Standard Energy Efficiency Data Platform™

SEED STANDARD ENERGY EFFICIENCY DATA PLATFORM™ U.S. DEPARTMENT OF ENERGY

U.S. DEPARTMENT OF ENERGY | Energy Efficiency & Renewable Energy

SEED PLATFORM™ 2.18

Updated
April 2023

Contents: Overview, Data

Contents: Inventory

Contents: Organizations, API Documentation, Contact, About

Standard Use Cases

Use Case to Cover

- **Energy Benchmarking**
  - Commercial Buildings

Outcomes

- **Annual Disclosure Report**
  - By Tax Parcel ID
- **List of Building Violations**
  - By Tax Parcel ID
- **Annual Report of Building Stock Performance**
  - By energy (Portfolio Manager data)

Standard Use Cases

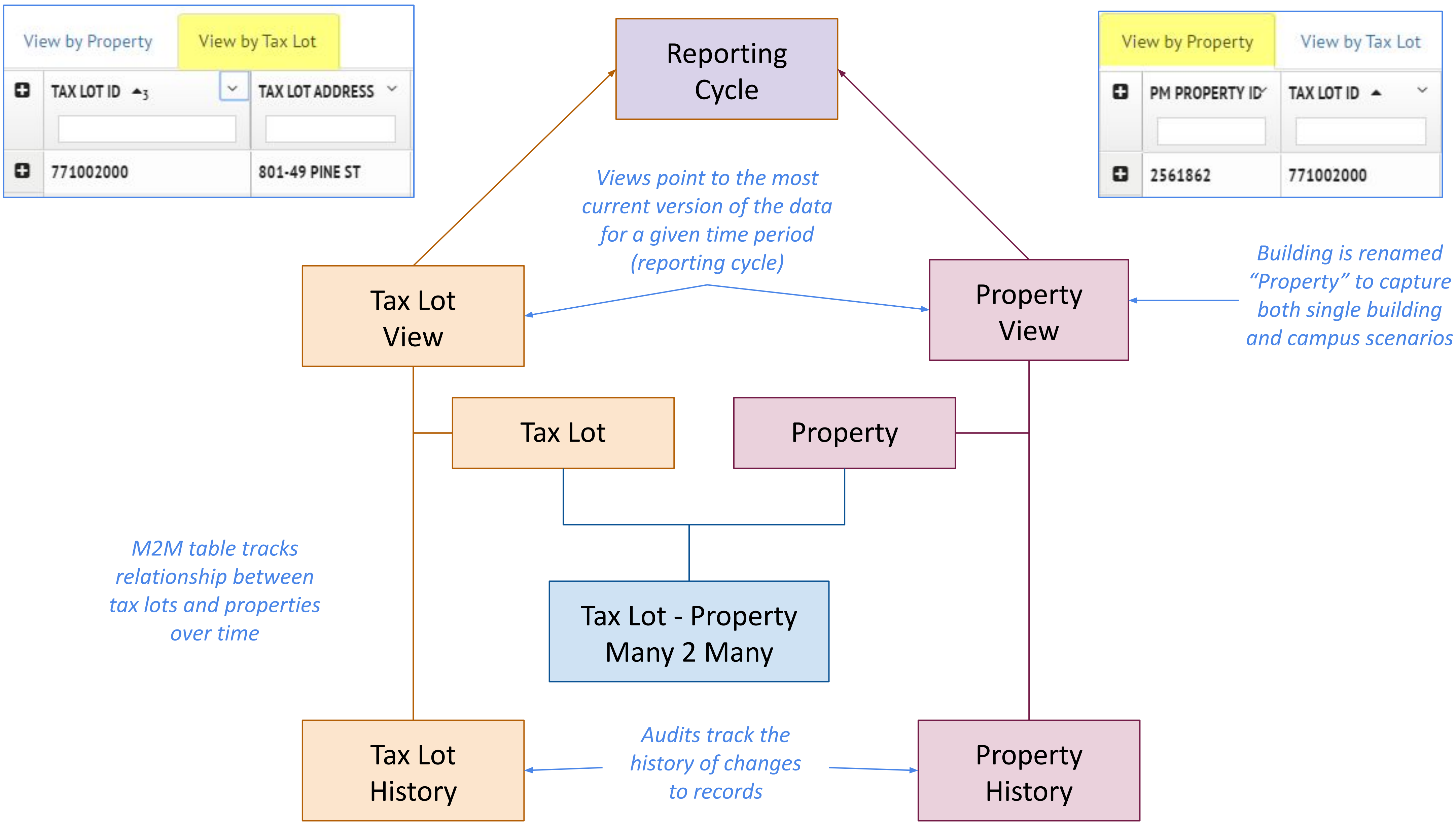
Tasks to achieve outcomes:

- **Import data from different sources**
  - Tax assessor lists, including GIS information
  - Costar Data
  - Portfolio Manager Data, including meter data
  - GreenButton meter data
- **Match data from different sources**
- **Handle data with different types of relationships**
  - Tax Assessor data defined by Lot/Parcel

    vs
  - CoStar or Portfolio Manager data defined by buildings
- **Maintain data based on compliance year**

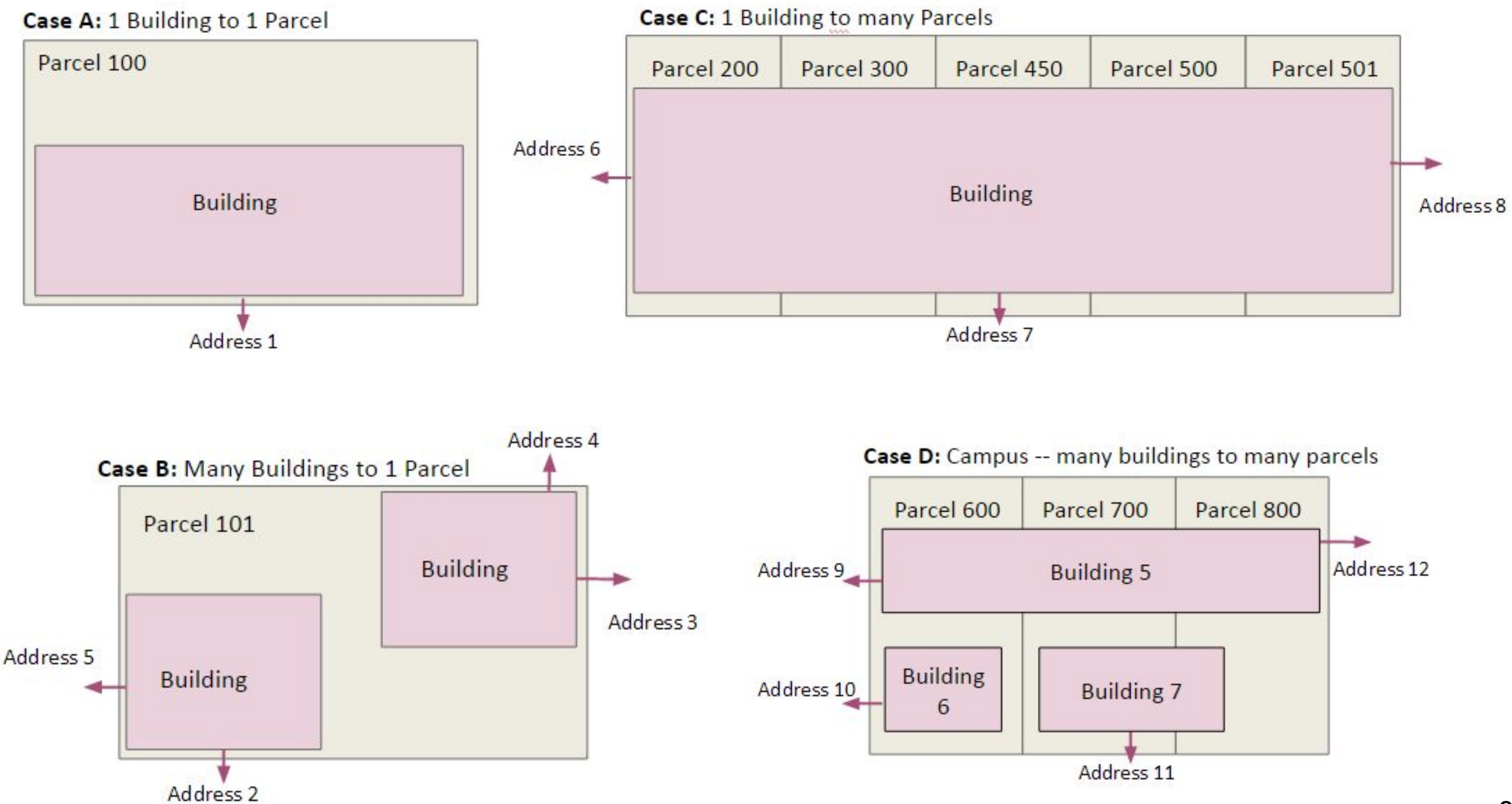
Data Model Schematic

- View different states in time
- Many to many relationship between Tax Lot data and Building/Portfolio Manager data
- Viewing Tax Lot and Property data combined / rolled up



Physical reality of the data

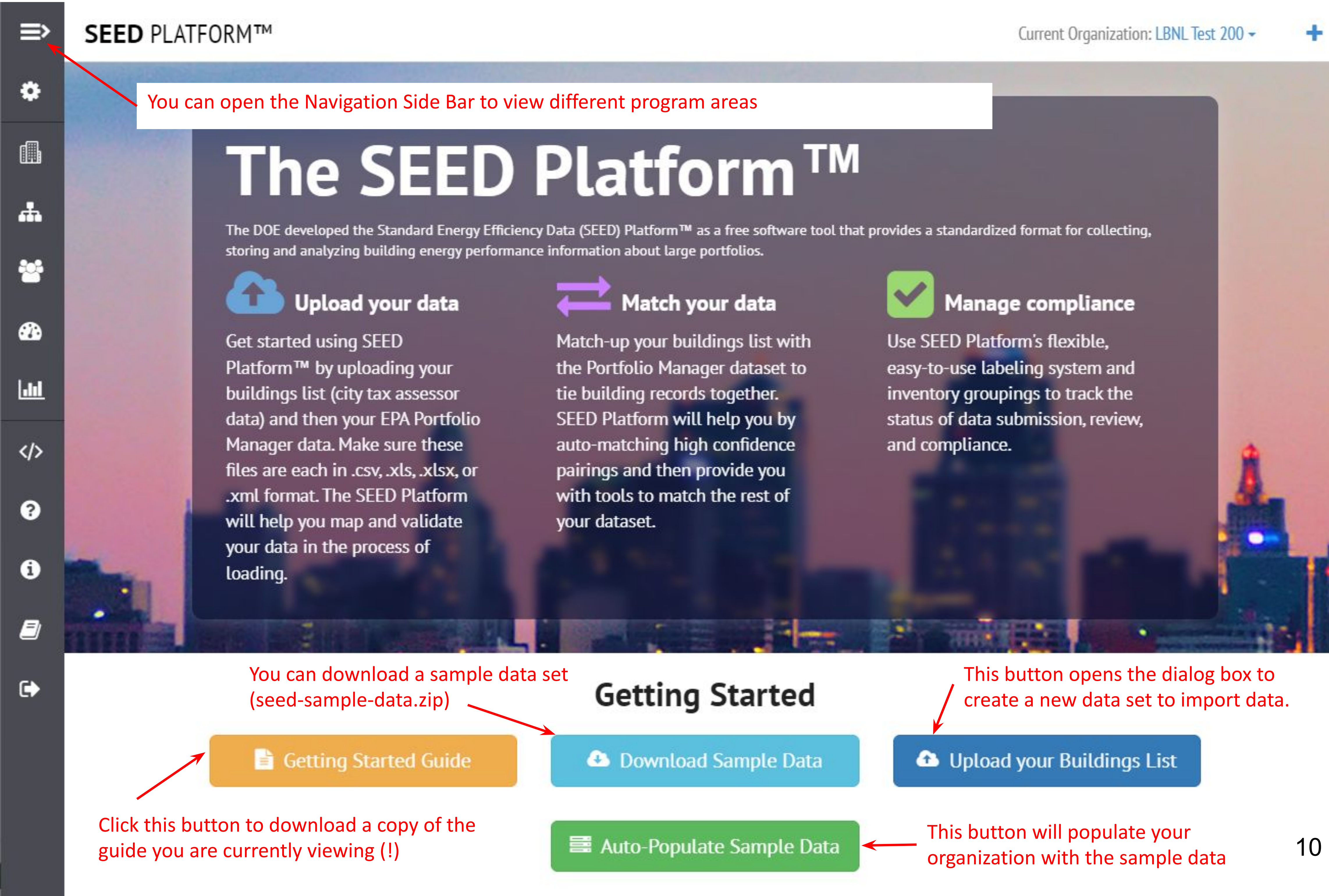
The relationship of Buildings to Parcels/Tax Lots can be complicated



SEED Workflow

1. **Import data**
   (Tax Lot & Property by Cycle)
2. **Map fields**
3. **Merge & pair data**
4. **View Inventory**
   (Tax Lot and Property data)
5. **Filter / Label Inventory**
6. **Export Data**

Home Page



You can open the Navigation Side Bar to view different program areas

You can download a sample data set (seed-sample-data.zip)

This button opens the dialog box to create a new data set to import data.

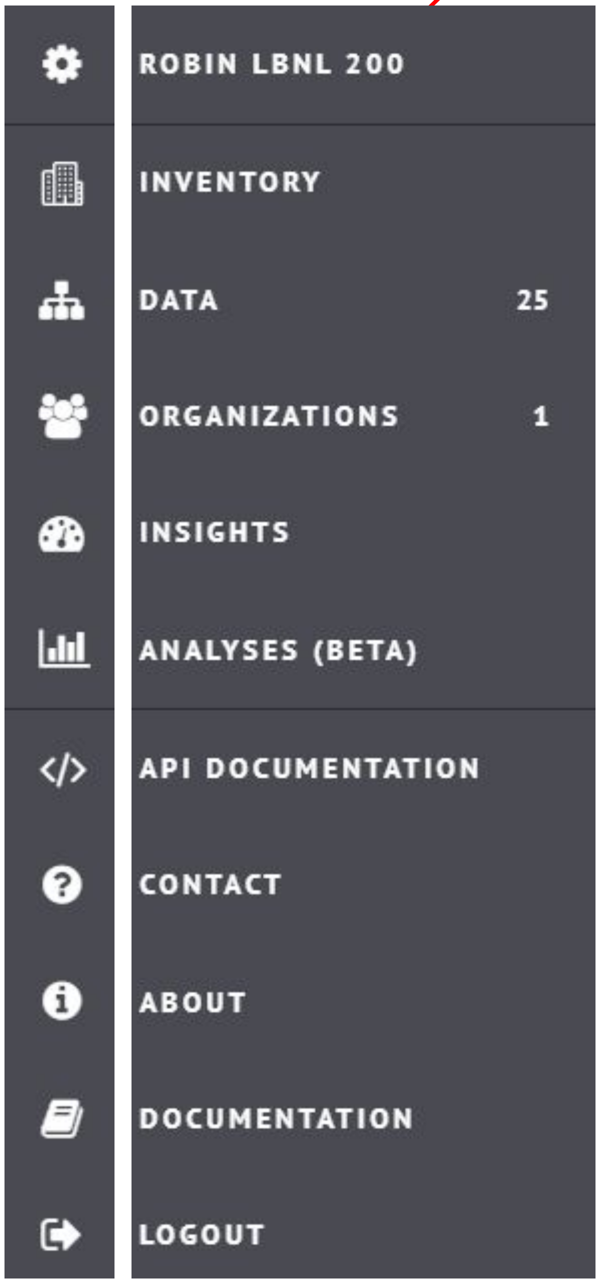
Click this button to download a copy of the guide you are currently viewing (!)

This button will populate your organization with the sample data

Navigation

Click to Expand and Contract the Navigation Side Bar

contracted expanded



User Account Name: Click to view information about the account

Inventory: Click to view of the Tax Lot / Parcel and Property / Building data, by Cycle / Time Period

Data: Click to import data into SEED that will become records in the Inventory

Organizations: Click to view the organizations associated with the user account

Insights: Click to view options for viewing aggregated data

Analyses (BETA): Click to see the results of Analyses run from Inventory

API Documentation: Click to view the Swagger API documentation

Contact: Click to view SEED contact info, including a link to user documenation and the User and Developer Forums, and a link to the Github code repository

About: Click to view information about SEED development and funding

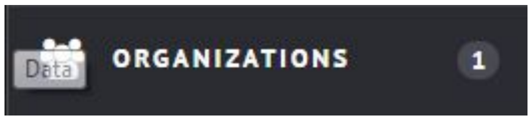
Documentation: Click to see an FAQ page

Log out: Click to log out of the program

Create Cycle in Organizations (before uploading data)

At least one cycle must be defined before importing data.

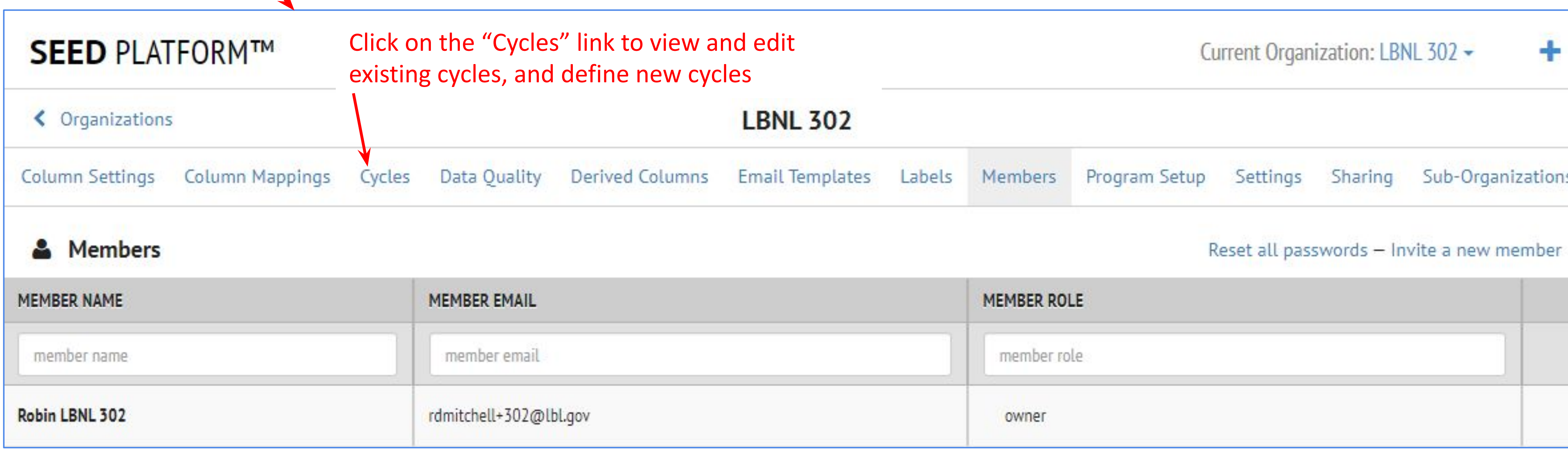
To define a new cycle, go to the Organizations navigation bar to see the organizations that you manage and belong to.



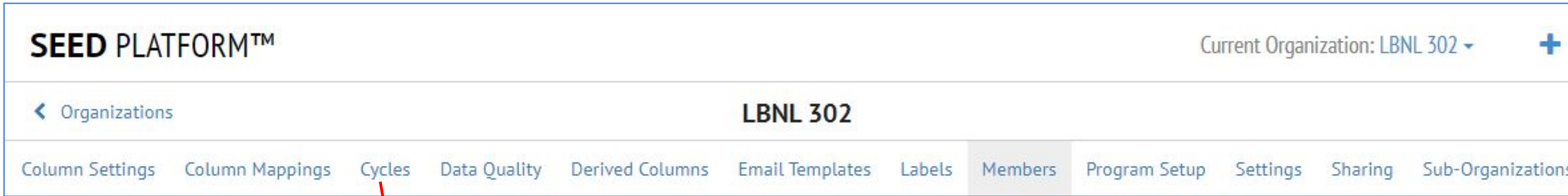
Click on the Organization that you want to make a cycle for

The program will open up a view of that Organization.

Click on the "Cycles" link to view and edit existing cycles, and define new cycles

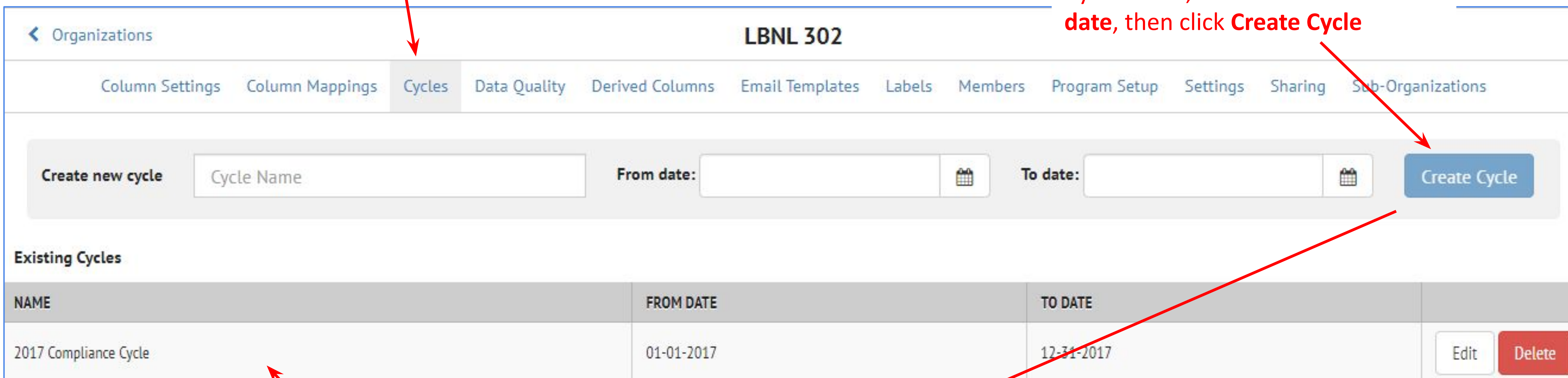


View, Edit and Create Cycles



Click on **Cycles** link to view the **Cycles** page

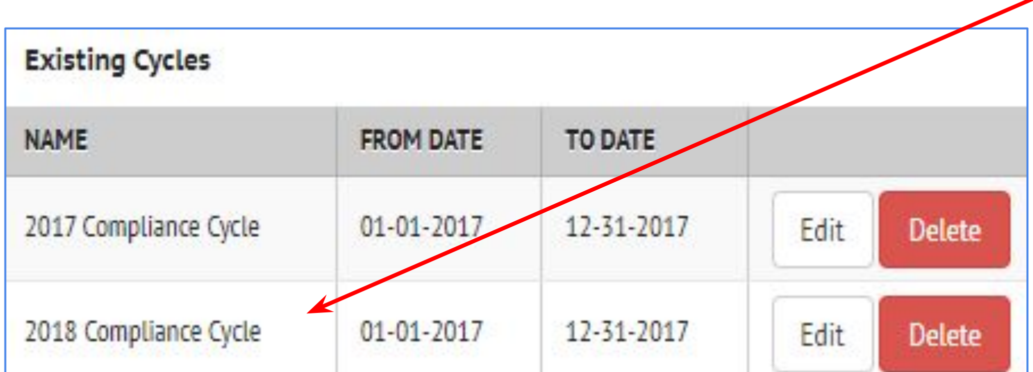
To make a new **Cycle**, enter the Cycle **name**, **From date** and **To date**, then click **Create Cycle**

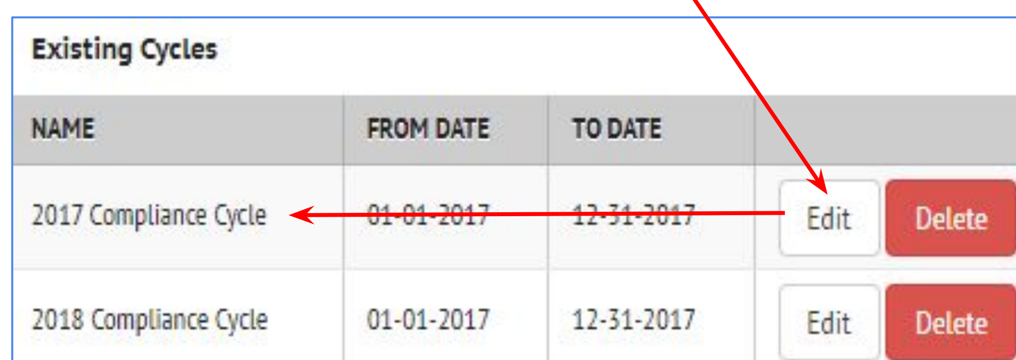


There is a default Cycle provided by the program called **2017 Calendar Year**

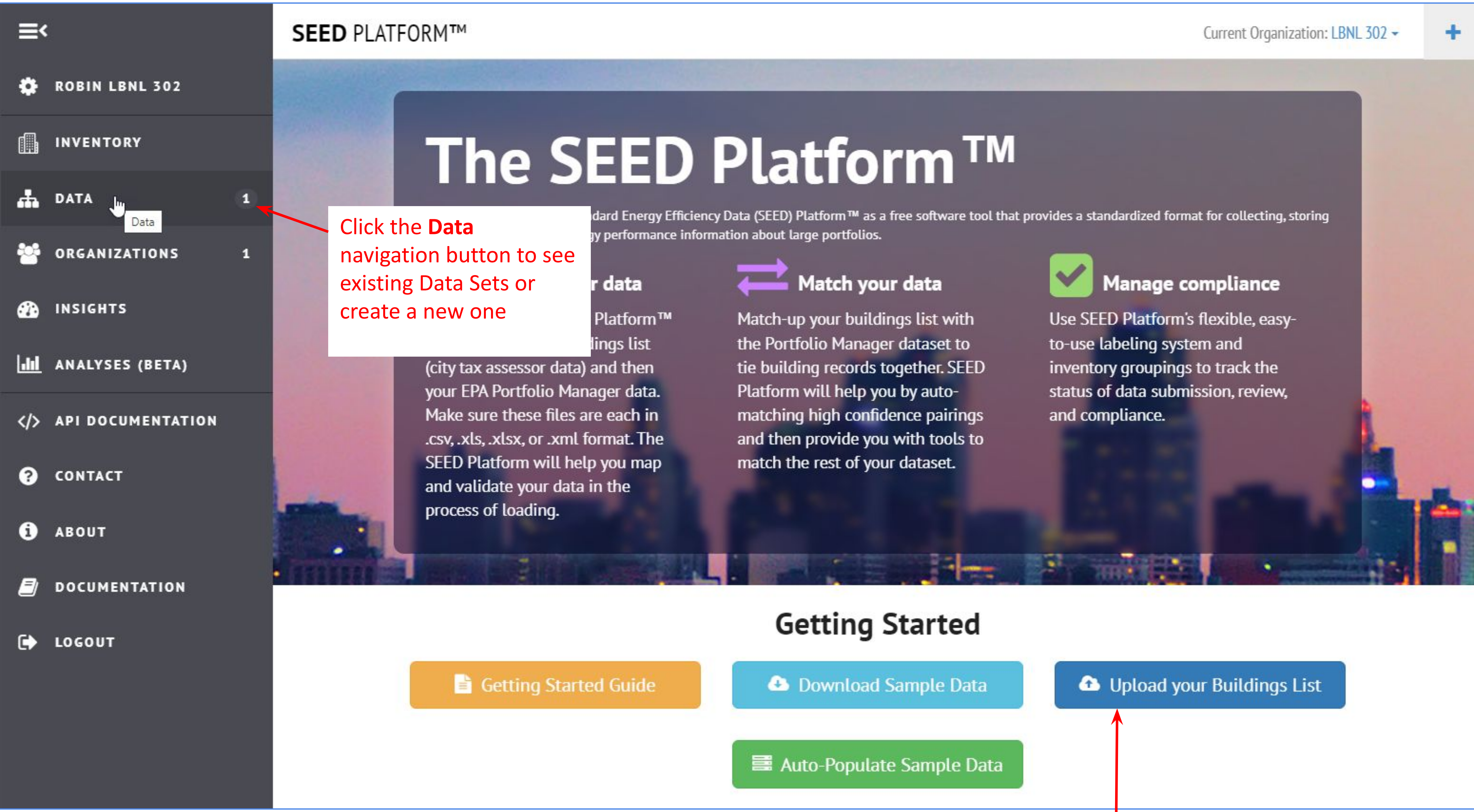
The new **Cycle** is added to the **Existing Cycles** list

Click **Edit** to change the default **Cycle** name if desired





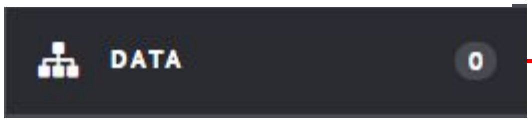
Uploading Data - There are many ways to start

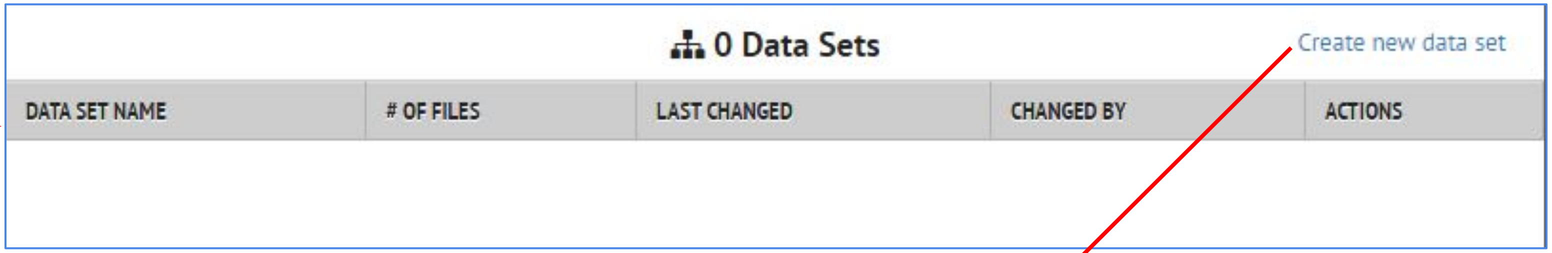


OR
click the blue button labeled "**Upload your buildings list**"

Create a New Data Set

Clicking the Data Navigation option will open the Data Sets view, to display existing Data Sets and create new Data Sets

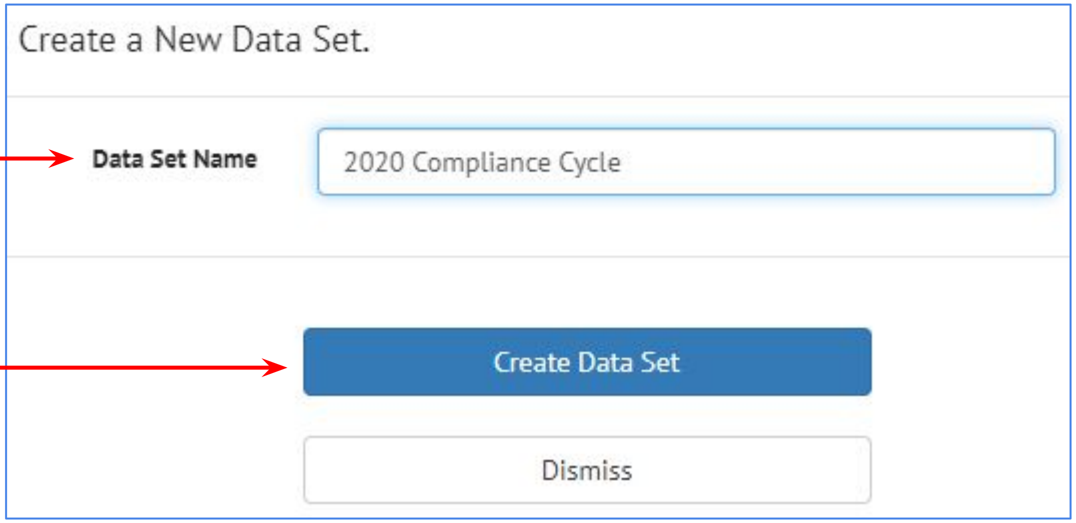




Click the **Create new data set** link to open this dialog box

Give the new data set a name

Click the Create Data Set button



Add a file to the data set

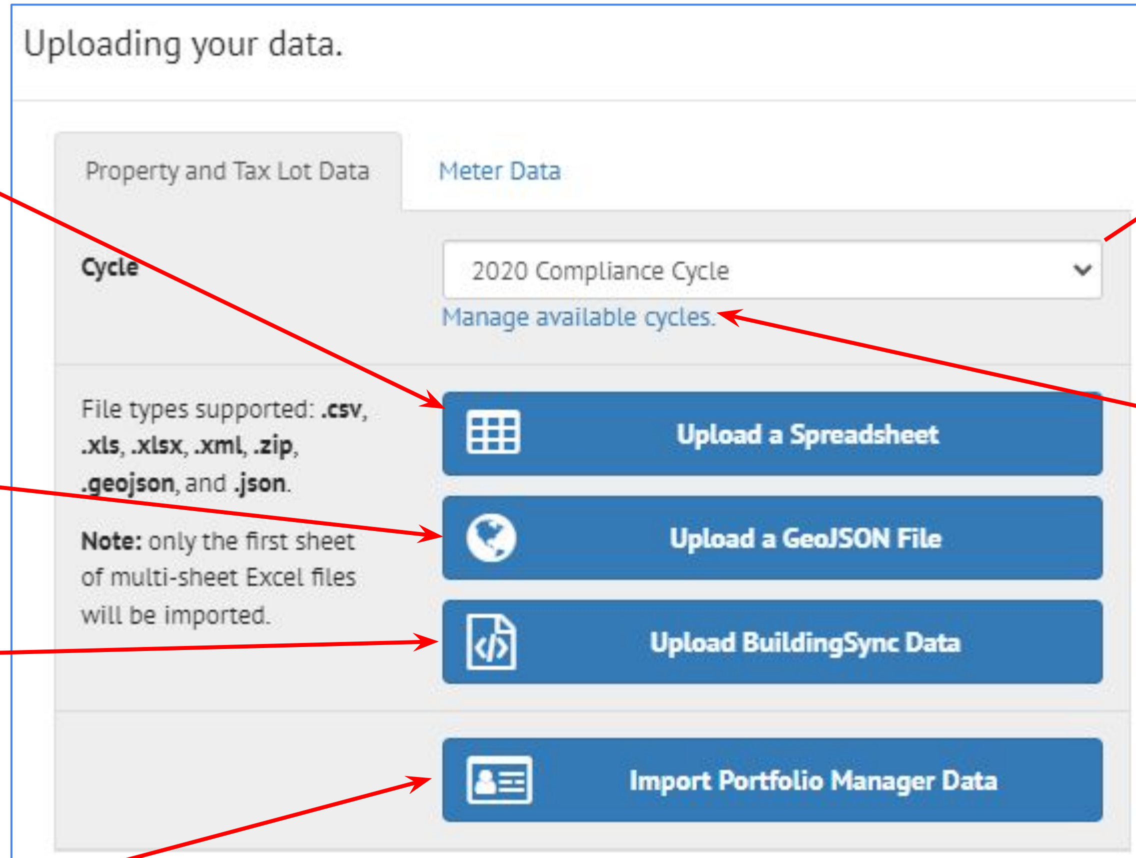
Select the data file type, either

Upload a Spreadsheet
(CSV, XLS, XLSX)
to import
- Tax / Parcel lists
- Building lists
- Portfolio Manager downloaded spreadsheets

Upload GeoJSON file
- This option allows importing a GeoJSON file

Upload BuildingSync Data
- This option allows importing a BuildingSync (XML format) file, such as produced by Asset Score.

Import Portfolio Manager Data
- Log in to your Portfolio Manager account and import the custom report template directly into SEED

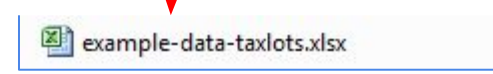


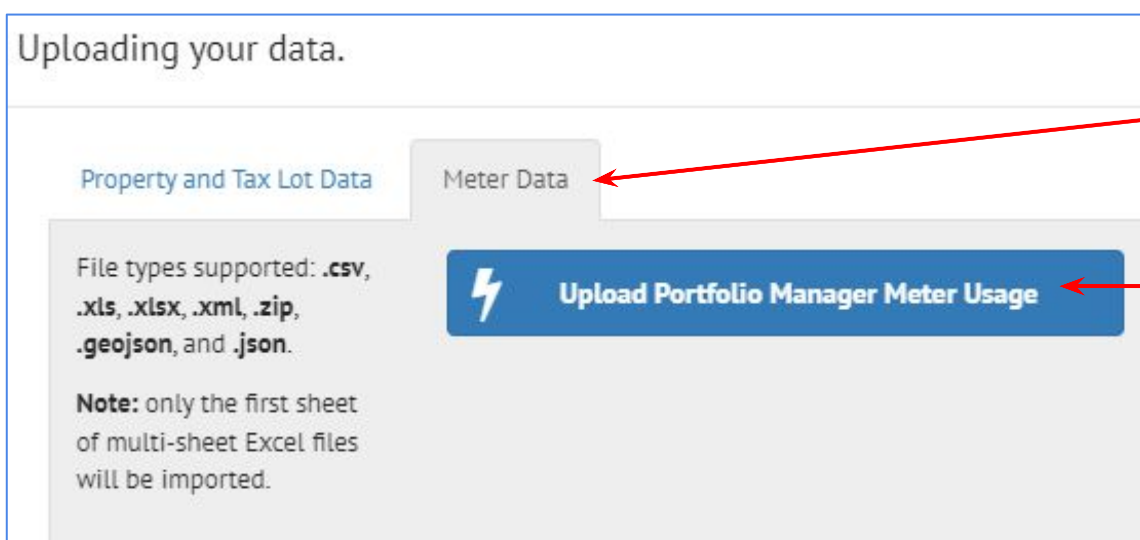
Select a **Cycle** (time period) to associate with the data (except Meter data, which is not associated with Cycles)

Click "**Manage available cycles**" to go to the Cycle definition page

A browser window will open to select a file to upload

In this example, a **Tax Lot / Parcel** data file is uploaded



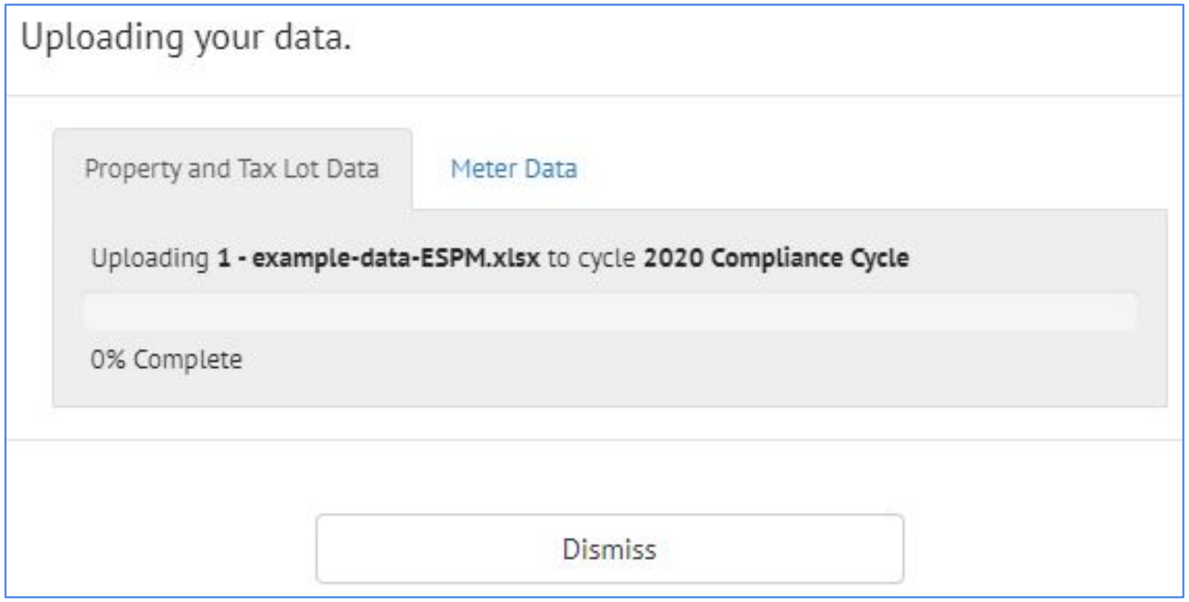


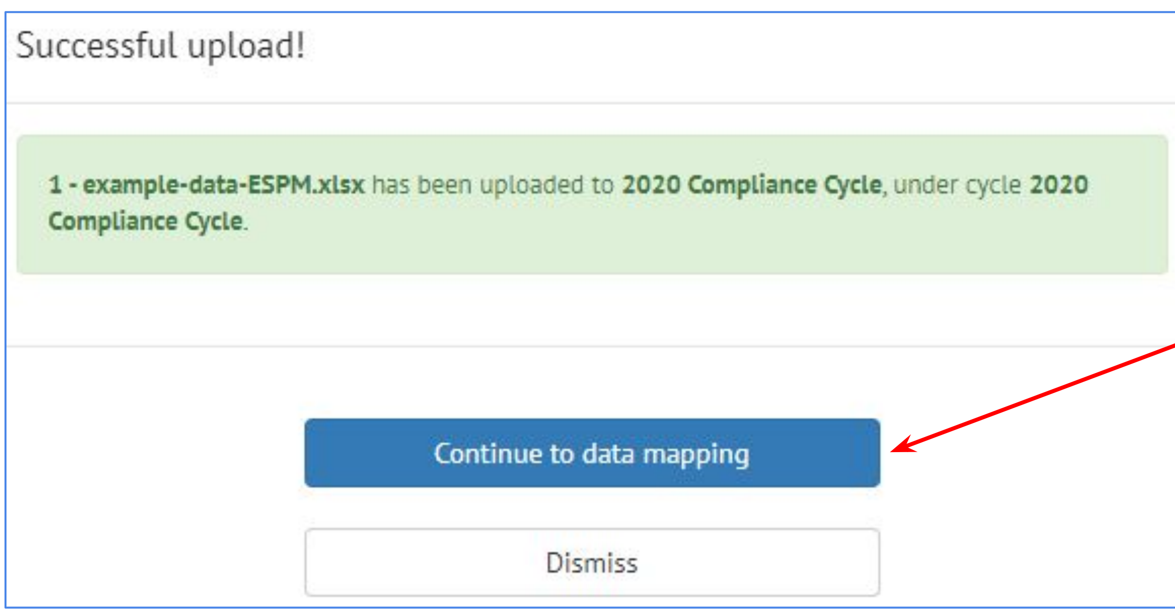
To upload monthly meter data, click on the Meter Data tab

Upload Portfolio Manager Meter Usage
(XLXS)
- From Portfolio Manager monthly data spreadsheet

Upload Data

During the data upload, SEED reports the progress
and the success of the upload





When the data upload is complete, click the "**Continue to data mapping**" button

After you click the "**Continue to data mapping**" button, you may see a spinning circle if the data file is large

DATA 0

Mapping Fields

Matching Fields:
SEED matches records between files (such as Tax Lot and Building lists and ENERGY STAR Portfolio Manager data) based on the matching fields so it is **very important** to map your data's fields to at least one of these SEED fields.

Pick a field that is common between the files you plan to merge and pair to each other

The **Collapse Tabs** option is useful if you already know all the matching rules and need more room to view the mapped fields

Directions for mapping data are at the top of the Mapping page in the STEP 1 tab.

2020 Compliance Cycle

Data Mapping and Validation (1 - example-data-ESPM.xlsx)

STEP 1: Map Your Data | STEP 2: Review Your Data Mappings | BEDES | Collapse Tabs

MAPPING YOUR DATA TO SEED

It is necessary to map your field names to SEED field names. You can select from the list that appears as you start to type, which is based on the Building Energy Data Exchange Specification (BEDES), or you can type in your own name, as well as typing in the field name from the original datafile.

In addition, you need to specify where the field should be associated with Tax Lot data or Property data. This will affect how the data is matched and merged, as well as how it is displayed in the Inventory view.

Column Mapping Profiles can be used to help you easily and consistently map your data. Note that file header columns defined in the profile must match exactly (spaces, lowercase, uppercase, etc.) in order for the corresponding SEED column information to be used.

Field names for matching Properties: **Custom ID 1, PM Property ID**

Field names for matching Tax Lots: **Jurisdiction Tax Lot ID**

If there are fields in the datafile mapped to these names, the program will attempt to match on the corresponding values in existing records. All of these fields must have the same values between records for the records to match.

Matches within the same cycle will be merged together, while matches in different cycles will be associated for cross-cycle analysis.

Field names for geocoding properties: **Address Line 1, Address Line 2, City, State, Postal Code**

Field names for geocoding tax lots: **Address Line 1, Address Line 2, City, State, Postal Code**

Datafile fields mapped to these columns will have their corresponding values concatenated in the order listed to form a full address. This full address is made for each record and used for geocoding. **Note, geocoding requires at least 1 column is used and populated to construct full addresses.**

When you click the **Map Your Data** button, the program will show a grid with the new field names as the column headings and your data in the rows. In that view, you can still come back to the initial mapping screen and change the field mapping.

Duplicate -- if fields are marked as duplicates they need to be resolved to have different names.

The Matching fields for Property and Tax Lot data are specified in Organizations/**Column Settings** and are displayed here.

In this case, for **Property** data there are 2 matching fields:

- **Custom ID 1:** Jurisdiction ID
- **PM Property ID**: ID from ENERGY STAR Portfolio Manager

In this case, for **Tax Lot** data there is one matching field:

- **Jurisdiction Tax Lot ID**: Tax Assessor's Tax Parcel ID

The fields for geocoding properties, defined in **Organizations / Column Settings**, are also displayed here

Mapping Fields

The fields in a data file can be mapped

- All to the same table (either Tax Lot or Property)
- To different tables
    - In the example below, mapping to both tables defines the relationship between the Property and the Tax Lot data with **matching fields**.

Building List					
UBID	**Jurisdiction Tax Lot ID**	**Lot Owner**	**Gross Floor Area**	**Parcel Area**	**Building Owner**
123	13234	Williams	25000	55000	Chen
256	33423	Smith	40000	75000	Fowler
535	33423	Smith	10000	75000	Hilgard

Map to Tax Lot table

Tax Lot table		
Jurisdiction Tax Lot ID	Lot Owner	Parcel Area
13234	Williams	55000
33423	Smith	75000

Map to Property table

Property table		
UBID	Gross Floor Area	Building Owner
123	25000	Chen
256	40000	Fowler
535	10000	Hilgard

Tax-Lot Property Join table	
Jurisdiction Tax Lot ID	**Unique Building ID**
13234	123
33423	256
33423	535

Mapping Fields

DATA 0

You can click on this button to map all the SEED fields to the fields in the imported file and then change them as needed

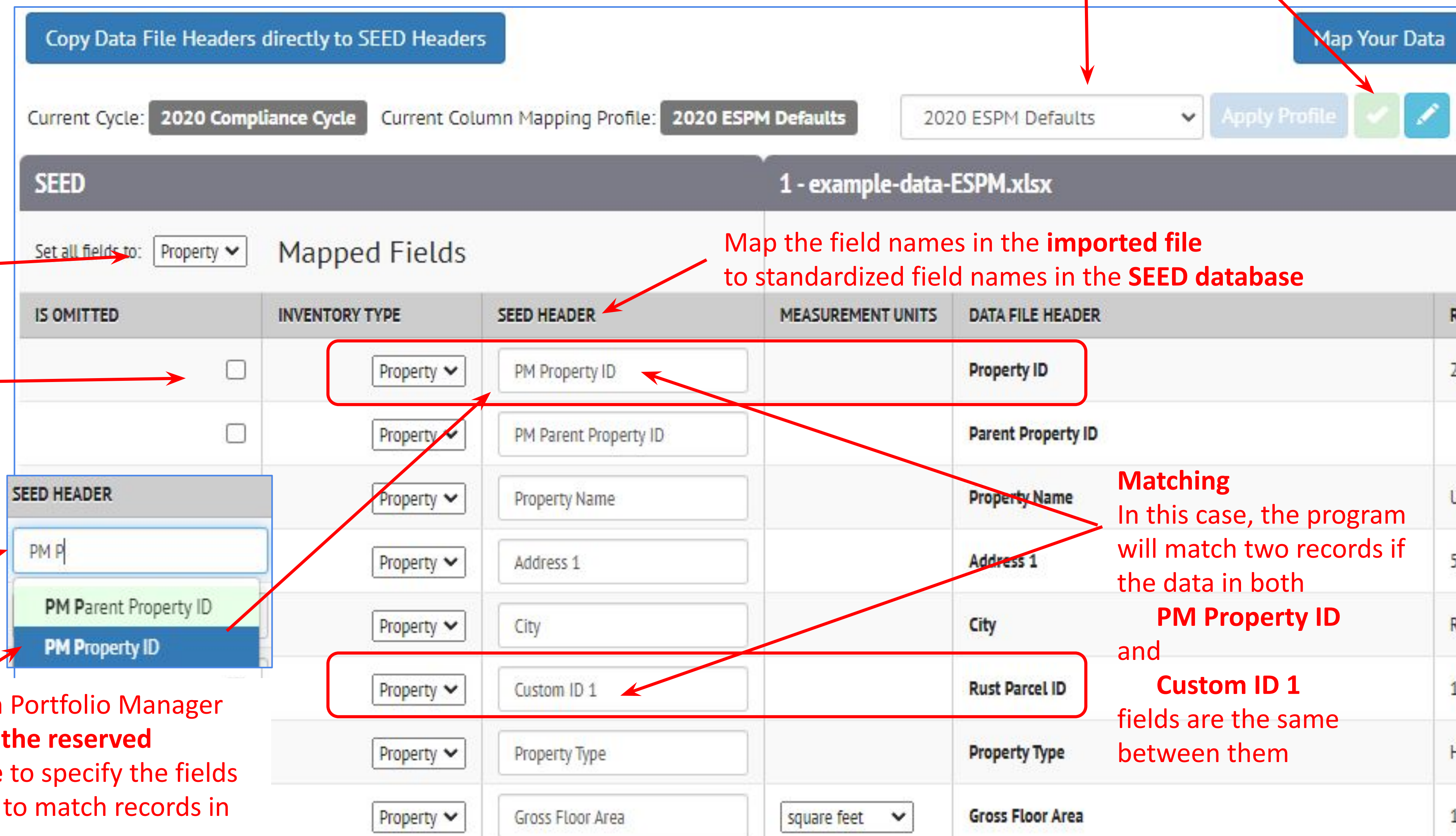
When the SEED Header fields are properly defined, you can make a “Column Mapping Profile” to save those settings by clicking the blue pencil icon.
You will give it a name, and then it will appear in the pull down list for future use

This data is all from ENERGY STAR Portfolio Manager, so all the fields are mapped to the **Property** table

Map the field names in the **imported file** to standardized field names in the **SEED database**

Check this box to omit (not import) a field

Start typing in the SEED field input to see a list of fields containing that word



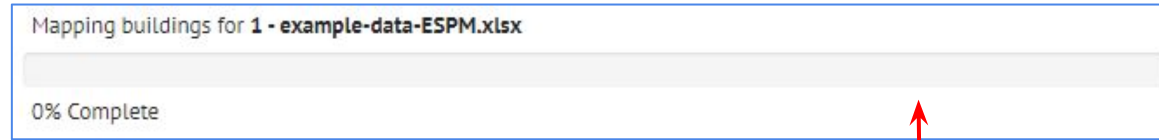
Matching
In this case, the program will match two records if the data in both
PM Property ID
and
Custom ID 1
fields are the same between them

The Property ID from Portfolio Manager field was mapped to **the reserved Matching field name** to specify the fields the program will use to match records in files

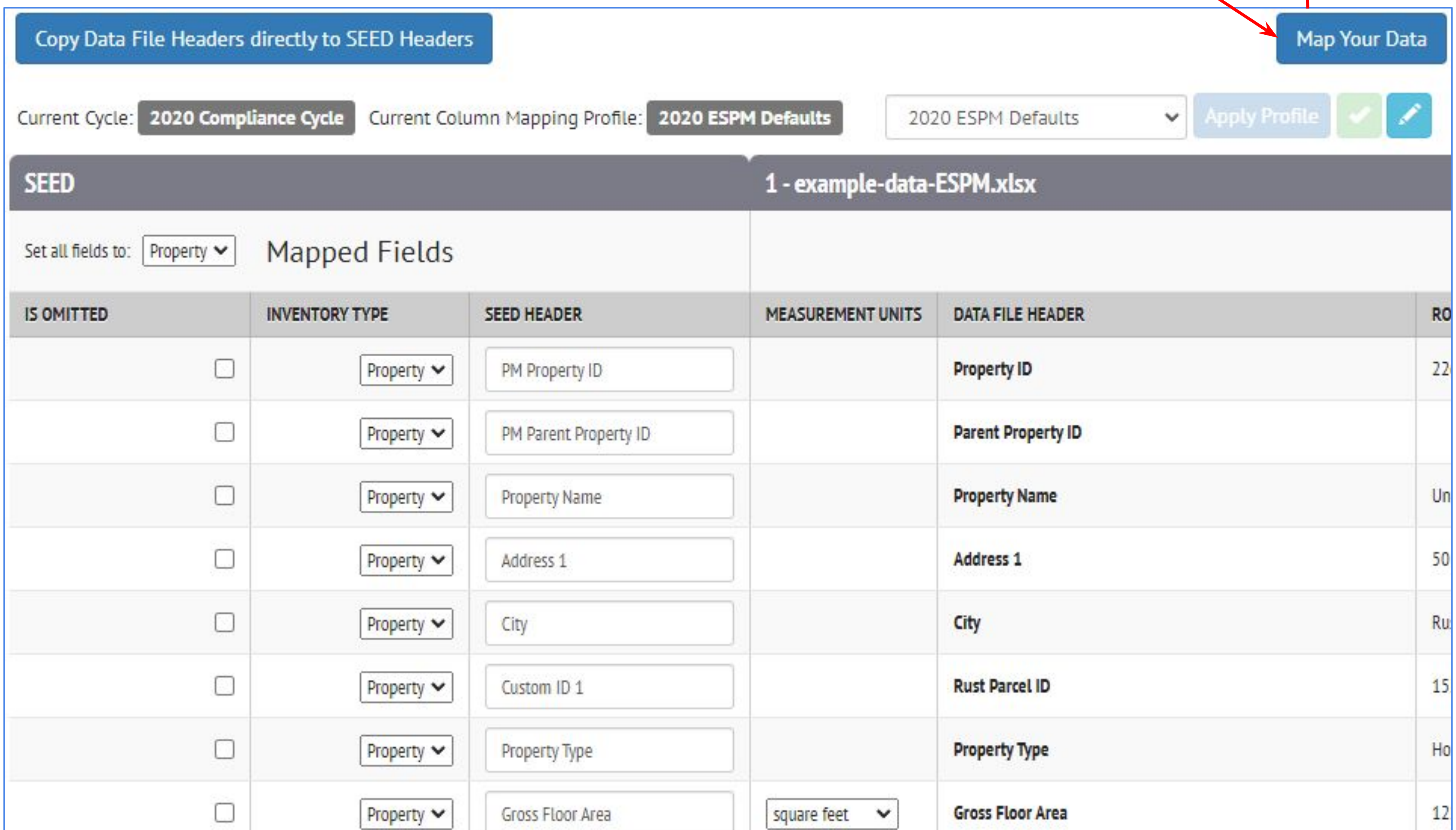
- Property ID ⇒ **PM Property ID**

DATA 0

Mapping Fields



Click **Map Your Data** when all the fields are mapped as desired



DATA 0

Field Mapping Review

Map Your Data

View the mapped fields populated with the data

Click **Save Mappings** if the mapping is correct

You can click **Back to Mapping** if it is not correct

Click **Data Quality Results** to see data errors (see next page)

Back to Mapping

27 8 Data Quality Results

Save Mappings

SEED displays the number of records

View by Property

It is possible to filter and sort the data by field in this view

2020 Compliance Cycle

15 properties

City	Custom ID 1	Gross Floor Area (ft^2)	PM Parent Property ID	PM Property ID	Property Name
Rust	1552813	12,555.00		2264	University Inn
Rust	1552813	12,555.00		2264	University Inn
Rust	1552813	2,000.00		2266	University Inn Parking
Rust	11160509	23,543.00		1154623	Hilltop Retail
Rust	11160509	513,852.00		3020139	Hilltop Condos
Rust	11160509	55,121.00		4828379	Hilltop Offices
Rust	33366555; 33366125; ...	200,000.00		5233255	Montessori Day School
Rust	24651456		1311523	1311523	Lucky University
Rust	24651456	124,523.00	1311523	1311524	Grange Hall
Rust	24651455	421,351.00	1311523	1311525	Biology Hall

DATA 0

Mapping – Review – Data Quality Results

From the **Data Mapping Review** screen, click **Data Quality Results** to see what the program discovered about the data

27 8 Data Quality Results

Data Quality Results

File Name: 1 - example-data-ESPM.xlsx

Date Uploaded: April 28th 2023, 1:57:37 PM -07:00

PM PROPERTY ID	CUSTOM ID	FIELD	APPLIED LABEL	ERROR MESSAGE
PM Property ID	Custom ID	Field	Applied Label	Error Message
2264	1552813	Alert - Individual monthly meter entry is more than 65 days long	--	Alert - Individual monthly meter entry is more than 65 days long [Possible Issue] does not cc
2264	1552813	ENERGY STAR Score	--	ENERGY STAR Score is null
2264	1552813	Gross Floor Area	--	Gross Floor Area [12555.0 ft^2] < 50000.0 ft^2
2264	1552813	Site EUI	--	Site EUI [3.0] < 10.0
2264	1552813	ENERGY STAR Score	--	ENERGY STAR Score is null
2264	1552813	Gross Floor Area	--	Gross Floor Area [12555.0 ft^2] < 50000.0 ft^2
2266	1552813	Alert - Individual monthly meter entry is more than 65 days long	--	Alert - Individual monthly meter entry is more than 65 days long [Possible Issue] does not cc
2266	1552813	ENERGY STAR Score	--	ENERGY STAR Score is null
2266	1552813	Gross Floor Area	--	Gross Floor Area [2000.0 ft^2] < 50000.0 ft^2
2266	1552813	Site EUI	--	Site EUI is null

