Office of the Clerk & Recorder

1750 33rd Street · Boulder, CO 80301 · www.BoulderCounty.org

Hillary Hall, Boulder County Clerk & Recorder

November 19, 2015

RE: Post-Election Audit of the Boulder County 2015 Coordinated Election

The 2015 Coordinated Election Audit included the manual verification of 4,713 votes on 953 contests on 331 ballots.

Of the 4,713 votes verified, two differences were confirmed. Both differences were attributable to voter error. One difference was due to a faint mark in the target area, and the second came from a stricken candidate name. While both differences were attributed to voter error, an improperly resolved strike through vote prompted escalation by the County Clerk.

The total number of ballots audited in the escalation process was 23,479. A total of 8 contests containing improperly resolved non-over votes with strike through votes were discovered. To determine if this uncertainty could have an impact on contest outcomes, a worst case rate was applied to all contests and no impact on outcomes was found. Hence, we concluded that no additional escalation was warranted.

The following attachments are included:

- 2015 Coordinated Post-Election Audit Report
- Process Information
- Results Comparisons Worksheet
- Impact Analysis

Please contact me with any questions.

Regards,

Justine Vigil-Tapia

Justine Vigil-Tapia, PMP
Deputy Elections Coordinator
Boulder County Clerk & Recorder's Office
303-413-7745

Attachment 1

2015 Coordinated Election Post-Election Audit
Boulder County

Boulder County						
Type	Make / Model	Serial #	Contest Name to Audit	Candidate	Machine Count	Manual/Hand Count
DRE	Hart / eSlate	A0AAB4	Town Of Lyons Ballot Issue 2A	YES	NO VOTES	NO VOTES
DRE	Hart / eSlate	A0AAB4	Town Of Lyons Ballot Issue 2A	NO	NO VOTES	NO VOTES
DRE	Hart / eSlate	A0AAB4	City of Louisville City Council Person Ward I	Jay Keany	NO VOTES	NO VOTES
CCOS	Hart / Kodak I830	K4290-7285	Town Of Jamestown Ballot Issue 2E	YES	1	1
CCOS	Hart / Kodak I830	K4290-7285	Town Of Jamestown Ballot Issue 2E	NO	0	0
CCOS	Hart / Kodak I830	K4290-7285	City of Boulder Ballot Question 2O	For the Measure	160	160
CCOS	Hart / Kodak I830	K4290-7285	City of Boulder Ballot Question 2O	Against the Measure	38	38
CCOS	Hart / Kodak I830	K4290-7285	City Of Boulder Ballot Issue 2N	For The Measure	110	110
CCOS	Hart / Kodak I830	K4290-7285	City Of Boulder Ballot Issue 2N	Against The Measure	105	105

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2015 Coordinated Election Post-Election Audit
Boulder County

Boulder County						
Type	Make / Model	Serial #	Contest Name to Audit	Candidate	Machine Count	Manual/Hand Count
CCOS	Hart / Kodak I830	K4290-7285	City of Louisville Mayor	Bob Muckle	4	4
CCOS	Hart / Kodak I830	K4290-7285	Thompson School District R2-J Board of Education Director District D	Pam Howard	NO VOTES	NO VOTES
CCOS	Hart / Kodak I830	K4290-7285	Thompson School District R2-J Board of Education Director District D	Tomi Grundvig	NO VOTES	NO VOTES
CCOS	Hart / Kodak I830	K4290-7285	City of Boulder Ballot Question 2P	For the Measure	176	176
CCOS	Hart / Kodak I830	K4290-7285	City of Boulder Ballot Question 2P	Against the Measure	34	34
CCOS	Hart / Kodak I830	K4290-7285	Boulder Valley School District RE-2 Director District A	Denny McCloskey	65	65
CCOS	Hart / Kodak I830	K4290-7285	Boulder Valley School District RE-2 Director District A	Shelly Benford	106	106
CCOS	Hart / Kodak I830	K4290-7285	Thompson School District R2-J Board of Education Director District A	Jeff Swanty	NO VOTES	NO VOTES
CCOS	Hart / Kodak I830	K4290-7285	Thompson School District R2-J Board of Education Director District A	Aimie Randall	NO VOTES	NO VOTES

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2015 Coordinated Election Post-Election Audit
Boulder County

Boulder County						
Type	Make / Model	Serial #	Contest Name to Audit	Candidate	Machine Count	Manual/Hand Count
CCOS	Hart / Kodak I830	K4290-7285	Boulder Valley School District RE-2 Director District C	Chris Barge	71	71
CCOS	Hart / Kodak I830	K4290-7285	Boulder Valley School District RE-2 Director District C	Kathy Gebhardt	72	72
CCOS	Hart / Kodak I830	K4290-7285	City Of Boulder Ballot Question 300	For the Measure	101	101
CCOS	Hart / Kodak I830	K4290-7285	City Of Boulder Ballot Question 300	Against the Measure	112	112
CCOS	Hart / Kodak I830	K4290-7285	Estes Valley Recreation And Park District Ballot Issue 4D	Yes/For	NO VOTES	NO VOTES
CCOS	Hart / Kodak I830	K4290-7285	Estes Valley Recreation And Park District Ballot Issue 4D	No/Against	NO VOTES	NO VOTES
CCOS	Hart / Kodak I830	K4290-7285	City Of Lafayette Ballot Question 2K	Yes	10	10
CCOS	Hart / Kodak I830	K4290-7285	City Of Lafayette Ballot Question 2K	No	7	7

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2015 Coordinated Election Post-Election Audit
Boulder County

Boulder County						
Type	Make / Model	Serial #	Contest Name to Audit	Candidate	Machine Count	Manual/Hand Count
CCOS	Hart / Kodak I830	K4290-7285	Thompson School District R2-J Board of Education Director District C	Denise Montagu	NO VOTES	NO VOTES
CCOS	Hart / Kodak I830	K4290-7285	Thompson School District R2-J Board of Education Director District C	Vance Hansen	NO VOTES	NO VOTES
CCOS	Hart / Kodak I830	K4290-7285	City Of Longmont City Council Ward 3	Bonnie Finley	7	7
CCOS	Hart / Kodak I830	K4290-7285	City Of Longmont City Council Ward 3	Paul Rennix	3	3
CCOS	Hart / Kodak I830	K4290-7285	Town Of Nederland Ballot Issue 2C	YES	2	2
CCOS	Hart / Kodak I830	K4290-7285	Town Of Nederland Ballot Issue 2C	NO	0	0
CCOS	Hart / Kodak I830	K4290-7285	City of Boulder Ballot Question 2R	For the Measure	99	99
CCOS	Hart / Kodak I830	K4290-7285	City of Boulder Ballot Question 2R	Against the Measure	106	106

