

RLA SOFTWARE COMPLETE REFERENCE GUIDE

Step-by-step instructions for conducting comparison audits
using the Secretary of State's RLA Software and Dominion's
Democracy Suite® 5.11 voting system



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OVERVIEW

Section 1-7-515, C.R.S., requires Colorado counties to conduct a new type of post-election audit, called risk-limiting audits (or RLAs), beginning in 2017. On August 11, 2017, the Secretary of State adopted new Election Rule 25, specifying the manner in which random and risk-limiting post-election audits must be conducted in Colorado. Rule 25.1 contains definitions generally applicable to risk-limiting audits. Election Rule 25.2 prescribes the procedures for conducting risk-limiting audits. Election Rule 25.3 allows the Secretary of State to waive the RLA requirement and permit a county to conduct a random audit instead, and lays out the procedures for a random audit. Election Rule 25.4 addresses removal of audit board members.

There are two types of RLAs: *comparison audits* and *ballot-polling audits*. Counties using vote tabulation systems capable of exporting ballot-level cast vote records (CVRs) – such as Dominion’s Democracy Suite® 5.11 and Clear Ballot’s ClearVote® 1.4.1 voting systems – must conduct comparison audits. Counties using older voting systems that are not capable of exporting CVR data files must conduct ballot-polling audits, which are the least efficient type of RLA.

This guide contains specific step-by-step instructions for county audit administrators and county audit boards to prepare for and conduct *comparison audits*, using the Dominion voting system and the Secretary of State’s RLA Software.¹

Note: Most of the pictures in this guide show examples from the 2017 Coordinated Election. Of course, when saving, naming or retrieving RLA-related folders and files, you should use the current election type and year (e.g. 2018 Primary, 2020 General) instead.

¹ In the future, this guide may be updated to include step-by-step instructions for counties using the Clear Ballot system to export the data required for RLAs. Until then, Clear Ballot users should contact Voting.Systems@sos.state.co.us with any system-specific questions.

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If you have questions or encounter problems with any step in this guide, please contact the RLA team (Jessi Romero, Danny Casias, or Eddie Morgan) at 1-877-436-5677. We will assist you over the phone, or remotely via GoTo Meeting. Some additional resources for counties to use for the RLA can be found on the CDOS FTP in the RLA/RLA_general information folder.

ELECTION RECORDS

Some documents used in and produced for a risk-limited audit are election records, and as such must be stored by the county for 25 months following the election. These documents, which are mentioned later in this guide, are:

- The Ballot Manifest
- The CVR (the original must be stored, any public release should be reviewed and redacted appropriately)
- Final Reports produced by the RLA Software
- Ballots

Please reach out to the Secretary of State's office if you have questions about records retention or redaction.

CHAPTER 1: RLA THUMB DRIVE

Colorado Election Rule 20.5.3 requires that counties may only use thumb drives that are reformatted immediately before inserting them into a voting system. Due to this **you should use a fresh—never been used before—thumb drive to retrieve the required files from your voting system.** In this section you'll be able to do a few of the setup steps before inserting the thumb drive into the internet connect computer, the rest will be explained later in the guide.

Step 1-A: Prepare Your RLA Thumb Drive

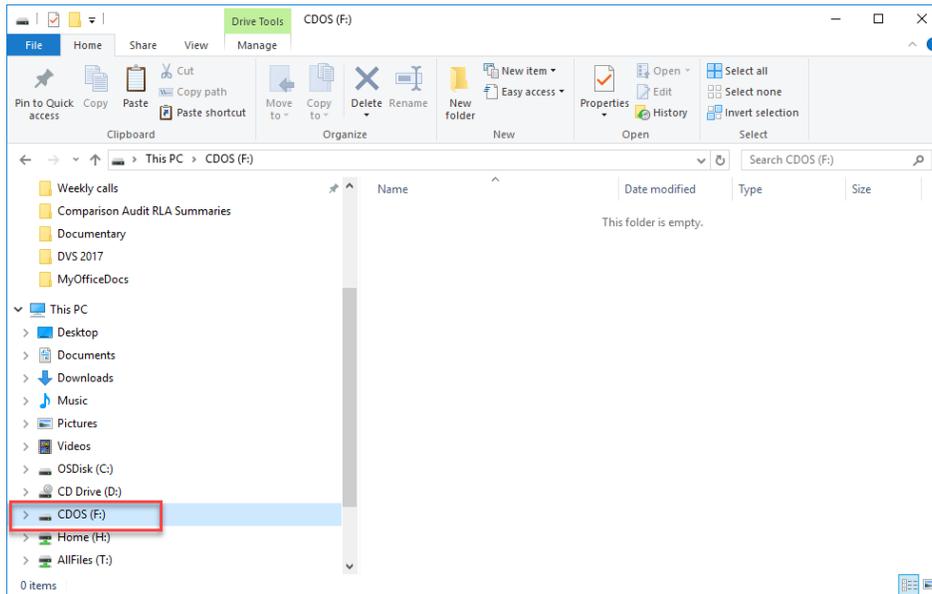
1. Insert a thumb drive into the USB port of your EMS server or client. Open Window's File Explorer by clicking on the icon that looks like a file folder in the left hand corner of the task bar at the bottom of your display.



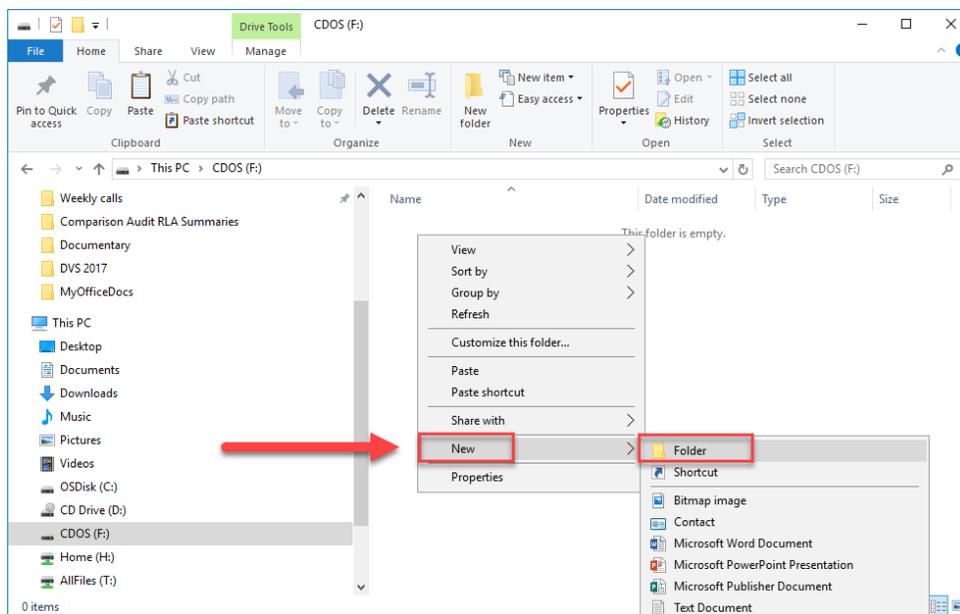
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2. In File Explorer, double-click the icon representing your RLA thumb drive.

In the examples below, the thumb drive is named “CDOS,” and the operating system assigned drive letter (F:) to the thumb drive. Your thumb drive will have a different name (often, the manufacturer’s name), and your operating system may assign your thumb drive a different drive letter.

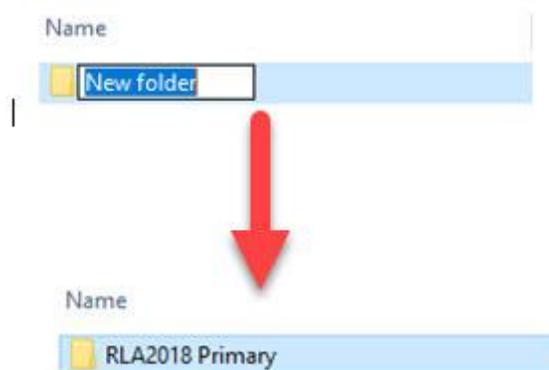


3. Right click on a blank area in the right hand pane of the File Explorer utility, and select **New** → **Folder** from the drop-down menu.



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4. In the highlighted folder name field, name the folder RLA plus the election year and type (e.g. RLA2018 Primary), then press enter on your keyboard.



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CHAPTER 2: EXPORT RLA DATA FROM DEMOCRACY SUITE®

This chapter demonstrates how to print the reports and export the data files that you will need for the RLA from your Dominion EMS server or client.

Step 2-A: Finish 9-day Tabulation and Adjudication

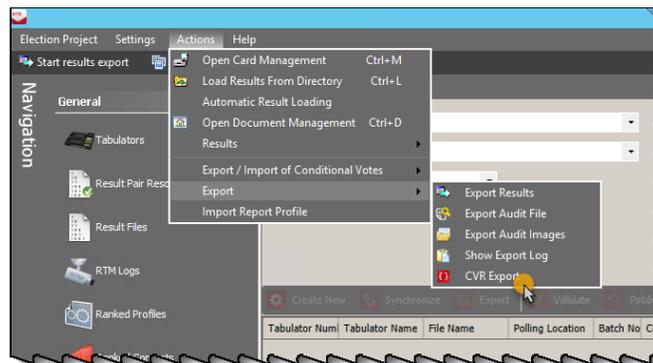
Before printing the reports and exporting data that you will need for the RLA from your Dominion EMS server or client, make sure that you or your election judges (as applicable) finish the following tasks by the 9th day after Election Day, as required by Election Rule 25.2.2(f).

1. Scanning all verified ballots (other than property owner and provisional ballots) received by the close of business on the 8th day after Election Day.
2. Adjudicating all blank ballots and ballots with overvotes, write-in votes and ambiguous markings, that queued or presented for human adjudication in the adjudication application.
3. Validating and publishing all results in the Results, Tally and Reporting (RTR) application.

Step 2-B: Export the CVR File

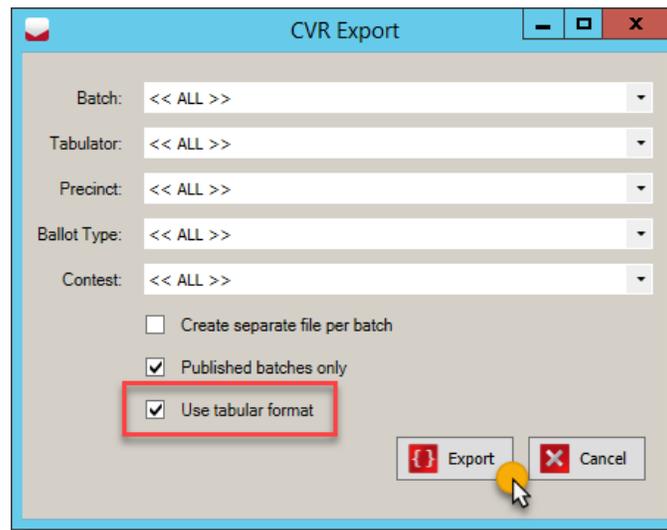
With the RLA thumb drive in the USB port of your Dominion EMS server or client.

1. On your Dominion EMS client or server, open the Results, Tally and Reporting (RTR) application.
2. Navigate to the **Actions** menu, click the **Export** menu item, and then click the CVR Export sub-menu item.

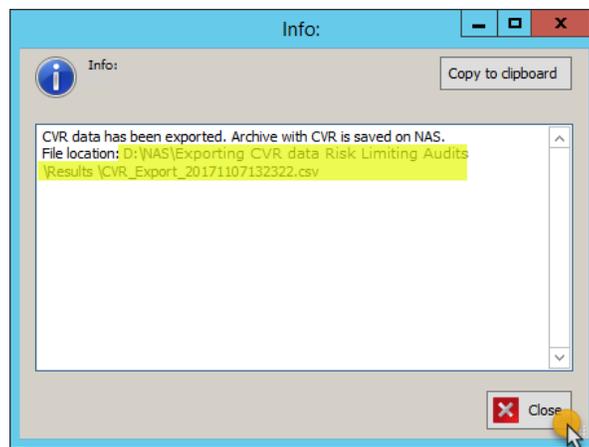


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- a. The CVR Export screen will appear.



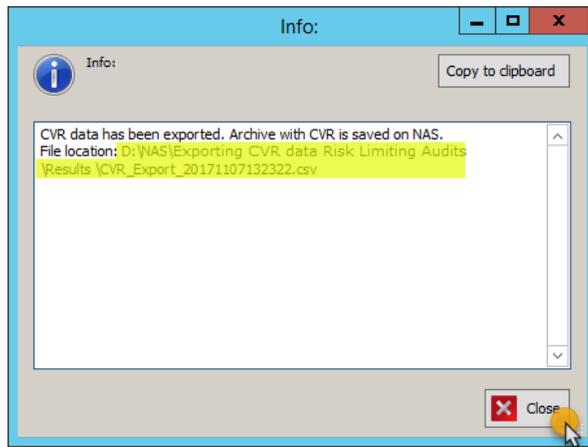
- i. Leave the filters with drop-down menus if the top five fields set to **All**
- ii. Place a check mark in **Published batches only** and **Use tabular format** boxes (**VERY IMPORTANT!**)
- iii. Click **Export**
- iv. An **Info** dialog box will appear and indicate where your file is saved.



- v. Take note of this file path (we suggest taking a picture of the file path with your phone, or writing it down on a piece of paper and keeping it handy).

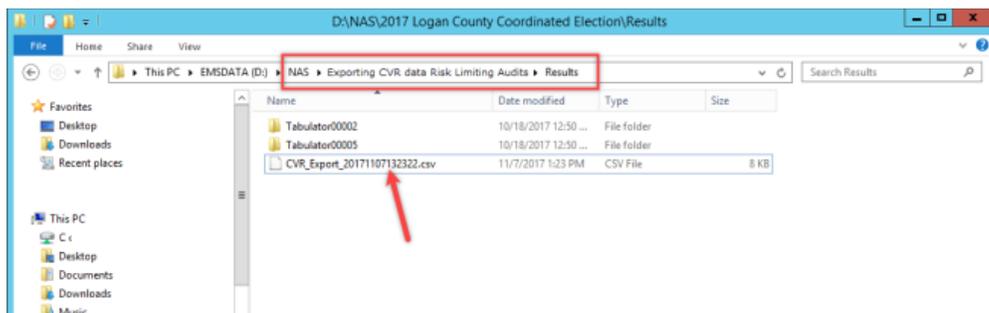
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- vi. Go back to CVR file path **Info** screen in RTR. Once you have noted the location of the CVR file, click **Close**.



- vii. Navigate to the location of the CVR file you just noted and copy the CVR export file from your Dominion EMS client or server to the folder for the current election on your RLA thumb drive.

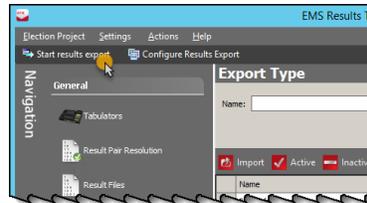
IMPORTANT: Copy the CVR export file from its location on the Dominion EMS server or client to your RLA thumb drive by using the copy and paste commands (**Ctrl-C** to copy, **Ctrl-V** to paste), but **do not** open the CVR in Excel by double-clicking the file and then "saving as" to the RLA thumb drive. If you do that, Excel will convert any entry in the ImprintedID field that looks like a date to Excel's date format. For example, Excel may convert ImprintedID "12-6-37" to "6-Dec 1937." That automatic reformatting may make it difficult for your audit board to locate and retrieve randomly selected ballots during the RLA. We will provide instructions on how to import the CVR file into Excel and retain the original formatting in a later step. **For now, just copy the file to your RLA thumb drive, and don't double-click or open it.**



Step 2-C: Export the ENR Results File

You will need an ENR results file that matches the results reflected in the CVR file. Export the file now, while you are working on the Dominion server or client.

1. Log into RTR. From the top left, select **Start Results Export**



2. When the export is complete, a confirmation message will display in the lower left hand corner.

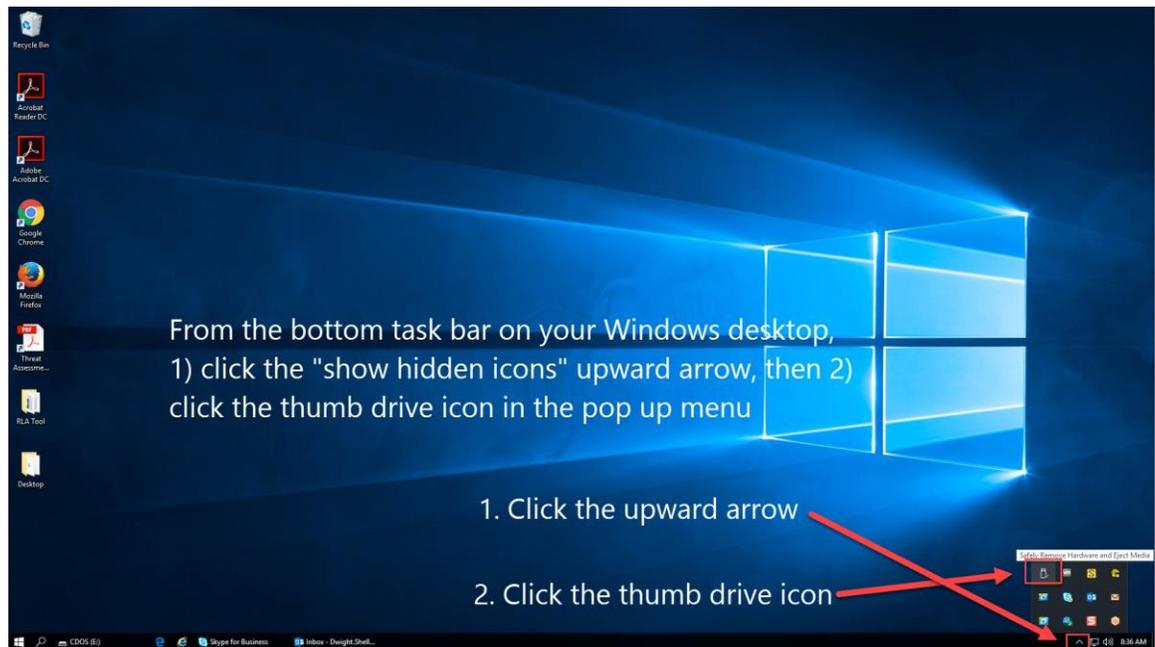


3. The report will be saved in the location set in your **Transfer Points**
4. Copy the ENR results report to the folder for the current election on your RLA thumb drive.

Step 2-D: Safely Eject the RLA Thumb Drive

Simply removing a thumb drive from the USB port of a computer workstation can corrupt the data saved on the thumb drive. To avoid that risk, follow these steps to use Windows' "Eject" function anytime you want to remove a thumb drive.

1. In the right hand corner of the bottom task bar on your Windows desktop, click the "show hidden icons" upward arrow, and then click the thumb drive icon in the pop up menu.



2. In the pop up menu, select the option to eject your thumb drive. In the example below, the proper selection is "Eject CDOS (F:)" Your RLA thumb drive will probably have a different name and drive letter.



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3. You will receive a message like this when Windows ejects your RLA thumb drive and it is safe to remove from the USB port of the computer you're using.



CHAPTER 3: FINISH PREPARING FOR THE RLA

Now that you've finished getting all of the required files from the voting system you can put the rest of the files needed for the RLA onto the thumb drive. Remember, once you've connected the thumb drive to an internet exposed computer, you cannot connect that thumb drive back to the voting system. If you need to get the voting system files again, use a new thumb drive.

