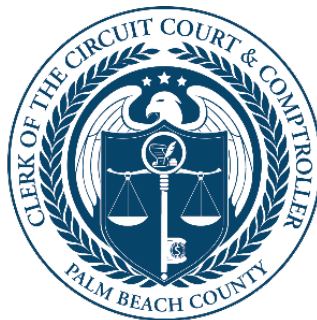


**CLERK OF THE CIRCUIT COURT  
& COMPTROLLER OFFICE  
PALM BEACH COUNTY, FLORIDA**

**Official Records Information System  
Data Conversion Audit**



**JOSEPH ABRUZZO**  
CLERK OF THE CIRCUIT COURT & COMPTROLLER  
PALM BEACH COUNTY

**Division of Inspector General**

**Audit Services Unit**

**January 20, 2022**



**JOSEPH ABRUZZO**  
CLERK OF THE CIRCUIT COURT & COMPTROLLER  
PALM BEACH COUNTY



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January 20, 2022

The Honorable Joseph Abruzzo  
Clerk of the Circuit Court & Comptroller – Palm Beach County, Florida

We performed a limited-scope audit of the data conversion from the New Vision Official Records Information System (New Vision) into the Landmark and Taxsmart systems during the pre-implementation stage.

The objectives of this limited-scope audit were to review the ongoing data conversions between New Vision and Landmark during pre-implementation. Specifically, we conducted independent testing of the accuracy, completeness, and uniqueness of select data converted, and provided details to management of any differences noted during audit testing.

The audit determined the data converted from New Vision to Landmark was accurate and reflective of the data from New Vision, with minor differences and observations noted.

We appreciate the cooperation of management and staff during the course of this audit.

Respectfully submitted,

Roger Trca, CIG, CPA, CIA  
Inspector General  
Clerk of the Circuit Court & Comptroller Office  
Palm Beach County, Florida

cc: Shannon R Chessman, Chief Deputy Clerk  
Wendy Basso, Director – Information Technology  
Amy Borman, Chief Operating Officer – Courts & Official Records  
Parik Chokshi, Director – Information Technology  
Michele Nelson, Director – Legal Records & Operations Systems  
Karina Rodriguez-Matzen, Director – Civil Court Services

# Executive Summary

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The Clerk of the Circuit Court & Comptroller (Clerk's office) Division of Inspector General (Clerk's IG) performed a limited-scope audit of the data conversion from the New Vision Official Records Information System (New Vision) into the Landmark and Taxsmart systems during the pre-implementation stage.

The Clerk's office maintains and ensures the integrity of the Official Record Books of Palm Beach County and records documents into a computer system that is available to the public online and at all office locations. The New Vision system was implemented in October 2001 and the Landmark and Taxsmart systems were selected to replace New Vision. Management is coordinating the system conversion efforts with the Pioneer Technology Group (Pioneer).

The objectives of this limited-scope audit were to review the ongoing data conversions between New Vision and Landmark during pre-implementation as follows:

- Conduct independent testing of the accuracy, completeness, and uniqueness of select data converted, and
- Provide details to management of any differences noted during audit testing.

The audit scope included the review of data converted from New Vision to the Landmark and Taxsmart systems from June 28, 2021 to January 11, 2022.

The audit determined the data converted from New Vision to Landmark was accurate and reflective of the data from New Vision, with minor observations noted. The audit disclosed there were minor differences between record counts (quantity) and record dollar amounts for select tables reviewed within New Vision and Landmark. The weekly validation report conducted by Clerk's IT disclosed no differences in record counts and amounts for the selected tables reviewed. There were no duplicated records for the fields selected within the document and image tables within each system. We identified seven (7) of 21,230,800 (0.00003%) records in the Landmark document table that included either a tax deed or a suspended reference. Further testing identified 1,363,240 of 63,573,348 (2%) records converted to the Landmark image table did not have matching records for one (1) of the five (5) fields reviewed. A comparison between select New Vision and Taxsmart tables disclosed 76,981 (25%) records were excluded in Taxsmart as of January 11, 2022.

The report contains three (3) observations and three (3) recommendations.

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# Introduction

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## Overall Conclusion

Our review of select tables converted from New Vision to Landmark determined record counts and amounts were reflective of the data from New Vision, with minor observations noted. Our review of Taxsmart's records disclosed some records were excluded from Taxsmart when compared to New Vision records. Our review also disclosed the documents' and images' tables within Landmark were unique (e.g., no duplicate records), though some records did not have matching records in select fields. Clerk's IT has proactively developed automated scripts and implemented weekly validations to ensure the data converted from New Vision into Landmark and Taxsmart is complete (e.g., each system has the same record counts and amount). Our audit also determined opportunities exist to improve the validation process to detect inaccuracies.

## Objectives, Scope and Methodology

The Clerk's IG performed a management-requested, limited-scope audit of the data conversion from the New Vision into the Landmark and Taxsmart systems.

