



1Data Gateway User Guide: Submissions

Version 2.0

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Introduction

This guide explains how to get started when submitting work to the Arizona Next Generation 9-1-1 GIS Data Validation and Aggregation Portal which uses the 1Data Gateway platform. For more information on specific validations, refer to the rule catalog for that validation.

Key Terms

The following terminology will be important for users of 1Data Gateway.

User: An individual registered to the portal site with a name and email address. There are two primary types of users: (1) Data Contributors and (2) Data Receivers and Administrators, with different levels of permissions. See Table 1: Description of User Roles for detailed descriptions.

Suppliers: Groups of users that can be assigned to a Project.

Project: A collection of data and workflow requirements within the same unit of work. These are managed as one unit of work with Suppliers providing the necessary data.

Specification: Defines the data required from a Supplier and the workflow for uploaded data. The Specification is where a Project is configured, including which session template is used, and where users are assigned to the Project.

Assignment: Work associated with a Project that a user has been assigned to complete. These can be viewed under “My Assignments”.

Submission: Work uploaded to 1Data Gateway. Work may include spatial and/or non-spatial data set(s) that will be validated in 1Data Gateway and/or submitted to a central repository via 1Data Gateway.

Conformance: Data that complies to a defined set of validations associated with an Assignment. Specific validation descriptions are listed in rule catalogs.

1Data Gateway

1Data Gateway is a self-service web portal that utilizes a rules engine for validation and enhancement processes between internal and external users.

Data uploaded to 1Data Gateway goes through a series of data validation rules. If there are issues found, users can download those results, giving them the opportunity to address any issues.

Once the data has been cleaned, it may be resubmitted to 1Data Gateway.

If the quality meets conformance standards for the validation rules, 1Data Gateway can be configured to deliver clean data automatically to the server, essentially automating the data supply chain.

The workflow for a submission follows a stepped process: upload data, configure schema mapping, process the submission, and review submission results. These steps are illustrated through the submission and are described in detail in this document.

Figure 1. The stepped workflow process for submissions through 1Data Gateway.



Arizona Next Generation 9-1-1 GIS Data Validation & Aggregation Portal

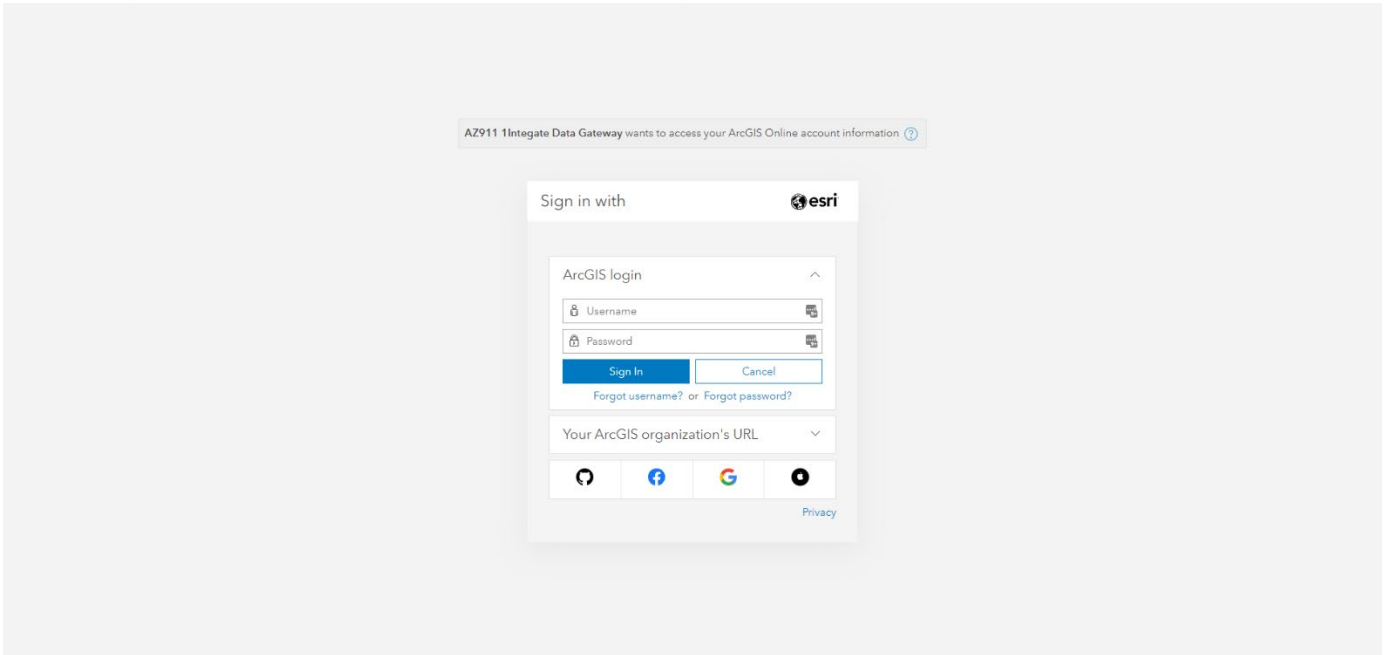
To access the 1Data Gateway instance for Arizona Next Generation 9-1-1 (AZ NG9-1-1), log in at <https://az911.azgeo.az.gov/>. The authentication is synchronized off your AZGeo Username & Password. If you do not have a AZGeo account please request a login through this [link](#)

In this document, the use of the name 1Data Gateway refers to the AZ NG9-1-1 GIS Data Validation & Aggregation Portal.

Figure 2. Display when you open the website



Figure 3. Login screen for AZ NG9-1-1 GIS Data Validation & Aggregation Portal.



The two primary types of users are comprised of the following roles. Specific permissions for these roles can be granted to users by an Administrator. Most Contributors will have the role of Supplier.

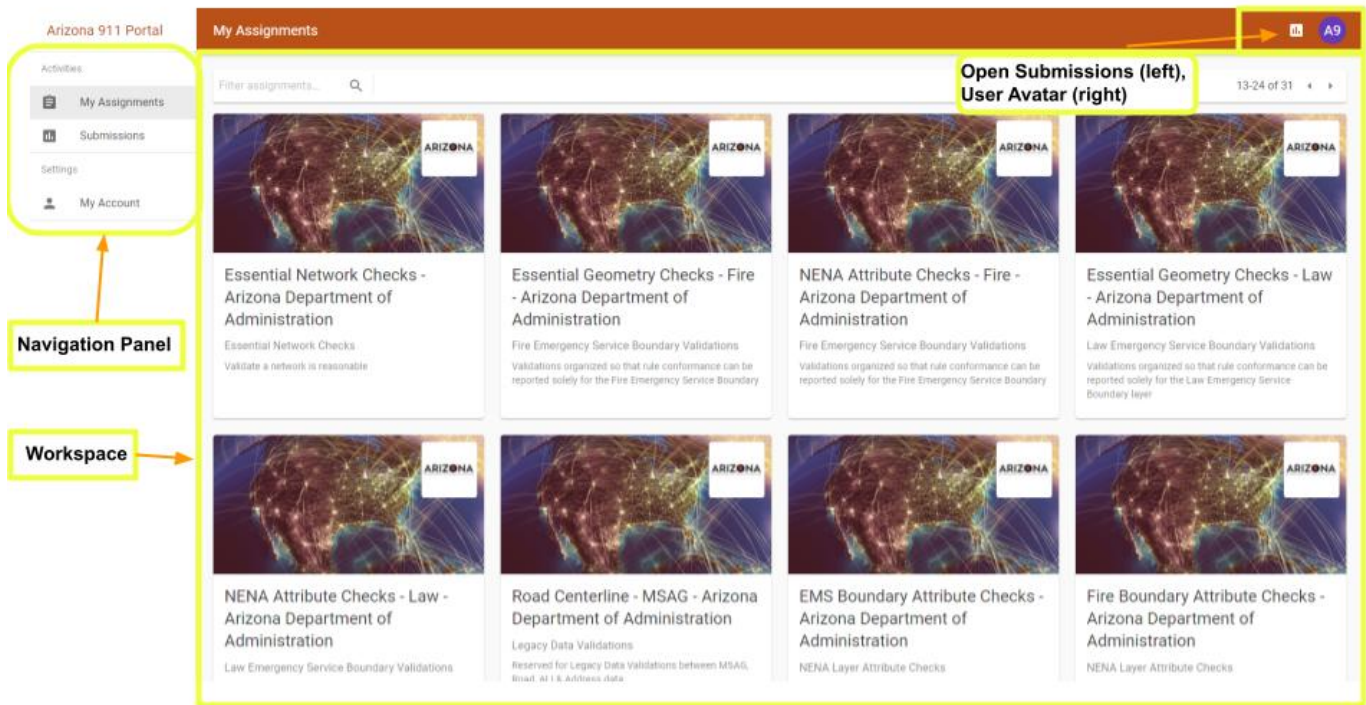
Table 1. Descriptions of User Roles.