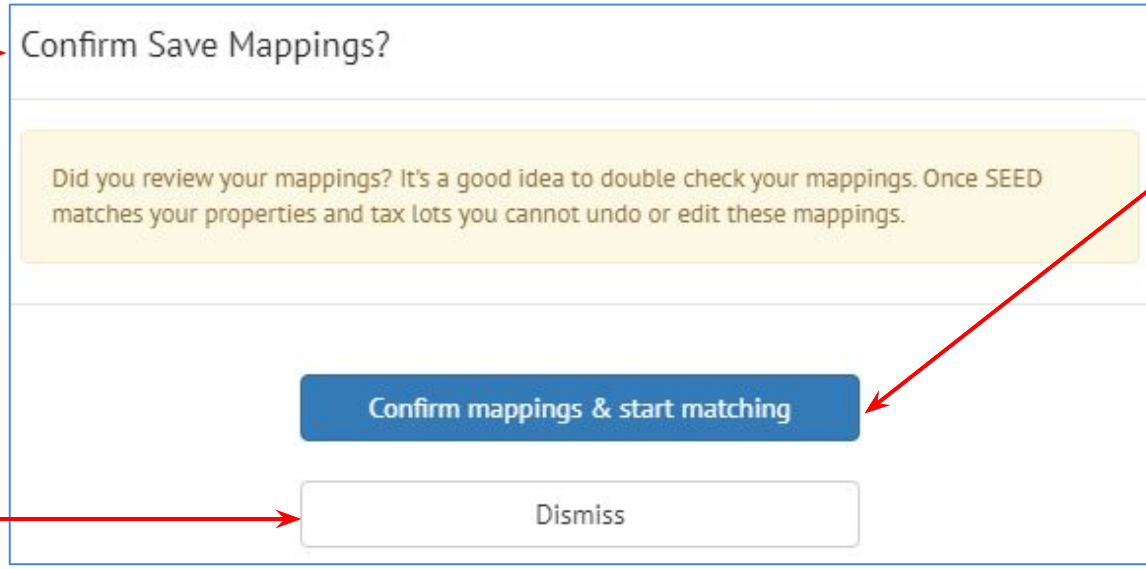
Click **Export** to export the contents of the Data Cleansing screen to a CSV file

Export Close

Data Cleansing Results.csv

Click **Close** to return to the **Data Mapping** Screen

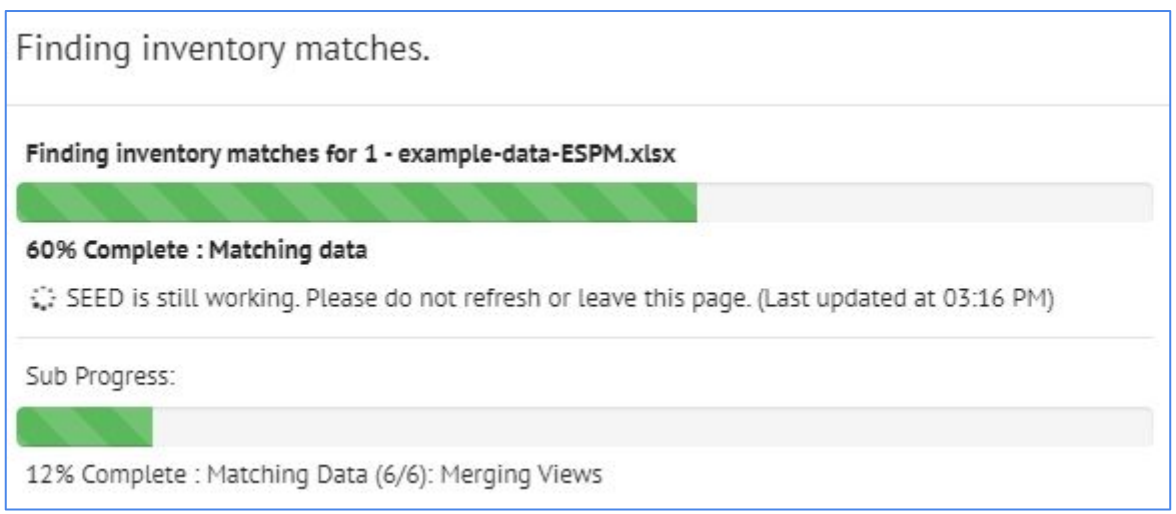
Mapping – Confirm and Start Matching



Click **Confirm mappings and start matching** if you are happy with the data mapping

SEED will check to see if any records match within the file (or across other files if they have already been imported)

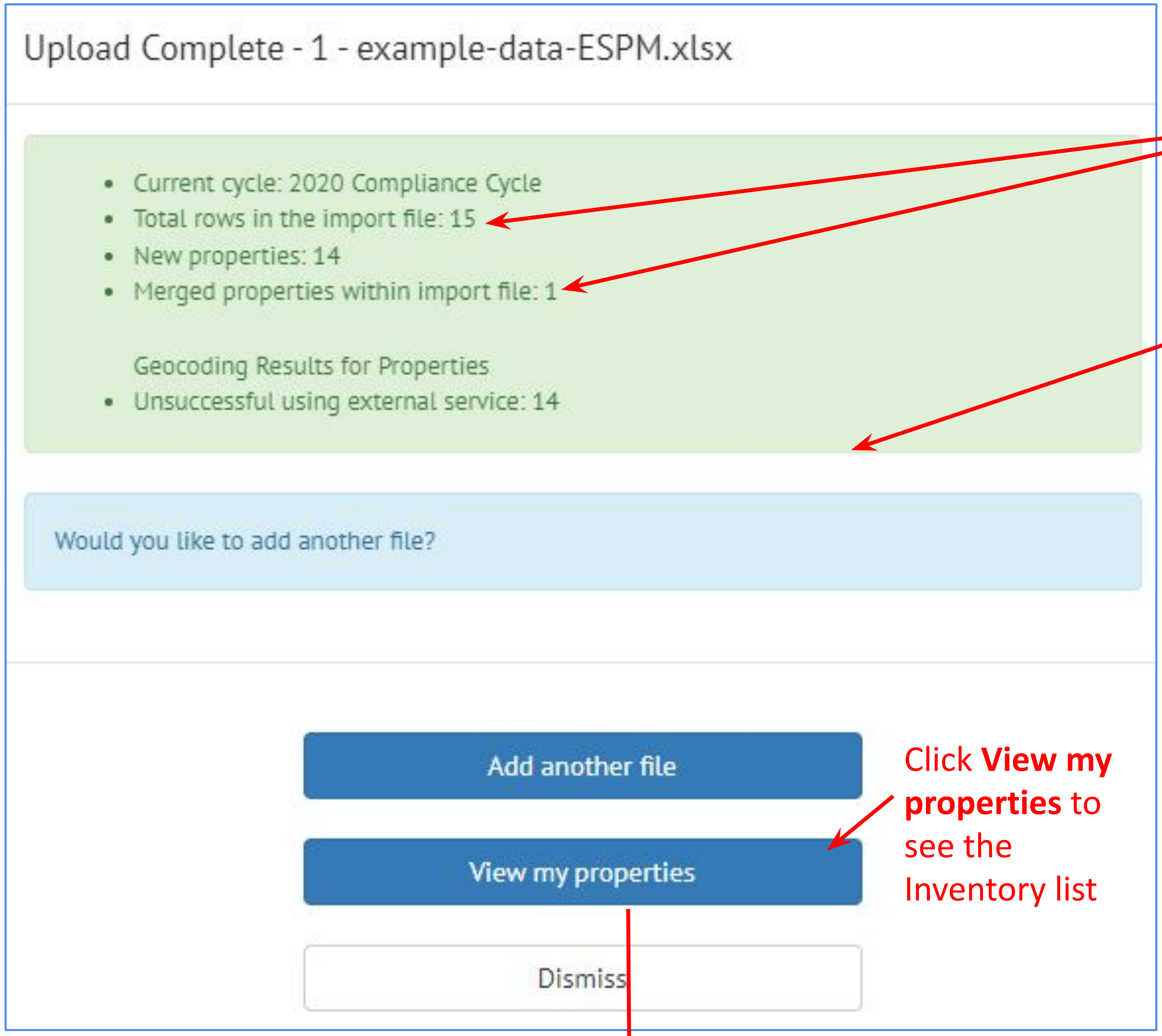
You have one more chance to review the mapping



Program checks to see if any records match within the file based on the matching fields set in Mapping, in this case PM Property ID and Custom ID 1.

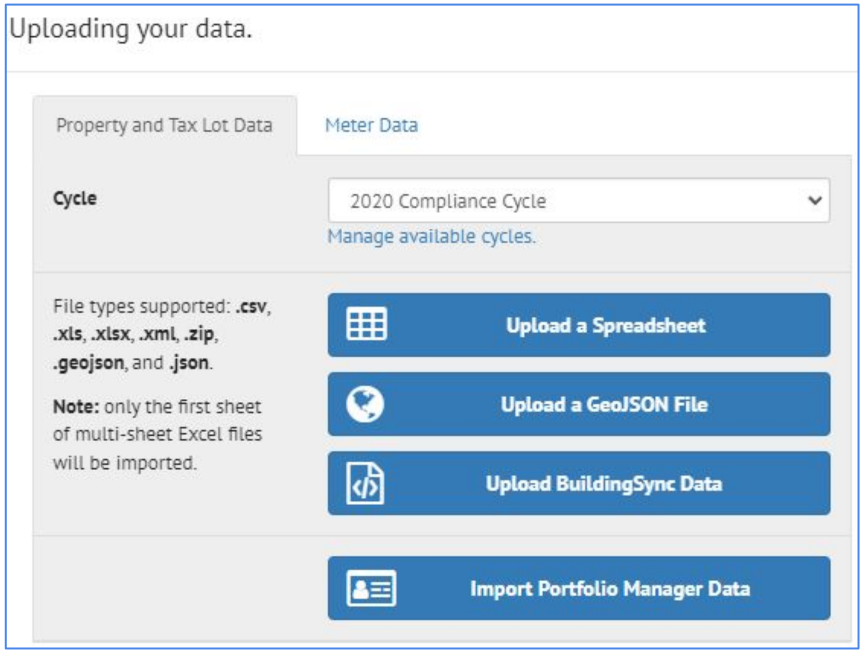
The program checks for matching even if there is no data already loaded into the program to match to, in case there are matches within the file being imported

Matching - View Results / Add a File

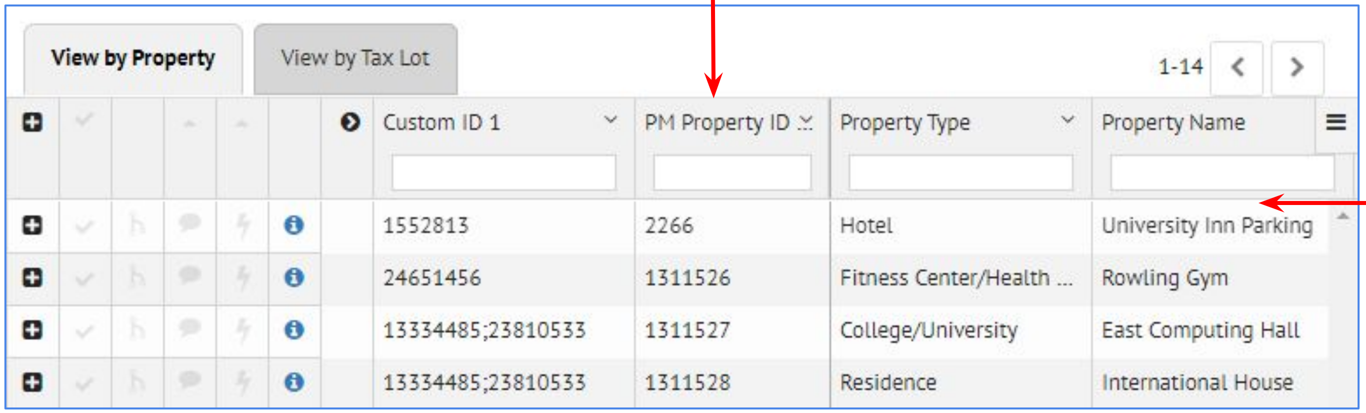


The program reports on what was done with the records. In this case, the program imported 15 records and created 14 new records in the Property (two rows in the import were merged) table from those imported records

Click **Add another file** to upload another data file, such as ENERGY STAR Portfolio Manager data, which allows you to add more data to match to the records that were just created



Click **View my properties** to see the Inventory list



After a data file has been mapped and matched, the records can be viewed in the Inventory list view.

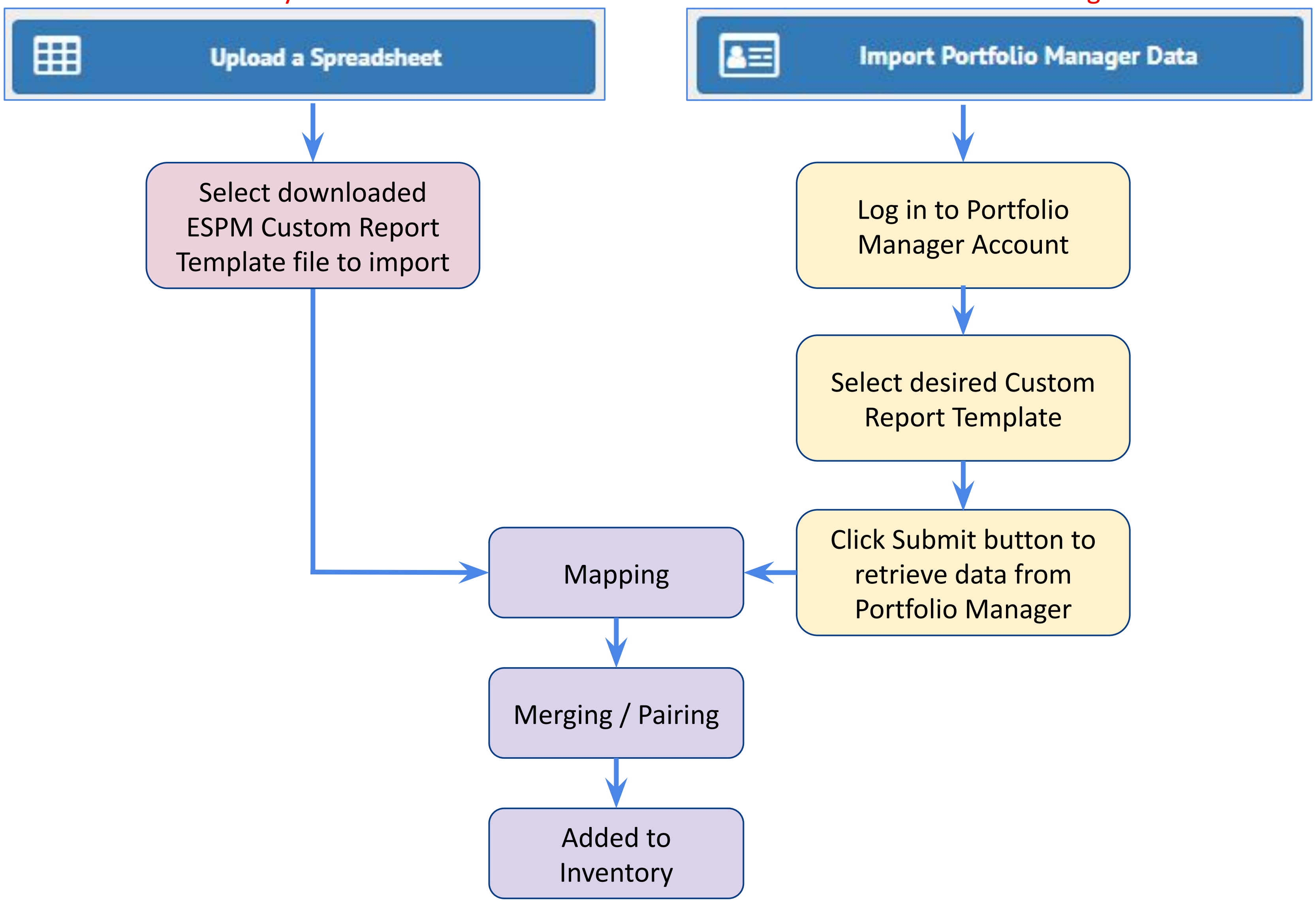
In this example, **Property** data was imported, so the data can be viewed in the **View by Property** tab, for the appropriate **Cycle**

ENERGY STAR Portfolio Manager (ESPM) Data

Two paths for obtaining ENERGY STAR Portfolio Manager (ESPM) data

Option 1
Upload a Spreadsheet
Upload an ESPM Custom Report Template that has been downloaded from ESPM as a CSV file "by hand"

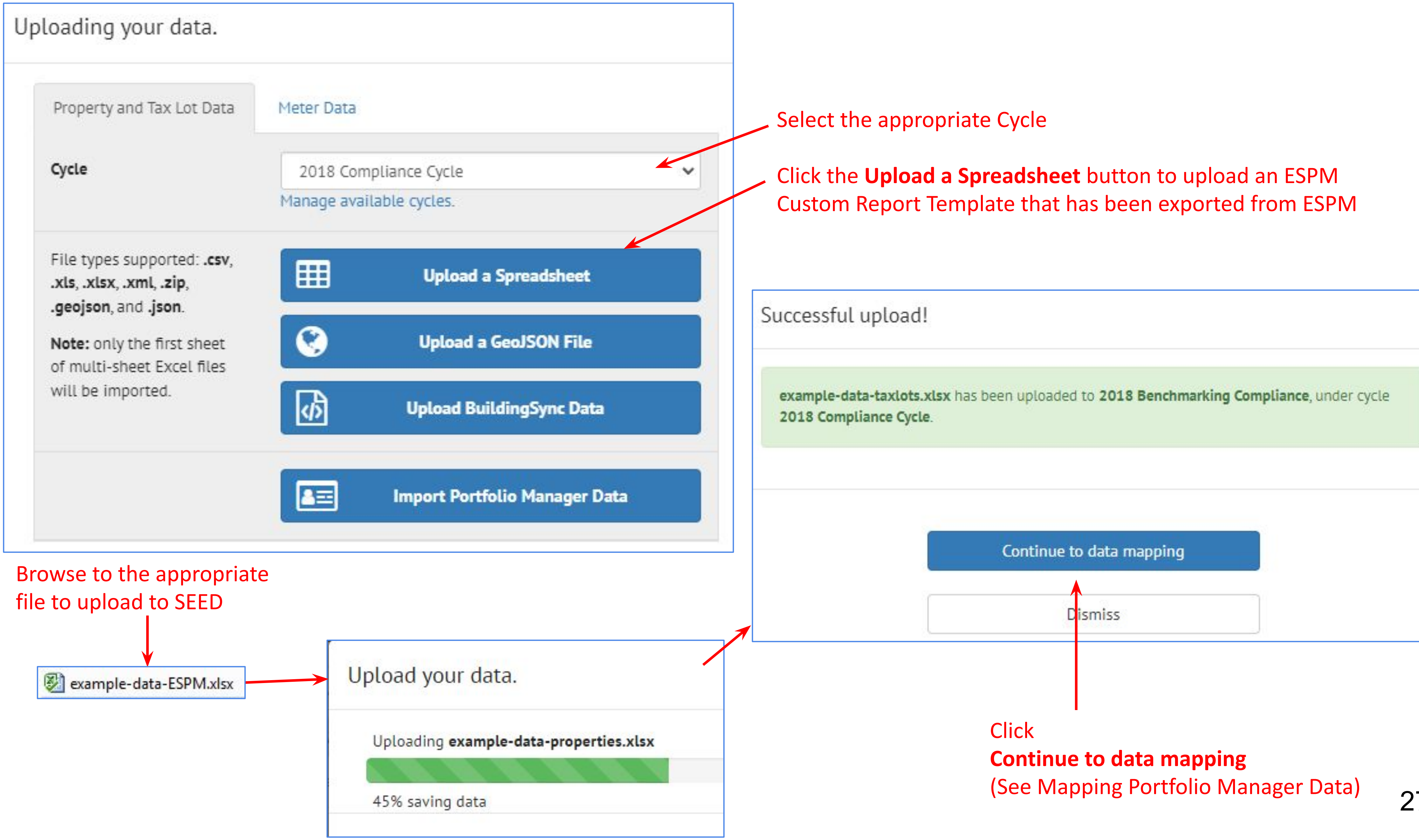
Option 2
Import Portfolio Manager Data
Log directly into ESPM from SEED and import an ESPM Custom Report Template data directly into SEED without first downloading the CSV file.



DATA 0

ESPM Option 1: Upload Data from ESPM CSV files

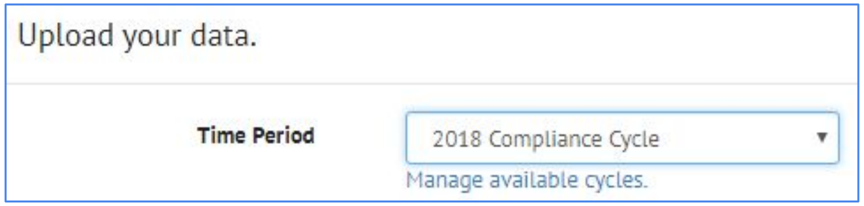
This example shows how to upload Portfolio manager data from Custom Report Template files that have been downloaded from Portfolio Manager



ESPM Option 2: Import Data Directly from ESPM

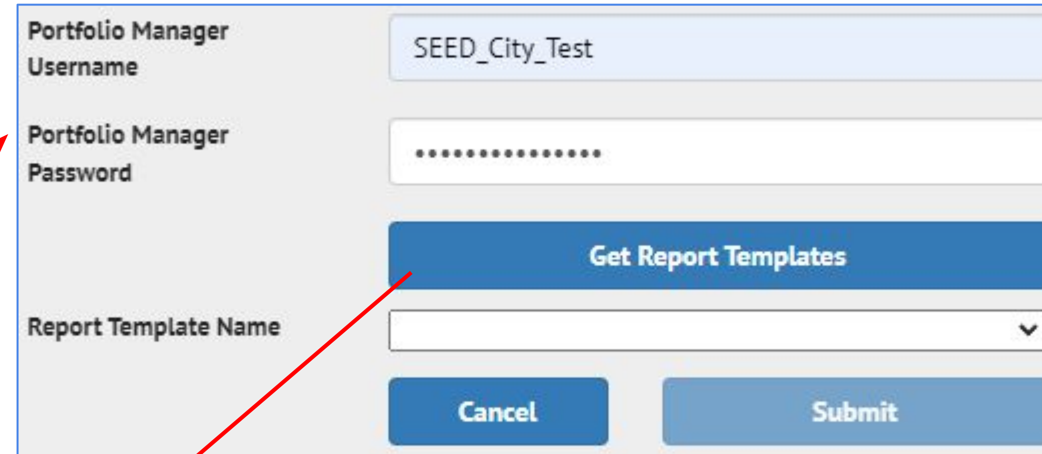
This example shows how to import Portfolio manager data from Custom Report Template directly by logging into a Portfolio Manager account from SEED

1 - Select the appropriate Cycle

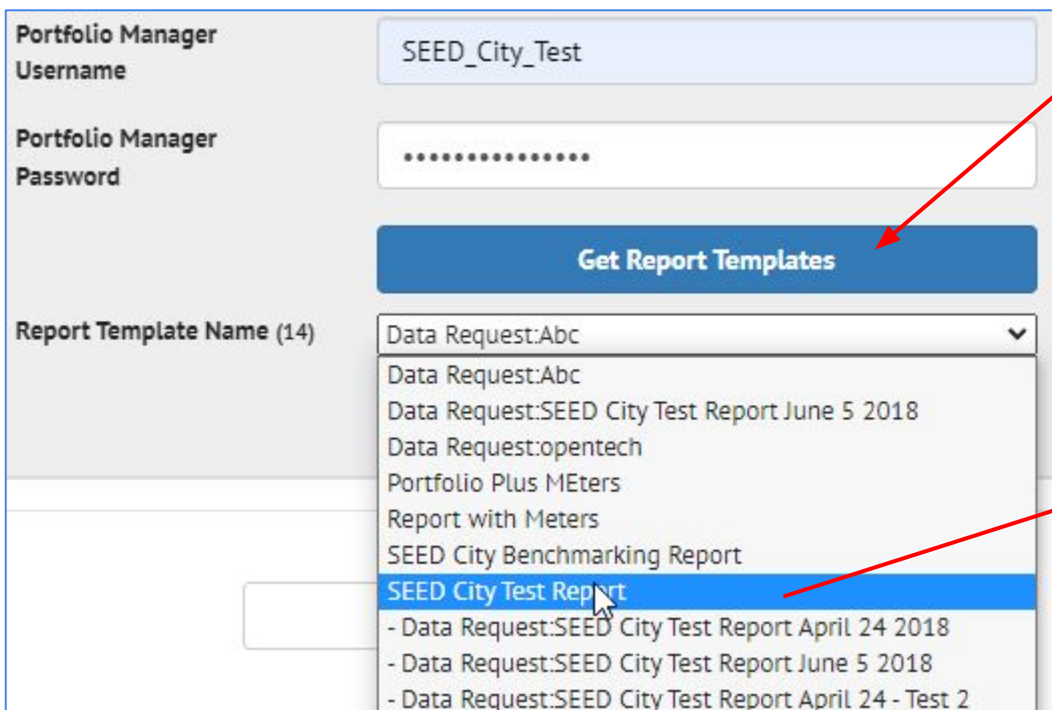


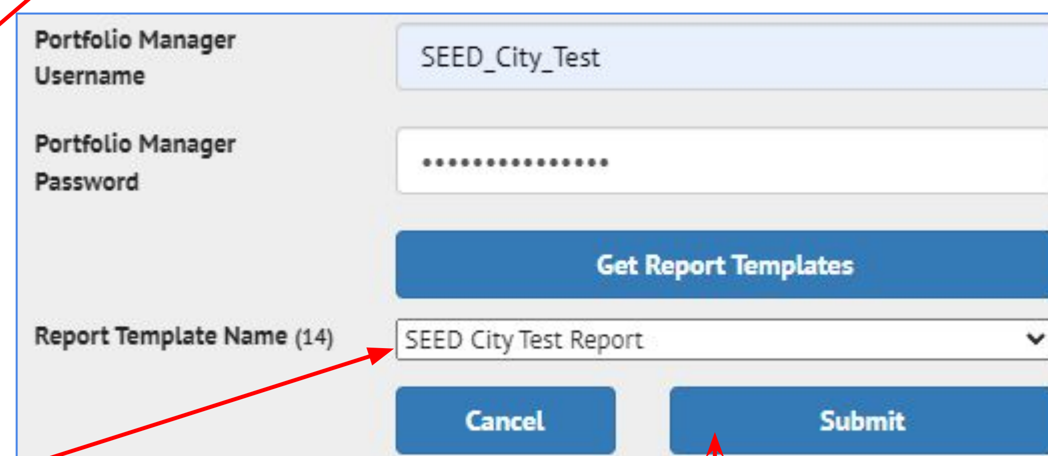
2 - Click the **Upload Portfolio Manager Data** button to upload an ESPM Custom Report Template that has been exported from ESPM as a CSV file

3 - Enter Portfolio Manager Username and Password



4 - Click **Get Report Templates button**





5 - Select the desired Report Template

6 - Click **Submit** to continue to data Mapping

DATA 0

Mapping Portfolio Manager Data

SEED field mapping for a Portfolio Manager file

Map all the fields to the Property Table except if there is a Tax Lot / Parcel ID -- map that to the Tax Lot table

UBID

- ***Matching field - Property table***
- Use for a Unique Building ID, if that field is in the ESPM data

PM Property ID

- ***Matching field - Property table***
- Map to **Property ID** in PM file

PM Parent Property ID

- Map to **Parent Property ID** in PM file to define the campus relationship

Address Line 1

- ***Matching field - Property table***
  - If you want to match on Address, map to Address Line 1.
  - If you don't want to match on Address, use the ESPM field name of "Address 1"

Jurisdiction Tax Lot ID

- ***Matching Field - Tax Lot table***
- If there is a Tax Lot ID field in the Portfolio Manager data that can be used to set up the relationship between Tax Lot and Property, map it to Jurisdiction Tax Lot ID
- Set the field to the **Tax Lot** table

SEED — 1 - example-data-ESPM-UBID-NoAlerts.xlsx

Set all fields to: Mapped Fields

INVENTORY TYPE	SEED HEADER	MEASUREMENT UNITS	DATA FILE HEADER	ROW 1
Property	Building ID		Building ID	100
Property	UBID		UBID	SRIY2TX6+2NR-SRIY2TX6+DS6-SRIY2TX6+F5Q
Property	PM Property ID		Property ID	2264
Property	PM Parent Property ID		Parent Property ID	
Property	Property Name		Property Name	University Inn
Property	Address 1		Address 1	50 Willow Ave SE
Property	City		City	Rust
Tax Lot	Jurisdiction Tax Lot ID		Rust Parcel ID	1552813
Property	Property Type		Property Type	Hotel
Property	Gross Floor Area	square feet	Gross Floor Area	12555

Gross Floor Area

- ***Matching field - Property table***
- If you are mapping to a field called "**Gross Floor Area**" make sure to set the "**Measurement Units**". If this field is left blank, there will be problems later with the data.

DATA 0

Mapping Review - Portfolio Manager

Back to Mapping

The fields mapped to **Property** are shown under the **Property tab**

Click **Data Quality results** button to view the errors or warnings.

42 Data Quality Results

Save Mappings

Click **Save Mappings** if mapping is correct

View by Property

2018 Compliance Cycle 14 properties

City	ENERGY STAR Score	PM Generation Date	Gross Floor Area (ft^2)	PM Parent Property ID	PM Property I...	Property Name	Property Type
Rust	75	2015-06-25 12:00 AM	12,555.00		2264	University Inn	Hotel
Rust		2015-06-25 12:00 AM	2,000.00		2266	University Inn Parking	Hotel
Rust	63	2015-03-02 12:00 AM	23,543.00		1154623	Hilltop Retail	Retail
Rust	1	2015-03-09 12:00 AM	513,852.00		3020139	Hilltop Condos	Multifamily Housing
Rust		2015-03-10 12:00 AM	55,121.00		4828379	Hilltop Offices	Office
Rust	55	2015-03-11 12:00 AM	200,000.00		5233255	Montessori Day School	K-12 School
Rust		2015-03-03 12:00 AM		1311523	1311523	Lucky University	College/University
Rust	77	2015-03-04 12:00 AM	124,523.00	1311523	1311524	Grange Hall	Performing Arts
Rust	43	2015-03-05 12:00 AM	421,351.00	1311523	1311525	Biology Hall	Laboratory
Rust	59	2015-03-06 12:00 AM	1,234.00	1311523	1311526	Rowling Gym	Fitness Center/Health ...

View by Tax Lot

The fields mapped to **Tax Lot** are shown under the **Tax Lot tab**

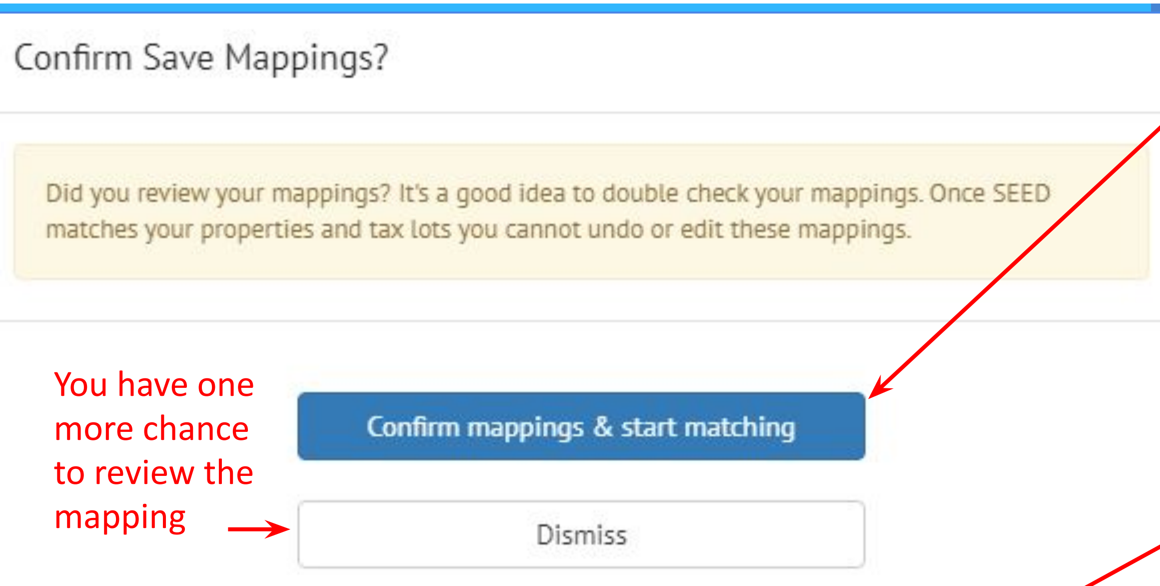
2018 Compliance Cycle 16 tax lots

In this case only one field, Jurisdiction Tax Lot ID, was mapped to the Tax Lot table in the Mapping

Jurisdiction Tax Lot ID
1552813
1552813
11160509
11160509
11160509

In the final Tax Lot table, this Tax Lot ID will be one record and there will be 3 property records associated with it.

Confirm Mapping and Start Matching



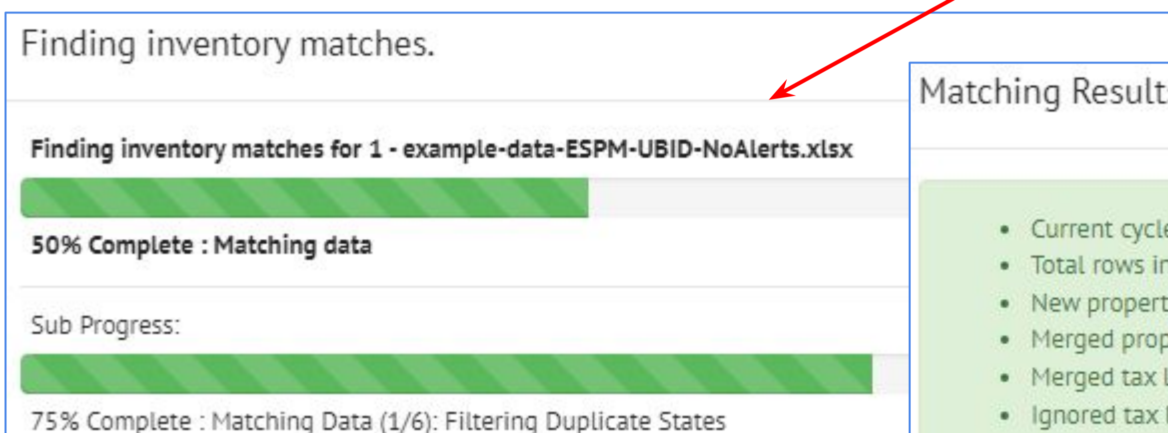
Click **Confirm mappings and start matching** if you are happy with the data mapping

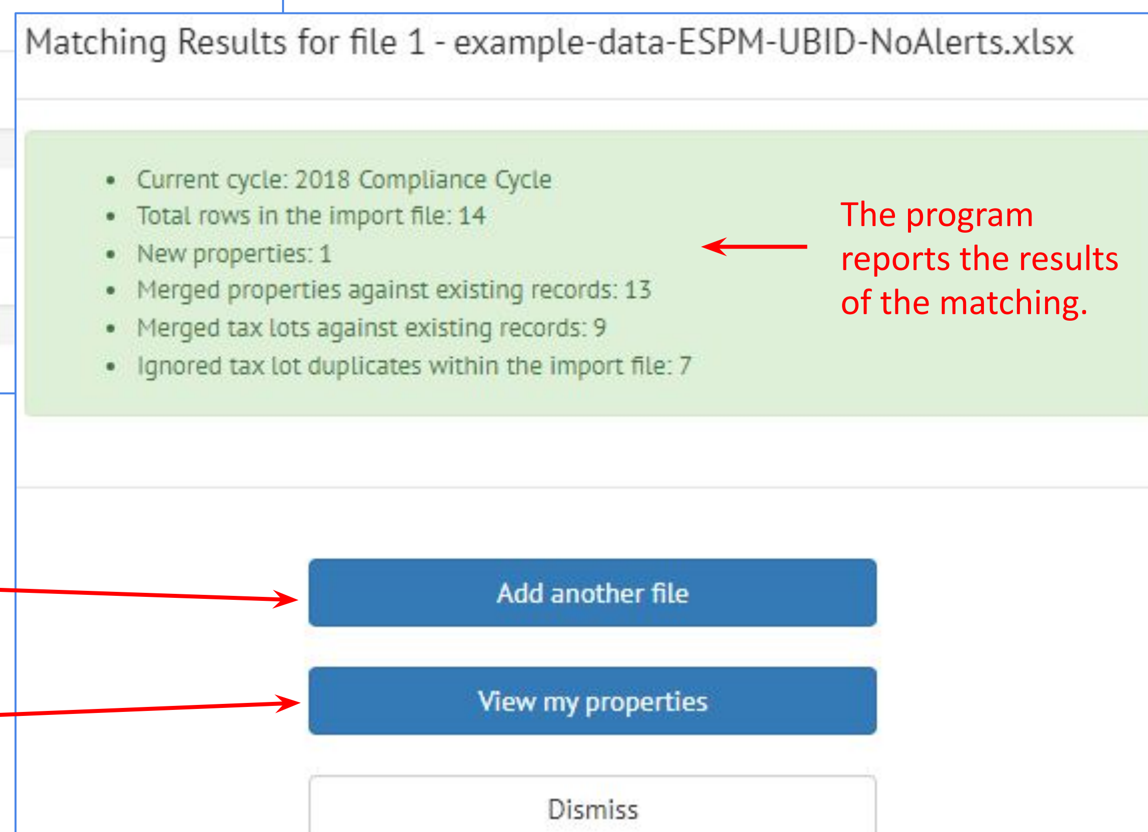
SEED will check to see if any records match (based on the Matching fields defined in Mapping) within the file (or across other files if they have already been imported)

You have one more chance to review the mapping

Program checks to see if any records match within the file (such as Address Line 1 or Tax Lot ID)

In this example, using the Sample data, the **matching field** that is common between the two data files, Tax Lot data and the Portfolio Manager data is **Address Line 1.**





The program reports the results of the matching.

Add another file takes you back to the **Upload Your Data** dialog box.

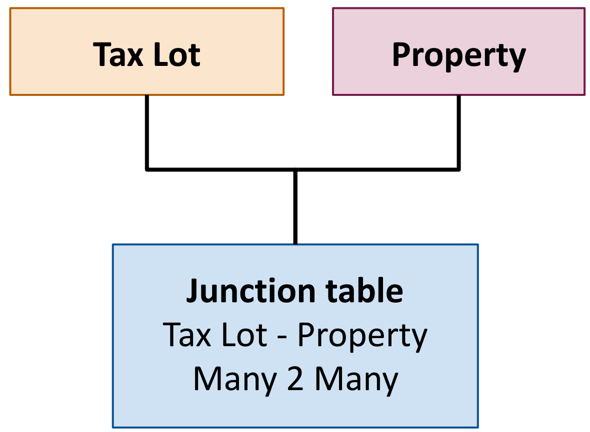
View my properties takes you **Inventory List** view

DATA 0

Hand Pairing Tax Lot and Property records

Pairing records between Tax Lot and Property tables

- Records are “paired” between Tax Lot and Property tables in the Junction table based on matching fields



Viewing and changing the data pairing is in the Data Import view

< Data Sets

2018 Compliance Year (2017 Data)

Add more data files

DATA FILES	DATE IMPORTED	# OF RECORDS	CYCLE	DATA MAPPING	DATA PAIRING
example-building-List.xlsx	02/02/2018 04:38:06 PM	11	2018 Compliance Year (2017 Data)	Data Mapping	Data Pairing

Hand Pairing Tax Lot and Property records

In the Data Sets view, for any imported file, click the Data Pairing button to view the automatic pairing or changing the pairing (pair or unpair records) by hand

Data Pairing

Select the Cycle for the desired data

View options

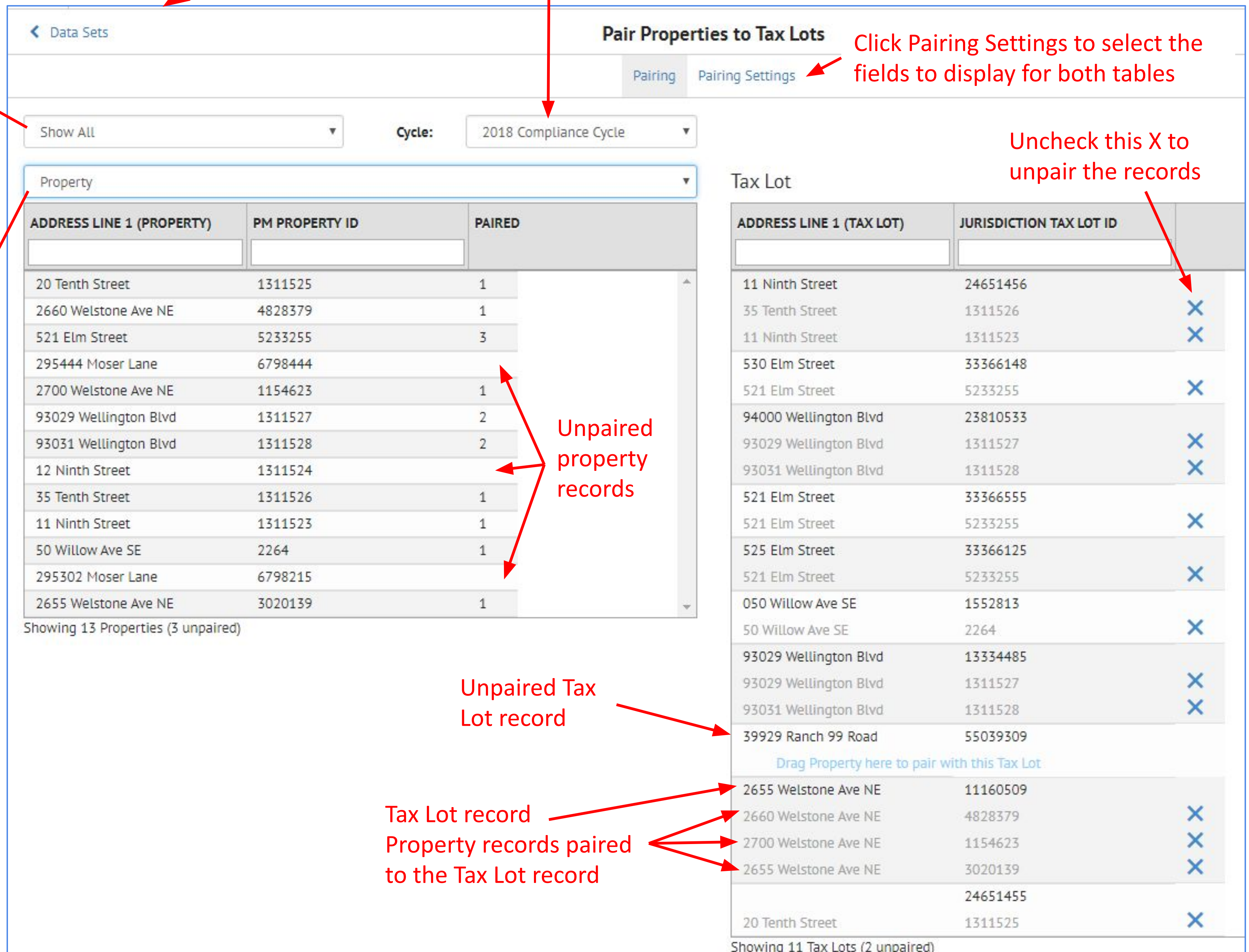
Show All
Show Paired
Show Unpaired

Click Pairing Settings to select the fields to display for both tables

Uncheck this X to unpair the records

Select table to view on the left hand side; the other table will display on the right hand side

Property
Tax Lot



ADDRESS LINE 1 (PROPERTY)	PM PROPERTY ID	PAIRED
20 Tenth Street	1311525	1
2660 Welstone Ave NE	4828379	1
521 Elm Street	5233255	3
295444 Moser Lane	6798444	
2700 Welstone Ave NE	1154623	1
93029 Wellington Blvd	1311527	2
93031 Wellington Blvd	1311528	2
12 Ninth Street	1311524	
35 Tenth Street	1311526	1
11 Ninth Street	1311523	1
50 Willow Ave SE	2264	1
295302 Moser Lane	6798215	
2655 Welstone Ave NE	3020139	1

ADDRESS LINE 1 (TAX LOT)	JURISDICTION TAX LOT ID	
11 Ninth Street	24651456	
35 Tenth Street	1311526	×
11 Ninth Street	1311523	×
530 Elm Street	33366148	
521 Elm Street	5233255	×
94000 Wellington Blvd	23810533	
93029 Wellington Blvd	1311527	×
93031 Wellington Blvd	1311528	×
521 Elm Street	33366555	
521 Elm Street	5233255	×
525 Elm Street	33366125	
521 Elm Street	5233255	×
050 Willow Ave SE	1552813	
50 Willow Ave SE	2264	×
93029 Wellington Blvd	13334485	
93029 Wellington Blvd	1311527	×
93031 Wellington Blvd	1311528	×
39929 Ranch 99 Road	55039309	
2655 Welstone Ave NE	11160509	
2660 Welstone Ave NE	4828379	×
2700 Welstone Ave NE	1154623	×
2655 Welstone Ave NE	3020139	×
	24651455	
20 Tenth Street	1311525	×

Unpaired property records

Unpaired Tax Lot record

Tax Lot record

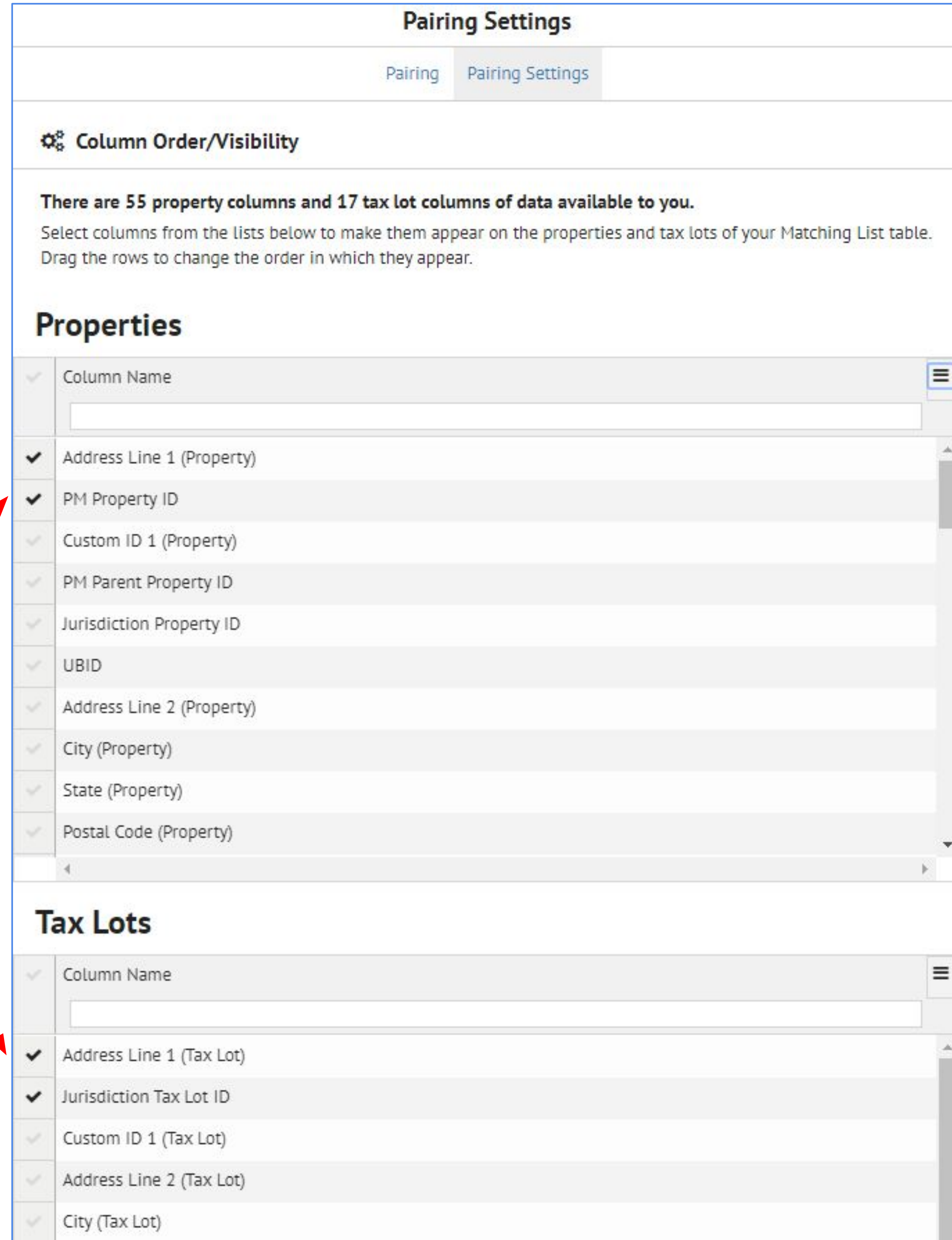
Property records paired to the Tax Lot record

Hand Pairing Tax Lot and Property records

The Pairing Settings view allows you to select the fields from each table (Property and Tax Lot) to view in the Pairing screen

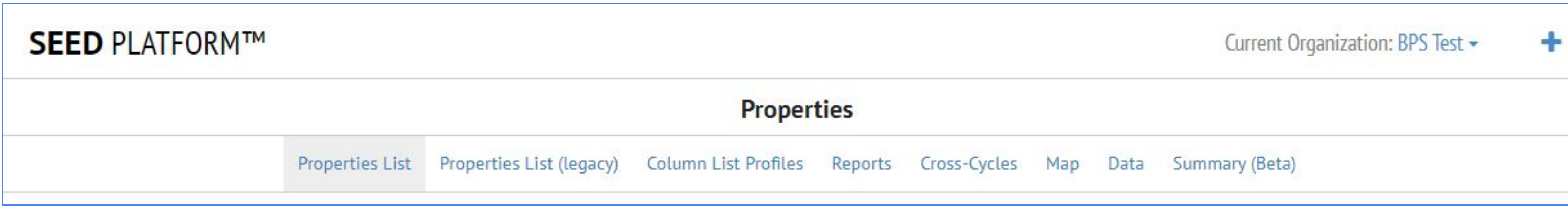
Check the fields to view for each table

Only the fields mapped to the specific table will be shown for each table



INVENTORY

Properties List View - Menu Links



Properties List: Displays the latest version of the Properties List view

Properties List (legacy): Displays the previous version of the Properties List view which will be deprecated at some point

Column List Profiles: Allows creation of multiple field lists with different fields selected

Reports: View data for the properties in graph form

Cross-Cycles: Allows viewing data across multiple cycles

Map: If the properties have been correctly geocoded, they will be displayed on a map based on those locations

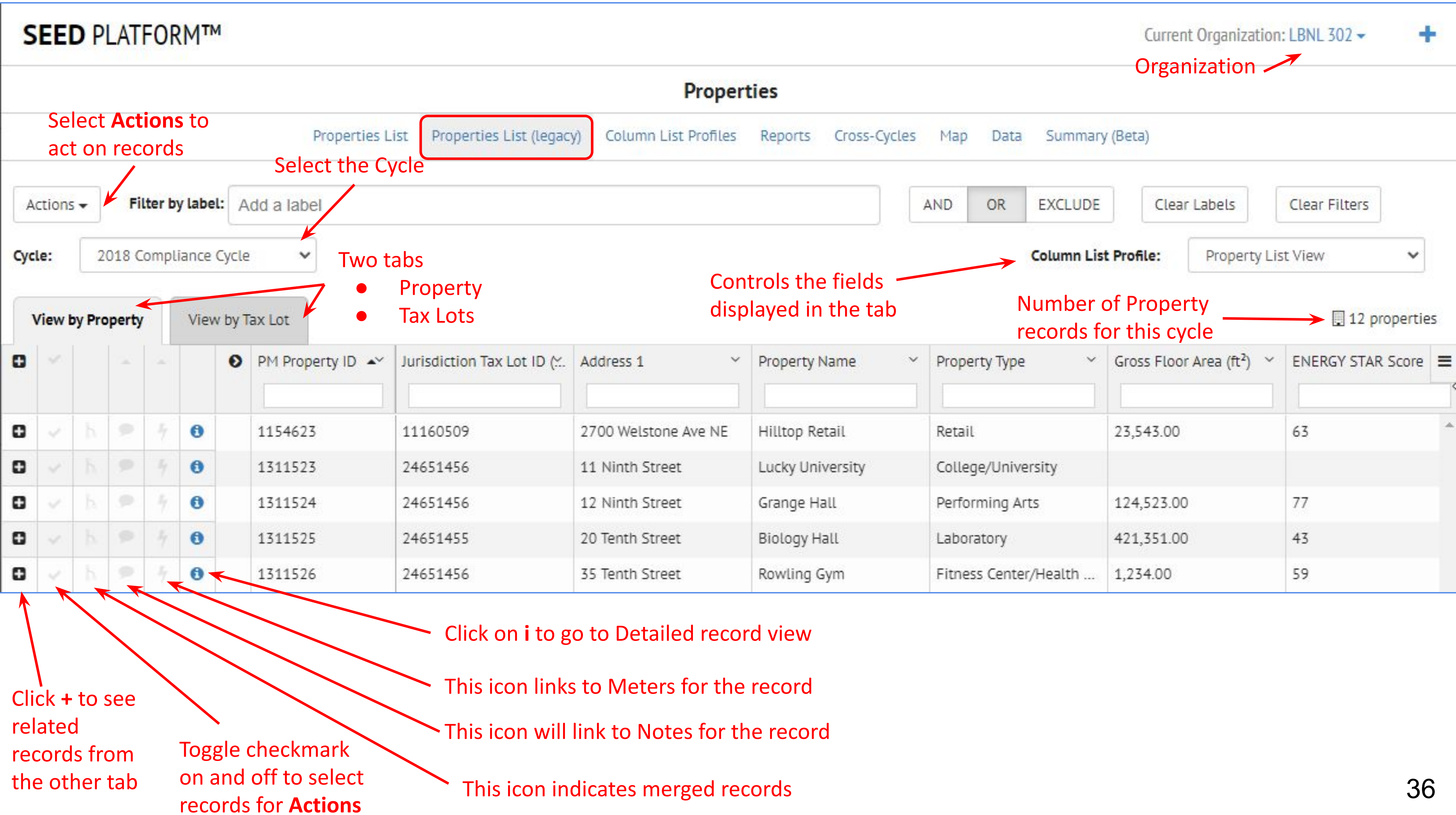
Data: Links to **Insights**

Summary (Beta): Displays summary information about the records and fields by cycle

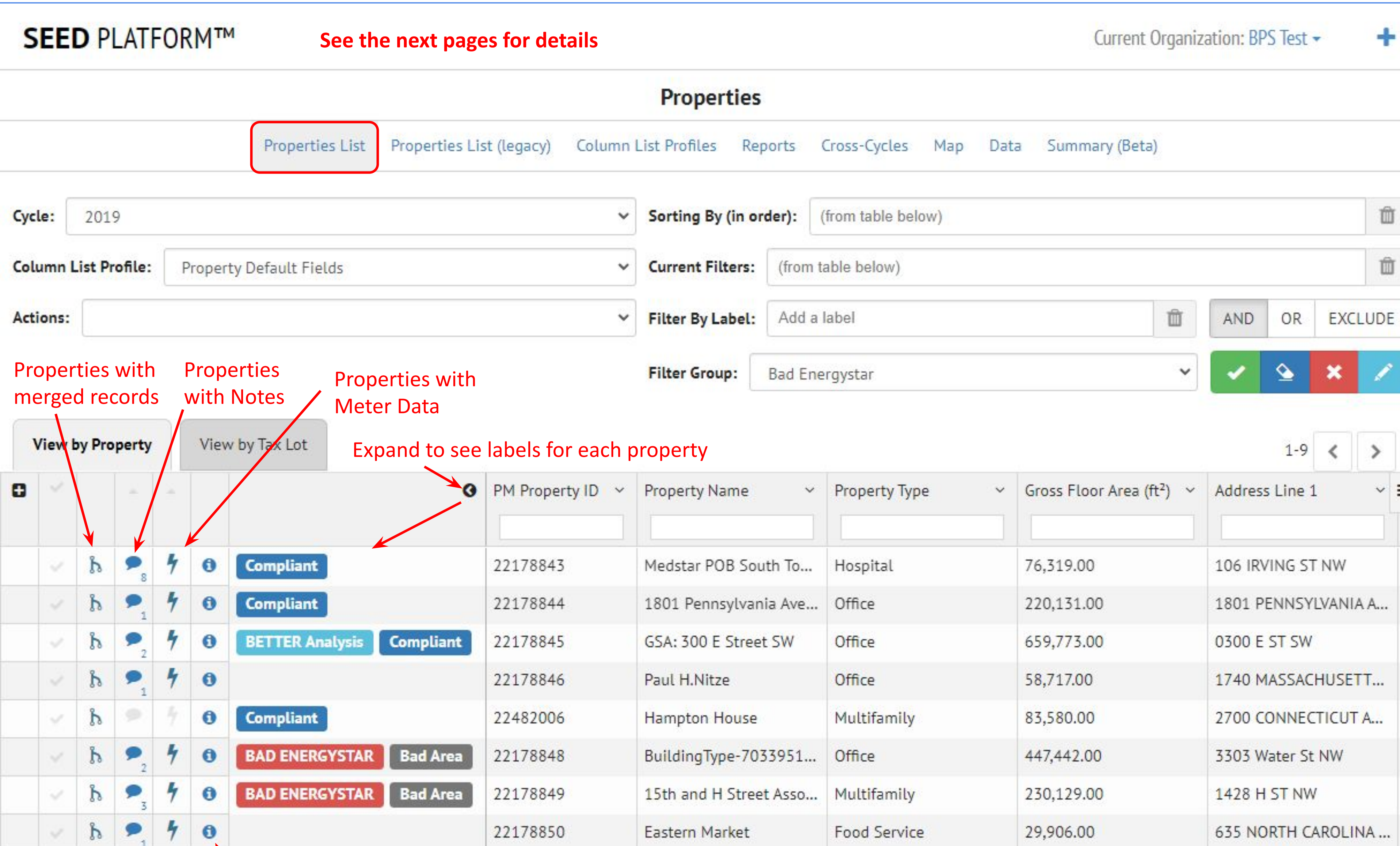
INVENTORY

Properties List (Legacy)

