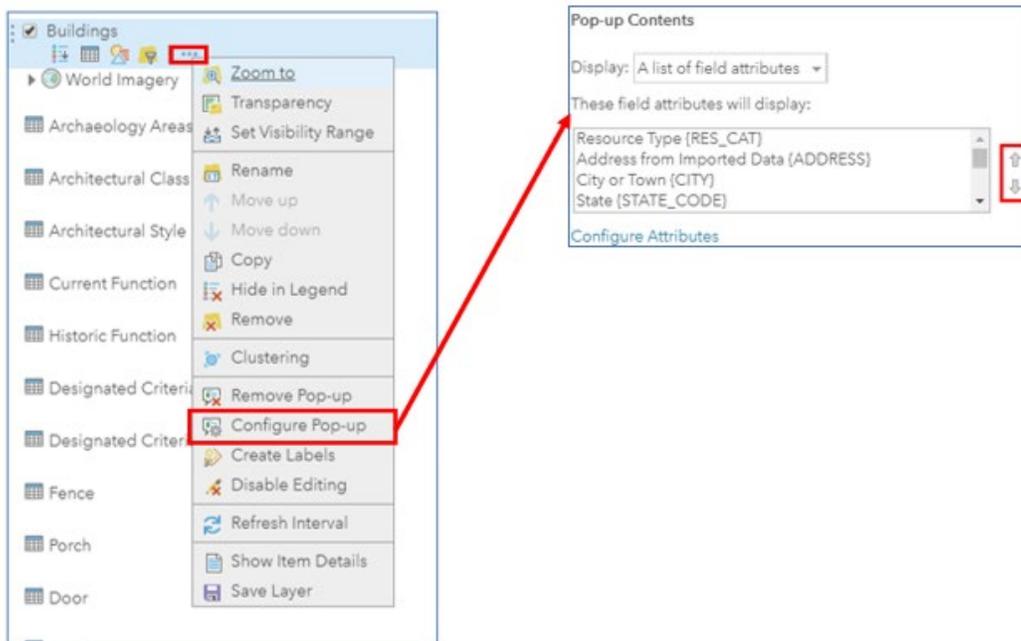
Configuring Field Maps Webmap Fields and Popups

Various components of a Field Maps configuration can be modified in ArcGIS Online including feature symbology, default zoom levels and bookmarks, and most importantly, feature and table pop-ups.

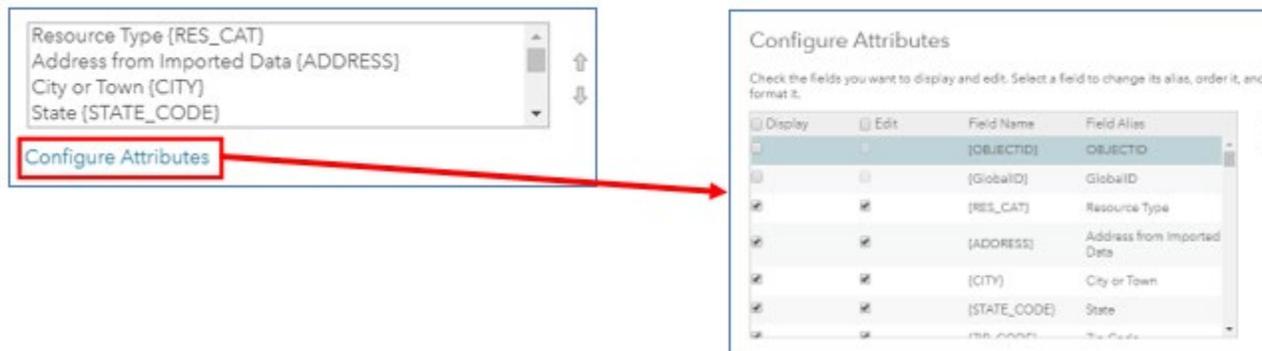
Feature and table Pop-ups configured in AGO or Portal determine what the end user sees in Field Maps, so maintaining these pop-ups is critical to maximizing the end user experience.

More information: <https://doc.arcgis.com/en/arcgis-online/create-maps/configure-pop-ups.htm>

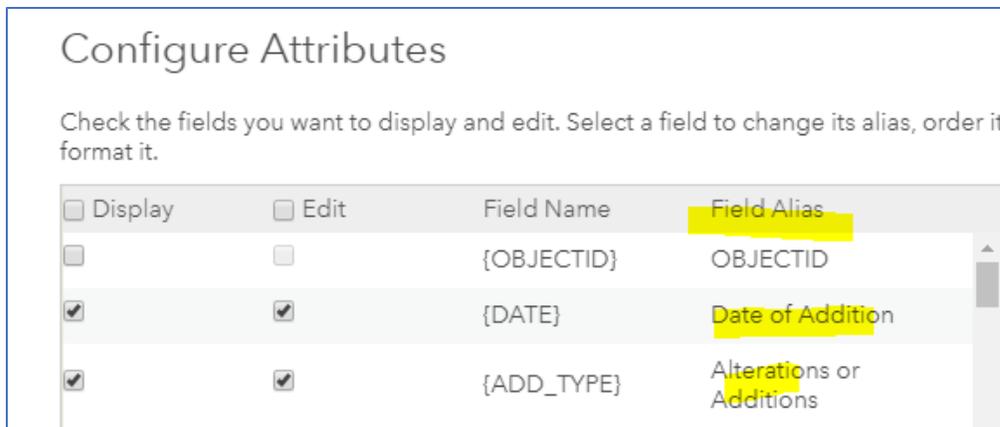
- Change the **order of fields** in the Configure Pop-up menu; this changes the order of fields in Field Maps
 - Use the