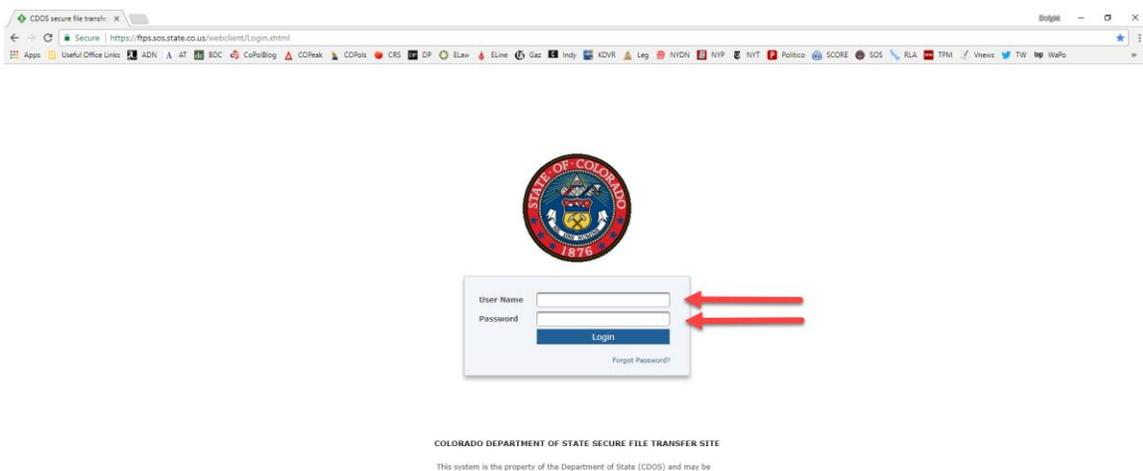
Step 3-A: Install the Chrome Web Browser on your RLA Workstation

The Secretary of State's RLA Software works best with Google's Chrome web browser. If you have not done so already, you can download and install the web browser from the internet for free.

1. Open your current web browser, and go to <https://www.google.com/chrome/>.
2. Click the button that says DOWNLOAD CHROME, and follow the step-by-step online instructions.

Step 3-B: Download RLA Files and Utilities from CDOS FTP Site

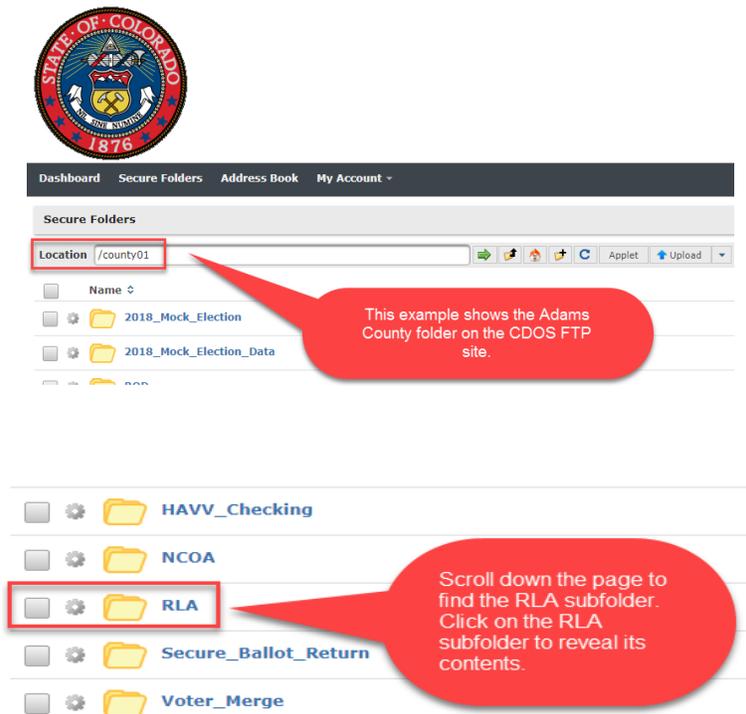
1. Log into the CDOS FTP site from your RLA workstation. Using your web browser, go to <https://ftps.sos.state.co.us/webclient/Login.xhtml>, and enter your user name and password.



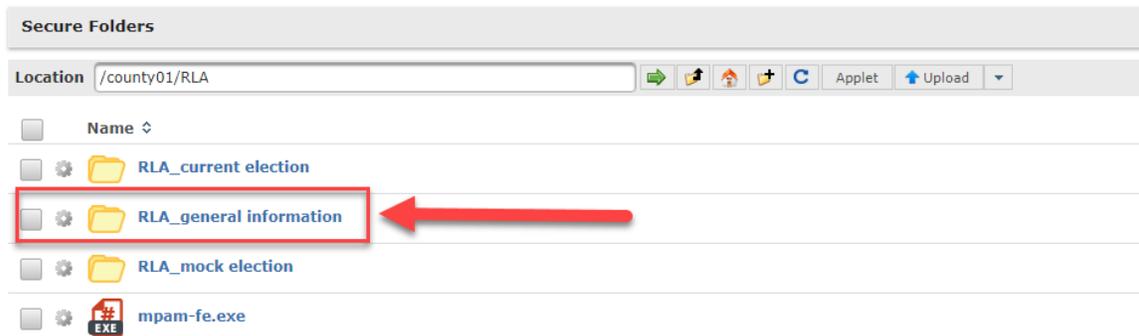
If you need help logging into the CDOS FTP site, contact SCORE Customer Support at SCORE.CustomerSupport@sos.state.co.us

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2. Navigate to and click on the RLA subfolder of your county folder on the FTP site.



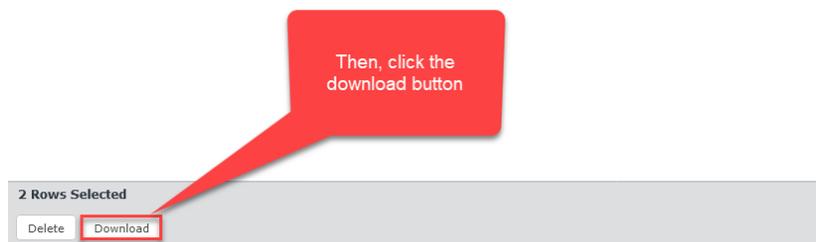
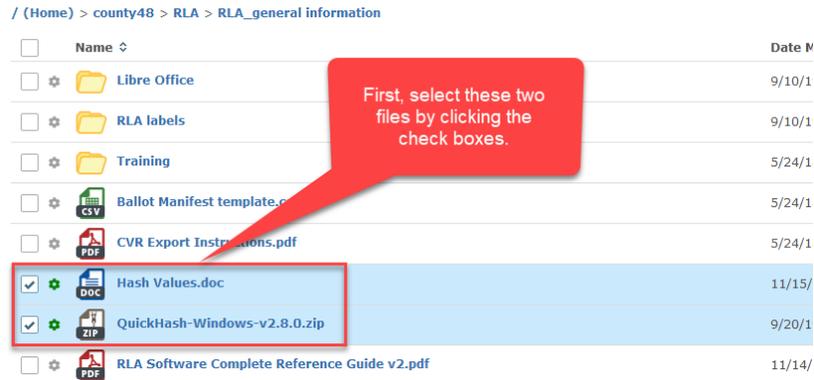
3. Click on the RLA_general subfolder to reveal its contents and click on the RLA_general information folder.



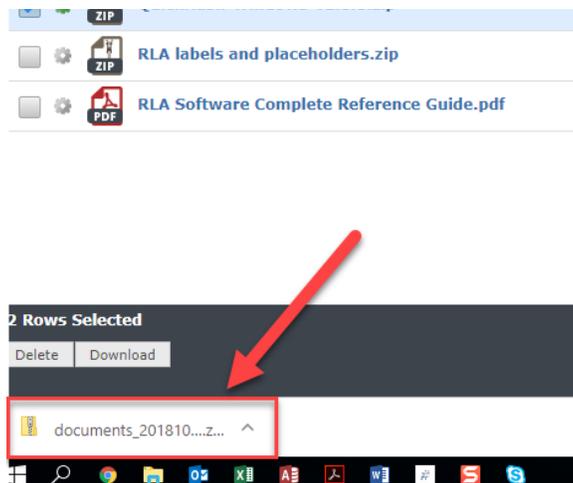
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4. Use your mouse to check the boxes to the left of the two files listed below. Then click the **Download** button in the lower left corner of your browser.

- Hash Values.doc
- QuickHash-Windows-v 2.8.0.zip

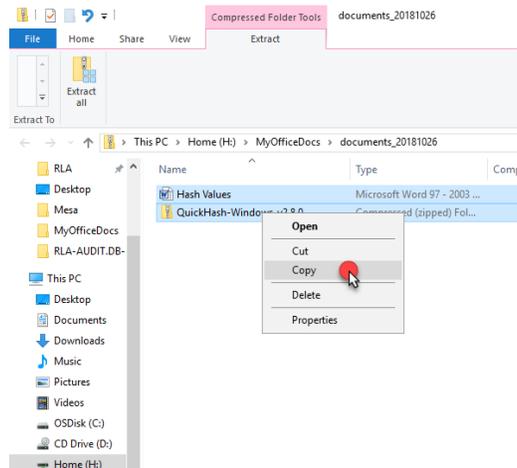


5. Click the compressed file that appears beneath the **Download** button and above the Windows task bar to reveal the four individual files that you downloaded.

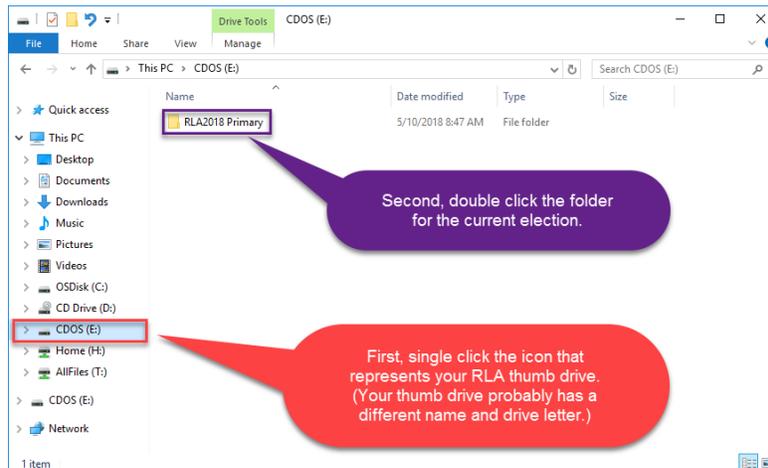


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6. Windows opens a folder in the Compressed Folder Tools utility. Use your mouse to select all four files, right click your mouse button, then select **Copy** from the drop-down menu.

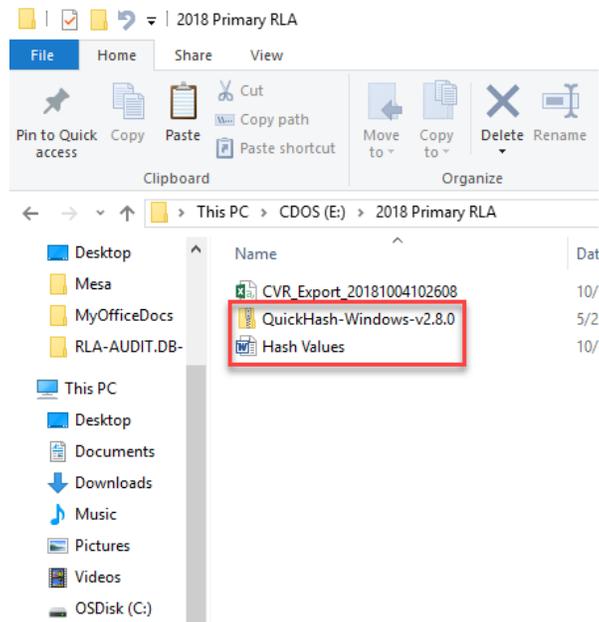


7. Navigate to the folder for the current election on your RLA thumb drive.



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8. Use your mouse to click into the right hand pane of that window, right click your mouse button, then select **Paste** from the drop down menu.



9. You have downloaded to the folder for the current election on your RLA thumb drive all of the files you need from the CDOS FTP site. You may now log out of the CDOS FTP site by clicking the **Logout** button in the top right corner of Chrome, or by just closing the browser.

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CHAPTER 4: FORMAT THE BALLOT MANIFEST

You should have started maintaining a ballot manifest at the time you started counting ballots, as required by Rule 25.2.2(c). The screen shot below shows a sample ballot manifest, and includes some important pointers to ensure your ballot manifest can be uploaded into the RLA Software. The pointers are discussed in more detail immediately following the screen shot.

	A	B	C	D	E	F	G	H	I
1	County	Tabulator ID	Batch	# of Ballot Cards	Location				
2	Arapahoe	1	1	36	Bin #1				
3	Arapahoe	2	2	40	Bin #1				
4	Arapahoe	3	3	36	Bin #1				
5	Arapahoe	4	4	40	Bin #1				
6	Arapahoe	5	5	36	Bin #1				
7	Arapahoe	2	1	36	Bin #2				
8	Arapahoe	2	2	36	Bin #2				
9	Arapahoe	2	3	40	Bin #2				
10	Arapahoe	2	4	36	Bin #2				
11	Arapahoe	2	5	40	Bin #2				
12	Arapahoe	3	1	36	Bin #3				
13	Arapahoe	3	2	40	Bin #3				
14	Arapahoe	3	3	36	Bin #3				
15	Arapahoe	3	4	40	Bin #3				
16	Arapahoe	3	5	36	Bin #3				
17	Arapahoe	3	6	40	Bin #3				
18	Arapahoe	3	7	36	Bin #4				
19	Arapahoe	3	8	40	Bin #4				
20	Arapahoe	3	9	36	Bin #4				
21	Arapahoe	3	10	40	Bin #4				
22									
23									
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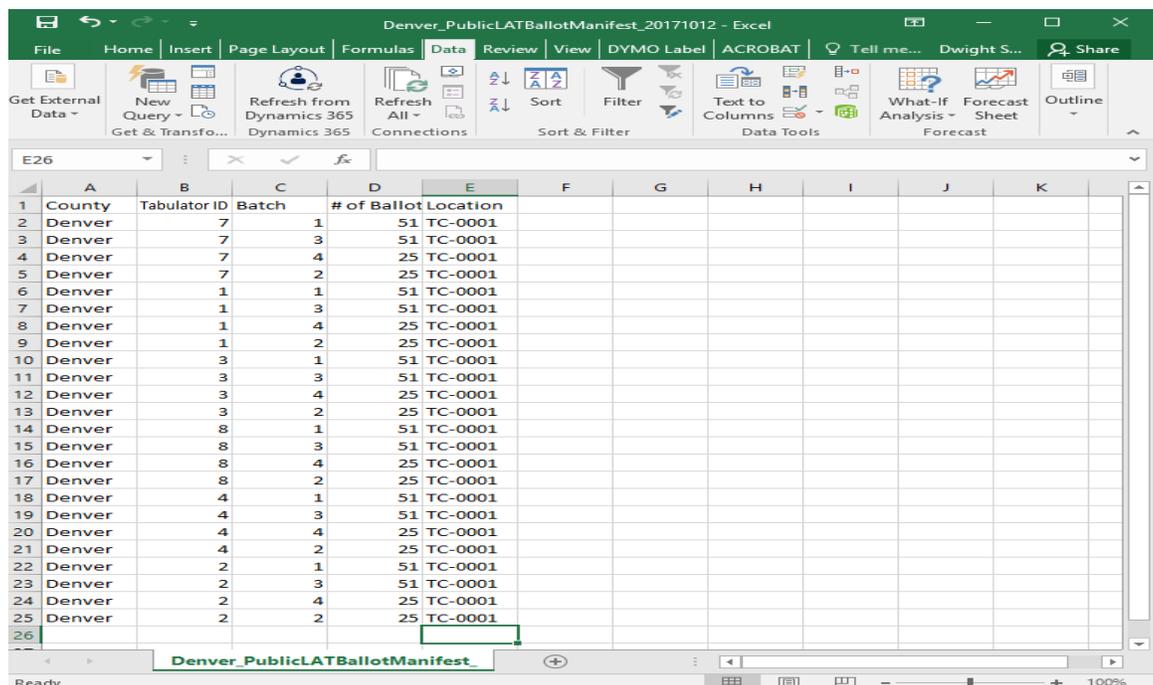
Step 4-A: Formatting the Ballot Manifest

1. Column A – **County**: Enter the name of your county, but don't add a space before or after the name, or the word "County". So Arapahoe County should be entered simply as Arapahoe.
2. Column B – **Tabulator ID**: Only use numbers in this column – no letters, spaces or other characters. Make sure that the Tabulator ID used in the ballot manifest matches the tabulator number in your CVR.
3. Column C – **Batch**: Again, only use numbers in this column.
4. First Row – Headers: Do not change the pre-formatted header fields, or add additional header rows.
5. Last Row: Make sure that the final row of your ballot manifest is fully populated in Columns A to E. If you have extra rows populated with only the county name, delete them.

Step 4-B: Sorting the Ballot Manifest

Before uploading to the RLA Software, you should sort the ballot manifest in ascending order by **Tabulator ID**, then by **Batch**. Here's one way to do that.

1. In this example ballot manifest, the **Tabulator IDs** and **Batch** numbers appear in random order (this could occur if separate manifests from different tabulators are consolidated into one ballot manifest).