This page shows the "Legacy" List view, which will be deprecated at some point

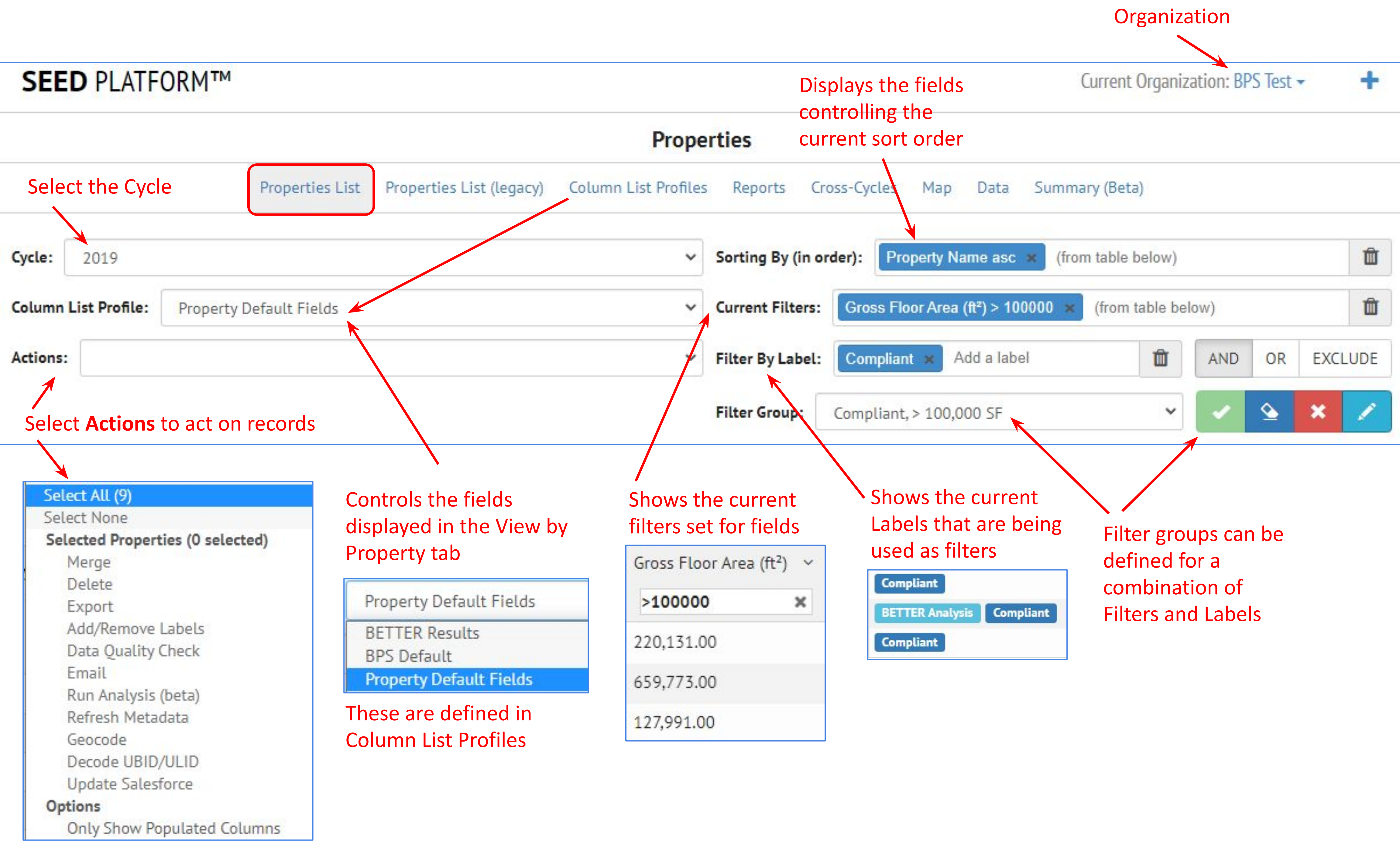


Properties List



Click to see Detail View

Properties List - Upper Screen



INVENTORY

Property & Tax Lots - List View

View by **Property**

"Collapsed" view shows all associated records from the tax lot table separated by semicolons

Select the **Cycle** for the data to view

Cycle: 2018 Compliance Cycle

Address from the Property table

Address from the Tax Lot table

PM Property ID can be pinned to the left side of the grid

Click the **+** icon to "expand" the view to show data from the associated Tax Lots

View by Property | View by Tax Lot

1-15

PM Property ID	Jurisdiction Tax Lot ID (Tax Lot)	Address Line 1	Address (Tax Lot)	Property Type
5233255	33366125; 33366148; 33366555	521 Elm Street	521 Elm Street; 525 El...	K-12 School
	33366125		525 Elm Street	
	33366148		530 Elm Street	
	33366555		521 Elm Street	

View by **Tax Lot**

View by Property | View by Tax Lot

"Collapsed" view shows all associated records from the property table separated by semicolons

Jurisdiction Tax lot ID can be pinned to the left side of the grid

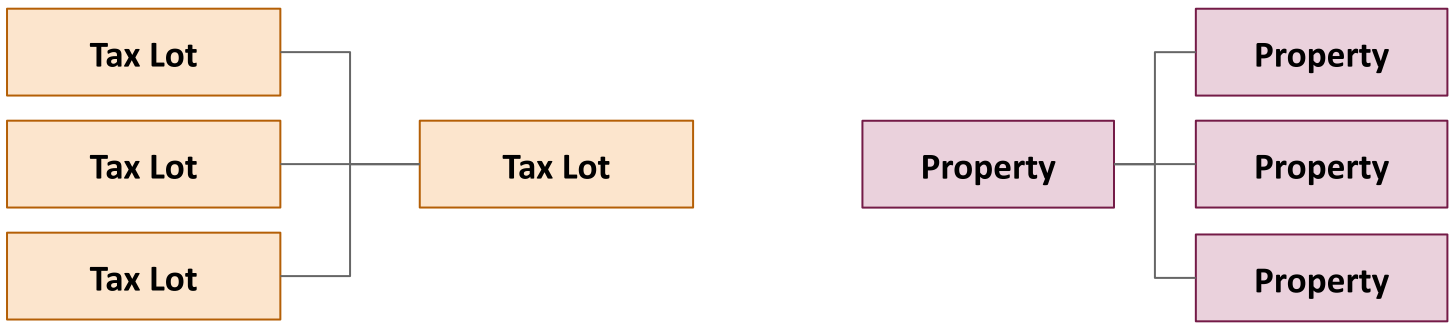
Click the **+** icon to "expand" the view to show data from the associated Property (in this case Portfolio Manager) records

Jurisdiction Tax Lot ID	PM Property ID (Proper...	Address	Address Line 1 (Proper...	Parcel Owner
13334485	1311527; 1311528	93029 Wellington Blvd	93029 Wellington Blvd...	Lucky University
	1311527		93029 Wellington Blvd	
	1311528		93031 Wellington Blvd	
1552813	2264; 2266	050 Willow Ave SE	50 Willow Ave SE	U LLC
23810533	1311527; 1311528	94000 Wellington Blvd	93029 Wellington Blvd...	Lucky University
24651456	1311523; 1311524; 13...	11 Ninth Street	11 Ninth Street; 35 Ten...	Lucky University
33366125	5233255	525 Elm Street	521 Elm Street	Norton Schools
33366148	5233255	530 Elm Street	521 Elm Street	
33366555	5233255	521 Elm Street	521 Elm Street	Norton Schools

Hand Merging / Pairing Records

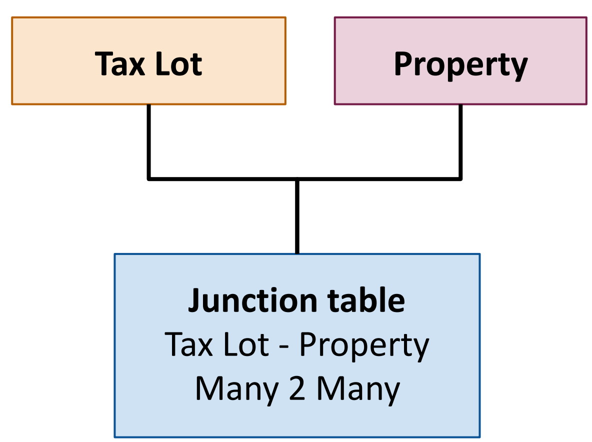
Merging (matching):

- Records are merged within the same table (Tax Lot or Property) based on matching fields



Pairing:

- Records are “paired” between Tax Lot and Property tables in the Junction table based on matching fields



INVENTORY

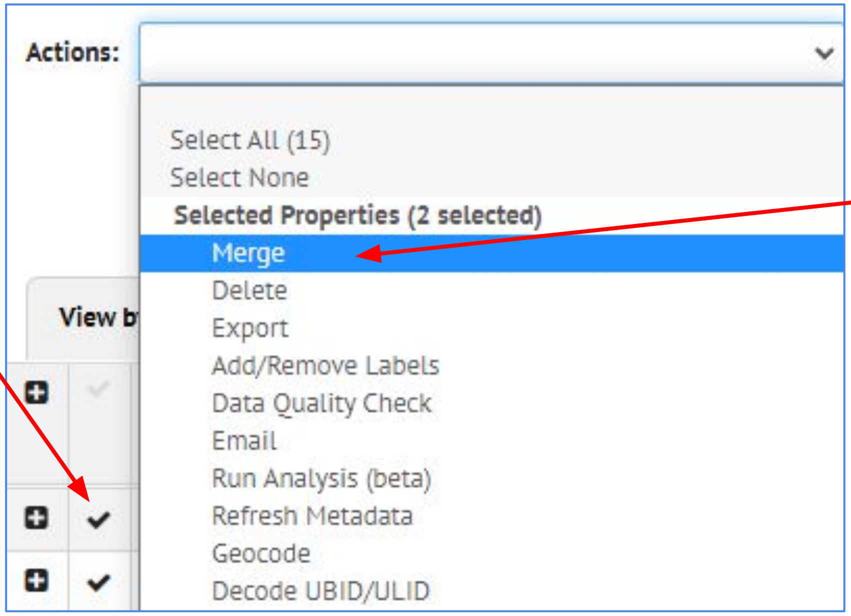
Hand Merging Records

Merging

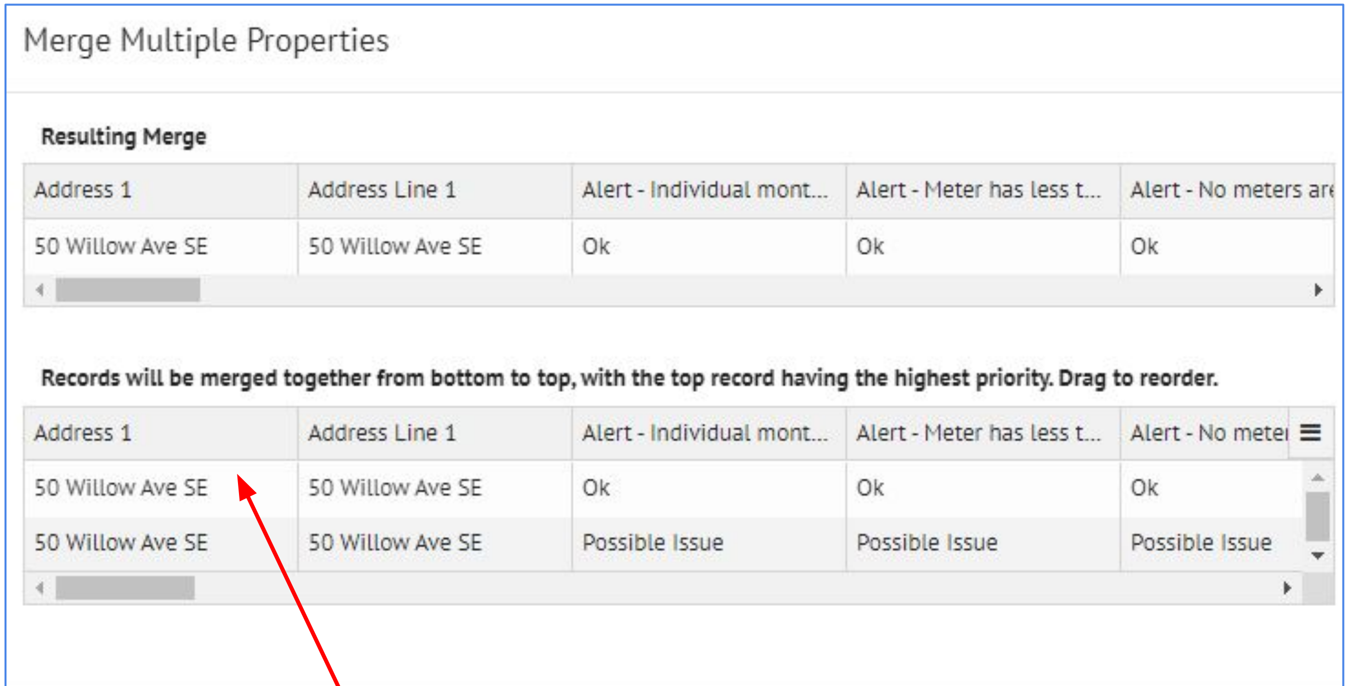
The hand merging functionality is in the **Inventory List** view

It is possible to merge two records together if the program didn't automatically merge them

Step 1:
In Inventory List view Select records to hand merge (by clicking on the checkmark to the left of the record)

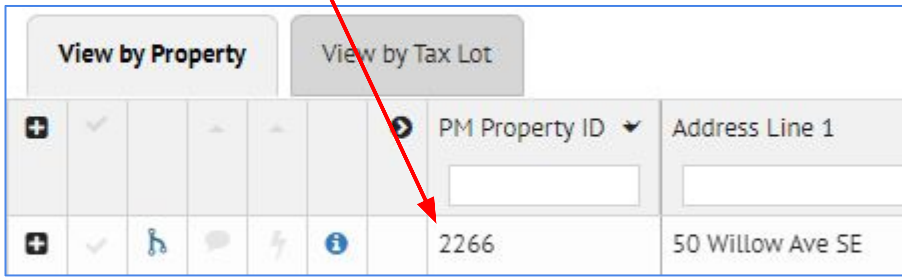


Step 2:
Select the **Merge** Action



Step 3:
Reorder the records if needed for final merge result

Step 4:
You will now see only the one Main record in the Inventory List view



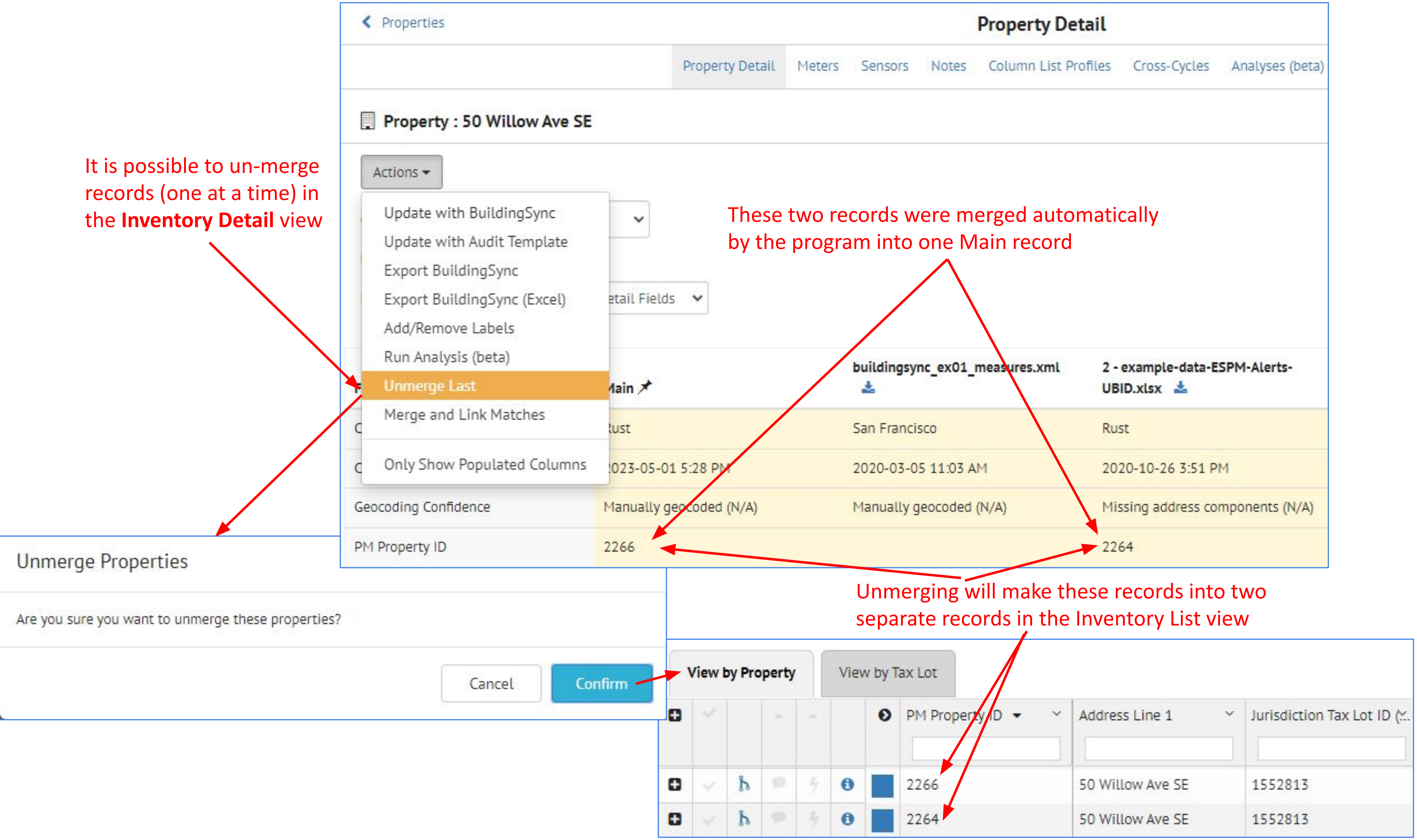
Hand Un-Merging Records

Merged records can be viewed in the Inventory Detail view and can also be un-merged

It is possible to un-merge records (one at a time) in the **Inventory Detail** view

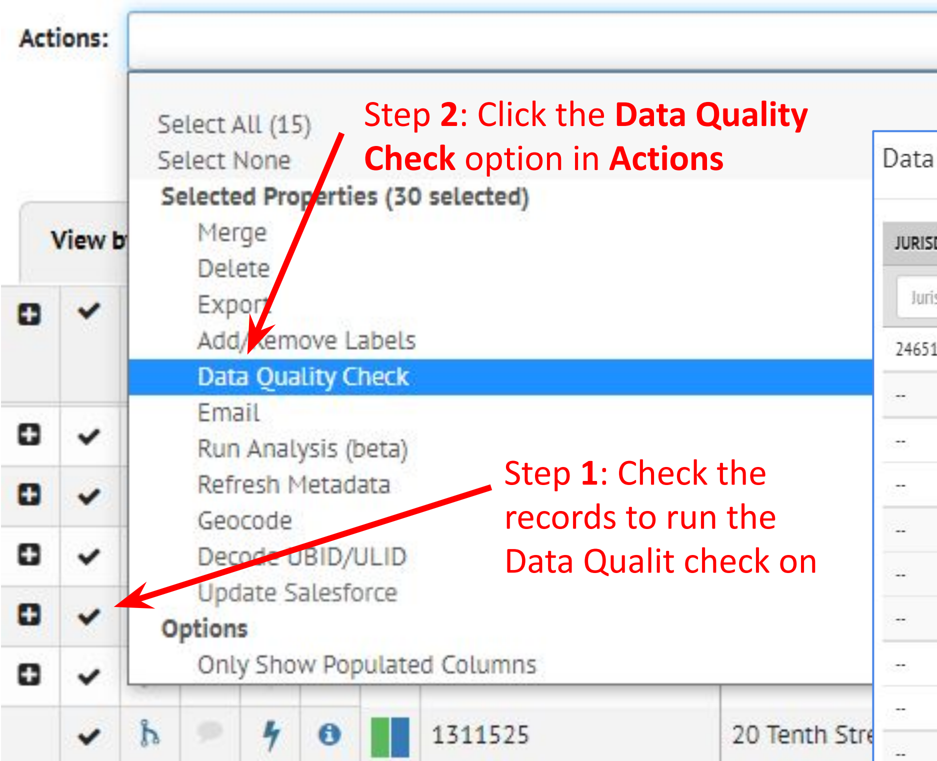
These two records were merged automatically by the program into one Main record

Unmerging will make these records into two separate records in the Inventory List view



INVENTORY

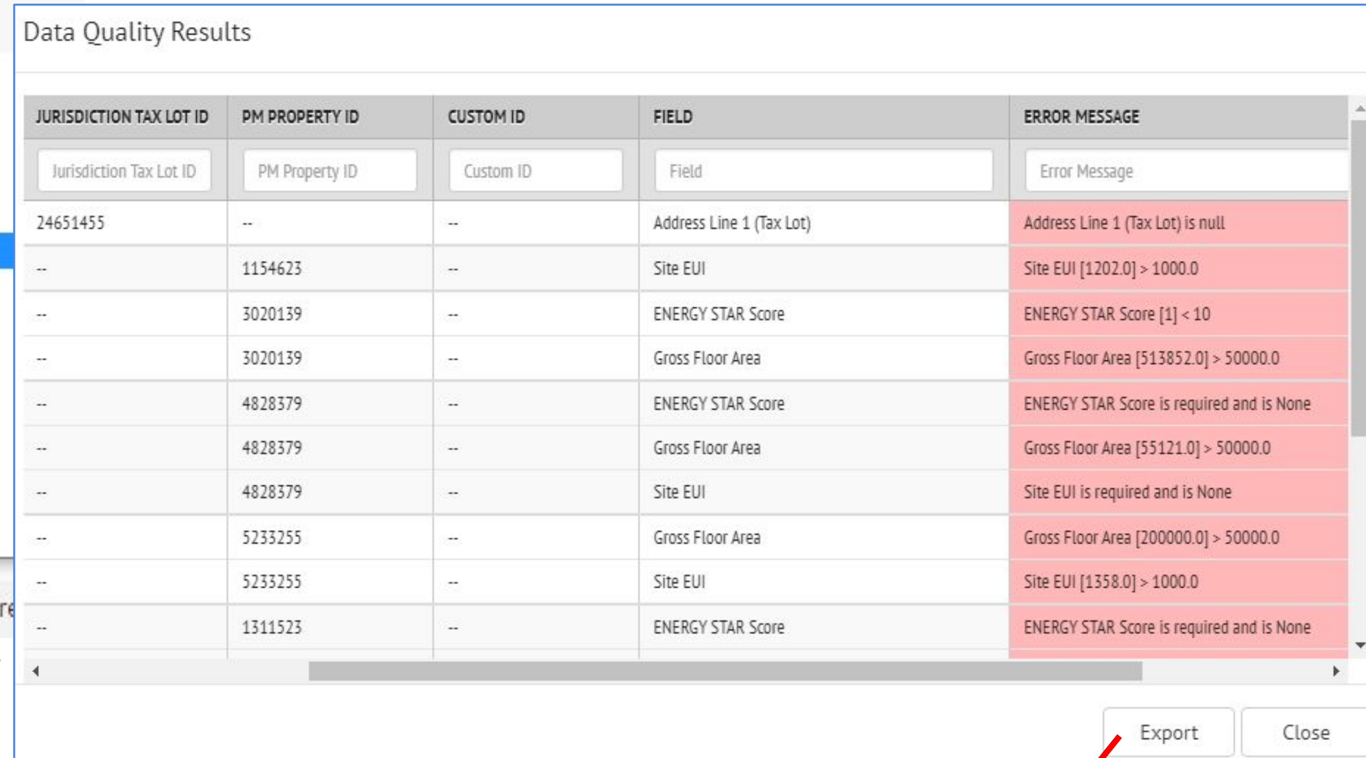
Data Quality: Run from Inventory List



Step **2**: Click the **Data Quality Check** option in **Actions**

Step **1**: Check the records to run the Data Qualit check on

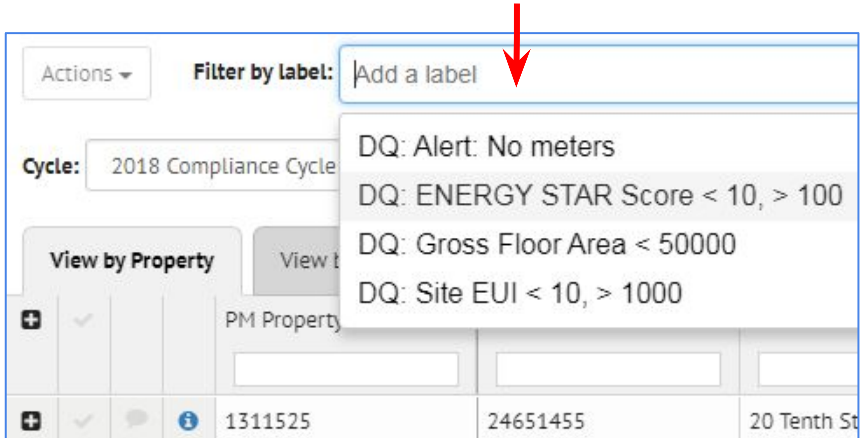
Step **3**: The **Data Quality Results** screen is displayed

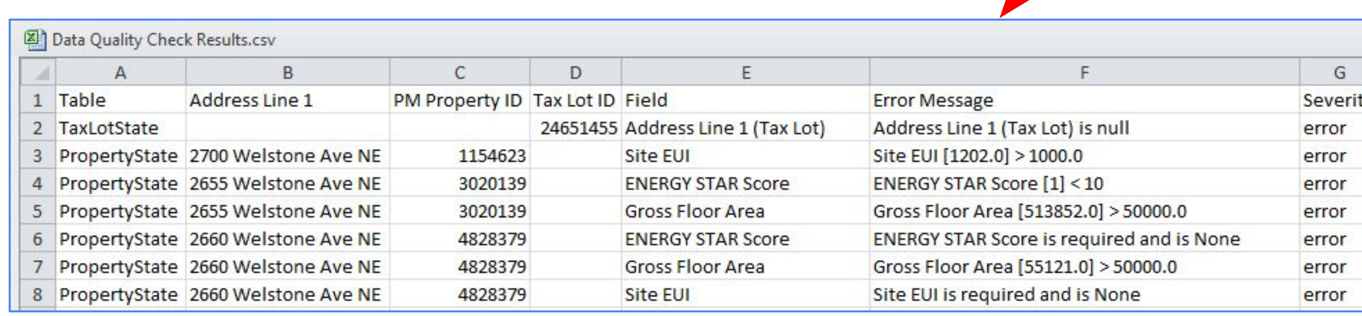


JURISDICTION TAX LOT ID	PM PROPERTY ID	CUSTOM ID	FIELD	ERROR MESSAGE
Jurisdiction Tax Lot ID	PM Property ID	Custom ID	Field	Error Message
24651455	--	--	Address Line 1 (Tax Lot)	Address Line 1 (Tax Lot) is null
--	1154623	--	Site EUI	Site EUI [1202.0] > 1000.0
--	3020139	--	ENERGY STAR Score	ENERGY STAR Score [1] < 10
--	3020139	--	Gross Floor Area	Gross Floor Area [513852.0] > 50000.0
--	4828379	--	ENERGY STAR Score	ENERGY STAR Score is required and is None
--	4828379	--	Gross Floor Area	Gross Floor Area [55121.0] > 50000.0
--	4828379	--	Site EUI	Site EUI is required and is None
--	5233255	--	Gross Floor Area	Gross Floor Area [200000.0] > 50000.0
--	5233255	--	Site EUI	Site EUI [1358.0] > 1000.0
--	1311523	--	ENERGY STAR Score	ENERGY STAR Score is required and is None

Labels are automatically added to the problem records. If those records are fixed and reimported, and the DQ check is rerun, the labels will be automatically removed if the program doesn't detect the data problem

The Data Quality Results can be exported to a CSV file





	A	B	C	D	E	F	G
1	Table	Address Line 1	PM Property ID	Tax Lot ID	Field	Error Message	Severity
2	TaxLotState			24651455	Address Line 1 (Tax Lot)	Address Line 1 (Tax Lot) is null	error
3	PropertyState	2700 Welstone Ave NE	1154623		Site EUI	Site EUI [1202.0] > 1000.0	error
4	PropertyState	2655 Welstone Ave NE	3020139		ENERGY STAR Score	ENERGY STAR Score [1] < 10	error
5	PropertyState	2655 Welstone Ave NE	3020139		Gross Floor Area	Gross Floor Area [513852.0] > 50000.0	error
6	PropertyState	2660 Welstone Ave NE	4828379		ENERGY STAR Score	ENERGY STAR Score is required and is None	error
7	PropertyState	2660 Welstone Ave NE	4828379		Gross Floor Area	Gross Floor Area [55121.0] > 50000.0	error
8	PropertyState	2660 Welstone Ave NE	4828379		Site EUI	Site EUI is required and is None	error

List Grid Functionality

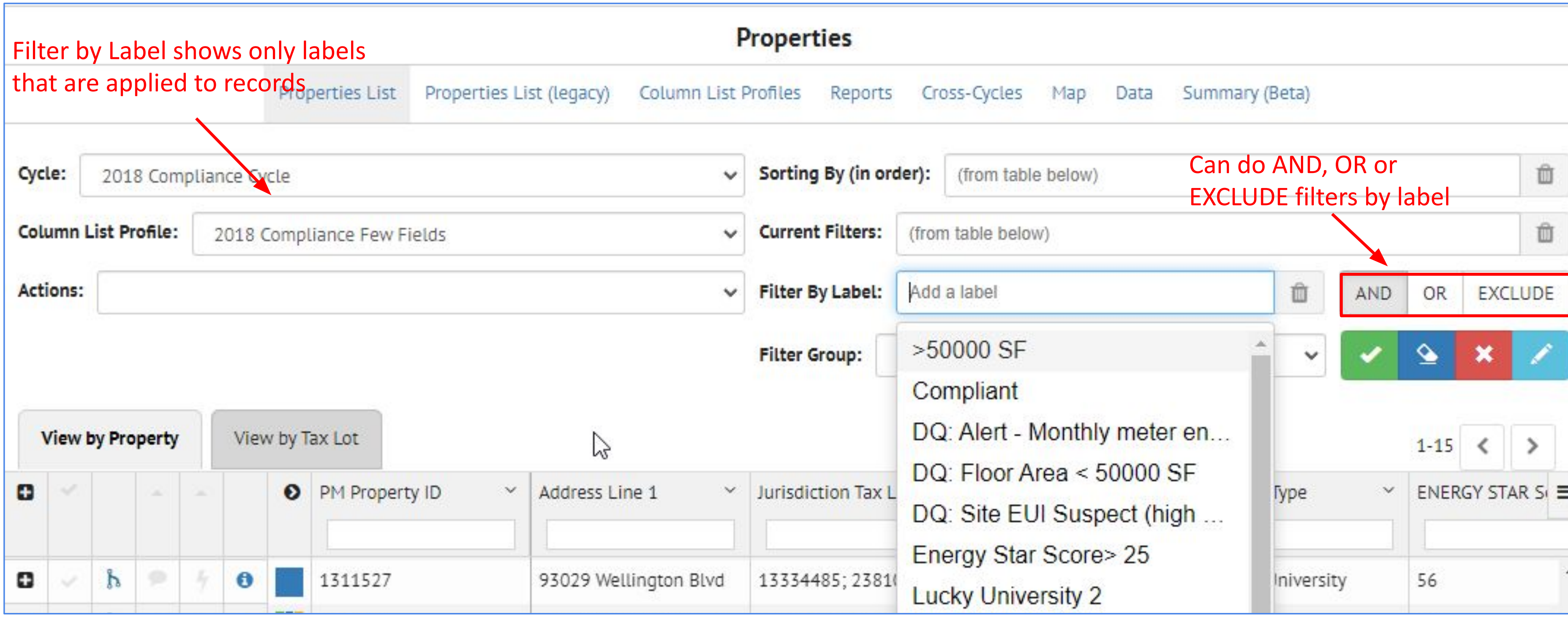
The grid used in the Inventory List view has many features
(explained in detail on the following pages)

- **Filter** -- enter filter criteria in the blank box under the column name
- **Sort** -- click in the middle of the column header to see the small up and down arrows to sort ascending and descending; alternatively select the right menu arrow in the column to see the Sort Ascending, Sort Descending and Remove Sort options
- **Select fields to view** -- click on the right menu arrow in an individual field to turn it on or off, or click on List Settings to see a list of columns to display or hide
- **Field order by dragging columns** -- click in the middle of a column header, hold the left mouse button down, and drag it right or left to place it the desired order
- **Pin columns** -- click on the right menu arrow in an individual column to see the Pin Left, Pin Right and Unpin options for that column
- **Resize columns** - click on the right hand side of the column header, hold the left mouse button down, and drag the column edge right and left to the desired width
- **Fixed column headers** -- the column headers are fixed, so scrolling down keeps the column headers visible.
- **Single page with all the data --** All the records for a view are loaded at once -- there is no data view “pagination

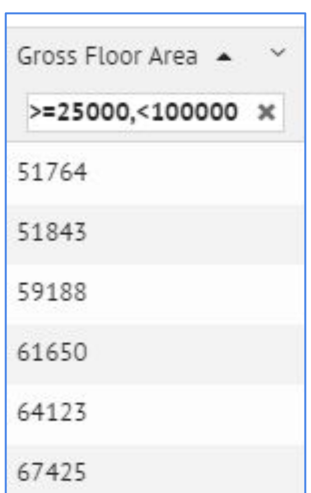
Filter

Filter by Label shows only labels that are applied to records

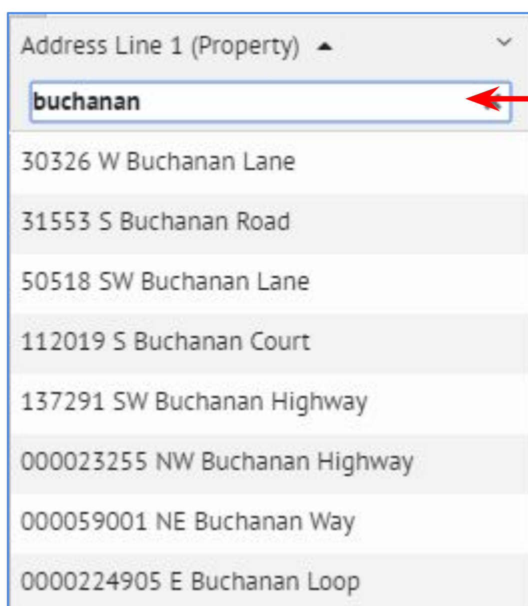
Can do AND, OR or EXCLUDE filters by label



Numeric fields can have expressions



Text columns can be filtered



Enter values into the input boxes at the top of the field in order to filter the data by those values

The program will then only display the records with values based on the filter criteria

Filter

The filter feature supports multiple filters separated by commas.

Building Address	Building Floor Area
	>10000,<200000
39929 Ranch 99 Road	23543
521 Elm Street	24523
93029 Wellington Blvd	45324
525 Elm Street	55121
050 Willow Ave SE	124523

Date strings can be either

- a year (2016)
- a year and a month (2016-05)
- a full date with no time (2016-05-31)

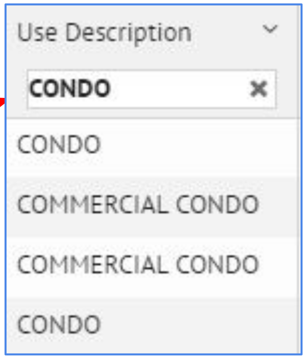
Text/Numeric Case-Insensitive Contains	abc 5
Text/Numeric Exact Match	"" "abc" = 5
Text/Numeric Not Exact Match	!= "" != "abc" != 5
Numeric Range	> 5 >= 5 < 5 <= 5
Text/Numeric Combination	123, street
Date Equality	2016 2016-05 2016-05-31 = 2016 = 2016-05
Date Inequality	!= 2015 != 2016-10-01
Date Range	>= 2016 < 2016-05
Date Combination	2016, >= 2016-10-01 >= 2015, < 2017

INVENTORY

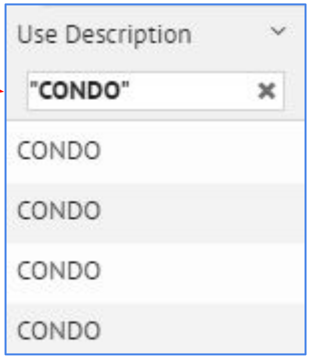
Filter

Most of the lists in SEED (Mapping, Matching, Inventory) allow you to sort and filter on the data in the columns by entering the filter values in the input box below the field (column name)

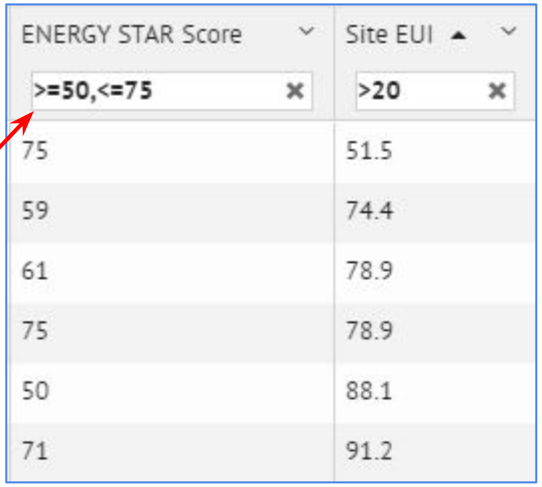
SEED supports filtering using “expressions” for both text and numeric data



- ”” double quotes for null (empty) string
- !”” for non-null (non-empty) string
- Enter a value to show all records that contain that value: typing **condo** will show results for **CONDO** and **COMMERCIAL CONDO**
- Enter a value surrounded by double quotes (“”) for an exact match (including case): typing **“CONDO”** will show results for only uppercase **CONDO**
- Operators: =, !=, <, <=, >, >= followed by a value
    - **>100** is greater than 100
    - **!0** is not equal to 0
- Multiple expressions should be separated by commas.
    - **>1984,<1990** is greater than 1984 and less than 1990



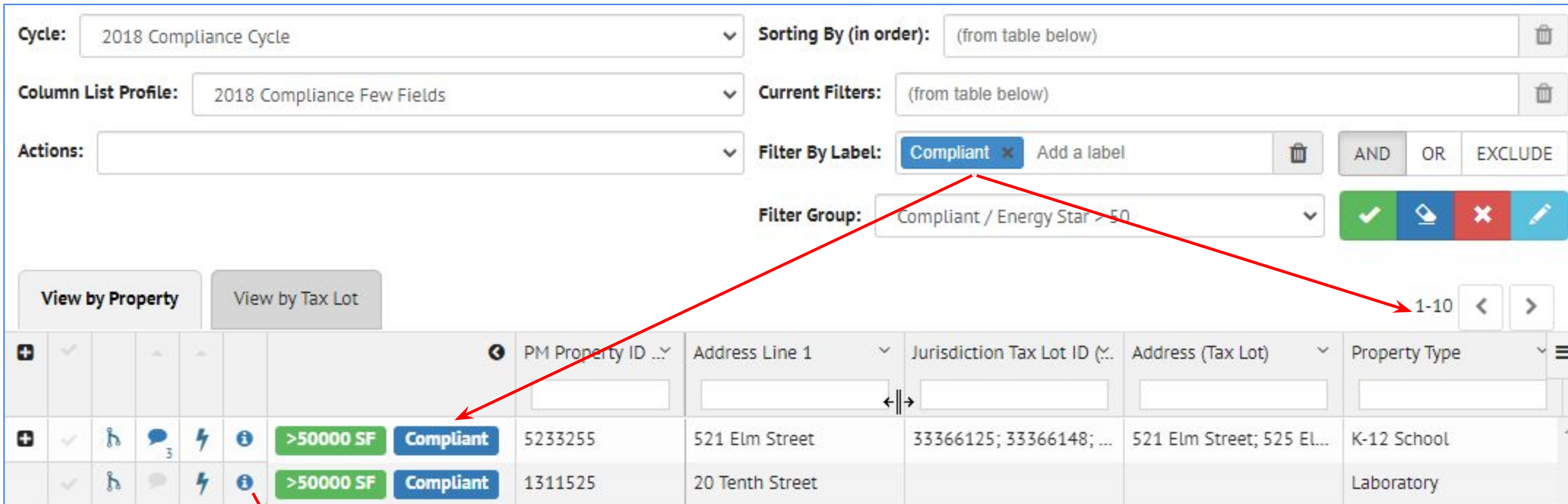
Add as many filters as needed, in this case the filter is show only records with ENERGY STAR Score data between 50 and 75, and with a Site EUI greater than 20



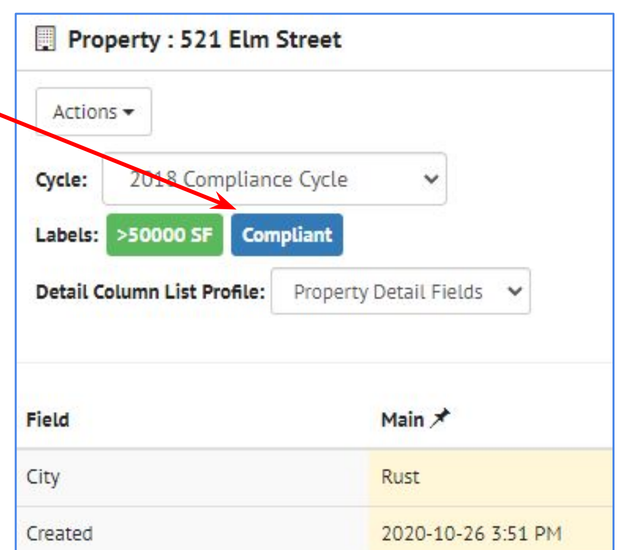
Filter Using Labels

Multiple labels can be applied to the filter box and filter operators (AND, OR, and EXCLUDE) can be applied to the filter

- Filter Operators
  - AND == When filtering on multiple labels, displays records that have all the labels selected in the Filter by Label box
  - OR == When filtering on multiple labels, displays records that have at least one of the labels selected in the Filter by Label box
  - EXCLUDE == Displays all records that DO NOT have the label or labels in the Filter by Label box

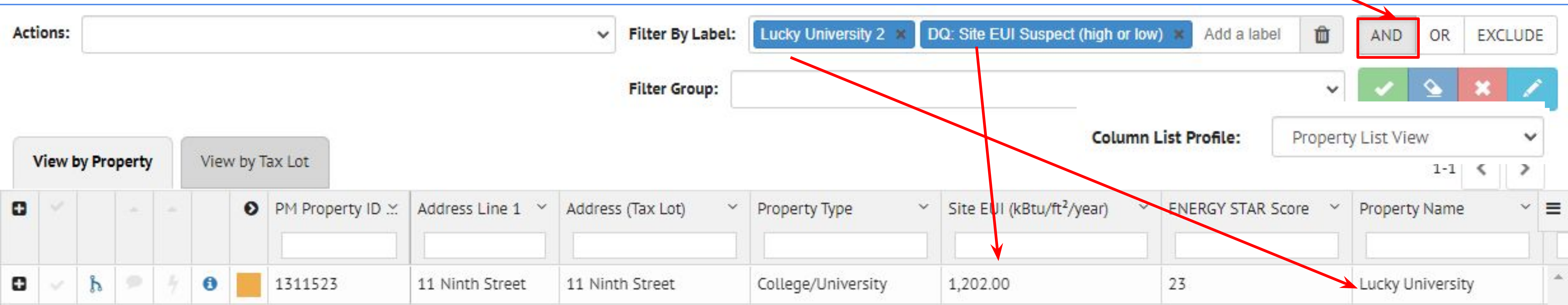


Clicking on the "information" icon displays the Detail view which shows all the labels associated with that record.



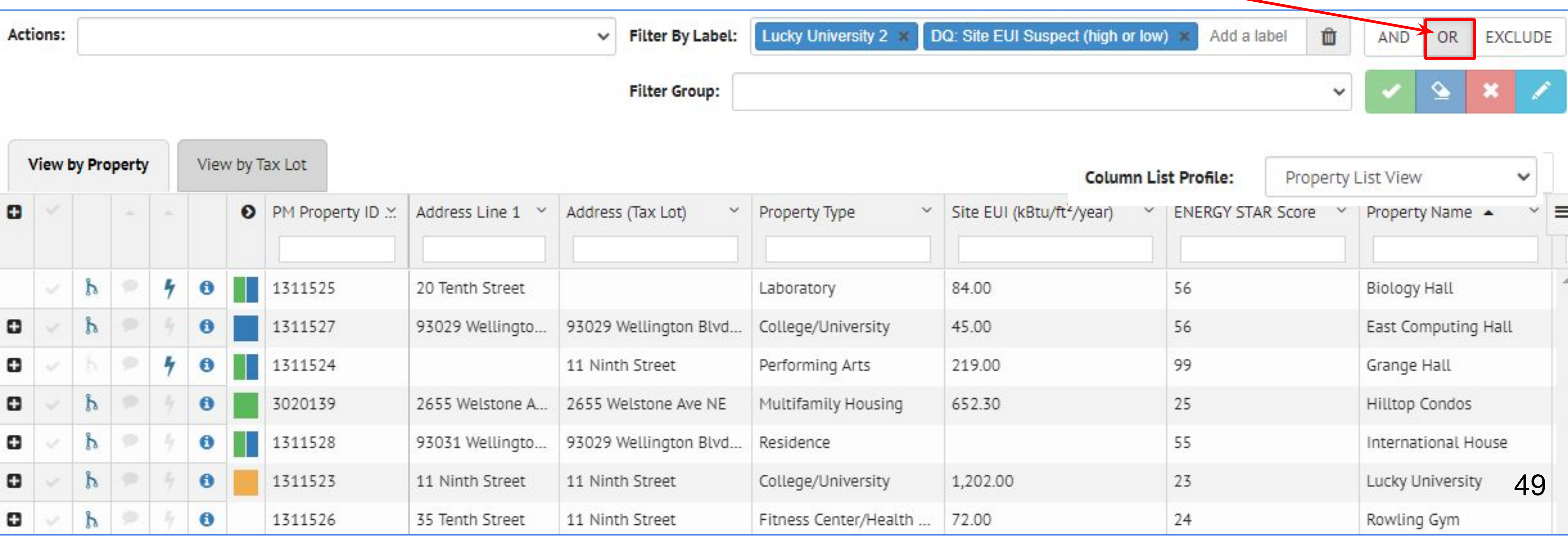
Filter Using Labels: AND / OR

Filter Operator == **AND**: Shows records that have all of the labels in the Filter by Label box
In this case, it shows the one record that fits the criteria for both Suspect Site EUI and Property Name to Lucky University



PM Property ID	Address Line 1	Address (Tax Lot)	Property Type	Site EUI (kBtu/ft²/year)	ENERGY STAR Score	Property Name
1311523	11 Ninth Street	11 Ninth Street	College/University	1,202.00	23	Lucky University

Filter Operator == **OR**: Shows records that have at least one of the labels in the Filter by Label box

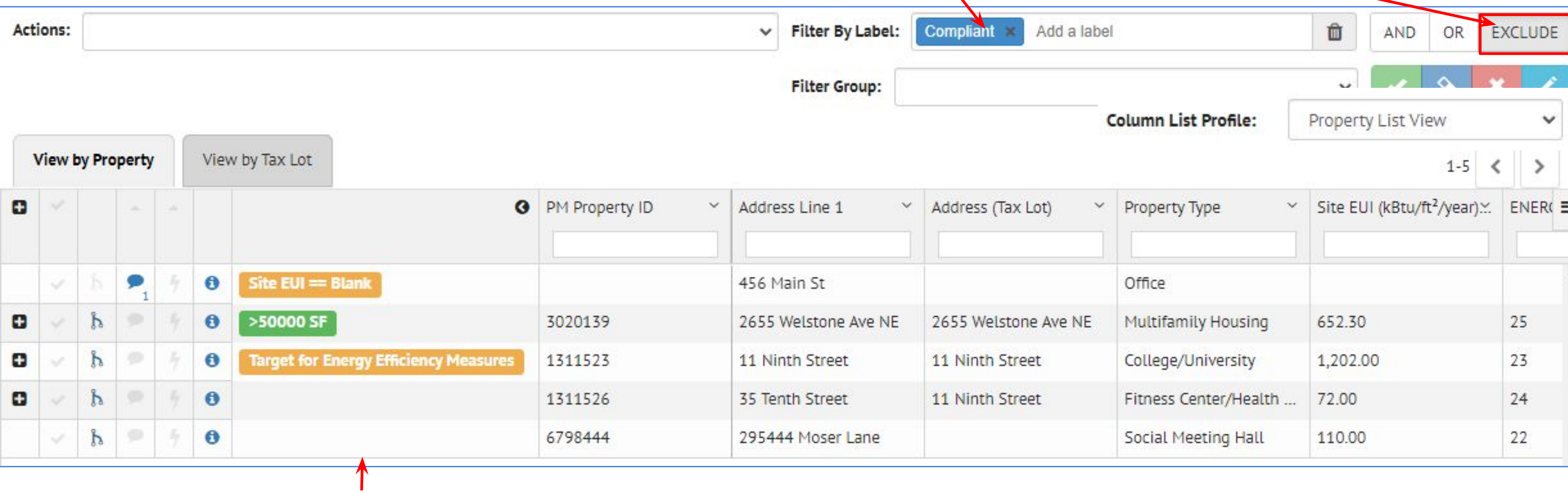


PM Property ID	Address Line 1	Address (Tax Lot)	Property Type	Site EUI (kBtu/ft²/year)	ENERGY STAR Score	Property Name
1311525	20 Tenth Street		Laboratory	84.00	56	Biology Hall
1311527	93029 Wellingto...	93029 Wellington Blvd...	College/University	45.00	56	East Computing Hall
1311524		11 Ninth Street	Performing Arts	219.00	99	Grange Hall
3020139	2655 Welstone A...	2655 Welstone Ave NE	Multifamily Housing	652.30	25	Hilltop Condos
1311528	93031 Wellingto...	93029 Wellington Blvd...	Residence		55	International House
1311523	11 Ninth Street	11 Ninth Street	College/University	1,202.00	23	Lucky University
1311526	35 Tenth Street	11 Ninth Street	Fitness Center/Health ...	72.00	24	Rowling Gym

INVENTORY

Filter Using Labels: EXCLUDE

Filter Operator == **EXCLUDE**: Shows records that have NONE of the labels in the Filter by Label box

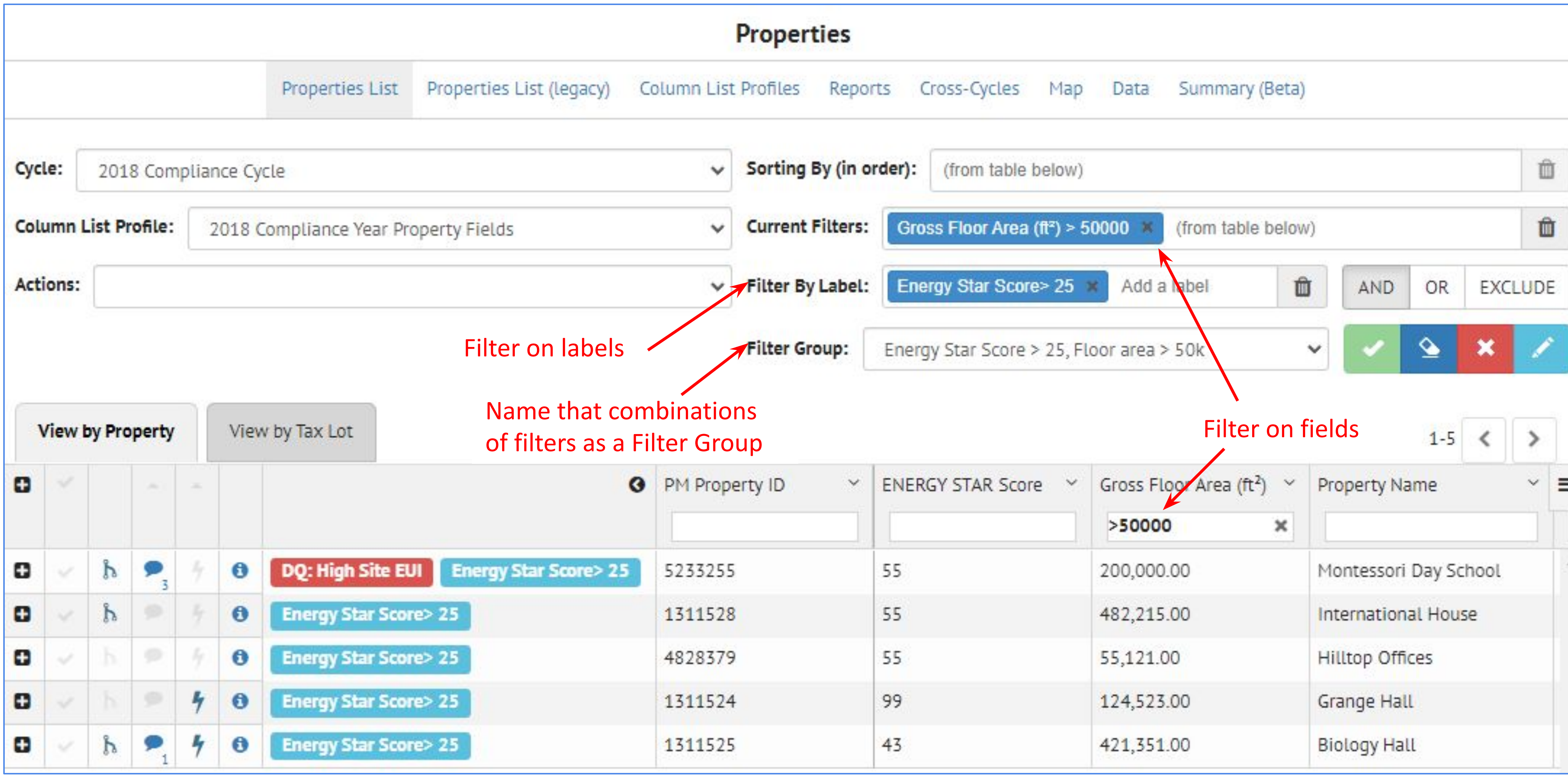


None of these records have the label
"Compliant" attached to them

Filter Groups

Filter Groups has been added in order to save filtering options

- Filter the data, using the field filter inputs or labels, and assign that set of filters a Filter Group name



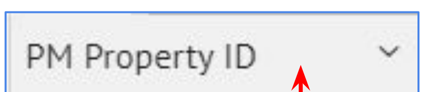
Sort

You can sort in two different ways

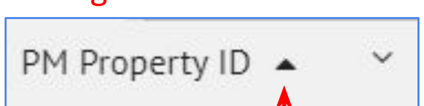
- Up/down arrow
- Column menu on right

If you click to the right of the field name, you can toggle between

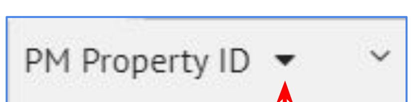
- Ascending
- Descending
- "original" unsorted



"Original" unsorted



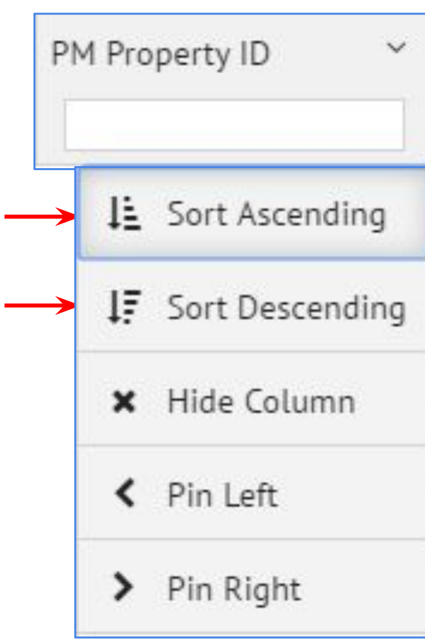
Ascending sort



Descending sort

The down arrow to the right of the field shows a menu of sort options, including Remove sort

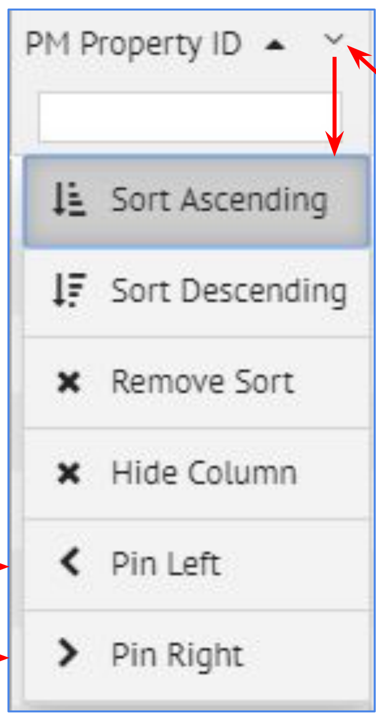
Using this Sort option allows hierarchical sorting



Pin Columns

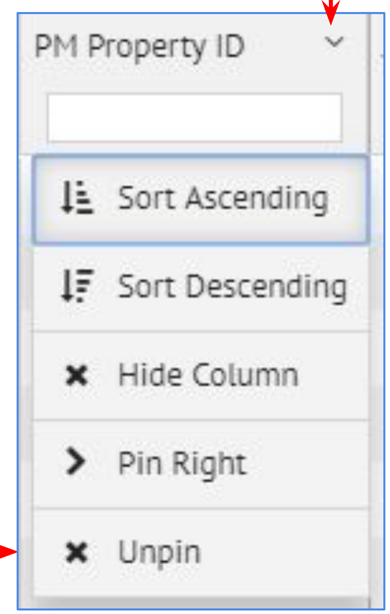
Pinning columns left and right

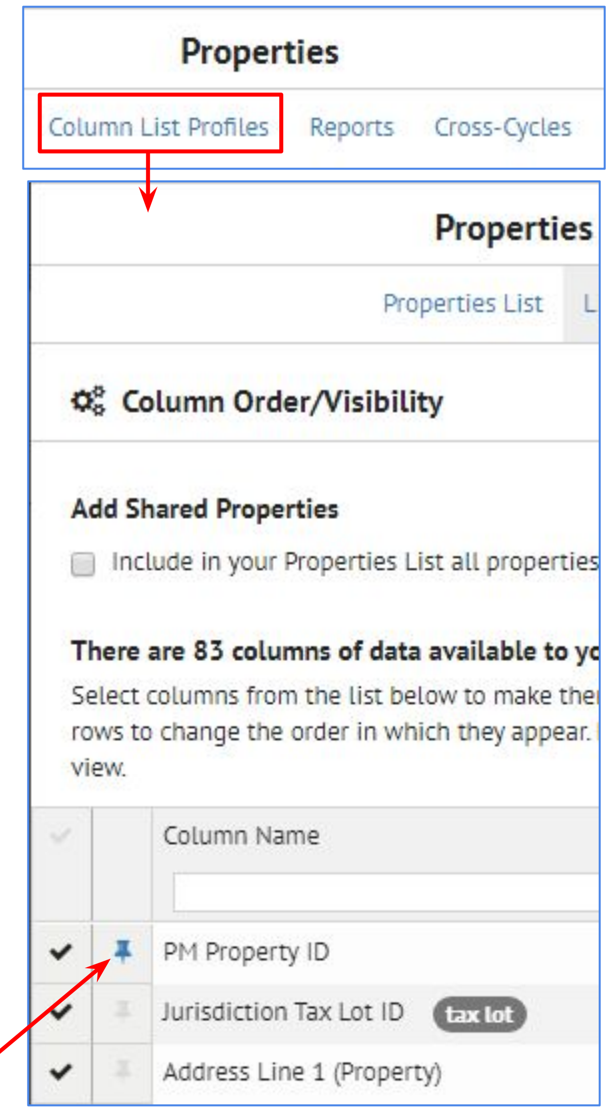
- Individual columns can be pinned either to the right or the left
- Multiple columns can be pinned



The down arrow to the right of the field name shows a menu of sort options, including **Hide Column**

If a column is already pinned, click on the field right hand pulldown to select the **Unpin** option





Column List Profiles also has feature to pin columns to the right side

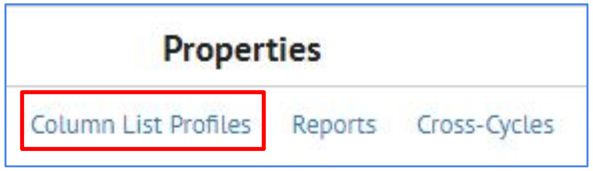
Save Column List Profile

Column List Profiles, where fields are selected for display, can be saved by “name”, which enables the creation of combinations of fields that are useful to view for specific data review cases.