Configure Attributes menu to change field visibility and editability:



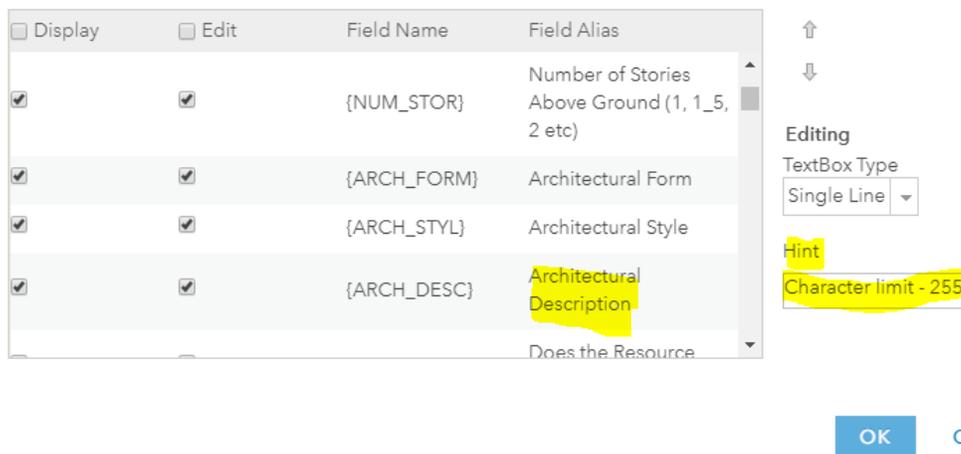
- While in the Configure Attributes Dialogue, the **Field Alias** can be configured. The Field Alias does not alter the underlying schema. It simply determines what field name the user will see in the field. This can be customized for each community.



- Hints that provide additional information for the surveyor in the Field Maps app can be set here.

Configure Attributes

Check the fields you want to display and edit. Select a field to change its alias, order it, and format it.



Web Map Bookmarks

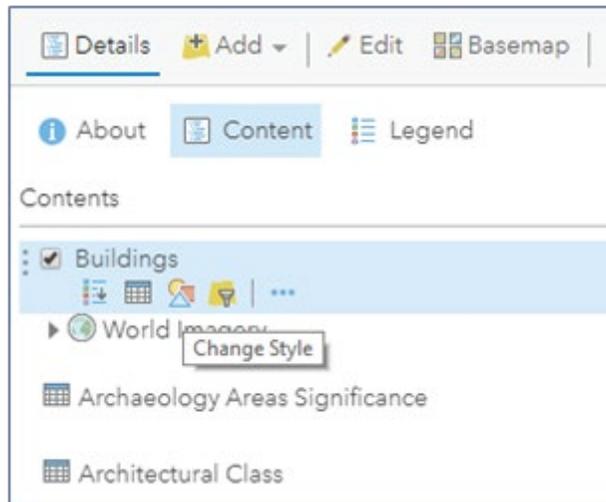
Bookmarks can be created and saved in the Web Maps. These will be available in the corresponding Field Maps. Bookmarks can be a huge time saver for field users. Think about defining areas for field collection and creating bookmarks in the Field Maps web map.

Symbology

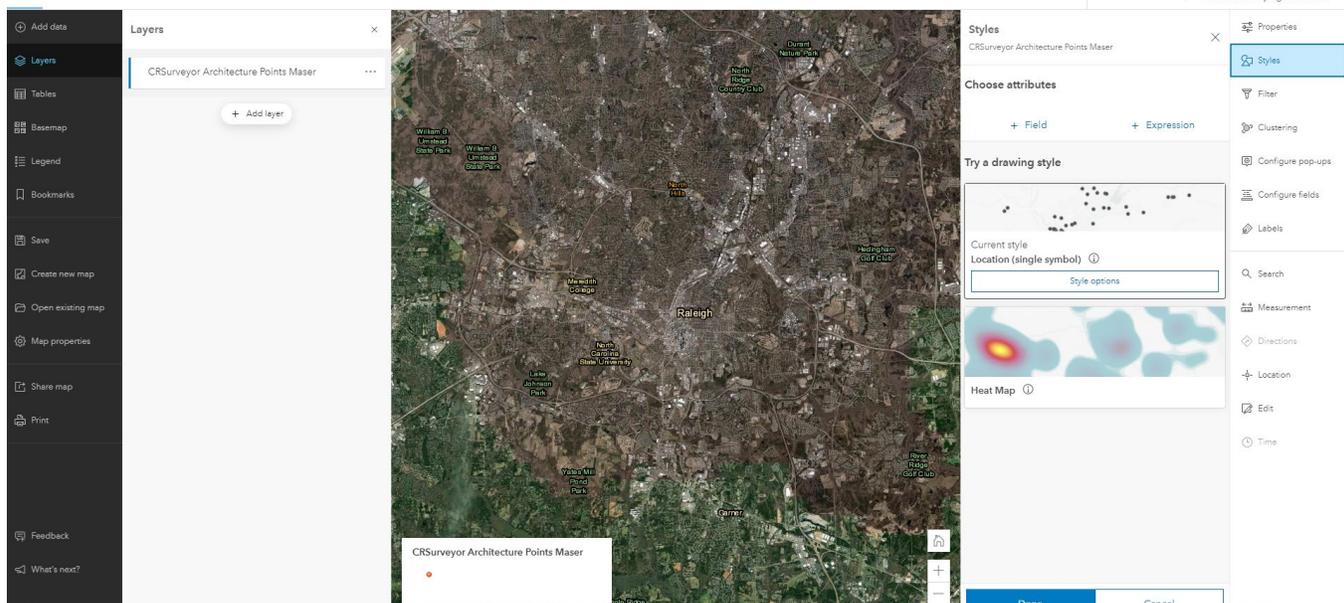
Using the Change Style dialog in ArcGIS Online or Portal, administrators can modify the appearance of the points collected in the field. Consider your basemap when picking your symbol. Use simple symbols and ensure contrast with the background.