The objectives of this limited-scope audit were to review the ongoing data conversions between New Vision and Landmark during pre-implementation as follows:

- Conduct testing of the accuracy, completeness, and uniqueness of select data converted, and
- Provide details to management of any differences noted during audit testing.

The audit scope included the review of data converted from New Vision to the Landmark and Taxsmart systems on multiple occasions and dates from June 28, 2021 to January 11, 2022.

In order to meet these objectives, we obtained relevant information from management to identify key data elements and related processes. We conducted interviews and performed process walkthroughs. We utilized automated audit command language (Galvanize/ACL) software tools to evaluate 100% of the data contained within the selected tables. Our analysis included over 21 million records within the document tables and over 63 million records within the image tables. Testing was performed to verify data against established criteria to evaluate the accuracy, completeness, and uniqueness of data conversion. We performed other procedures deemed necessary under the circumstances.

We conducted the review of select data elements (e.g., record counts and dollar amounts) for various New Vision, Landmark and Taxsmart tables (order, receipt, receipt payments, fees, party, document, image, party names).

This audit was not intended to provide an opinion on the go-live readiness of the Landmark and Taxsmart systems.

# Background

The Clerk's office mission is to protect, preserve and maintain the public records and public funds with integrity and accountability. The Clerk's office supports Palm Beach County's Criminal, Civil and Juvenile Courts. The office processes, records and files court documents such as lawsuits, traffic tickets, final judgments, wills, domestic violence petitions and tenant evictions. The Clerk's office Operations & Official Records function is made up of four divisions: Criminal Court Services, Civil Court Services, Branch Court Services and Official Records. Each division is comprised of multiple departments offering various services.

As the County Recorder, the Clerk's office maintains and ensures the integrity of the Official Record Books of Palm Beach County and records documents into a computer system that is available to the public online and at all office locations. The Clerk's office current official records system is a customized version of New Vision Official Records Information System (New Vision), which was implemented in October 2001.

New Vision consists of a searchable computerized index and links to digital images of documents such as: court judgments, deeds, liens, marriage licenses, mortgages, plats and tax deeds. New Vision interfaces with a variety of systems within the Clerk's office as well as with other county and state agencies and external vendors including:

- ShowCase case management system
- PeopleSoft financial management system
- Property Fraud Alert
- Internal / External systems: eRecording, Redaction, and third-party e-Recording vendors
- Palm Beach County Property Appraiser
- Florida Court Clerks & Comptrollers (FCCC)
- Tax Deeds interfaces: Palm Beach County Tax Collector and Sheriff's Office, and third-party vendors.

The Clerk's office selected the Landmark and Taxsmart systems to replace New Vision and is working closely with Pioneer Technology Group (Pioneer) to manage the conversion. The Landmark and Taxsmart systems will include flexible interfaces for economical and efficient data exchange with existing Clerk's office, county, and state systems, and provide a platform for data exchange and reporting with third party systems. The expected system go-live date was not available.

The Clerk's office conversion of historical data from New Vision to Landmark included over 6 million receipts comprising over \$21 billion in payments and fees as of September 20, 2021. Details of the total number of records (count) and amounts converted from New Vision to Landmark are presented below in Table 1. Significant volumes of other records (e.g., documents, parties, images) converted are also summarized.

#	Item	New Vision	
		Count	Amount
1	RECEIPT	6,566,543	-
2	DOCUMENT	21,325,650	-
3	PARTY	55,502,408	-
4	IMAGE	63,782,373	-
5	RECEIPTPAYMENT CASH	562,509	\$ 10,846,631,841.43
6	RECEIPTPAYMENT CHECK	4,589,142	\$ 3,934,986,617.38
7	RECEIPTPAYMENT CREDIT	85,063	\$ 3,748,356.28
8	RECEIPTPAYMENT ESCROW	116,952	\$ 9,620,271.08
9	RECEIPTPAYMENT ACH	900,173	\$ 1,487,288,234.15
10	RECEIPTPAYMENT CHARGE	41,117	\$ 4,299,683.80
11	FEE_1 - RECORDING	8,492,324	\$ 144,730,690.03
12	FEE_2 - TRUST FUND	8,484,060	\$ 21,230,752.71
13	FEE_3 - INDEX FEE	400,378	\$ 893,088.00
14	FEE_4 - INTANGIBLE TAX	1,472,929	\$ 768,657,784.45
15	FEE_5 - DEED DOC	1,560,933	\$ 2,719,663,756.85
16	FEE_6 - MORTGAGE DOC	1,516,726	\$ 1,447,423,861.16

Table 1

Select data retrieved from the Clerk's IT Financial Examination and Validation of Conversion: Record Counts Between New Vision and Landmark and Record Amounts Between New Vision and Landmark as of September 20, 2021.

The Clerk's office's historical data extracted from New Vision to Taxsmart was summarized in Table 2 below as of September 20, 2021.