There are a few different options for doing this.

- **List View / Actions option**
  There is now an option in the Actions pulldown list to “**Only Show Populated Columns**”. This is good way to get started when creating a specifically named List Setting

- **Column List Profiles**
  For both List and Detail view, there is a new option called “Column List Profiles” which allows the currently highlighted fields to be saved to a name, which then appears in a pulldown list in both the Inventory List and Detail views.

  It is possible to save separate (and multiple) Column List Profiles to names for each of these cases:
  - View by Property List View
  - View by Property Detail View
  - View by Tax Lot List View
  - View by Tax Lot Detail View

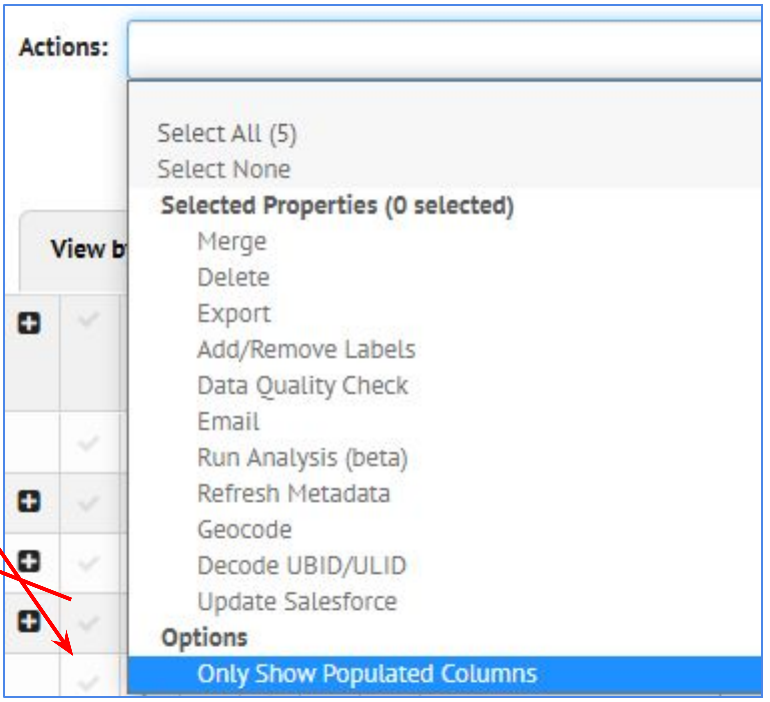
The following pages illustrate the way that these options work.

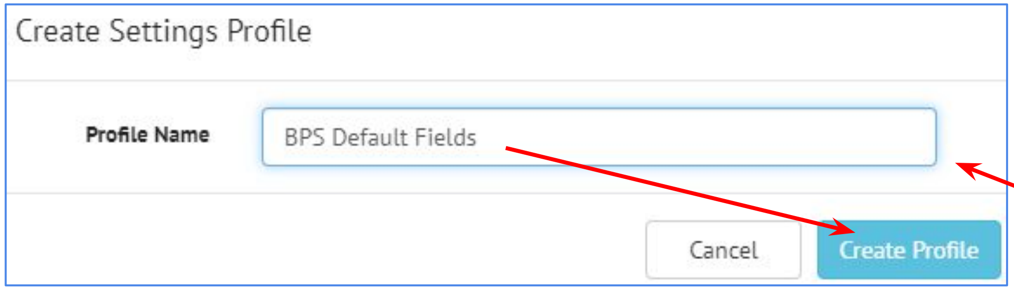
INVENTORY

List View - Only Show Populated Columns

List View / Actions option

The “**Only Show Populated Columns**” option in the Inventory List / Actions pulldown is a good way to get started when defining saved List Settings.





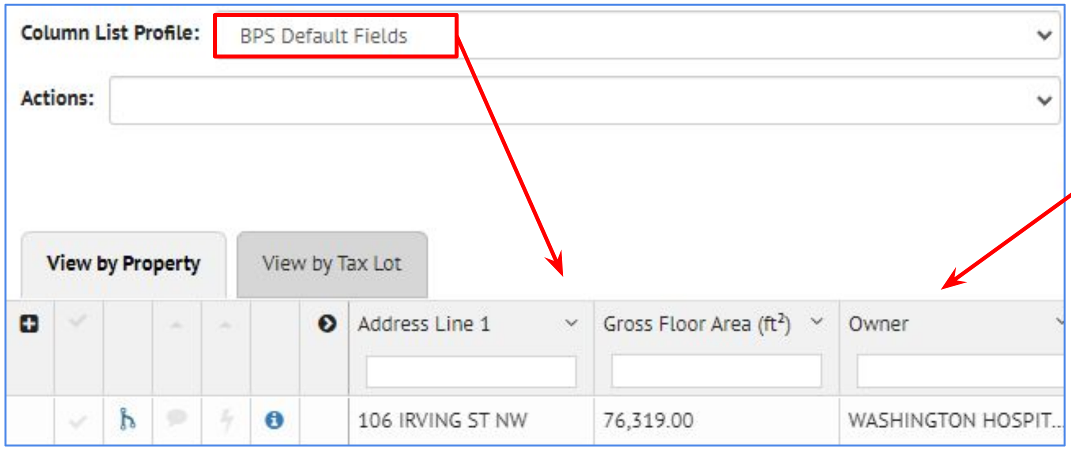
1 - Select the “Only Show Populated Columns” in either the View by Property or View by Tax Lot tabs

2 - Name the Column List Profile if none exist.

A dialog box will appear which warns that the columns displayed will be reset. Click the **Start** button to continue or the **Cancel** button to return to the List view without starting the action.

When the program has finished determining the populated columns, the number of columns found is displayed.

Click the Refresh button to refresh the browser and see the new fields



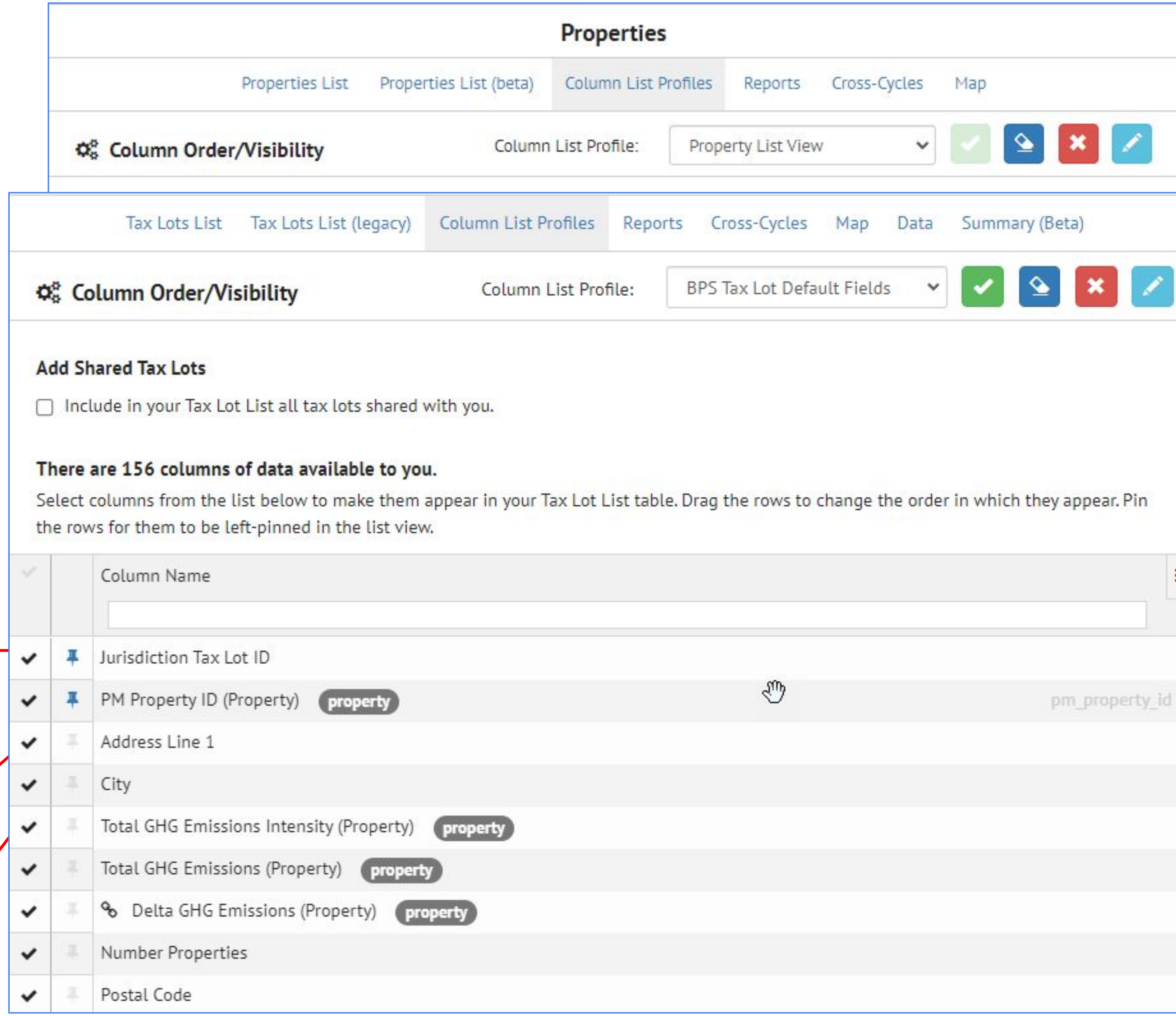
These fields are now what is displayed in the List View with the default name for the **Column List Profile**

It will still probably be necessary to refine the fields to be displayed, but this is a good way to start the process

INVENTORY

List View - Column List Profiles

- Displays all possible fields for both Tax Lot and Property
- Tax Lot and Property Column List Profiles can be different
- Shows fields that are in table NOT being viewed
- Changes made here are reflected in the View by Tax Lot tab, and vice versa
- Field display and order are on one screen
- Changes are saved to a Column List Profile (see next page)



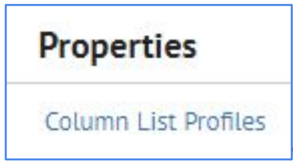
Enter values to search the list of fields

Shows which fields are pinned left

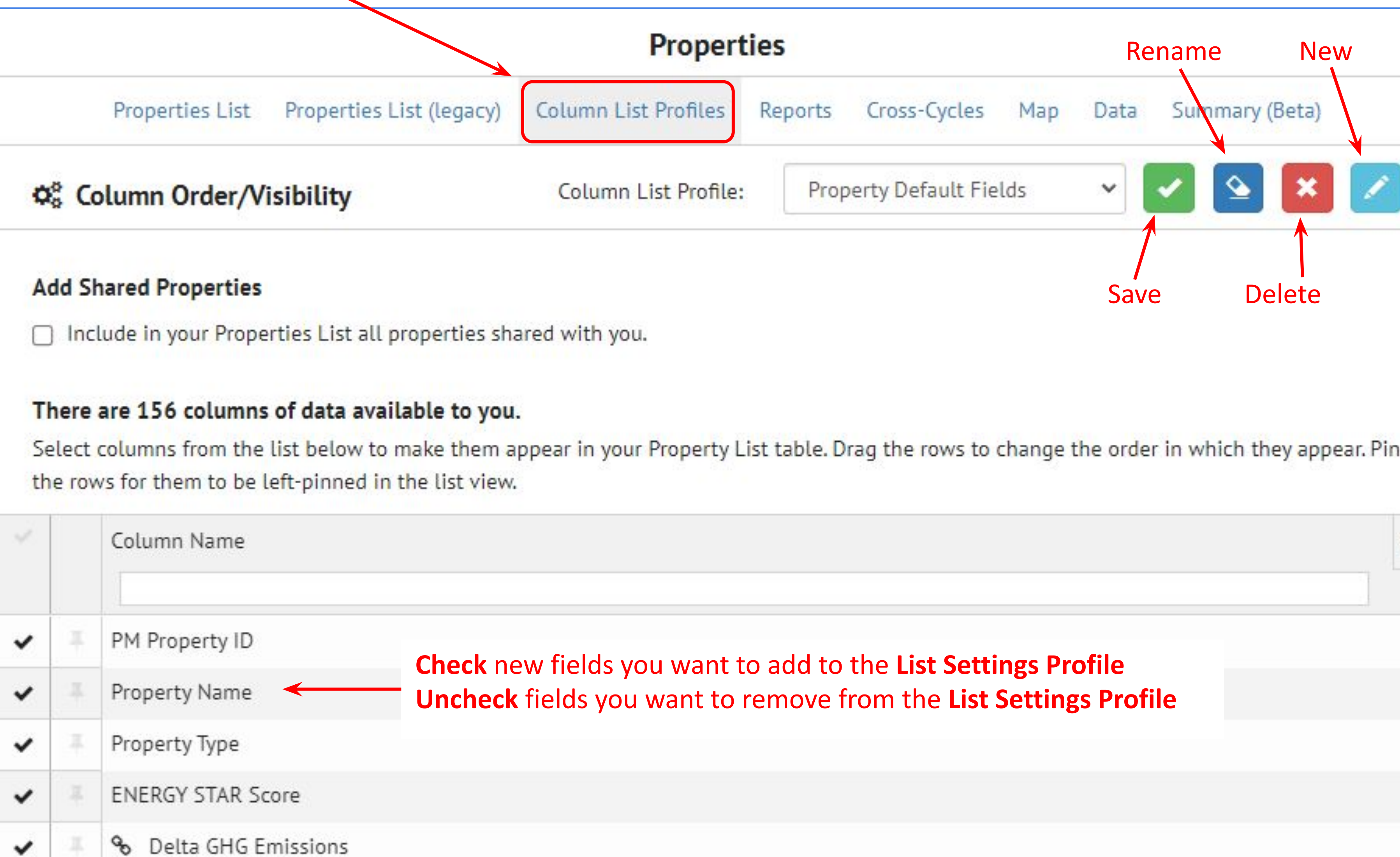
Can set more fields to be pinned left

Column List Profiles

- **List Settings pages**
  In all the List Setting views (for both List and Detail view), there is a new option called "List Settings Profile" which allows the currently highlighted fields to be saved to a name, which then appears in a pulldown list in both the List Settings view as well as the Inventory List views.



To edit an existing Column List Profile, or to make a new one, click the Column List Profiles link on either the Properties or Tax Lot List View



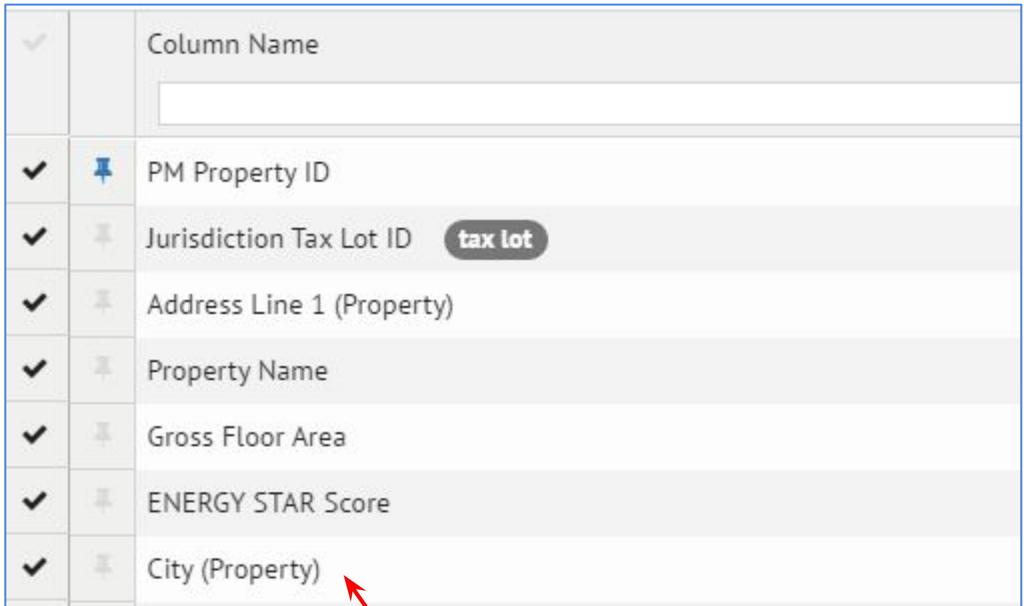
Check new fields you want to add to the **List Settings Profile**
Uncheck fields you want to remove from the **List Settings Profile**

Click **Save** to save the changes to the current **List Setting Profile**

Click **New** to save the newly selected fields to a new **List Settings Profile**

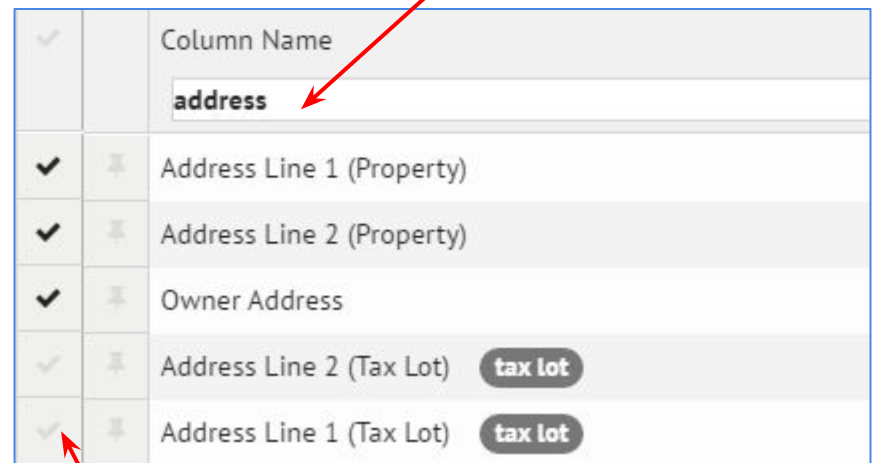
INVENTORY

List View – Column List Profiles – Reorder Columns

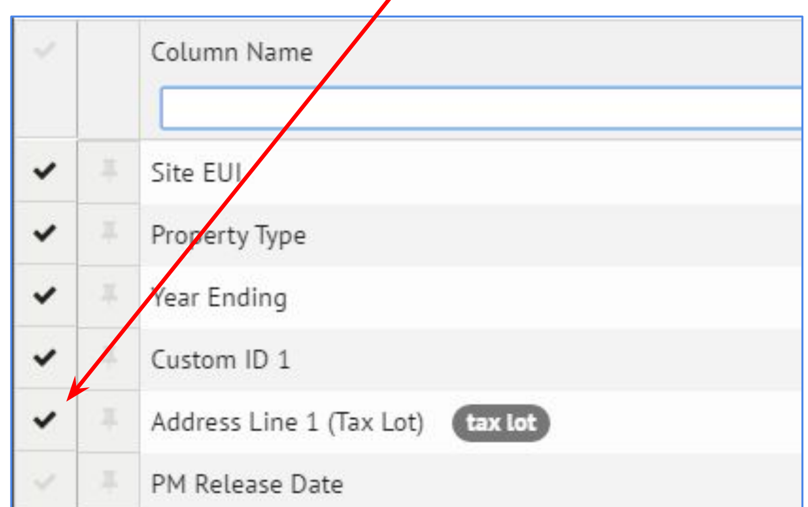


Click and hold down the left mouse button, and drag the Column Names around to change the order

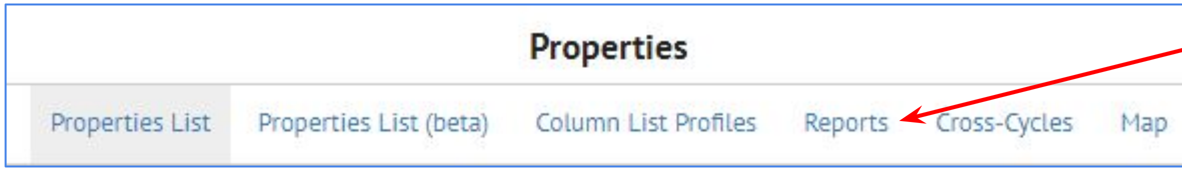
Type into the input box to filter the list of fields



Adding a checkmark to an unchecked field adds it to the end of the checked fields. It can then be dragged to the desired position



List View – Reports Overview



From either the **Properties** or **Tax Lots Inventory List** view click on **Reports**

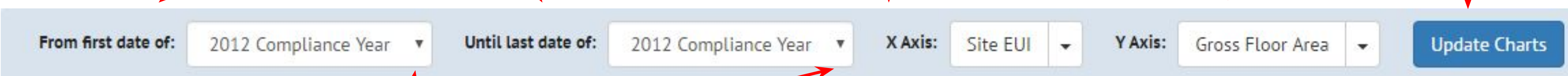
Select criteria to graph

Date ranges for reporting based on Cycles

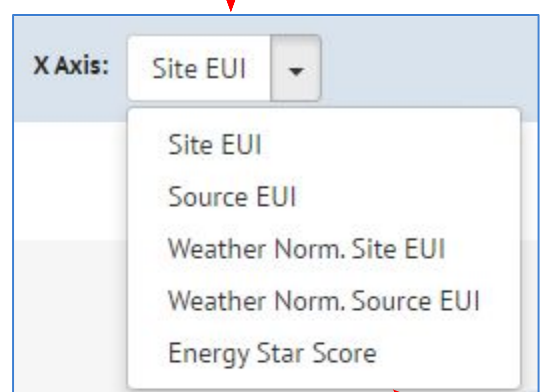
X Axis (Energy data)

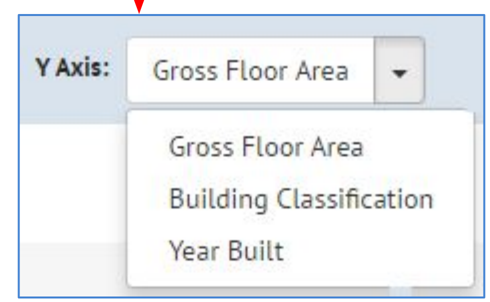
Y Axis (Building Characteristic)

Click **Update Charts**



The pulldown list shows the Cycles for the organization



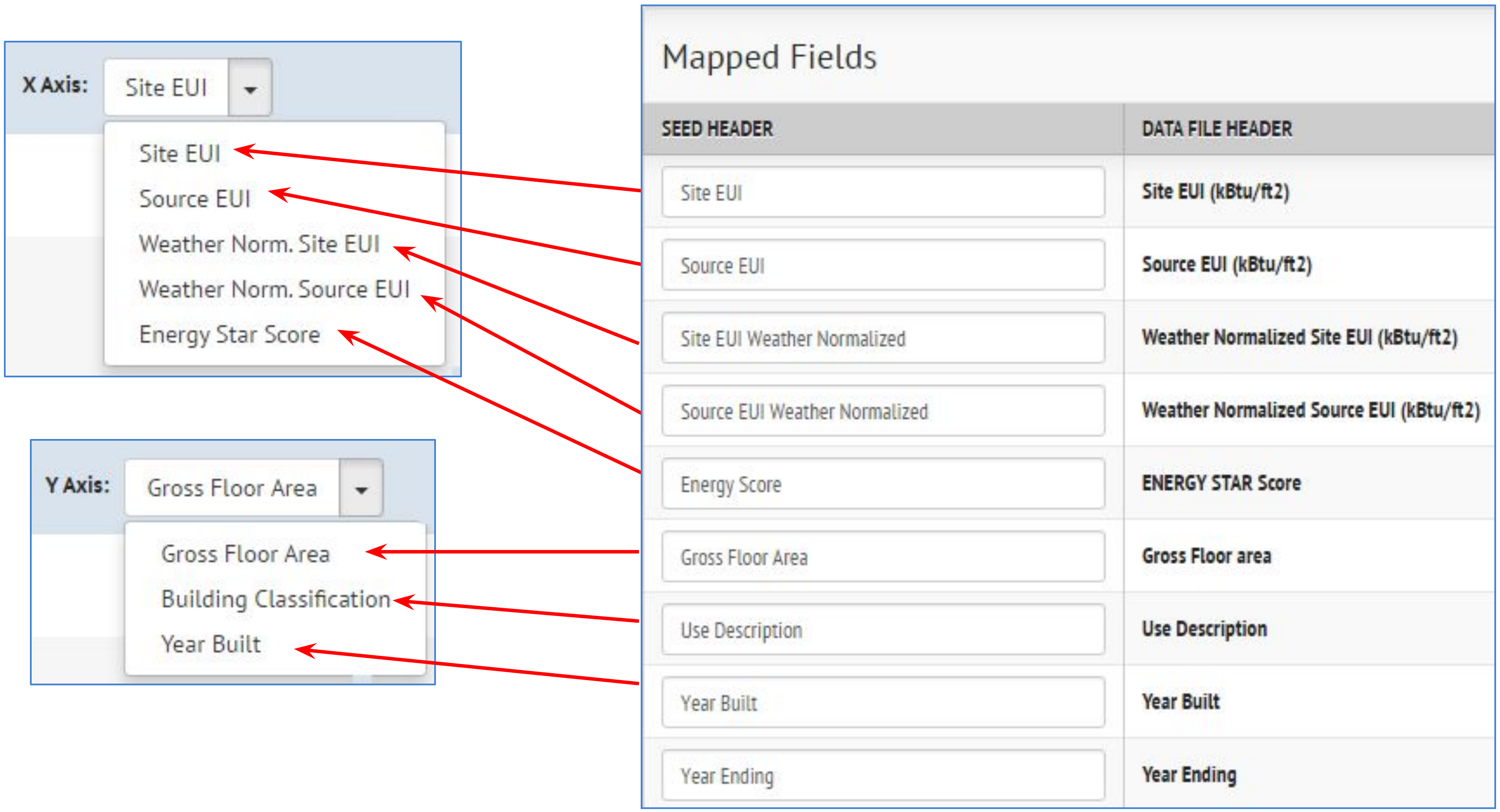


These field names must have been used when Mapping data in order to show data in the reports (see the next page for details)

List View – Reports – Field Mapping

You need to map the following fields in order for the reports to work

(Future work will include the ability to select fields that you want to plot so the mapping will not be as critical)



List View – Reports

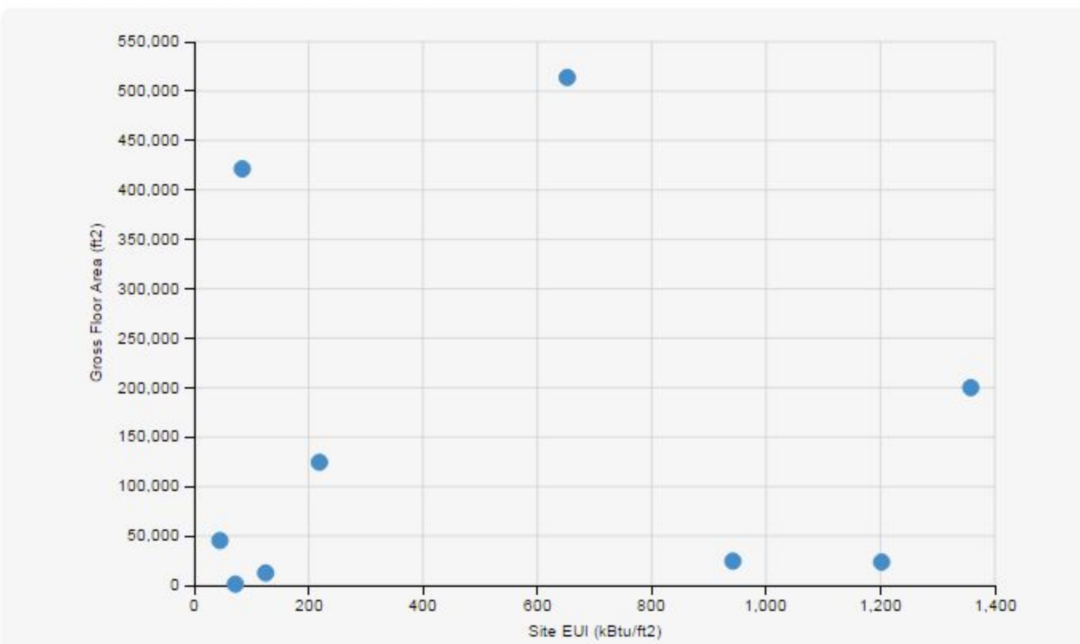
Scatter Plot with all buildings

Bar Graph with Median Values

Property Reports

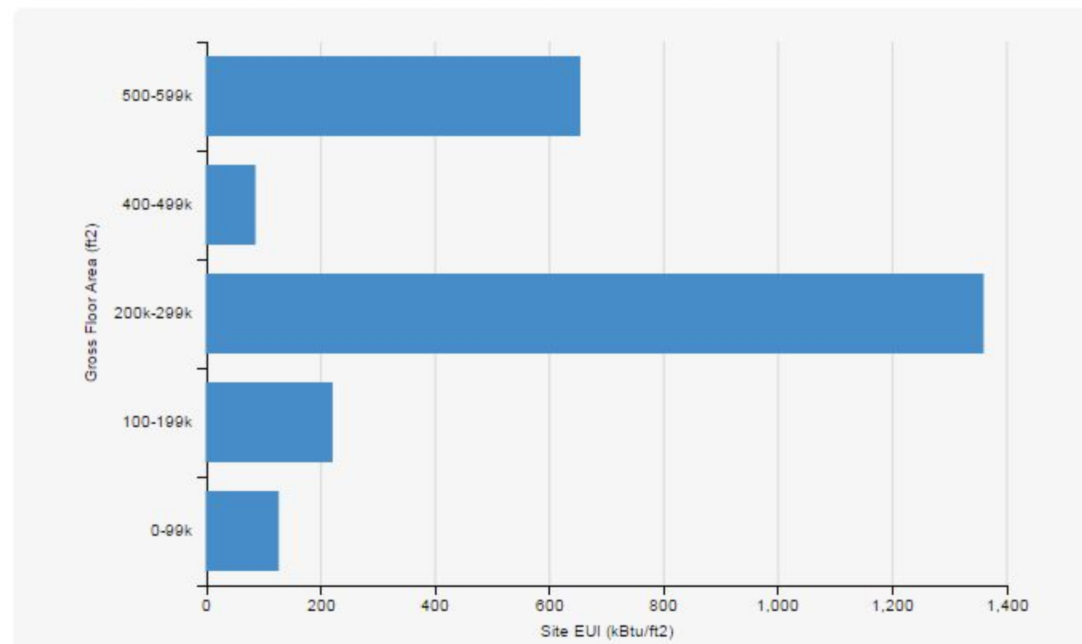
From first date of: 2017 Compliance | Until last date of: 2017 Compliance | X Axis: Site EUI | Y Axis: Gross Floor Area | Update Charts

Site Energy Use Intensity vs. Gross Floor Area



Year Ending	Properties with Data	Total Properties
2017	9	12

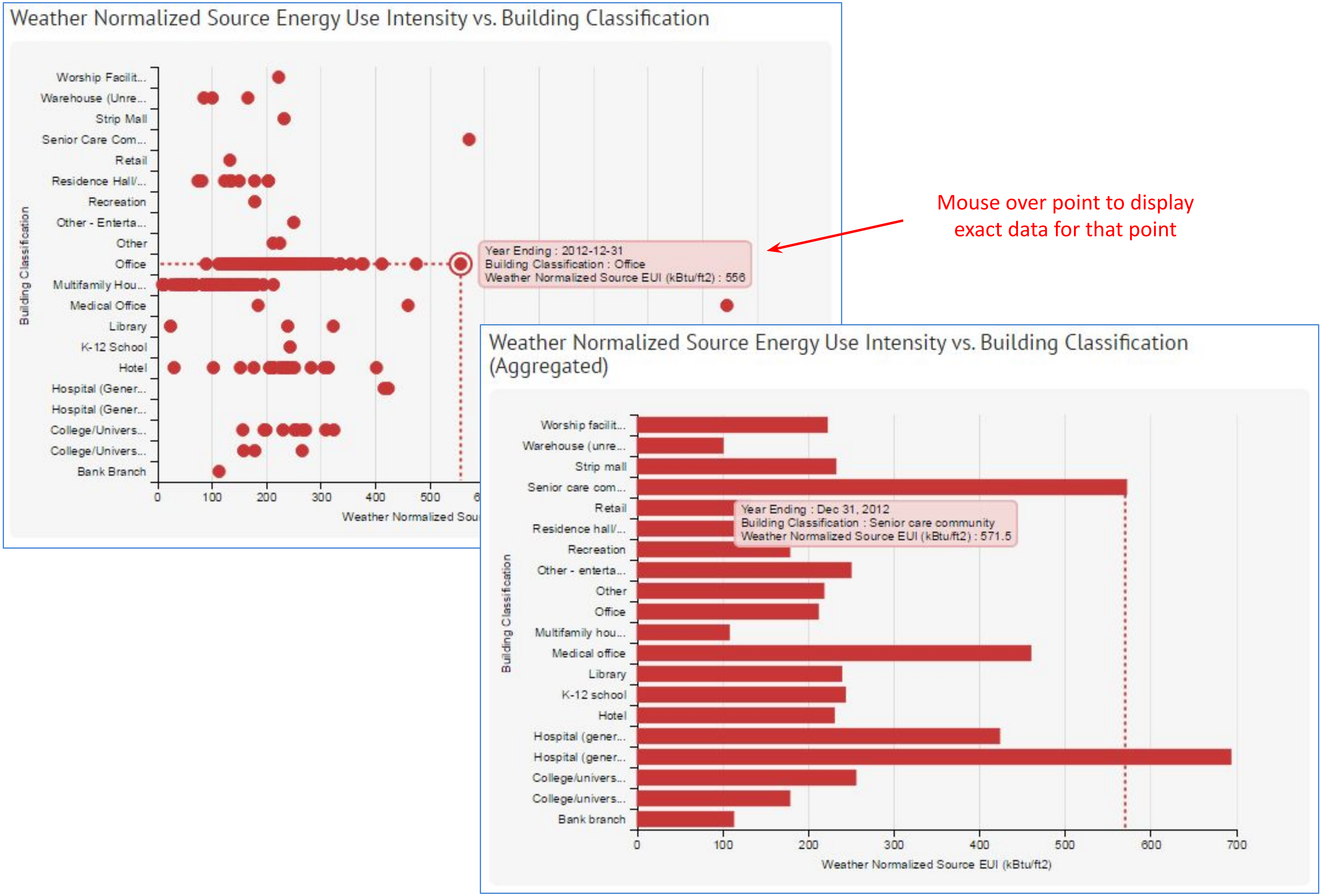
Site Energy Use Intensity vs. Gross Floor Area (Aggregated)



Year Ending	Properties with Data	Total Properties
2017	9	12

Program reports # data points actually used for graphs

List View – Reports (cont'd)

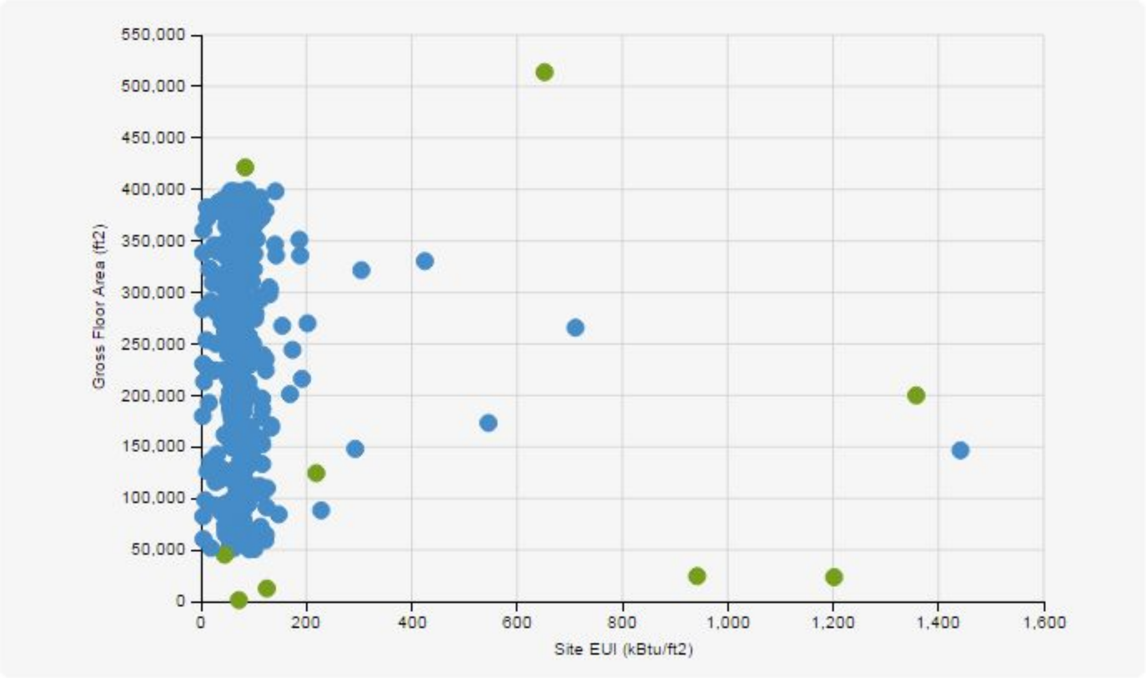


Mouse over point to display exact data for that point

List View – Reports - Multiple Years of Data

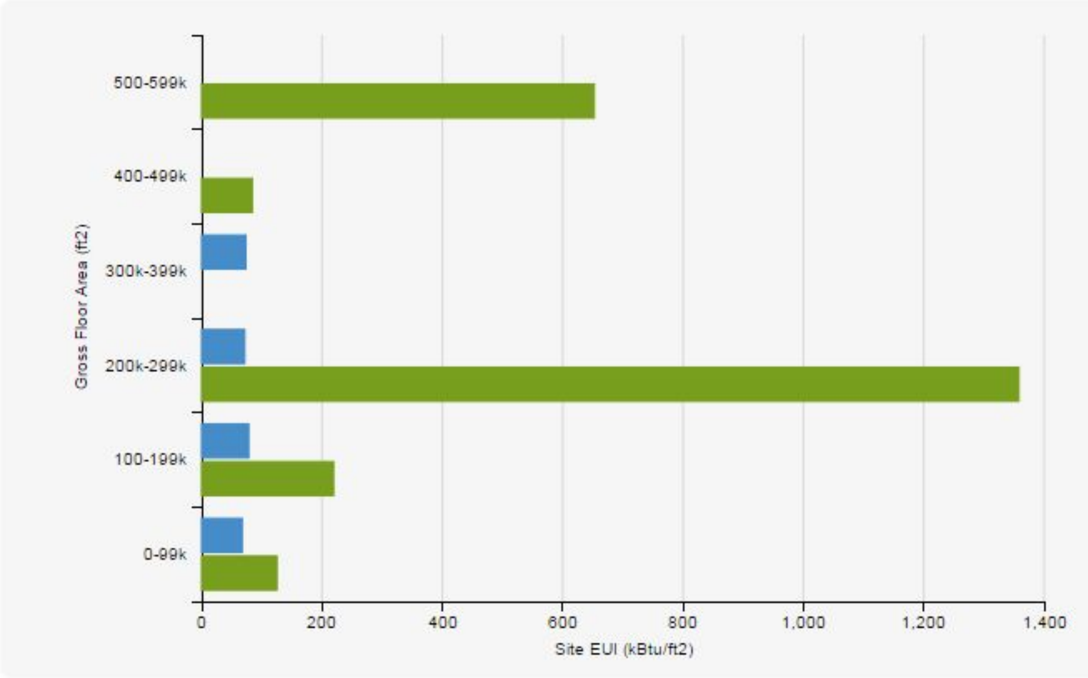
Multiple years of data
(based on Cycles)

Site Energy Use Intensity vs. Gross Floor Area



Year Ending	Properties with Data	Total Properties
2016	392	512
2017	9	12

Site Energy Use Intensity vs. Gross Floor Area (Aggregated)



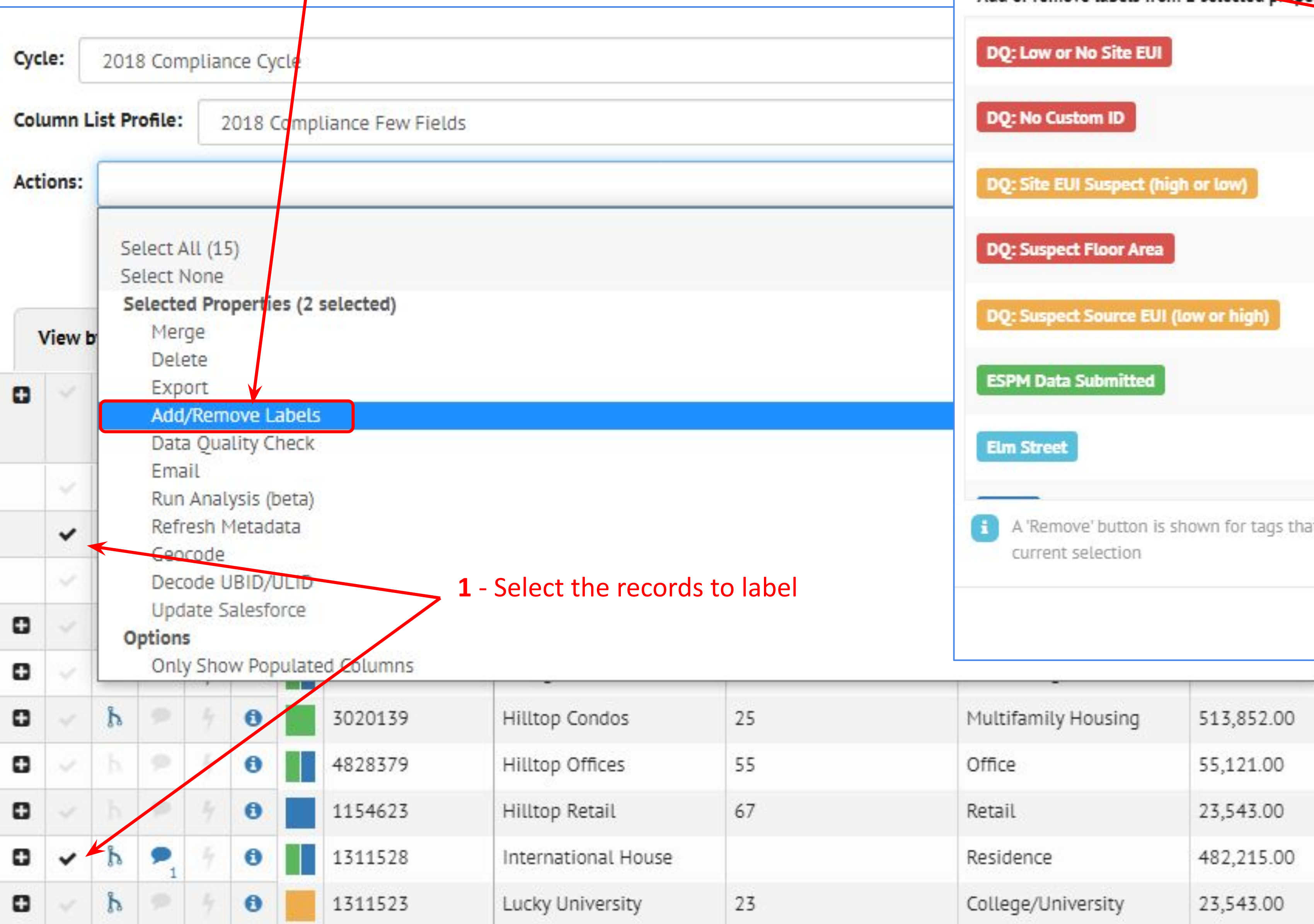
Year Ending	Properties with Data	Total Properties
2016	392	512
2017	9	12

Labels - List View

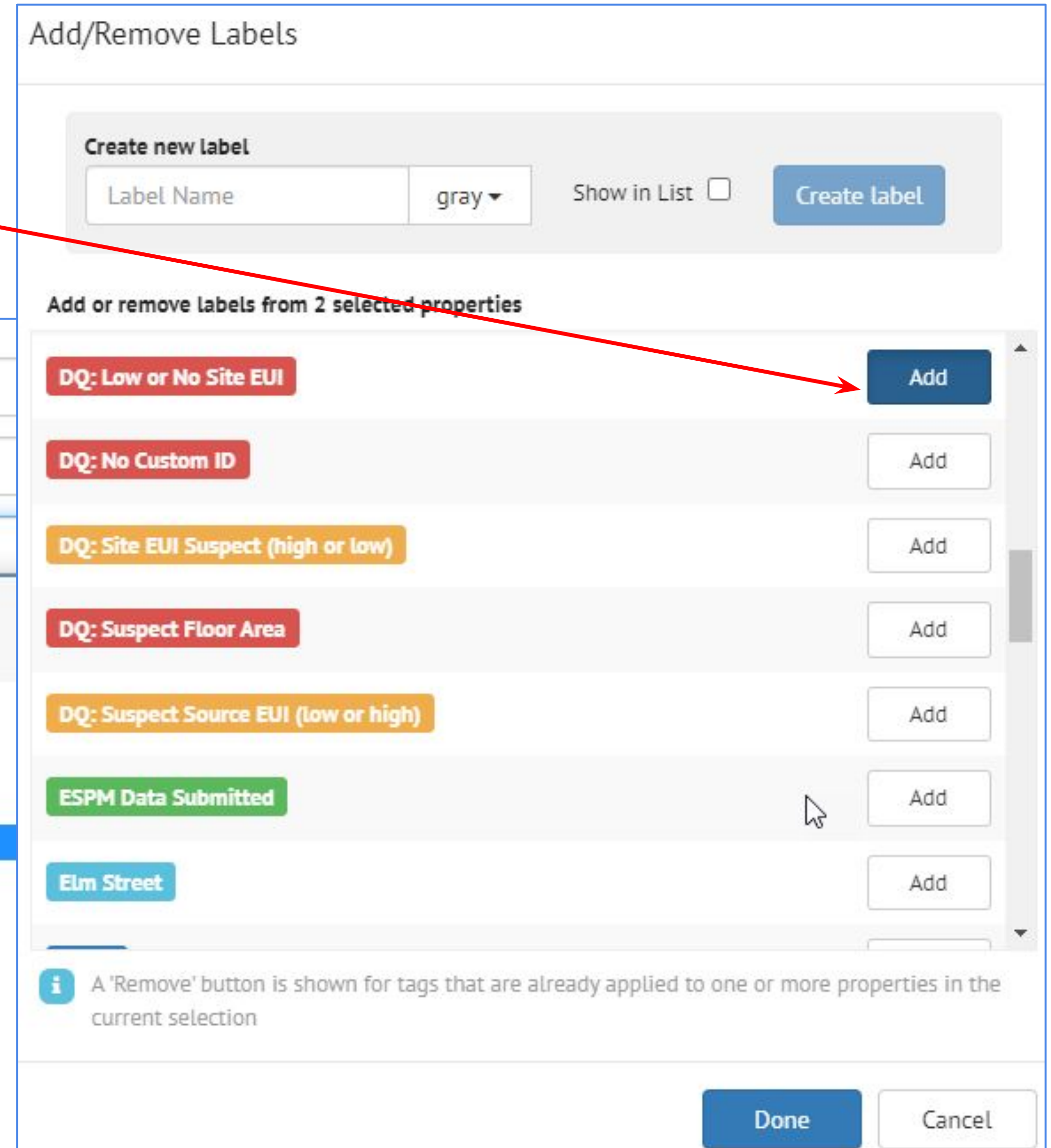
You can add pre-defined labels to records in the Inventory List view using the Actions pulldown list

2 - From the **Actions** pulldown list, select **Add/Remove** Labels

3 - The **Add/Remove Labels** dialog box appears. Click the **Add** button for the label(s) to add



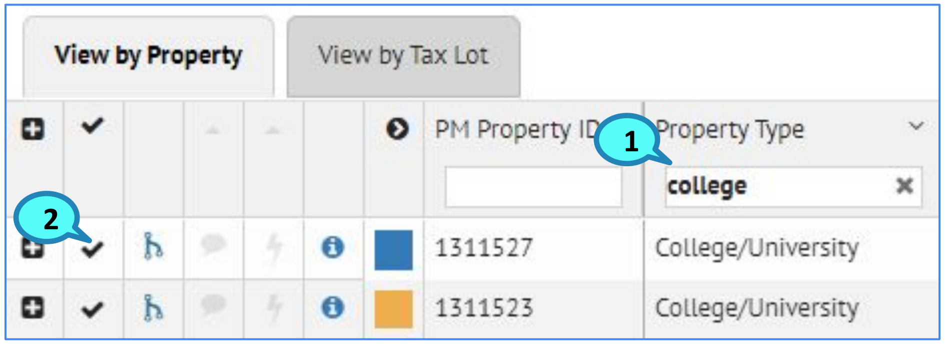
1 - Select the records to label

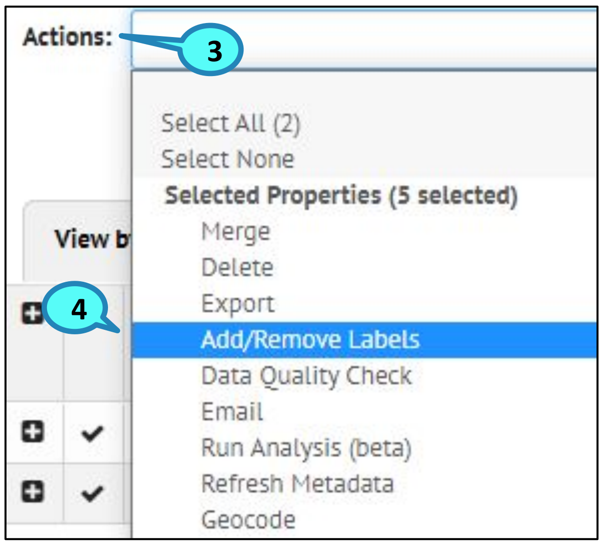


4 - Click the **Done** button and that label (or labels) will be added to the selected records

INVENTORY

Labels - Adding Labels “on the fly”



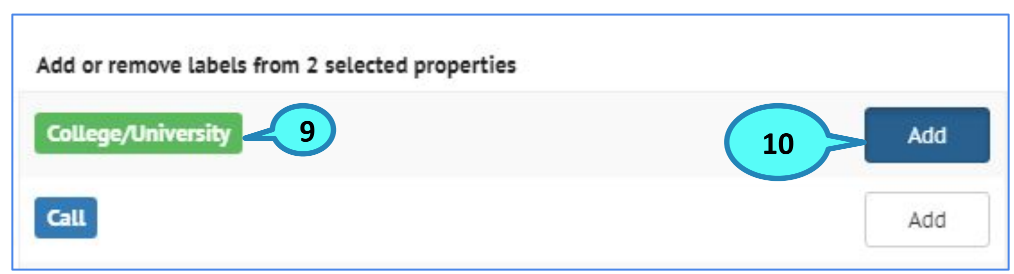


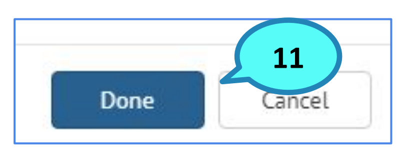
You can also define labels “on the fly” from the Inventory List view

In the Property or Tax Lot tab

1. Filter a field or fields -- in this example we are filtering on the **Property Type** field for any value with **college** in the name
2. Select all the records by click the checkbox to the left of the column names
3. Click the **Actions** pulldown list
4. Select the **Add/Remove Labels** choice
5. The **Add/Remove Labels** dialog box appears
6. Type the name of the new label in the **Create new label** box and select the color
7. Check the “Show in List” box to see the label in the Inventory List
8. Click the **Create Label** button
9. The new label is added to the list of Labels
10. Click the **Add** button for the label you just created
11. Click the **Done** button to apply the label to the selected records

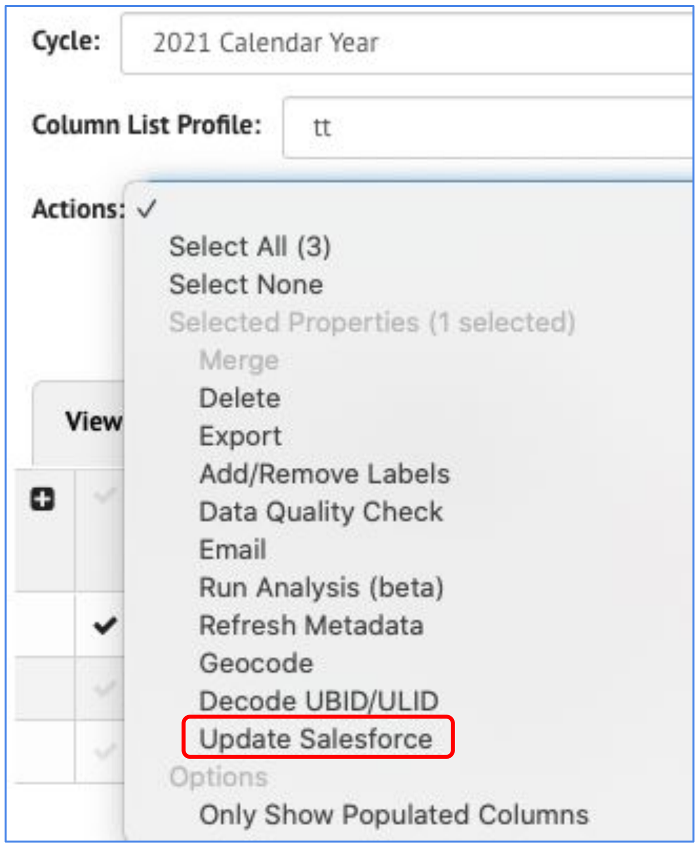
The label will be added to all the selected records
You can view the labels for each record in the Building Detail view *(see next page)*



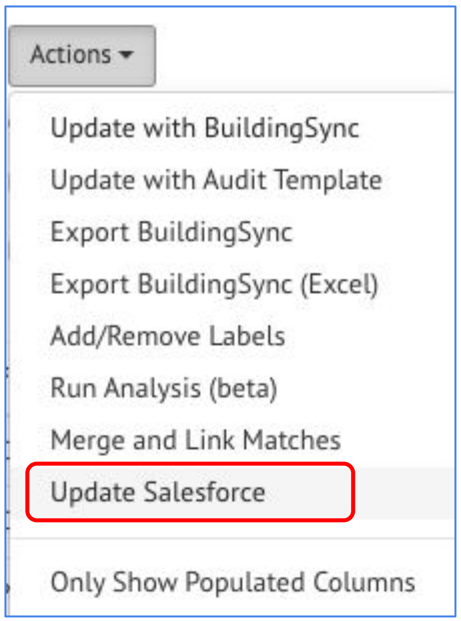


Salesforce

Property List View: a group of properties can be selected and updated manually

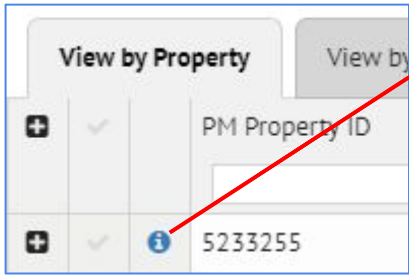


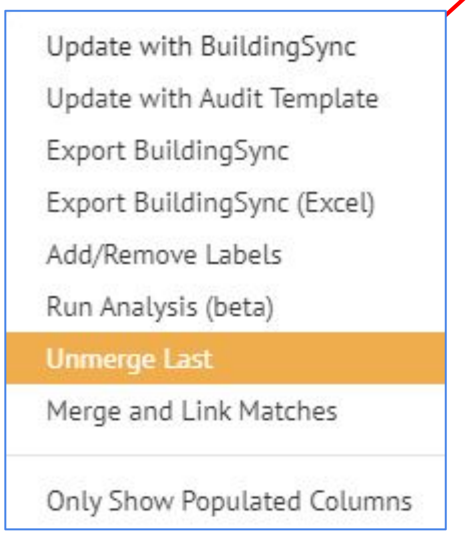
Property Detail: individual properties can be updated manually

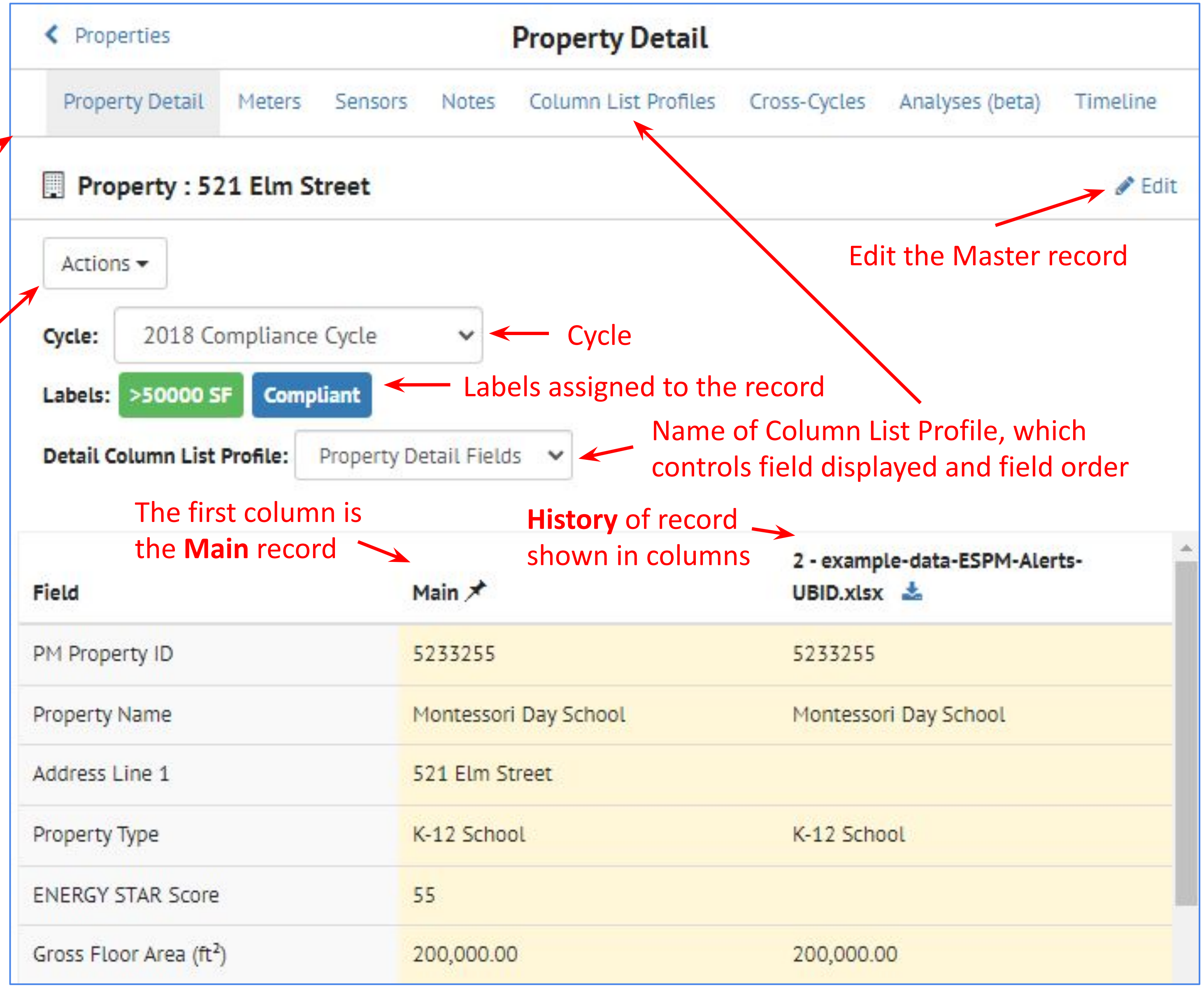


Detail View - Property & Tax Lot

From the Inventory List view, click the "Information" icon for a record to access the Inventory Detail view.