Role	Description
Contributor	<p>A Contributor is a standard user of 1Data Gateway. These users can only see packages of work they have been assigned to and can only view statistics for their own submissions.</p> <p>Note: Most Arizona users will fall into this category; these are the GIS data providers submitting data for validation or to the enterprise database.</p>
Supplier Supervisor	<p>A Supplier Supervisor can see all statistics from Contributors within their Supplier Organization. A Supplier Supervisor also has some administrative capabilities over the users in their organization.</p> <p>Note: Some Arizona users will fall into this category, such as GIS coordinators or supervisors that oversee NG9-1-1 data delivery and conformance for a Supplier organization.</p>
Receiver	<p>A Receiver will be able to view, download and configure submissions for Projects.</p>
Administrator	<p>A Site Administrator has access to all administrative capabilities.</p>

User Interface

The user interface is composed of two main areas: a navigation panel to move between workspaces, and the primary workspace. There are three options which all users are able to access from the navigation panel on the left side of the interface: My Assignments, Submissions, and My Account.

Figure 3. The navigation panel is where users can access the various workspaces in the portal and the workspace is where users will complete submissions.





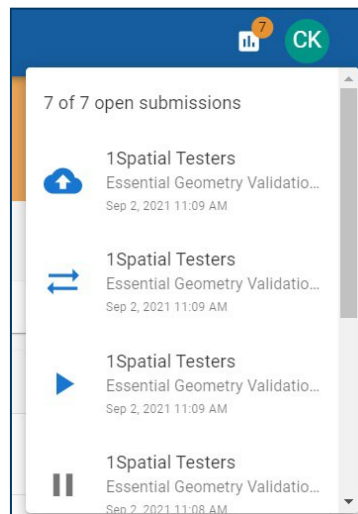
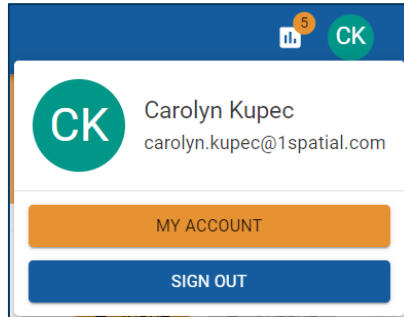
At the top right of the screen are two icons: Open Submissions () and the user avatar (). The Open Submissions icon shows the open submissions a user has access to, including the Supplier group and project the submission has been assigned through, the date and time the submission was created at, and an icon indicating the state of the submission. These icons are explained in the next section. Clicking on an open submission from this drop-down list will take the user to the open submission.

Figure 4. Drop-down list of open submissions.



The user avatar at the top right corner provides a quick link to manage the user account as well as the option to sign out.

Figure 5. Options available when the user avatar at the top right of the interface is clicked.











Status and Outcome Icons

There are several icons depicting the status and outcome of a submission used throughout the interface.

The symbol next to each open submission indicates the submission status. In the Submissions tab for a specific Assignment, hovering over the symbol under the State and Outcome columns will indicate to the user the state or outcome of the submission:

Table 2. Descriptions of icons used throughout the portal.

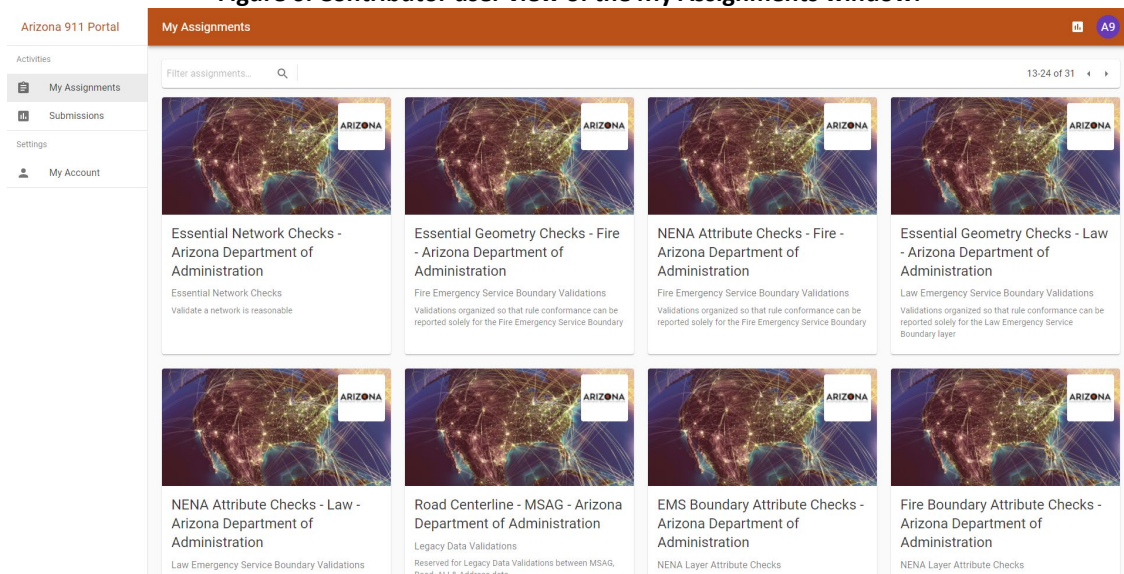
Symbol	Hover Text	Description
	Not Started	The blue cloud with an up arrow indicates that the submission is on the Upload Data step.
	Ready	The blue double arrows indicates that the submission is on the Configure Mapping step.
	Running	The blue arrowhead indicates that the submission is on the Process Submission step.
	Processed	A submission with a grey pause is waiting on user input during the Process Submission step.
	Finished	A green check mark indicates that submission results are ready to review.
	Submission finished successfully	A check mark in a green circle indicates that results are ready to review.
	Submission was cancelled	An orange X indicates that the submission was cancelled.

Symbol	Hover Text	Description
	Submission finished with errors	The red exclamation mark indicates an error during submission.

These icons are used in the Open Submissions drop-down list, the Submissions list for an assignment under My Assignments, and in the overall Submissions interface.

My Assignments

Figure 6. Contributor user view of the My Assignments window.



Within the My Assignments window, there are cards for each Assignment. To start a Submission, users will need to select one of the assignments to submit data.