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2015 Coordinated Election Post-Election Audit
Boulder County

Boulder County						
Type	Make / Model	Serial #	Contest Name to Audit	Candidate	Machine Count	Manual/Hand Count
CCOS	Hart / Kodak I830	K4290-7285	City of Longmont Ballot Question 2D	Yes	10	10
CCOS	Hart / Kodak I830	K4290-7285	City of Longmont Ballot Question 2D	No	20	20
CCOS	Hart / Kodak I830	K4290-7285	City of Longmont Mayor	Sarah Levison	13	14
CCOS	Hart / Kodak I830	K4290-7285	City of Longmont Mayor	Ron Gallegos	8	8
CCOS	Hart / Kodak I830	K4290-7285	City of Longmont Mayor	Dennis L. Coombs	10	10
CCOS	Hart / Kodak I830	K4290-7285	Boulder Valley School District RE-2 Director District G	Richard L. Garcia	152	152
CCOS	Hart / Kodak I830	K4290-7285	Proposition BB (STATUTORY)	No/Against	225	225
CCOS	Hart / Kodak I830	K4290-7285	Proposition BB (STATUTORY)	Yes/For	97	97

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2015 Coordinated Election Post-Election Audit
Boulder County

Boulder County						
Type	Make / Model	Serial #	Contest Name to Audit	Candidate	Machine Count	Manual/Hand Count
CCOS	Hart / Kodak I830	K4290-7285	Boulder Rural Fire Protection District Ballot Issue 5B	YES	10	10
CCOS	Hart / Kodak I830	K4290-7285	Boulder Rural Fire Protection District Ballot Issue 5B	NO	5	5
CCOS	Hart / Kodak I830	K4290-7285	Town Of Jamestown Ballot Issue 2F	YES	1	1
CCOS	Hart / Kodak I830	K4290-7285	Town Of Jamestown Ballot Issue 2F	NO	0	0
CCOS	Hart / Kodak I830	K4290-7285	City Of Boulder Ballot Question 301	For the Measure	91	91
CCOS	Hart / Kodak I830	K4290-7285	City Of Boulder Ballot Question 301	Against the Measure	118	118
CCOS	Hart / Kodak I830	K4290-7285	City of Louisville City Council Person Ward II	Susan Loo	1	1
CCOS	Hart / Kodak I830	K4290-7285	Boulder Valley School District RE-2 Ballot Question 3A	Yes	241	241
CCOS	Hart / Kodak I830	K4290-7285	Boulder Valley School District RE-2 Ballot Question 3A	No	23	23

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2015 Coordinated Election Post-Election Audit
Boulder County

Boulder County						
Type	Make / Model	Serial #	Contest Name to Audit	Candidate	Machine Count	Manual/Hand Count
CCOS	Hart / Kodak I830	K4290-7285	City Of Lafayette Council	Christine Berg	11	11
CCOS	Hart / Kodak I830	K4290-7285	City Of Lafayette Council	Cliff Willmeng	6	6
CCOS	Hart / Kodak I830	K4290-7285	City Of Lafayette Council	Alexandra Lynch	7	7
CCOS	Hart / Kodak I830	K4290-7285	City Of Lafayette Council	Frank Phillips	4	4
CCOS	Hart / Kodak I830	K4290-7285	City Of Lafayette Council	Brad Wiesley	8	6
CCOS	Hart / Kodak I830	K4290-7285	City Of Lafayette Council	Stephanie Walton	5	5
CCOS	Hart / Kodak I830	K4290-7285	City Of Lafayette Council	Cliff Smedley	7	7
CCOS	Hart / Kodak I830	K4290-7285	City of Boulder Ballot Question 2Q	For the Measure	155	155
CCOS	Hart / Kodak I830	K4290-7285	City of Boulder Ballot Question 2Q	Against the Measure	26	26

2015 Coordinated Election Post-Election Audit
Boulder County

Boulder County						
Type	Make / Model	Serial #	Contest Name to Audit	Candidate	Machine Count	Manual/Hand Count
CCOS	Hart / Kodak I830	K4290-7285	Thompson School District R2-J Board of Education Director District G	David Levy	NO VOTES	NO VOTES
CCOS	Hart / Kodak I830	K4290-7285	Thompson School District R2-J Board of Education Director District G	Bruce Finger	NO VOTES	NO VOTES
CCOS	Hart / Kodak I830	K4290-7285	City Of Longmont City Council At-Large	Joan Peck	16	16
CCOS	Hart / Kodak I830	K4290-7285	City Of Longmont City Council At-Large	Scott Dunn	15	15
CCOS	Hart / Kodak I830	K4290-7285	Knollwood Water District Ballot Question 5A	Yes	2	2
CCOS	Hart / Kodak I830	K4290-7285	Knollwood Water District Ballot Question 5A	No	0	0
CCOS	Hart / Kodak I830	K4290-7285	Town Of Lyons Ballot Issue 2B	YES	0	0
CCOS	Hart / Kodak I830	K4290-7285	Town Of Lyons Ballot Issue 2B	NO	1	1

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2015 Coordinated Election Post-Election Audit
Boulder County

Boulder County						
Type	Make / Model	Serial #	Contest Name to Audit	Candidate	Machine Count	Manual/Hand Count
CCOS	Hart / Kodak I830	K4290-7285	City Of Boulder Council	Jared Kaszuba	18	18
CCOS	Hart / Kodak I830	K4290-7285	City Of Boulder Council	Lisa Morzel	69	69
CCOS	Hart / Kodak I830	K4290-7285	City Of Boulder Council	Leonard May	32	32
CCOS	Hart / Kodak I830	K4290-7285	City Of Boulder Council	Edward Jabari	19	19
CCOS	Hart / Kodak I830	K4290-7285	City Of Boulder Council	Cha Cha Spinrad	39	39
CCOS	Hart / Kodak I830	K4290-7285	City Of Boulder Council	Bob Yates	71	71
CCOS	Hart / Kodak I830	K4290-7285	City Of Boulder Council	Aaron Brockett	57	57
CCOS	Hart / Kodak I830	K4290-7285	City Of Boulder Council	Julianne McCabe	31	31
CCOS	Hart / Kodak I830	K4290-7285	City Of Boulder Council	Bill Rigler	37	37
CCOS	Hart / Kodak I830	K4290-7285	City Of Boulder Council	Tim Plass	56	56

