

Post-Election Audit Summary

August 5, 2014 Special Election

Issue 2 – Brook Park Proposed Municipal Income Tax (Increase)

On September 4, 2014 we conducted a Risk-Limiting Post-Election Audit for the August 2014 Special Election. There were 6,403 total ballots cast in the election. Total ballots cast for each of the audited contests are as follows:

Issue #2 – Brook Park Proposed Municipal Income Tax (Increase) – 3,711 ballots

Our Risk-Limiting Audit was based upon the Kaplan-Markov method as explained by Philip B. Stark and Mark Lindeman. Auditing best practices recommend we split up the total ballots cast by precinct into multiple batch types. We utilized five batch types each consisting of one single ballot type category: Absentee, Election Day, Provisional, Post Absentee, and Post Election Day.

A master spreadsheet was created with statistical formulas to determine the number of batches that must be audited in order to reach a 90% confidence level. This confidence level means the audit has at least a 90% probability of leading to a full recount if the apparent outcome is incorrect.

We used a “Probability Proportional to Error Bound with Replacement” selection method. We assigned four digit numbers ranging from 0000 through 9999 for each batch within the contest. Unique ranges of numbers were allocated to specific batches based upon their error bound - i.e. the greater the possibility of a miscount within a batch, the more numbers assigned, and the more likely it is to be selected. To obtain the precinct batch number we rolled four differently colored dice numbered 0 - 9, each one of the colored dice representing one digit of the four digit number. We rolled the dice a total of 9 times in order to select batches to audit for the contests.

In conclusion, we inspected a total of 1,296 ballots from the audited races in the August 5, 2014 Special Election. There were no discrepancies in vote totals and no page discrepancies among all ballot pages audited, giving us a 100% accuracy rate for the election.

RACE	TOTAL BALLOTS CAST	REQUIRED BATCHES	TOTAL BALLOTS AUDITED
Issue #2 – Brook Park Proposed Municipal Income Tax (Increase)	3,711	9	1,296

Historical Post-Election Audit