More information: <https://doc.arcgis.com/en/arcgis-online/create-maps/change-style.htm>

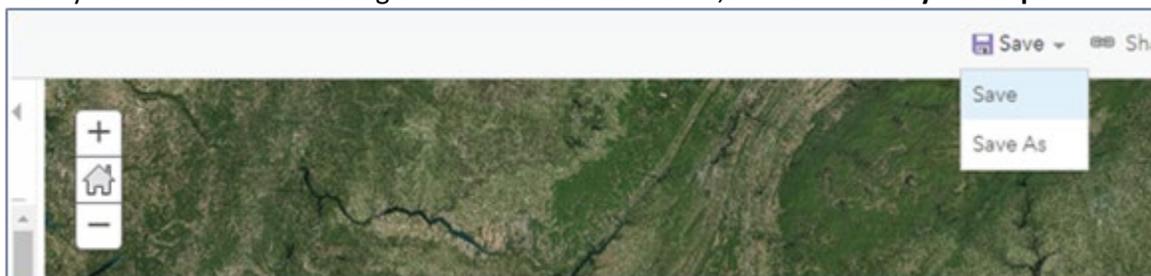
1. For Web Map View Classic, Click the Change Style button



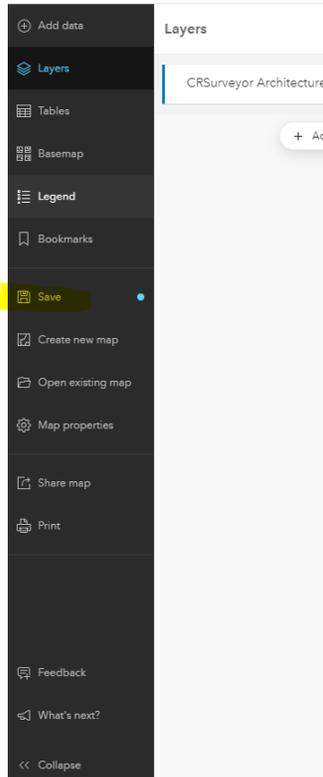
2. For Web Map Viewer Beta, Select Style from the right side panel after selecting layers on the left.



3. Once you're satisfied with changes to all features and tables, be sure to save your map.



4. Below is an example of where to save within Web Map Viewer Beta.



5. Verify the changes in Field Maps:
6. Open the Field Maps Application on a mobile device and choose the map you wish to view (Maps in Field Maps will have the same name as the shared maps in AGO) and verify your changes.

Attachments & Photos

Attachments (photos) are supported in Field Maps in both feature layers and related tables.

1. Enable / Disable Attachments in the feature layer's Details section:

Layers

Resource

 Open In ▾
  Export To ▾
  Time Settings
  **Disable Attachments**
 Service URL
  Metadata

Tables

Additions

 Open In ▾
  Export To ▾
  **Enable Attachments**
 Service URL
  Metadata

Archaeology_Areas_Significance

 Open In ▾
  Export To ▾
  Enable Attachments
  Service URL
  Metadata

- Then make attachments visible by checking the box next to 'Show feature attachments as links' in the feature layer's Configure Pop-up dialog:



- If enabled, attachments are always visible on related tables.

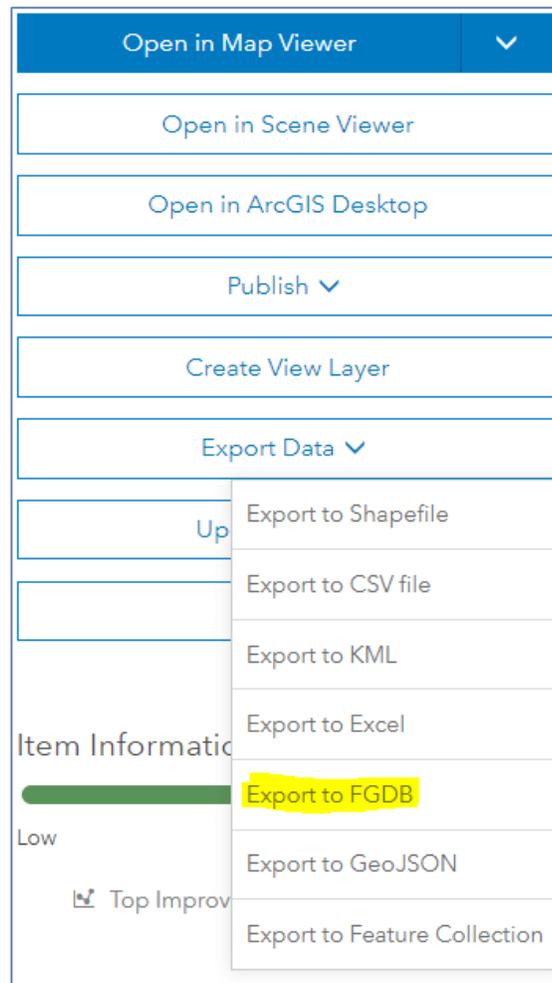
Downloading/Exporting Data & Related Attachments