2015 Coordinated Election Post-Election Audit
Boulder County

Boulder County						
Type	Make / Model	Serial #	Contest Name to Audit	Candidate	Machine Count	Manual/Hand Count
CCOS	Hart / Kodak I830	K4290-7285	City Of Boulder Council	Cindy Carlisle	42	42
CCOS	Hart / Kodak I830	K4290-7285	City Of Boulder Council	Suzanne Jones	80	80
CCOS	Hart / Kodak I830	K4290-7285	City Of Boulder Council	Michael Kruteck	35	35
CCOS	Hart / Kodak I830	K4290-7285	City Of Boulder Council	Comrade Keith Percy	21	21
CCOS	Hart / Kodak I830	K4290-7285	City Of Boulder Council	Jyotsna Raj	32	32
CCOS	Hart / Kodak I830	K4290-7285	City Of Boulder Council	Jan Burton	45	45
CCOS	Hart / Kodak I830	K4290-7285	City Of Boulder Council	Don Cote	23	23
CCOS	Hart / Kodak I830	K4290-7285	City Of Longmont City Council Ward 1	Brian J. Bagley	9	9
CCOS	Hart / Kodak I830	K4290-7285	Boulder Valley School District RE-2 Director District D	Sam Fuqua	155	155

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2015 Coordinated Election Post-Election Audit
Boulder County

Boulder County						
Type	Make / Model	Serial #	Contest Name to Audit	Candidate	Machine Count	Manual/Hand Count
CCOS	Hart / Kodak I830	K4290-7285	Estes Valley Recreation And Park District Ballot Issue 4C	Yes/For	NO VOTES	NO VOTES
CCOS	Hart / Kodak I830	K4290-7285	Estes Valley Recreation And Park District Ballot Issue 4C	No/Against	NO VOTES	NO VOTES
CCOS	Hart / Kodak I830	K4290-7285	City of Louisville City Council Person Ward III	Todd Stevenson	1	1
CCOS	Hart / Kodak I830	K4290-7285	City of Louisville City Council Person Ward III	Dennis Maloney	2	2
CCOS	Hart / Kodak I830	K4290-7285	City of Louisville City Council Person Ward III	Angie Layton	0	0
CCOS	Hart / Kodak I830	K4290-7285	City Of Lafayette Ballot Question 2J	Yes	5	5
CCOS	Hart / Kodak I830	K4290-7285	City Of Lafayette Ballot Question 2J	No	11	11

2015 Coordinated Election Post-Election Audit
Boulder County

NOTE: if there is a complaint or a discrepancy between the manual tallies of each voting device and the corresponding tallies recorded by each voting device Section 1-7-514(2)(c), C.R.S., requires the canvass board and the county clerk and recorder to promptly report to the Secretary of State a description of the audit process used, including any initial, interim, and final results of the completed audit.

Designated Election Official:

Hillary Hall — Signature — 11/19/15 — Date

Hillary Hall — Written Name

Canvass Board Member:

Patricia R. Teeson — Signature — 11-19-2015 — Date

Patricia R. Teeson — Written Name

Canvass Board Member:

Alisa D. Lewis — Signature — 11/19/2015 — Date

Alisa D. Lewis — Written Name

Canvass Board Member:

Valeria L. Skitt — Signature — 11/19/2015 — Date

Valeria L. Skitt — Written Name

Canvass Board Member:

Marty Neilson — Signature — 11/19/15 — Date

Marty Neilson — Written Name

2015 Boulder County Coordinated Election Post-Election Audit

Audit Process and Summary of Differences

Audit Preparation:
After the list of selected devices and races were provided by the State, the DRE was checked to verify if votes were cast on the selected devices and to confirm the applicable races appeared on the device. The selected device A0AAB4 contained 0 votes.

The selected Kodak i830 (number K4290-7285) scanner processed 331 ballots containing votes in 31 of the 39 selected races. All of these cast votes were recorded on Mobile Ballot Box (MBB) number 363.

Selection Process for paper ballots:
Because there were only 331 ballots scanned on the selected scanner, all ballots processed on this scanner were separated by district and batched into groups for manual verification. Each of these groups was audited.

Machine Counts:
For DRE, no votes for the selected races were recorded.

For the paper ballots, because all ballots for the selected machine were audited, machine counts from MBB 363 were entered into an Audit Results Spreadsheet for comparison with manual counts.

Manual Verification:
The Post-election Audit included the manual verification of 4,713 votes on 953 contests on 331 ballots.

Bi-partisan teams were provided a batch of approximately 25 ballots and a Manual Verification Worksheet (MVW) to record their tally. After the team verified that they had the proper number of ballots, they then worked one ballot at a time reading and recording the ballot selection for each race on the MVW. To create an accurate tally, the team members would trade roles to verify the selections recorded. Once complete, a tally for each batch race was created and submitted for comparison. The information was entered into a spreadsheet, along with the machine counts (from MBB 363) and a difference column highlighted any differences.

When a difference was identified, the MVW was checked to see if a math error was the cause. If a math error was not easily determined as the cause, the discrepant batches were sent out to different teams for a second count on the applicable contest(s). The second count of discrepant contests was performed using the sort and stack method. The recount teams were instructed to identify any resolution of voter intent required and to pull those ballots on top of the batch. When the recount was completed, the new count was again compared with the machine count to see if the discrepancy was resolved. Where the discrepancy was not resolved, the MVW was reviewed to see if a ballot required resolution of voter intent and the batch put aside for additional research. This process resulted in confirming the difference between the machine results and audit team results.