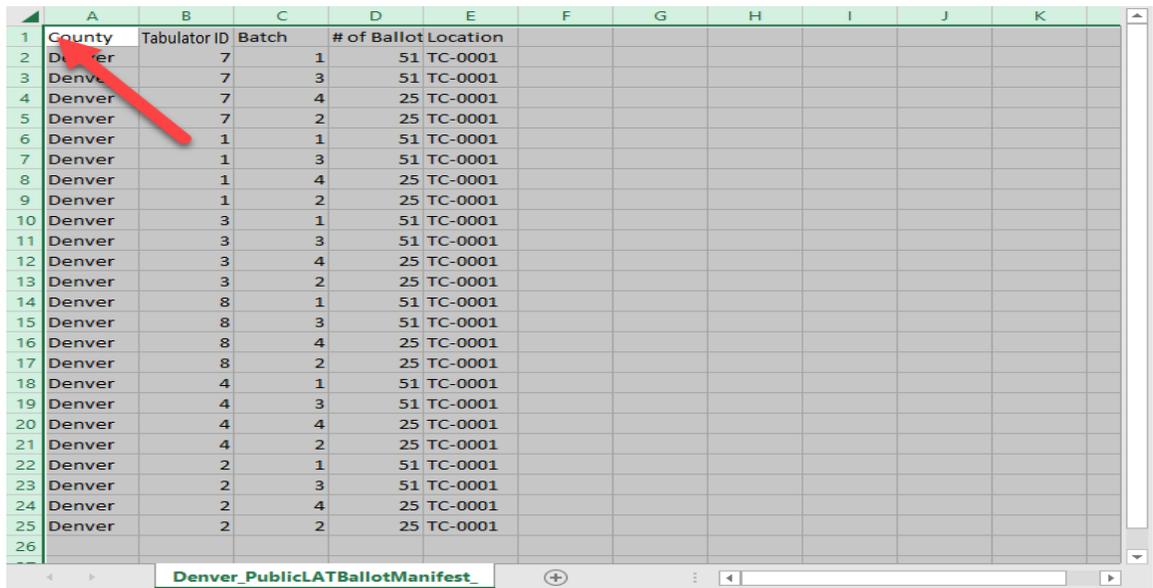


The screenshot shows an Excel spreadsheet titled "Denver_PublicLATBallotManifest_20171012 - Excel". The spreadsheet has five columns: A (County), B (Tabulator ID), C (Batch), D (# of Ballot), and E (Location). The data is as follows:

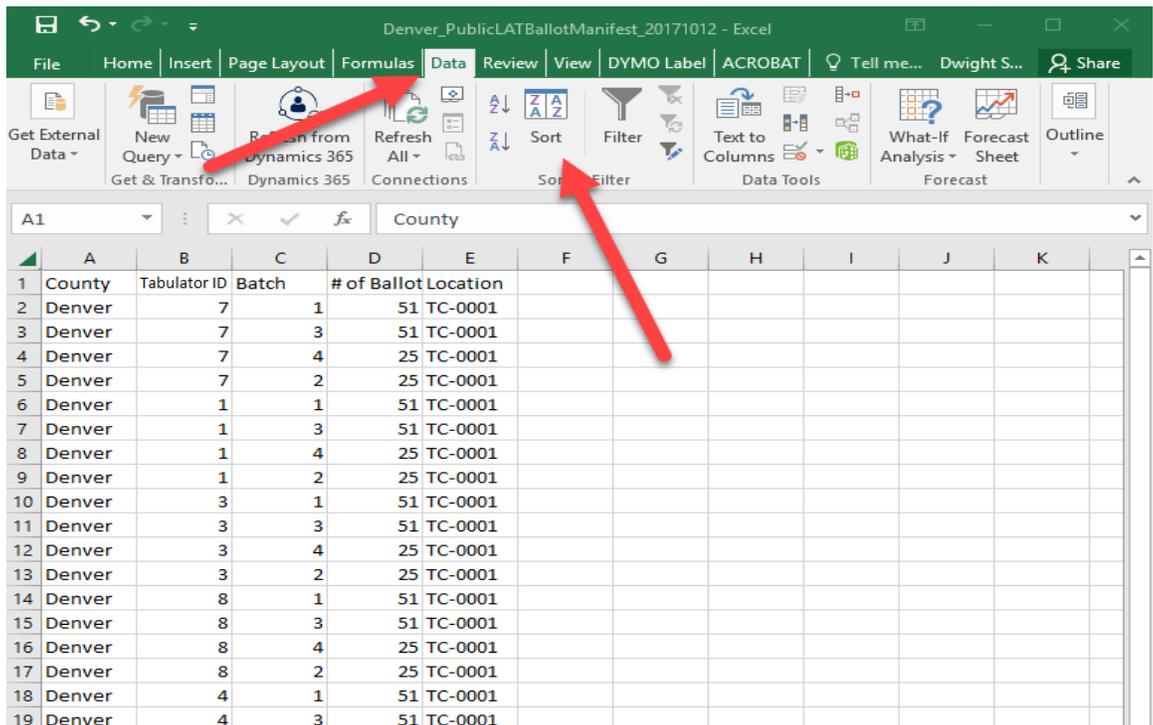
County	Tabulator ID	Batch	# of Ballot	Location
Denver	7	1	51	TC-0001
Denver	7	3	51	TC-0001
Denver	7	4	25	TC-0001
Denver	7	2	25	TC-0001
Denver	1	1	51	TC-0001
Denver	1	3	51	TC-0001
Denver	1	4	25	TC-0001
Denver	1	2	25	TC-0001
Denver	3	1	51	TC-0001
Denver	3	3	51	TC-0001
Denver	3	4	25	TC-0001
Denver	3	2	25	TC-0001
Denver	8	1	51	TC-0001
Denver	8	3	51	TC-0001
Denver	8	4	25	TC-0001
Denver	8	2	25	TC-0001
Denver	4	1	51	TC-0001
Denver	4	3	51	TC-0001
Denver	4	4	25	TC-0001
Denver	4	2	25	TC-0001
Denver	2	1	51	TC-0001
Denver	2	3	51	TC-0001
Denver	2	4	25	TC-0001
Denver	2	2	25	TC-0001

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2. Select the entire sheet by clicking the diagonal arrow immediately above row 1 and to the left of column A.

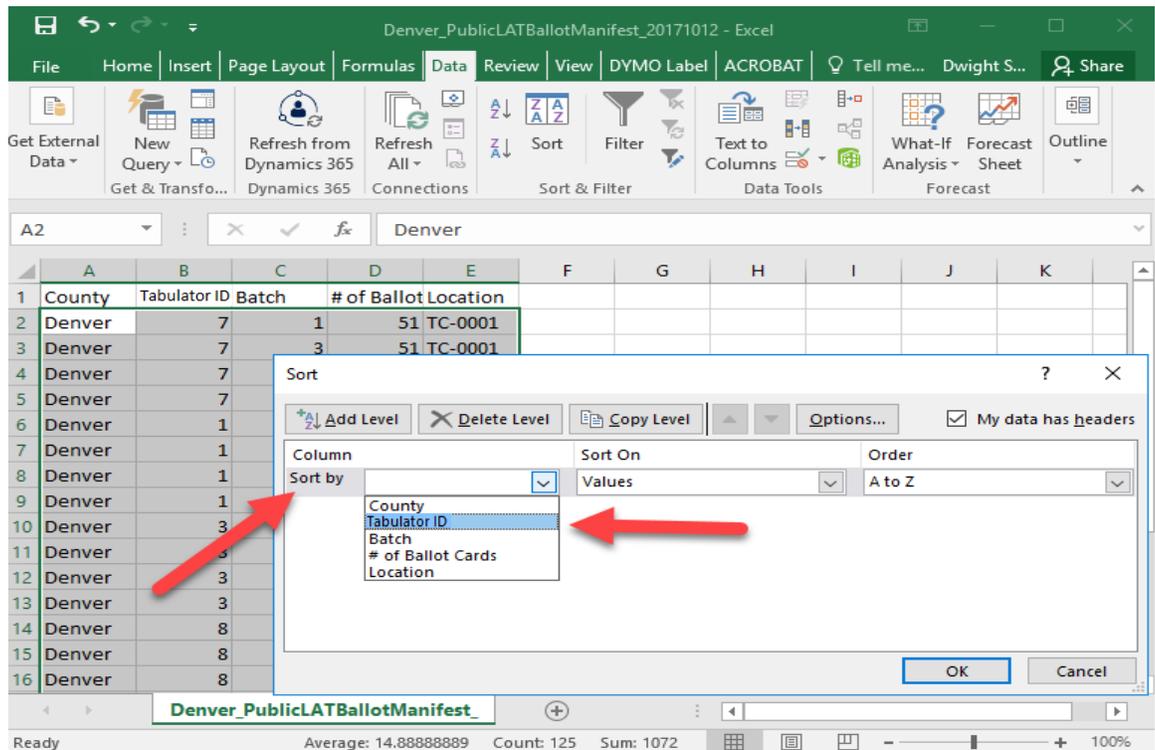


3. Select the **Data** tab at the top, then the **Sort** icon.

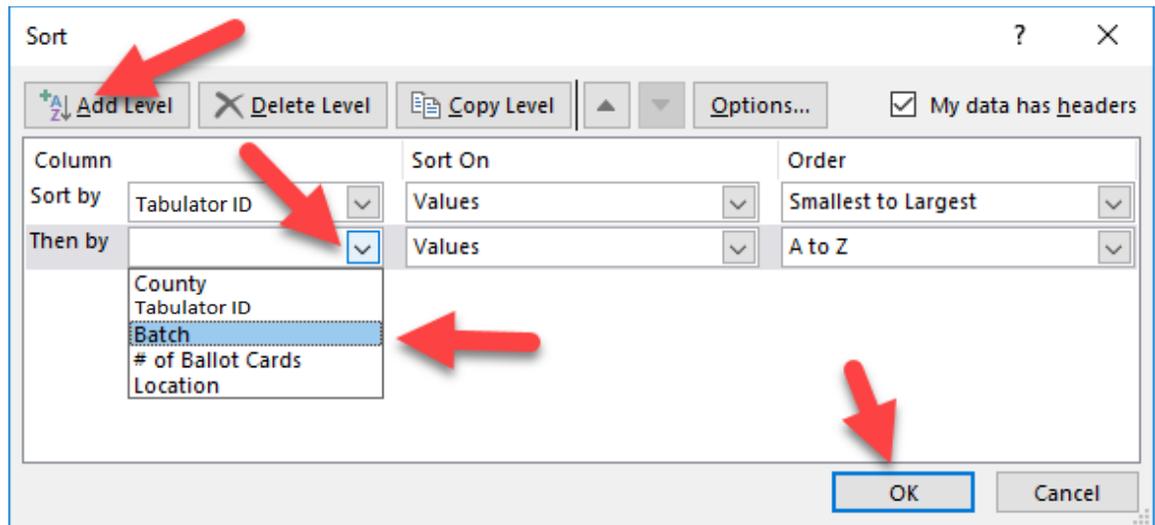


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4. In the **Sort** dialog box, click on the down arrow in the **Column – Sort by** field, then select **Tabulator ID** from the down menu.

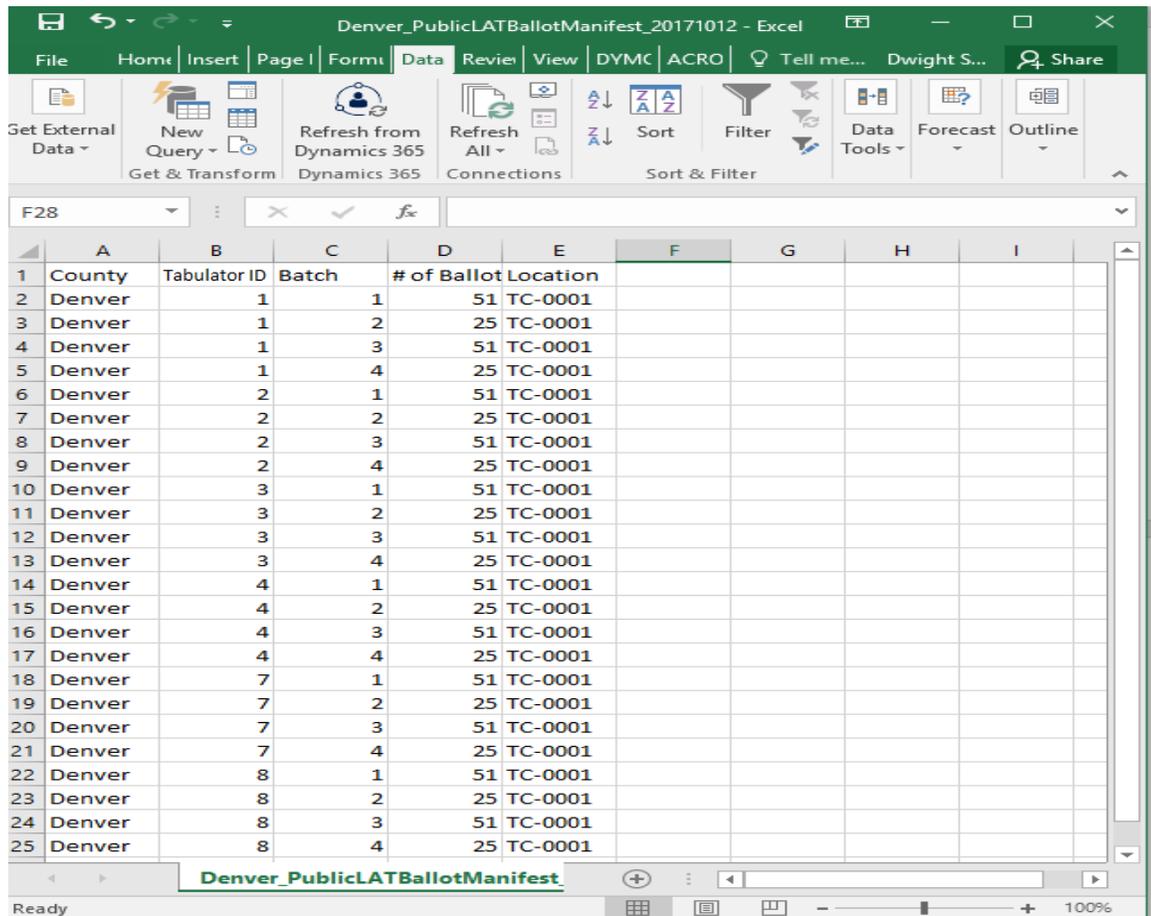


5. Click the **Add Level** button at the top, click on the down arrow across from **Then by**, select **Batch** from the drop-down menu. Then click **OK**.



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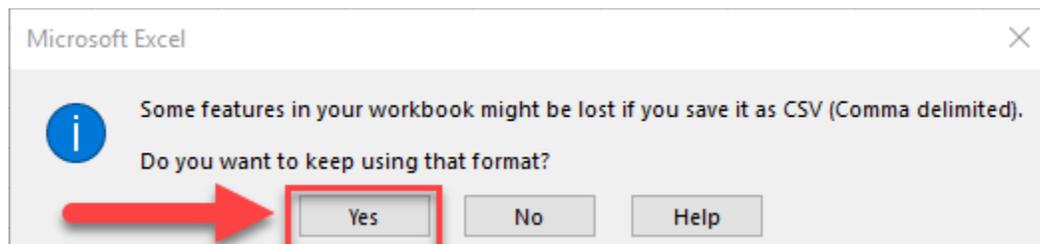
- Your ballot manifest is now sorted in ascending order by **Tabulator ID** and **Batch**. Remember to save the file in CSV format.



The screenshot shows a Microsoft Excel spreadsheet titled "Denver_PublicLATBallotManifest_20171012 - Excel". The ribbon includes File, Home, Insert, Page Layout, Formulas, Data, Review, View, DYM, ACRO, Tell me..., Dwight S..., and Share. The Data ribbon is active, showing options like Get External Data, New Query, Refresh from Dynamics 365, Refresh All, Sort, Filter, Data Tools, Forecast, and Outline. The formula bar shows "F28". The spreadsheet data is as follows:

	A	B	C	D	E	F	G	H	I
1	County	Tabulator ID	Batch	# of Ballot	Location				
2	Denver	1	1	51	TC-0001				
3	Denver	1	2	25	TC-0001				
4	Denver	1	3	51	TC-0001				
5	Denver	1	4	25	TC-0001				
6	Denver	2	1	51	TC-0001				
7	Denver	2	2	25	TC-0001				
8	Denver	2	3	51	TC-0001				
9	Denver	2	4	25	TC-0001				
10	Denver	3	1	51	TC-0001				
11	Denver	3	2	25	TC-0001				
12	Denver	3	3	51	TC-0001				
13	Denver	3	4	25	TC-0001				
14	Denver	4	1	51	TC-0001				
15	Denver	4	2	25	TC-0001				
16	Denver	4	3	51	TC-0001				
17	Denver	4	4	25	TC-0001				
18	Denver	7	1	51	TC-0001				
19	Denver	7	2	25	TC-0001				
20	Denver	7	3	51	TC-0001				
21	Denver	7	4	25	TC-0001				
22	Denver	8	1	51	TC-0001				
23	Denver	8	2	25	TC-0001				
24	Denver	8	3	51	TC-0001				
25	Denver	8	4	25	TC-0001				

- Since you changed the sort order, you need to save the ballot manifest to your RLA thumb drive to maintain the proper ascending order. Excel displays the following (annoying) message every time you try to save a CSV file. Unless this guide specifically directs otherwise, you should always select **Yes** when you see this message. That is because the RLA Software will not permit you to upload data files unless they are in CSV format.



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CHAPTER 5: IMPORT AND MODIFY THE CVR FILE

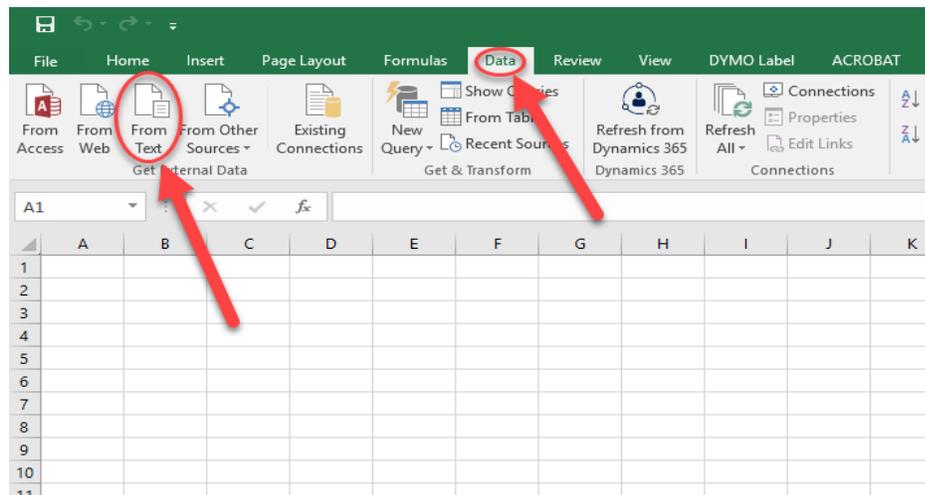
This chapter explains how to import into Excel the original CVR file that you exported from DemocracySuite® in a way that prevents the automatic conversion of **ImprintedID** values into dates. This chapter also explains how to **skip** importing the **CountingGroup** column into the CVR file that you will upload to the RLA Software.²

Step 5-A: Open Excel

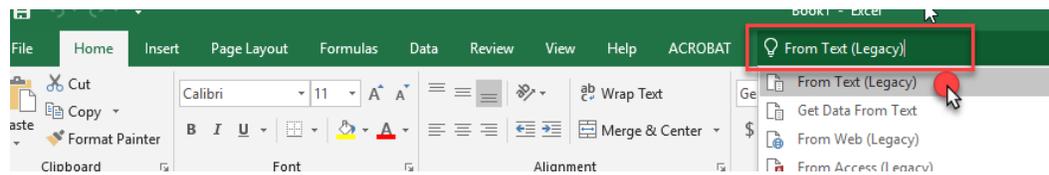
1. Open the Excel program from your computer's start menu.
2. Remember: In this case, don't open Excel by double-clicking the CVR file.

Step 5-B: Open Excel's Text Import Wizard

1. Select the **Data** tab, then **From Text**. (For Excel 2019 see below)



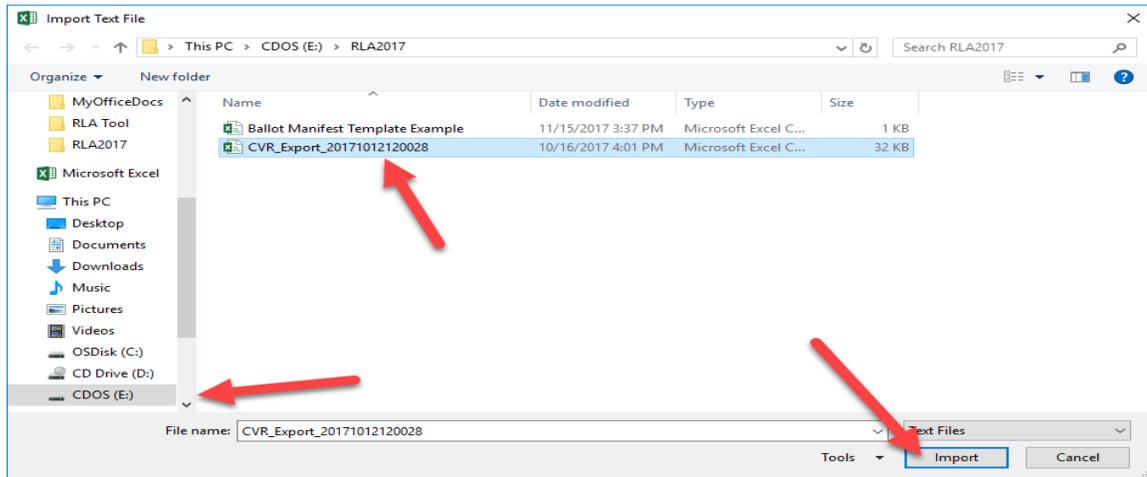
For Excel 2019 instead go to the **Tell me what you want to do** tab and type **From Text (Legacy)**, then select the option of the same name to use the legacy import data wizard.