***Please Note** that exporting data to FGDB will keep any existing relationships between features and related tables.

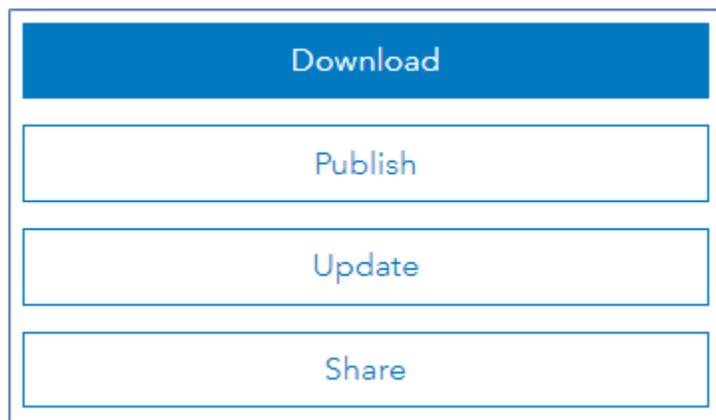
Uploading and overwriting the hosted FGDB can impact related tables and table order which may break the web map and related data. In situations where it is necessary to download data from ArcGIS Online/Portal, it will be necessary to Append the data to the original FGDB in ArcGIS Pro and re-publish.

1. Download data from an ArcGIS Online/Portal feature layer using **Export Data** [Symbol] **Export to FGDB**

Downloading the full FGDB will maintain all related tables and attachments in the downloaded data.



2. Once the FGDB is created, click Download.



Creating Views

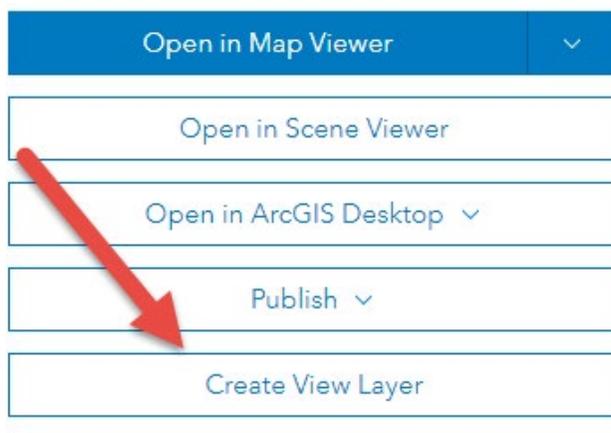
ArcGIS Online Hosted Views are useful when a different view of the data represented by a hosted feature layer is needed. This could be in the form of editor settings, styles or filters. Once you have a view, you can define which features or fields are available in the hosted feature layer view and share the view to groups whose members need access to that view of the data.

When you create a feature layer view, a new hosted feature layer item is added to Content. This new layer is a view of the data in the hosted feature layer, which means updates made to the data appear in the hosted feature layer and all of its hosted feature layer views. However, since the view is a separate layer, you can change properties and settings on this item separately from the hosted feature layer from which it is created. For example, you can allow members of your organization to edit the hosted feature layer but share a read-only feature layer view with the public.

Only the owner of a hosted feature layer can create a hosted feature layer view from the original layer. This is different than copying a layer, which can be done by non-owners and even public users.

In the below example, a separate view was needed to allow contractors to only see their data. To achieve this a hosted view was needed.

1. Select the Primary Hosted Feature Layer and pull up the item details.
2. Select Create View Layer, while in the Overview Tab



3. Give the View a title, tags as well as the location in which to save the new view.

4. **IMPORTANT:** Views inherit fields, schema, etc. from the primary hosted layer, but do not have editing or sync applied by default. To turn on, select the view and pull up the item details. Select Settings | and enable the following items:

a. **Enable Editing**

b. **Enable Sync which allows for disconnected editing.**

Enable Sync (required for offline use and collaboration).

- Who can edit features?
Share the layer to specific groups of people, the organization or public shared with: [Lake Charles Harvey Grant](#)
- What kind of editing is allowed?
 - Add
 - Delete
 - Update
 - Attributes and geometry
 - Attributes only

5. While making these changes, what kind of editing is allowed can also be altered to allow fine-grain tuning of who and what can be edited.

6. After the changes are made, save the Hosted View Layer.

7. Create a web map and add the view to the map. Be sure to share the hosted view layer and web map to the appropriate group. If a certain contractor is the only person who needs to view/edit, create a new group, and share the map and hosted view layer. Invite the contractor to the group.

8. To ensure the contractor only sees their edits create a filter that excludes all edits outside of the contractor editor.