Of the 4,713 votes verified, two differences were confirmed. These two differences account for 0.04% of audited votes. Both differences were attributable to voter error. One difference was due to faint mark in the

target area, and the second came from a stricken candidate name. In the end no errors were attributable to machine error. The suspected ballots were noted for additional research.

Additional Research:
While both differences were attributed to voter error, an improperly resolved strike through vote prompted escalation by the County Clerk. To catch and properly resolve voter intent in this scenario during the initial election count, Boulder County conducts a visual inspection (VI) process. To identify potential strike through errors, Opening and Separating teams are instructed to place ballots with non-overvoted contests containing strike through votes in a VI folder. After scanning, the ballots in the VI folder go through manual resolution by bi-partisan resolution teams. As part of the Resolution team training process, all ballots that are modified by resolution teams were audited by scan room operators up until Sunday, November 1st. When improperly resolved strikeouts were identified in the audit of Resolution, they were flagged and presented to the resolution teams for additional training and correction.

As a part of audit escalation, to determine if other strike through votes were recorded as votes by resolution teams, staff was directed to audit non-overvoted strike through votes that were scanned after Sunday November 1 (in the Resolution screen of Ballot Now). A ballot containing a non-overvoted strike through vote that was *not* placed in the VI folder was discovered in the initial examination. As an additional precaution, two staff members were directed to audit all ballots scanned after Sunday on two systems (A and E). Results were compiled and reported on page 1 an 2 of attachment 4.

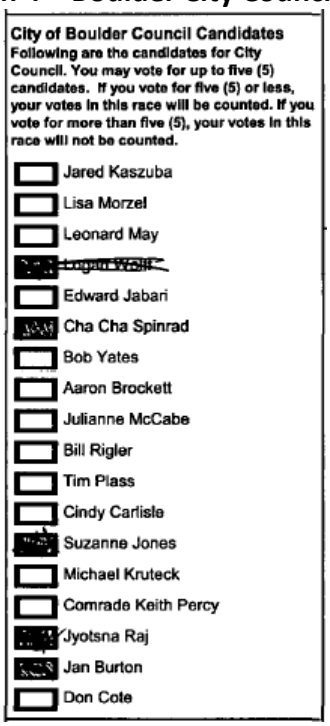
The total number of ballots audited in the process was 23,479. A total of 8 contests containing improperly resolved non-overvotes with strike through votes were discovered. Of these 8 contests, 3 were not put in VI folders for manual resolution.

The 8 differences make up for 0.03% of the 23,479 ballot contests audited. The worst-case impact scenario represented by this examination occurs in the Boulder City Council race where 7 counted strike through votes were discovered out of the 8,476 contests reviewed; yielding an uncertainty rate of 0.08%. To determine if this uncertainty could have an impact on contest outcomes, this worst case rate was applied to all contests and no impact on outcomes was found. We therefore conclude no additional escalation is warranted. See page 3 and 4 of attachment 4 for additional details on this analysis.

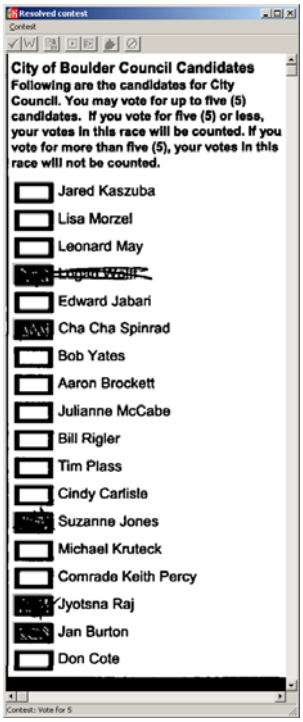
Below are images of ballots contest, images of the resolution action taken in Ballot Now, and descriptions of the differences identified in the Post-Election Audit.

Summary of Differences:

Batch 4 – Boulder City Council


City of Boulder Council Candidates
Following are the candidates for City Council. You may vote for up to five (5) candidates. If you vote for five (5) or less, your votes in this race will be counted. If you vote for more than five (5), your votes in this race will not be counted.

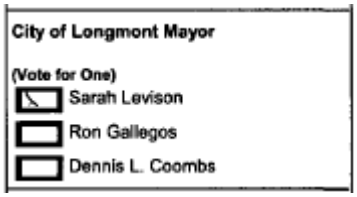
Jared Kaszuba
Lisa Morzel
Leonard May
~~Logan Wolff~~
Edward Jabari
Cha Cha Spinrad
Bob Yates
Aaron Brockett
Julianne McCabe
Bill Rigler
Tim Plass
Cindy Carlisle
Suzanne Jones
Michael Kruteck
Comrade Keith Percy
Jyotsna Raj
Jan Burton
Don Cote

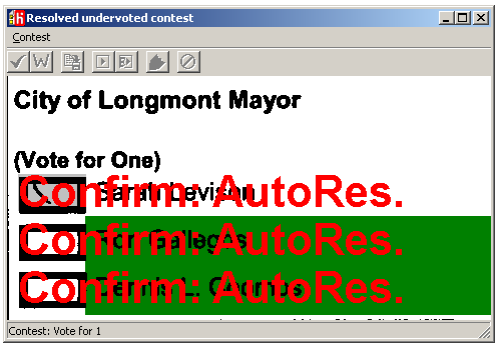


The difference for City of Boulder was due to a strikeout captured as a vote for Logan Wolff where the Audit team resolved it as an undervote.

Contests and Options	MVW Total	Machine Total	Difference
Jared Kaszuba	18	18	0
Lisa Morzel	69	69	0
Leonard May	32	32	0
Logan Wolff	15	16	-1
Edward Jabari	19	19	0
Cha Cha Spinrad	39	39	0
Bob Yates	71	71	0
Aaron Brockett	57	57	0
Julianne McCabe	31	31	0
Bill Rigler	37	37	0
Tim Plass	56	56	0
Cindy Carlisle	42	42	0
Suzanne Jones	80	80	0
Michael Kruteck	35	35	0
Comrade Keith Percy	21	21	0
Jyotsna Raj	32	32	0
Jan Burton	45	45	0
Don Cote	23	23	0
Overvote	2	2	0
Undervotes	393	392	1

Batch 30 – Longmont Mayor





The difference for City of Longmont Mayor was due to a difference of opinion in voter intent on a faint mark in the target area.