² Condition CVR-1 in the Dominion Conditions of Use requires counties to delete the CountingGroup column from the CVR export before hashing and uploading the file to the RLA Software. Not importing the CountingGroup column into the CVR file that you will upload in the first place is one way of complying with Condition CVR-1.

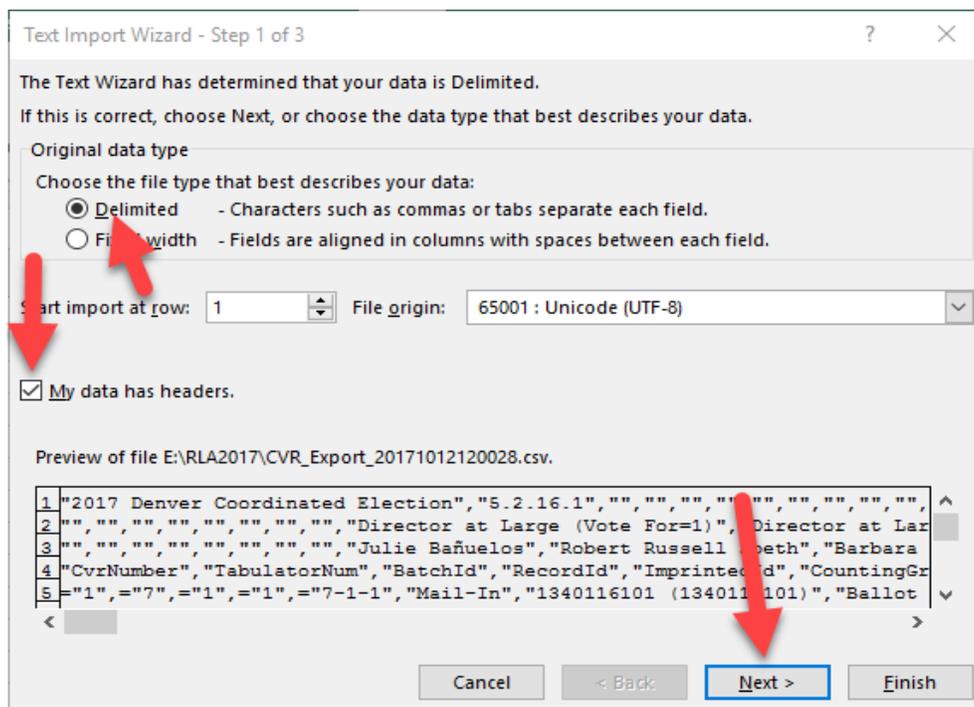
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2. The **Import Text File** dialog box appears. Browse to the folder for the current election on your RLA thumb drive; select the CVR file you exported from the Dominion system, and click **Import**.



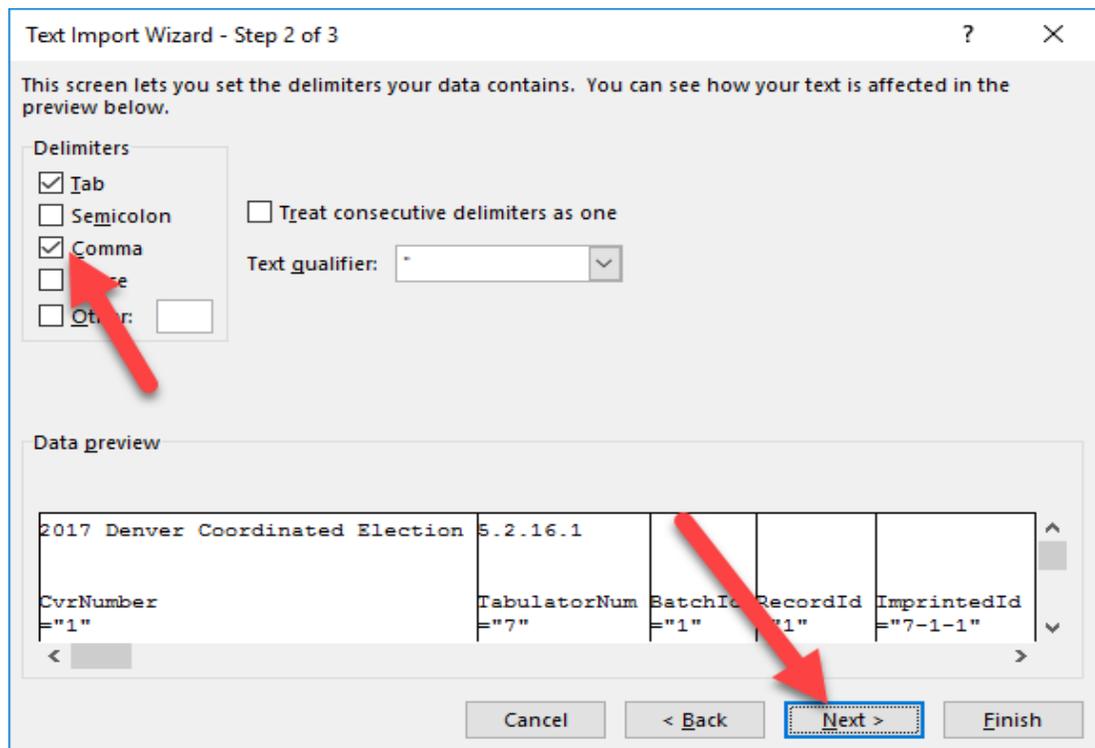
Step 5-C: Specify Data Formats and Rules

1. The **Text Import Wizard – Step 1 of 3** dialog box appears. Make sure that the radio button for **Delimited** is selected, check the box next to **My data has headers.**, and click the **Next** button.



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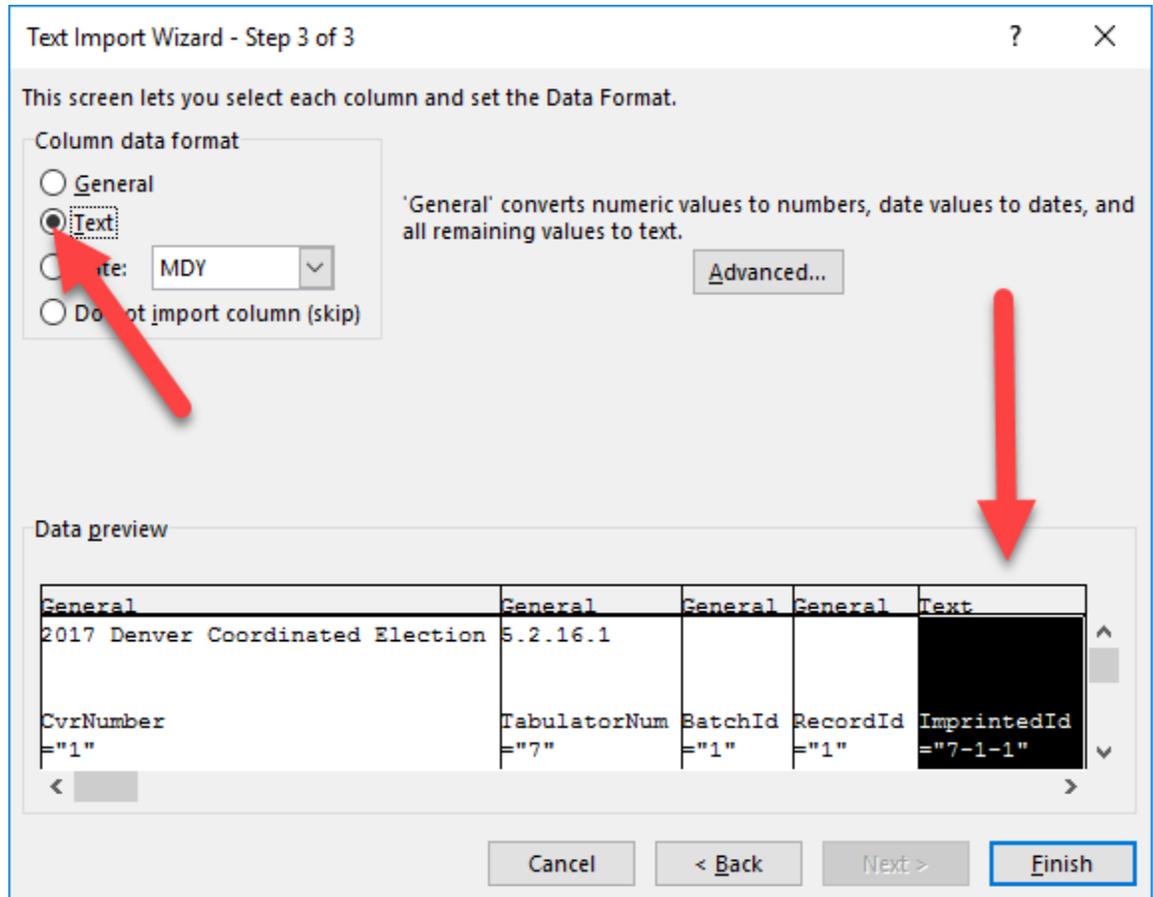
2. The **Text Import Wizard – Step 2 of 3** dialog box appears. Check the box next to **Comma**, and select **Next**



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3. The **Text Import Wizard – Step 3 of 3** dialog box appears.
 - a. Instruct Excel to import ImprintedID values as text

In the **Data preview** section at the bottom of this dialog box, select the 5th column from the left (the column that contains the **ImprintedID** header) by clicking anywhere in that column with your mouse pointer, and then click the button next to **Text** in the **Column data format** section at the top of the dialog box.



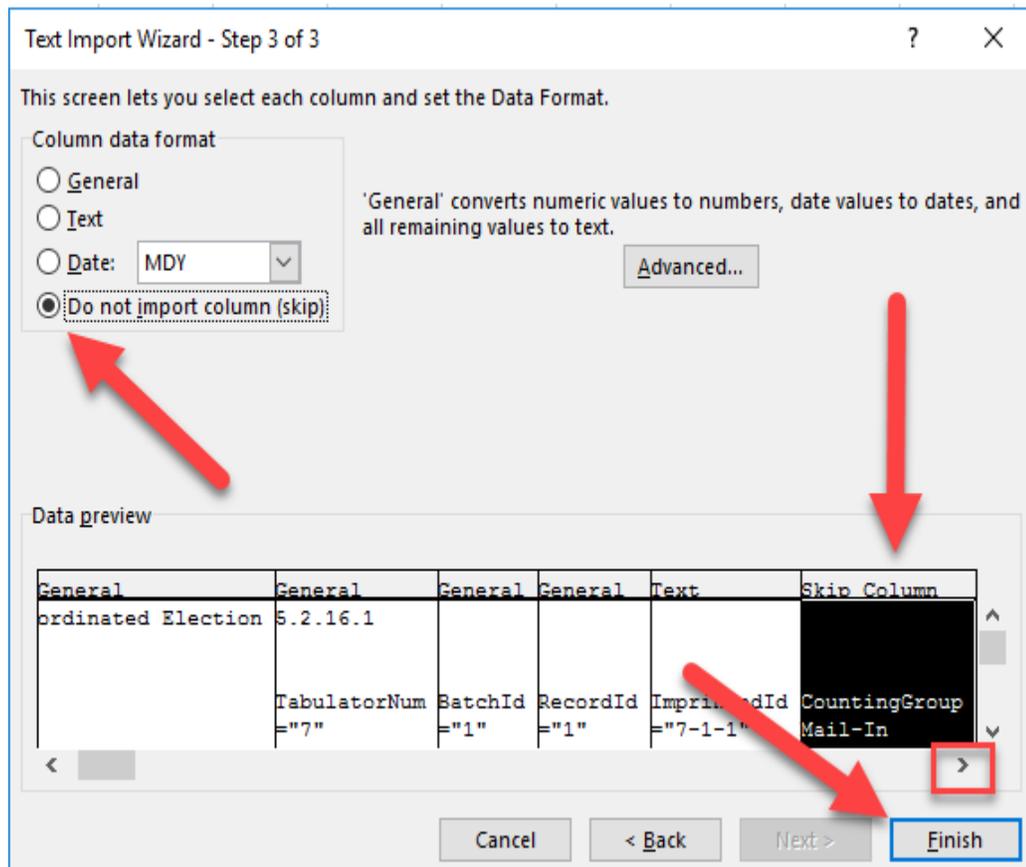
Do not click **Finish** yet. You need to do one more thing in this **Text import Wizard - Step 3 of 3** dialog box.

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- b. Instruct Excel **not** to import (or to skip) the **CountingGroup** column.

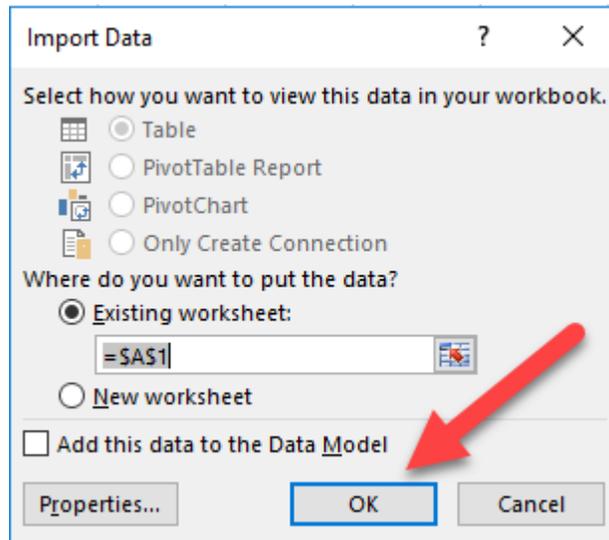
To perform this step, you may need to use the horizontal scroll arrows beneath the **Data preview** section to reveal the 6th column of the CVR file that contains the **CountingGroup** header.

Select the **CountingGroup** column by clicking anywhere in the column with your mouse pointer. Then click the radio button next to **Do not import column (skip)** from the **Column data format** selections and click **Finish**.



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- The **Import Data** dialog box appears. You should not have to change anything here. Just make sure that the button next to **Existing worksheet** is selected, and that the field immediately beneath **Existing worksheet** is populated with `=A1` (the cell where the data wizard will import the designated data from the CVR file into this new Excel workbook) and click **OK**.



- You have successfully imported the raw CVR file into a new Excel workbook. Note that the values in the **ImprintedID** column have not been converted into dates (but now have equal signs and quotation marks), and that the **CountingGroup** column was not included when the other CVR data was imported.

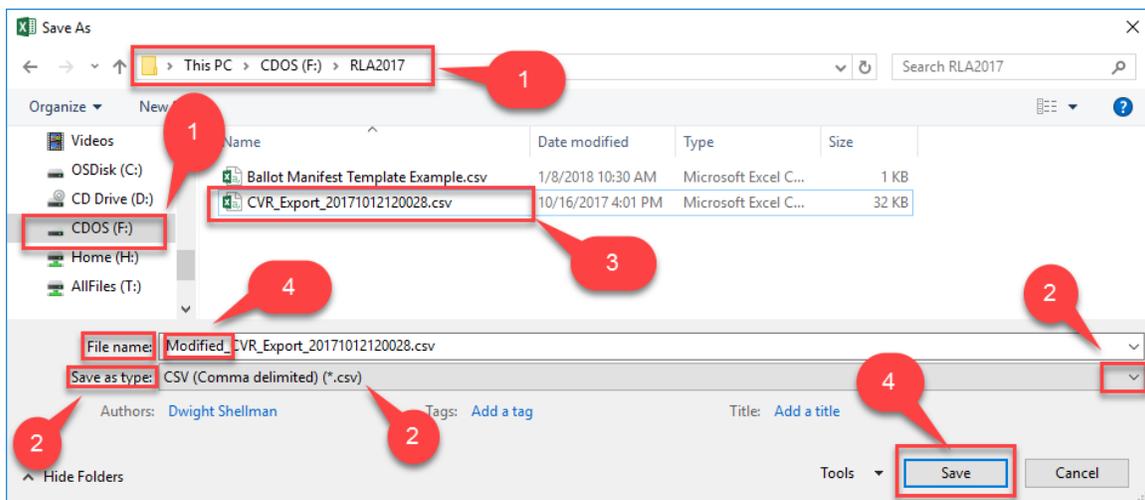
The screenshot shows an Excel spreadsheet with the following data:

CvrNumber	TabulatorNum	BatchId	RecordId	ImprintedId	PrecinctPortion	BallotType	
1	7	1	1	"=7-1-1"	1340116101 (1340116101)	Ballot 1 - Type 1	1
2	7	1	2	"=7-1-2"	1340116101 (1340116101)	Ballot 1 - Type 1	
3	7	1	3	"=7-1-3"	1340116101 (1340116101)	Ballot 1 - Type 1	0
4	7	1	4	"=7-1-4"	1340116101 (1340116101)	Ballot 1 - Type 1	
5	7	1	5	"=7-1-5"	1340116101 (1340116101)	Ballot 1 - Type 1	0
6	7	1	6	"=7-1-6"	1340116101 (1340116101)	Ballot 1 - Type 1	
7	7	1	7	"=7-1-7"	1340116101 (1340116101)	Ballot 1 - Type 1	1
8	7	1	8	"=7-1-8"	1340116101 (1340116101)	Ballot 1 - Type 1	

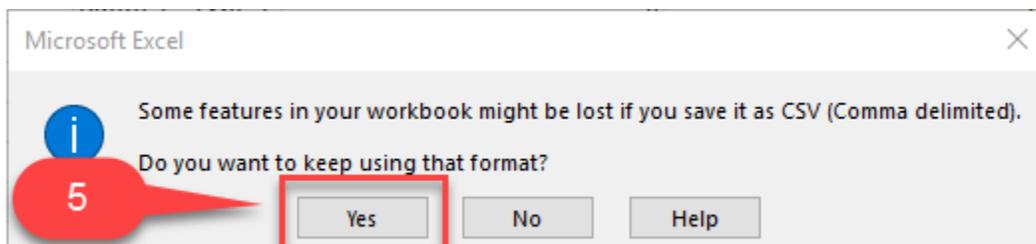
Step 5-D: Save Modified CVR Data as New CSV File

Now save this new Excel file in .CSV format and use a different file name to clearly indicate that it is a modified version of the CVR file originally exported from DemocracySuite.

1. Select **File** → **Save As** from the drop-down menu in Excel's ribbon, and browse to the folder for the current election on your RLA thumb drive.
2. From the **Save as type:** drop-down menu towards the bottom of the **Save As** dialog box, select **CSV (Comma delimited) (*.csv)**.
3. After you've selected CSV format, you should be able to see the original CVR file exported from DemocracySuite. Single click the original CVR file, which will cause its name to display in the **File name** field of the **Save As** dialog box.
4. Click into the **File name** field of the **Save As** dialog box (not the file name of the original CVR file), and add "Modified_" to the beginning of the new file name, then click **Save**.