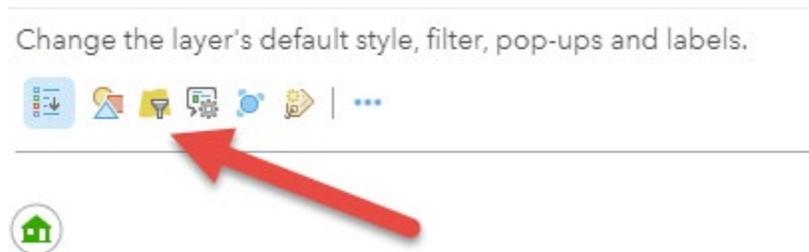
a. Navigate to the view layer

b. Select the Visualization Tab which will open a map similar to the look and feel of a web map.

c. Select the Filter button and apply the filter to limit the data shown.

d. Save As New Layer.

e. This layer will now have a permanent filter applied.



Filter: Resource_Lake Charles

View | Edit

Editor is 'shahn_cei'

REMOVE FILTER | CLOSE

9. This can also be accomplished in the web map by applying the filter to the layer in the Map Table of Contents. This filter will reside in the web map only –not at the hosted feature layer view.
10. Finally, ensure the contractor can edit successfully and deploy.

Collecting Data using ArcGIS Field Maps

Field Crew Requirements

- Named user account in ArcGIS Online or Portal with Edit level access
- A download of native mobile app ArcGIS Field Maps

Download the Field Maps Application

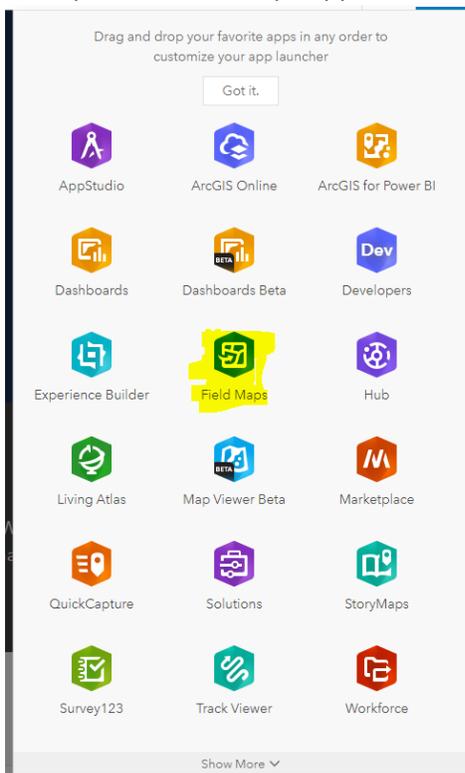
The ArcGIS Field Maps App is available from most mobile application stores:

(<https://www.apple.com/ios/app-store/>; <https://play.google.com/store/apps/>)

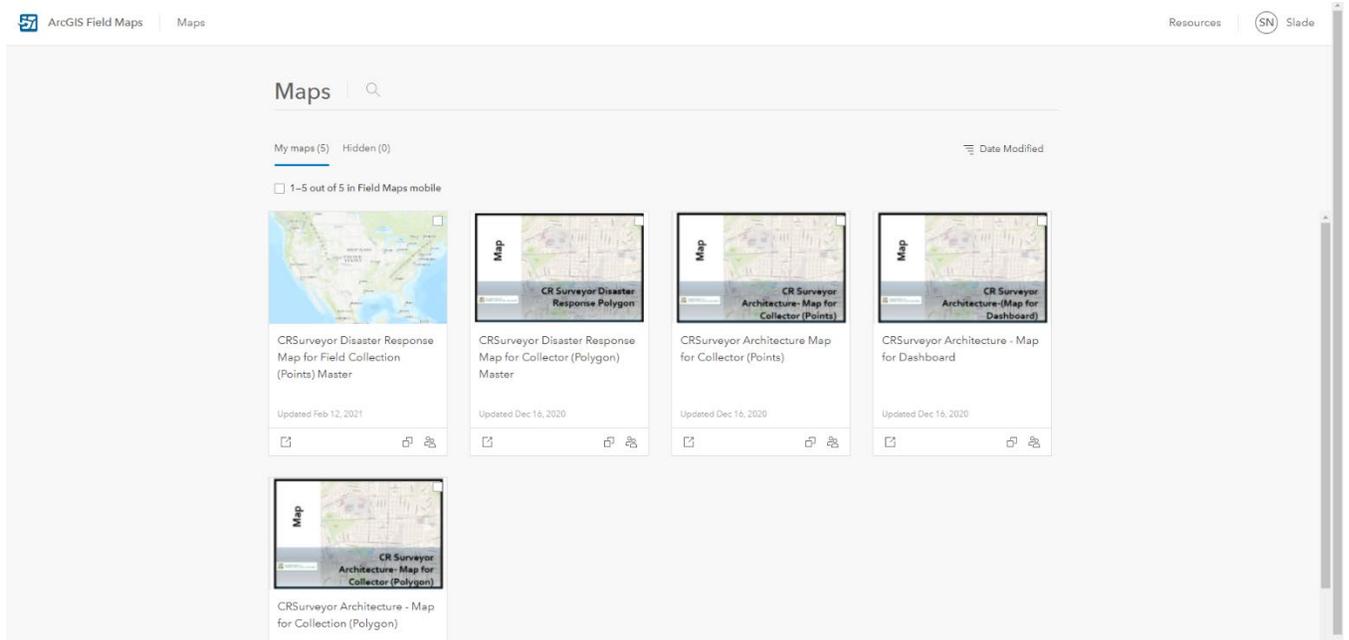
Download the application and log in to your ArcGIS account (either ArcGIS Online or Enterprise ArcGIS for Portal sites).