Selecting an assignment will reveal details for that specific assignment, including previous submissions, information about the assignment, and a results dashboard.

Assignment Submissions

The Submissions tab within the My Assignments interface shows previous submissions made to that specific assignment.

Previous submissions can be filtered to a specific time frame based on when the submission was initially created.

Process status icons are displayed under the State column and illustrate which step the submission is in the process of; finished submissions will also have an outcome icon displayed. Hovering over the icon will provide further explanation.

Clicking the grey action icon () will take you to that specific submission: for unfinished submissions, it will take you to the current step the submission is at; for finished submissions, this icon will take you to the results

for that submission. Details on the results page for finished submissions can be found in the Submission Results section of this document.

The Start a New Submission button at the bottom right will begin a new submission to the assignment.

Figure 7. View of My Assignments with the Submissions tab selected.

Arizona 911 Portal My Assignments Address Point Validations - NENA Attribute Checks

SUBMISSIONS INFORMATION DASHBOARD

CREATED AT Files (input/output) State Outcome

Created At	Files (input/output)	State	Outcome
Nov 27, 2021 11:39 AM	0 / 0		
Nov 23, 2021 8:39 AM	1 / 1		
Nov 23, 2021 7:32 AM	1 / 1		
Nov 23, 2021 7:26 AM			
Nov 22, 2021 1:39 PM			
Nov 22, 2021 1:07 PM			
Nov 22, 2021 12:08 PM	1 / 1		
Nov 22, 2021 11:15 AM	1 / 1		

Click the grey action icon to view a specific submission

Use a date range filter to help find a Submission

State icons depict the status of a submission. Finished submissions will also have an Outcome icon.

Click Start a New Submission to begin a new submission to this assignment

Information

The Information tab under My Assignments is where users can view any additional information provided by a data receiver or site administrator. Additional information may include commentary about the assignment or documents available for download.

Figure 8. View of My Assignments with the Information tab selected.

SUBMISSIONS INFORMATION DASHBOARD

Documentation

Hello,

The Essential Geometry Validations check geometric data to ensure it meets quality standards prior to being submitted to other validations.

Please refer to the Essential Geometry Validations Rule Catalog for details regarding schema requirements as well as descriptions for each validation.

Documents

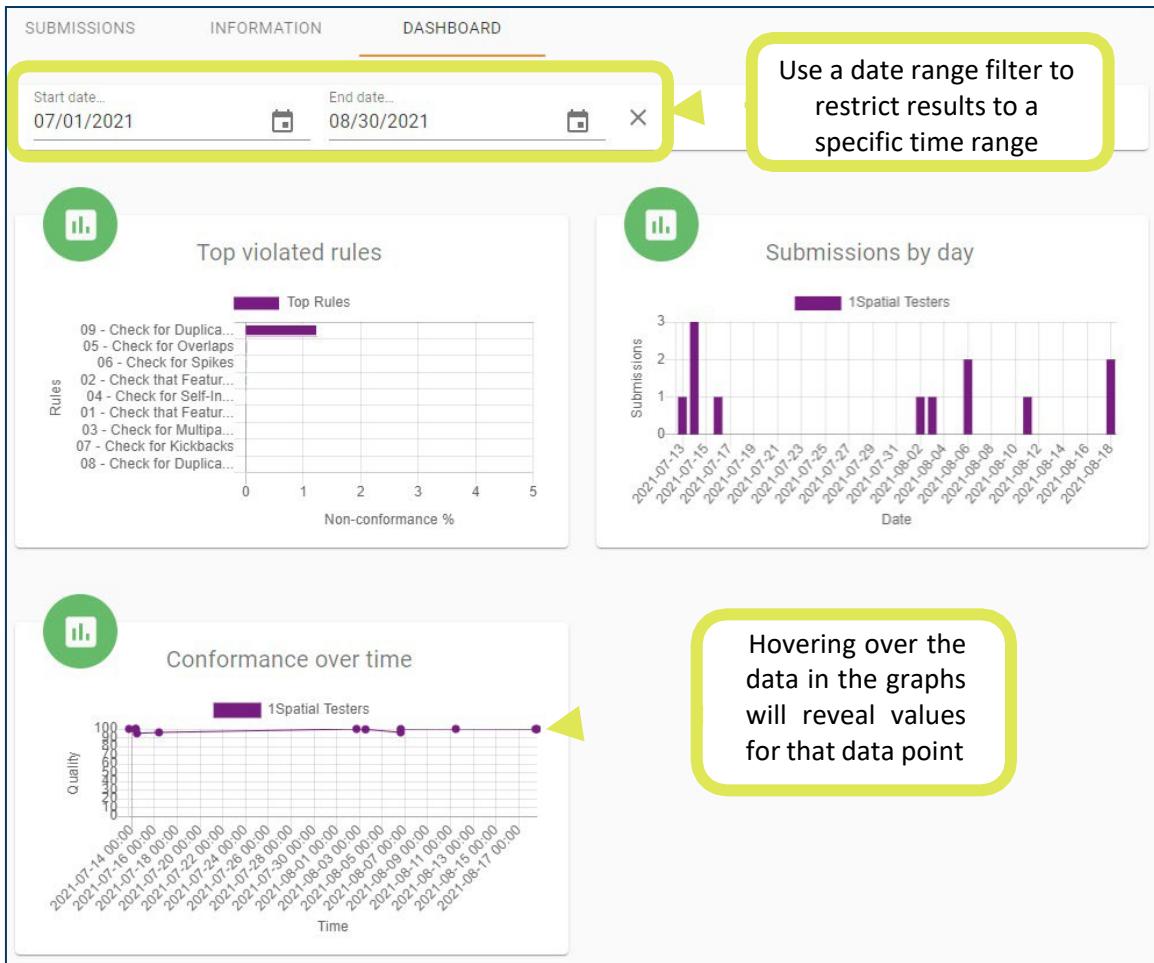
Essential Geometry Validations Rule Catalog.pdf

Dashboard

Users can review data quality statistics for a specific assignment on the Dashboard. Results displayed in the dashboard come from submissions to the assignment that have been successfully finished by all users in the

supplier group. Data quality statistics include which validation rules have the highest non-conformance rate, the number of submissions for the assignment over a time, and overall conformance of the data over time. Users can also use a date filter to select a specific period of time to review results.

Figure 9. View of My Assignments with the Dashboard tab selected.



Submissions

The Submissions interface shows all assignments that have been submitted by the user. As there is in the My Assignments, Submissions view, there is also a Created At date range filter users can use to limit displayed submissions to a specific time range. Additionally, at the bottom right corner is a Jump To button, which enables users to input a reference code to go to a specific submission.

Figure 10. View of the Submissions interface.

The screenshot shows the 'Submissions' interface in the Arizona 911 Portal. The interface includes a sidebar with navigation options like 'My Assignments', 'Submissions', 'Projects', 'Suppliers', 'Users', and 'Dashboard'. The main content area displays a table of submissions with columns for User, Supplier, Created At, Outcome, and Actions. Callouts highlight specific features: 'CREATED AT' filter, 'Click the three bars icon to reveal the show columns options', 'Use a date range filter to help find a Submission', and 'The Jump to button uses the reference code to go to a specific submission'.