#	Item	Description	New Vision
			Count
1	CERTIFICATE COUNT (DT_DEEDS)	-	24,648
2	PARTY NAMES (DT_NAMES)	Party Names	217,774
3	PARTY NAMES (DT_SOLD_DETAIL)	Items Sold (inclusive of names)	3,789
4	PARTY NAMES (DT_DEPOSIT_ADJ)	Adjustments to Deposit Transactions (inclusive of names)	6,487
5	PARTY (DT_CHECK_REQ Pay To)	Check Request Table with Payor	87,207
6	PARTY (DT_CHECK_REQUESTBY)	Check Request Table with Payee	87,207
7	AUCTION (DT_DEEDS AUCTION)	-	449
8	TASK (DT_TO_DO_LIST)	-	169,596
9	NOTE (DT_DEEDS-NOTES)	-	15,342

Table 2

Data retrieved from the Clerk's IT Financial Examination and Validation of Conversion: Record Counts Between New Vision and Taxsmart as of September 20, 2021. This Table displays only the data extracted from New Vision.

Operations & Official Records is led by Amy Borman, Chief Operating Officer. The Clerk's Information Technology (Clerk's IT) team is supported by three directors: Wendy Basso, Parik Chokshi, and Rob Whitcomb. Ms. Borman and the Clerk's IT directors report to Shannon R. Chessman, Chief Deputy Clerk.

**Audit performed by:**

Monica Alvarenga, Inspector General, Senior

# Observations & Recommendations

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The audit was neither designed nor intended to be a detailed study of every relevant system, procedure or transaction. Accordingly, the observations and recommendations presented in this report may not be all-inclusive of areas where improvements may be needed.

## 1. Integrity testing of select system tables.

Our review disclosed there were minor differences noted between tables within select New Vision and Landmark. Testing of Taxsmart records disclosed a difference of 76,981 (25%) records between the New Vision extracted records' tables reviewed by Clerk's IT and Clerk's IG.

**Objective of Testing:** The objective of this test was to perform an independent comparison between the data converted from New Vision to Landmark and Taxsmart for the following selected data elements:

- New Vision and Landmark: order, receipt, receipt payments (cash, check, credit, escrow, ACH, and charge), fees (fee 1 to fee 6), document, party, image, and party names.
- New Vision and Taxsmart: party names.

**Method of Testing:** We performed the following:

- We obtained and reviewed the Official Record Conversion Validation Report (Conversion Validation Report) for both counts and amounts from the Senior System Analyst (System Analyst). We selected 17 of 27 data elements for Landmark and 1 of 9 from Taxsmart.
- We downloaded the select tables for New Vision, Landmark, and Taxsmart via Microsoft Open Database Connectivity (ODBC) into Galvanize/ACL at various dates during the audit (refer to tables in respective sections) and summarized each data element via counts and amounts.
- We compared our results to the results of the Conversion Validation Report and noted exceptions.

**Clerk's IT Process:** On a weekly basis, the System Analyst reviews whether select data elements from New Vision and Landmark were captured accurately (both in counts and dollar amounts) during conversion. The System Analyst designed the Conversion Validation Report to automatically validate the records (with noted exclusions) as following:

- Conversion Validation Reports between the New Vision and Landmark systems are categorized in three (3) parts:
  - Part I - Financial (e.g., fee, payment type)
  - Part II - Non-Financial Count (e.g., document and image record count)
  - Part III - Integrity Check (e.g., CFN, book, page)



The results of the validation are disclosed in the Conversion Validation Report, which includes the following specific reports:

- Record Counts Between New Vision and Landmark
- Record Amounts Between New Vision and Landmark
- Conversion Validation Reports between the New Vision and Taxsmart: The System Analyst designed a similar, comprehensive periodic review for data elements in Taxsmart, which was captured in the Record Counts Between New Vision and Taxsmart Report.

**Results of Testing:** Below are the results of the record counts and amounts between New Vision, Landmark and Taxsmart.

### 1.1 Record Counts Between New Vision and Landmark:

The Clerk’s Inspector General (Clerk’s IG) analysis of the data converted from New Vision to Landmark on four (4) different dates as well as the Clerk’s IT data validation on September 20, 2021, are detailed below (Table 3).