Field	Main	2 - example-data-ESPM-Alerts-UBID.xlsx
PM Property ID	5233255	5233255
Property Name	Montessori Day School	Montessori Day School
Address Line 1	521 Elm Street	
Property Type	K-12 School	K-12 School
ENERGY STAR Score	55	
Gross Floor Area (ft²)	200,000.00	200,000.00

Edit the Master record

Cycle

Labels assigned to the record

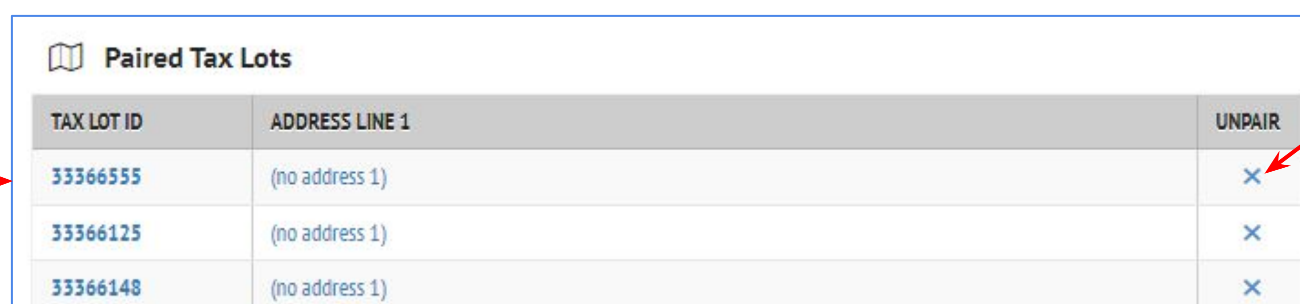
Name of Column List Profile, which controls field displayed and field order

The first column is the **Main** record

History of record shown in columns

The **Property Detail** view will only show fields and data mapped to the Property table

The **Tax Lot Detail** view will only show fields and data mapped to the Tax Lot table



TAX LOT ID	ADDRESS LINE 1	UNPAIR
33366555	(no address 1)	×
33366125	(no address 1)	×
33366148	(no address 1)	×

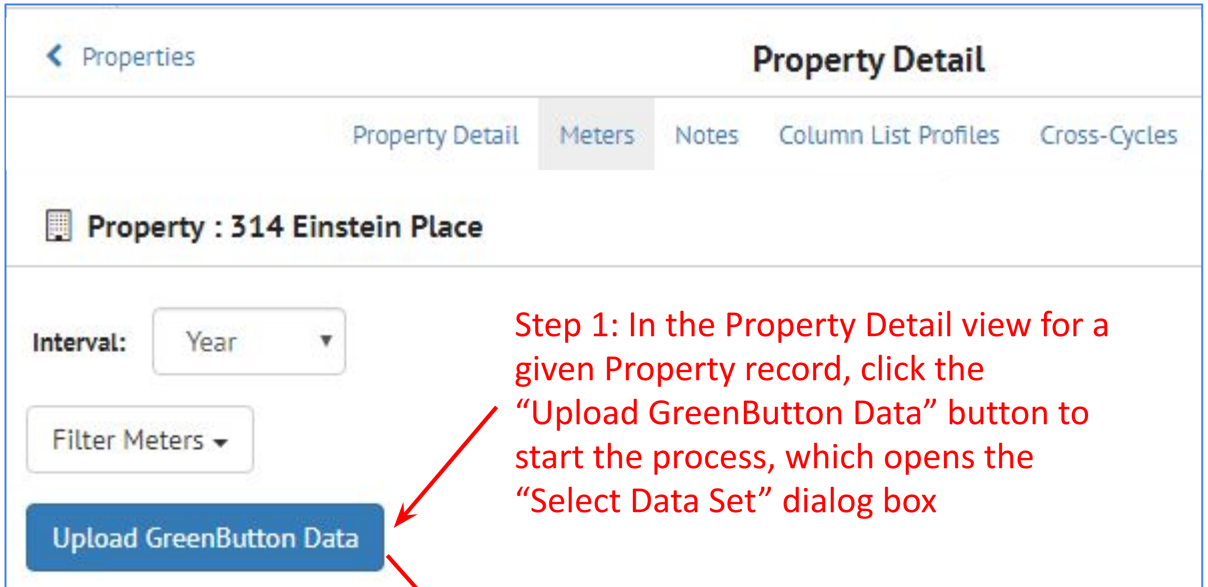
Links to access associated (paired) Tax Lot record detail views

Associated records can be unpaired

INVENTORY

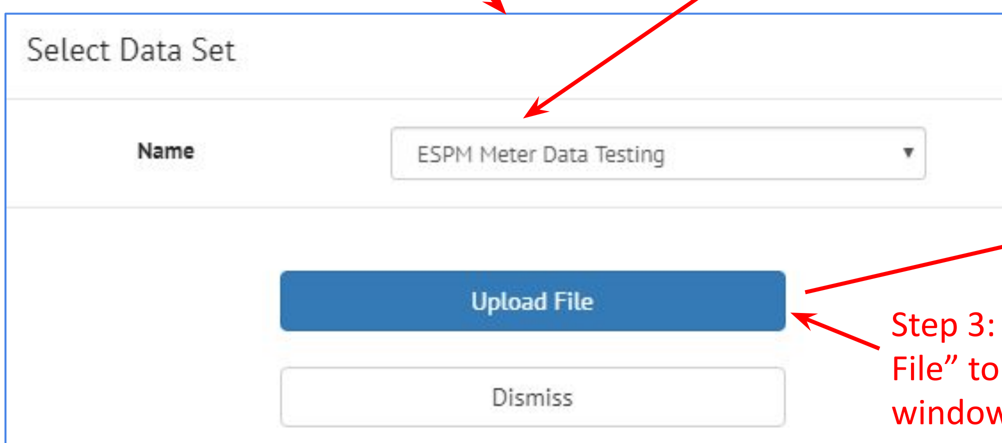
Detail View - Meters: Import GreenButton Data

From the Property Detail view for a record, click the "Upload GreenButton Data" button

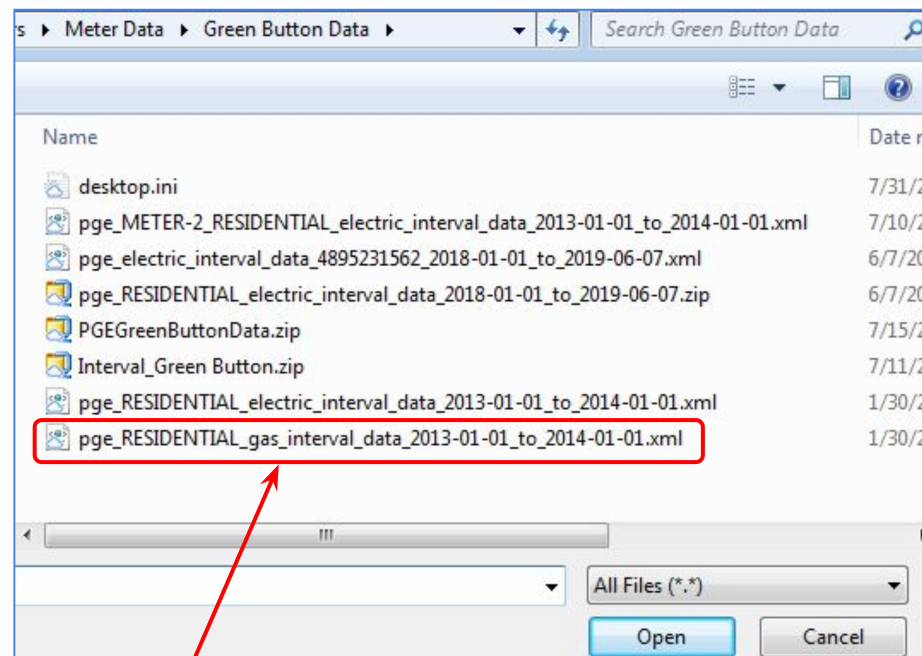


Step 1: In the Property Detail view for a given Property record, click the "Upload GreenButton Data" button to start the process, which opens the "Select Data Set" dialog box

Step 2: Select the appropriate Dataset name



Step 3: Click "Upload File" to open a Browser window to select the GreenButton XML file to upload.

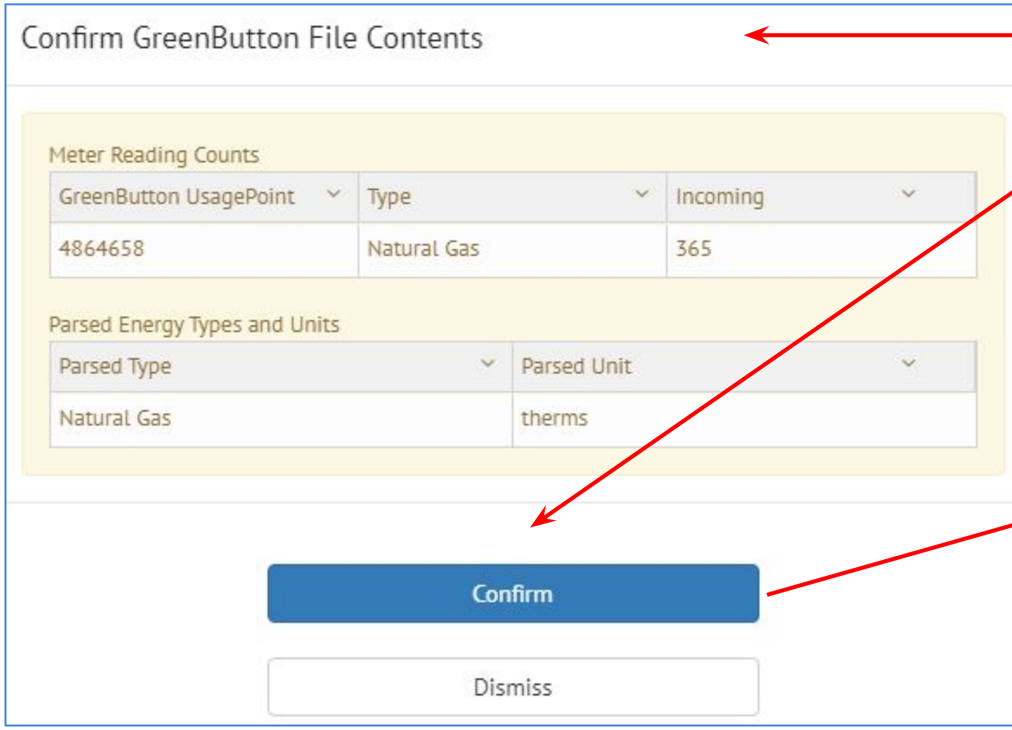


Step 4: Select the appropriate file and click Open

INVENTORY

Detail View - Meters: Import GreenButton Data

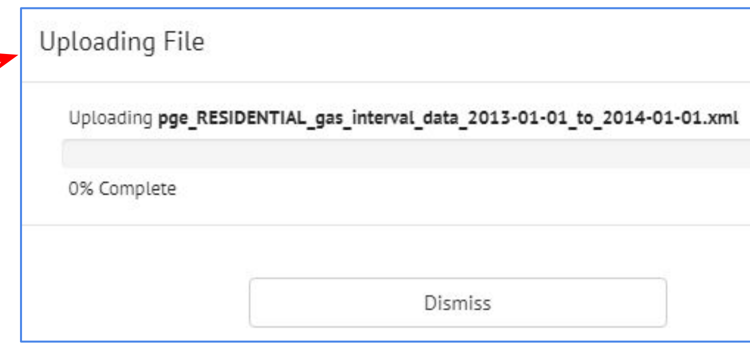
From the Property Detail view for a record, click the “Upload GreenButton Data” button



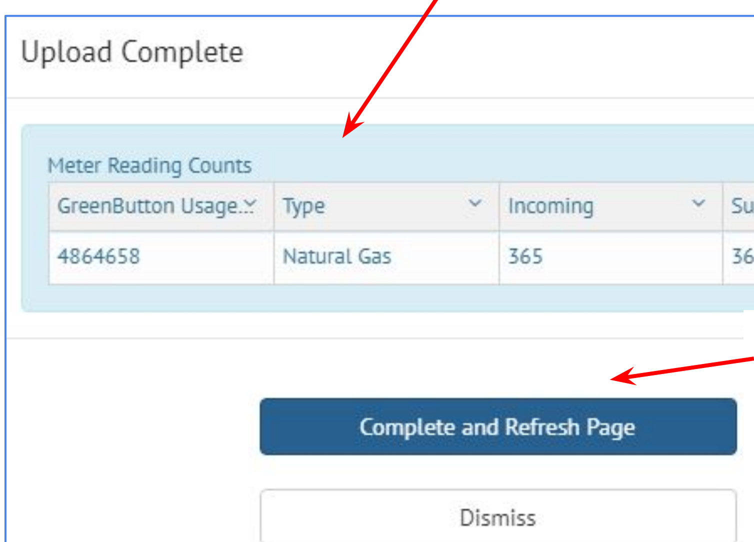
Step 5: SEED displays a dialog box with a summary of the GreenButton data. Review this summary

- Click “Confirm” if you want to continue the upload.
- Click “Dismiss” if you want to cancel the upload.

Step 6: File is uploaded

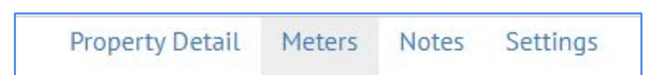


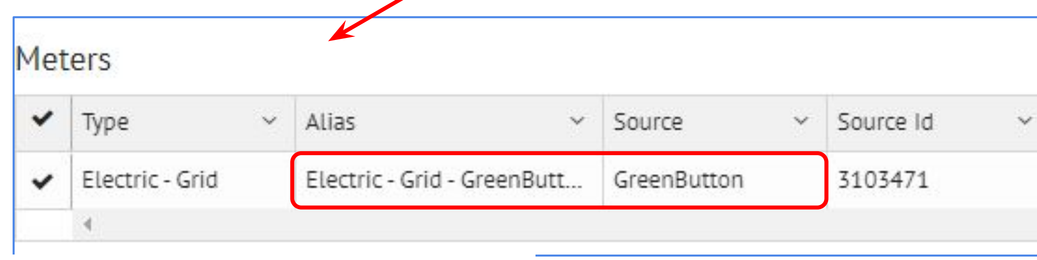
Step 7: Results of upload are displayed



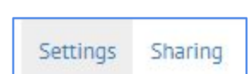
Step 8: Click the Complete and Refresh Page button

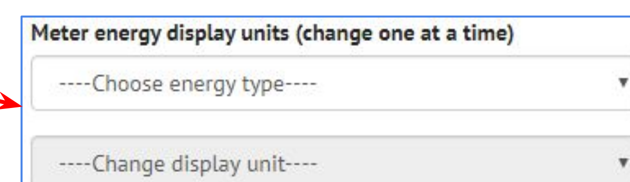
Step 9: The data is added to the Meter view in Property Detail





Step 10: Change the units if needed in Organizations/Settings

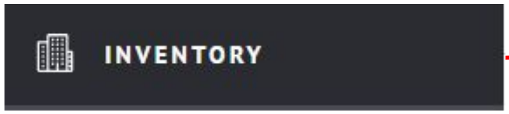


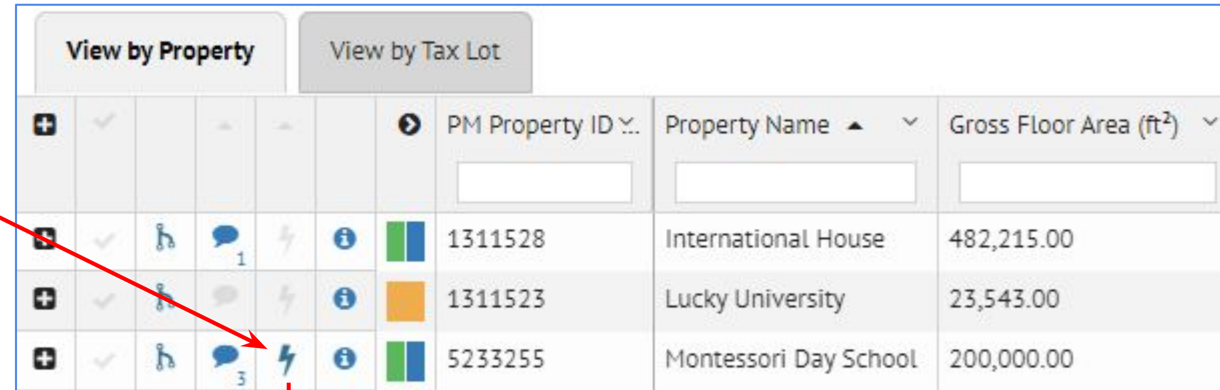


Detail View - Meters (cont'd)

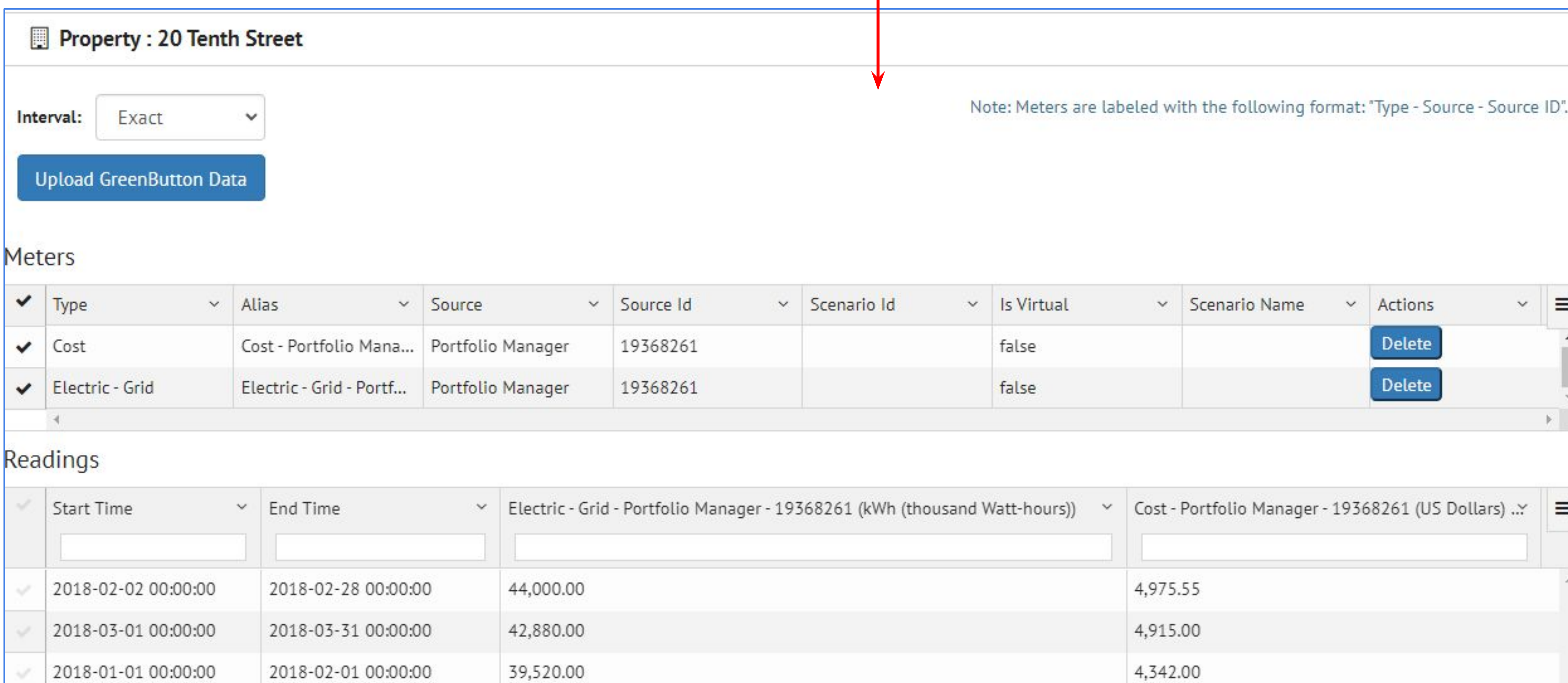
To see the imported meter data:

Go to the **Inventory** view, **View by Property** tab, select the appropriate **Cycle**, click the **Info icon** to get to the **Property Detail** view, click the **Meters** link





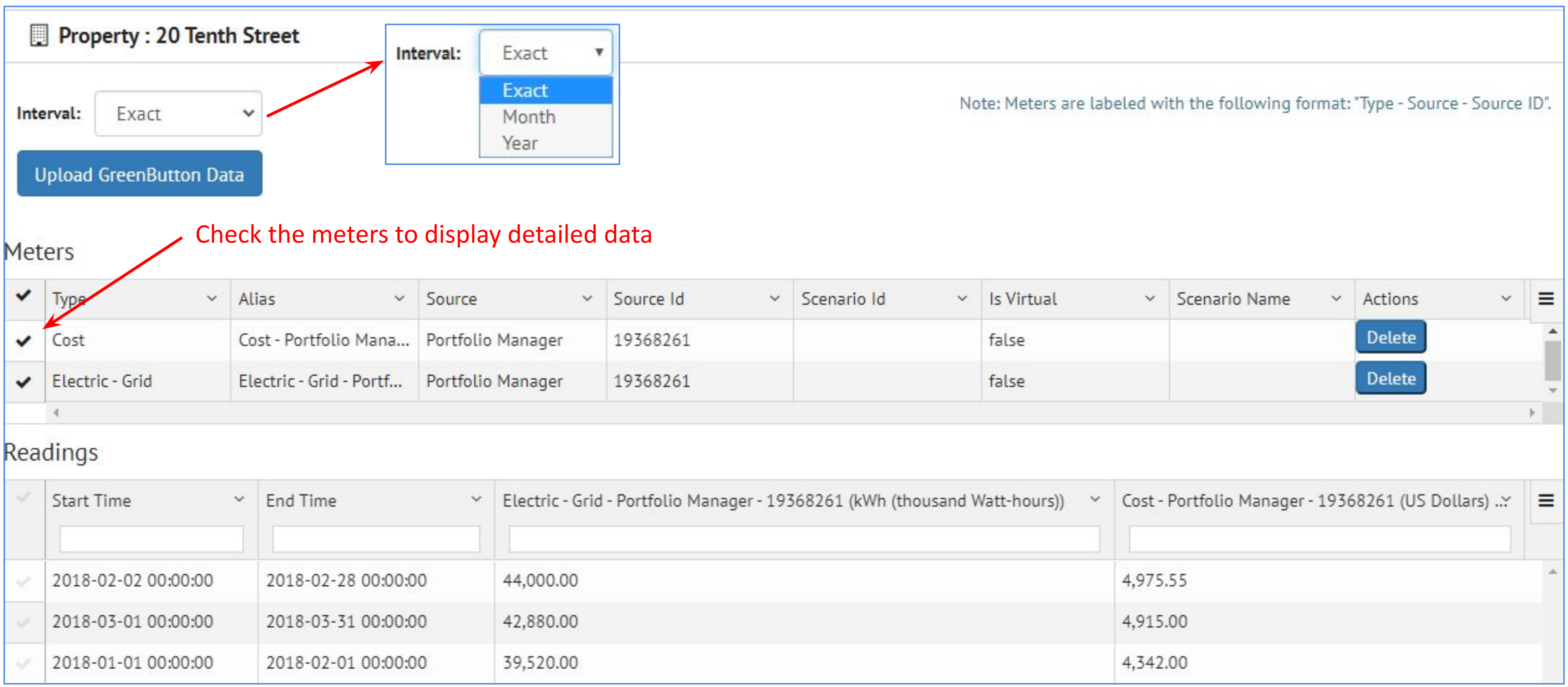
Click on the Meter Data icon to go directly to the Property Detail / Meters view



Detail View - Meters (cont'd)

The program will aggregate data based on the Interval selected.

- **Exact:** Shows the actual data as it was imported from the original source
- **Month:** Aggregates the data by month. If the data spans more than one month, the program cannot display the monthly aggregated data. The one exception is an end time of one month could be the beginning of the next month. For example, August 1 00:00:00 (but not 00:00:01) is an acceptable end time for an entry contained within the month of July.
- **Year:** Aggregates the data across each year of data. Similar to monthly aggregation, yearly aggregation accepts data with an end time of January 1 00:00:00 as part of the previous year.



INVENTORY

Detail View - Meters (cont'd)

In this case, the monthly data spans more than one month, i.e., 1-11-2014 to 2-10-2015 is defined as one month.

This is shown by setting Interval == Exact

Interval: Exact

Start Time	End Time	Electric - Grid - PM - 46643762 (kWh (thousand Watt-hours))	Cost - PM - 46643762 (US Dollars)
2015-01-11 00:00:00	2015-02-10 00:00:00	116,431.70	8,732.38
2015-02-10 00:00:00	2015-03-12 00:00:00	122,951.50	9,221.36
2015-03-12 00:00:00	2015-04-15 00:00:00	122,491.00	9,186.83

Therefore, choosing Interval=Month results in no data being displayed

Interval: Month

No Data

Exception:
If the data spans more than one month, the program cannot display the monthly aggregated data. The one exception is an end time of one month could be the beginning of the next month. For example, August 1 00:00:00 (but not 00:00:01 is an acceptable end time for an entry contained within the month of July.

When Interval == Year, the program aggregates the data for each year

Interval: Year

Year	Electric - Grid - PM - 46643762 (kWh (thousand Watt-hours))	Cost - PM - 46643762 (US Dollars)
2014	1,449,570.80	108,717.82
2015	1,427,786.70	107,084.02
2016	1,397,457.80	104,809.37
2017	381,000.00	29,390.00

Detail View - Meters (cont'd)

In this case, the monthly data is fully contained within one month

Interval = Exact
All the data is displayed

Interval: Exact

Start Time	End Time	Natural Gas - PM - 46643764 (kBtu (thousand Btu))	Cost - PM - 46643764 (US Dollars)
2014-01-01 00:00:00	2014-01-31 00:00:00	406,140.00	3,533.42
2015-01-01 00:00:00	2015-01-31 00:00:00	383,580.00	3,337.15
2015-02-01 00:00:00	2015-02-28 00:00:00	541,520.00	4,711.22
2015-03-01 00:00:00	2015-03-31 00:00:00	372,300.00	3,239.01

Interval = Month
Data is aggregated by month

Interval: Month

Month	Natural Gas - PM - 46643764 (kBtu (thousand Btu))	Cost - PM - 46643764 (US Dollars)
January 2014	406,140.00	3,533.42
February 2014	564,090.00	4,907.58
March 2014	394,860.00	3,435.28
April 2014	180,510.00	1,570.44
May 2014	5,640.00	49.07

Exception:
If the data spans more than one month, the program cannot display the monthly aggregated data. The one exception is an end time of one month could be the beginning of the next month. For example, August 1 00:00:00 (but not 00:00:01) is an acceptable end time for an entry contained within the month of July.

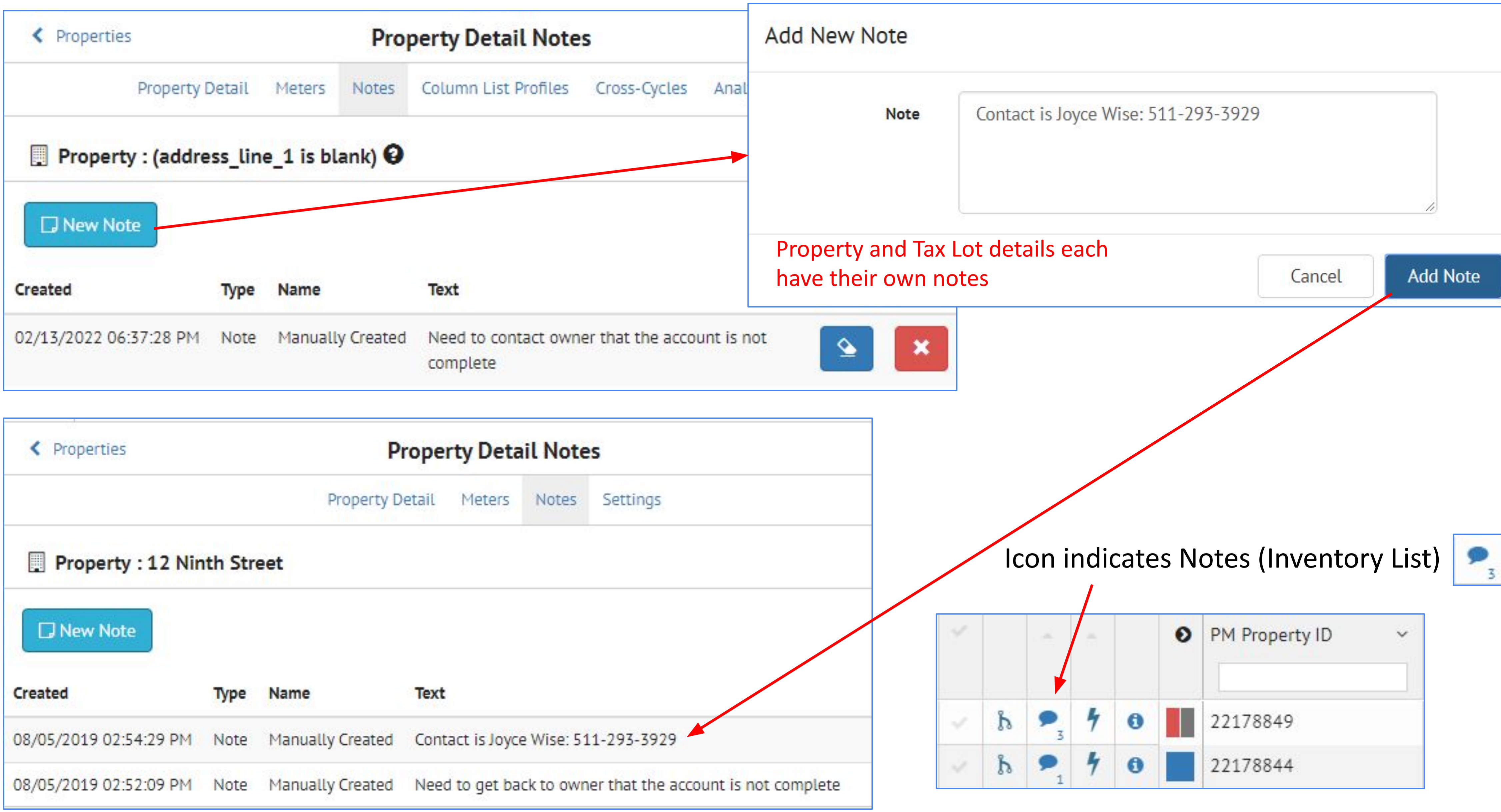
Interval = Year
Data is aggregated by year

Interval: Year

Year	Natural Gas - PM - 46643764 (kBtu (thousand Btu))	Cost - PM - 46643764 (US Dollars)
2014	2,309,610.00	20,093.62
2015	2,031,110.00	17,670.66
2016	1,965,360.00	17,098.63
2017	1,090,000.00	8,910.00

INVENTORY

Detail View - Notes



When unmerging a record that contains notes, the notes are duplicated to each new record with the original timestamps preserved.

When merging records that contain notes, the notes are combined into the new record with the original timestamps preserved. If exact note duplicates exist (for instance, from unmerging a record prior to re-merging) the exact duplicates are de-duplicated.

INVENTORY

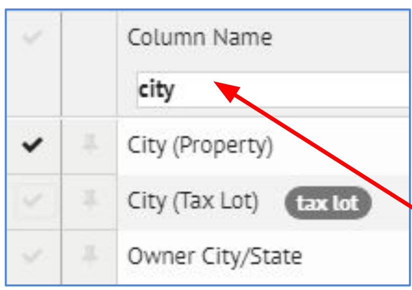
Detail View - Column List Profiles

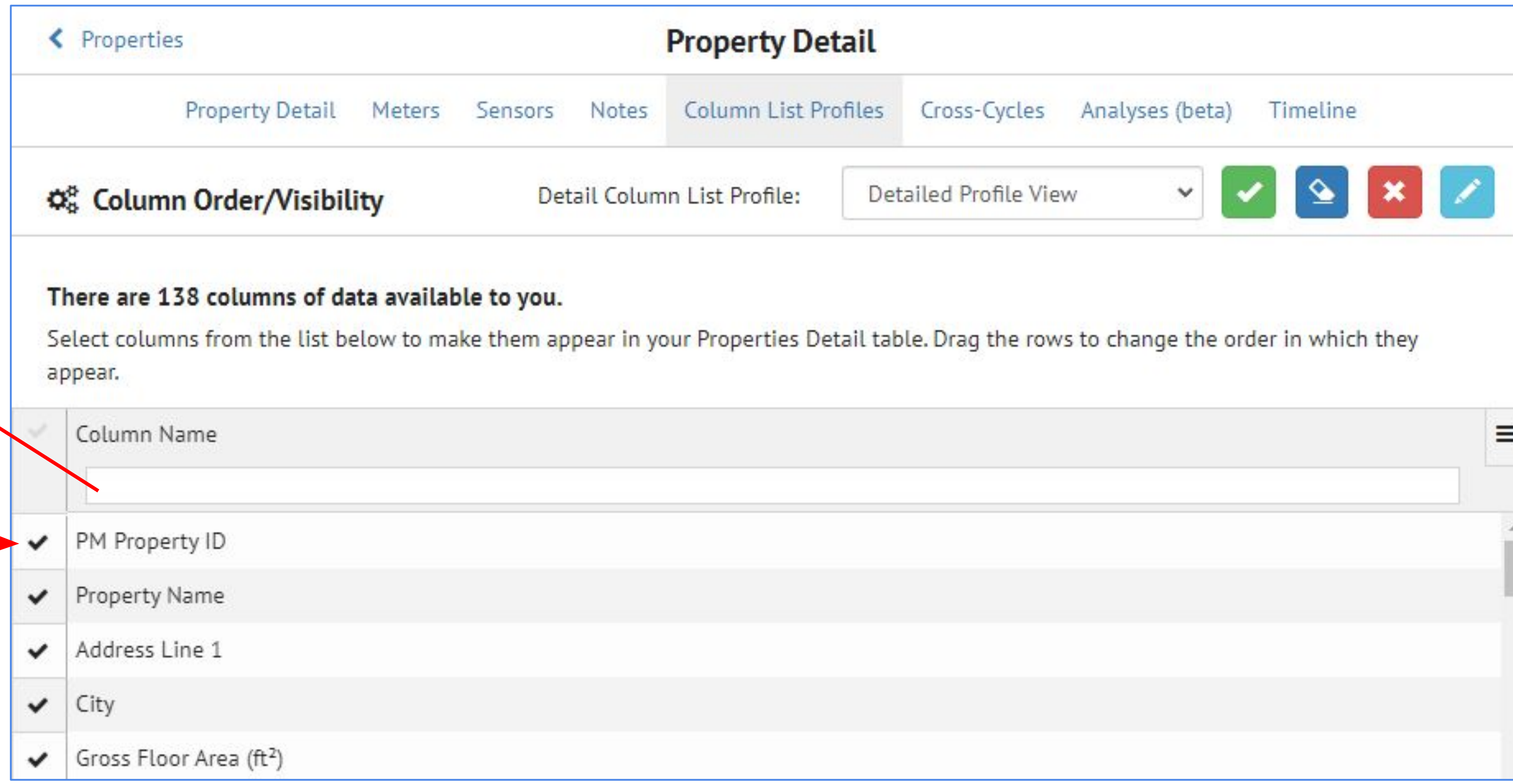
Click Column List Profiles from either **Property** or **Tax Lot Detail view** to set the visibility and order properties for fields.

Tax Lot Detail Settings will only contain fields and data from the **Tax Lot** table

Property Detail Settings will only contain fields and data from the **Property** table

Enter values to search the list of fields, then "check" the ones you want to display





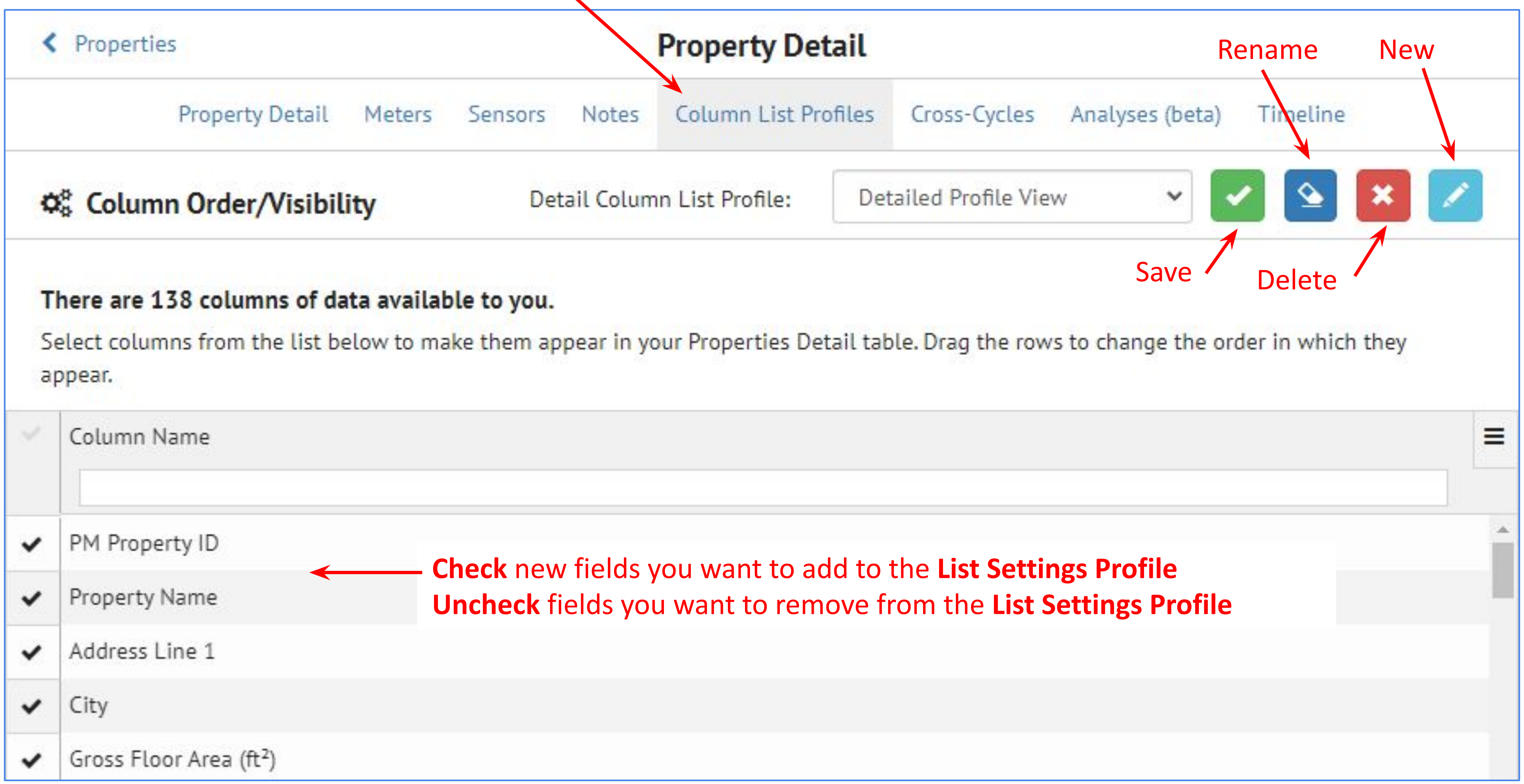
Check the fields to display, uncheck them to prevent them from displaying, in the Detail view

Drag fields up and down to set the order

Detail View - Column List Profiles (cont'd)

In all the Detail View (for both Property and Tax Lot views) the "Column List Profiles" allows the currently highlighted fields to be saved to a name, which then appears in a pulldown list. This allows different sets of fields to be saved to different profiles.

To edit an existing Detail Settings Profile, or to make a new one, click the Settings link on either the Property or Tax Lot Detail View

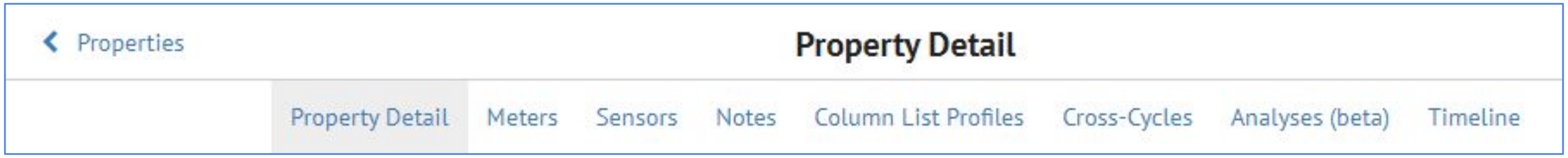


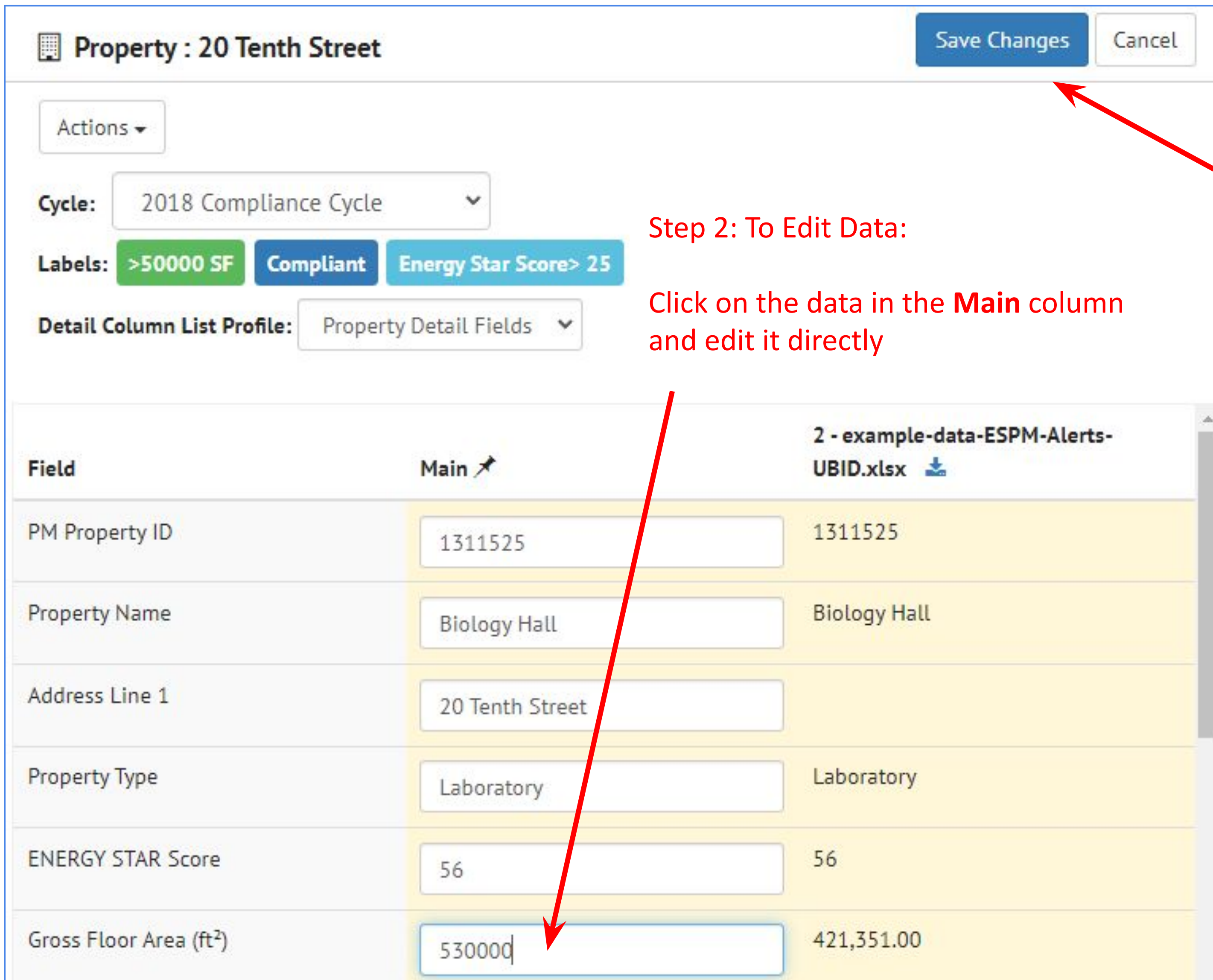
Click **Save** to save the changes to the current **List Setting Profile**

Click **New** to save the newly selected fields to a new **List Settings Profile**

Detail View - Edit the Main Record

From the **Inventory List** view, click the "**Information**" icon for a record to access the **Inventory Detail** view.





Step 1: Click **Edit** to change the information in the **Main** column.