Configuring Field Maps App in AGOL

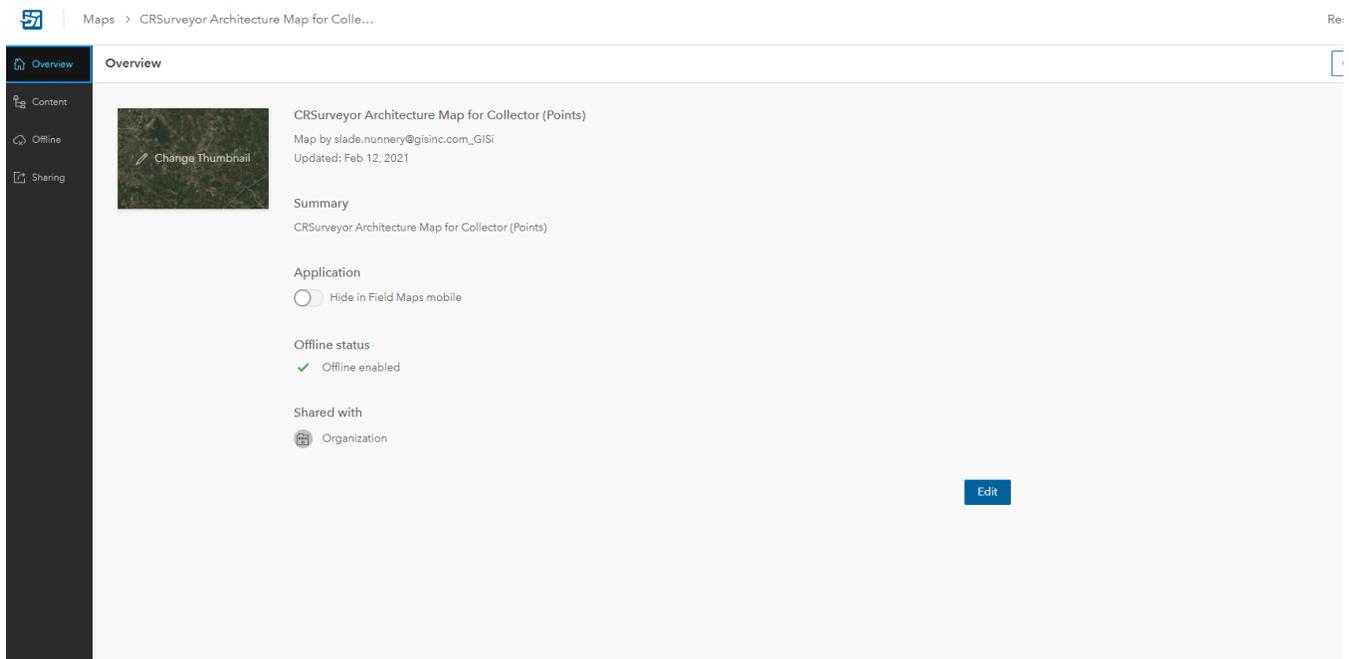
1. Open the Field Maps App from the App button in AGOL