#	Item	Clerk's IG Review											Clerk's IT			Comments	
		6/28/2021			7/9/2021			7/28/2021			8/17/2021			9/20/2021			
		New Vision	Landmark	Difference	New Vision	Landmark	Difference	New Vision	Landmark	Difference	New Vision	Landmark	Difference	New Vision	Landmark		Difference
1	ORDER	6,465,825	6,465,829	(4)	Not tested	Not tested	Not tested	6,500,357	6,500,357	-	Not tested	Not tested	Not tested	6,566,543	6,566,543	-	-
2	RECEIPT	6,465,825	6,465,829	(4)	Not tested	Not tested	Not tested	6,500,357	6,500,357	-	Not tested	Not tested	Not tested	6,566,543	6,566,543	-	-
3	RECEIPTPAYMENT CASH	559,214	559,214	-	Not tested	Not tested	Not tested	560,324	560,324	-	Not tested	Not tested	Not tested	562,509	562,509	-	-
4	RECEIPTPAYMENT CHECK	4,575,115	4,575,115	-	Not tested	Not tested	Not tested	4,579,859	4,579,859	-	Not tested	Not tested	Not tested	4,589,142	4,589,142	-	-
5	RECEIPTPAYMENT CREDIT	80,668	80,668	-	Not tested	Not tested	Not tested	82,157	82,157	-	Not tested	Not tested	Not tested	85,063	85,063	-	-
6	RECEIPTPAYMENT ESCROW	116,183	116,183	-	Not tested	Not tested	Not tested	116,456	116,456	-	Not tested	Not tested	Not tested	116,952	116,952	-	-
7	RECEIPTPAYMENT ACH	850,095	850,095	-	Not tested	Not tested	Not tested	867,665	867,665	-	Not tested	Not tested	Not tested	900,173	900,173	-	-
8	RECEIPTPAYMENT CHARGE	40,660	40,660	-	Not tested	Not tested	Not tested	40,807	40,807	-	Not tested	Not tested	Not tested	41,117	41,117	-	-
9	FEE_1	8,384,064	8,384,031	33	8,402,719	8,394,573	8,146	8,422,073	8,422,059	14	Not tested	Not tested	Not tested	8,492,324	8,492,324	-	Note 1
10	FEE_2	8,375,862	8,375,829	33	8,394,508	8,386,368	8,140	8,413,851	8,413,837	14	Not tested	Not tested	Not tested	8,484,060	8,484,060	-	-
11	FEE_3	392,335	392,333	2	393,640	393,057	583	395,074	395,072	2	Not tested	Not tested	Not tested	400,378	400,378	-	-
12	FEE_4	1,456,377	1,456,370	7	1,459,525	1,458,208	1,317	1,462,238	1,462,235	3	Not tested	Not tested	Not tested	1,472,929	1,472,929	-	-
13	FEE_5	1,540,778	1,540,769	9	1,544,515	1,542,871	1,644	1,548,071	1,548,068	3	Not tested	Not tested	Not tested	1,560,933	1,560,933	-	-
14	FEE_6	1,499,604	1,499,597	7	1,502,850	1,501,493	1,357	1,505,647	1,505,644	3	Not tested	Not tested	Not tested	1,516,726	1,516,726	-	-
15	PARTY	Not tested	Not tested	Not tested	Not tested	Not tested	Not tested	55,256,023	55,256,022	1	Not tested	Not tested	Not tested	55,502,408	55,502,408	-	-
16	DOCUMENT	Not tested	Not tested	Not tested	Not tested	Not tested	Not tested	21,230,793	21,230,800	(7)	Not tested	Not tested	Not tested	21,325,650	21,325,650	-	Note 2
17	IMAGE	Not tested	Not tested	Not tested	Not tested	Not tested	Not tested	Not tested	Not tested	Not tested	63,618,578	63,573,348	45,230	63,782,373	63,782,373	-	Note 3

Table 3

Gray column select data retrieved from the Clerk’s IT Financial Examination and Validation of Conversion: Record Counts Between New Vision and Landmark at different periods.

We noted the following (the Notes below refer to Comments field above):

- Note 1 – Minor differences (in red highlight) were noted (Table 3) between the New Vision and Landmark converted record counts (quantity) for the select tables. The System Analyst stated the differences noted could be the result of ‘data drift’, which occurs when the same tables are retrieved at different times. The System Analyst stated either Clerk’s IT or Pioneer (vendor) may modify the tables at different times after conversion; however, these changes are later cleared and the tables should match. We performed limited analysis to identify these differences (refer to Note 2 and 3 below). We noted the Clerk’s IT Conversion Validation Report as of September 20, 2021 (in gray above) showed no differences for the select data elements between New Vision and Landmark.
- Note 2 – For each document table within New Vision and Landmark, we excluded select items as further detailed below in Table 4:

Document Tables Exclusions	New Vision Count of Records	Landmark Count of Records
Original number of records	21,358,846	22,424,397
Records containing a tax deed reference ("T")	(116,406)	-
Records containing a suspended reference ("S")	(7,401)	-
Null (blank) records	(4,246)	(1,193,597)
Total final record count	21,230,793	21,230,800
Difference		(7)

Table 4

The System Analyst stated records containing a tax deed ("T") or a suspended ("S") reference should not have migrated to Landmark. Therefore, we excluded these records from the New Vision document table, but not from the Landmark document table. Blank records were also excluded from the two tables. As further explained in Observation #2 (page 11), the seven (7) records noted as differences in Table 4 were related to tax deeds and suspended records that were migrated to Landmark.

- Note 3 - For each document image table within New Vision and Landmark, we excluded select items as further detailed below in Table 5:

Document Image Tables Exclusions	New Vision Count of Records	Landmark Count of Records
Original number of records	63,618,578	64,766,945
Null (blank) records	-	(1,193,597)
Total final record count	63,618,578	63,573,348
Difference		45,230

Table 5

There was a difference of 45,230 records between the image tables within New Vision and Landmark. We performed a detailed review of the difference in Observation #3 (page 13) and noted these records were excluded in the Landmark table.