This will put you in "Edit" mode

Step 2: To Edit Data:

Click on the data in the **Main** column and edit it directly

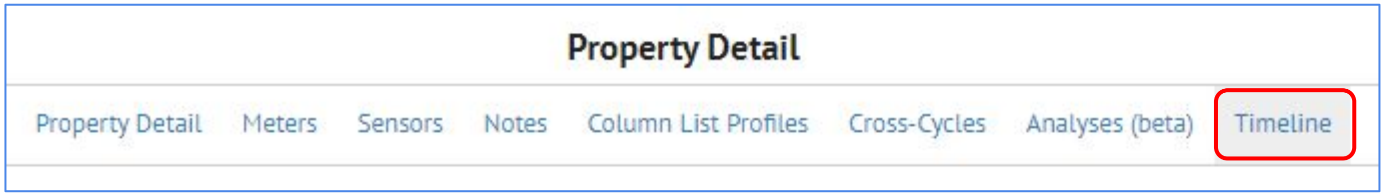
Step 3: Click the **Save Changes** button in the upper right of the view when you have finished editing the **Main** column

Field	Main
PM Property ID	1311525
Property Name	Biology Hall
Address Line 1	20 Tenth Street
Property Type	Laboratory
ENERGY STAR Score	56
Gross Floor Area (ft²)	530,000.00

Step 4: The Main column is now updated with the changes

Detail View: Timeline

A new feature has been added called Timeline, to show important “events” that happen on a property



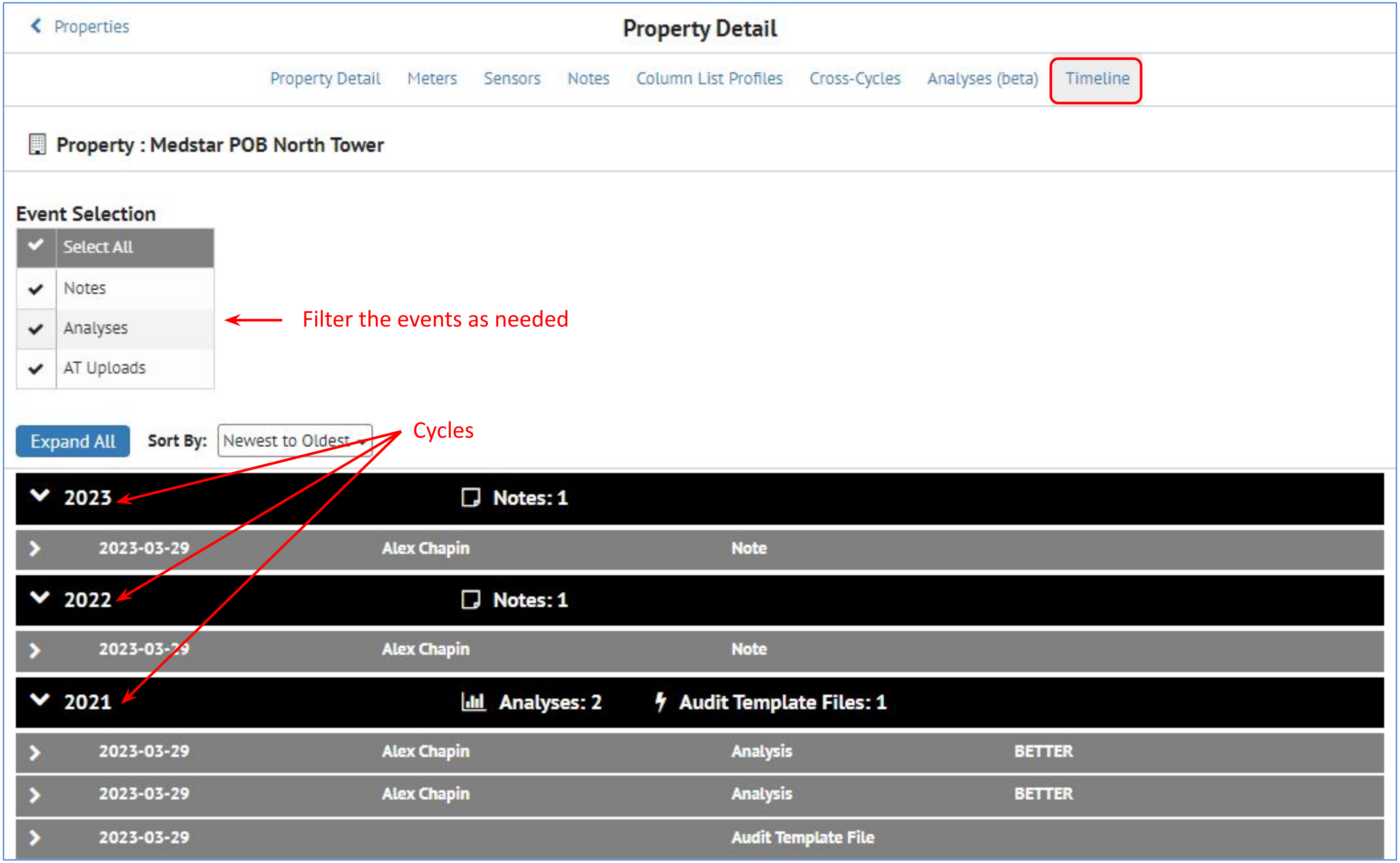
There is a row in the Timeline for every event

Events added to the Timeline are

- New Notes (added manually)
- New Analyses
- New Audit Template or BuildingSync file upload

Detail View: Timeline (cont'd)

Clicking the Timeline link for a property will show all the actions across cycles



INVENTORY

Detail View: Timeline (cont'd)

Clicking the Timeline link for a property will show all the actions across cycles

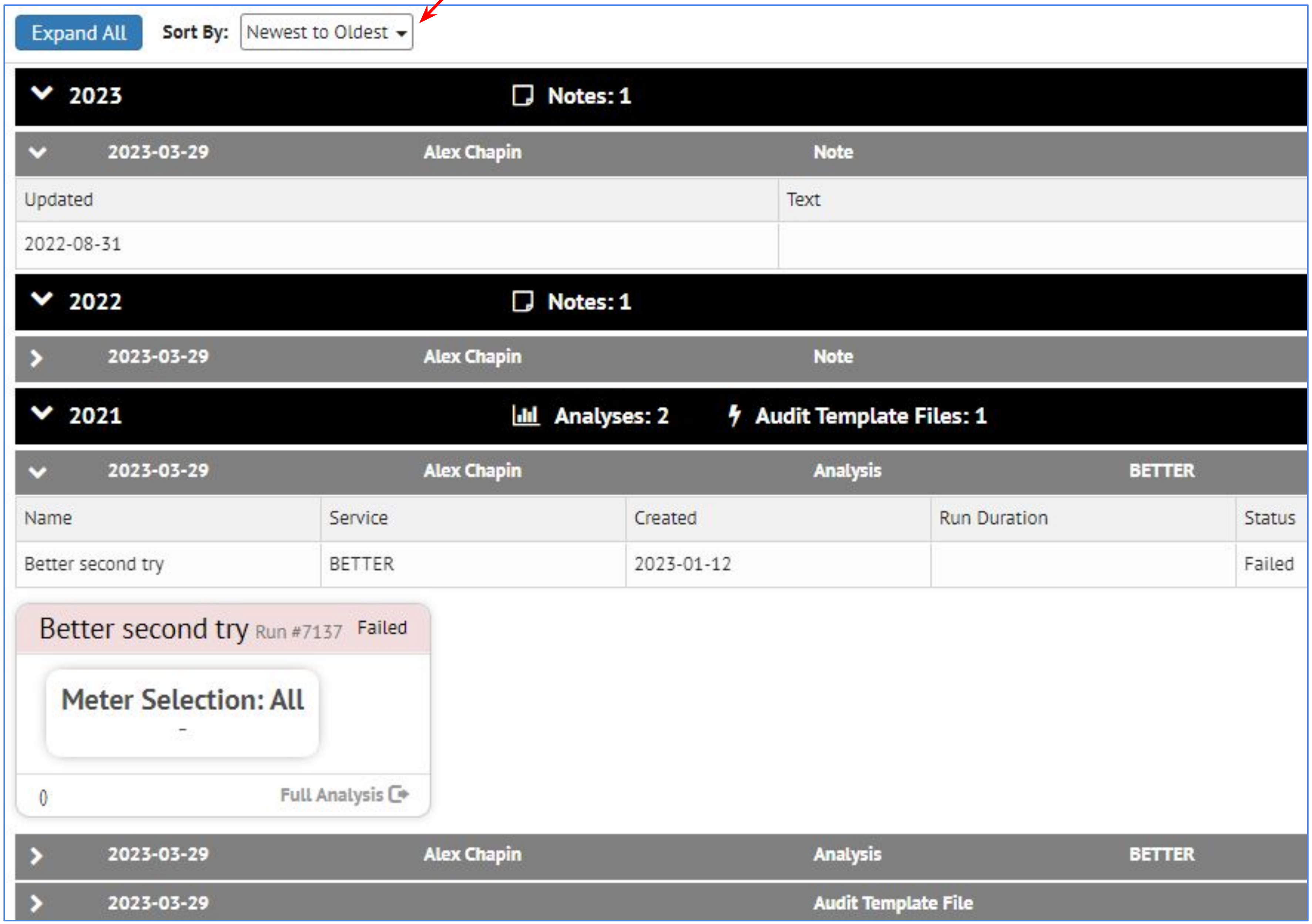
Sort options

Click this button to expand all the events at once

Details for Note events

Expand an event to see the details

Results for a BETTER analysis



Detail View: Timeline (cont'd)

Audit Template event

Expanding the Audit Template upload show the scenarios from the file

2023-03-29	Audit Template File			
Scenarios	Electricity savings (kBtu)	Peak electricity reduction (kW)	Natural gas savings (kBtu)	Status of Measures
Audit Template Energy Meter Readings - Natural gas	N/A	N/A	N/A	
Audit Template Energy Meter Readings - Electricity	N/A	N/A	N/A	
Install timer on exhaust fans	14,704	0	1,874	1 Proposed
Hydronic Pump VFD Upgrade	177,384	3	0	3 Proposed
Low-flow water fixtures	0	0	53	1 Proposed
Air Sealing	0	0	15,066	2 Proposed
Garage fan CO sensor	13,615	0	3,410	1 Proposed
Optimize heating and cooling	0	0	33,214	2 Proposed

Detail View: Timeline (cont'd)

Audit Template event

Expand the Scenarios to see the individual measures

2021	Analyses: 2	Audit Template Files: 1	
2023-03-29	Alex Chapin	Analysis	BETTER
2023-03-29	Alex Chapin	Analysis	BETTER
2023-03-29		Audit Template File	

Scenarios	Electricity savings (kBtu)	Peak electricity reduction (kW)	Natural gas savings (kBtu)	Status of Measures
Audit Template Energy Meter Readings - Natural gas	N/A	N/A	N/A	
Audit Template Energy Meter Readings - Electricity	N/A	N/A	N/A	
Install timer on exhaust fans	14,704	0	1,874	1 Proposed

MEASURES

Category	Name	Recommend...	Status	Category Aff...	Cost Installat...	Cost Material...	Cost Residua...	Cost Total Fir...	Cost Capital ...	Description ...	Useful Life
Building Aut...	Add or upgra...	true	Proposed	Fan				400			15

Scenarios	Electricity savings (kBtu)	Peak electricity reduction (kW)	Natural gas savings (kBtu)	Status of Measures
Hydronic Pump VFD Upgrade	177,384	3	0	3 Proposed

MEASURES

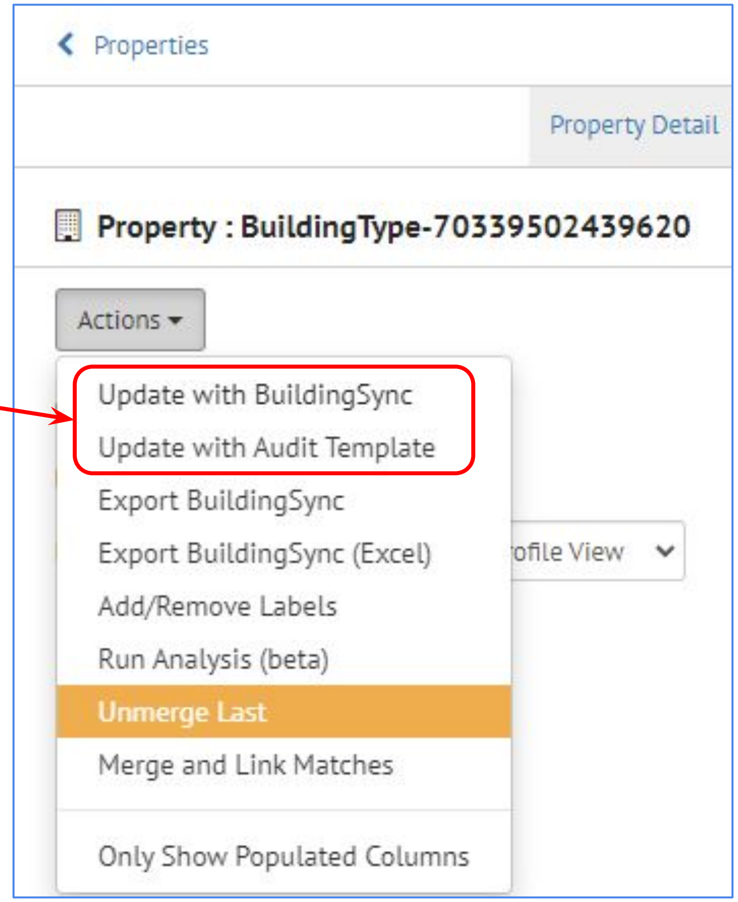
Category	Name	Recommend...	Status	Category Aff...	Cost Installat...	Cost Material...	Cost Residua...	Cost Total Fir...	Cost Capital ...	Description ...	Useful Life
Electric Moto...	Add VSD mot...	true	Proposed	Motor				20746			15
Electric Moto...	Add VSD mot...	true	Proposed	Motor				37992			15
Electric Moto...	Add VSD mot...	true	Proposed	Motor				17246			15

INVENTORY

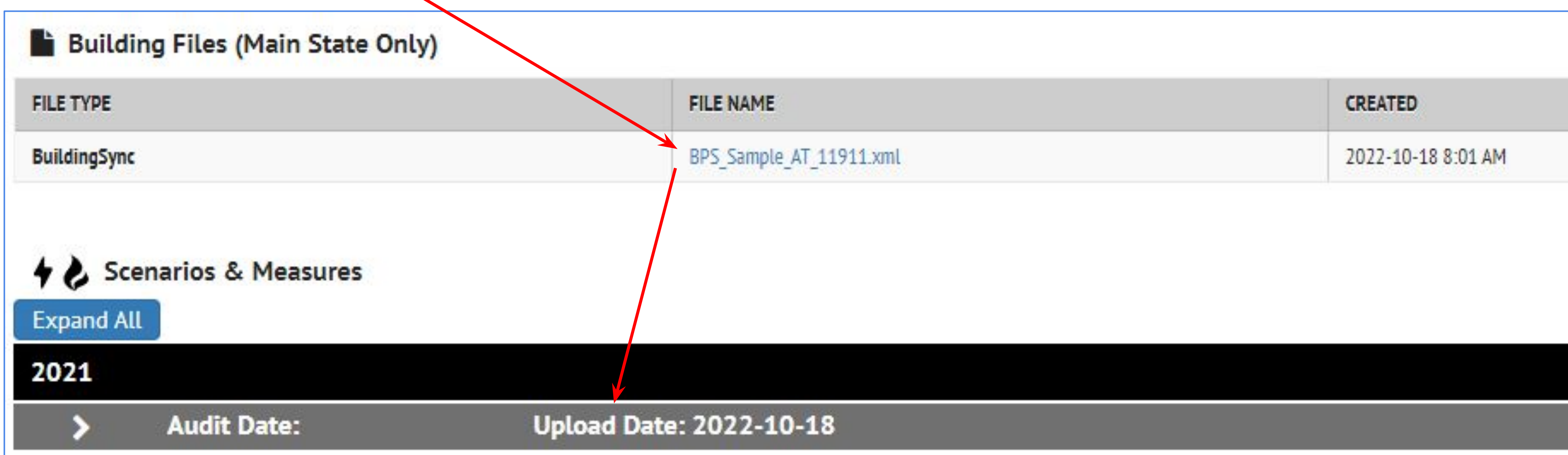
Detail View: Audit Template Files

In the Property Detail View:
Audit Template and BuildingSync files can be imported

Import either Audit Template files or BuildingSync files



The Scenarios and Measures from the imported file will be displayed at the bottom of the Property Detail page



INVENTORY

Detail View: Audit Template Files (cont'd)

Property Detail View: it is possible to delete scenarios from imported Audit Template files

Building Files (Main State Only)

FILE TYPE	FILE NAME	CREATED
BuildingSync	BPS_Sample_AT_11911.xml	2022-10-18 8:01 AM

Expand the Audit record to see the Scenarios

Scenarios & Measures

Expand the Scenarios to see the measures

Expand All

2021

Audit Date: Upload Date: 2022-10-18

ACTIONS	SCENARIOS	ELECTRICITY SAVINGS (KBTU)	PEAK ELECTRICITY REDUCTION (KW)	NATURAL GAS SAVINGS (KBTU)	STATUS OF MEASURES
×	Install timer on exhaust fans	14,704	0	1,874	1 Proposed
×	Hydronic Pump VFD Upgrade	177,384	3	0	3 Proposed
×	Low-flow water fixtures	0	0	53	1 Proposed
×	Air Sealing	0	0	15,066	2 Proposed
×	Garage fan CO sensor	13,615	0	3,410	1 Proposed
×	Optimize heating and cooling	0	0	33,214	2 Proposed

Delete unneeded scenarios if desired

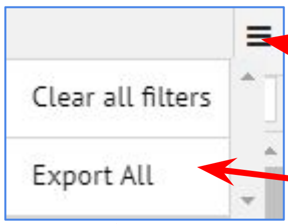
INVENTORY

Export Data -- 2 Options

There are 2 options for exporting data. Both options open the Export data dialog box

Option 1: Export options from the “Hamburger” menu

- Exports all the data

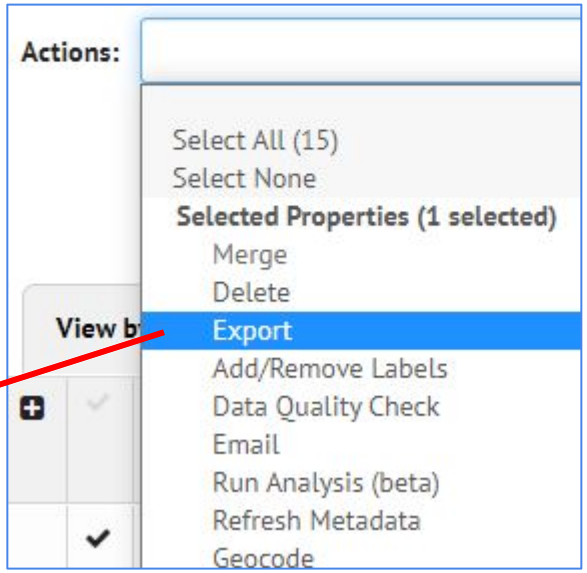


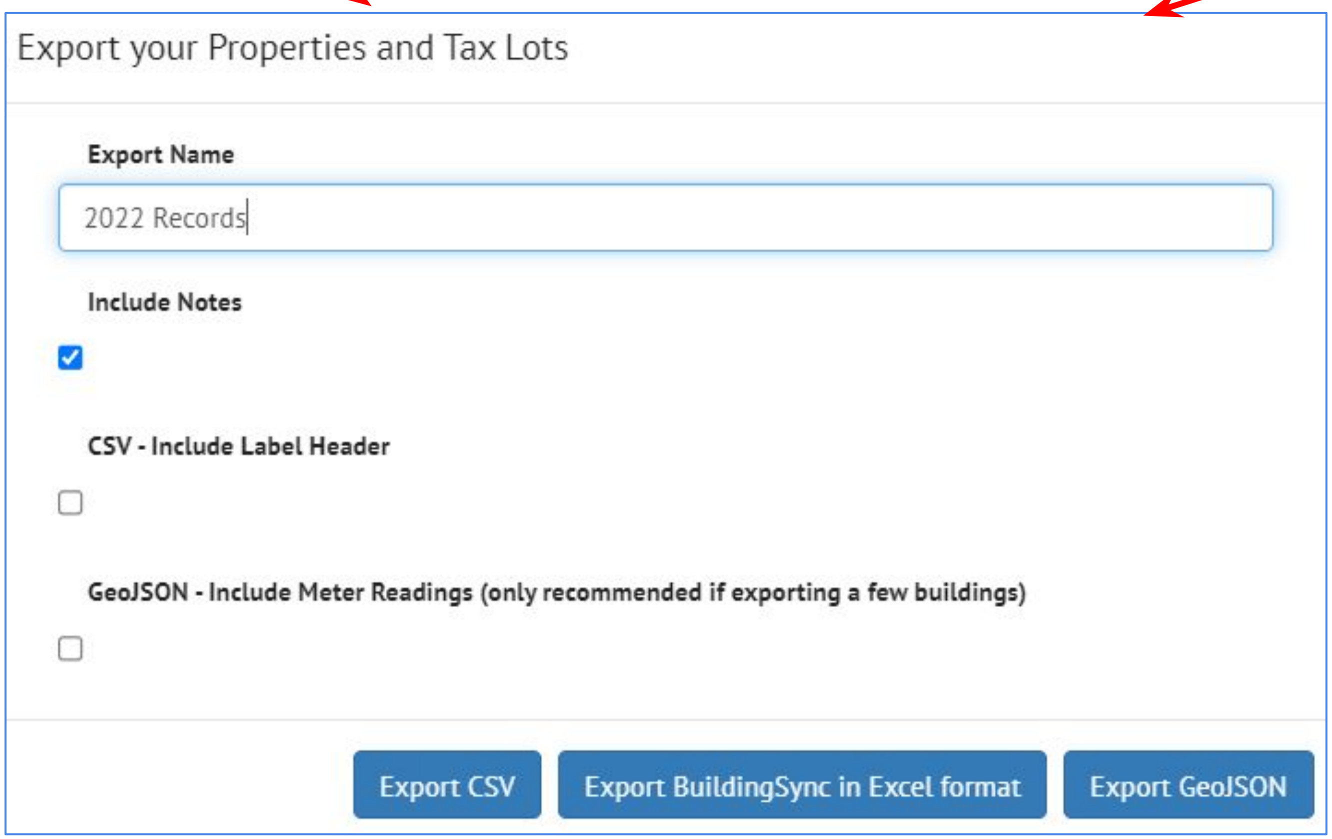
Hamburger
(right hand side of list)

Opens the Export
dialog box

Option 2: Export Selected from the Actions pulldown

- Exports the data that is checked in the Inventory list

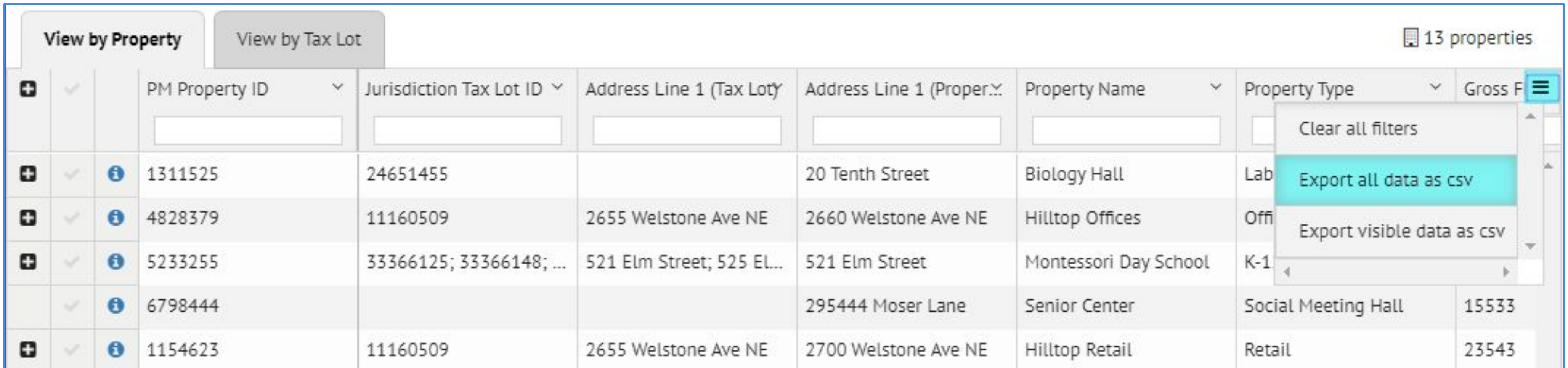




Export Data -- Option 1a

Option 1a: Export all data as csv

- **Exported data is "expanded"** whether Inventory List is in "**collapsed" or "expanded**" view
- All records exported
- All fields set in List Settings exported



The Inventory List can be in "collapsed" or "expanded" view
The export will always be "expanded", i.e., showing all the records including the associated records from the other table (Tax Lot or Property)

	A	B	C	D	E	F
1	PM Property ID	Jurisdiction Tax Lot ID	Address Line 1 (Tax Lot)	Address Line 1 (Property)	Property Name	Property Type
2	1311525	24651455		20 Tenth Street	Biology Hall	Laboratory
3		24651455				
4	4828379	11160509	2655 Welstone Ave NE	2660 Welstone Ave NE	Hilltop Offices	Office
5		11160509	2655 Welstone Ave NE			
6	5233255	33366125; 33366148; 33366555	521 Elm Street; 525 Elm Street; 530 Elm Street	521 Elm Street	Montessori Day School	K-12 School
7		33366555	521 Elm Street			
8		33366148	530 Elm Street			
9		33366125	525 Elm Street			
10	6798444			295444 Moser Lane	Senior Center	Social Meeting Hall
11	1154623	11160509	2655 Welstone Ave NE	2700 Welstone Ave NE	Hilltop Retail	Retail
12		11160509	2655 Welstone Ave NE			

INVENTORY

Export Data -- Option 1b -- collapsed

Option 1b: Export visible data as csv

- **Exported data is in same form as Inventory List** (in the example below, both are "collapsed")
- All records exported
- All fields set in List Settings exported

View by Property | View by Tax Lot

13 properties

PM Property ID	Jurisdiction Tax Lot ID	Address Line 1 (Tax Lot)	Property Name	Address Line 1 (Proper...	Property Type	Gross Fl
1311525	24651455		Biology Hall	20 Tenth Street	Lab	
4828379	11160509	2655 Welstone Ave NE	Hilltop Offices	2660 Welstone Ave NE	Offi	
5233255	33366125; 33366148; 33366555	521 Elm Street; 525 Elm Street; 530 Elm Street	Montessori Day School	521 Elm Street	K-1	
6798444			Senior Center	295444 Moser Lane	Social Meeting Hall	15533
1154623	11160509	2655 Welstone Ave NE	Hilltop Retail	2700 Welstone Ave NE	Retail	23543

Clear all filters
Export all data as csv
Export visible data as csv

Collapsed view in Inventory List (13 Property records)
Collapsed records in export (13 records)

	A	B	C	D	E	F
1	PM Property ID	Jurisdiction Tax Lot ID	Address Line 1 (Tax Lot)	Property Name	Address Line 1 (Property)	Property Type
2	1311525	24651455		Biology Hall	20 Tenth Street	Laboratory
3	4828379	11160509	2655 Welstone Ave NE	Hilltop Offices	2660 Welstone Ave NE	Office
4	5233255	33366125; 33366148; 33366555	521 Elm Street; 525 Elm Street; 530 Elm Street	Montessori Day School	521 Elm Street	K-12 School
5	6798444			Senior Center	295444 Moser Lane	Social Meeting Hall
6	1154623	11160509	2655 Welstone Ave NE	Hilltop Retail	2700 Welstone Ave NE	Retail
7	1311527	13334485; 23810533	93029 Wellington Blvd; 94000 Wellington Blvd	East Computing Hall	93029 Wellington Blvd	College/University
8	1311528	13334485; 23810533	93029 Wellington Blvd; 94000 Wellington Blvd	International House	93031 Wellington Blvd	Residence
9	1311524	24651456	11 Ninth Street	Grange Hall	12 Ninth Street	Performing Arts
10	1311526	24651456	11 Ninth Street	Rowling Gym	35 Tenth Street	Fitness Center/Health Clu
11	1311523	24651456	11 Ninth Street	Lucky University	11 Ninth Street	College/University
12	2264	1552813	050 Willow Ave SE	University Inn	50 Willow Ave SE	Hotel
13	6798215			City Library	295302 Moser Lane	Library
14	3020139	11160509	2655 Welstone Ave NE	Hilltop Condos	2655 Welstone Ave NE	Multifamily Housing

INVENTORY

Export Data -- Option 1b -- expanded

Option 1b: Export visible data as csv

- **Exported data is in same form as Inventory List** (in the example below, both are "expanded")
- All records exported
- All fields set in List Settings exported

View by Property | View by Tax Lot | 13 properties

PM Property ID	Jurisdiction Tax Lot ID	Address Line 1 (Tax Lot)	Address Line 1 (Proper…	Property Name	Property Type	Gross Fl…
1311527	13334485; 23810533	93029 Wellington Blvd; 94000 Wellington Blvd	93029 Wellington Blvd	East Computing Hall	Coll…	
	13334485	93029 Wellington Blvd				
	23810533	94000 Wellington Blvd				
1311523	24651456	11 Ninth Street	11 Ninth Street	Lucky University	College/University	
	24651456	11 Ninth Street				

Clear all filters
Export all data as csv
Export visible data as csv

Expanded view in Inventory List
Expanded records in export

All records are exported with their associated records; in this case, all 13 Property records are exported with separate lines for their associated Tax Lot records

LBNL 302 Property Data.csv - Microsoft Excel

File | Home | Insert | Page Layout | Formulas | Data | Review | View | Team

C16

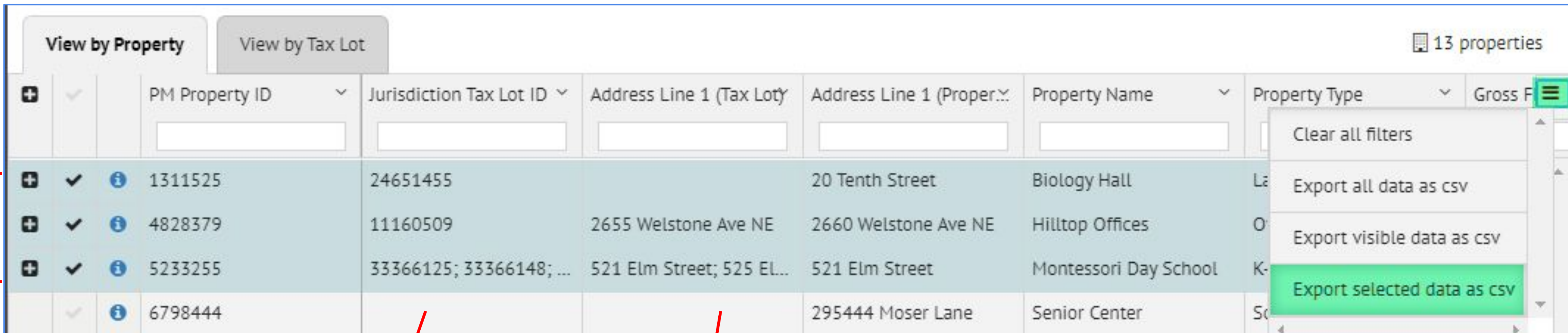
	A	B	C	D	E	F
1	PM Property ID	Jurisdiction Tax Lot ID	Address Line 1 (Tax Lot)	Property Name	Address Line 1 (Property)	Property Type
2	1311527	13334485; 23810533	93029 Wellington Blvd; 94000 Wellington Blvd	East Computing Hall	93029 Wellington Blvd	College/University
3		13334485	93029 Wellington Blvd			
4		23810533	94000 Wellington Blvd			
5	1311523	24651456	11 Ninth Street	Lucky University	11 Ninth Street	College/University
6		24651456	11 Ninth Street			

INVENTORY

Export Data -- Option 1c

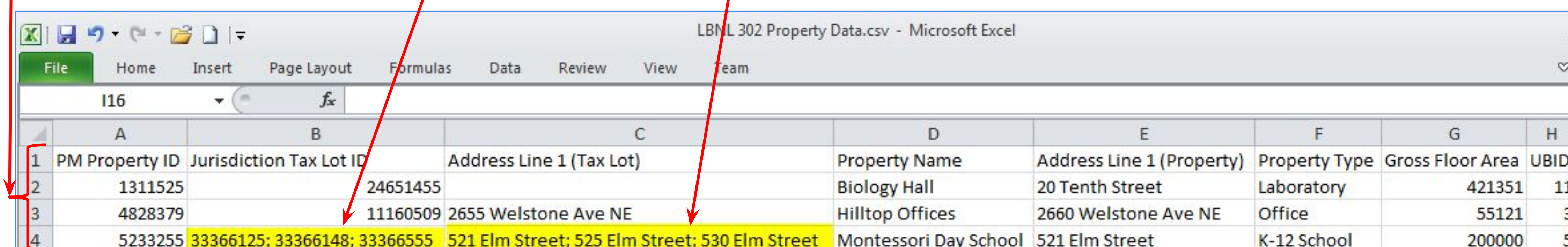
Option 1c: Export selected data as csv

- **Exported data is "collapsed"** whether Inventory List is in "**collapsed" or "expanded**" view
- Selected (checked) records are exported
- All fields set in the Inventory List view List Settings are exported



All selected (checked) records are exported (3 in this example)

Multiple values in matching fields are included (in this case the Jurisdiction Tax Lot ID and Address Line 1 Tax Lot fields)



	A	B	C	D	E	F	G	H
1	PM Property ID	Jurisdiction Tax Lot ID	Address Line 1 (Tax Lot)	Property Name	Address Line 1 (Property)	Property Type	Gross Floor Area	UBID
2	1311525	24651455		Biology Hall	20 Tenth Street	Laboratory	421351	11
3	4828379	11160509	2655 Welstone Ave NE	Hilltop Offices	2660 Welstone Ave NE	Office	55121	3
4	5233255	33366125; 33366148; 33366555	521 Elm Street; 525 Elm Street; 530 Elm Street	Montessori Day School	521 Elm Street	K-12 School	200000	5

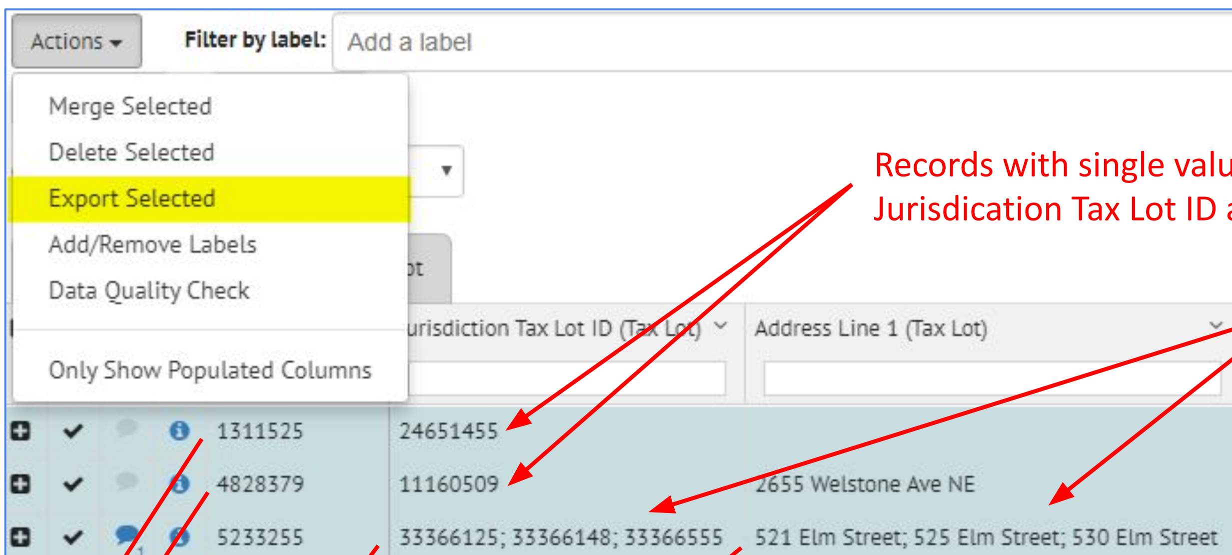
All fields set in List Settings (and visible in the Inventory List view) are exported

INVENTORY

Export Data -- Option 2

Option 2: Export Selected

- **Exported data is "collapsed"** whether Inventory List is in "**collapsed" or "expanded**" view
- Selected (checked) records are exported
- All fields set in the Inventory List view List Settings are exported
- Pro
    - You can specify the name and location of the exported file
- Con
    - **BUG:** If there are multiple associated values in any matching fields (such as Jurisdiction Tax Lot ID, UBID, etc) only one value will be exported *(this will be fixed in future versions)*
        - If you don't have multiple values in a matching field or you don't want to export those fields, you can use this option



Records with single values in the matching fields (in this case Jurisdication Tax Lot ID and Address Line 1 Tax Lot) are exported properly

Records with multiple values in the matching fields (in this case Jurisdication Tax Lot ID and Address Line 1 Tax Lot) are **NOT** exported properly -- only one of the values is exported

	B	C	D	E	F	G	H	I	
1	PM Property ID	Jurisdiction Tax Lot ID	Address Line 1 (Tax Lot)	Property Name	Address Line 1 (Property)	Property Type	Gross Floor Area	UBID	Property Lab
2	1311525	24651455		Biology Hall	20 Tenth Street	Laboratory	421351	11	> 50,000 SF
3	4828379	11160509	2655 Welstone Ave NE	Hilltop Offices	2660 Welstone Ave NE	Office	55121	3	> 50,000 SF
4	5233255	33366555	521 Elm Street	Montessori Day School	521 Elm Street	K-12 School	200000	5	> 50,000 SF

ORGANIZATIONS

Overview

- Every account holder belongs to an Organization
- Most SEED users will only have a Parent Organization

Organizations

Organizations I Manage

ORGANIZATION
LBNL 20
Sub-Organizations

Number of records for **Properties** and **Tax Lots** for each **Cycle**, by **Organization**

Organizations I Belong To

ORGANIZATION NAME	NUMBER OF PROPERTIES	NUMBER OF TAX LOTS	YOUR ROLE	ORGANIZATION OWNER(S)
LBNL 20	2017 Compliance: 12	2017 Compliance: 10	owner	Robin LBNL 20

Role can be:

- Owner
- Member
- Viewer

- SEED is structured to allow a Parent Organization to have Sub-Organizations

Organizations

Organizations I Manage

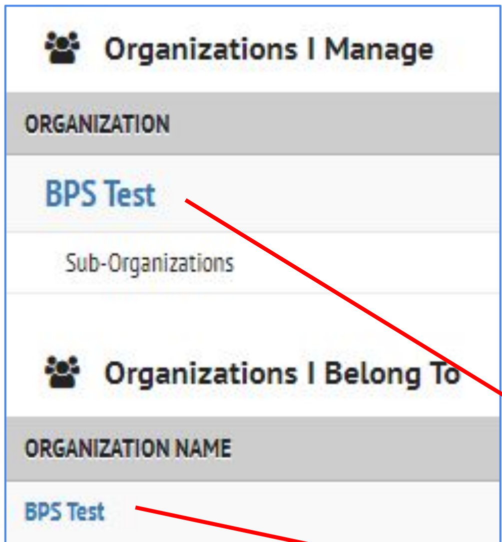
ORGANIZATION
lbnl
Sub-Organizations
LBL 1
LBL 2
LBL 3
LBL 4

There is a Parent Organization

There can also optionally be Sub-Organizations

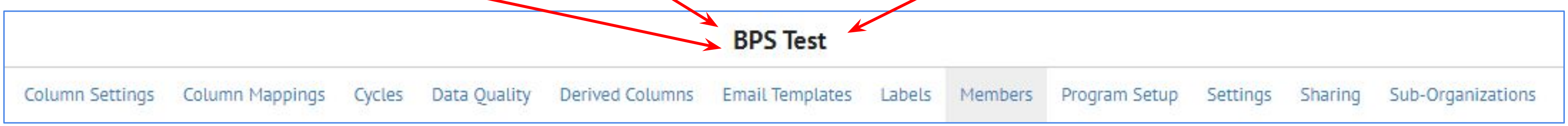
ORGANIZATIONS

Menu



- Click on an organization in either
  - Organizations I Manage
    Or
  - Organizations I Belong To
- The view for that organization will be displayed

Organization Name



- The links from this view are
  - **Column Settings:** Change the names of the fields in the existing data
  - **Column Mappings:** Manage the mappings for new fields being imported
  - **Cycles:** The Admin screen for managing Cycles
  - **Data Quality:** The Admin screen for managing Data Quality settings
  - **Derived Columns:** Allows definition of a new column derived from existing columns
  - **Email Templates:** Allows setup of an email template
  - **Labels:** The Admin screen for managing Labels
  - **Members:** A list of all members of this organization
  - **Program Setup:** Settings for the Insight Feature
  - **Settings:** The Admin screen for organization settings
  - **Sharing:** The Admin screen for managing how data is shared
  - **Sub-Organizations:** A list of all sub-organizations related to this organization

ORGANIZATIONS

Column Settings

This screen shows the settings for the columns (fields) in the database. Changes to the settings here affect the existing data. For example, if the Display Name is changed, it will affect the field "display" name that is shown in the Inventory List and Detail screens for existing data.

Column Settings | Column Mappings | Cycles | Data Quality | Derived Columns | Email Templates | Labels | Members | Program Setup | Settings | Sharing | Sub-Organizations

Column Settings

The top of the page shows the Help information

Save Changes | Create Column

Collapse Help

This Help text can be collapsed if desired

Modifying Column Settings

From the table below, you may modify the columns in the following ways:

Display Name
- Change the display name (that appears throughout the program) of a column. This is user-defined and can be any value (?)

Column Name
- Specifies the underlying field name represented by the Display Name. These field names are not user defined, but are generated from imported user files as well as program-defined fields.
- Note, geocoding requires at least 1 column is used and populated to construct full addresses.

Column Description
- Provides a description of the column to assist in remembering the meaning of the column. This defaults to the display name if available, otherwise the column name is utilized.

Geocoding Order
- Check the appropriate fields, as well as their order for the program to concatenate a full address, which SEED will use to generate latitude and longitude values for each record
- Note, geocoding requires at least 1 column is used and populated to construct full addresses.

Rename
- Rename allows users to change the name of the underlying field shown in Column Name / Field Name. Renaming a field means that field will be changed in all the data for the organization.

Data Type
- For "extra data" fields, this allows the user to set the type, such as Text, Number, Date, etc.

Merge Protection
- Normally when an imported record is merged into another record the newest value overwrites an older one. Merge protection prevents this, and is particularly useful for columns where you have manually edited values that you want to persist even after importing and merging new data.

Recognize Empty
- Checking this box for a field will affect how empty or blank values are treated during merges. Specifically, empty values will be able to replace non-empty values per the "Merge Protection" setting.

Match Criteria
- Checking this box for a field will allow it to be used as a matching field.
- **Warning: If matching criteria changes are proposed, a preview will be loaded. The load times for this preview depend on how many records belong to this organization and how many of those records would be merged together given the new matching criteria.**

Delete
- Permanently delete extra_data columns and all associated data

ORGANIZATIONS

Column Settings (cont'd)

Internal database field name

The checked fields are used for Geocoding

The checked fields will not be changed during record merging

The checked fields determine the record matching

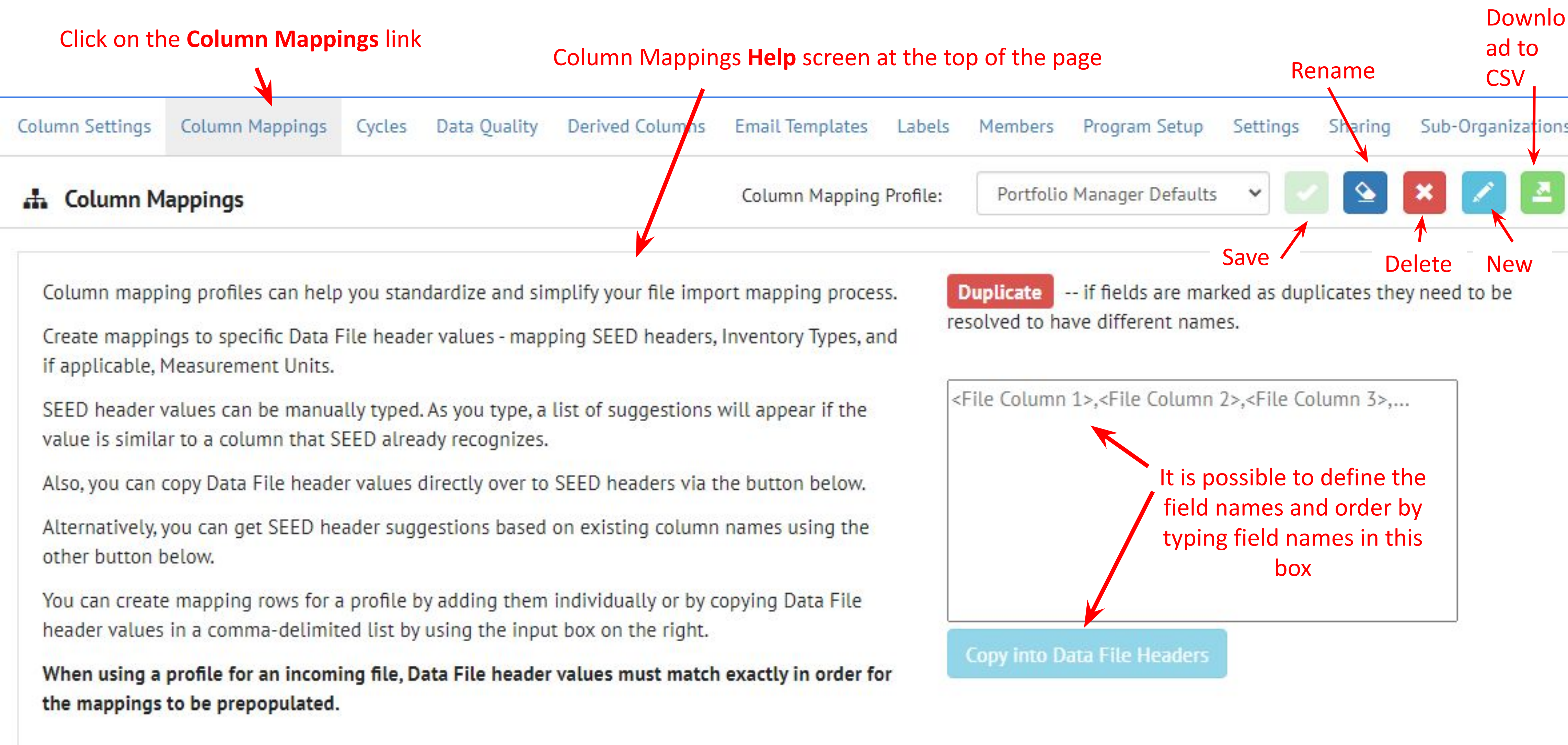
View by Property | View by Tax Lot

DISPLAY NAME	COLUMN NAME	COLUMN DESCRIPTION	GEOCODING ORDER		RENAME	DATA TYPE	MERGE PROTECTION	RECOGNIZE EMPTY	MATCH CRITERIA	DELETE
Search display	Search column name									
PM Property	pm_property_id	PM Property ID	☐		Rename	Text	☐	☐	☑	
Custom ID 1	custom_id_1	Custom ID 1	☐		Rename	Text	☐	☐	☑	
PM Parent Pr	pm_parent_property_id	PM Parent Property ID	☐		Rename	Text	☐	☐	☐	
Jurisdiction P	jurisdiction_property_id	Jurisdiction Property ID	☐		Rename	Text	☐	☐	☐	
UBID	ubid	UBID	☐		Rename	Text	☐	☐	☐	
Audit Templa	audit_template_building_id	Audit Template Building ID	☐		Rename	Text	☐	☐	☐	
Address Line	address_line_1	Address Line 1	☑	1	Rename	Text	☐	☐	☐	
Address Line	address_line_2	Address Line 2	☑	2	Rename	Text	☐	☐	☐	
City	city	City	☑	3	Rename	Text	☐	☐	☐	
State	state	State	☑	4	Rename	Text	☐	☐	☐	
Postal Code	postal_code	Postal Code	☑	5	Rename	Text	☐	☐	☐	

ORGANIZATIONS

Column Mappings

Column Mappings are used to set the fields when importing a file.
This view allows the user to define several column mappings depending on the file being imported.



Column Mappings (cont'd)

This screen allows users to define different Column Mapping Profiles for different files being imported

Copy Data File Headers directly to SEED Headers

Populate SEED Headers with best known matches

Click the "Delete All Mappings" button to delete the existing mappings

The field "Mapping", i.e., the field name displayed in the SEED screens

Field name in the file being imported

SEED | 2020 Portfolio Manager Fields

Set all fields to: Mapped Fields

INVENTORY TYPE	SEED HEADER	MEASUREMENT UNITS	DATA FILE HEADER	Delete All Mappings
Property	PM Property ID		Property ID	✖
Property	Parent Property ID		Parent Property ID	✖
Property	Property Name		Property Name	✖
Property	Address 1		Address 1	✖
Property	City		City	✖
Tax Lot	Rust Parcel ID		Rust Parcel ID	✖
Property	Property Type		Property Type	✖
Property	Gross Floor Area	square feet	Gross Floor Area	✖

Column Mappings (cont'd)

A Column Mapping Profile can have multiple fields defined to be mapped to the same field in SEED. This can be useful when importing different files with different fields representing the same data

SEED | **Portfolio Manager Defaults**

Set all fields to: Property

Mapped Fields

Click the "Delete All Mappings" button to delete the existing mappings

INVENTORY TYPE	SEED HEADER	MEASUREMENT UNITS	DATA FILE HEADER	Delete All Mappings
Property	Address Line 1		Address 1	✖
Property	Address Line 1		address1	✖
Property	Address Line 1		Street Address	✖
Property	Address Line 2		Address 2	✖
Property	Address Line 2		address2	✖
Property	Address Line 2		Street Address 2	✖
Property	Building Count		How Many Buildings?	✖
Property	City		city	✖
Property	City		City	✖
Property	City		City/Municipality	✖

These three different field names in an input file are all mapped to the same field, **Address Line 1**, in SEED

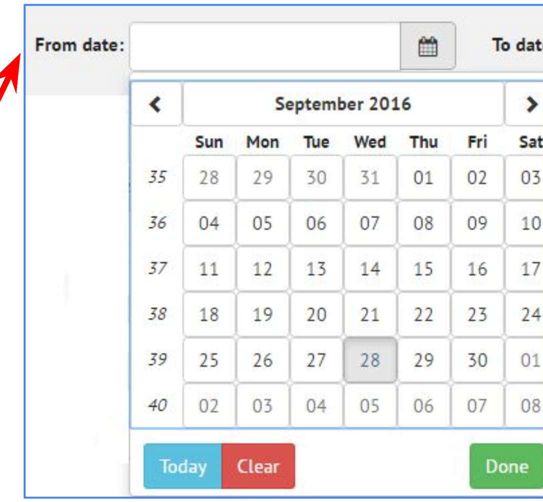
These three different field names in an input file are all mapped to the same field, **Address Line 2**, in SEED

These three different field names in an input file are all mapped to the same field, **City**, in SEED

Cycles

Manage Cycles

- Create Date “cycles” such as Compliance cycles
- Assigned on data import
- Used to filter data views



2 - Set the **From date** and **To date**

Click on the **Cycles** link

Column Settings | Column Mappings | Cycles | Data Quality | Derived Columns | Email Templates | Labels | Members | Program Setup | Settings | Sharing | Sub-Organizations

Create new cycle Cycle Name **From date:** **To date:** Create Cycle

1 - Type a name to create a new cycle

3 - Click Create Cycle to save it

Existing Cycles

NAME	FROM DATE	TO DATE	
2019 Compliance Year	01-01-2019	12-31-2019	Edit Delete
2020 Compliance Year	01-01-2020	12-31-2020	Edit Delete
2021 Compliance Year	01-01-2021	12-31-2021	Edit Delete

ORGANIZATIONS

Data Quality: Overview

Manage Data Quality Rules

- Create Data Quality rules
- Data Quality rules are run automatically by the program in the Mapping Review step
- Data Quality rules can be run “by hand” any time from the Actions menu in the Inventory List view

< Organizations

BPS Test

Column Settings | Column Mappings | Cycles | Data Quality | Derived Columns | Email Templates | Labels | Members | Program Setup | Settings | Sharing | Sub-Organizations

Click on the **Data Quality** link

Data Quality

Reset All Rules | Save Changes

Modifying Data Quality Rules

From the table below, select the rules that you want to: 1) enable/disable within your organization, 2) modify the minimum/maximum values to validate against on file upload, and 3) optionally assign or remove a label if the condition is not met.

Reset All Rules: delete all rules and reinitialize the default set of rules.

Create a new rule

Separate rules are defined for Property and Tax Lot fields

Minimums & Maximums are set for Range checks

Labels can be added to Data Quality rules

Data Quality rules can be deleted

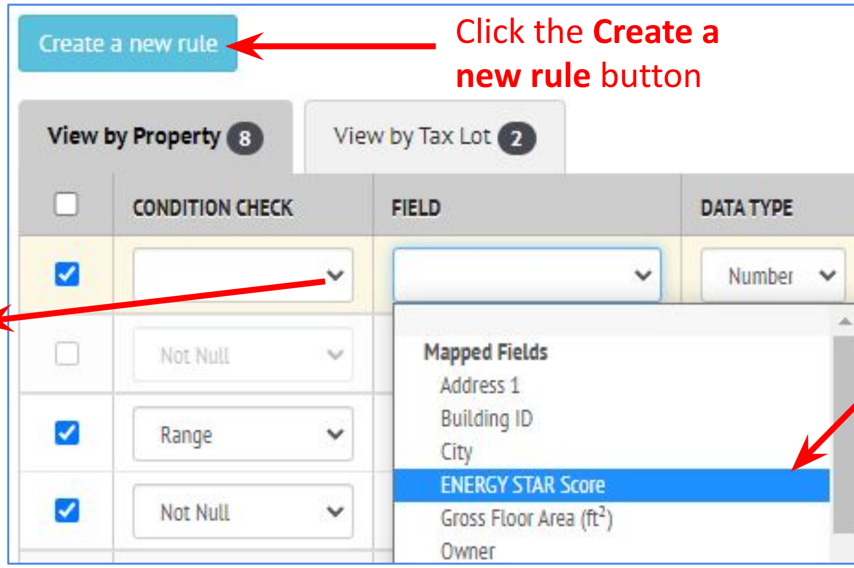
View by Property 6 | View by Tax Lot 2

☑	CONDITION CHECK	FIELD	DATA TYPE	MINIMUM	MAXIMUM	UNITS	SEVERITY LEVEL	LABEL	DELETE
☑	Not Null	ENERGY STAR Score	Number	(no minir	(no maxir		Error	DQ: Energy Star Missing ✖	✖
☑	Range	ENERGY STAR Score	Number	10	100		Error	DQ: Energy Star Score Hi or Low ✖	✖
☑	Not Null	Gross Area (SF)	Number	(no minir	(no maxir		Error	DQ: Gross Floor Area Missing ✖	✖
☑	Range	Gross Floor Area (ft²)	Number	100	7000000	squ	Error	DQ: Gross Floor Area Hi or Low ✖	✖
☑	Range	Site EUI (kBtu/ft²/year)	EUI	10	1000	kBt	Error	DQ: Site EUI Hi or Low ✖	✖
☑	Not Null	Site EUI (kBtu/ft²/year)	EUI	(no minir	(no maxir		Error	DQ: Site EUI Missing ✖	✖

Data Quality: Create a new rule

A rule defines the criteria for the data. Any data that does not meet that criteria is considered either an Error or a Warning and labeled accordingly if labels are defined for the rule.

Click the **Create a new rule** button



Select the desired field from the pulldown list

Set the Data Type

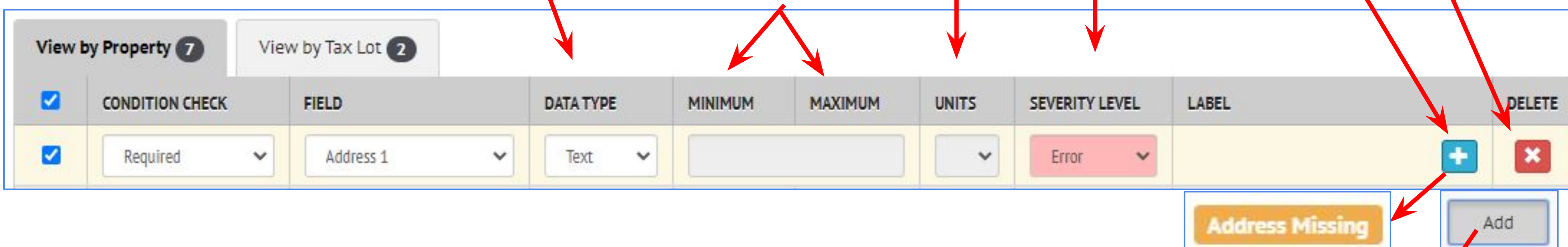
Enter Min/Max or Text to check if applicable