User	Supplier	Created At	Outcome	Actions
Eric Shreve	AZ Tester	Dec 27, 2021 10:49 AM	✓	▶
	1Spatial Tester	Dec 21, 2021 12:45 PM	!	▶
	1Spatial Tester	Dec 21, 2021 12:33 PM	!	▶
Brenda Castillo	1Spatial Tester	Dec 21, 2021 12:13 PM	!	▶
Eric Shreve	AZ Tester	Dec 21, 2021 10:27 AM	!	▶
Eric Shreve	AZ Tester	Dec 21, 2021 9:40 AM	✓	▶
Eric Shreve	AZ Tester	Dec 21, 2021 8:53 AM	✓	▶
Eric Shreve			✓	▶

By default, five columns are shown: User, Supplier, Created At, Outcome, and Actions. Additional columns can be turned on to help users identify a specific submission. Those additional columns include Project, Specification, and Assignment.

Figure 11. Columns that can be turned on or off by a user to assist in identifying a specific submission to review. The four columns checked in this figure (User, Supplier, Created At, and Outcome) are displayed by default.

The screenshot shows the 'Show Columns' dropdown menu. The menu lists the following columns with their respective checkboxes:

- User
- Supplier
- Created At
- Project
- Specification
- Assignment
- Outcome

As with the Submissions tab within the My Assignments interface, users can click on the grey action icon (▶) to open the results summary page.

Note: If a user has the role of Supplier Supervisor, all submissions made by all members of the Supplier group will be visible.

Figure 12. Supplier Supervisor view of the Submissions window.

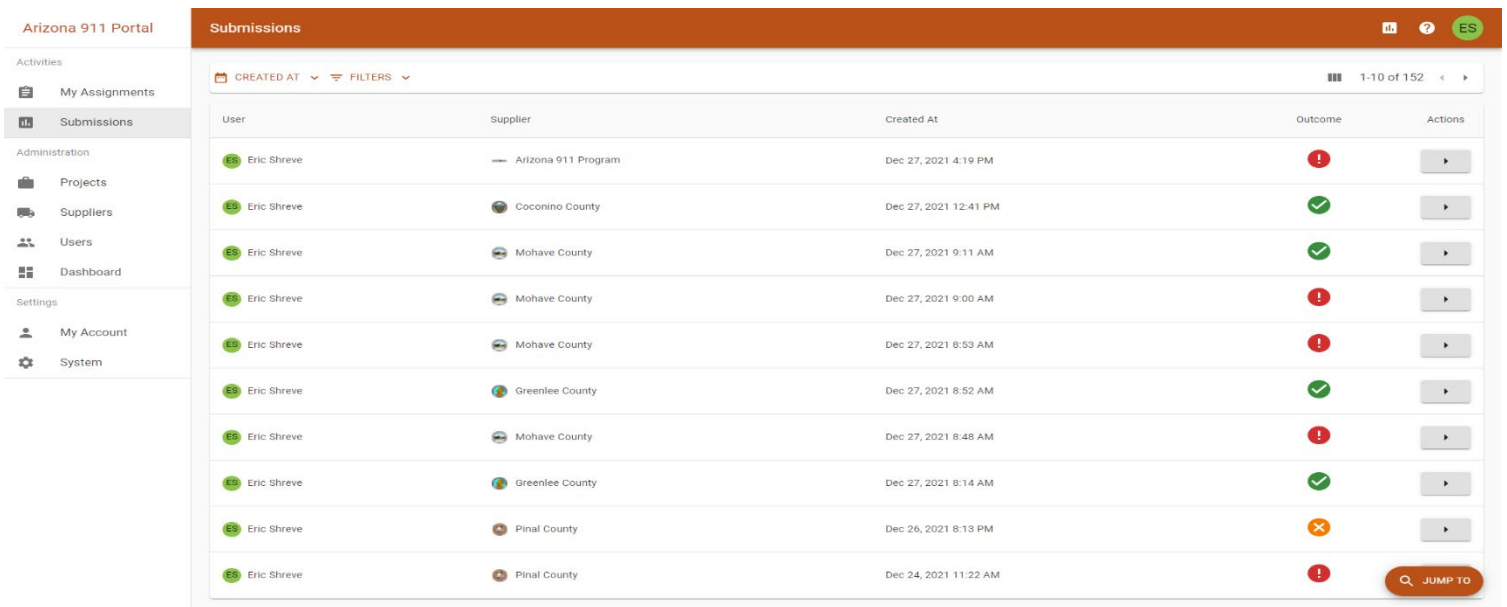
My Account

The My Account window is where users can personalize their avatar, update their name, or change their password.

Note: If usernames, email address, and passwords are managed centrally by your organization, you will not be able to change these details within the portal. Please contact your system administrator. Users will still have the ability to create a new User Avatar or upload an Avatar image.

Profile

The Profile tab allows users to change their name as it is displayed in the portal. A user's username is only editable if it is not being managed centrally by the portal organization.



The screenshot displays the 'Submissions' window in the Arizona 911 Portal. The interface includes a left-hand navigation menu with sections for 'Activities' (My Assignments, Submissions), 'Administration' (Projects, Suppliers, Users, Dashboard), and 'Settings' (My Account, System). The main content area shows a table of submissions with the following columns: User, Supplier, Created At, Outcome, and Actions. The table contains 12 rows of data, each representing a submission by user 'Eric Shreve' to various suppliers. The outcomes are indicated by icons: a red exclamation mark for failed submissions and a green checkmark for successful ones. A 'JUMP TO' button is visible at the bottom right of the table.

User	Supplier	Created At	Outcome	Actions
Eric Shreve	Arizona 911 Program	Dec 27, 2021 4:19 PM	!	▶
Eric Shreve	Coconino County	Dec 27, 2021 12:41 PM	✓	▶
Eric Shreve	Mohave County	Dec 27, 2021 9:11 AM	✓	▶
Eric Shreve	Mohave County	Dec 27, 2021 9:00 AM	!	▶
Eric Shreve	Mohave County	Dec 27, 2021 8:53 AM	!	▶
Eric Shreve	Greenlee County	Dec 27, 2021 8:52 AM	✓	▶
Eric Shreve	Mohave County	Dec 27, 2021 8:48 AM	!	▶
Eric Shreve	Greenlee County	Dec 27, 2021 8:14 AM	✓	▶
Eric Shreve	Pinal County	Dec 26, 2021 8:13 PM	✗	▶
Eric Shreve	Pinal County	Dec 24, 2021 11:22 AM	!	▶

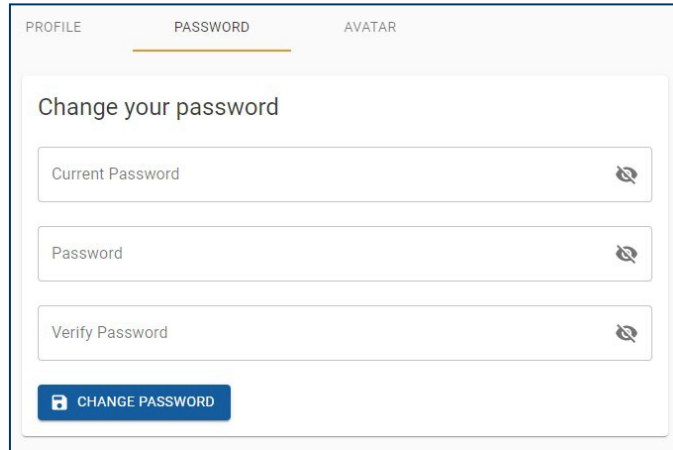
Figure

13. View of the My Account, Profile tab.

Password

The Password tab allows users to change their password to access the portal. A user's password is only editable if it is not being managed centrally by the portal organization.

Figure 14. View of the My Account, Password tab.