5. You will see the following message again about saving the file in CSV format. Click **Yes**.



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CHAPTER 6: VERIFYING THE BALLOT MANIFEST AND CVR

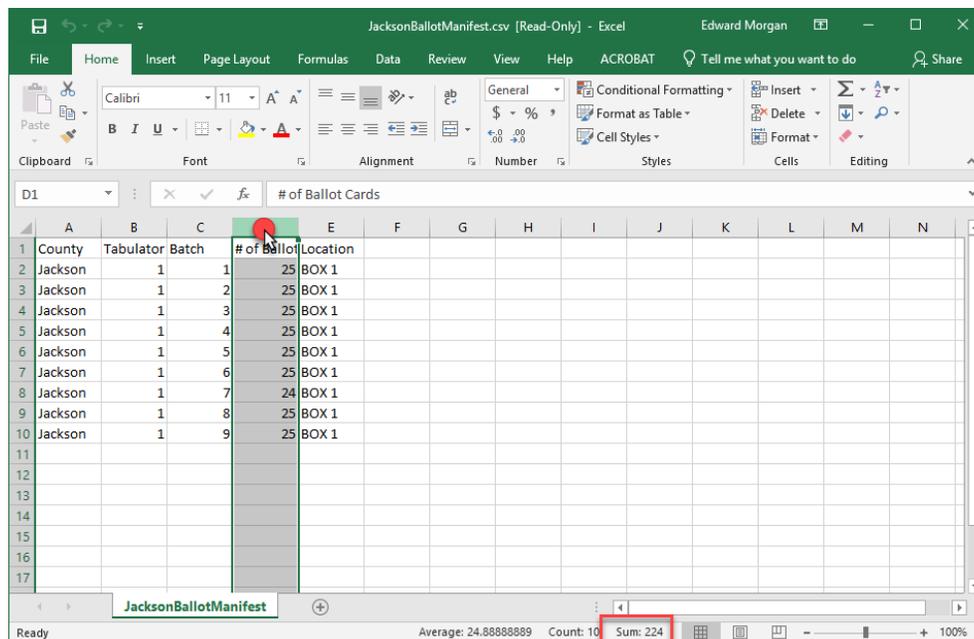
In the chapters above, you verified that your ballot manifest is correctly formatted and sorted, and you created a modified version of your CVR file that contains the correct **ImprintedID** values, and does not include the **CountingGroup** column as required by the Conditions of Use. This chapter explains how to verify that your ballot manifest reflects the same number of ballot cards as the CVR file. This step is important because, if there is a mismatch between those two files the RLA Software may randomly select ballots for your audit board to examine that either do not exist or are out of order. A selection of a ballot that does not exist in the CVR results in a phantom ballot, which the RLA Software will automatically count as a discrepancy. If this happens, the result could be that you have to complete a second round of auditing, even if your audit boards make all of the correct selections on the ballots that are presented to them.

Step 6-A: Determine Number of Ballot Cards in Ballot Manifest

1. Open the ballot manifest saved on your RLA thumb drive.
2. Highlight all of the cells in **column D** by **left clicking the column header**. The number of all ballot cards in all batches in the ballot manifest appears as the **Sum** in the lower right-hand corner of the window. (Note: In different versions of Excel this number might appear in a slightly different place, but it is in the same general area.)

Write this number down so you can compare it to the CVR in the next step.

3. Close the Ballot Manifest



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Step 6-B: Determine Total Number of Ballot Cards in CVR File

1. From your RLA thumb drive, double-click the modified version of your CVR file

	A	B	C	D	E	F	G	H
1	2017 Denver Coordinated Election	5.2.16.1						
2								Director at Large (Vote For=1)
3								Julie Bañuelos
4	CvrNumber	TabulatorNum	BatchId	RecordId	ImprintedId	PrecinctPortion	BallotType	
5	1	7	1	1	7/1/2001	1340116101 (1340116101)	Ballot 1 - Type 1	1
6	2	7	1	2	7/1/2002	1340116101 (1340116101)	Ballot 1 - Type 1	
7	3	7	1	3	7/1/2003	1340116101 (1340116101)	Ballot 1 - Type 1	0
8	4	7	1	4	7/1/2004	1340116101 (1340116101)	Ballot 1 - Type 1	
9	5	7	1	5	7/1/2005	1340116101 (1340116101)	Ballot 1 - Type 1	0
10	6	7	1	6	7/1/2006	1340116101 (1340116101)	Ballot 1 - Type 1	
11	7	7	1	7	7/1/2007	1340116101 (1340116101)	Ballot 1 - Type 1	1
12	8	7	1	8	7/1/2008	1340116101 (1340116101)	Ballot 1 - Type 1	
13	9	7	1	9	7/1/2009	1340116101 (1340116101)	Ballot 1 - Type 1	0
14	10	7	1	11	7/1/2011	1340116101 (1340116101)	Ballot 1 - Type 1	0
15	11	7	1	12	7/1/2012	1340116101 (1340116101)	Ballot 1 - Type 1	
16	12	7	1	13	7/1/2013	1340116101 (1340116101)	Ballot 1 - Type 1	0
17	13	7	1	14	7/1/2014	1340116101 (1340116101)	Ballot 1 - Type 1	
18	14	7	1	15	7/1/2015	1340116101 (1340116101)	Ballot 1 - Type 1	0
19	15	7	1	16	7/1/2016	1340116101 (1340116101)	Ballot 1 - Type 1	

2. Click into any cell in **column A** and press **Ctrl+↓ (down arrow)** on your keyboard to go to the final row containing data in column A.

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S
137	133	7	4	6	7/4/2006	13401161C	Ballot 1 - 1	1	0	0	0	1						1	0
138	134	7	4	7	7/4/2007	13401161C	Ballot 1 - 1	0	0	1	1	0						1	0
139	135	7	4	8	7/4/2008	13401161C	Ballot 1 - 1	0	1	0	0	0						1	0
140	136	7	4	9	7/4/2009	13401161C	Ballot 1 - 1	1	0	0	0	0						1	0
141	137	7	4	10	7/4/2010	13401161C	Ballot 1 - 1	0	0	1	1	0						1	0
142	138	7	4	11	7/4/2011	116011613	Ballot 2 - 1	1	0	0	0	1						1	0
143	139	7	4	12	7/4/2012	13402162C	Ballot 3 - 1	1	0	0			1	0				1	0
144	140	7	4	13	7/4/2013	13402162C	Ballot 3 - 1	1	0	0				1	0			1	0
145	141	7	4	14	7/4/2014	13402162C	Ballot 3 - 1	0	0	1			0	1				0	1
146	142	7	4	15	7/4/2015	13402162C	Ballot 3 - 1	0	1	0			1	0				1	0
147	143	7	4	16	7/4/2016	13402162C	Ballot 3 - 1	1	0	0			0	1				1	0
148	144	7	4	17	7/4/2017	132021621	Ballot 4 - 1	0	1	0								1	0
149	145	7	4	18	7/4/2018	132021621	Ballot 4 - 1	1	0	0								1	0
150	146	7	4	19	7/4/2019	132021621	Ballot 4 - 1	0	0	1								1	0
151	147	7	4	20	7/4/2020	132021621	Ballot 4 - 1	1	0	0								1	0
152	148	7	4	21	7/4/2021	132021621	Ballot 4 - 1	0	1	0								1	0
153	149	7	4	22	7/4/2022	133051651	Ballot 5 - 1	1	0	0				0	0	0	0	1	0
154	150	7	4	23	7/4/2023	133051651	Ballot 5 - 1	0	0	1				1	0	0	0	1	0
155	151	7	4	24	7/4/2024	133051651	Ballot 5 - 1	1	0	0				0	0	0	0	1	0
156	152	7	4	25	7/4/2025	133051651	Ballot 5 - 1	0	1	0				0	1	0	0	0	1

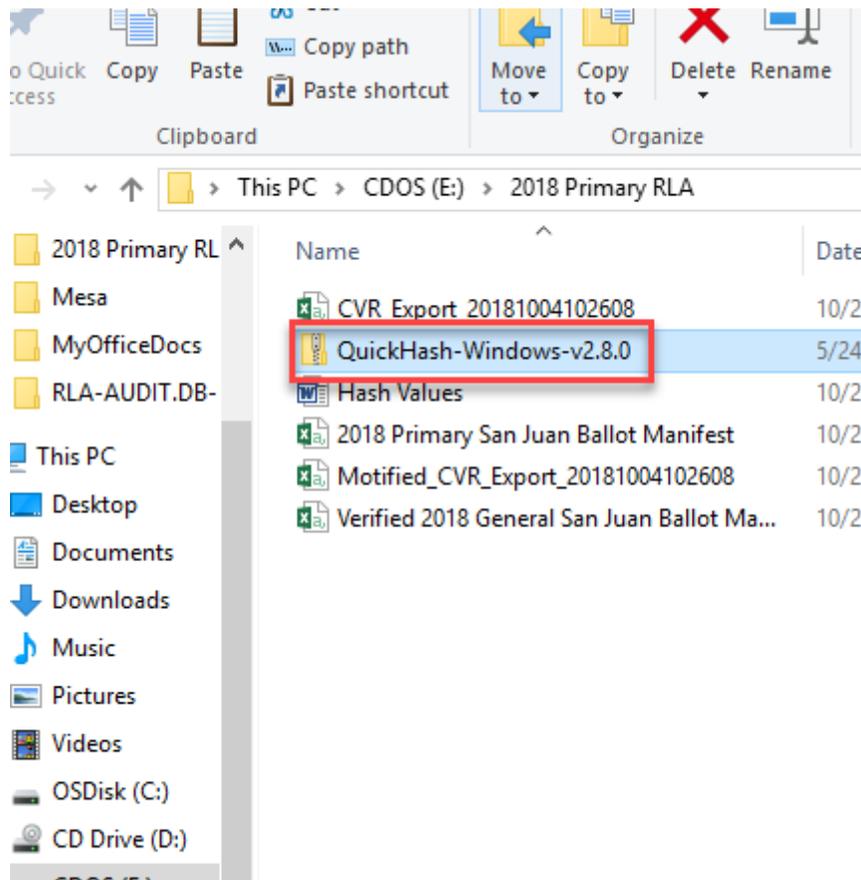
3. In this example, the last unique CVR number is 152, meaning that the CVR file contains a total of 152 ballot cards. You have successfully verified the ballot manifest and CVR files, because the number of ballot cards in the CVR file matches the number of ballot cards reflected in the ballot manifest. You can close the CVR file – you have not modified it in any way in this chapter, so there is no new data to save.

CHAPTER 7: HASH THE BALLOT MANIFEST AND MODIFIED CVR FILE

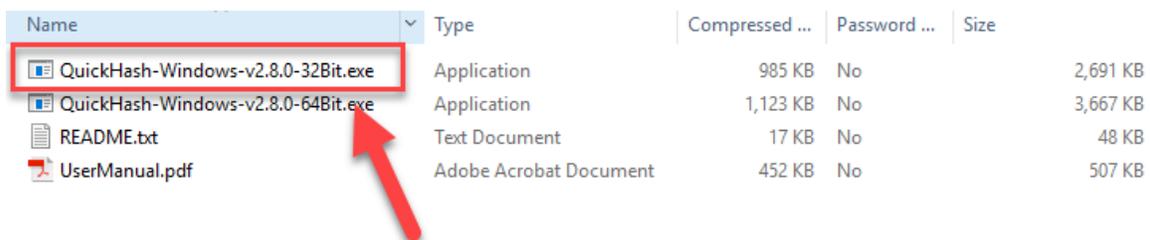
IMPORTANT: Please be sure to follow these steps exactly in the order they are presented. If the order is not followed there may be a discrepancy with your hash value.

Step 7-A: Launch and Configure the QuickHash Utility

1. You downloaded a compressed (.zip) file containing the QuickHash utility to your RLA thumb drive from the CDOS FTP site in Step 3-B.

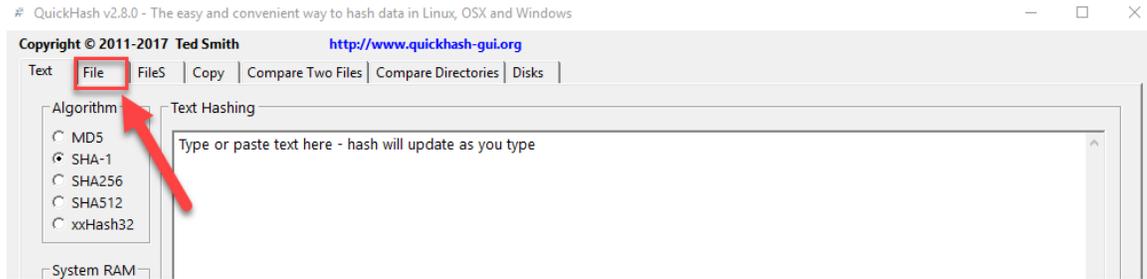


2. Double-click the .zip folder to reveal its contents, and then launch (double-click) **QuickHash_Windows-v2.8.0-32Bit.exe**.

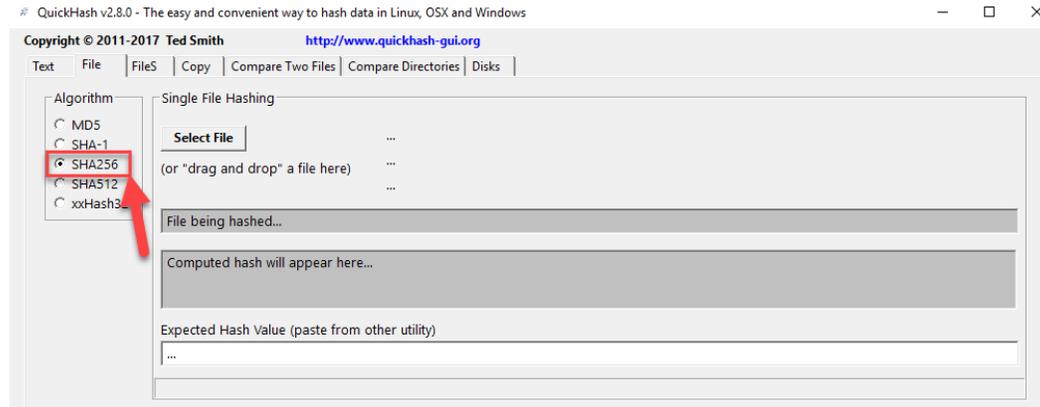


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3. Select the **File** tab.

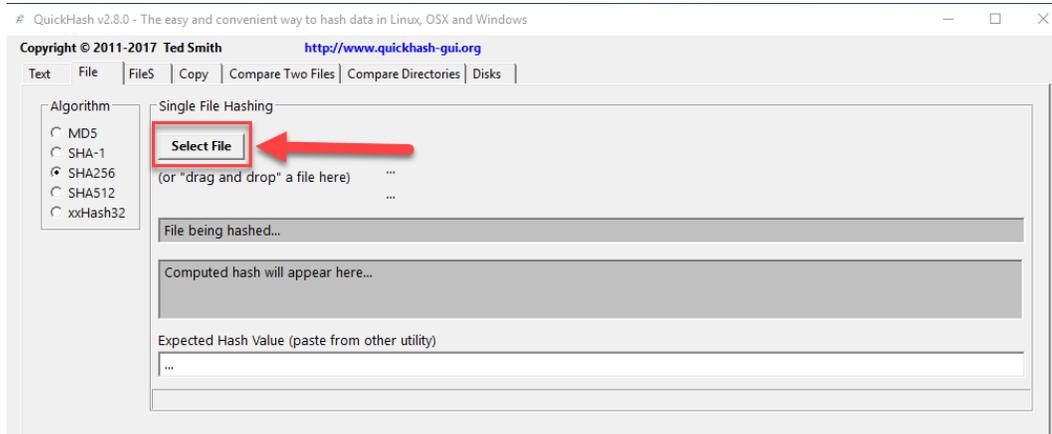


4. Under the **Algorithm** heading, select the radio button next to **SHA256**.



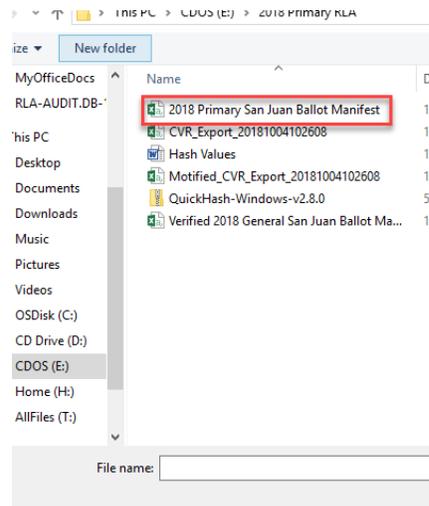
Step 7-B: Hash the Ballot Manifest and Save the Hash Value

1. Click on **Select File**.

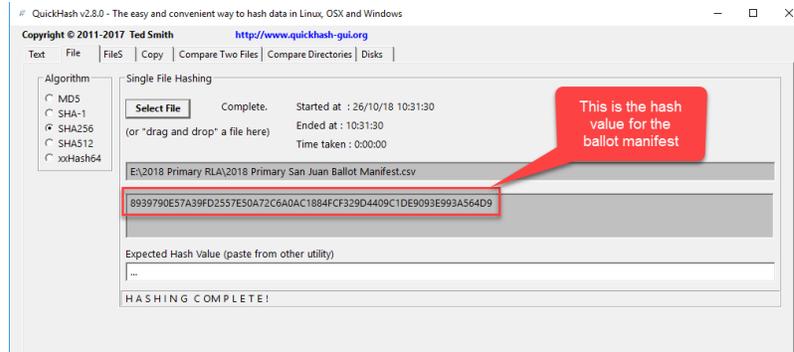


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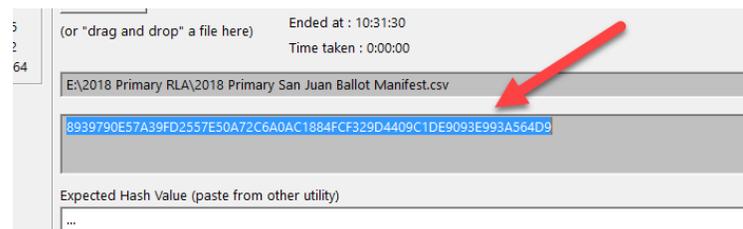
2. In the **Open existing file** dialog box, browse to your RLA thumb drive, select the original ballot manifest in CSV format, and click **Open**.



3. When you open the original ballot manifest with QuickHash, the utility automatically examines the file and returns a hash value in the second field under the **Single File Hashing** heading.