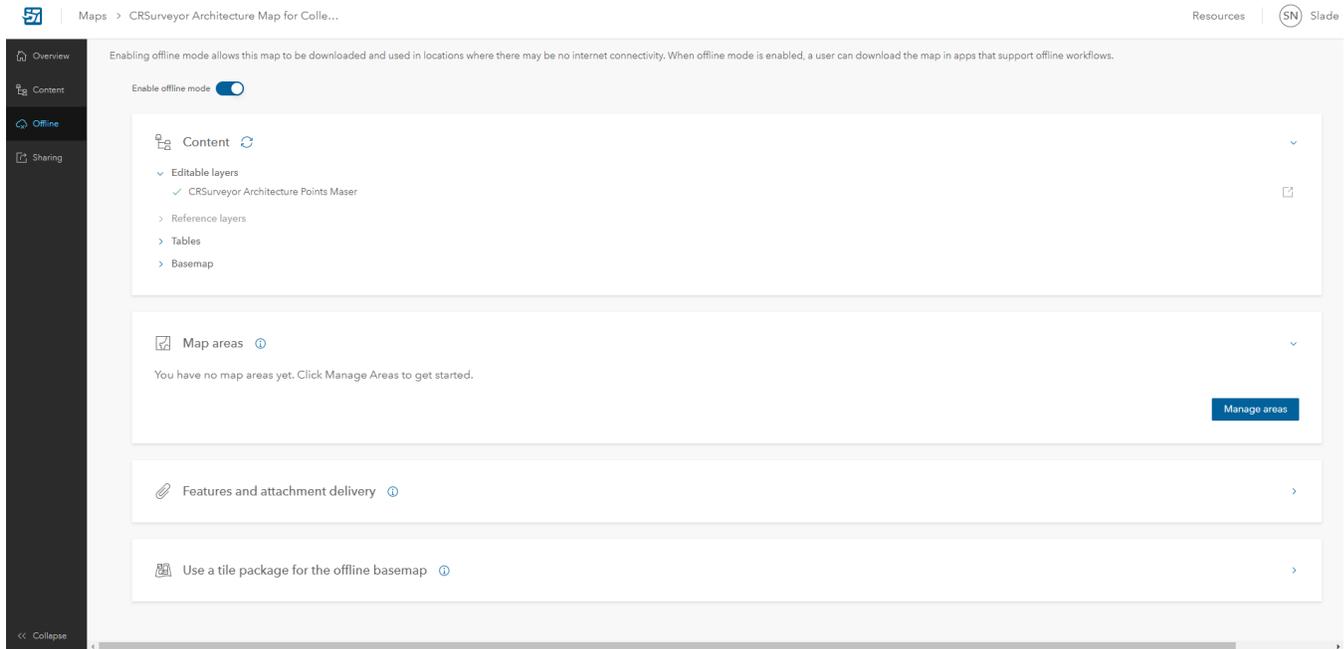


2. Select the web map you would like to configure from the map gallery



3. Once you've selected the map, you can begin to adjust map settings, configure for offline use, and control sharing.

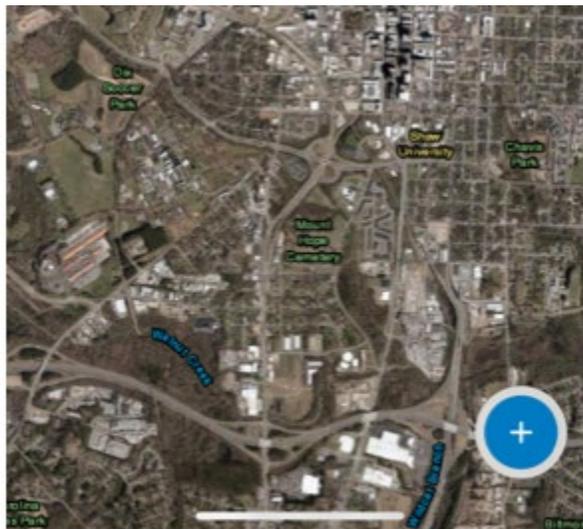




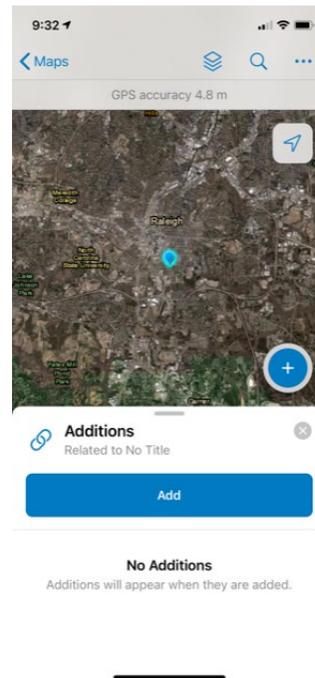
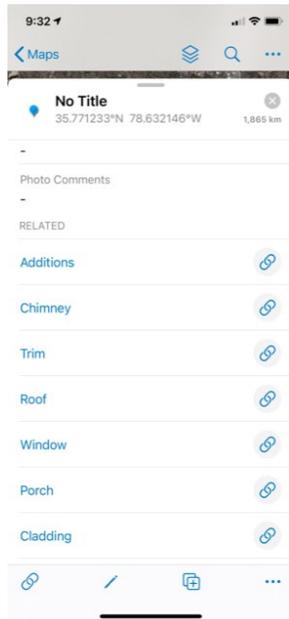
Collecting Data

More information <https://www.esri.com/en-us/arcgis/products/arcgis-field-maps/overview>

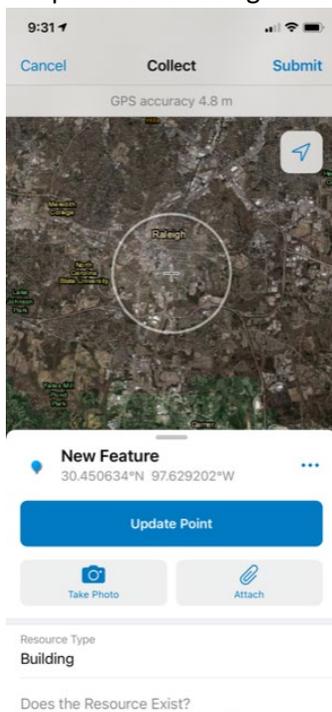
1. Open the map in Esri Field Maps
2. Related Tables are present in the map which need updating along with the point feature layer.
3. To collect point features, select the “+” icon which will drop a point based on your spatial location.



4. After the point has been placed, fill out the respective information in the table below and submit. Scroll down to expose the related tables.
5. Find the appropriate table and select the connected chain symbol. This will bring up another dialogue in which you can add further information about the survey point.