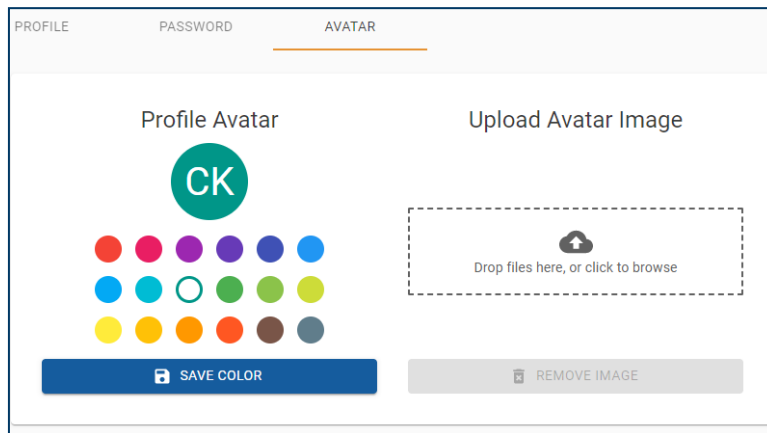


The screenshot shows the 'PASSWORD' tab selected in a navigation bar with 'PROFILE' and 'AVATAR' options. The main heading is 'Change your password'. Below this are three input fields: 'Current Password', 'Password', and 'Verify Password', each with a toggle icon on the right. At the bottom is a blue button labeled 'CHANGE PASSWORD' with a lock icon.

Avatar

Users can change their profile avatar to a preselected color, or you may upload an image to use as your avatar.

Figure 15. The My Account tab is where users can change their avatar color or image.

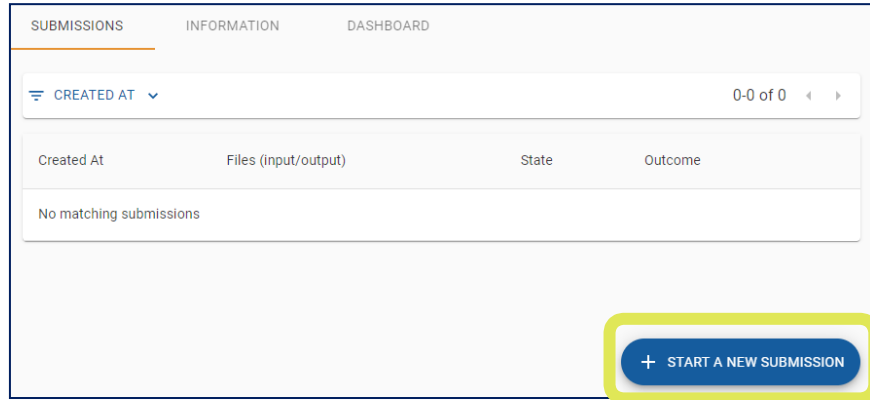


The screenshot shows the 'AVATAR' tab selected in a navigation bar with 'PROFILE' and 'PASSWORD' options. The main heading is 'Profile Avatar'. Below this is a grid of 15 colored circles, with a larger green circle containing 'CK' above it. At the bottom is a blue button labeled 'SAVE COLOR' with a lock icon. To the right is the 'Upload Avatar Image' section, which includes a dashed box with a cloud upload icon and the text 'Drop files here, or click to browse'. Below this is a grey button labeled 'REMOVE IMAGE' with a trash icon.

Completing Submissions

Submissions are completed within the My Assignment interface. Select an Assignment from the My Assignments interface and click Start a New Submission at the bottom right corner.

Figure 16. Click on Start a New Submission to begin a new submission to an Assignment.

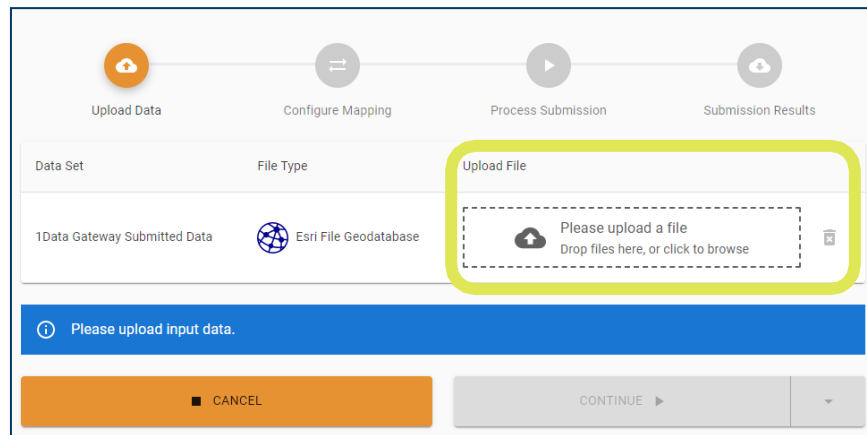


Upload Data

Drag and drop the desired files to the drop box or click the drop box to open the file system browser and select the desired files.

Note: Geospatial data must be submitted as a zipped file geodatabase (.zip file). Depending on the validation, multiple data sets may need to be uploaded; if multiple required data sets are included in a single file (e.g. zipped file geodatabase), this file must be uploaded to each of the corresponding data set drop boxes.

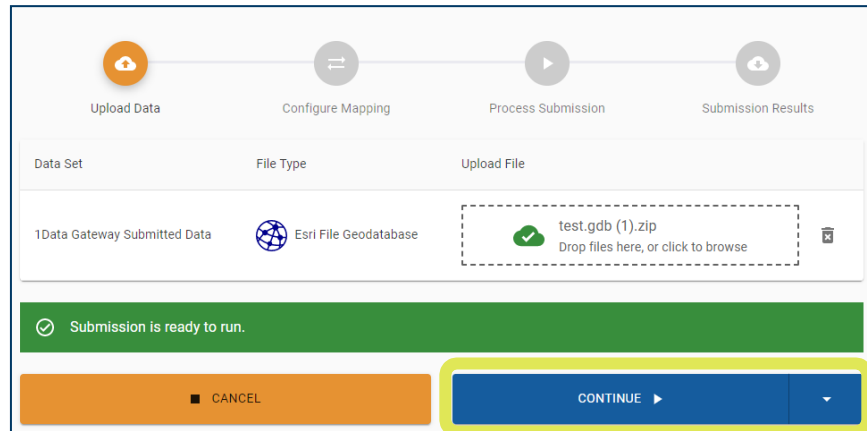
Figure 17. Upload file(s) by clicking in the delineated space or drag and drop file(s) to the delineated space.



Once the files are ready for upload, click Continue to go to the next step in the workflow.

Note: If you are resubmitting data and have already saved a schema mapping during an earlier submission for the assignment, clicking the down arrow on the Continue button will give you the option to Run to Completion. This will automatically run the data through the submission process all the way through to the submission results.

Figure 18. After data is uploaded, click the Continue button at the bottom right to go to Configure Mapping.



Important Note: For those Assignments requiring submission of a Master Street Address Guide (MSAG), MSAG files from Independent Emergency Services (IES) must have the first line signifying the delimiter (e.g. “sep=,”) removed prior to upload. This can be completed by opening the file in a text editor, which will reveal the delimiter line needing deletion.

Configure Mapping

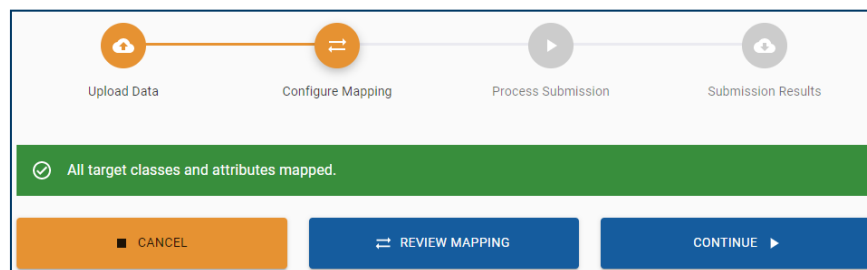
Configure Mapping allows users to map their uploaded schema from source classes and attributes to the schema that exists in the portal, referred to as target classes and attributes.