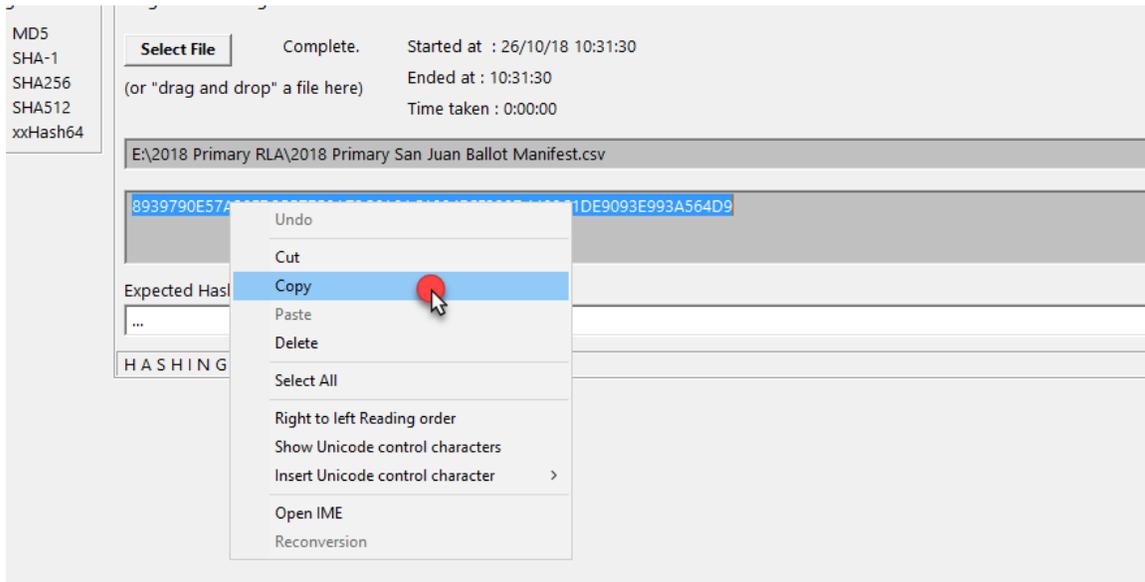


4. Double-click on the hash value, to select the entire string.

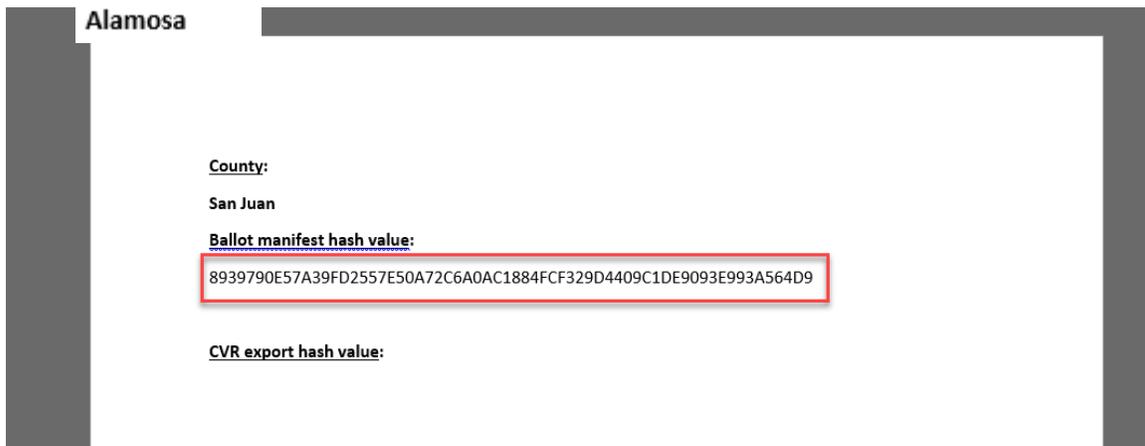


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5. Right click your mouse, and select **Copy** from the drop down menu.

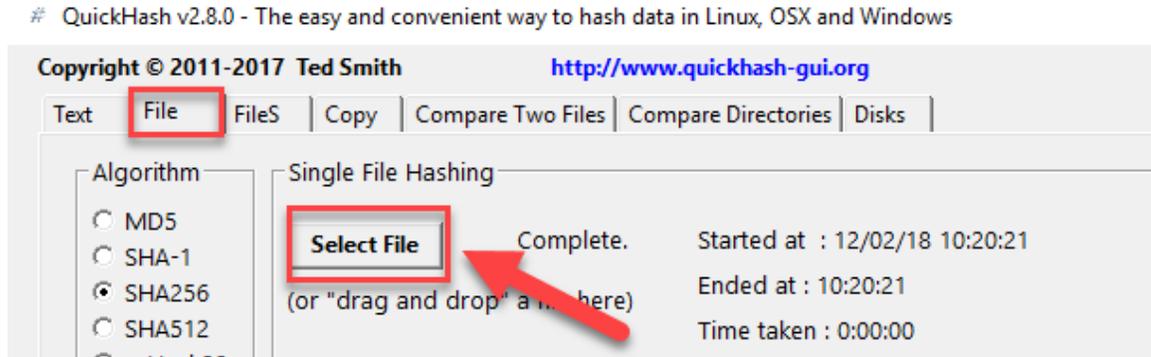


6. If it is not already open, browse to your RLA thumb drive and double-click the Word document called **Hash Values.doc**. In that document, use your mouse to click beneath the **Ballot manifest hash value** heading, and press **Ctrl-V** on your keyboard to paste the ballot manifest's hash value from the QuickHash utility to the appropriate location of the **Hash Values** document.
7. Save (**Ctrl-S**) the **Hash Values** document. You will use that document to copy the ballot manifest's hash value into the RLA Software when you upload the ballot manifest.

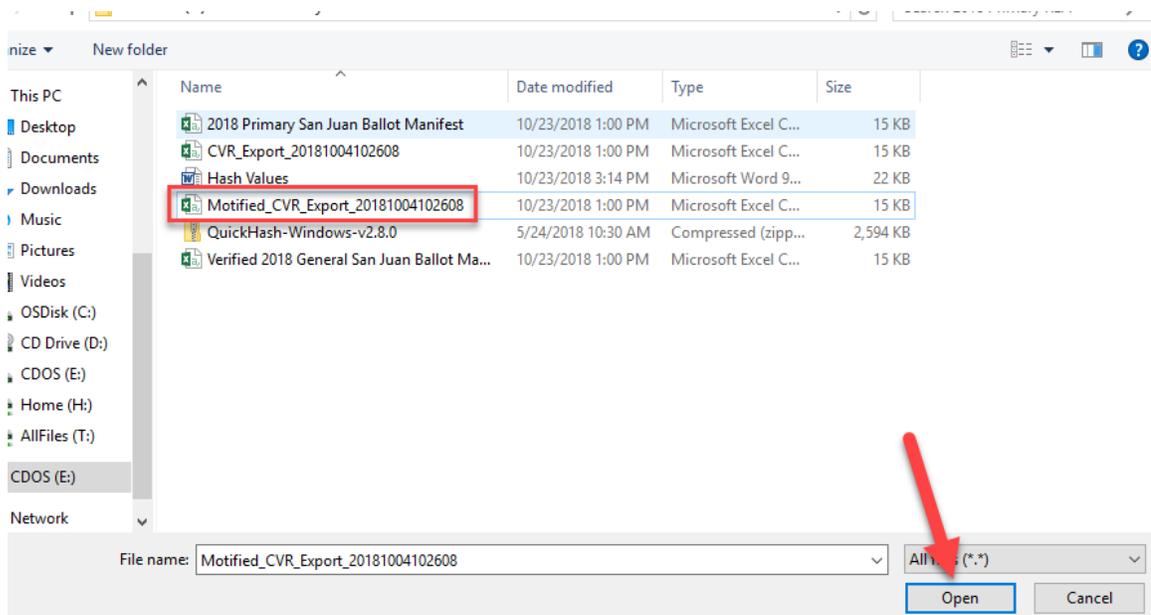


Step 7-C: Hash the CVR File and Save the Hash Value

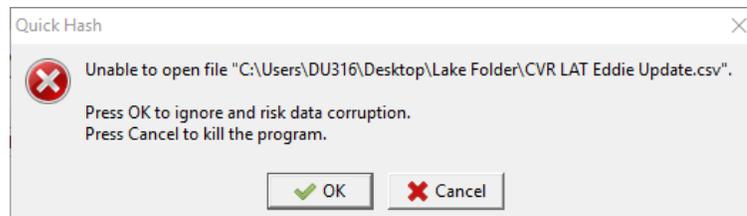
1. Return to the QuickHash utility, click **Select File** on the **File** tab.



2. Browse to your RLA thumb drive, select the modified CVR file, and click **Open**.

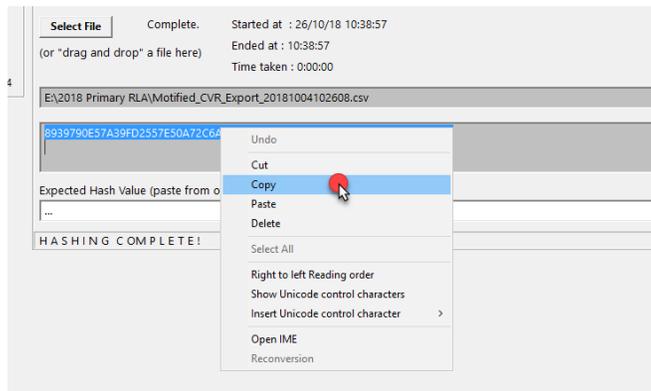


3. If the following error occurs, it means the file is open. Close the file then proceed to step 4.



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4. Double-click the CVR's hash value to select the entire string, right click your mouse, then select **Copy** from the drop-down menu.



5. Open (or go back to) the Word document called **Hash Values.doc**, click beneath the **CVR export hash value** heading, and enter **Ctrl-V** from your keyboard to paste the CVR's hash value from QuickHash to the Word document.

County:

San Juan

Ballot manifest hash value:

8939790E57A39FD2557E50A72C6A0AC1884FCF329D4409C1DE9093E993A564D9

CVR export hash value:

8939790E57A39FD2557E50A72C6A0AC1884FCF329D4409C1DE9093E993A564D9

6. Save (**Ctrl-S**) the **Hash Values** document. You will use that document to copy the CVR file's hash value into the RLA Software when you upload the modified CVR file.

CHAPTER 8: UPLOAD RLA FILES TO CDOS FTP SITE

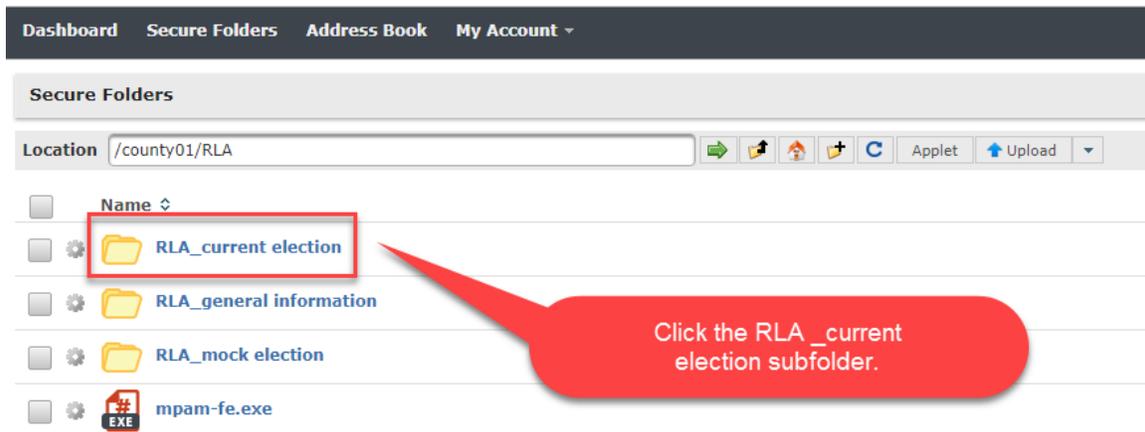
Before you log in or upload files to the RLA Software, please first upload to the CDOS FTP site the **1) completed Hash Values** document, **2) hashed ballot manifest** and **3) hashed modified CVR file**.

Step 8-A: Log in to CDOS FTP Site

1. See Chapter 1, Step 3-B, for instructions on how to log into the CDOS FTP site.

Step 8-B: Navigate to RLA_current election subfolder

1. Navigate to and click the **RLA_current election** folder in the RLA subfolder of your county folder.

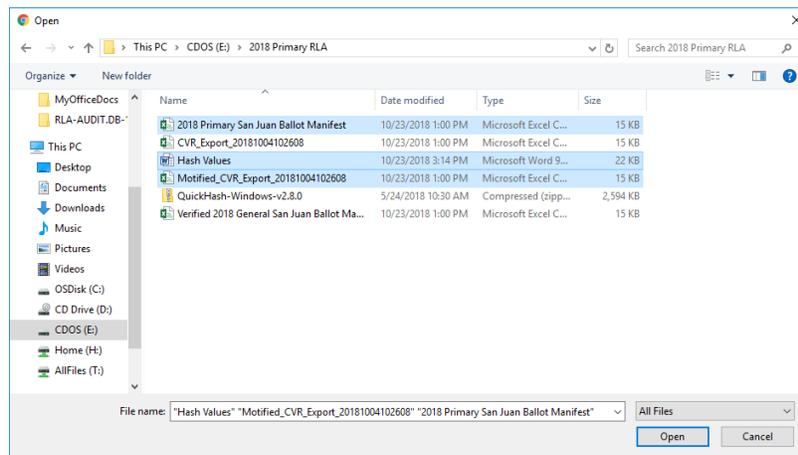


2. Click the **Upload** button.

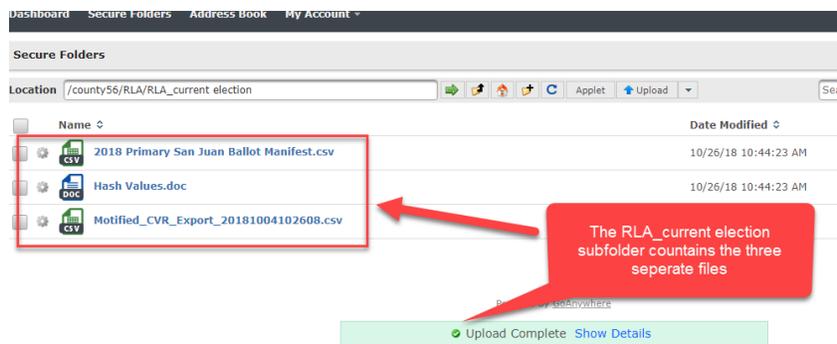


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- When the **Open** dialog box appears, browse or navigate to the folder for the current election on your RLA thumb drive, select the following three files while holding the **Ctrl** key on your keyboard, then click **Open**.
 - The ballot manifest in CSV format (not the verified version containing the formula in XLS or XLSX format)
 - The **Hash Values.doc** file, containing the name of your county, the path of your original CVR export, and the hash values for your ballot manifest and modified CVR file
 - The **Modified_CVR_Export.csv** file in CSV format (not the version of that file originally exported from the Dominion system)



- The **RLA_current election** folder now contains the three individual files, and the status message shows you the upload was completed successfully.



- Log out of the CDOS FTP site.

CHAPTER 9: UPLOAD FILES TO THE RLA SOFTWARE

Each county must designate at least one person to act as the county audit administrator. The county audit administrator is responsible for uploading the county's ballot manifest and modified CVR file to the RLA Software, and launching the audit sessions during which the county's bipartisan audit boards examine and report voter markings from randomly selected paper ballots. The county audit administrator must have SCORE user credentials.

Step 9-A: Insert RLA Thumb Drive in RLA Workstation

1. Insert your RLA thumb drive into a USB port of your internet-connected RLA workstation.
2. Navigate to the folder for the current election on your RLA thumb drive, and open **Hash Values.doc**. You will copy hash values from that document and paste them into the RLA Software during the uploading process.

Step 9-B: Log into RLA Software and Upload RLA Data

1. Open Chrome and open an incognito window by entering **Ctrl+Shift+N** after you've started Chrome.
2. In the new incognito window, navigate to the RLA Software at <https://rla.sos.colorado.gov/login>.
3. At the **CORLA User Login** screen, the county audit administrator enters his or her SCORE username and password.



CORLA User Login

User ID

Password

The Colorado RLA Tool is Copyright (C) 2017 the Colorado Department of State, and is licensed under the AGPLV3 with a classpath exception. See the project's [GitHub site](#) for more information.

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4. Enter the responses to the grid challenges from your Entrust grid card and click on **Submit**.

CORLA User Login

Grid Challenge:
Enter a response to the grid challenge [F3] [H7] [C5] for the user: countyadmin1

Submit

The *Colorado RLA Tool* is Copyright (C) 2017 the Colorado Department of State, and is licensed under the AGPLv3 with a classpath exception. See the project's [GitHub site](#) for more information.

Step 9-C: Upload Hashed Ballot Manifest

1. Once you are logged into the RLA Software, select the Browse button to the right of the Ballot Manifest file field:.

Colorado RLA | Home | []

Hello, Alamosa County!

Upload the ballot manifest and cast voter records (CVR) files. These need to be CSV files.
After uploading the files wait for an email from the Department of State saying that you can continue the audit.

Ballot Manifest **Browse**

SHA-256 hash for Ballot Manifest

Upload

CVR Export **Browse**

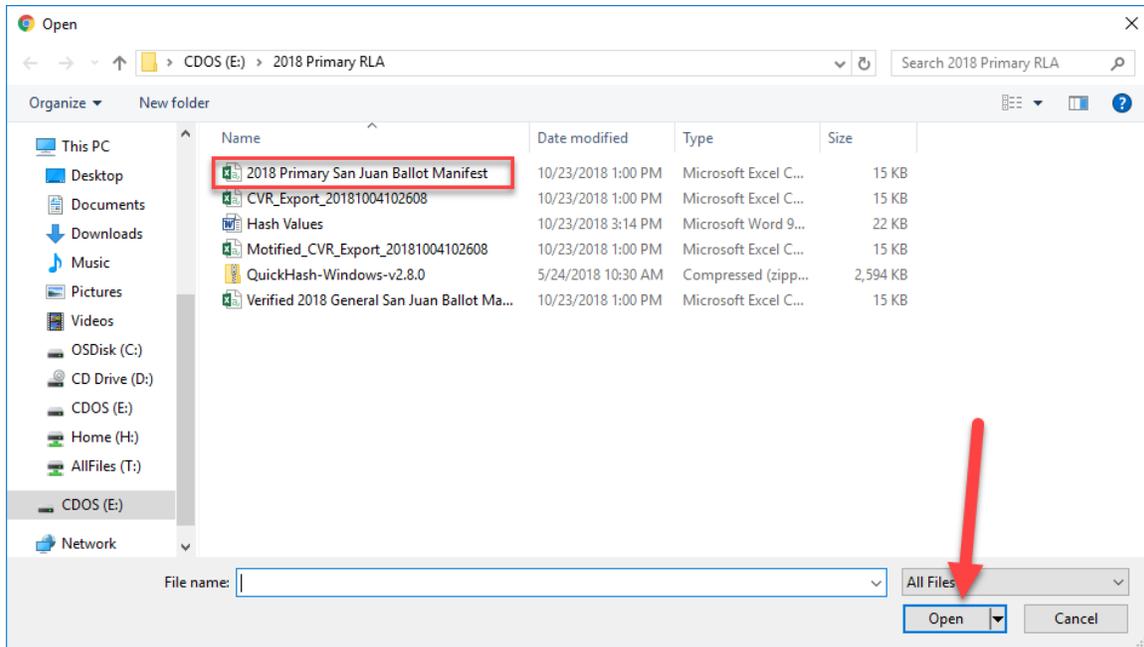
SHA-256 hash for CVR Export

Upload

Intermediate audit report (CSV)
Download

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2. When the Open dialog box appears, browse to and select the ballot manifest file in CSV format in the folder for the current election of your RLA thumb drive, then click Open:.



3. Go to the Hash Values.doc document, select the complete hash value string for the ballot manifest, right click your mouse, and select **Copy** from the drop-down menu.

County:

Alamosa

File path of the CVR file:

D:\NAS\Exporting CVR data Risk Limiting Audits\Results\CVR_Export_201810041026081107132322.csv

Ballot manifest

D6CC5BC01954314A614B614CC12D2BDFF0896A07EE65EE6B52C09C544D05DD1DA

CVR export hash

B275448698F4...ECEAE8BF8CB4BE5C5D8514E8F8FB6771F598F2F42

Select the entire string of the ballot manifest hash value. Make sure there are no extra spaces at the end of your selection.

RLA Software Complete Reference Guide

- Go back to the Chrome web browser and click into the **SHA-256 hash for Ballot Manifest** field of the RLA Software.

Colorado RLA Home

Hello, Alamosa County!

Upload the ballot manifest and cast voter records (CVR) files. These need to be CSV files.
After uploading the files wait for an email from the Department of State saying that you can continue the audit.