## 1.2 Record Amounts Between New Vision and Landmark:

The Clerk's IG review of the data converted from New Vision to Landmark on three (3) different dates as well as the Clerk's IT data validation on September 20, 2021, are detailed below (Table 6).

#	Item	Clerk's IG Review									Clerk's IT		
		6/28/2021			7/9/2021			7/28/2021			9/20/2021		
		New Vision	Landmark	Difference	New Vision	Landmark	Difference	New Vision	Landmark	Difference	New Vision	Landmark	Difference
1	RECEIPTPAYMENT CASH AMOUNT	\$10,911,755,343.29	\$10,911,755,343.29	\$ -	Not tested	Not tested	Not tested	\$10,911,782,116.10	\$10,846,590,764.84	\$ 65,191,351.26	\$10,846,031,841.43	\$10,846,031,841.43	\$ -
2	RECEIPTPAYMENT CHECK	\$ 3,917,847,202.26	\$ 3,917,847,202.26	\$ -	Not tested	Not tested	Not tested	\$ 3,925,168,597.62	\$ 3,925,163,845.41	\$ 4,752.21	\$ 3,934,986,617.38	\$ 3,934,986,617.38	\$ -
3	RECEIPTPAYMENT CREDIT AMOUNT	\$ 3,581,435.20	\$ 3,581,435.20	\$ -	Not tested	Not tested	Not tested	\$ 3,641,649.94	\$ 3,641,649.94	\$ -	\$ 3,748,356.28	\$ 3,748,356.28	\$ -
4	RECEIPTPAYMENT ESCROW AMOUNT	\$ 9,572,854.78	\$ 9,572,854.78	\$ -	Not tested	Not tested	Not tested	\$ 9,587,220.18	\$ 9,587,220.18	\$ -	\$ 9,620,271.08	\$ 9,620,271.08	\$ -
5	RECEIPTPAYMENT ACH AMOUNT	\$ 1,382,844,170.38	\$ 1,382,844,170.38	\$ -	Not tested	Not tested	Not tested	\$ 1,420,560,659.18	\$ 1,420,560,659.18	\$ -	\$ 1,487,288,234.15	\$ 1,487,288,234.15	\$ -
6	RECEIPTPAYMENT CHARGE AMOUNT	\$ 4,270,911.20	\$ 4,270,911.20	\$ -	Not tested	Not tested	Not tested	\$ 4,278,492.30	\$ 4,278,492.30	\$ -	\$ 4,299,683.80	\$ 4,299,683.80	\$ -
7	FEE_1 AMT	\$ 142,855,358.03	\$ 142,854,597.03	\$ 761.00	\$ 143,195,564.03	\$ 143,046,996.03	\$ 148,568.00	\$ 143,515,960.03	\$ 143,515,706.03	\$ 254.00	\$ 144,730,690.03	\$ 144,730,690.03	\$ -
8	FEE_2 AMT	\$ 20,956,081.71	\$ 20,955,974.21	\$ 107.50	\$ 21,005,557.21	\$ 20,983,964.21	\$ 21,593.00	\$ 21,052,811.71	\$ 21,052,774.71	\$ 37.00	\$ 21,230,752.71	\$ 21,230,752.71	\$ -
9	FEE_3 AMT	\$ 880,216.00	\$ 880,214.00	\$ 2.00	\$ 882,140.00	\$ 881,271.00	\$ 869.00	\$ 884,539.00	\$ 884,535.00	\$ 4.00	\$ 893,088.00	\$ 893,088.00	\$ -
10	FEE_4 AMT	\$ 752,160,405.06	\$ 752,152,518.16	\$ 7,886.90	\$ 755,525,754.76	\$ 753,738,093.71	\$ 1,787,661.05	\$ 758,058,305.63	\$ 758,056,189.03	\$ 2,116.60	\$ 768,657,784.45	\$ 768,657,784.45	\$ -
11	FEE_5 AMT	\$ 2,649,521,824.15	\$ 2,649,488,958.45	\$ 32,865.70	\$ 2,663,671,545.05	\$ 2,657,901,147.55	\$ 5,770,397.50	\$ 2,675,939,532.25	\$ 2,675,932,511.25	\$ 7,021.00	\$ 2,719,663,756.85	\$ 2,719,663,756.85	\$ -
12	FEE_6 AMT	\$ 1,417,113,630.16	\$ 1,417,099,827.56	\$ 13,802.60	\$ 1,423,590,788.26	\$ 1,419,956,012.71	\$ 3,634,775.55	\$ 1,428,153,201.71	\$ 1,428,149,497.66	\$ 3,704.05	\$ 1,447,423,861.16	\$ 1,447,423,861.16	\$ -

Table 6

Gray column select data retrieved from the Clerk's IT Financial Examination and Validation of Conversion: Record Amounts Between New Vision and Landmark at different periods.