Contests and Options	MVW Total	Machine Total	Difference
Sarah Levison	14	13	1
Ron Gallegos	8	8	0
Dennis L. Coombs	10	10	0
Overvote	0	0	0
Undervote	1	2	-1

Attachment 3

2015 Coordinated Election Post-Election Audit:
Result Comparison

Scan Station J
November 10, 2015

Type: CC0S
Make / Model: : Hart / Kodak I830
Serial #: K4290-7285

Paper	Part: 001	Part: 002	Part: 003	Part: 004	Part: 005	Part: 006	Part: 007	Part: 008	Part: 009	Part: 010	Part: 011	Part: 012	Part: 013	Total		
Contests and Options	MVW Total	MVW Total	MVW Total	MVW Total	MVW Total	MVW Total	MVW Total	MVW Total	MVW Total	MVW Total	MVW Total	MVW Total	MVW Total	MVW Total	Machine Total	Difference
City of Boulder Council (Vote for 5)																
Jared Kaszuba				3	4	0	0	1	3	3	2	2		18	18	0
Lisa Morzel				6	6	6	12	7	5	6	8	13		69	69	0
Leonard May				2	3	1	3	4	4	5	3	7		32	32	0
Logan Wolff				0	5	3	1	1	1	2	2	0		15	16	-1
Edward Jabari				3	4	0	1	3	4	1	1	2		19	19	0
Cha Cha Spinrad				3	8	3	4	4	4	6	4	3		39	39	0
Bob Yates				8	6	10	6	7	2	8	13	11		71	71	0
Aaron Brockett				5	6	6	7	3	1	8	14	7		57	57	0
Julianne McCabe				4	2	5	2	4	1	5	3	5		31	31	0
Bill Rigler				1	3	5	5	2	2	9	5	5		37	37	0
Tim Plass				3	5	4	10	3	1	8	13	9		56	56	0
Cindy Carlisle				3	6	6	7	1	2	5	4	8		42	42	0
Suzanne Jones				8	7	3	13	9	6	7	15	12		80	80	0
Michael Kruteck				2	5	9	3	2	0	2	6	6		35	35	0
Comrade Keith Percy				1	4	3	2	0	6	3	2	0		21	21	0
Jyotsna Raj				4	3	5	3	3	4	4	2	4		32	32	0
Jan Burton				4	5	7	6	2	2	6	4	9		45	45	0
Don Cote				0	3	5	2	3	1	2	4	3		23	23	0
Overvote				0	0	1	0	0	0	0	1	0		2	2	0
Undervotes				65	40	39	38	66	76	35	15	19		393	392	1
City of Lafayette Council (Vote for 4)																
Christine Berg	11													11	11	0
Cliff Willmeng	6													6	6	0
Alexandra Lynch	7													7	7	0
Frank Phillips	4													4	4	0
Brad Wiesley	8													8	8	0
Stephanie Walton	5													5	5	0
Cliff Smedley	7													7	7	0
Overvote	0													0	0	0
Undervotes	20													20	20	0

2015 Coordinated Election Post-Election Audit:
Result Comparison

Scan Station J
November 10, 2015

Type: CC0S
Make / Model: : Hart / Kodak I830
Serial #: K4290-7285

Paper	Part: 001	Part: 002	Part: 003	Part: 004	Part: 005	Part: 006	Part: 007	Part: 008	Part: 009	Part: 010	Part: 011	Part: 012	Part: 013	Total		
Contests and Options	MVW Total	MVW Total	MVW Total	MVW Total	MVW Total	MVW Total	MVW Total	MVW Total	MVW Total	MVW Total	MVW Total	MVW Total	MVW Total	MVW Total	Machine Total	Difference
City of Longmont Mayor																
Sarah Levison			14											14	13	1
Ron Gallegos			8											8	8	0
Dennis L. Coombs			10											10	10	0
Overvote			0											0	0	0
Undervote			1											1	2	-1
City of Longmont Council At-Large																
Joan Peck			16											16	16	0
Scott Dunn			15											15	15	0
Overvote			0											0	0	0
Undervote			2											2	2	0
City of Longmont Council Ward 1																
Brian J. Bagley			9											9	9	0
Overvote			0											0	0	0
Undervote			4											4	4	0
City of Longmont Council Ward 3																
Bonnie Finley			7											7	7	0
Paul Rennix			3											3	3	0
Overvote			0											0	0	0
Undervote			0											0	0	0
City of Louisville Mayor																
Bob Muckle		4												4	4	0
Overvote		0												0	0	0
Undervote		5												5	5	0
City of Louisville City Council Ward I																
Jay Keany		1												1	1	0
Overvote		0												0	0	0
Undervote		3												3	3	0
City of Louisville City Council Ward II																
Susan Loo		1												1	1	0
Overvote		0												0	0	0
Undervote		0												0	0	0

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Type: CC0S
Make / Model: : Hart / Kodak I830
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Paper	Part: 001	Part: 002	Part: 003	Part: 004	Part: 005	Part: 006	Part: 007	Part: 008	Part: 009	Part: 010	Part: 011	Part: 012	Part: 013	Total		
Contests and Options	MVW Total	MVW Total	MVW Total	MVW Total	MVW Total	MVW Total	MVW Total	MVW Total	MVW Total	MVW Total	MVW Total	MVW Total	MVW Total	MVW Total	Machine Total	Difference
City of Louisville City Council Ward III																
Todd Stevenson		1												1	1	0
Dennis Maloney		2												2	2	0
Angie Layton		0												0	0	0
Overvote		0												0	0	0
Undervote		1												1	1	0
Boulder Valley RE-2 Director District A																
Denny McCloskey	5	8		7	9	3	4	4	4	5	3	9	4	65	65	0
Shelly Benford	8	11		4	6	13	10	11	6	11	10	9	7	106	106	0
Overvote	0	0		0	0	0	0	0	0	0	0	0	0	0	0	0
Undervote	9	5		14	10	9	11	10	15	9	12	7	3	114	114	0
Boulder Valley RE-2 Director District C																
Chris Barge	6	5		5	9	6	6	4	6	5	8	7	4	71	71	0
Susan D. Femmer	1	3		2	3	2	2	4	1	5	2	3	2	30	30	0
Kathy Gebhardt	6	9		3	3	8	7	8	5	5	5	8	5	72	72	0
Overvote	0	0		0	0	0	0	0	0	0	0	0	0	0	0	0
Undervote	9	7		15	10	9	10	9	13	10	10	7	3	112	112	0
Boulder Valley RE-2 Director District D																
Sam Fuqua	11	14		12	14	14	14	15	13	17	10	14	7	155	155	0
Overvote	0	0		0	0	0	0	0	0	0	0	0	0	0	0	0
Undervote	11	10		13	11	11	11	10	12	8	15	11	7	130	130	0
Boulder Valley RE-2 Director District G																
Richard L. Garcia	11	14		13	13	16	13	15	11	17	8	14	7	152	152	0
Overvote	0	0		0	0	0	0	0	0	0	0	0	0	0	0	0
Undervote	11	10		12	12	9	12	10	14	8	17	11	7	133	133	0
Thompson R2-J Bd of Education Dir Dist A																
Jeff Swanty														0	0	0
Aimie Randall														0	0	0
Overvote														0	0	0
Undervote														0	0	0