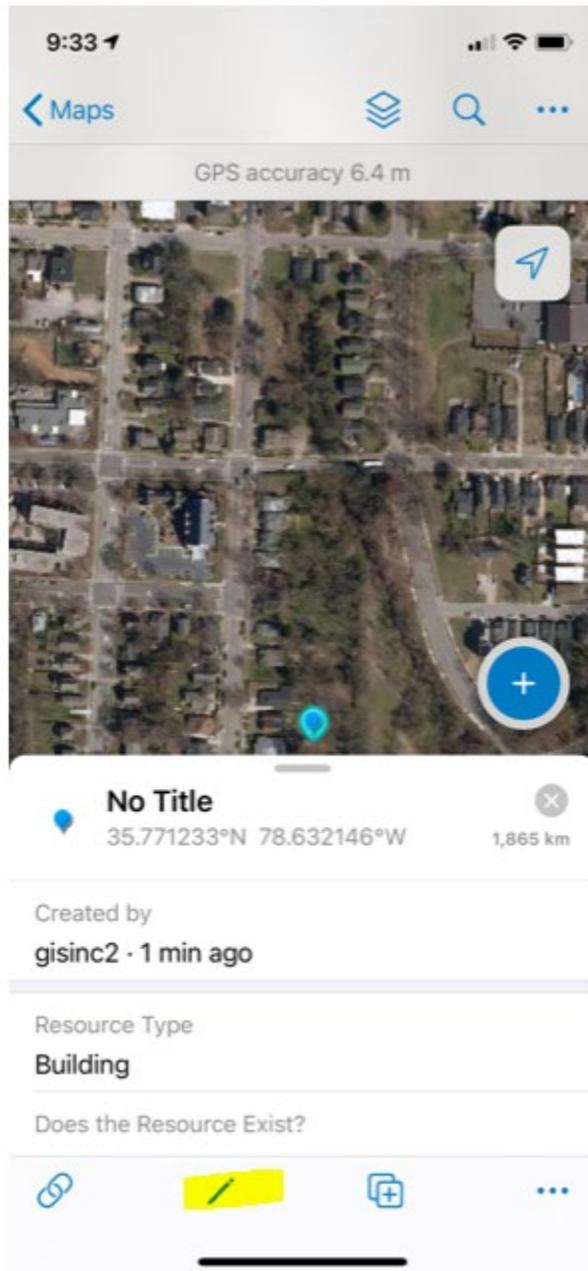


6. If you want to drop a point manually move the map to the appropriate location marked by the bullseye. This can be a bit counterintuitive. The map or background is being moved to the appropriate location; the point is not being moved. Enter the required attributes and submit the point.



7. If the point needs to be moved later, select the point. After making the selection, the point will have a blue halo around it.

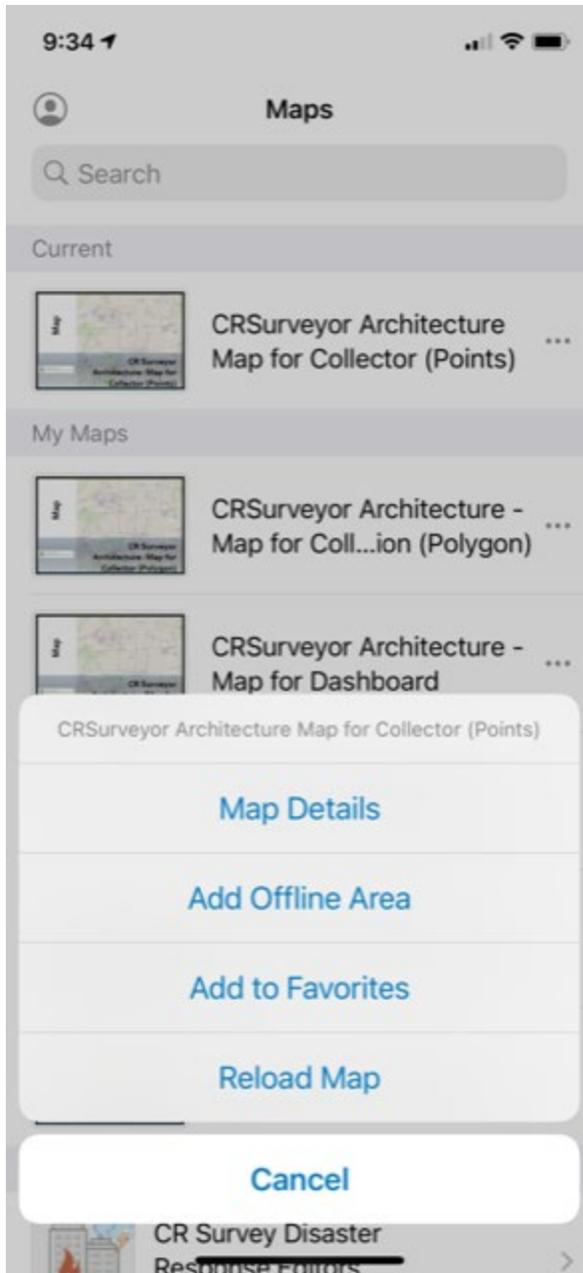
8. Select the Pencil to begin editing the point. The bullseye will now be available. Move the point accordingly and select Update Point.



9. Fill out the appropriate attributes including any photos or attachments and Submit the point.

Go Offline in Field Maps

1. In the event, cell phone service isn't available, the web map can be downloaded.
2. Navigate to the web map and select the elipses icon next to it.
3. Select Add Offline Area.



4. We will now “Choose our work area” Here we can define the extent we want to cover for our project. Zoom out or in to the area of interest.



5. We can then choose our map detail. This will define how far we can zoom into the imagery and vector data. Keep in mind the more detail you request, the larger the download will be. Select the Map Detail Tab.
6. Select Download Area
7. The map will be downloaded to your device.
8. Once downloaded we can follow the same workflow for connected editing however all edits will be saved to our device.
9. After all edits are captured and the device is back within the internet or cell connectivity, a sync can be performed.

10. The pending edits should be displayed beside the download icon.
11. Select Sync to push all edits back to ArcGIS Online.

Offline Editing with Reference Layers

1. Offline editing with Dynamic Map Services is not supported. Dynamic map services do not support sync capability.
2. One possible workaround is to create two web maps.
 - a. The first map would have “_OfflineWebMap” appended to the end. It would not have dynamic map services included.
 - b. The second map would be “_ReferenceWebMap” which has referenced, dynamic map layers that cannot be downloaded.

Web Map for Dashboard

The Dashboard will show all collected points and their related information. The dashboard is interactive and will display data in real-time as they are collected.