We noted minor differences between the New Vision and Landmark converted record amounts for the selected tables (in red highlight). We noted the receipt payment cash amount difference of \$65.2 million of \$10.8 billion (in blue highlight) represents a 0.6% difference in Landmark. The System Analyst noted above (in Observation 1.1, Note 1) these differences may be the result of ‘data drift’ though this could not be confirmed. We did not perform further analysis to identify these differences and noted the Clerk’s IT Conversion Validation Report as of September 20, 2021 (in gray highlight) showed no differences for the select tables.

### 1.3 Record Counts Between New Vision and Taxsmart:

The Clerk’s IG review of the data converted from New Vision to Taxsmart on multiple different dates are detailed below (Table 7).

#	Item	Clerk's IG Review			Clerk's IT Review			Clerk's IG Review			Clerk's IT Review		
		9/27/2021 at 1:49PM			9/27/2021 at 8:03AM			10/27/2021 at 11:26AM			10/25/2021 at 11:01AM		
		Note 1						Note 2					
		New Vision	TaxSmart	Difference	New Vision	TaxSmart	Difference	New Vision	TaxSmart	Difference	New Vision	TaxSmart	Difference
1	PARTY NAMES (DT_NAMES)	295,721	216,609	79,112	217,774	216,609	1,165	298,046	223,124	74,922	223,124	223,124	-

#	Item	Clerk's IG Review			Clerk's IT Review			Clerk's IG Review			Clerk's IT Review		
		12/6/21 at 12:30PM			12/6/2021 at 8AM			1/11/22 at 4PM			1/10/2022 at 8AM		
		Note 3						Note 4					
		New Vision	TaxSmart	Difference	New Vision	TaxSmart	Difference	New Vision	TaxSmart	Difference	New Vision	TaxSmart	Difference
1	PARTY NAMES (DT_NAMES)	301,853	224,806	77,047	224,809	224,809	-	305,380	228,399	76,981	224,809	224,809	-

Table 7

Gray columns: select data retrieved from the Clerk’s IT Financial Examination and Validation of Conversion: Record Counts Between New Vision and Taxsmart on various dates as noted.

Our review of the data disclosed the following:

- Note 1: There was a difference of 79,112 (295,721 – 216,609) records between the New Vision and Taxsmart tables downloaded by Clerk’s IG on September 27, 2021. The System Analyst stated the reason for the difference is that the data conversion into Taxsmart was suspended at the end of July 2021; however, the data was still being extracted from New Vision. Data extraction represents an exact copy, or snapshot, of the production data at that point in time. It is during the conversion process that the extracted data is modified (e.g., scrubbed, translated) into the target application data constructs in Landmark. The System Analyst also stated this difference could be the result of data drift as the tables were downloaded by Clerk’s IG at different times when compared to the Clerk’s IT Financial Examination and Validation of Conversion (Clerk’ IT Conversion Validation Report) as of September 27, 2021 (in gray above), though this could not be confirmed.
- Note 2: We re-performed the testing on October 27, 2021 (after conversion had resumed), and noted a difference of 74,922 (298,046 – 223,124) records. The Clerk’s IT Conversion Validation Report, as of October 25, 2021, showed no differences for the select tables in New Vision and Taxsmart (in gray above).
- Note 3: We re-performed the testing on December 6, 2021, and noted a difference of 77,047 (301,853 – 224,806) records. The Clerk’s IT Conversion Validation Report, retrieved on the same day, disclosed no differences for the select tables in New Vision and Taxsmart (in gray above). Upon inquiry, management stated that the changes made after conversion had not been updated in the support environment

(which was the database we used to perform the data analysis) and this could account for the mismatched data.

- Note 4: We re-performed the testing on January 11, 2022 (after the support environment had been updated), and noted a difference of 76,981 (305,380 – 228,399) records. The Clerk’s IT Conversion Validation Report as of January 10, 2022, showed no differences for the select tables in New Vision and Taxsmart (in gray above).

**Recommendation:**

- A. Management should continue to validate the record counts and amounts for the tables above and investigate differences noted in the observations above.

**Management Response:**

- A. It is the goal of IT and Operations to be able to validate the accuracy of the Tax Deeds conversion from New Vision to TaxSmart. Based upon ongoing and regular analysis conducted by IT and Operations, discrepancies are quickly identified and follow-up actions will continue to be taken to address any data inconsistencies. In addition to weekly records counts and IT analysis, conversion review guides are being developed by operational staff, which will be used by additional Operational staff members to conduct a visual review of converted data within the application. This is an additional check to ensure the correct data is also mapping to the appropriate field in the application.

Due to the manner in which the data is stored in the New Vision database, and the conversion approach to TaxSmart, variations on the number of PARTY\_NAMES is an expected outcome. Parties are matched by either Financial transaction or certificate number, leaving a multitude of orphaned or duplicate names. These orphaned and/or duplicate names are not pulled over into the TaxSmart application as they are not associated with either a financial transaction or certificate number.