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Contests and Options	MVW Total	MVW Total	MVW Total	MVW Total	MVW Total	MVW Total	MVW Total	MVW Total	MVW Total	MVW Total	MVW Total	MVW Total	MVW Total	MVW Total	Machine Total	Difference
Thompson R2-J Bd of Education Dir Dist C																
Denise Montagu														0	0	0
Vance Hansen														0	0	0
Overvote														0	0	0
Undervote														0	0	0
Thompson R2-J Bd of Education Dir Dist D																
Pam Howard														0	0	0
Tomi Grundvig														0	0	0
Overvote														0	0	0
Undervote														0	0	0
Thompson R2-J Bd of Education Dir Dist G																
David Levy														0	0	0
Bruce Finger														0	0	0
Overvote														0	0	0
Undervote														0	0	0
Proposition BB (STATUTORY)																
YES/FOR	13	17	16	14	21	16	20	20	15	22	16	18	17	225	225	0
NO/AGAINST	10	8	16	6	4	8	5	4	10	3	8	7	8	97	97	0
Overvote	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Undervote	0	0	1	5	0	1	0	1	0	0	1	0	0	9	9	0
CITY OF BOULDER BALLOT ISSUE 2N																
FOR THE MEASURE				12	14	10	14	13	9	10	14	14		110	110	0
AGAINST THE MEASURE				11	11	14	11	11	14	14	8	11		105	105	0
Overvote				0	0	0	0	0	0	0	0	0		0	0	0
Undervote				2	0	1	0	1	2	1	3	0		10	10	0
City of Boulder Ballot Question 2O																
FOR THE MEASURE				17	17	18	15	22	16	19	19	17		160	160	0
AGAINST THE MEASURE				5	3	5	6	1	5	3	3	7		38	38	0
Overvote				0	0	0	0	0	0	0	0	0		0	0	0
Undervote				3	5	2	4	2	4	3	3	1		27	27	0

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Contests and Options	MVW Total	MVW Total	MVW Total	MVW Total	MVW Total	MVW Total	MVW Total	MVW Total	MVW Total	MVW Total	MVW Total	MVW Total	MVW Total	MVW Total	Machine Total	Difference
City of Boulder Ballot Question 2P																
FOR THE MEASURE				15	20	18	18	21	24	21	18	21		176	176	0
AGAINST THE MEASURE				7	4	5	5	3	0	2	4	4		34	34	0
Overvote				0	0	0	0	0	0	0	0	0		0	0	0
Undervote				3	1	2	2	1	1	2	3	0		15	15	0
City of Boulder Ballot Question 2Q																
FOR THE MEASURE				15	16	15	16	22	12	19	21	19		155	155	0
AGAINST THE MEASURE				6	2	6	3	1	3	3	0	2		26	26	0
Overvote				0	0	0	0	0	0	0	0	0		0	0	0
Undervote				4	7	4	6	2	10	3	4	4		44	44	0
City of Boulder Ballot Question 2R																
FOR THE MEASURE				10	11	10	9	13	10	11	15	10		99	99	0
AGAINST THE MEASURE				12	11	14	13	10	11	14	7	14		106	106	0
Overvote				0	0	0	0	0	0	0	0	0		0	0	0
Undervote				3	3	1	3	2	4	0	3	1		20	20	0
City of Boulder Ballot Question No. 300																
FOR THE MEASURE				13	6	15	12	15	14	12	6	8		101	101	0
AGAINST THE MEASURE				10	17	10	12	9	8	12	17	17		112	112	0
Overvote				0	0	0	0	0	0	0	0	0		0	0	0
Undervote				2	2	0	1	1	3	1	2	0		12	12	0
City of Boulder Ballot Question No. 301																
FOR THE MEASURE				11	9	12	12	12	8	13	6	8		91	91	0
AGAINST THE MEASURE				10	15	12	11	11	14	11	17	17		118	118	0
Overvote				0	0	0	0	0	0	0	0	0		0	0	0
Undervote				4	1	1	2	2	3	1	2	0		16	16	0
City of Lafayette Ballot Question No. 2J																
YES	5													5	5	0
NO	11													11	11	0
Overvote	0													0	0	0
Undervote	1													1	1	0

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Contests and Options	MVW Total	MVW Total	MVW Total	MVW Total	MVW Total	MVW Total	MVW Total	MVW Total	MVW Total	MVW Total	MVW Total	MVW Total	MVW Total	MVW Total	Machine Total	Difference
City of Lafayette Ballot Question No. 2K																
YES	10													10	10	0
NO	7													7	7	0
Overvote	0													0	0	0
Undervote	0													0	0	0
City of Longmont Ballot Question 2D																
YES			10											10	10	0
NO			20											20	20	0
Overvote			0											0	0	0
Undervote			3											3	3	0
TOWN OF JAMESTOWN BALLOT ISSUE 2E																
YES	1													1	1	0
NO	0													0	0	0
Overvote	0													0	0	0
Undervote	0													0	0	0
TOWN OF JAMESTOWN BALLOT ISSUE 2F																
YES	1													1	1	0
NO	0													0	0	0
Overvote	0													0	0	0
Undervote	0													0	0	0
TOWN OF LYONS BALLOT ISSUE 2A																
YES	0													0	0	0
NO	1													1	1	0
Overvote	0													0	0	0
Undervote	0													0	0	0
TOWN OF LYONS BALLOT ISSUE 2B																
YES	0													0	0	0
NO	1													1	1	0
Overvote	0													0	0	0
Undervote	0													0	0	0