For users submitting data to AZ NG 9-1-1 assignments, the Data Verification form should be used as a guide for mapping uploaded source data to target classes and attributes. A copy of this Data Verification form can be obtained from your regional NG9-1-1 GIS representative. Currently, a source attribute can be mapped to only one target attribute. Future project releases may incorporate preprocessing tasks that will accommodate mapping one source attribute to many target attributes.

If further assistance is needed with mapping data, please contact your regional NG9-1-1 GIS representative.

The portal will initially attempt to map source attributes to target attributes based on the attribute names. If it succeeds you will see:

Figure 19. View of Configure Mapping if all target classes and attributes are mapped.

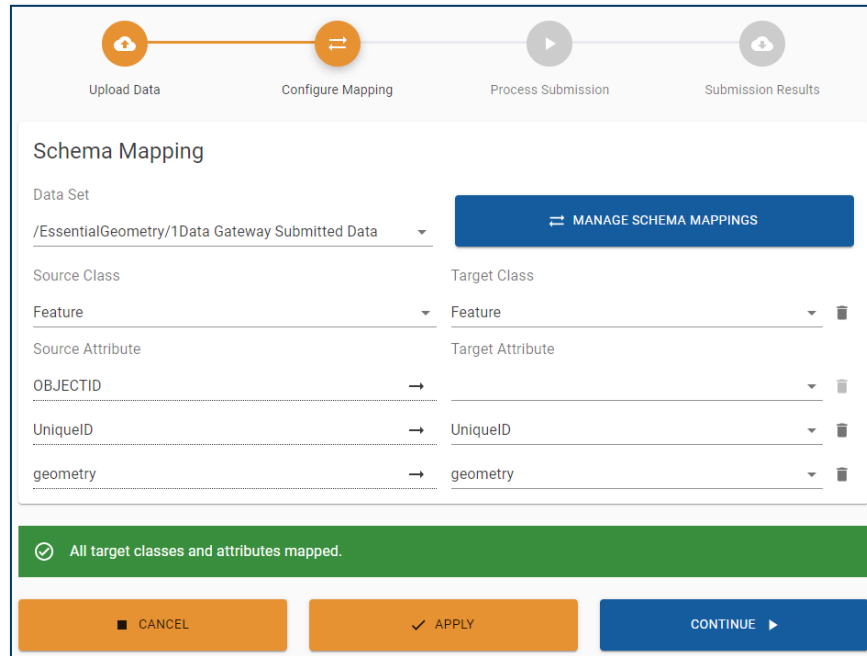


You can review the mapping by selecting the Review Mapping button at the bottom center of the screen.

Review Mapping

In the event that not all attributes are automatically mapped (or if Review Mapping is selected), the Schema Mapping screen will be revealed. It is here that the mapping of classes and attributes can be reviewed and further configured.

Figure 20. Schema Mapping shows all the source and target classes and attributes that can be mapped.

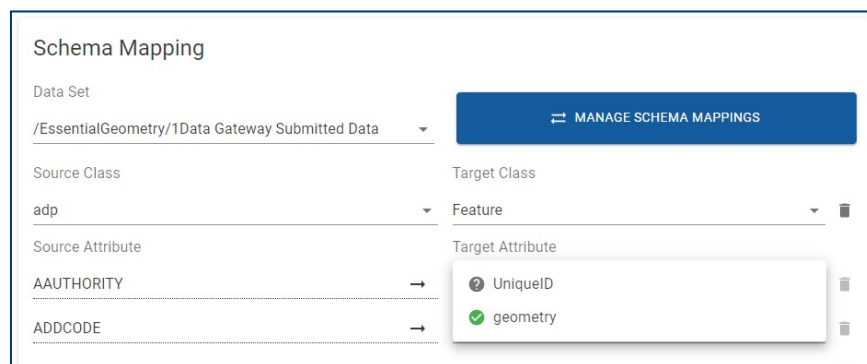


The Data Set dropdown indicates which required data set is being mapped. This dropdown allows you to choose which mapping you'd like to review and/or configure.

Below the Data Set selection, there are two columns that appear for review: source and target.

- **Source Classes/Source Attributes** are derived from the data uploaded by the user. Selecting a Source Class will populate the Source Attributes.
- **Target Classes/Target Attributes** are derived from the schema set in the portal. Choosing a Target Attribute in the right-hand column will map the source attribute to that target attribute.

Figure 21. To map a source attribute, click on the field to the right of the attribute that needs to be mapped and choose from the desired target attribute in the drop down menu.



Target attributes that have a green checkmark to the left of the attribute name indicates that the attribute is already mapped to a source attribute. Unmapped Target Attributes will have a grey question mark to the left of the attribute name.

Note: For some Assignments, not all attributes will need to be mapped. You will receive a warning if there are unmapped attributes, but in the case where unmapped attributes is permitted, the portal will let you proceed with the submission process. However, you may see some invalid features as part of the results if certain attributes used during the validation process are not mapped. Validation Rule Catalogs denote which attributes are required or recommended for a successful submission.

Manage Schema Mappings

There are two options for managing schema mapping:

- **Natural Mapping:** Automatically created mapping based on source and target class/attribute names.
- **Predefined Mapping:** Applied if mapping has already been defined by an Administrator during the set-up of the specification.

You can select your preferred mapping approach using Manage Schema Mappings. Within Manage Schema Mappings, up to five mapping configurations per assignment can be saved for use in later submissions.

To save a mapping, enter a Mapping Name in the Manage Schema Mappings window, and click Save Mapping. To apply a previously saved mapping, click the Apply button next to the saved mapping you wish to apply to your data. These steps must be followed in order to save a mapping for use with a future submission; otherwise, these mappings will not be saved and the information will be lost.

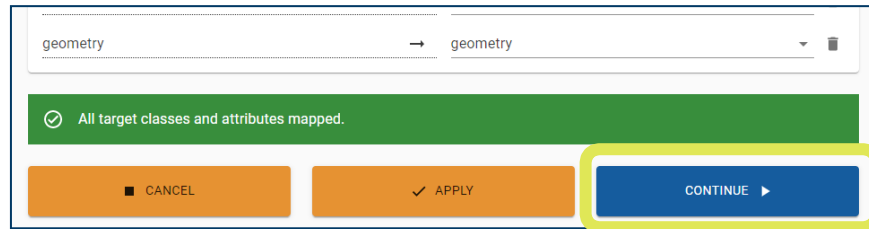
Figure 22. Manage Schema Mappings allows users to save a mapping or to apply a previously saved mapping.

Saved Mapping	Mapped	Actions
AddressPts	0.00%	DELETE APPLY

Mapping Name

Once schema mapping is complete, click the Apply button at the bottom of the page to apply your mapping schema, and click the Continue button to process your submission.

Figure 23. Click Continue at the bottom right to go to the next step, Process Submission.