Target Completion Date: Completed

## 2. Accuracy and uniqueness testing of documents tables.

Our review disclosed there were no duplicated records in the documents’ tables within New Vision and Landmark for select fields reviewed in each system. There were seven (7) of 21,230,800 records (0.00003%) in the Landmark document table that included either a tax deed or a suspended reference. We could not determine whether these records were appropriately not included in Landmark.

**Objective of Testing:** The objective of this test was to identify whether documents converted from New Vision to Landmark were both unique (non-duplicated records) and accurate.

**Method of Testing:** We downloaded the tables below from New Vision and Landmark and selected the three (3) common fields for review:

- New Vision: The 'Document' table contained 21,230,793 records, equivalent to 33,857 book numbers. Fields reviewed: 'BOOK', 'PAGE', 'FILE\_NUM'.
- Landmark: The 'Document' table contained had 21,230,800 records, equivalent to 33,857 book numbers. Fields reviewed: 'BookNumber', 'PageNumber', 'ClerkFileNumber'.

**Detailed Results of the Review:**

*Duplicate Test Analysis:* To determine whether each document was unique, we applied the duplicate analysis in Galvanize/ACL on each respective field (listed above) in New Vision and Landmark. We noted there were no duplicate records; that is, the select fields were unique to each document.

*Test of Accuracy and Completeness:* To identify whether each document was accurately converted from New Vision to Landmark, we matched the tables from each system to the three (3) respective fields listed above. Table 8 below indicates there were two (2) of 21,230,793 records in New Vision without corresponding records in Landmark and nine (9) of 21,230,800 records in Landmark without corresponding records in New Vision. There was a net difference of seven (7) records included in Landmark, which were unmatched in New Vision.

System	Total Unmatched Records	Total Records
New Vision	2	21,230,793
Landmark	9	21,230,800
Difference	(7)	(7)

Table 8

We performed further analysis to identify whether any of the unmatched records were included in Landmark based on a combination of the fields mentioned above. For example, we tested whether the records matched only on one (1) field (*FILE\_NUM*/*ClerkFileNumber*). We noted all nine (9) unmatched records were included in Landmark, but were unmatched on a combination of fields as noted below in Table 9:

Unmatched Records					
Field Name		New Vision	Landmark	Difference	Comments
1- BOOK (BookNumber)	Blank Cells	None	1		Note 1
	Other	2	8		
	Total unmatched	2	9	-7	
2- PAGE_NUM (PageNumber)	Blank Cells	None	1		Note 1
	Other	2	8		
	Total unmatched	2	9	-7	
31- FILE_NUM (ClerkFileNumber)	Total unmatched	2	7	-7	Note 2

Table 9

- Note 1: Two (2) records (highlighted in red) in New Vision were identified during the data analysis as mismatched because the cells had a slightly different data format in the Book and Page Number Fields. This caused a mismatch to occur, but the two (2) records were included in both tables.
- Note 2: The seven (7) records (highlighted in red) were either tax deeds or suspended records. As noted in Observation #1, tax deeds and suspended records were excluded (for the purpose of the data analysis) from the New Vision tables because these should not have migrated into Landmark. The System Analyst stated these records are under review. We performed further data analysis to determine whether there were any additional tax deed and suspended records included in Landmark and noted no additional records.

**Recommendation:**

- A. Management should continue to validate the records within the documents’ tables for data uniqueness (e.g., duplicate records). Management should broaden the validation process by reviewing whether the content of the documents’ tables is reflective of data migrated and assess whether data elements (e.g., tax deed or suspended records) are appropriately not included in Landmark. Management should review any differences noted in the observation above.

**Management Response:**

- A. It is the goal of IT and Operations to be able to validate the accuracy of the Official Records data conversion from New Vision to Landmark. Based upon ongoing and regular analysis conducted by IT and Operations, data discrepancies are quickly identified, and follow-up actions will continue to be taken to address any data inconsistencies. In addition to weekly records counts and IT analysis, conversion review guides have been made available for Operational staff members to conduct a visual review of converted data within the application. This is an additional check to ensure the correct data is also mapping to the appropriate field in the application. Conversion review exercises are conducted after each Dry run (2), and will continue to take place following future Mock exercises.  
Target Completion Date: Completed

### 3. Accuracy and uniqueness testing of documents’ images tables.

Our review disclosed there was no duplicated records in the images’ tables within New Vision and Landmark. There were 1,363,240 of 63,573,348 (2%) records converted to Landmark that did not have matching records for one (1) of the five (5) fields reviewed. There were 1,363,240 of 1,363,272 (99.998%) records without alpha-numeric references. Also, there were 45,230 records (orphan images as explained further below) included in New Vision that were excluded from Landmark.



**Objective of Testing:** The objective of this test was to identify whether documents' images converted from New Vision to Landmark were both unique (non-duplicate records) and accurate.