Ballot Manifest [Browse](#)

SHA-256 hash for Ballot Manifest [Click to Edit](#)

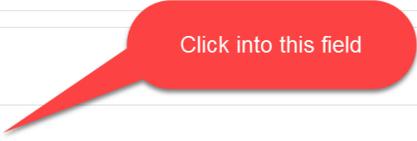
[Upload](#)

CVR Export [Browse](#)

SHA-256 hash for CVR Export [Click to Edit](#)

[Upload](#)

Intermediate audit report (CSV) [Download](#)



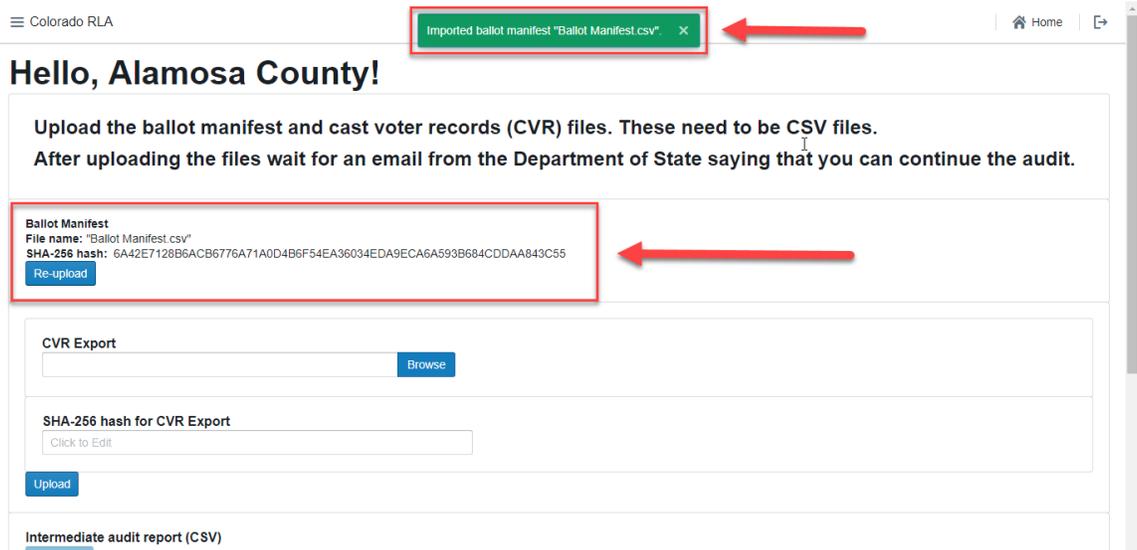
RLA Software Complete Reference Guide

5. Right click your mouse, and select **Paste** from the drop-down menu.

6. The ballot manifest hash value now appears in the proper field. Click the **Upload** button.

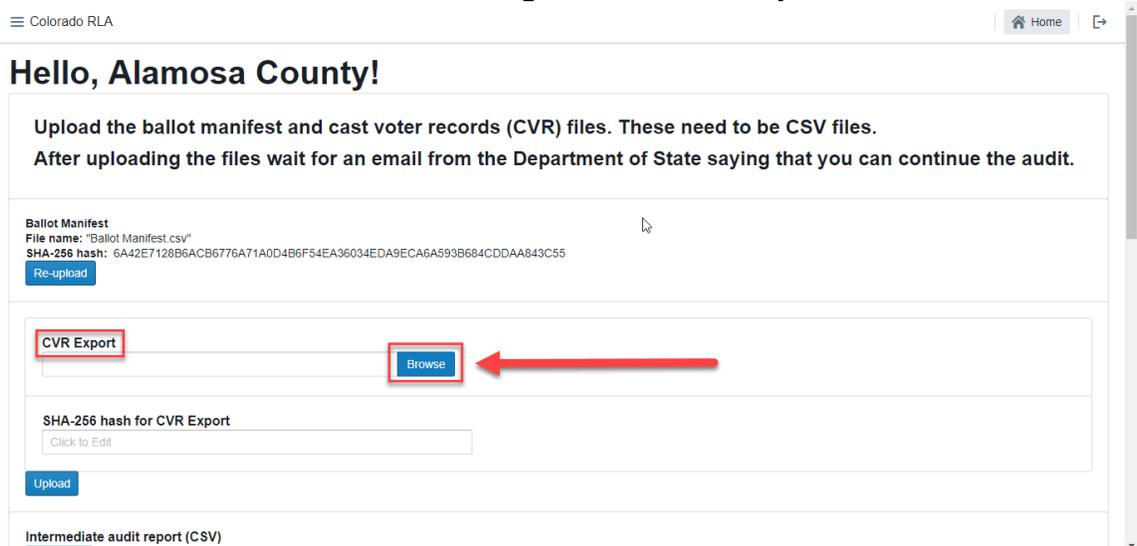
RLA Software Complete Reference Guide

- You will see these messages when you successfully upload the hashed ballot manifest.



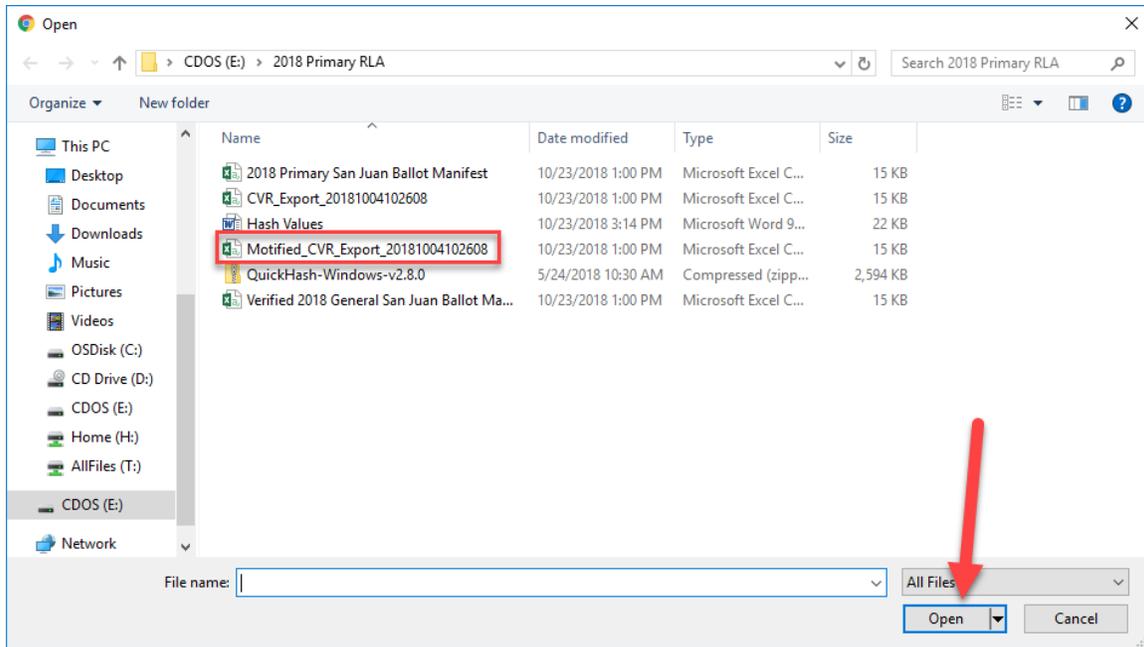
Step 8-D: Upload Hashed CVR File

- Click the **Browse** button next to the right of the **CVR Export** field.



RLA Software Complete Reference Guide

2. When the **Open** dialog box appears, browse to and select the modified CVR file in the folder for the current election of your RLA thumb drive, then click **Open**.



3. Go to the **Hash Values.doc** document, select the complete hash value string for the modified CVR file, right click your mouse, and select **Copy** from the drop-down menu.

CVR export hash value:

Select the entire string with no extra spaces at the end.

B275448698F414FCDA1C07EECEAE8BF8CB4BE5C5D8514E8F8FB6771F598F2F42

CVR export hash value:

B275448698F414FCDA1C07EECEAE8BF8CB4BE5C5D8514E8F8FB6771F598F2F42



RLA Software Complete Reference Guide

- Go back to the Chrome web browser and click into the **SHA-256 hash for CVR Export** field of the RLA Software.

Colorado RLA Home

Hello, Alamosa County!

Upload the ballot manifest and cast voter records (CVR) files. These need to be CSV files.
After uploading the files wait for an email from the Department of State saying that you can continue the audit.

Ballot Manifest
File name: "Ballot Manifest.csv"
SHA-256 hash: 6A42E7128B6ACB6776A71A0D4B6F54EA36034EDA9ECA6A593B684CDDAA843C55
[Re-upload](#)

CVR Export
Modified_CVR_Export_1140.csv [Browse](#)

SHA-256 hash for CVR Export
[Click to Edit](#)

[Upload](#)

Intermediate audit report (CSV)
[Download](#)

- Right click your mouse, and select **Paste** from the drop down menu.

SHA-256 hash for CVR Export

[Upload](#)

Intermediate audit report (CSV)
[Download](#)

- Undo (Ctrl+Z)
- Redo (Ctrl+Shift+Z)
- Cut (Ctrl+X)
- Copy (Ctrl+C)
- Paste (Ctrl+V)**
- Paste as plain text (Ctrl+Shift+V)

- The hash value for the modified cast vote record file now appears in the proper field. Click the **Upload** button.

CVR Export
Modified_CVR_Export_1140.csv [Browse](#)

SHA-256 hash for CVR Export
BD101798AECC5379EBD66BAB4766F7E911BAC8B2DBC5BE8646B9C46B39408267

[Upload](#)

RLA Software Complete Reference Guide

7. You will see these messages when you successfully upload the hashed modified cast vote record file (it may take a little while to upload the CVR).

Upload the ballot manifest and cast voter Imported CVR export. ×

After uploading the files wait for an email from the Department of State sa

Ballot Manifest
File name: "Ballot Manifest.csv"
SHA-256 hash: 6A42E7128B6ACB6776A71A0D4B6F54EA36034EDA9ECA6A593B684CDDAA843C55
[Re-upload](#)

CVR Export
File name: "Modified_CVR_Export_1140.csv"
SHA-256 hash: 3FCBF7A05C85C82A5AA251712ED772FA668876F5279CDCABA63F3D39494E40FC
[Re-upload](#)

Intermediate audit report (CSV)
[Download](#)

Step 9-E: Log Out of RLA Software and Wait for State to Start Audit

1. You have uploaded all of the data for your county that the Secretary of State's office requires. Log out of the RLA Software by closing your browser, and wait for the state to start the risk-limiting audit for all counties the morning after the deadline for completing the uploading process.

RLA Software Complete Reference Guide

CHAPTER 10: DOWNLOAD THE BALLOT LIST

Step 10: Download Ballot List

1. When the Secretary of State's office notifies you that the risk-limiting audit has been defined and started at the state level, the county audit administrator must log into the RLA Software. See Chapter 9, Step 9-B for RLA Software log in instructions.
2. Before your audit board arrives or convenes, download the list of ballots to audit by clicking on the **Download** button under the heading **Intermediate audit report (CSV)**. When the file is done downloading, you can open it by clicking on the icon in the lower left corner of your browser. Alternatively, you can skip to step 5 in this list to download the list by audit board and organized by storage location after the number of audit boards have been selected.

You may now perform round 1 of the audit.

Ballot Manifest
File name: "adams-manifest.csv"
SHA-256 hash: 87ED7F1732CB4CA89162A73504D7F682F0C5AB8A5B175C8B0AF3C232E772A4A
[Download](#)

CVR Export
File name: "adams-cvlexport.csv"
SHA-256 hash: E71BF230547843DCD91DF413D06493C0D2C6511BEAD69DCE5E6FB7FF02A43E
[Download](#)

Intermediate audit report (CSV)
[Download](#)

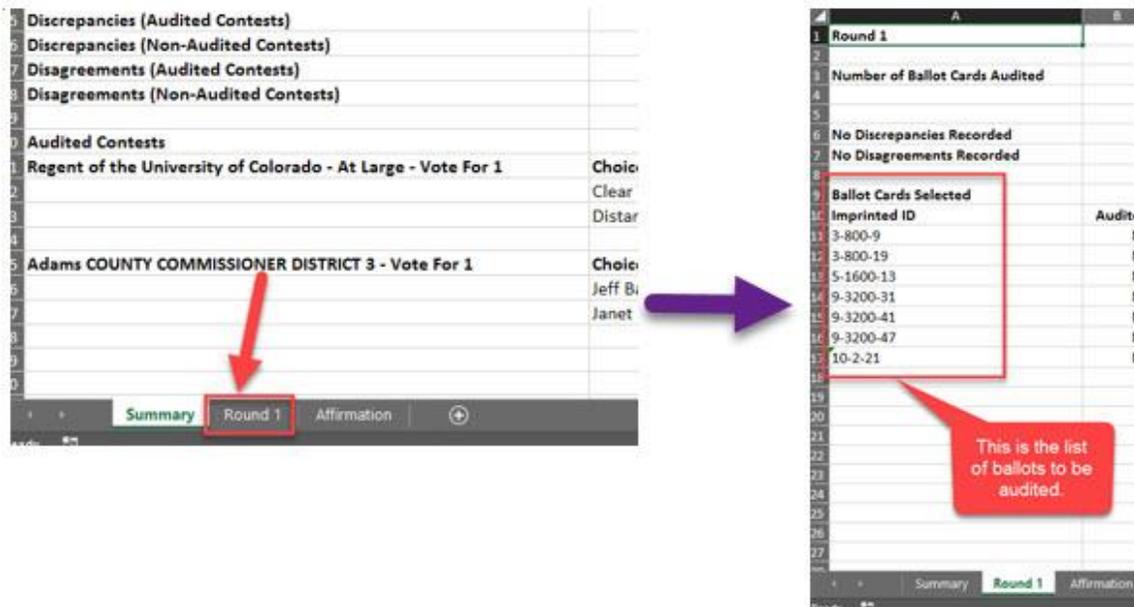
List of ballots to audit (CSV)
[Download](#)

How many audit boards will be auditing?
 [Enter](#)
There are 7 ballot cards to audit in this round.

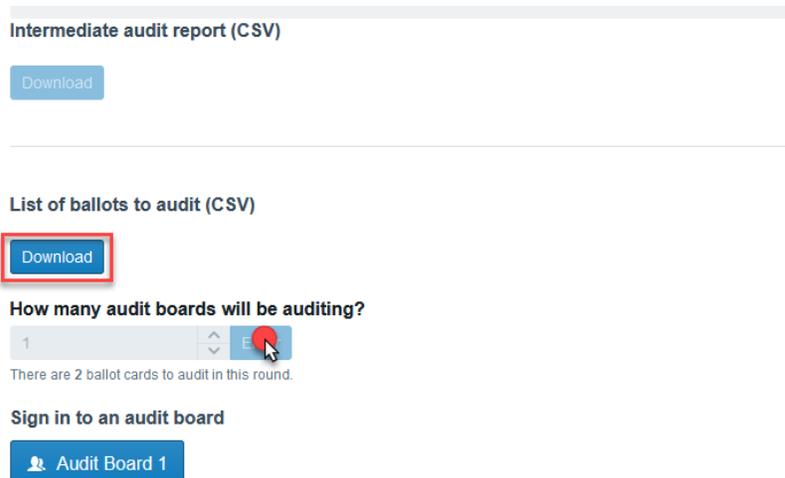
adams-general-10...xlsx

RLA Software Complete Reference Guide

- The intermediate audit report will open in Excel. To see the ballot list click on the **Round 1** tab at the bottom of the worksheet.



- You can use the list of ballots to organize ballot containers and other materials so things go smoothly and quickly when the audit boards begin their work. But it's important to note that county elections staff may not open the sealed ballot containers or retrieve any individual ballots unless the audit board members are present.
- If you would like to organize ballots by audit board team you can use the **List of ballots to audit (CSV)** after first selecting the number of audit boards you are going to use in that audit round.



CHAPTER 11: AUDIT BOARDS SIGN IN AND CONDUCTS FIRST AUDIT ROUND

Step 11-A: Sign in Audit Boards

1. When the audit boards arrive, the county audit administrator must log into the RLA Software. See Chapter 9, Step 9-B for RLA Software log in instructions.
2. Select the number of audit boards you would like to use for this round and click the **Enter** button. It may take a second to load the audit boards.

Keep in mind that the number of audit boards cannot be changed once you've selected the number you'd like to use within a round, but in subsequent rounds you can use greater or fewer boards than you'd previously used.

You may now perform round 1 of the audit.

Ballot Manifest
File name: "adams-manifest.csv"
SHA-256 hash: 87ED7F1732CB4CA89162A73504D7F682F0C5AB8A5B175C6
[Download](#)

CVR Export
File name: "adams-cvrexport.csv"
SHA-256 hash: E71BF230547843DCD91DF413D06493C0D2C6511BEAD69D
[Download](#)

Intermediate audit report (CSV)
[Download](#)

List of ballots to audit (CSV)
[Download](#)

How many audit boards will be auditing?

1 [Enter](#)

There are 7 ballot cards to audit in this round.

RLA Software Complete Reference Guide

- a. At this point you may also download the list of ballots to be audited by clicking the button below the **List of Ballots to Audit (CSV)** heading. The button will not be grayed out once you have selected the number of audit boards you will use in the round. (Also mentioned in Chapter 10, Step 10-5.)
3. To proceed to sign in an audit board, click the button for the audit board number you would like to sign in. Orange buttons already have audit board members signed into that audit board.

List of ballots to audit (CSV)
Download

How many audit boards will be auditing?
4 Enter
There are 7 ballot cards to audit in this round.

Sign in to an audit board

Audit Board 1 Audit Board 2 Audit Board 3 Audit Board 4

You should repeat steps 4 to 7 for each audit board.

4. Enter the names and party affiliations of both of your county audit board members. Each member must have a different party affiliation. Then click **Sign In**.

Colorado RLA Home

Audit Board

Enter the full names and party affiliations of each member of the Alamosa County Audit Board who will be conducting this audit today:

Audit Board Member

First Name: Ronald Last Name: Reagan

Party Affiliation

Democratic Party

Republican Party

Other Party

Unaffiliated

Audit Board Member

First Name: Barak Last Name: Obama

Party Affiliation

Democratic Party

Republican Party

Other Party

Unaffiliated

Sign In

RLA Software Complete Reference Guide

5. The **Ballot Cards to Audit** screen will display. This screen lists each ballot that was randomly selected for the audit. Click on the **Start audit** button when the ballots have been retrieved and your audit board is ready to start reporting voter markings from the paper ballots.³

The Audit Board(s) must locate and retrieve, or observe a county staff member locate and retrieve, the following randomly selected ballot cards for the initial round of this risk-limiting audit:

Audit Board 1: Click Start audit to begin reporting the votes you observe on each of the below ballot cards that have been assigned to you.

[Start audit](#)

[Download ballot list as CSV](#)

Storage bin	Scanner	Batch	Ballot position	Ballot type	Audited	Audit board
Bin 1	3	800	9	55		1
Bin 1	3	800	19	60		1
Bin 17	5	1600	13	45		2
Bin 17	9	3200	31	9		2
Bin 17	9	3200	41	19		3
Bin 17	9	3200	47	24		4
Bin 22	10	2	21	5		4

You will notice that the ballots are sorted by storage location, and on the far right the software notes which audit board each ballot was assigned to.

³ At this point you may download the list of ballots to be audited if you did not do so before or would like to for whatever reason by clicking on the **Download ballot list as CSV** button.

Step 11-B: Ballot Card Verification

1. Each county audit board now begins the audit in earnest by reporting the voter markings they observe on each randomly selected paper ballot into the RLA Software.
2. Each page of an audit board's user interface corresponds to the next ballot card listed in that audit board's ballot list, starting with the first. The top of each screen identifies the audit board working on that ballot and the audit board's progress through their list. On the left side, the ballot identification information can be found. The audit board should confirm all of this information, especially that the ballot type matches the ballot type in the header of the ballot, before begin making choice for each ballot.⁴ If the wrong ballot's marking are entered into the RLA Software, it may result in discrepancies sending your county, or perhaps even the whole state, to another audit round.

