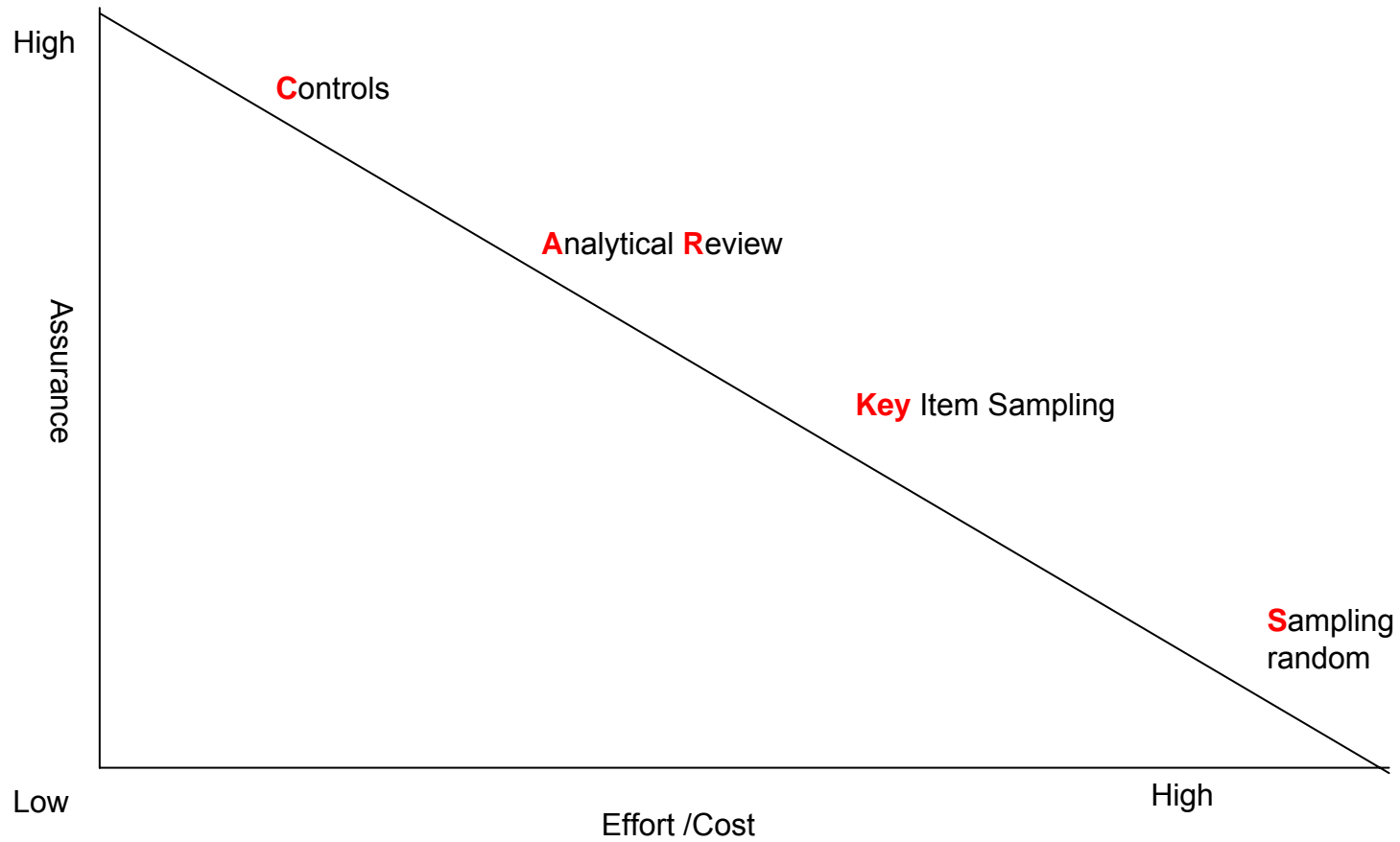


LINZ Quality Assurance – Cadastral Survey Audits

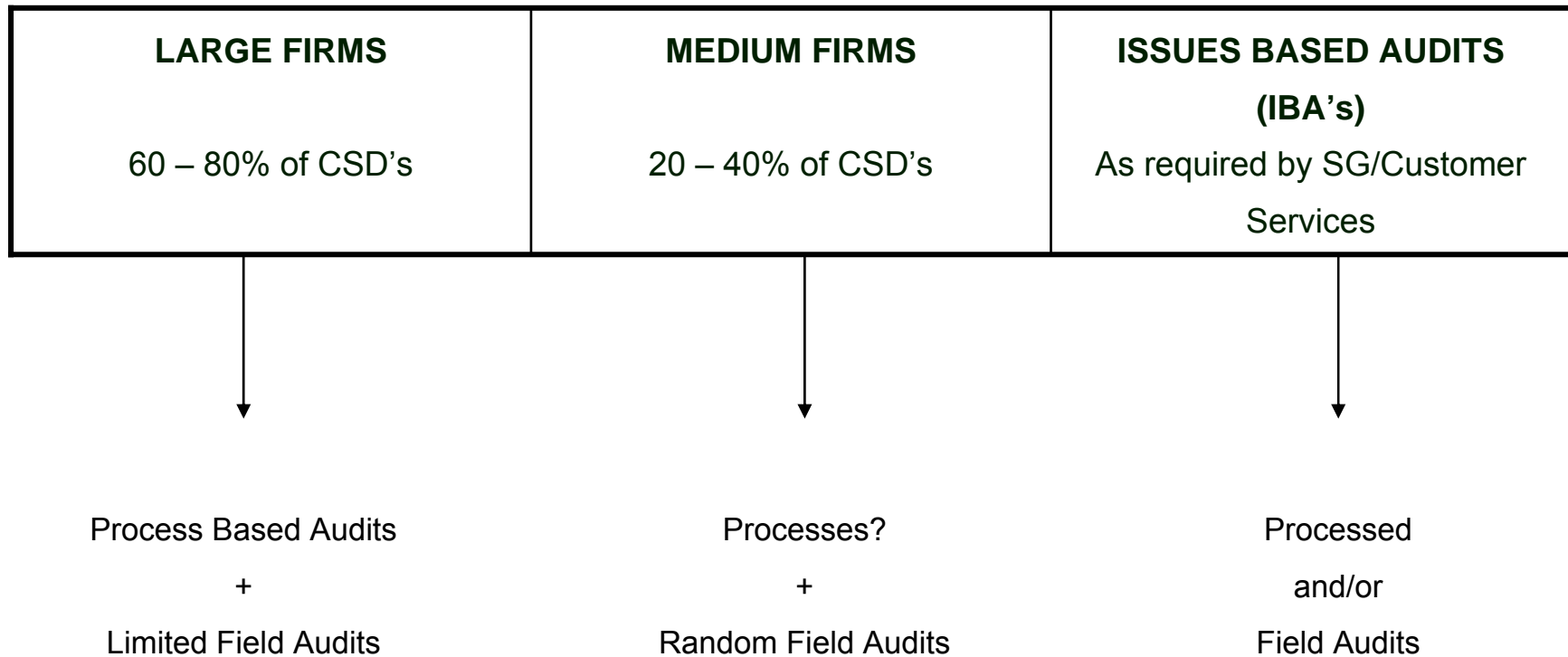
“Way Forward”