**Method of Testing:** We downloaded the tables below from New Vision and Landmark and selected the five (5) common fields below for review:

- New Vision: The 'PG1' table had 63,618,578 records, equivalent to 21,185,829 unique documents. Fields reviewed: 'ID, DOCUMENT\_ID', 'PG\_NUM', 'FILE\_LOC', 'CHECK\_SUM'.
- Landmark: The 'DocumentImage' table had 63,573,348 records, equivalent to 21,170,628 unique documents. Fields reviewed: 'ID, DocumentId', 'ImageSequence', 'ImagePath', 'Hash'.

**Detailed Results of the Review:**

*Duplicate Record Test Analysis:* To determine whether each image was unique, we applied the duplicate analysis in Galvanize/ACL to each respective field (listed above) in New Vision and Landmark. We noted there were no duplicate records; that is, the select fields were unique to each document.

*Test of Accuracy and Completeness:*

*Unmatched Records:* To identify whether each image was accurately converted from New Vision to Landmark, we matched the tables from each system to the five (5) respective fields above. The total number of unmatched records, total records, and percentage (%) of unmatched records are summarized below (Table 10). For example, there were 1,408,502 of 63,618,578 (2%) records in New Vision without matching records in Landmark based on the five (5) fields reviewed.

System	Total Unmatched Records	Total Records	%
New Vision	1,408,502	63,618,578	2%
Landmark	1,363,272	63,573,348	2%
Difference	45,230	45,230	

Table 10

We performed further analysis to identify whether any of the unmatched records were included in Landmark based on a combination of the fields mentioned above. For example, we tested whether the records matched only on four (4) fields (ID, DOCUMENT\_ID', 'PG\_NUM'/'Image Sequence', Check Sum/Hash) and noted the following:

- *Unmatched Records Excluded from Landmark:*
  - As shown in Table 10, there was a difference of 45,230 records between the two systems. We noted these records were excluded in Landmark.
  - The System Analyst noted these were orphan images (records without matching documents) and they were appropriately not converted to Landmark. We could not confirm that these records were orphan images nor confirm whether the records should have been excluded from Landmark.

- **Unmatched Records Included in Landmark:**
  - For the remaining 1,363,272 records, we performed data analytics to identify the mismatches within the five (5) fields in New Vision and Landmark and the associated records. Further explanatory notes are provided for Table 11 below.

**Unmatched Records**

Field Name		New Vision	Landmark	Comments
1- ID		All records matched		Note 1
2- Document ID		All records matched		
3- Page Number (Image Sequence)		All records matched		
4- FILE LOC (Image Path)	Blank cells	680,297	None	Note 2
	Tax Deeds	682,975	682,975	
	Other	None	680,297	
	<b>Total unmatched</b>	<b>1,363,272</b>	<b>1,363,272</b>	
5- Check Sum (Hash)		All records matched		Note 1 & 3

Table 11

- Note 1 - The 1,363,272 records in New Vision and Landmark matched based on four (4) fields (ID, Document ID, Page Number/Image, and Check Sum/Hash Sequence).
- Note 2 - The 1,363,272 records did not match based on one (1) field (File LOC/Image Path).
  - There were 680,297 blank cells in New Vision, which did not correspond to the records in Landmark. We determined these were non-blank cells included in Landmark as ‘Other’. Upon additional review, we noted the 680,297 records in Landmark (in ‘Other’) contained the same information as the New Vision’s and Landmark’s ID field. That is, whenever there was a blank cell in the New Vision field (under ‘Blank cells’), the ID field was used to populate the ‘Other’ records for Landmark. This caused the mismatch within the FILE LOC/Image Path field.
  - There were 682,975 records in both tables related to tax deed references. However, these records had different alpha-numeric numbers, which accounts for the mismatch. For example, a record in New Vision was exported to Landmark as TXI5000nlp120000000105001, instead of TXI5000nlp120000000 in New Vision. The System Analyst noted tax deeds records should not have imported to Landmark and the records are under review. We performed data analysis to determine whether any other tax deeds records migrated from New Vision and noted no additional records.
- Note 3 - The Check Sum (Hash) Field included:
  - As discussed in Note 1 above, all 1,363,272 cells matched in both systems’ Check Sum/Hash fields. However, we further noted 1,363,240 of 1,363,272 (99.998%) cells were blank. The System Analyst noted the Check SUM/Hash fields should have valid alpha-numeric references.



**Recommendation:**

- A. Management should continue to validate the records within the image tables for data uniqueness (e.g., duplicate records). Management should broaden the validation process by reviewing whether the content of the images' tables is reflective of data migrated and assess whether data elements (e.g., tax deed) are appropriately not included in Landmark. Management should review any differences noted in the observation above.

**Management Response:**

- A. It is the goal of IT and Operations to be able to validate the accuracy of the Official Records image conversion from New Vision to Landmark. Based upon ongoing and regular analysis conducted by IT and Operations, discrepancies are quickly identified, and follow-up actions will continue to be taken to address any missing images or images discrepancies. Images are reviewed as part of regular conversion evaluation by Operational staff. This is an additional check to ensure the correct image is associated with the correct record within the application. Conversion review exercises are conducted after each Dry run (2), and will continue to take place following future Mock exercises.  
Target Completion Date: Completed