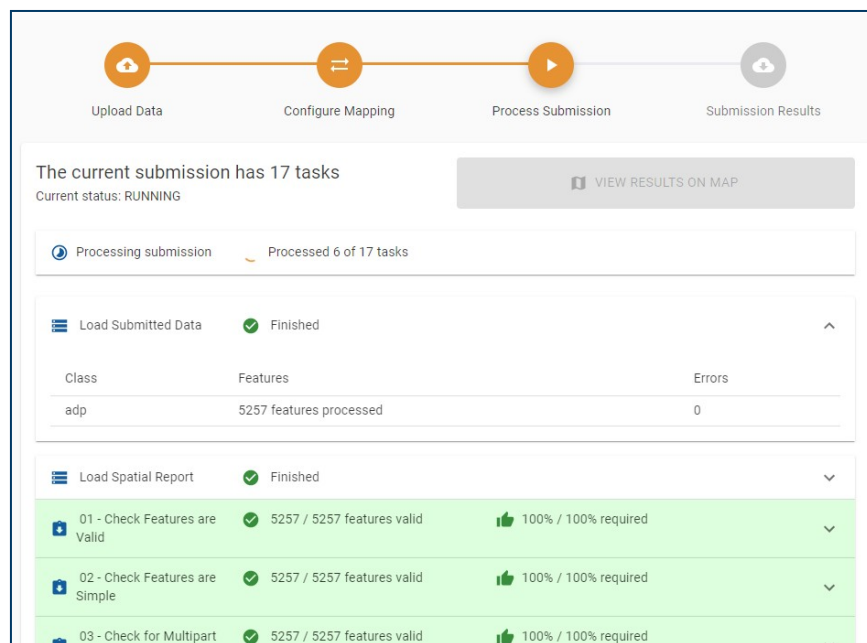


Process Submission

Once you have passed the Configure Mapping stage you will be able to track the progress of your Submission.

As each task is completed you can select it to expand and see a more detailed summary of actions being carried out.

Figure 24. The Process Submission step will automatically run the uploaded data through each step of the submission.



Once the upload has finished processing, you have the option to view the results on a map. This functionality is to give the user an idea of where there are non-conformances located in their dataset.

Figure 25. Click View Results on Map to review the markup results on a map (see Figure 26 for map view).

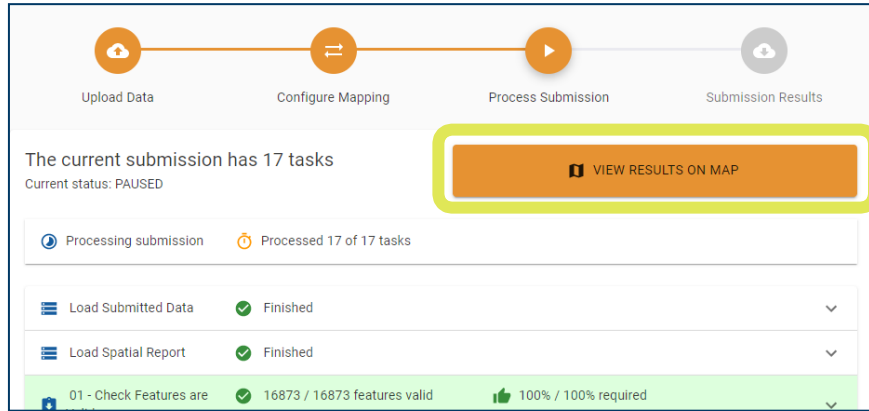
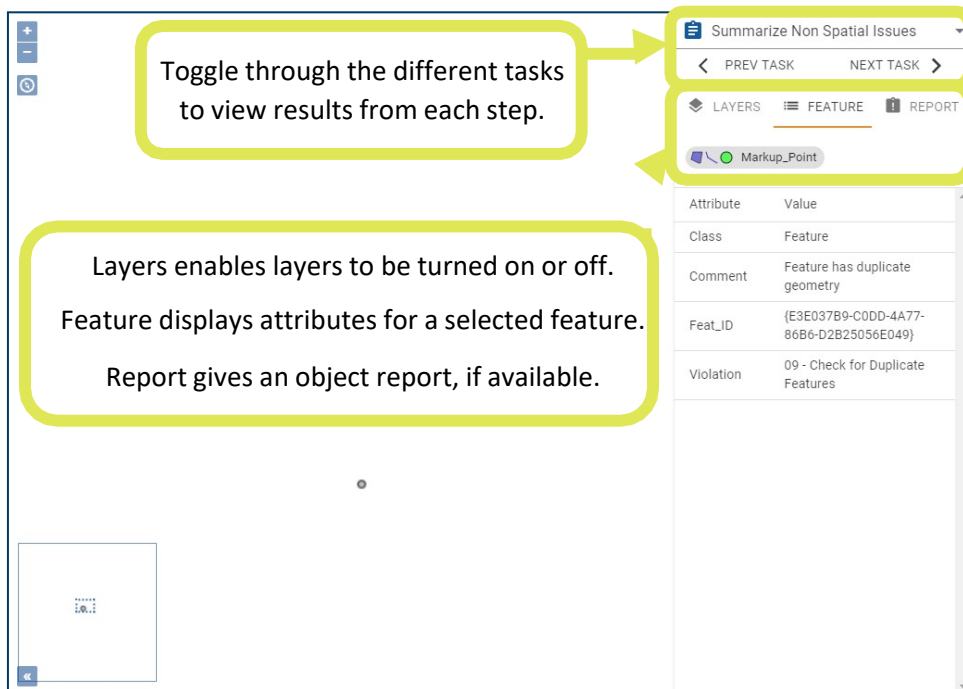
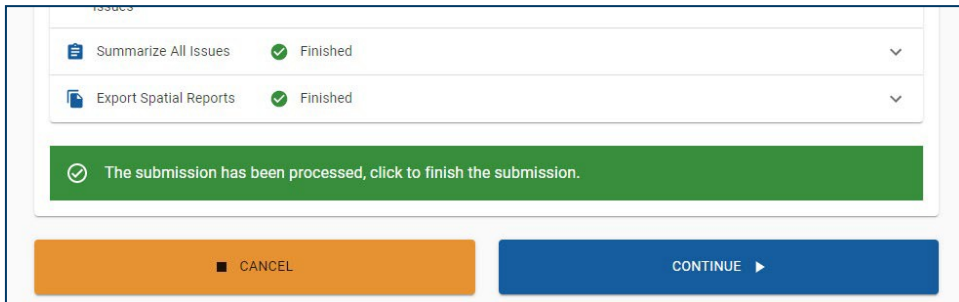


Figure 26. Map view of results created during the Process Submission.



Users also have the option to Cancel the submission, which will terminate the submission and record the outcome as Cancelled, or to click Continue to finish the submission.

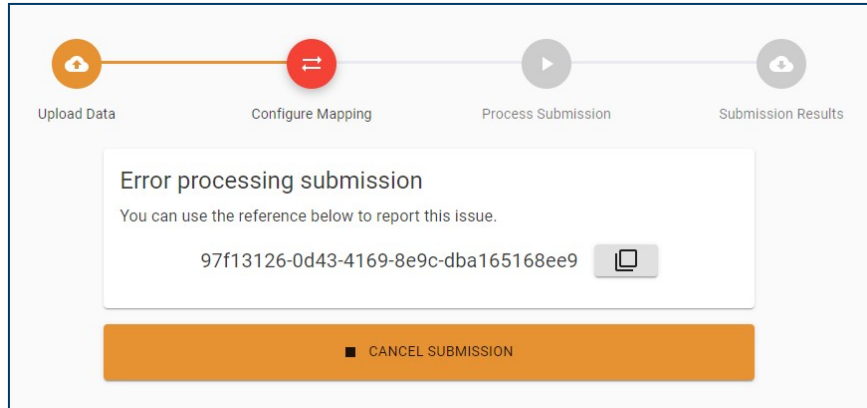
Figure 27. Click Cancel to terminate the submission or Continue to calculate submission results and finish the submission.