2015 Coordinated Election Post-Election Audit:
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Contests and Options	MVW Total	MVW Total	MVW Total	MVW Total	MVW Total	MVW Total	MVW Total	MVW Total	MVW Total	MVW Total	MVW Total	MVW Total	MVW Total	MVW Total	Machine Total	Difference
TOWN OF NEDERLAND BALLOT ISSUE 2C																
YES	2													2	2	0
NO	0													0	0	0
Overvote	0													0	0	0
Undervote	0													0	0	0
Boulder Valley School Dist Question 3A																
YES	20	23		19	23	20	19	24	20	21	18	24	10	241	241	0
NO	1	1		1	2	2	4	0	2	2	4	1	3	23	23	0
Overvote	0	0		0	0	0	0	0	0	0	0	0	0	0	0	0
Undervote	1	0		5	0	3	2	1	3	2	3	0	1	21	21	0
BOULDER RURAL FPD BALLOT ISSUE 5B																
YES	2	8												10	10	0
NO	0	5												5	5	0
Overvote	0	0												0	0	0
Undervote	0	0												0	0	0
Knollwood Water District Question 5A																
YES	2													2	2	0
NO	0													0	0	0
Overvote	0													0	0	0
Undervote	0													0	0	0
ESTES VALLEY REC AND PARK DIST ISSUE 4C																
YES/FOR														0	0	0
NO/AGAINST														0	0	0
Overvote														0	0	0
Undervote														0	0	0
ESTES VALLEY REC AND PARK DIST ISSUE 4D																
YES/FOR														0	0	0
NO/AGAINST														0	0	0
Overvote														0	0	0
Undervote														0	0	0

The difference for City of Longmont Mayor was due to a difference of opinion in voter intent on a faint mark in the target area.
The difference for City of Boulder was due to a strikeout captured as a vote for Logan Wolff where the Audit team resolved it as an undervote.

Attachment 4

2015 Coordinated Election Post-Election Audit:
Escalation Summary - Visual Inspection

Strikeouts resolved as votes for the given candidate

SYS	Batch	SN	Candidate	Issue	Count	Total
						8
A	18	4807	Yates (BLD)	Strikeout counted as a vote	1	7
A	46	8454	Morzel (BLD)	Strikeout counted as a vote	1	
B	66	5142	Morzel (BLD)	Strikeout counted as a vote	1	
E	31	8566	Burton (BLD)	Strikeout counted as a vote	1	
E	53	9242	Morzel (BLD)	Strikeout counted as a vote	1	
F	25	4644	Morzel (BLD)	Strikeout counted as a vote	1	
J	4	9800	Wolff (BLD)	Strikeout counted as a vote	1	
H	80	10035	Walton (LAF)	Strikeout counted as a vote	1	1

Manual Resolution (MR) ballots inspected

Batches Reviewed	Ballots Reviewed
A: 17-67	164
B: 29-72	105
C: 2-7, 26-33, 40-82	163
D: 27-71	128
E: 29-72	111
F: 22-69	103
G: 1-6, 25-65	135
H: 32-80	139
I: 1-6	71
J: 1-30	27
	1,146

Ballots inspected containing applicable race

Boulder Ballots Reviewed	Lafayette Ballots Reviewed
2031	902
0	0
0	150
299	75
2179	485
749	0
2392	450
0	150
601	44
225	17
8,476	***2,273***

Strikeouts not put in folder for manual resolution

SYS	Batch	SN	Candidate	Issue	Count	Total
A	46	8454	Morzel (BLD)	Strikeout counted as a vote	1	3
E	53	9242	Morzel (BLD)	Strikeout counted as a vote	1	
H	80	10035	Walton (LAF)	Strikeout counted as a vote	1	

Non-MR ballots inspected

Batches Reviewed	Ballots Reviewed excluding VI's
A: 17-67	7,326
C: 45-46	295
D: 27-37	1,320
E: 29-72	5,910
F: 59-66	1,186
G: 1-6, 25-27, 41-65	4,553
H: 32-34,80	587
I: 1-6	852
J: 1-30	304
	22,333

Total ballots reviewed for missed or improperly resolved strikeouts: ***23,479***

Strikeout Resolution Issue ballot error rate:	0.000341	*H3 / K30*
Strikeouts not in VI error rate:	0.000134	*H18 / K28*
Strikeout Resolution Issue error rate for Boulder City Council:	**0.000826**	*H4 / M14*
Strikeout Resolution Issue error rate for Lafayette City Council:	0.000440	*H11 / N14*

Attachment 4

2015 Coordinated Election Post-Election Audit:
Escalation Summary - Visual Inspection

Supporting Information: Strikeouts properly placed in VI folder and resolved accurately as Undervotes

SYS	Batch	Count	Total
A	19	1	**23**
A	23	2	
A	30	1	
A	48	1	
A	55	1	
A	58	1	
B	52	1	
B	53	1	
B	62	1	
B	67	1	
C	61	1	
C	76	1	
D	38	1	
D	69	1	
E	40	1	
E	52	1	
E	56	1	
F`	52	1	
G`	31	1	
G`	37	1	
H	39	1	
I	5	1	