Units If applicable

Set to Error or Warning

Click + to add a label

Click the red X button to delete the rule

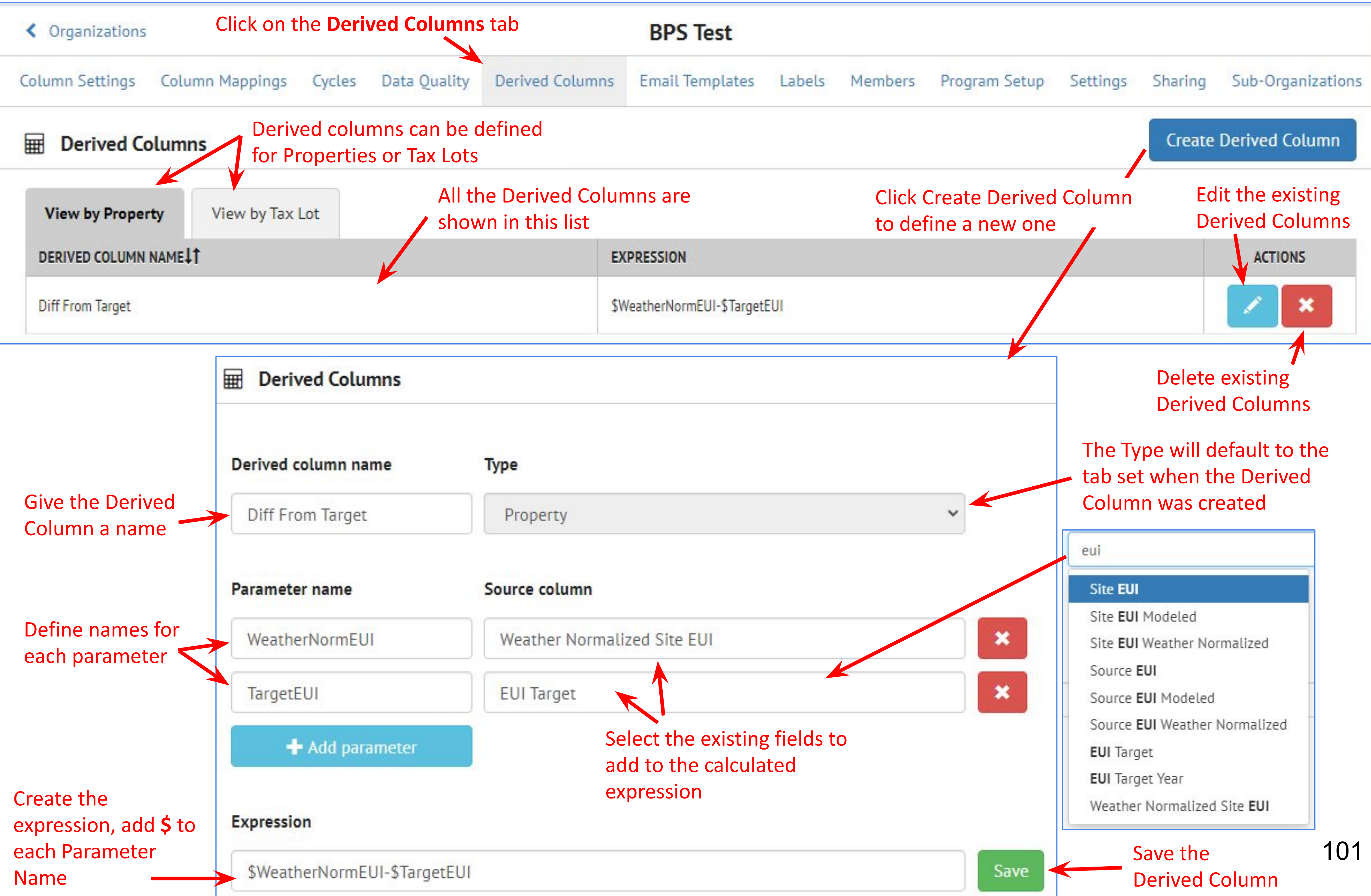


Click the Save Changes button

Save Changes

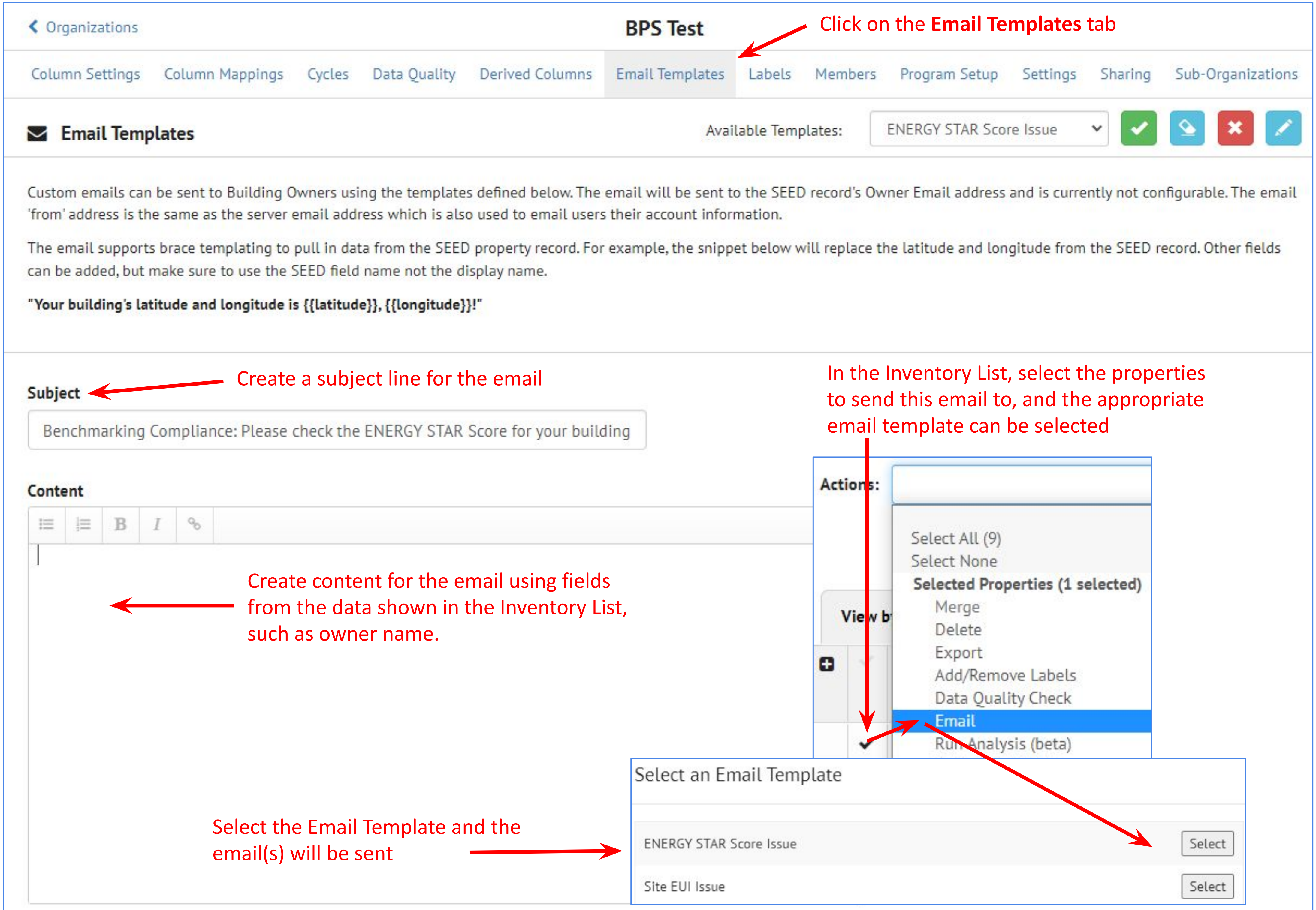
ORGANIZATIONS

Derived Columns

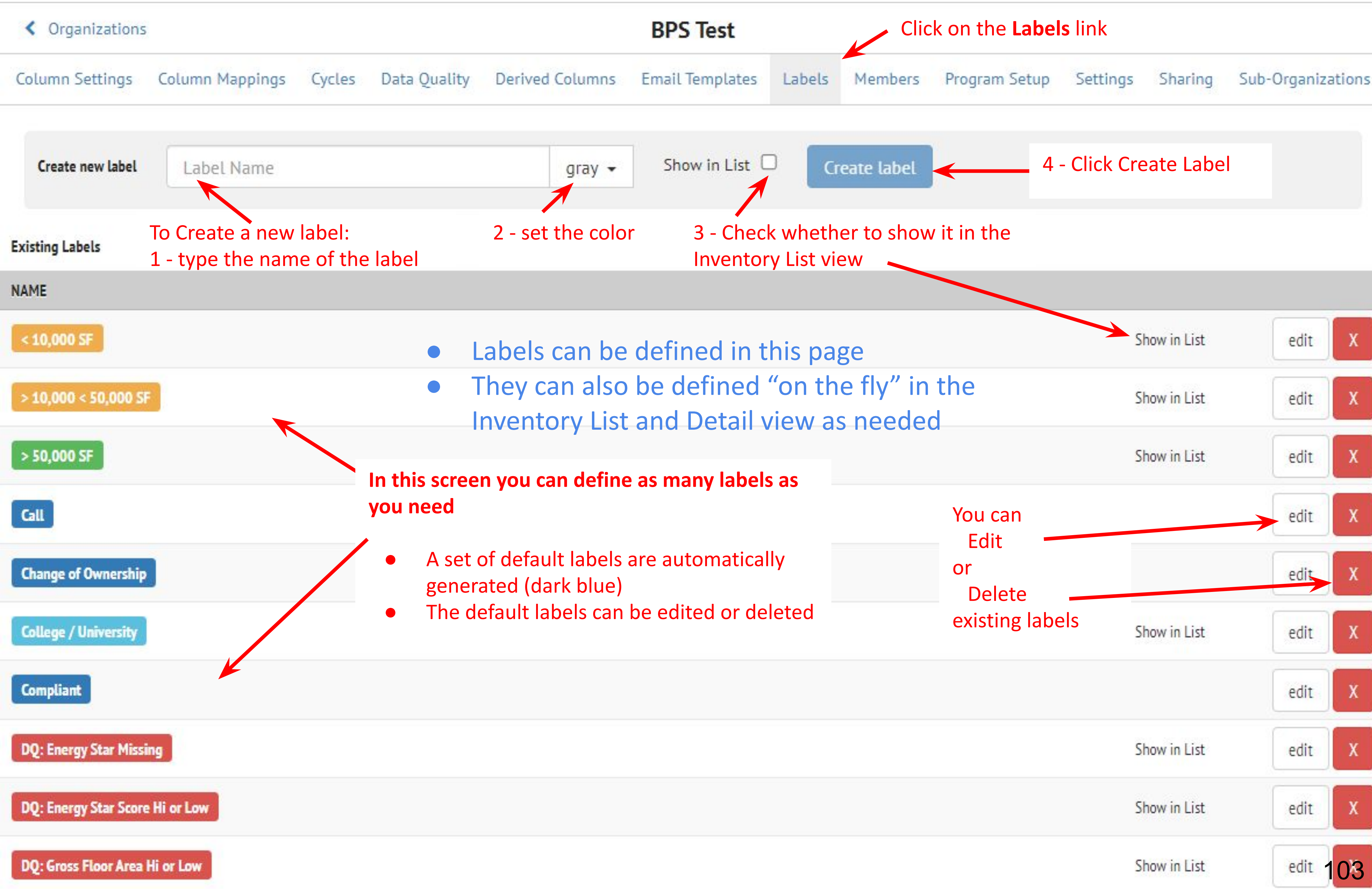


ORGANIZATIONS

Email Templates



Labels

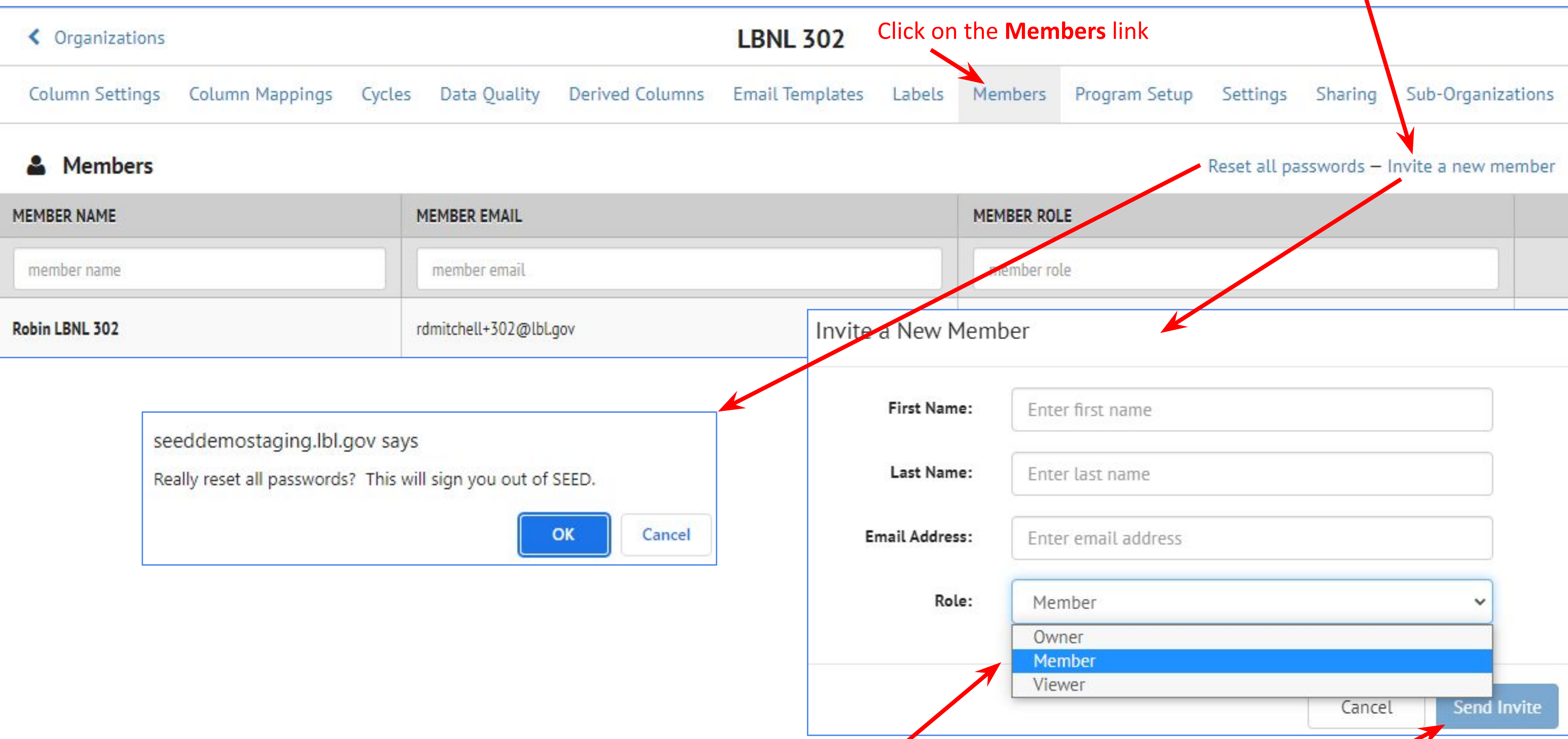

Organizations
BPS Test
Click on the **Labels** link
Column Settings
Column Mappings
Cycles
Data Quality
Derived Columns
Email Templates
Labels
Members
Program Setup
Settings
Sharing
Sub-Organizations
Create new label
Label Name
gray
Show in List
Create label
4 - Click Create Label
To Create a new label:
1 - type the name of the label
2 - set the color
3 - Check whether to show it in the Inventory List view
Existing Labels
NAME
< 10,000 SF
> 10,000 < 50,000 SF
> 50,000 SF
Call
Change of Ownership
College / University
Compliant
DQ: Energy Star Missing
DQ: Energy Star Score Hi or Low
DQ: Gross Floor Area Hi or Low
Show in List
edit
X
Labels can be defined in this page
They can also be defined "on the fly" in the Inventory List and Detail view as needed
In this screen you can define as many labels as you need
A set of default labels are automatically generated (dark blue)
The default labels can be edited or deleted
You can Edit or Delete existing labels

ORGANIZATIONS

Members

You can invite new members to your organization

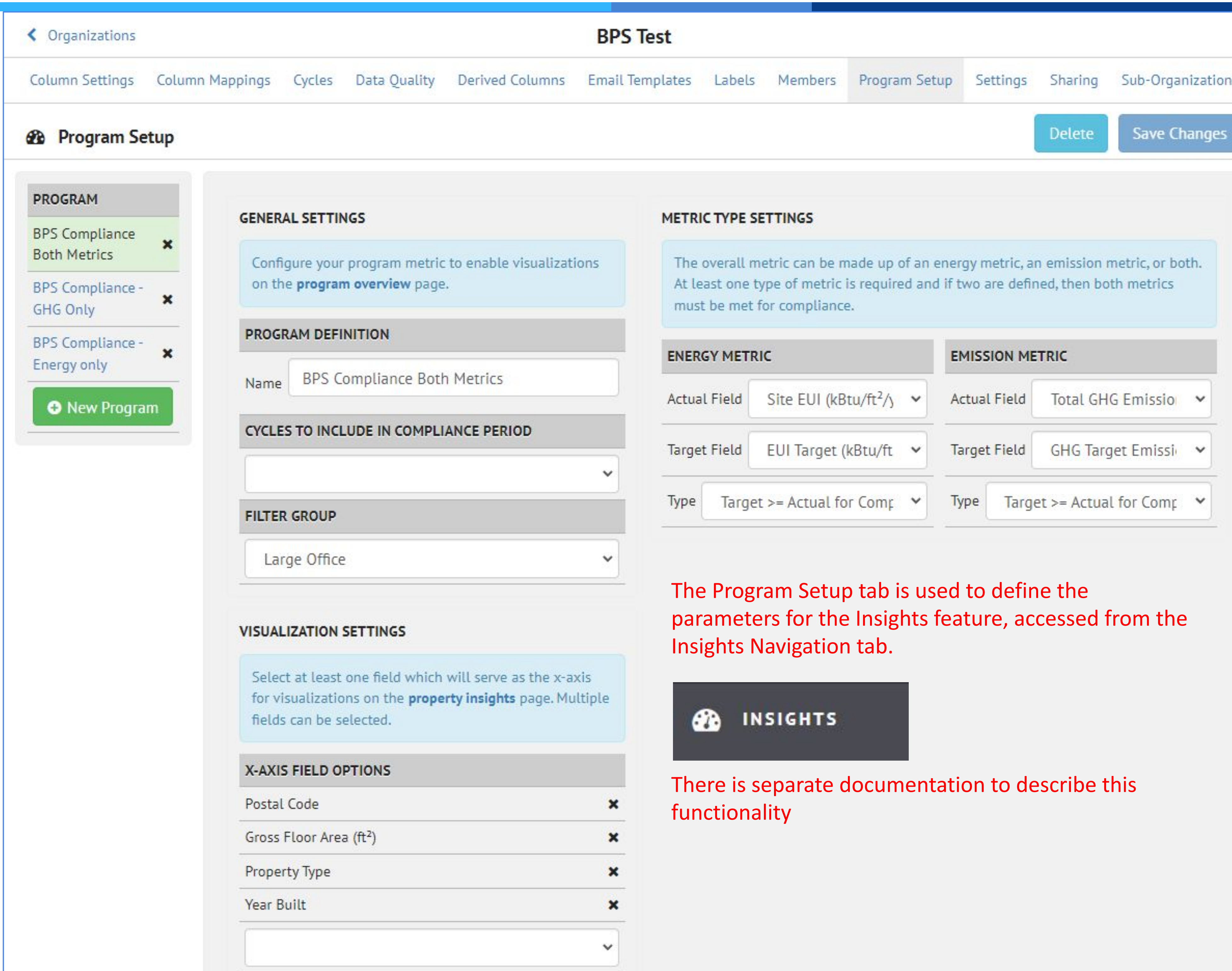
Click on the **Members** link



You can set the role of the new member

When you click **Send Invite** the person will receive an email, asking them to set a password for their account

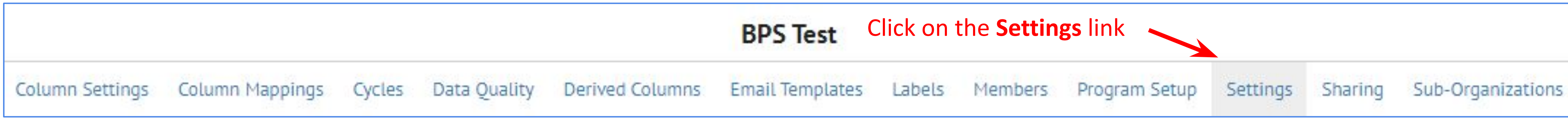
Program Setup

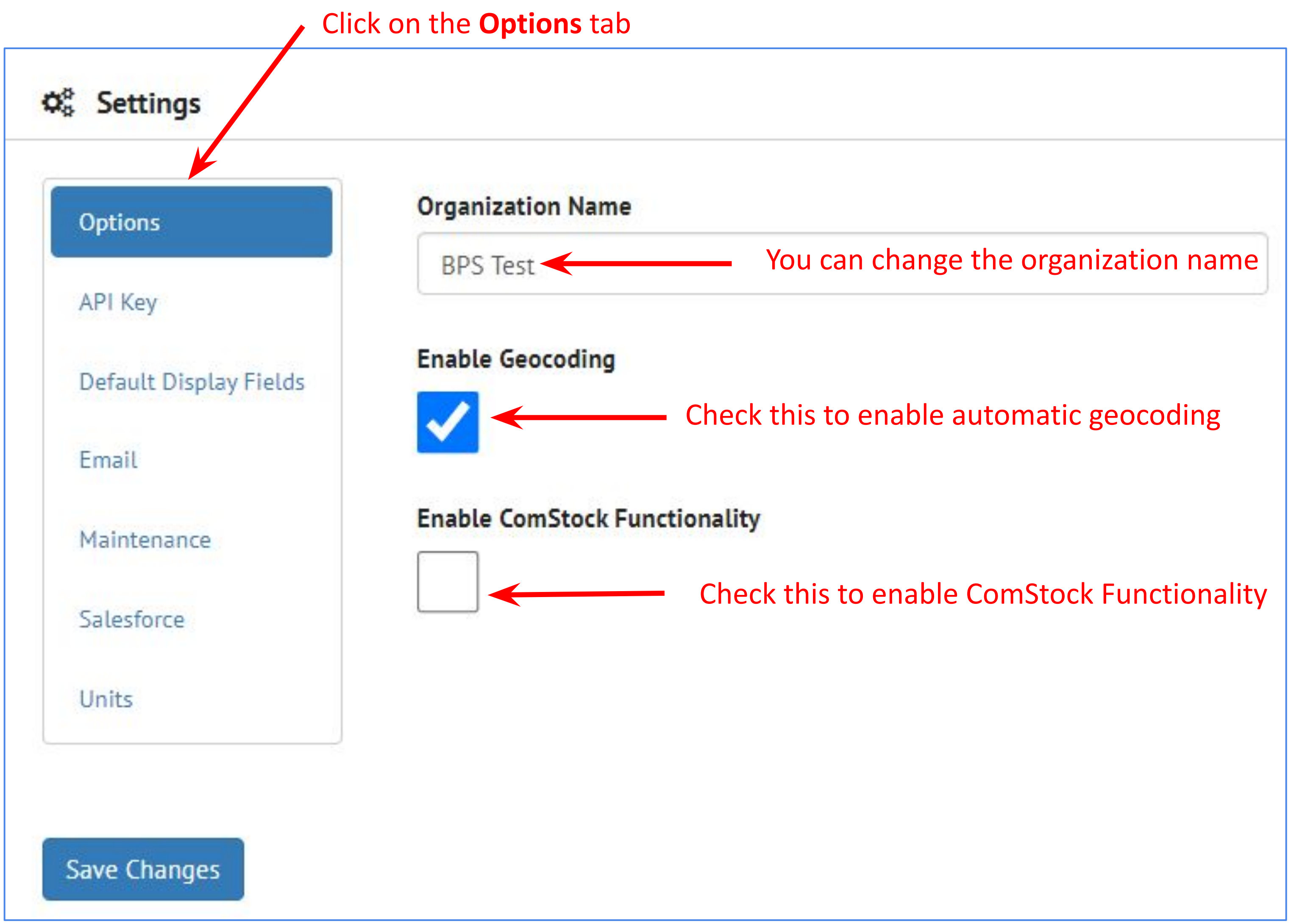


The Program Setup tab is used to define the parameters for the Insights feature, accessed from the Insights Navigation tab.

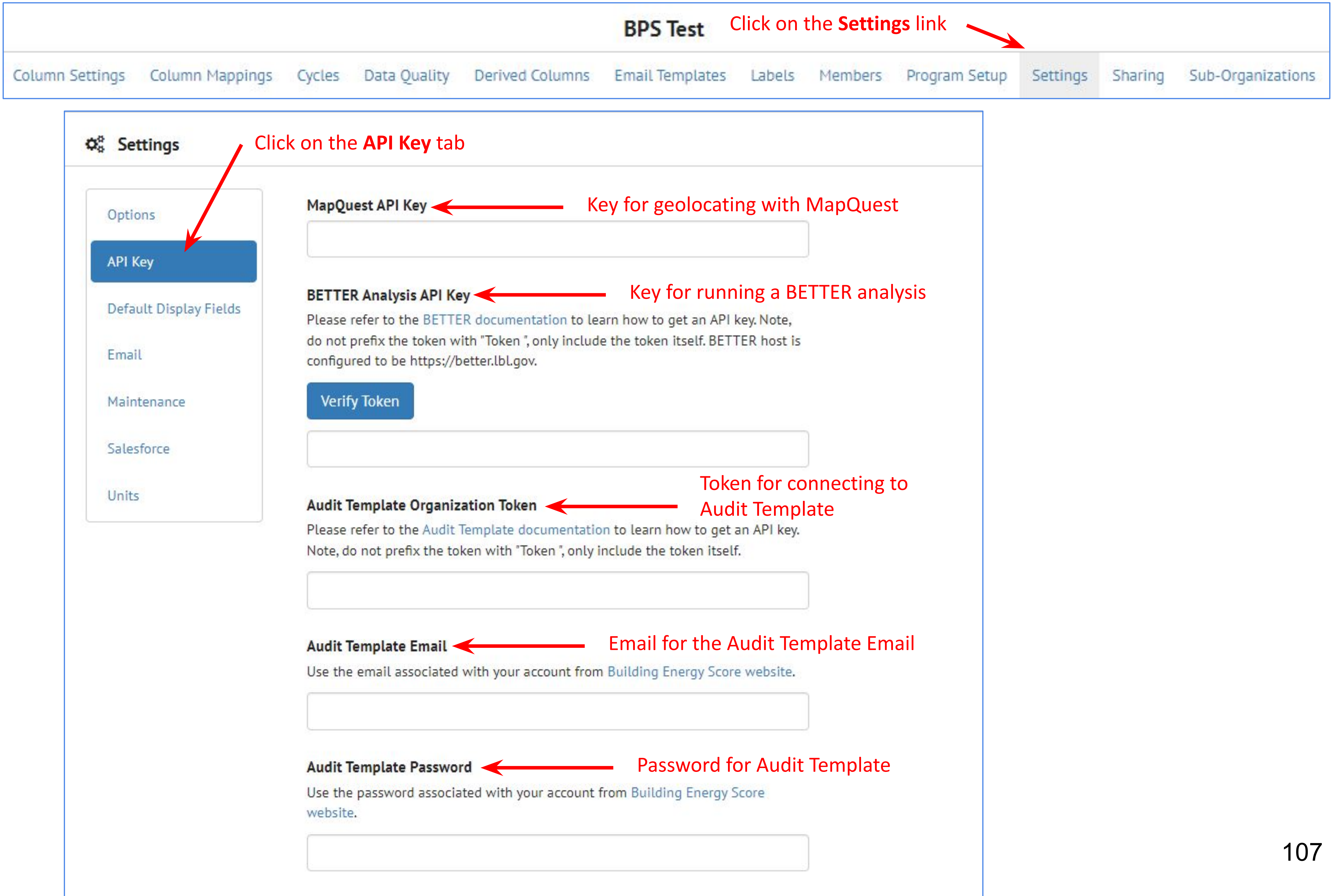
There is separate documentation to describe this functionality

Settings: Options



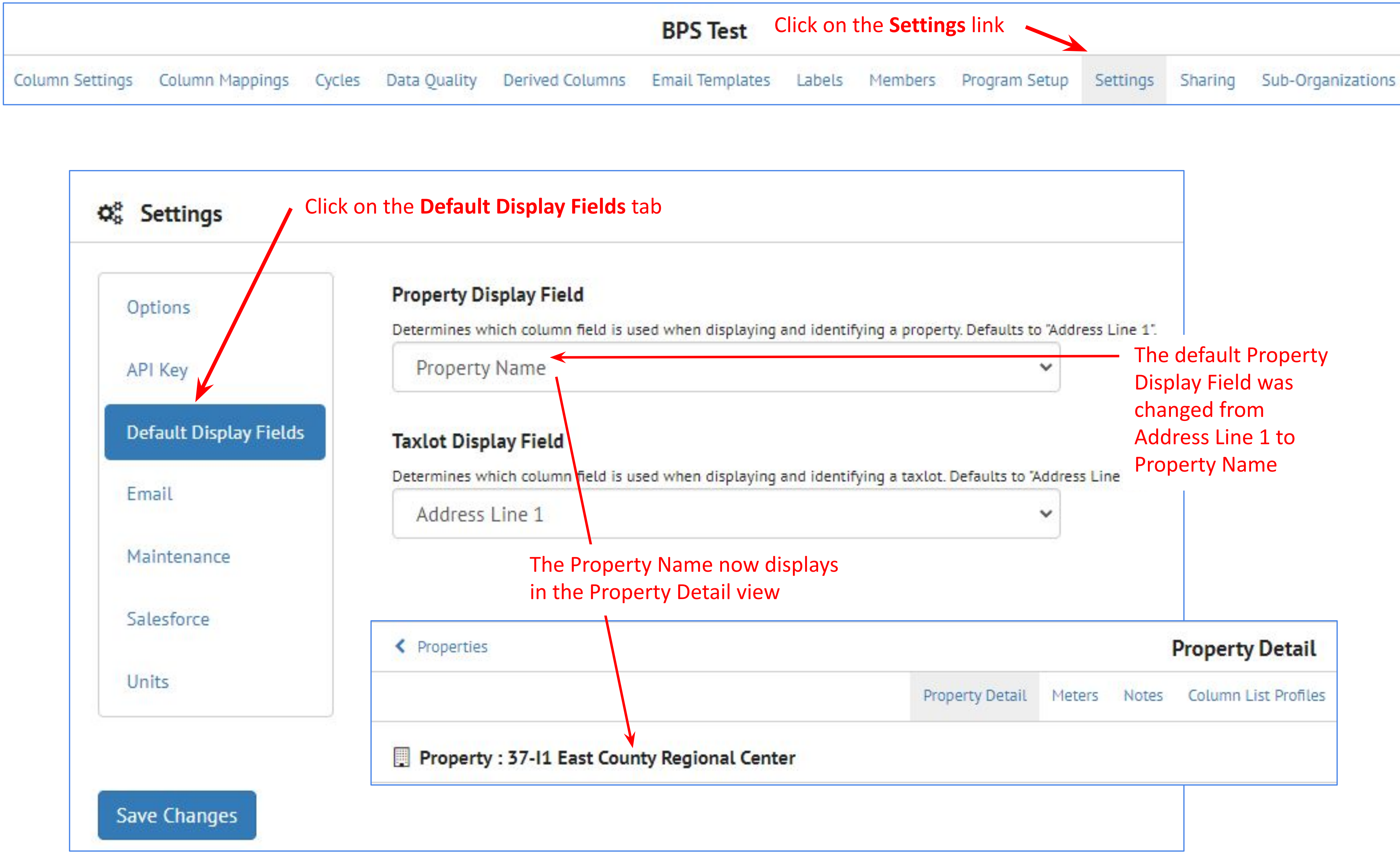


Settings: API Key



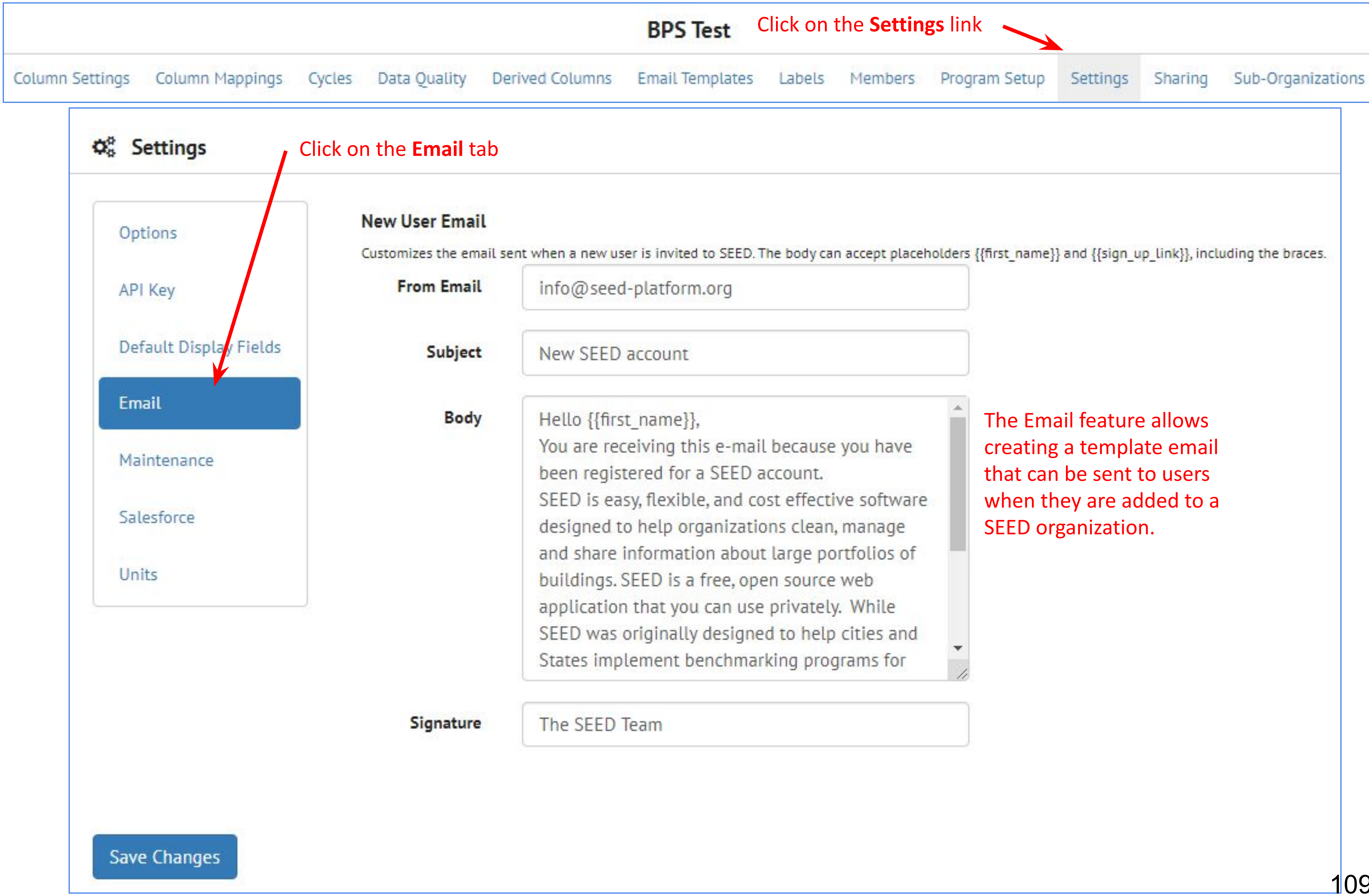
ORGANIZATIONS

Settings: Default Display Fields



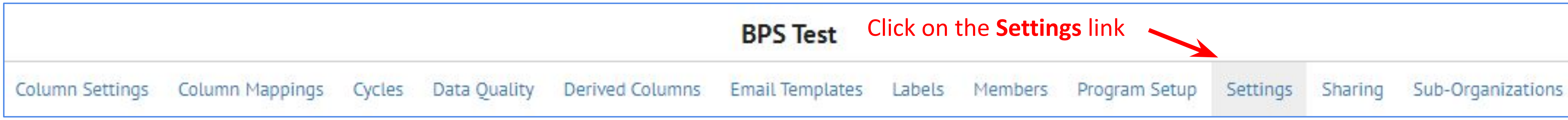
ORGANIZATIONS

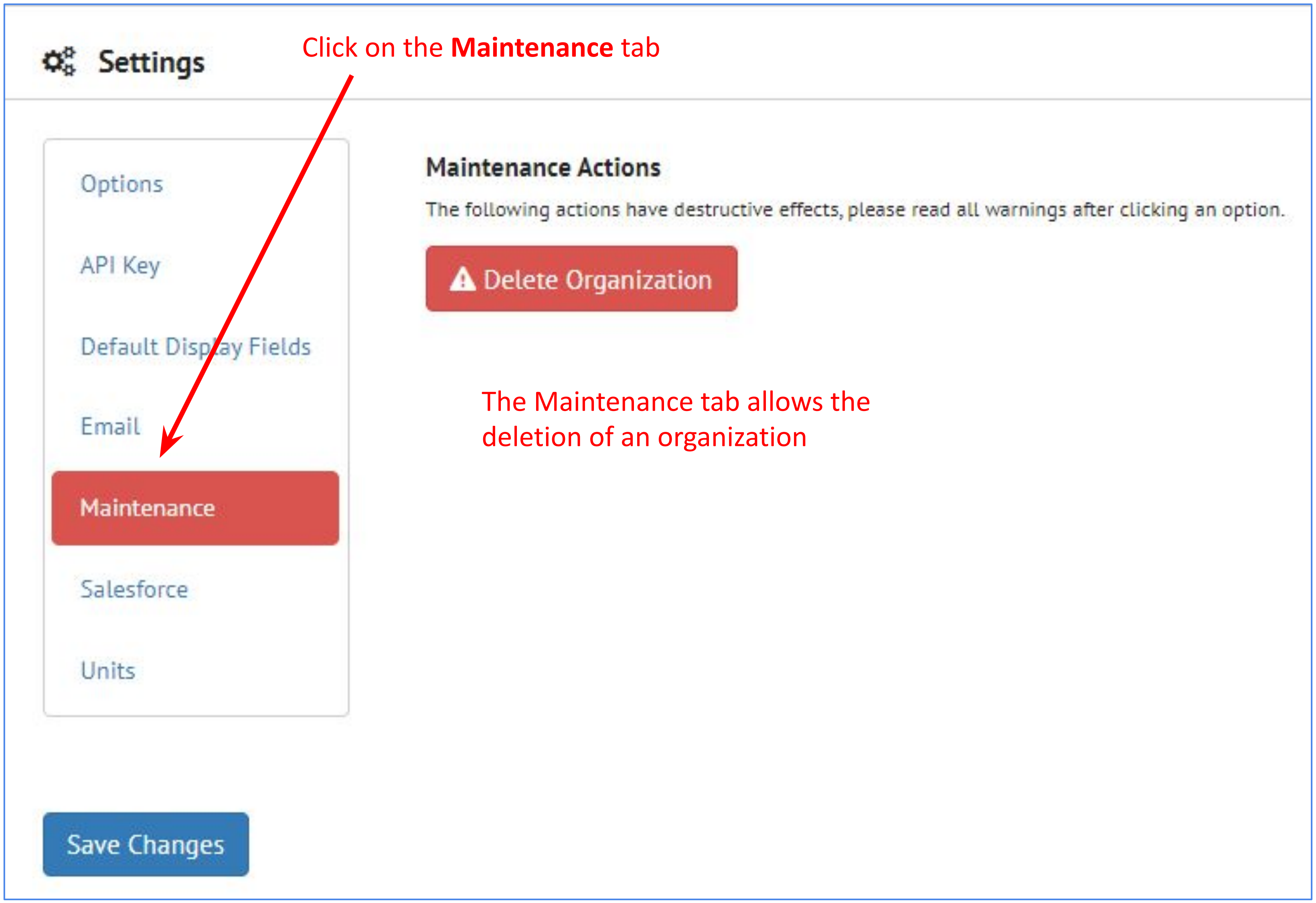
Settings: Email



ORGANIZATIONS

Settings: Maintenance





Settings: Salesforce (cont'd)

Salesforce: Configure from within SEED

Settings

- Options
- API Key
- Default Display Fields
- Email
- Maintenance
- Salesforce
- Units

Salesforce Integration

Check this checkbox if you would like to sync data between SEED and a Salesforce instance

Enable Salesforce Integration

☑

Salesforce Connection

Enter your Salesforce instance details and ensure your connection is successful

Salesforce URL

Username

Password

Security Token Security token set in Salesforce

Domain If your Salesforce instance is a sandbox, set this field to the value 'test'; otherwise leave blank.

Test Connection

Settings: Salesforce (cont'd)

Salesforce: Configure from within SEED

Scheduled Daily Update

If you would like to automatically update Salesforce on a daily basis, configure the fields below

Hour
Enter the hour when the update should be run daily (0-23) Timezone: America/Los_Angeles

Minute
Enter the minute after the hour when the update should be run daily (0-59)

Logging Email
Enter the e-mail address to use when reporting errors during the Salesforce updating process

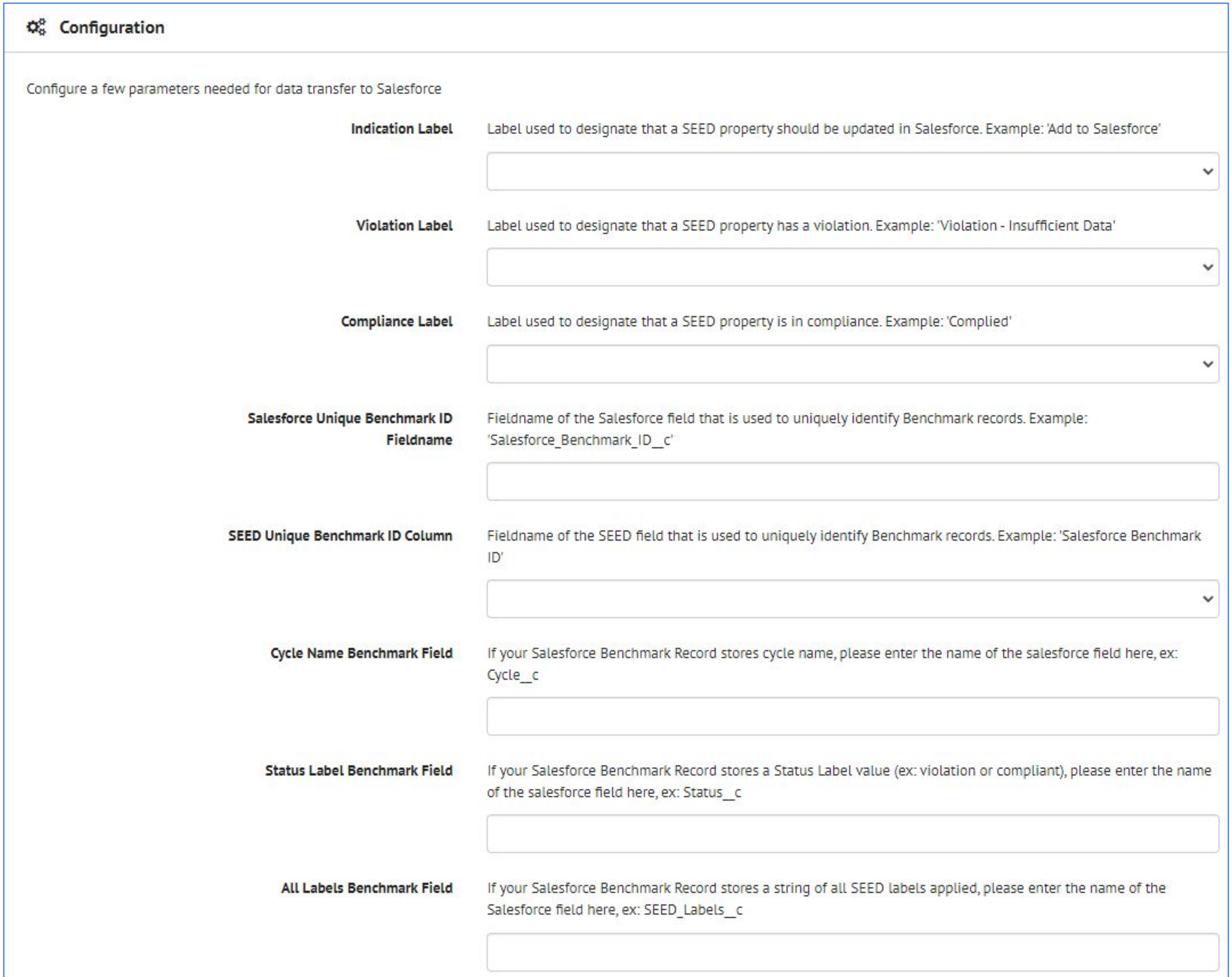
Last Salesforce Update

Reset

Sync Salesforce

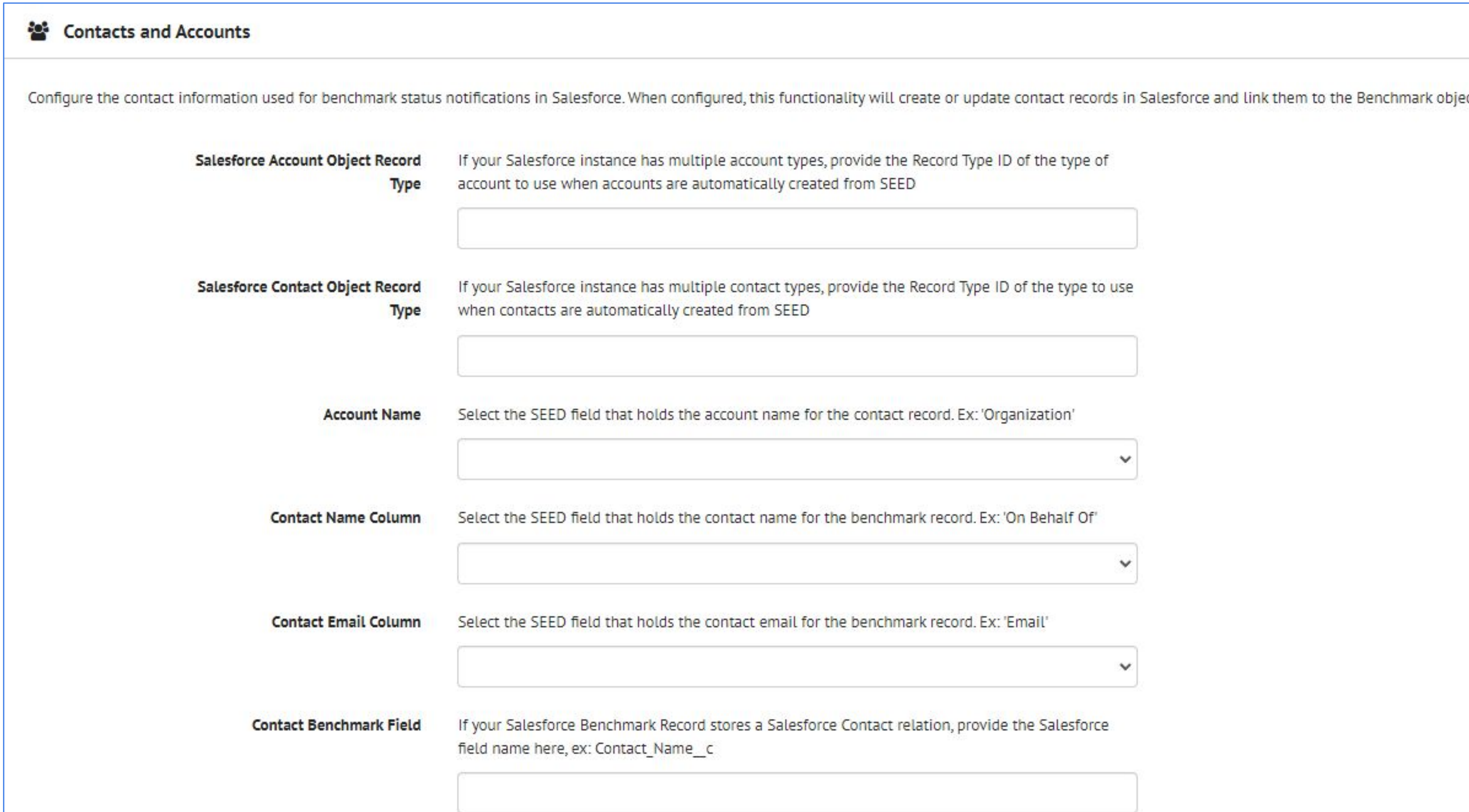
Settings: Salesforce (cont'd)

Salesforce: Configure from within SEED



Settings: Salesforce (cont'd)

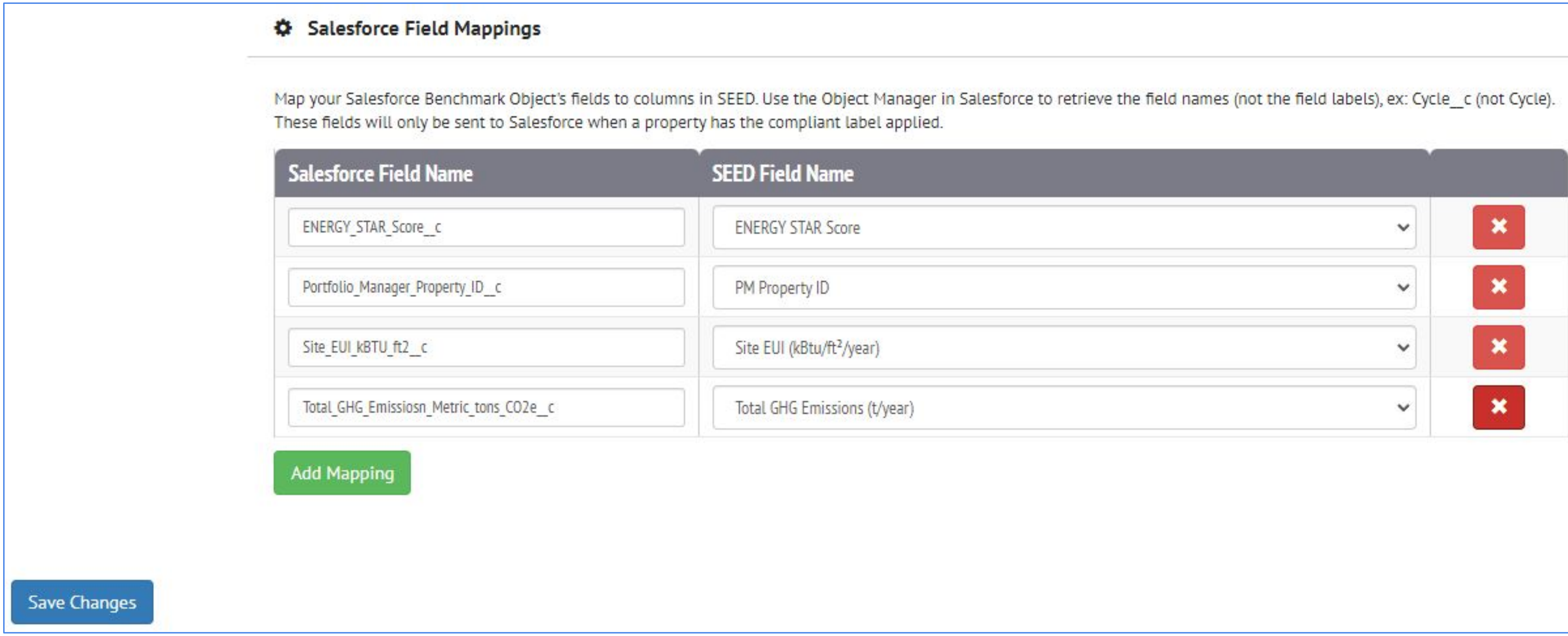
Salesforce: Configure from within SEED



ORGANIZATIONS

Settings: Salesforce (cont'd)

Salesforce: Configure from within SEED



ORGANIZATIONS

Settings: Units

BPS Test

Click on the **Settings** link

Column Settings | Column Mappings | Cycles | Data Quality | Derived Columns | Email Templates | Labels | Members | Program Setup | Settings | Sharing | Sub-Organizations

Settings

Click on the **Default Display Fields** tab

- Options
- API Key
- Default Display Fields
- Email
- Maintenance
- Salesforce
- Units

Measurement unit display for energy use intensities (EUI)

kBtu/sq. ft./year

You can change the Units for EUI

- kBtu/sq. ft./year
- GJ/m²/year
- MJ/m²/year
- kWh/m²/year
- kBtu/m²/year

Meter energy display units (change one at a time)

----Choose energy type----

----Change display unit----

You can change the Units used in the display of the Meter Data (Property Detail View / Meters)

See the next page for more details

Measurement unit display for areas

square feet

You can change the Units for area (SI/IP)

- square feet
- square metres

Number of decimal places to display

2 (e.g., 0.12)

You can change the number of decimal places displayed

- 0 (e.g., 0)
- 1 (e.g., 0.1)
- 2 (e.g., 0.12)
- 3 (e.g., 0.123)
- 4 (e.g., 0.1234)

Thermal Conversion Assumption

US

You can change the thermal conversion assumption between the US and Canada

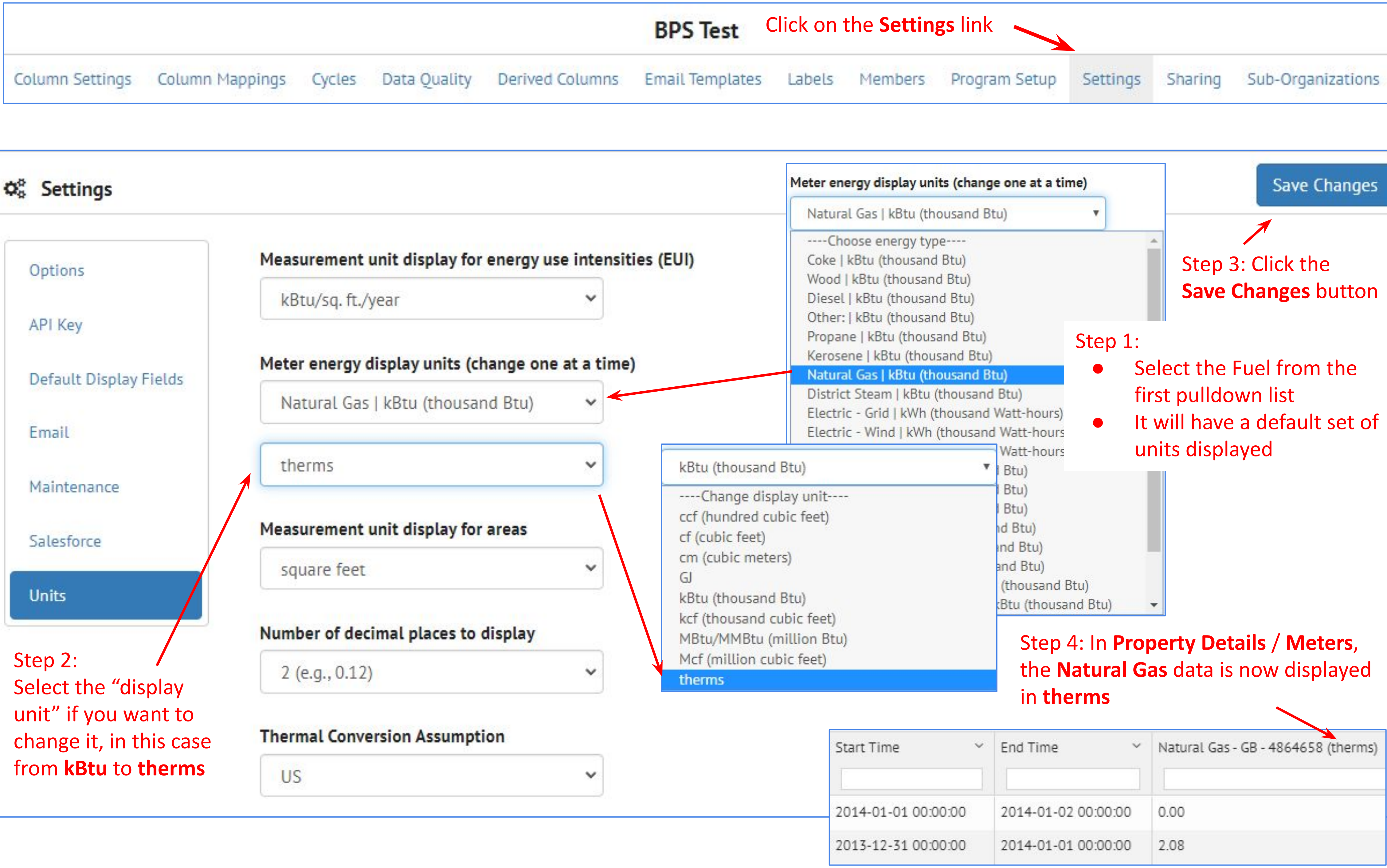
- US
- Canada

Warning: Meters will be imported as and viewed according to this assumption.

Save Changes

Settings: Units (cont'd)

ORGANIZATIONS



Click on the **Settings** link

Step 1:
- Select the Fuel from the first pulldown list
- It will have a default set of units displayed

Step 2:
Select the "display unit" if you want to change it, in this case from **kBtu** to **therms**

Step 3: Click the **Save Changes** button

Step 4: In **Property Details** / **Meters**, the **Natural Gas** data is now displayed in **therms**

ORGANIZATIONS

Sharing

Organizations

BPS Test

Column Settings | Column Mappings | Cycles | Data Quality | Derived Columns | Email Templates | Labels | Members | Program Setup | Settings | Sharing | Sub-Organizations

Click on the **Sharing** link

Sharing Your Data

Save Changes

Selecting Fields to Share

As the admin of your SEED instance you can control what data is shared throughout your organization and between your sub-organizations as well as what data is shared externally with the public-at-large. The subset of data you choose to share with the public can be different than the subset shared between your sub-organizations.

From the list below, select the fields that you want to: 1) share internally within your organization, and 2) share publicly with users outside your organization.

SHARE DATA WITH		
PUBLIC	TABLE NAME	FIELD NAME
☐	Search table name	Search field name
☐	PropertyState	Address Line 1
☐	PropertyState	Audit Template Building ID
☐	PropertyState	City
☐	PropertyState	Owner
☐	PropertyState	Owner Email
☐	PropertyState	PM Property ID
☐	PropertyState	Postal Code
☐	PropertyState	Property Name
☐	PropertyState	Property Type
☐	PropertyState	State
☐	PropertyState	Total GHG Emissions Intensity (kg/ft²/year)
☐	PropertyState	Year Built

The owner of a Parent Organization can select fields to view between Sub-Organizations.

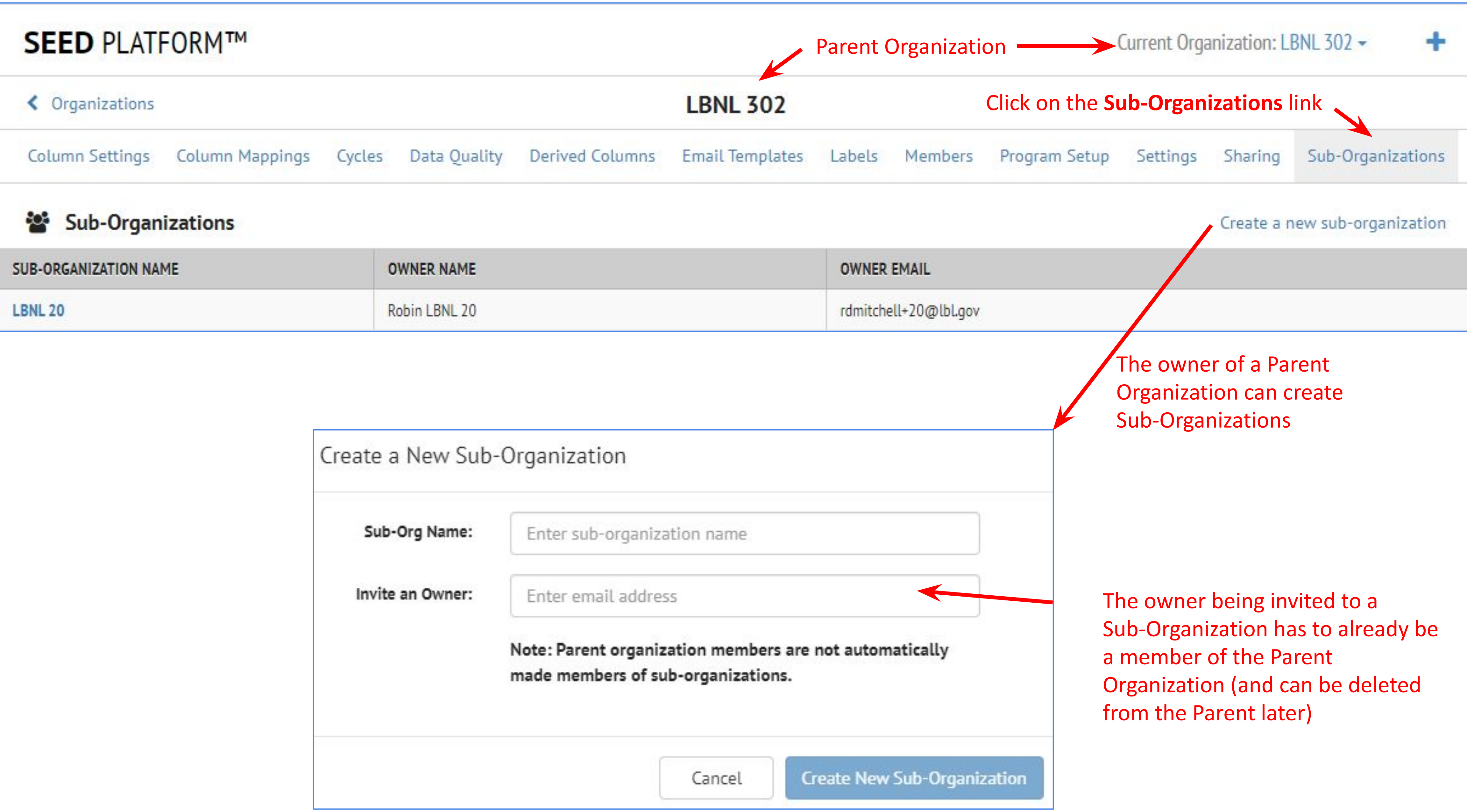
Set a Query Threshold

Enter the minimum threshold count of buildings that can be returned in a shared query. The building count threshold is important for allowing other organizations to perform statistical analysis on your data without revealing information about individual buildings.

Count #

The owner of a Parent Organization can set the query threshold for viewing records between Sub-Organizations.

Sub-Organizations



ORGANIZATIONS

Parent / Sub-Organization Roles

The permissions for each Role in a Parent Organization and a Sub-Organization

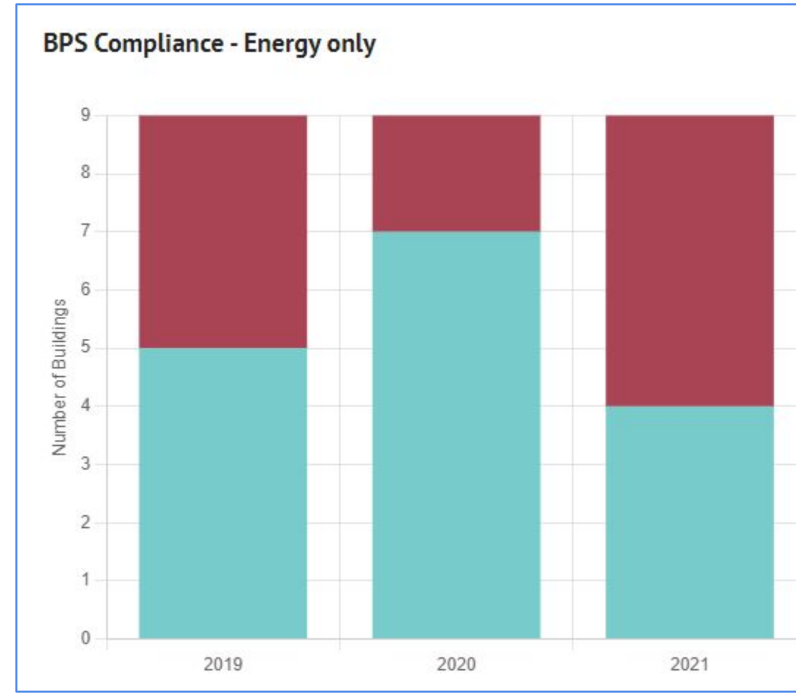
		Sub Organization		
	Parent	**Owner**	**Member**	**Viewer**
Set fields for display between Sub-Org	X			
Create Sub Orgs	X			
Add Members	X To parent or at Sub org setup	X To own Suborg		
Remove Members	X In parent	X From own Sub org		
View Members	X In parent Owner(s) of suborg	X In own Sub org		
Change Settings • **Rename Suborg** • **Change member role**	X In parent	X In own Sub org		
Add Data (Create Datasets)	X	X	X	
Edit data	X All the Suborgs associated with it	X In own Sub org	X In own Sub org	
View data	X All the Suborgs associated with it	X In own Sub org	X In own Sub org	X In own Sub org

Overview

There are three options for the INSIGHTS navigation bar

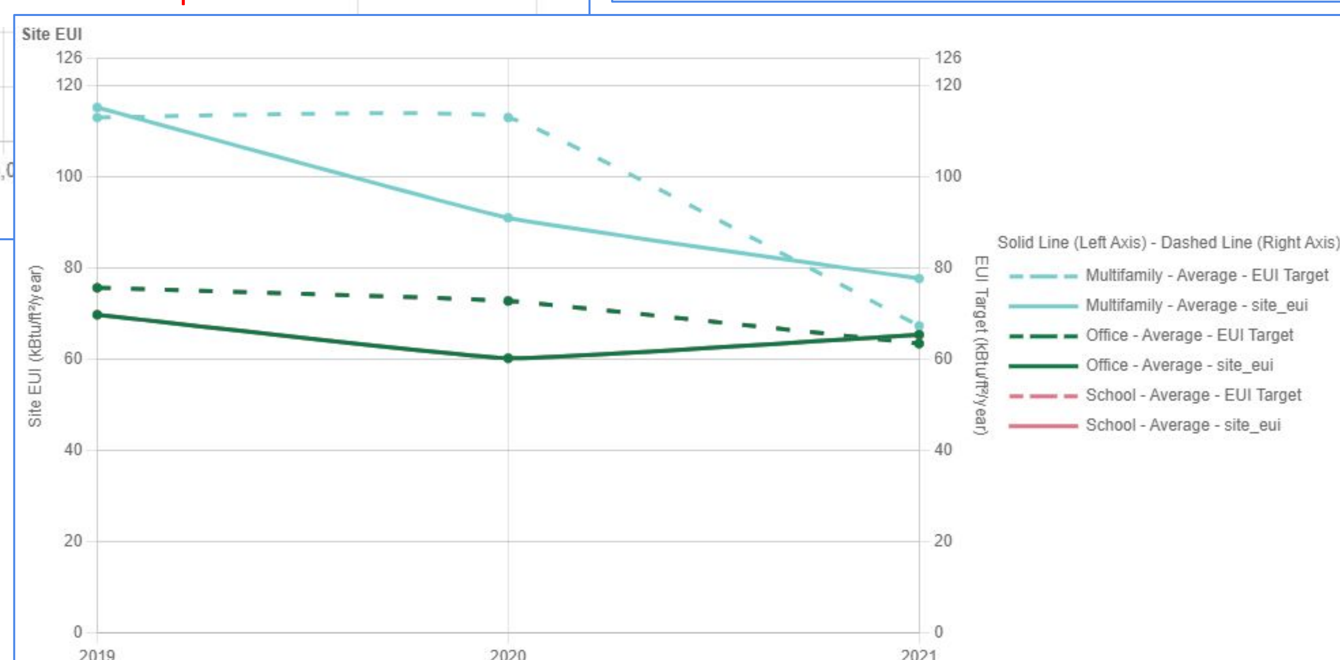
- **Program Overview**
- **Property Insights**
- **Custom Reports**

Program Overview



Property Insights

Custom Reports



INSIGHTS

Program Overview

Program Overview shows portfolio compliance with a performance target over time (cycles)

Insights

Program Overview | Property Insights | Custom Reports

Program Overview

Need to configure your Program? Program Configuration page.