Audit Board 1: Ballot Card Verification

Enter ballot information

Auditing ballot card 1 of 2

Current ballot:

Storage bin: **Bin 1**

Tabulator: **3**

Batch: **800**

Ballot position: **9**

Ballot type: **55**

Are you looking at the right ballot?

Before making any selections below, first make sure the paper ballot you are examining matches the current ballot information displayed on the left. If you make selections based on the wrong ballot, you may have to audit more ballots later.

Ballot not found - move to next ballot

If your audit board cannot find the correct ballot they should select the red button that says **Ballot not found – move to next ballot**. This should be used only as a last resort. Selecting this button will result in discrepancies for all contests on the ballot and vastly increase the likelihood of another audit round.

⁴ Some counties use ballot images obtained from the voting system to ensure the ballot they retrieved is the ballot that is being presented by the software. For instructions on how to obtain ballot images, see Appendix I. Remember, under no circumstances should the audit board use the ballot images for entering voter choices into the software. That must always be done from the original ballot submitted by the voter.

RLA Software Complete Reference Guide

As the audit board moves down each page, it should find the same contests and choices as the corresponding paper ballot. If that is not the case, the audit board should stop immediately and try to determine if the right ballot was located.

Step 11-C: Reporting Voter Markings

1. The audit board must replicate the voter markings from the paper ballot in the RLA Software by selecting the box that contains the candidate or choice the voter made on their ballot. At the top of the selection part of the ballot screen there are some basic instructions to help remind audit boards of these instructions.

Ballot type: 55

Ballot not found - move to next ballot

How to match selections with ballot

- Overvote >
- Undervote >
- Blank vote >
- Write-in >

For each ballot contest:
Select exactly the same voting choices as the voter marked on the paper ballot you are examining.
Example 1: If the voter marked three candidates on their ballot in this contest, select the exact same three candidates below.
Example 2: If the voter did not vote for any of the candidates or choices in this contest, select "Blank vote – no mark"

Regent of the University of Colorado - At Large

2. Below the instructions the audit board will find each contest as it appears on that particular ballot along with all candidates or choices for that contest, including certified write-in candidates.

Regent of the University of Colorado - At Large

Clear Winner

Distant Loser

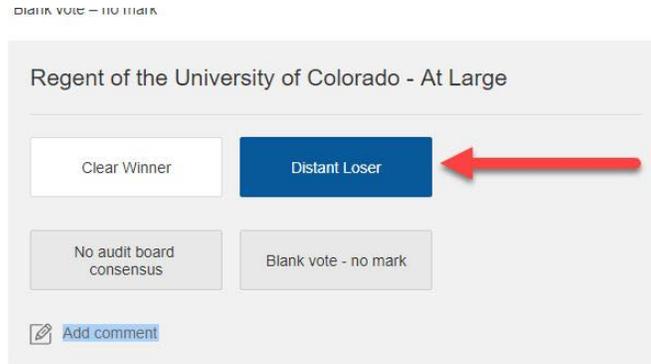
No audit board consensus

Blank vote - no mark

Add comment

RLA Software Complete Reference Guide

Once an audit board makes a selection the box(es) they've selected will be highlighted in blue.



To deselect a choice, the box should simply be clicked again.

3. Sometimes voters make more than one mark, or make too few or no marks, or do other things that are hard to understand. Audit boards can be confused about these situations. To help reduce confusion in commonly encountered abnormalities there is a mini-FAQ that scrolls with the audit board on the left side of the ballot screen. If the board encounters any of these situations they can click the appropriate issue and the software will provide guidance.

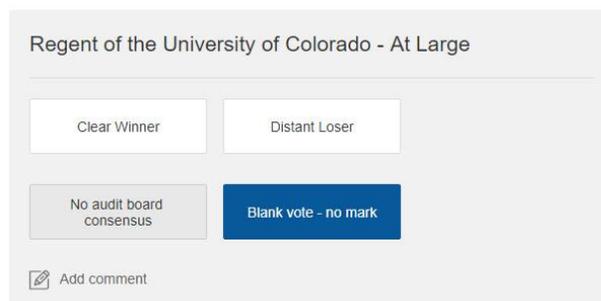
How to match selections with ballot	For ex:
Overvote >	Select < examin
Undervote >	Exempl same th
Blank vote >	Exempl "Blank >
Write-in >	
We can't agree >	Re

RLA Software Complete Reference Guide

4. Some of the commonly encountered questions the audit board members may have are discussed below. If there is any question about voter intent, please consult the Secretary of State's office's Voter Intent Guide.
 - a. Overvote: If the voter marked too many choices (or in cases when the voter appropriately marked more than once choice) the same choices should be selected in the RLA Software.



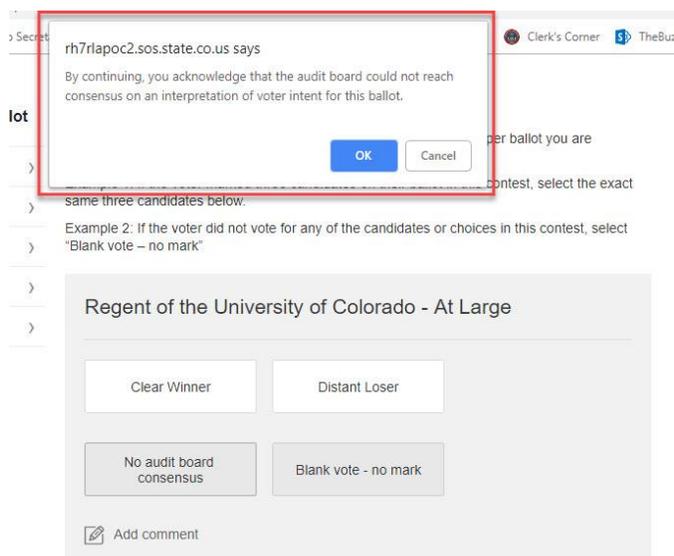
- b. Undervote or blank vote: The most common type of undervote is a contest that the voter decided to skip—made no mark. The audit board should select the **Blank vote – no mark** button.



Like an overvote, if the contests allows the voter to choose more than one candidate, but decides to make fewer than that, the audit board should reflect the choices the voter made exactly.

RLA Software Complete Reference Guide

- c. Sometimes audit board members may not agree on what the voter intent was. In these situations, the audit board members should consult the Voter Intent Guide and try to come to a consensus. If they cannot, the audit board members should mark the **No audit board consensus** button. However, this selection will result in a discrepancy being reported, which may cause your county or the entire state to audit more ballots. The RLA Software will produce a warning for the audit board if they select this button.



- d. Write-in candidates:
- If the paper ballot contains a write-in vote for a certified write-in candidate, the audit board should select that candidate in the RLA Software. (All certified write-in candidates appear as selections in the software.)
 - If the paper ballot contains a write-in vote for a named candidate, the audit board should select the named candidate in the RLA Software.
 - If the paper ballot contains a write-in vote for an unqualified write-in candidate, the audit board should select **Blank vote – no mark** in the RLA Software.

RLA Software Complete Reference Guide

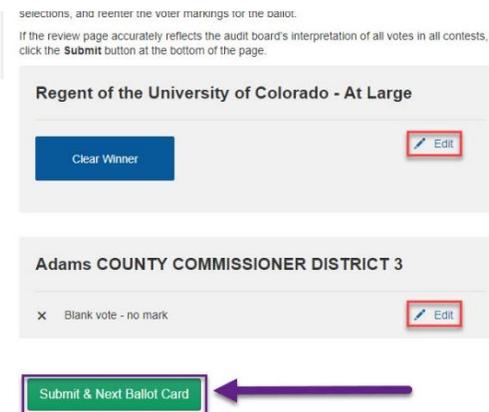
- e. Withdrawn candidates and contests:
 - If the withdrawn candidate or contest appears as a choice for a particular ballot in the RLA Software, the audit board should faithfully replicate any and all votes for the withdrawn candidate or in the withdrawn contest.
 - If the withdrawn candidate or contest does not appear as a selectable choice in the RLA Software version of the ballot, the audit board should select **Blank vote – no mark**.

Step 11-D: Reviewing Voter Markings

1. After entering the voter markings for every contest on the ballot, click the **Review** button at the bottom of the page.



2. On the review screen, the audit board should confirm that the information displayed accurately reflects its interpretation for each contest and choice from the corresponding paper ballot.
3. If there are any discrepancies, the audit board should click the **Edit** button next to the contest that has a discrepancy, and reenter the voter markings for the contest. If the review page accurately reflects the audit board's interpretation of all votes in all contests, the audit board should click the **Submit & Next Ballot Card** button at the bottom of the page.



4. Repeat Steps 11-C and 11-D for every ballot listed on your county's ballot list.

RLA Software Complete Reference Guide

Step 11-E: Re-audit

1. Once the audit board replicates and submits the voter markings from all ballots, the audit board is given the opportunity to re-audit individual ballots they think they may not have inputted the correct markings. If the audit board wishes to re-audit the ballot they will have to give a reason why they are choosing to re-audit the ballot and then are presented with the races from that particular ballot again. When the audit board decides to re-audit a ballot, all markings from the previous times the ballot was presented will be deleted before the ballot is presented again.
2. For each ballot the audit board wishes to re-audit, the audit board should find the ballot from the list that is presented (sorted first by storage bin, then scanner, batch, and finally ballot position), then click the **Re-audit** button.
3. The audit board should then retrieve the paper ballot to re-audit and faithfully replicate the markings that the voter made on their ballot. (Go back to Step 11-C). Once the audit board has completed that ballot they will be returned to the re-audit screen.

Audit Board 1: Final Review

This screen allows you to re-audit ballots previously audited in this round. If you choose to re-audit a ballot, you will be presented with blank data entry and review screens for that ballot - data from the previous audit will not be prefilled. Once you submit a re-audited ballot, the most recent data will replace older entries. You will be able to re-audit multiple ballots if you wish.

If you are satisfied with your initial data entry and wish to complete the round:

- Click the button below labeled "Review Complete - Finish Round"

If you wish to re-audit a ballot:

- Click the "re-audit" button next to the appropriate ballot card in the list below

When you are finished, click "Review Complete - Finish Round." Once clicked, ballot data from this round of the audit is no longer editable.

Review Complete - Finish Round

Storage bin	Scanner	Batch	Ballot position	Ballot type	Actions
Bin 1	3	800	9	55	Re-audit
Bin 1	3	800	19	60	Re-audit
Bin 17	5	1600	13	45	Re-audit
Bin 17	9	3200	31	9	Re-audit
Bin 17	9	3200	41	19	Re-audit
Bin 17	9	3200	47	24	Re-audit
Bin 22	10	2	21	5	Re-audit

4. When the audit board is confident that all choices are correct, they should click the **Review Complete – Finish Round** button.

Step 11-F: Concluding the Audit Round

1. When the audit board as completed any re-audits they wish to undertake, the RLA Software displays the **End of Round** page. The audit board members must “sign off” by entering their first and last names, then click the **Submit** button.

Colorado RLA

Home

End of Round 1

Congratulations! You have completed reporting the votes on all ballots randomly selected for this round of the risk-limiting audit of the Alamosa County 5/10/2018 Coordinated Election . After the judges have signed off on the round, updated audit status will be displayed on the next page.

Please complete this audit round by entering your names in the fields below, making the following certification, and selecting Submit. By entering his or her name and selecting Submit below, each Audit Board member individually certifies that he or she:

- Personally located and retrieved, or personally observed a county staff member locate and retrieve, each paper ballot randomly selected for Audit Round 1 of the Alamosa County 5/10/2018 Coordinated Election.
- Personally examined each such randomly selected ballot;
- Accurately entered the voter markings contained in each ballot contest on each such randomly selected ballot, to the best of his or her ability;
- Where applicable, resolved ambiguous markings, over votes and write-in votes in accordance with the current version of the Secretary of State's Voter Intent Guide;
- In the case of physically duplicated ballots, if any, the Audit Board's report reflects the voter markings on the paper ballot originally submitted by the voter.

The screenshot shows a web form titled "End of Round 1". It contains two sections for audit board members to sign off. Each section has a title, "Audit Board Member #1" and "Audit Board Member #2", and two input fields for "First Name" and "Last Name". The first member's fields are pre-filled with "Ronald" and "Reagan". The second member's fields are pre-filled with "Barak" and "Obama". A red callout box with a white border and a red arrow pointing to the name fields contains the text: "Audit board members 'sign off' by entering their first and last names in these fields". Below the form is a blue "Submit" button with a green arrow pointing to it from the left.

RLA Software Complete Reference Guide

Once all of the county's audit boards are complete the round is over for the county. However, **counties will not know the outcome of the audit until every county has completed their audit because of the statewide audit.** Wait to hear from the voting systems team at the Secretary of State's office for notification that the round is over. The notification will indicate whether the state as a whole requires another round or not and instructions on how to proceed. To check if your county contest's risk-limit was satisfied, you must log back into the RLA software (see Chapter 9, Step 9-B). If both the state and county contests both had their risk-limit's met the final audit report will be available to download.

Hello, Adams County!

You have successfully completed the Risk-Limiting Audit! Print all pages of your final audit report. Have the judges and county clerk sign the last page of the report and email it to RLA@sos.state.co.us. You can now proceed to canvass!

Ballot Manifest

File name: "adams-manifest.csv"
SHA-256 hash: 87ED7F1732CB4CA89162A73504D7F682F0C5A8BA5B175C8B0AF3C23E772A4AE

[Download](#)

CVR Export

File name: "adams-cvlexport.csv"
SHA-256 hash: E71BF230547843DCC91DF413D06493C0D2C6511BEAD69DCE5E6FB7FF02A43EDB

[Download](#)

Final Audit report (CSV)

[Download](#)

List of ballots to audit (CSV)

[Download](#)

County Info

After printing the audit report, the clerk should sign and date it. Submit the signed and dated audit report to the Secretary of State by email at rla@sos.state.co.us.

If either the state or county risk limit was not met, a message will be displayed instructing the county to wait for the state to start the next round. Wait for notification from the state that the next round is now ready to proceed.

Colorado RLA

[Home](#)

End of Round 1

The current round, Round 1, is complete. Please wait for the Department of State to begin the next round.

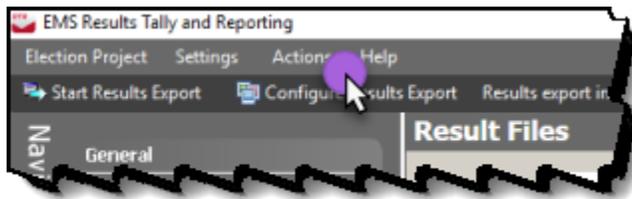
For any subsequent rounds, please repeat the steps from Chapters 10 and 11.

APPENDIX I: OBTAINING BALLOT IMAGES FROM DEMOCRACY SUITE

The steps below contain directions for how to obtain ballot images general. As an alternative, for obtaining single ballot images, you could navigate to the folder of the associated project on the NAS, open the Results folder, and then tabulator folder, batch ID folder, and finally locate the record (position) PDF. This can be done for each individual ballot.

General Directions

1. Log into the project in RTR. For help with this see the RTR user guide.
2. From the top menu, select **Actions**.

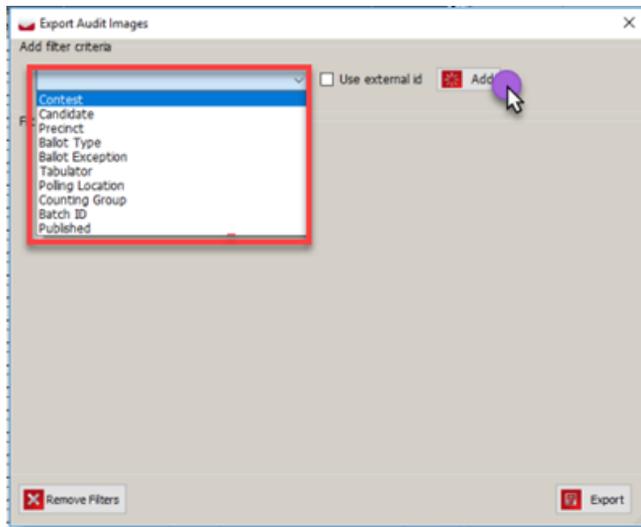


3. Select **Export**. Then select **Export Audit Images**.

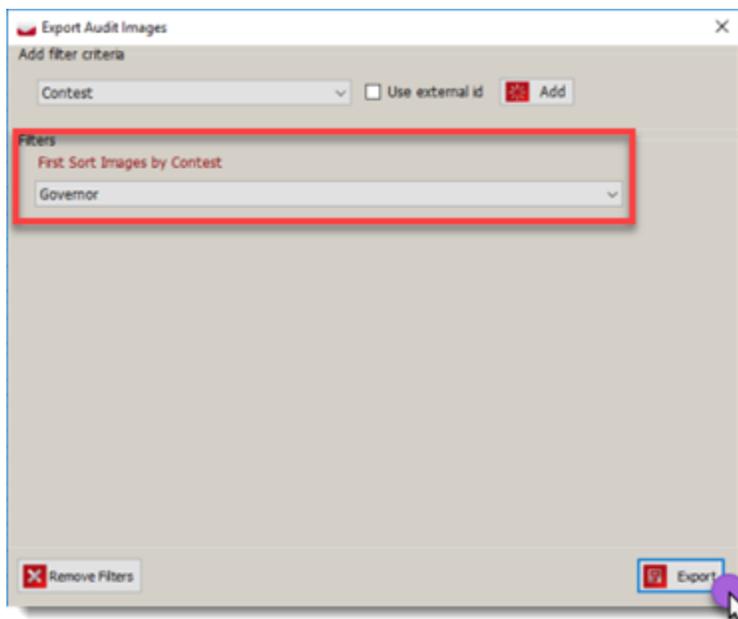


4. Select your filter criteria and then select **Add**.

RLA Software Complete Reference Guide

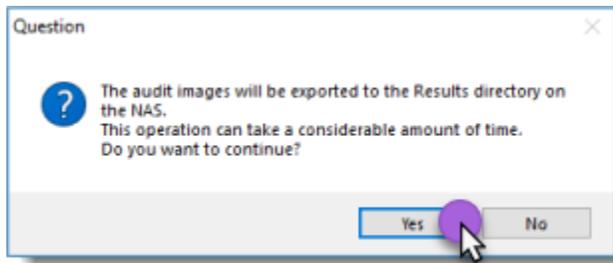


5. Select additional filter criteria (e.g. specific contest, exception, precinct, ballot type, etc.) then click **Export**. NOTE: If you leave 'All' selected and do not select a specific item from the list, the export will include all images, sorted by that particular filter criteria (in Step 4).

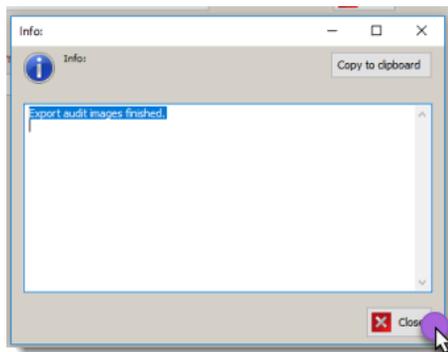


6. A confirmation message will display. Click **Yes**.

RLA Software Complete Reference Guide



7. A progress bar will display as the images are being exported. When the process is complete, a confirmation message will display. Click **Close** to close the message.



8. The exports will be saved to the project's folder on the NAS.