Submission Error

If there is a problem during your submission, you can copy the submission reference code and send it to a site administrator to have them assist you with your submission.

Figure 28. If there is a significant error encountered during a submission, users are provided with a reference code that can be used to report the submission to Site Administrators.

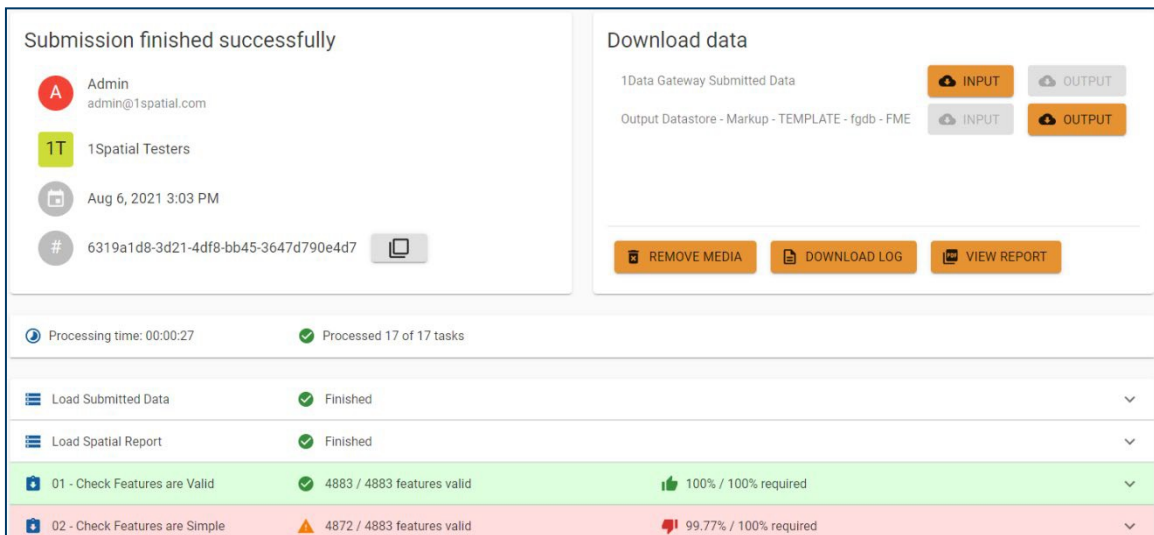


Click Cancel Submission to terminate the submission.

Submission Results

When a Submission has finished successfully, a summary page shows details for review.

Figure 29. View once a Submission finishes processing successfully.

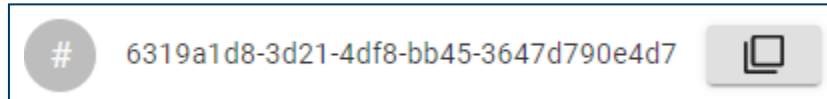


In addition to a task-by-task summary of the submission, further information is available, detailed below.

Submission finished successfully

This section provides information about the submitter and time of submission. The string with a copy symbol is for support purposes and can be used if you need to contact your site administrator regarding your submission.

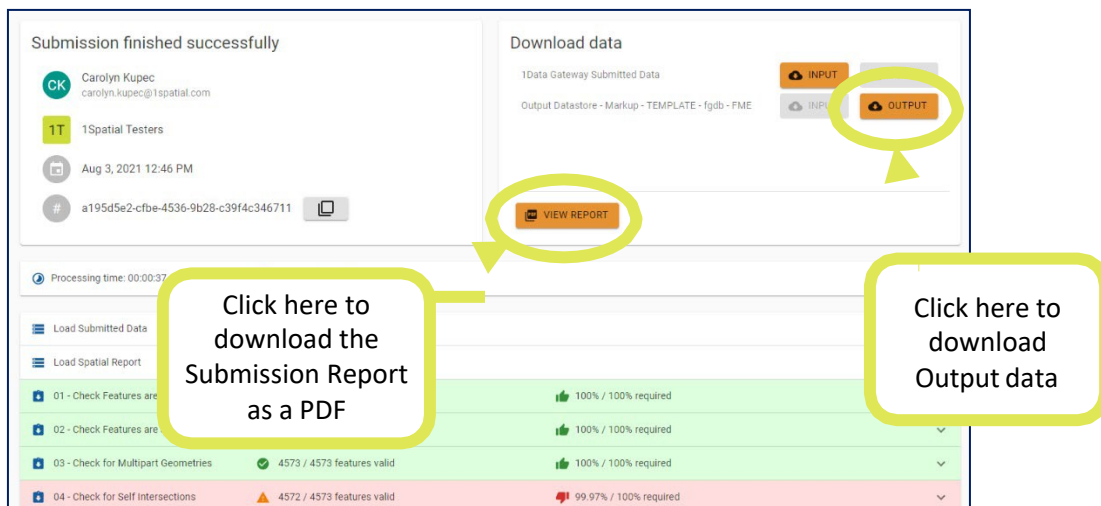
Figure 30. Every submission has a unique reference code.



Download Output

Output data is downloaded as a compressed file and will contain an Esri File Geodatabase. To download this data, navigate to a Submission's results page and click on the active Output button under the Download Data section on the right side of the screen.

Figure 31. Submission results, with where to download submission results and the submission report highlighted.



After extracting the output dataset from the downloaded compressed file, the output files can be added to geospatial software. If viewing the output results with the input data, it is recommended to add the input data first, then add the output data to the same viewer as the input data (this will establish the necessary projection to visualize the data).

Further guidance working with output data can be found in the user guide for markup results and Assignment-specific results user guides (only available for Arizona NG9-1-1 validations).

View Report

Clicking View Report will download a PDF document with details about the submitter and time of submission, as well as a summary of each task, including results of rules or actions and the number of errors (if any).

Figure 32. Submission results can be downloaded as a PDF.

Confidential Information datagateway

Essential Geometry Validations - Essential Geometry Validations

Submission finished successfully

Supplier: 1Spatial Testers
Submitted by: Admin (admin@1spatial.com)
Submitted on: Aug 6, 2021 3:03 PM

Load Submitted Data - Finished

Class	Features	Errors
rcLrjg	4883 features processed	0

Load Spatial Report - Finished

Class	Features	Errors
Markup_Area	0 features processed	0
Markup_Fishbone	0 features processed	0
Markup_Line	0 features processed	0
Markup_Point	0 features processed	0
Markup_Summary	0 features processed	0
Markup_Table	0 features processed	0

01 - Check Features are Valid - 4883 / 4883 features valid 👍

Passed - 100% / 100% required

Rule	Action	Result	Errors
01 - Check that Features are Valid	01 - Markup non-Valid Features	0 non-conformances	0

02 - Check Features are Simple - 4872 / 4883 features valid 👎

Failed - 99.77% / 100% required

Rule	Action	Result	Errors
02 - Check that Features are Simple	02 - Markup non-Simple Features	11 non-conformances	0

03 - Check for Multipart Geometries - 4894 / 4894 features valid 👍

Passed - 100% / 100% required

Note: Once you have submitted an assignment and left the summary page, it is possible to view the summary again by navigating to the Submissions tab. From here, select the assignment you'd like to view.

When you are ready to close the submission, click Close Submission at the bottom of the page. This will close the submission, removing it from the drop-down list available by clicking Open Submissions icon at the top-right corner.

Figure 33. Click Close Submission to close the current submission.

	Summarize Non Spatial Issues	✔️	Finished	▼
	Summarize All Issues	✔️	Finished	▼
	Export Spatial Reports	✔️	Finished	▼

CLOSE SUBMISSION ✔️