2015 Coordinated Election Post-Election Audit:
Impact Analysis

Outcome Impact - All Differences

Contest	W	L	Margin W - L	Votes = W + L	Recount Threshold = 0.005 * W	Is Margin <= Recount Threshold?	New W = W - UV	New L = L + UV	New Margin = W - L	New Recount Threshold = 0.005 * W	Is New Margin <= Recount Threshold?
BOULDER RURAL FIRE PROTECTION DISTRICT BALLOT ISSUE 5B	3,139	1,443	1,696	4,582	15.7	No	3,135	1,447	1,688	15.7	No
Boulder Valley School District RE-2 Director District A	22,696	11,033	11,663	33,729	113.5	No	22,668	11,061	11,607	113.3	No
Boulder Valley School District RE-2 Director District C	17,810	17,496	314	35,306	89.1	No	17,781	17,525	256	88.9	No
Boulder Valley School District RE-2 Director District D - UNOPPOSED	29,656	0	29,656	29,656	148.3	No	29,632	24	29,607	148.2	No
Boulder Valley School District RE-2 Director District G - UNOPPOSED	29,419	0	29,419	29,419	147.1	No	29,395	24	29,370	147.0	No
Boulder Valley School District RE-2 Ballot Question 3A	44,473	7,424	37,049	51,897	222.4	No	44,430	7,467	36,963	222.2	No
CITY OF BOULDER BALLOT ISSUE 2N	15,891	11,881	4,010	27,772	79.5	No	15,868	11,904	3,964	79.3	No
City of Boulder Ballot Question 2O	18,832	7,538	11,294	26,370	94.2	No	18,810	7,560	11,250	94.1	No
City of Boulder Ballot Question 2P	21,265	6,288	14,977	27,553	106.3	No	21,242	6,311	14,931	106.2	No
City of Boulder Ballot Question 2Q	22,796	2,211	20,585	25,007	114.0	No	22,775	2,232	20,544	113.9	No
City of Boulder Ballot Question 2R	14,681	12,141	2,540	26,822	73.4	No	14,659	12,163	2,496	73.3	No
City of Boulder Ballot Question No. 300	17,695	10,701	6,994	28,396	88.5	No	17,672	10,724	6,947	88.4	No
City of Boulder Ballot Question No. 301	17,498	10,826	6,672	28,324	87.5	No	17,475	10,849	6,625	87.4	No
City of Boulder Council Candidates (between 4th & 5th)	10,080	8,855	1,225	18,935	50.4	No	10,064	8,871	1,194	50.3	No
City of Boulder Council Candidates (between 5th & 6th)	8,855	8,703	152	17,558	44.3	No	8,840	8,718	123	44.2	No
City of Lafayette Ballot Question No. 2J	5,001	1,731	3,270	6,732	25.0	No	4,995	1,737	3,259	25.0	No
City of Lafayette Ballot Question No. 2K	4,578	2,098	2,480	6,676	22.9	No	4,572	2,104	2,469	22.9	No
City of Lafayette Council Candidates (between 3th & 4th)	3,269	2,440	829	5,709	16.3	No	3,264	2,445	820	16.3	No
City of Lafayette Council Candidates (between 4th & 5th)	2,440	2,388	52	4,828	12.2	No	2,436	2,392	44	12.2	No
City of Longmont Ballot Question 2D	14,284	5,174	9,110	19,458	71.4	No	14,268	5,190	9,078	71.3	No
City of Longmont Council At-Large	10,252	9,914	338	20,166	51.3	No	10,235	9,931	305	51.2	No
City of Longmont Council Ward 1 (UNOPPOSED)	5,312	0	5,312	5,312	26.6	No	5,308	4	5,303	26.5	No
City of Longmont Council Ward 3	3,973	3,133	840	7,106	19.9	No	3,967	3,139	828	19.8	No
City of Longmont Mayor	11,958	5,381	6,577	17,339	59.8	No	11,944	5,395	6,548	59.7	No
City of Louisville City Council Person Ward I (UNOPPOSED)	1,720	0	1,720	1,720	8.6	No	1,719	1	1,717	8.6	No
City of Louisville City Council Person Ward II (UNOPPOSED)	1,440	0	1,440	1,440	7.2	No	1,439	1	1,438	7.2	No
City of Louisville City Council Person Ward III	761	729	32	1,490	3.8	No	760	730	30	3.8	No
City of Louisville Mayor (UNOPPOSED)	4,932	0	4,932	4,932	24.7	No	4,928	4	4,924	24.6	No
ESTES VALLEY RECREATION AND PARK DISTRICT BALLOT ISSUE 4C	53	19	34	72	0.3	No	53	19	34	0.3	No
ESTES VALLEY RECREATION AND PARK DISTRICT BALLOT ISSUE 4D	52	20	32	72	0.3	No	52	20	32	0.3	No
Knollwood Water District Ballot Question 5A	50	27	23	77	0.3	No	50	27	23	0.2	No

U = Combined Difference Rate
0.00082586

U=uncertainty as a % of V
Assume worse-case and that all U is such to reduce M

Without uncertainty, the recount equation is M<=0.005W

With worse-case uncertainty the recount equation becomes (W-UV)-(L+UV) <= 0.005(W-UV)

*In reviewing the need for an audit escalation, we looked at what the impact would be if the highest difference rate were applied across the election contests and the results are shown in column N.

2015 Coordinated Election Post-Election Audit:
Impact Analysis

Contest	W	L	Margin W - L	Votes = W + L	Recount Threshold = 0.005 * W	Is Margin <= Recount Threshold?	New W = W - UV	New L = L + UV	New Margin = W - L	New Recount Threshold = 0.005 * W	Is New Margin <= Recount Threshold?	U = Combined Difference Rate
												0.00082586
Proposition BB (STATUTORY)	64,550	19,034	45,516	83,584	322.8	No	64,481	19,103	45,378	322.4	No	
Thompson School District R2-J Board of Education Director District A	26	18	8	44	0.1	No	26	18	8	0.1	No	
Thompson School District R2-J Board of Education Director District C	33	11	22	44	0.2	No	33	11	22	0.2	No	
Thompson School District R2-J Board of Education Director District D	34	10	24	44	0.2	No	34	10	24	0.2	No	
Thompson School District R2-J Board of Education Director District G	31	13	18	44	0.2	No	31	13	18	0.2	No	
TOWN OF JAMESTOWN BALLOT ISSUE 2E	72	44	28	116	0.4	No	72	44	28	0.4	No	
TOWN OF JAMESTOWN BALLOT ISSUE 2F	83	33	50	116	0.4	No	83	33	50	0.4	No	
TOWN OF LYONS BALLOT ISSUE 2A	482	282	200	764	2.4	No	481	283	199	2.4	No	
TOWN OF LYONS BALLOT ISSUE 2B	492	273	219	765	2.5	No	491	274	218	2.5	No	
TOWN OF NEDERLAND BALLOT ISSUE 2C	410	47	363	457	2.1	No	410	47	362	2.0	No	