Program

BPS Compliance - Ene

Define the metrics to compare over time, which defines “Compliant” and “Not Compliant”

BPS Compliance - Energy only

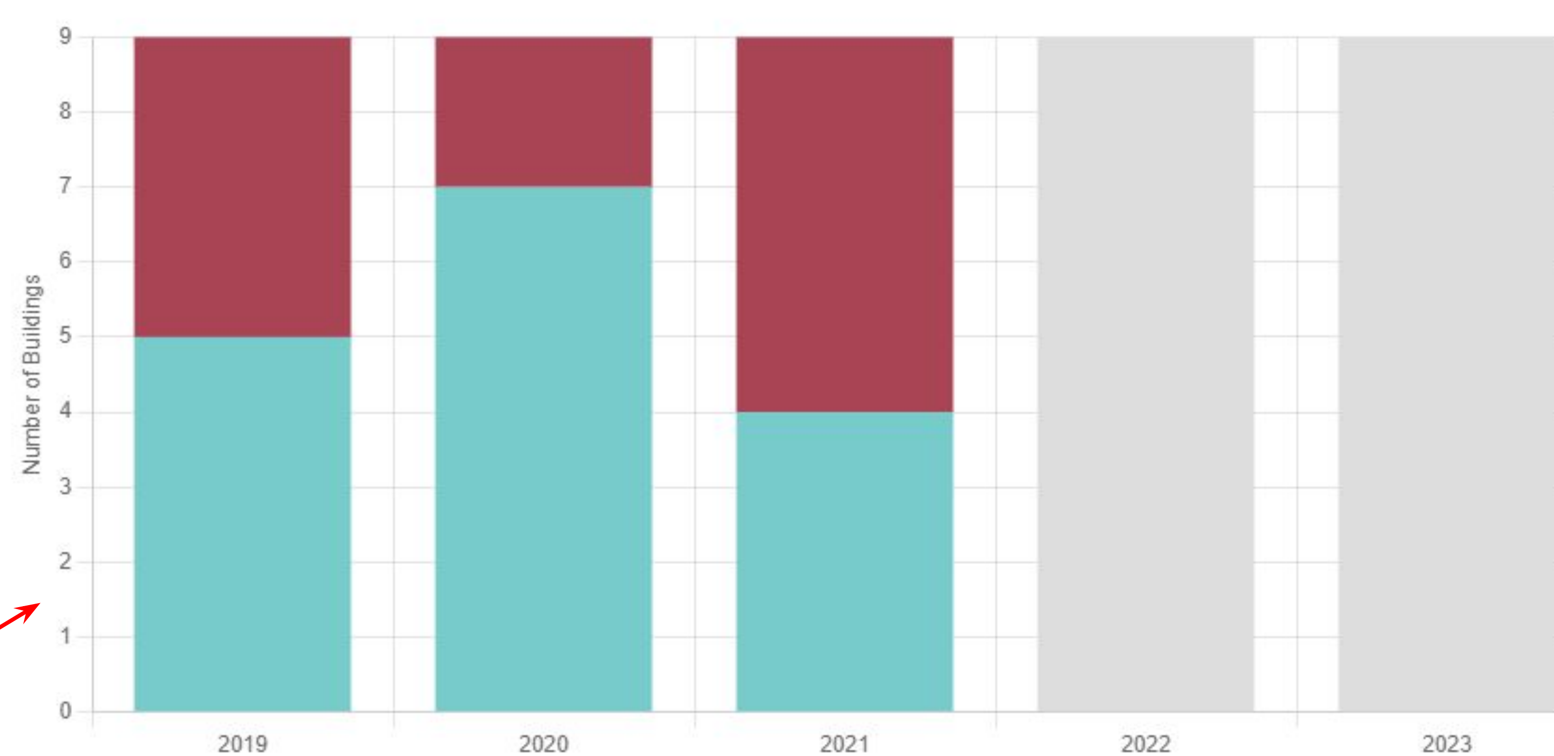


Chart Legend

- Compliant
- Not Compliant
- Unknown

CYCLES	2019	2020	2021	2022	2023
Compliant	5	7	4	0	0
Non-Compliant	4	2	5	0	0
Unknown	0	0	0	9	9

Property Insights

Property Insights show compliance for individual buildings

Property Insights

Program Overview | Property Insights | Custom Reports

Property Insights

Need to configure your Program? Program Configuration page.

Program

BPS Compliance - Energ

Select the Program

Cycle

2020

Select the Cycle

Metric Type

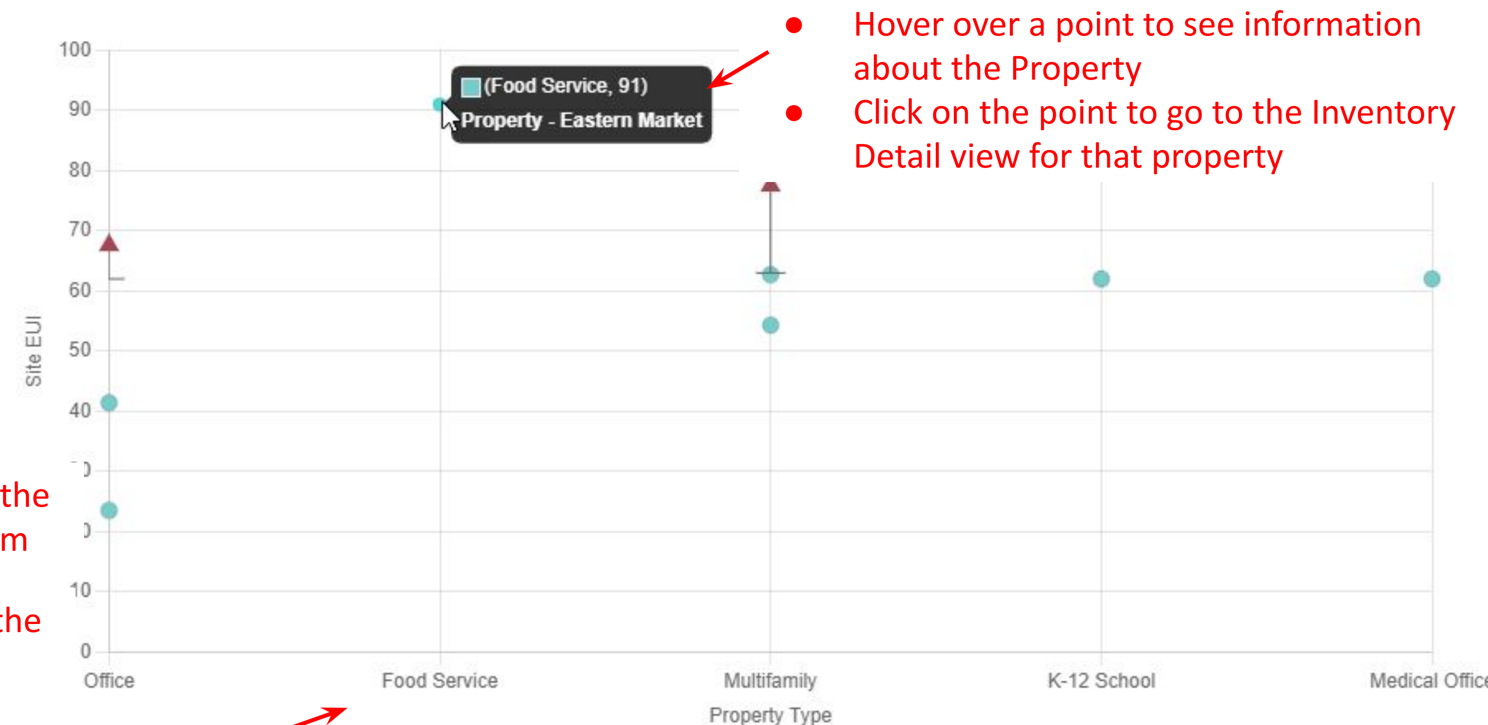
Energy Metric

X Axis

Property Type

Select the X Axis

Export



	2020
Compliant	7
Non-Compliant	2
Unknown	0

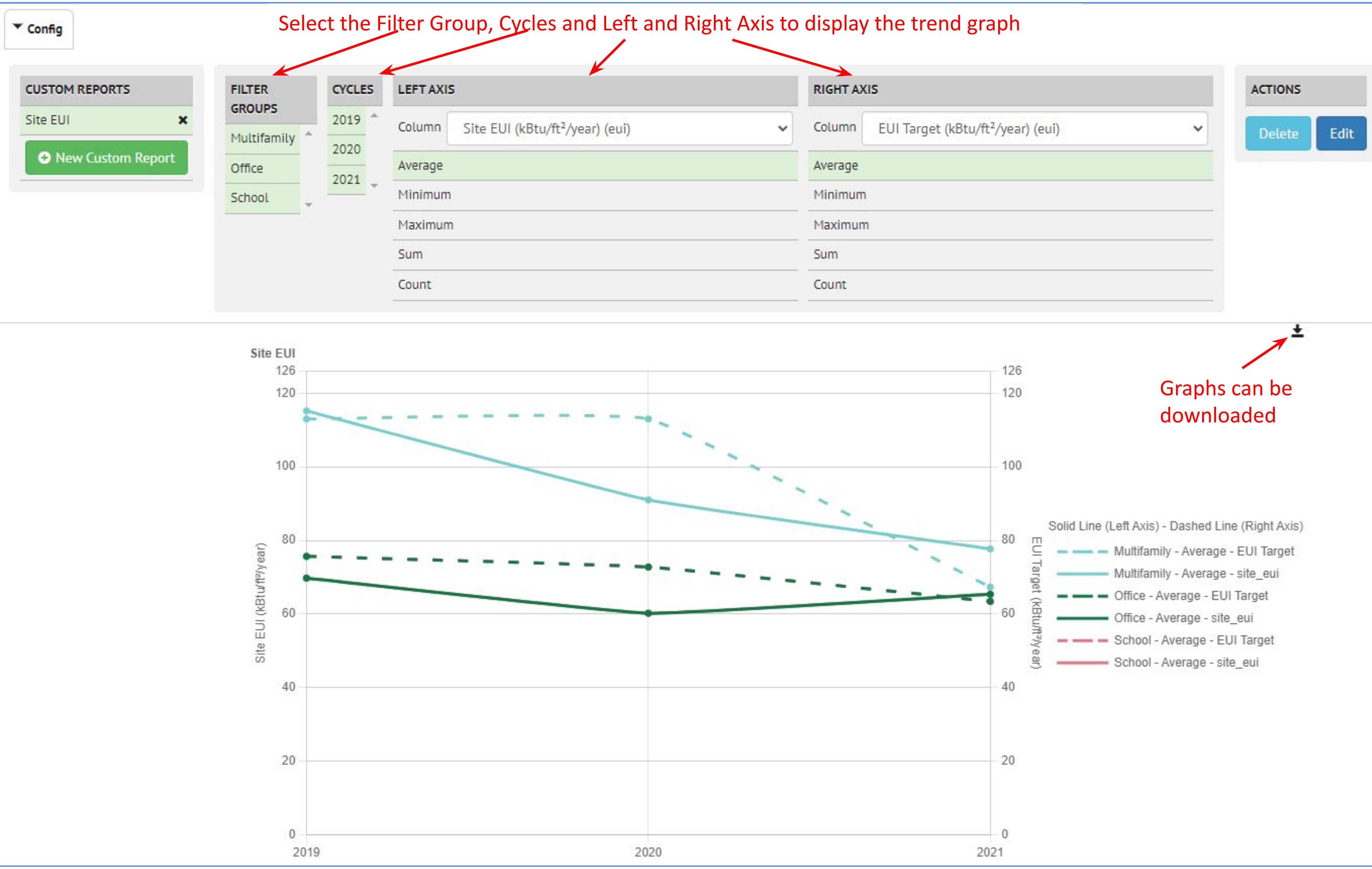
Chart Legend

- Compliant
- Not Compliant

INSIGHTS

Custom Reports

Custom Reports shows the metric trend over time for a collection of buildings



INSIGHTS

Setting up the data

Import data over time in different cycles

Cycle: 2019

- 2019
- 2020
- 2021
- 2022
- 2023

In this example there are 5 years of data in the Inventory list

Properties

Column List Profiles | Reports | Cross-Cycles

The Cross-Cycle comparison in the Property List view can be used to see the data for each cycle

View by Property | View by Tax Lot

	Cycle	Cycle Start	PM Property ID*	Address Line 1*	Total GHG Emissions
	total cycles: 5		22482007	2425 N STREET NW	
	2019	2018-12-31	22482007	2425 N STREET NW	562.20
	2020	2019-12-31	22482007	2425 N STREET NW	511.40
	2021	2020-12-31	22482007	2425 N Street NW	553.40
	2022	2021-12-31	22482007	2425 N STREET NW	
	2023	2022-12-31	22482007	2425 N STREET NW	

There is Greenhouse Gas (GHG) emission data for the first three years of data

Setting up the data

- **Import metrics (ie, Site EUI or GHG emissions) for each building as well as targets for those metrics**
- **Define “derived fields” to calculate target “deltas” if that is useful**

A derived field:

Target EUI - Site EUI

A negative value means the actual EUI is > the target EUI and therefore is non-compliant

Actual building Site EUI for 2020

A Target Site EUI for 2021

Cycle: 2020

View by Property | View by Tax Lot

PM Property ID	Site EUI (kBtu/ft²/year)	EUI Target (kBtu/ft²/ye…	EUI Target Year	Delta EUI
22178844	23.50	62.00	2021	38.5
22178845	41.40	62.00	2021	20.6
22178846	67.60	62.00	2021	-5.6
22178848	77.50	63.00	2021	-14.5
22178850	91.00	113.00	2021	22

These 2 buildings did not meet their target EUI

Program Configuration

Click on the Program Configuration link to define the criteria for these reports

Insights

Program Overview | Property Insights | Custom Reports

“Programs” can be defined by clicking this link

Program Overview

Need to configure your Program? Program Configuration page.

Program

BPS Compliance - Energy only

Export

Multiple “Programs” can be defined

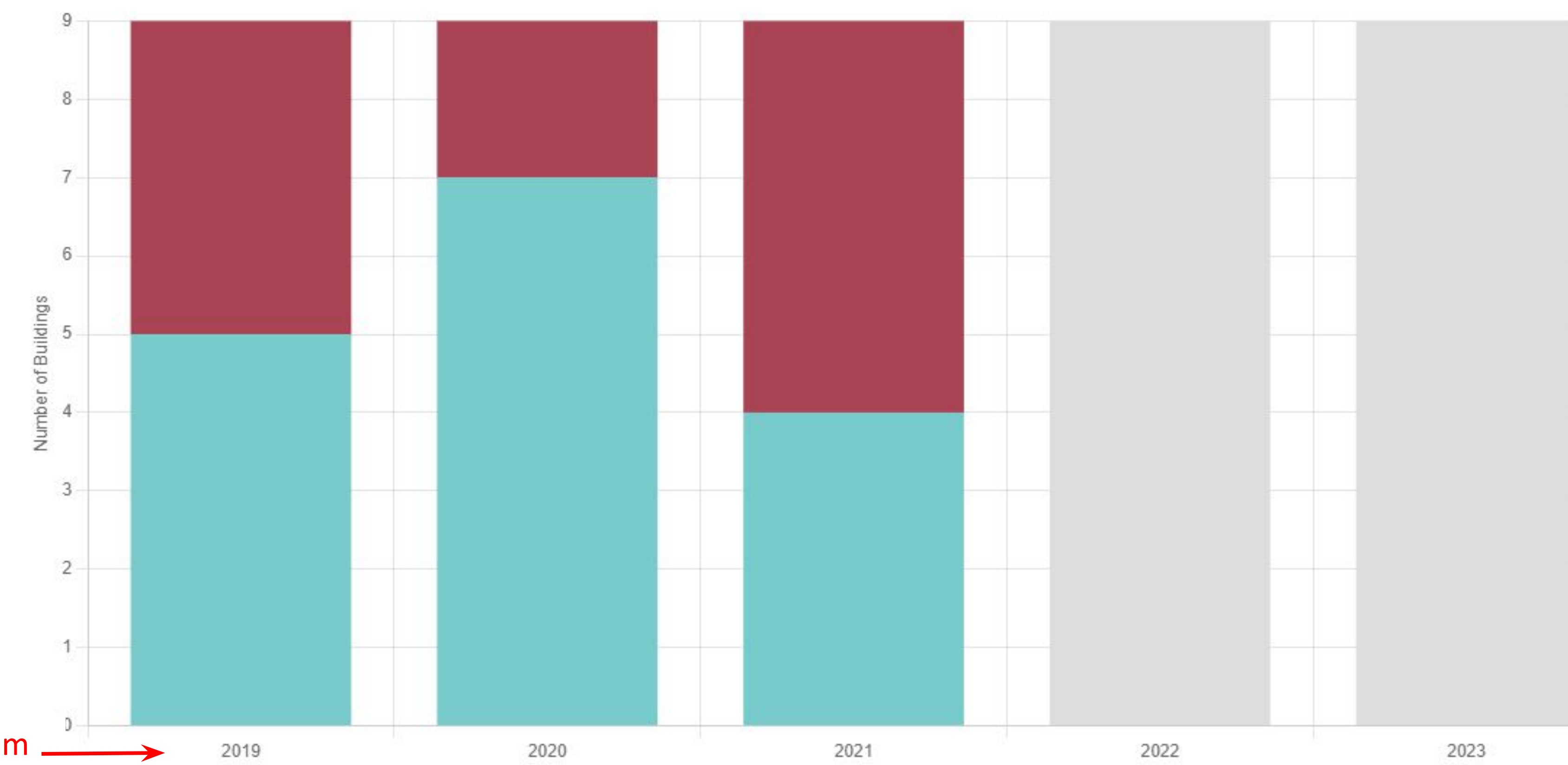
Chart Legend

Compliant

Not Compliant

Unknown

BPS Compliance - Energy only



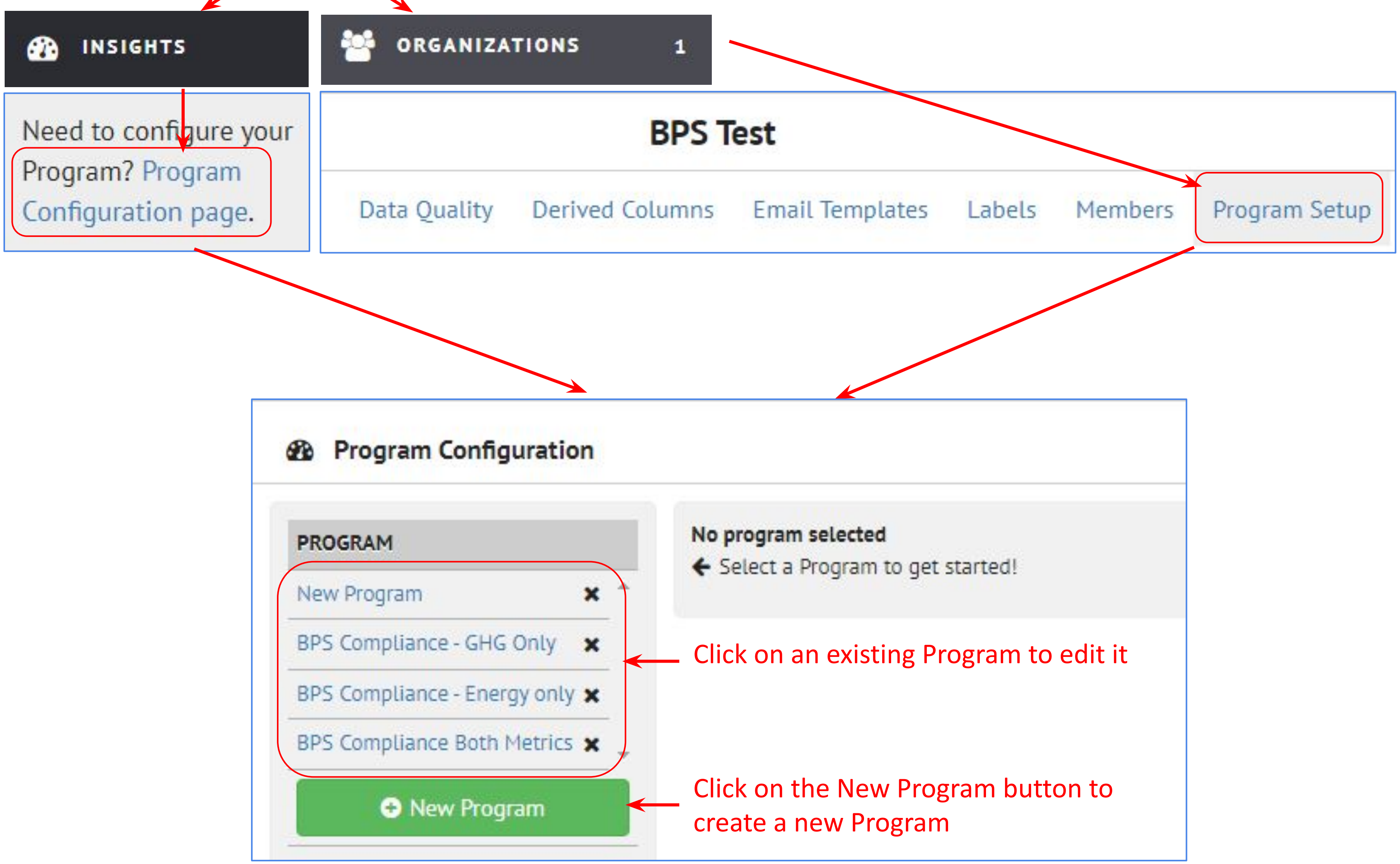
The cycles defined for the program

CYCLES	2019	2020	2021	2022	2023
Compliant	5	7	4	0	0
Non-Compliant	4	2	5	(	
Unknown	0	0	0	!	

INSIGHTS

Program Configuration

There are two different ways to get to the Program Setup page

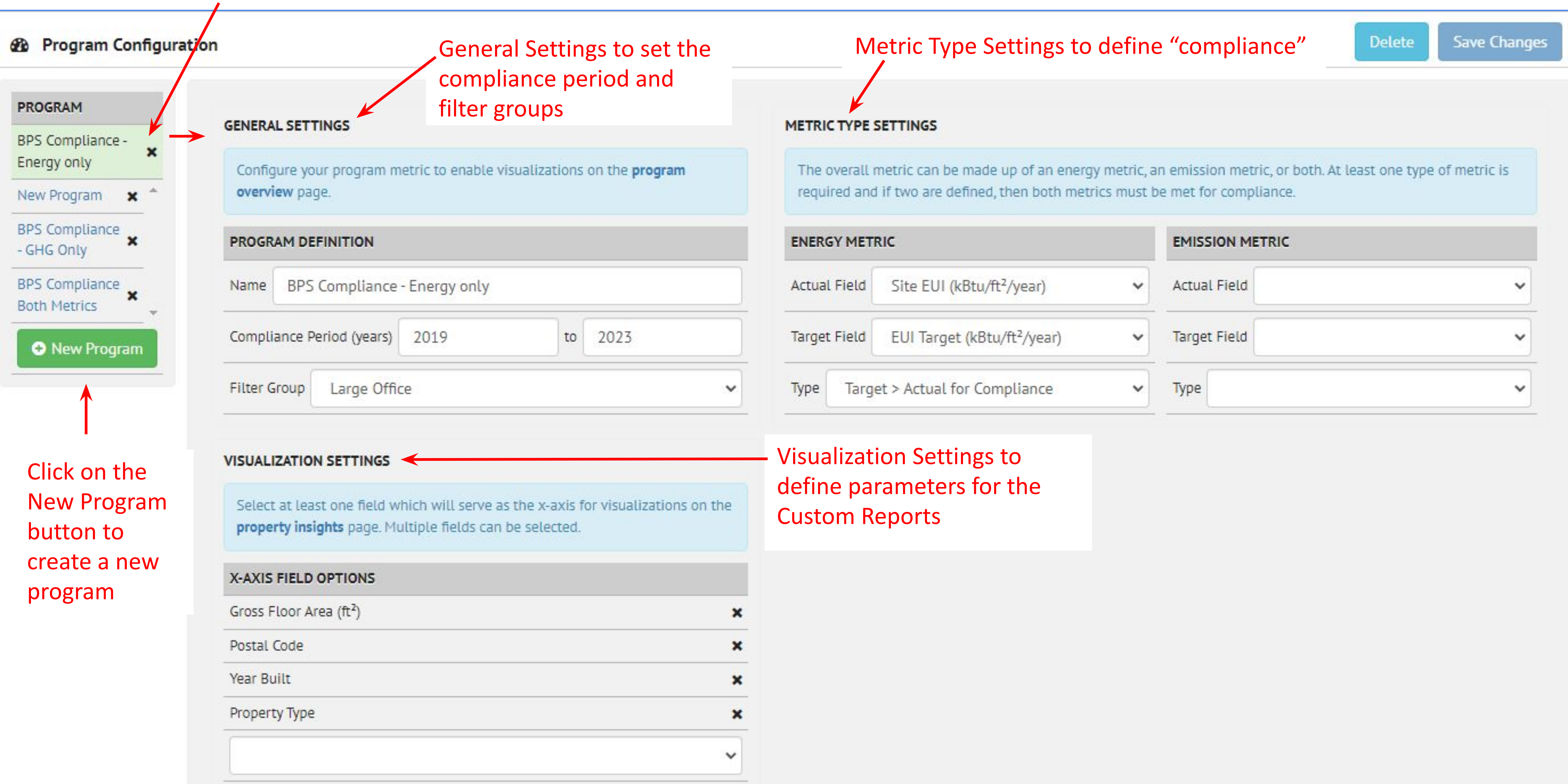


INSIGHTS

Program Configuration

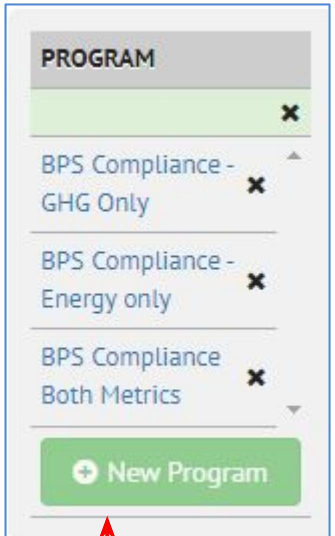
There are three components to define on the Program Configuration page
The next few pages will discuss each section in detail

Click on an existing
Program name to Edit it

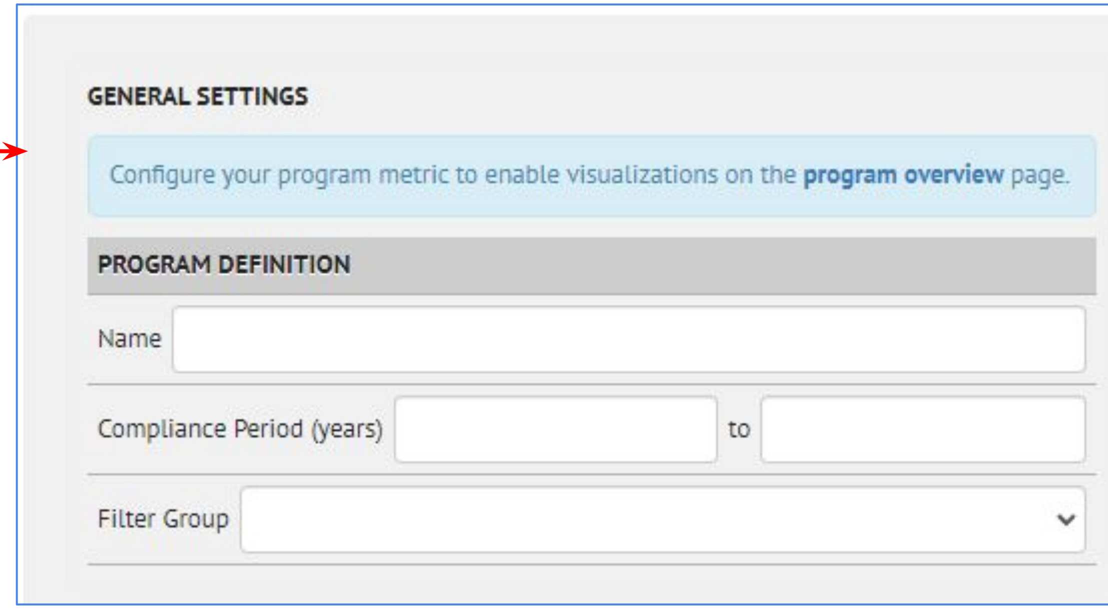


INSIGHTS

Program Configuration: General Settings



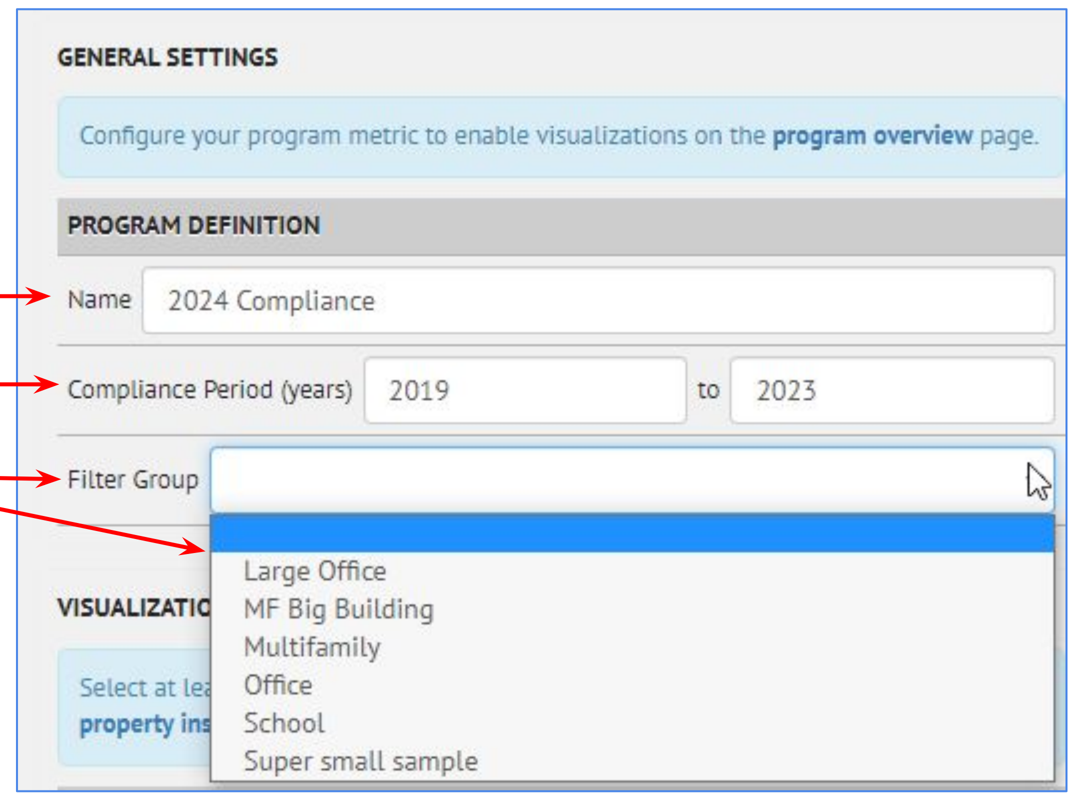
Step 2: all the fields will be blank



Step 1: Click on the New Program button to create a new program

Step 3: Fill in the values for

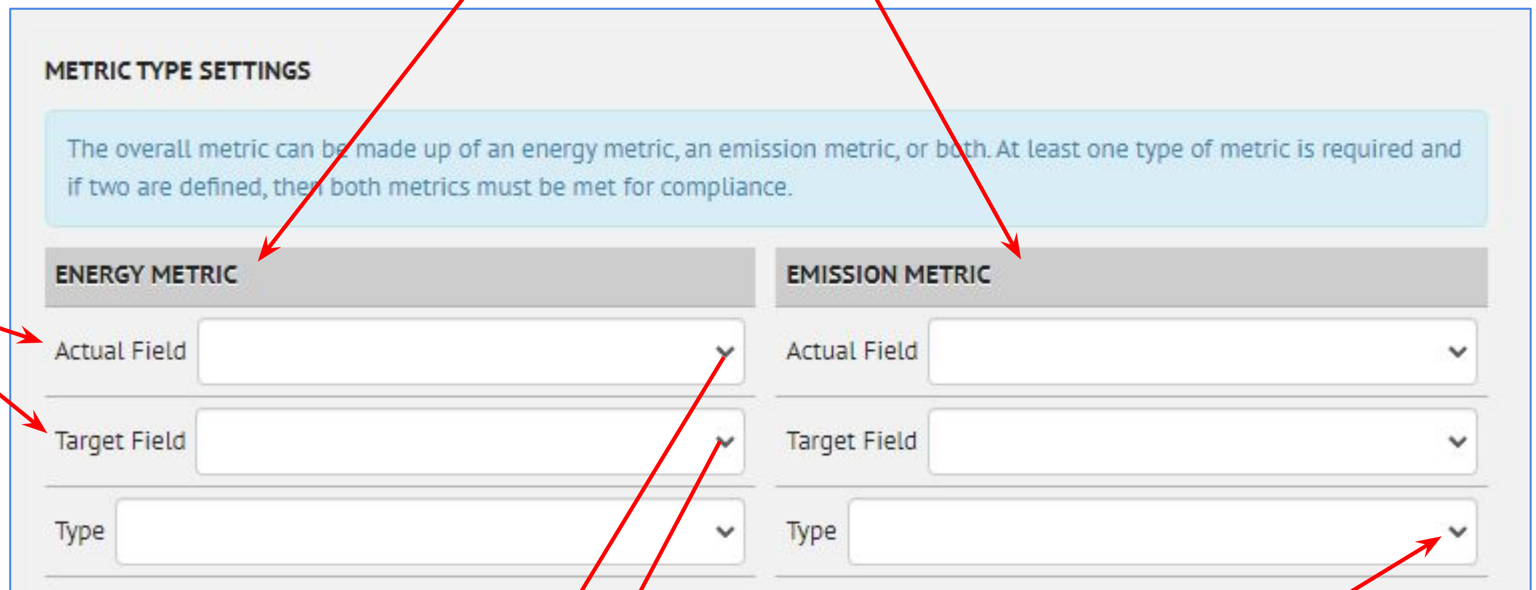
- Name
- Compliance Period
  The cycles to include in this Program
- Filter Group
  These are defined in the Inventory List



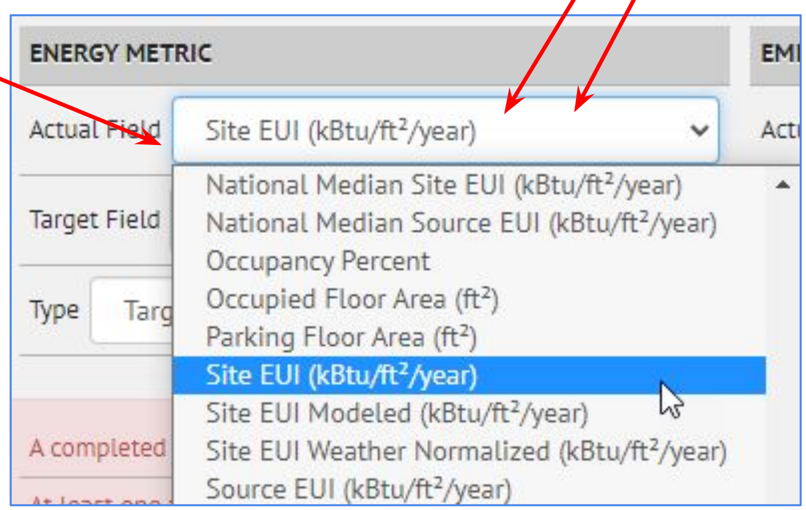
Program Configuration: Metric Type Settings

It is possible to define just an Energy Metric, just an Emission Metric, or both
You have to define at least one in order to save the settings

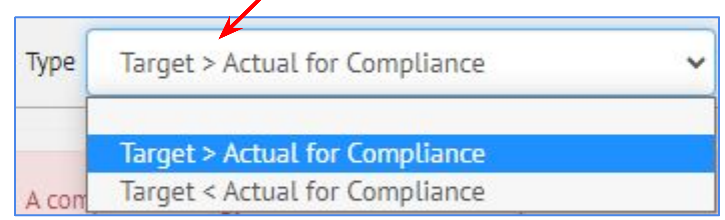
Define the fields



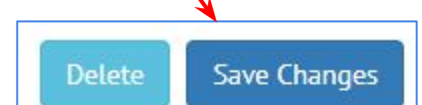
The pulldown list will show all the fields for the property



The Type pulldown list defines Compliance, i.e., how the Target and the Actual values are compared.

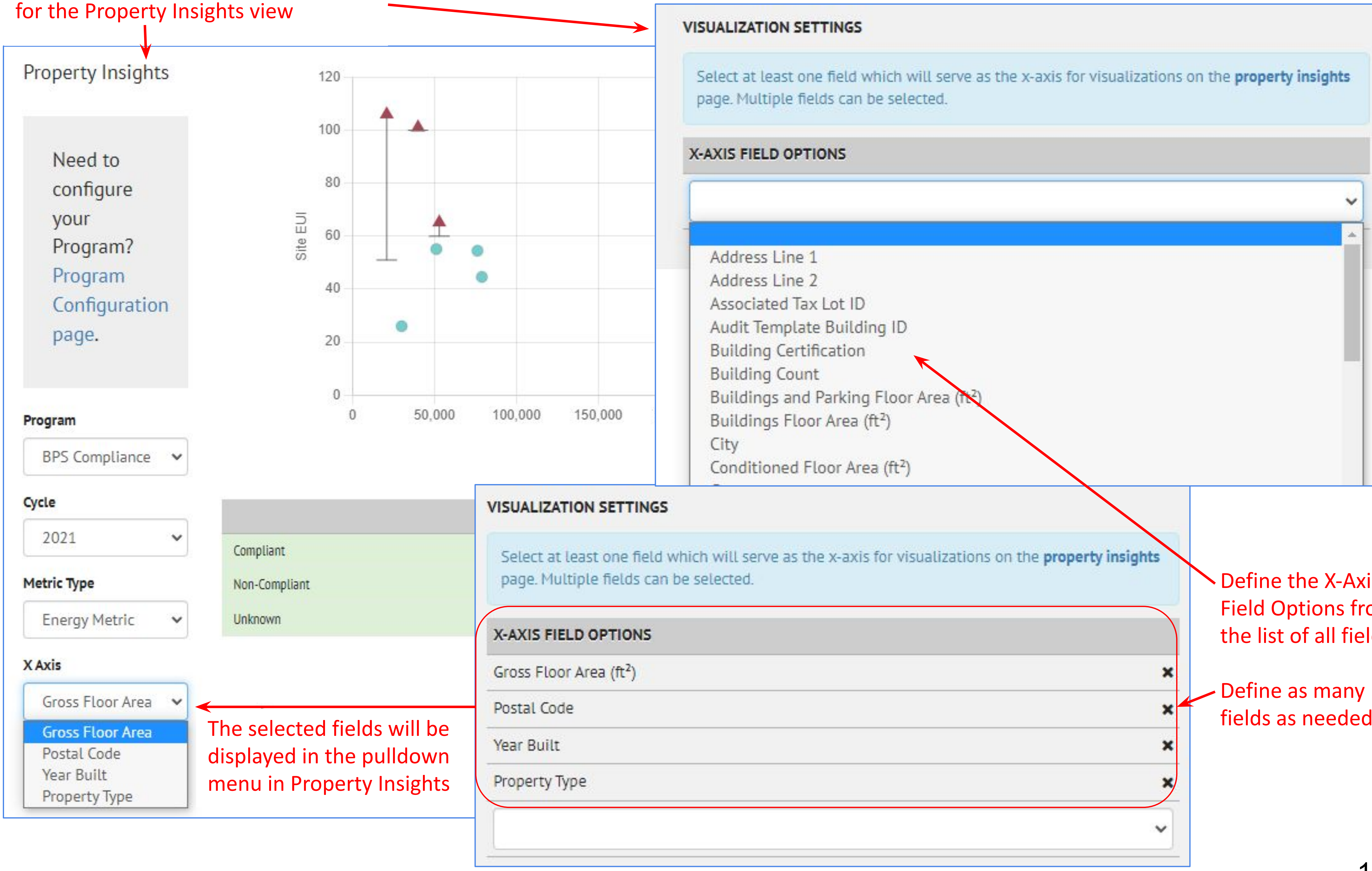


Save your changes



Program Configuration: Visualization Settings

The Visualization Settings are relevant for the Property Insights view



Define the X-Axis Field Options from the list of all fields.

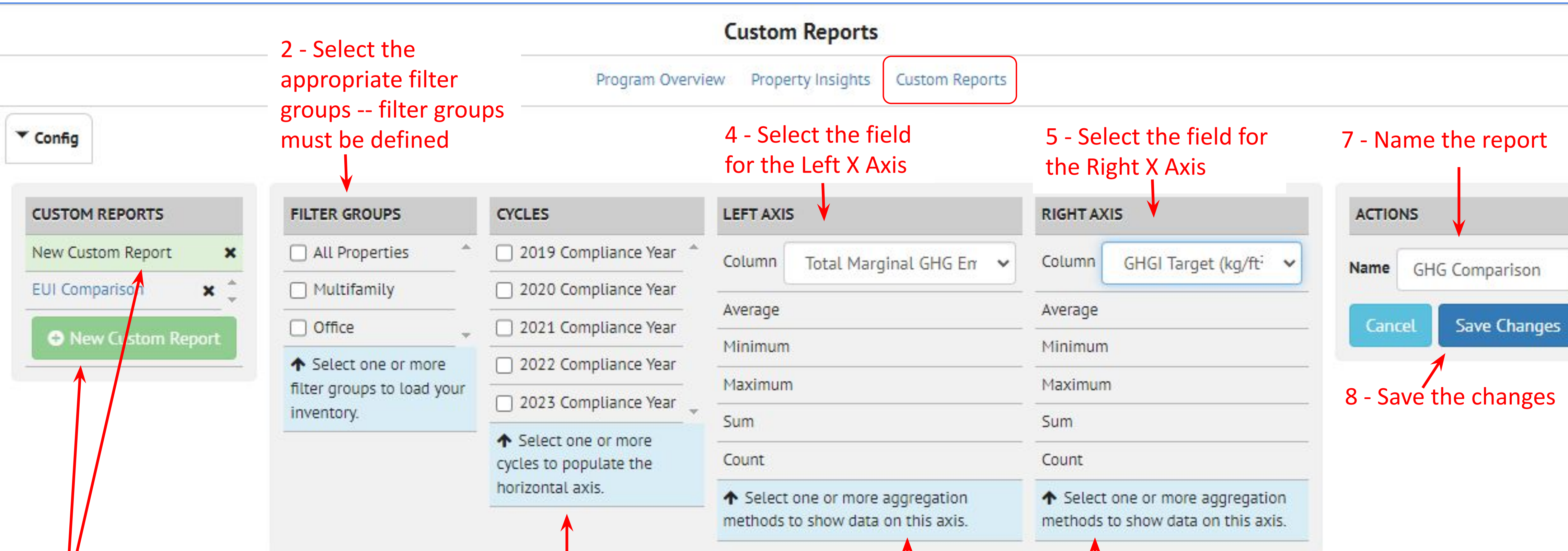
Define as many fields as needed

The selected fields will be displayed in the pulldown menu in Property Insights

INSIGHTS

Custom Report Setup

The Visualization Settings are relevant for the Property Insights view



1 - Click the New Custom Report button and a "New Custom Report" is created

2 - Select the appropriate filter groups -- filter groups must be defined

3 - Select the appropriate cycles

4 - Select the field for the Left X Axis

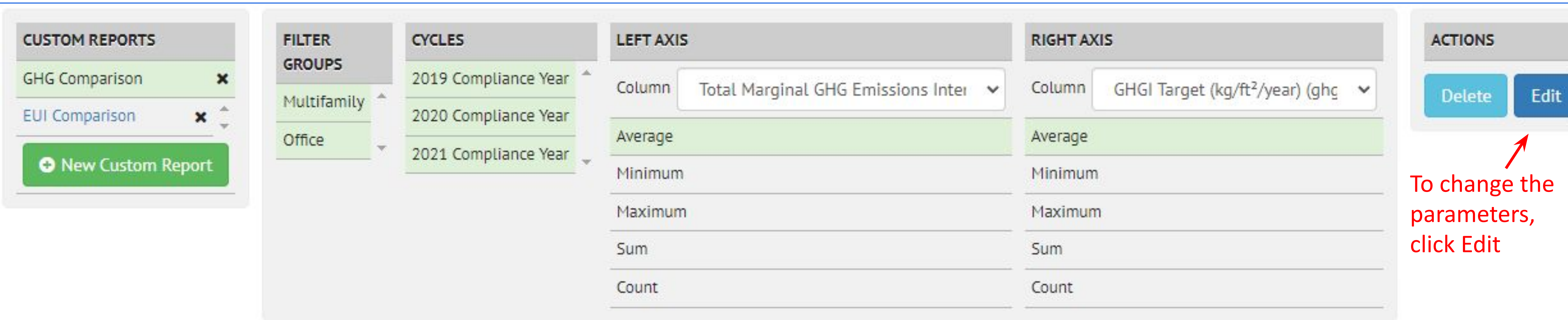
5 - Select the field for the Right X Axis

6 - Select the Aggregation type for each axis; more than one can be selected

7 - Name the report

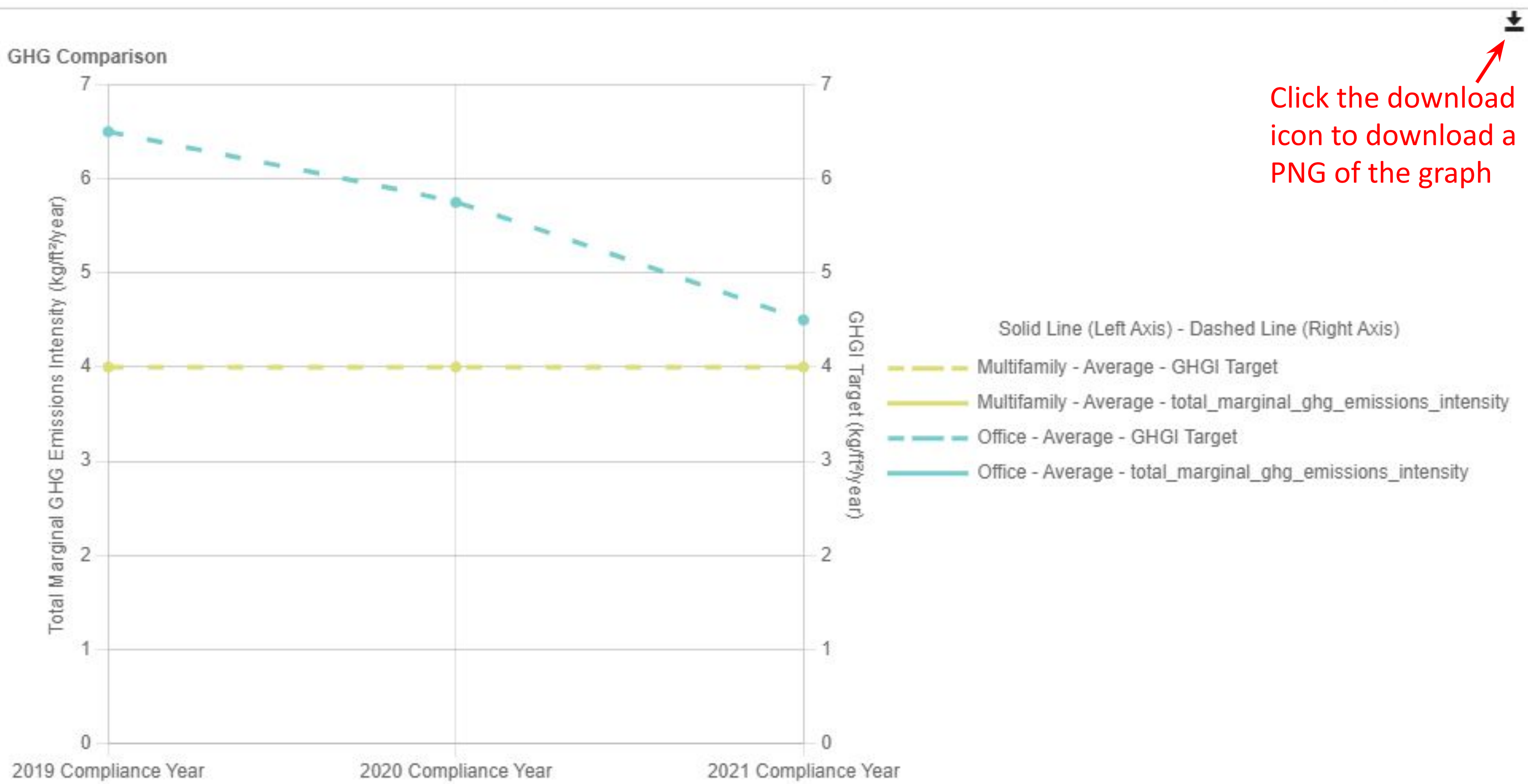
8 - Save the changes

Custom Report



To change the parameters, click Edit

The resulting graph



Click the download icon to download a PNG of the graph

ANALYSES (BETA)

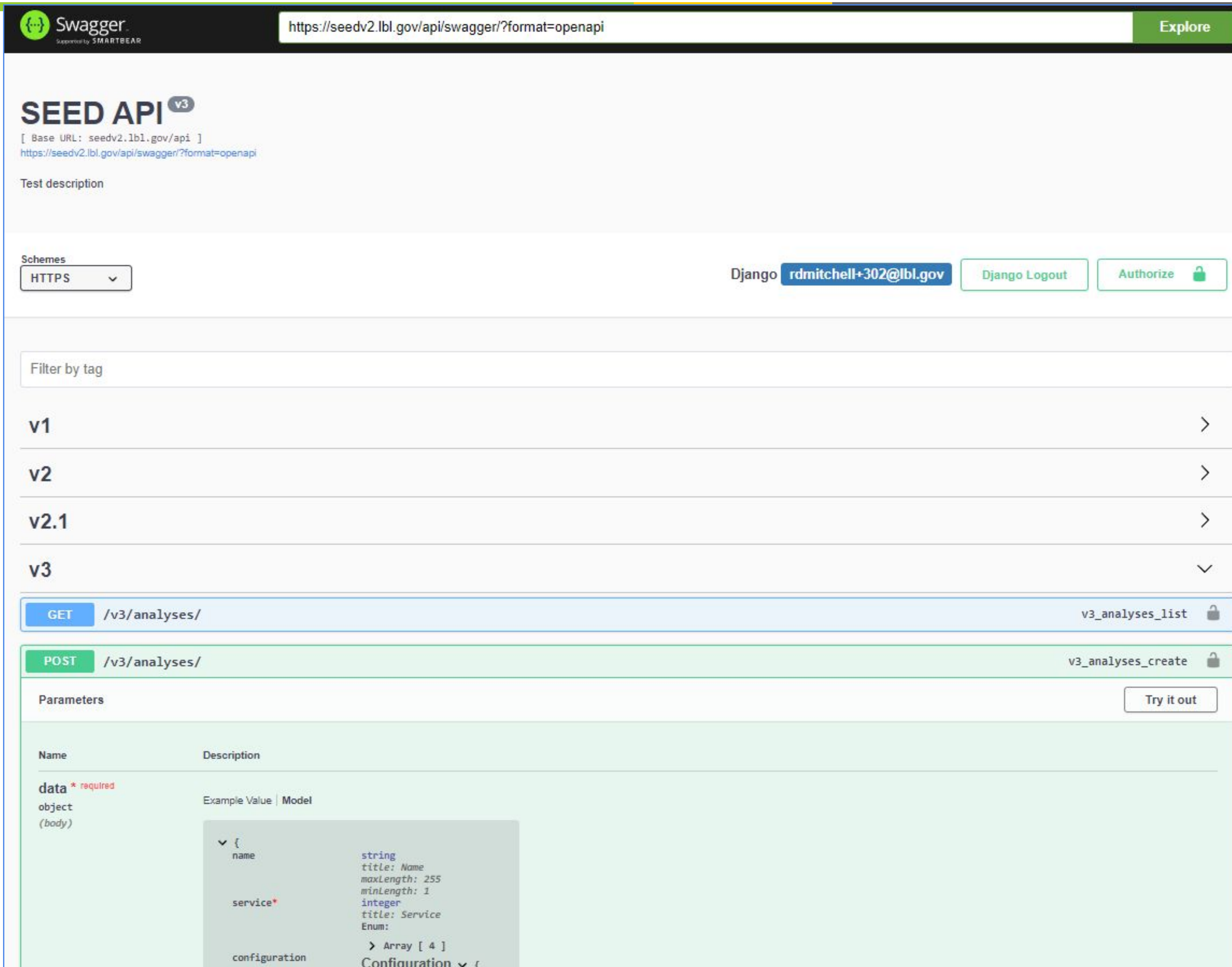
Overview

- There are currently four different types of analysis in SEED
  - BSyncr
    - Makes a Building Sync file from the property data in SEED to be used with the NMEC (Normalized Metered Energy Consumption) program
    - Algorithms are based on methods in this Github repository https://github.com/kW-Labs/nmecr
  - BETTER
    - Runs a BETTER analysis from the property data in SEED
  - EUI
    - Calculates the EUI of a property based on the meter data and the gross floor area
  - Average Annual CO2
    - Calculates the CO2 emissions of a property based on the meter data and the eGRID region (which is based on the location of the property)

There is a separate document which explains in detail the Analysis functionality

API DOCUMENTATION

Swagger Interface to SEED RESTful APIs



Contact

Contact

For SEED Platform™ Users:

Please visit our website for information, tutorials, and documentation to help you learn how to use SEED.

https://seed-platform.org

The SEED Users Forum is where you can review user announcements, workflow questions, and join to connect with other users.

https://lists.buildingenergytools.org/g/SEEDusers/topics

For direct help on a specific problem, please fill out a request on the building data tools website help desk:

https://buildingdata.energy.gov/#/help-desk

For SEED Platform™ Developers:

The open-source code is available on the GitHub organization of seed-platform and contains various repositories for the different components of the platform such as the main SEED application, a Python client to communicate to SEED's API and various example datasets.

https://github.com/seed-platform

The SEED Developers Forum contains various topics and joining enables you to connect with other developers. It is recommended to join this forum to submit developer questions, feature requests, and report issues as needed. Also, submitting issues on GitHub is encouraged.

https://lists.buildingenergytools.org/g/SEEDdevelopers/topics

About

About SEED Platform™

The Standard Energy Efficiency Data (SEED)™ Platform is a software application that helps organizations easily manage data on the energy performance of large groups of buildings. Users can combine data from multiple sources, clean and validate it, and share the information with others. The software application provides an easy, flexible, and cost-effective method to improve the quality and availability of data to help demonstrate the economic and environmental benefits of energy efficiency, to implement programs, and to target investment activity.

More details

View Terms of Service

Development Team:

Managed by: National Renewable Energy Laboratory & Lawrence Berkeley National Laboratory

Funding from: U.S. Department of Energy

Version

2.18.0.c94869068

When reporting an issue, including the complete Version # is useful