The Assurance Value Chain

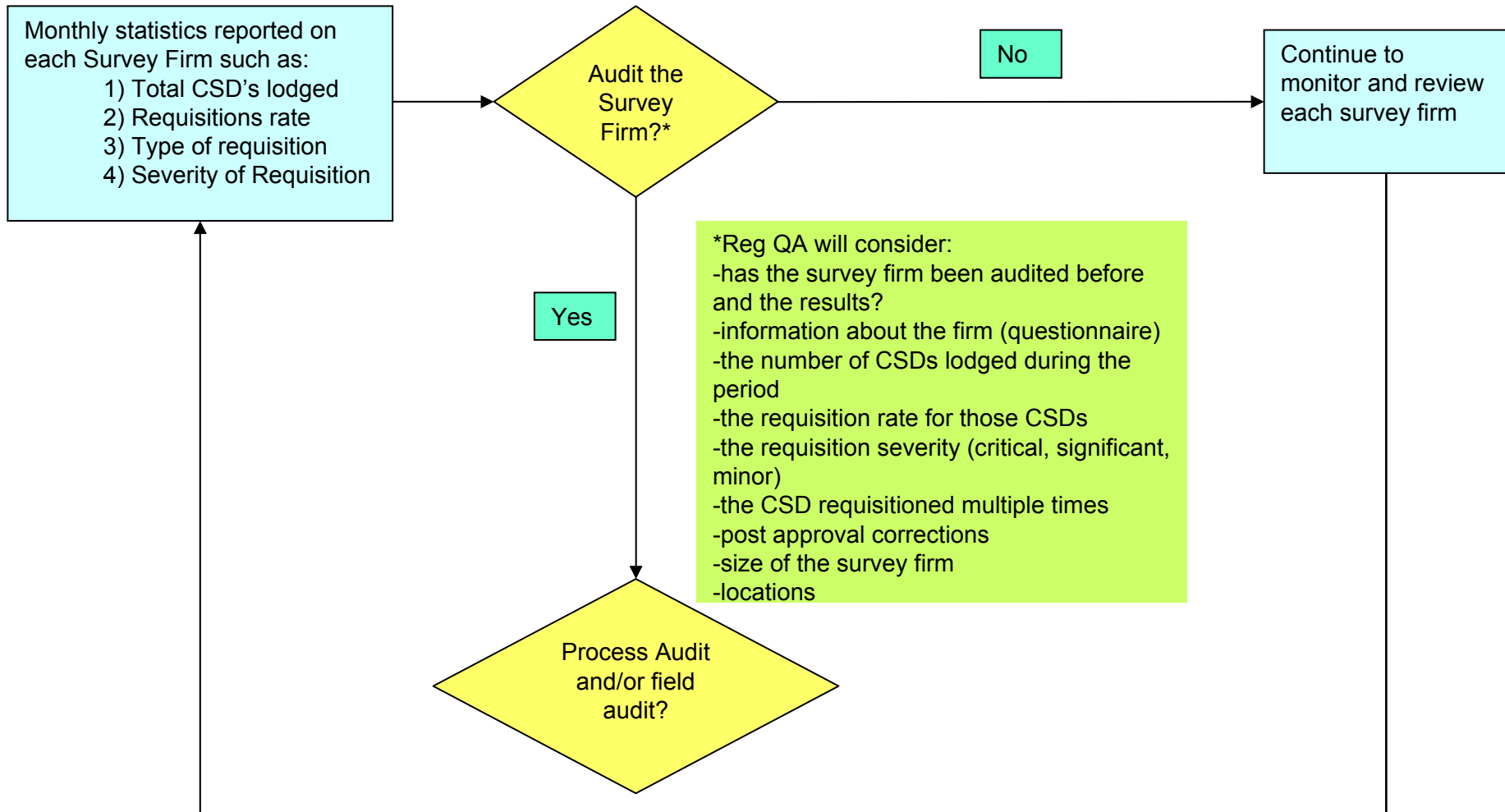
“CARKEYS”



Cadastral Audit Framework



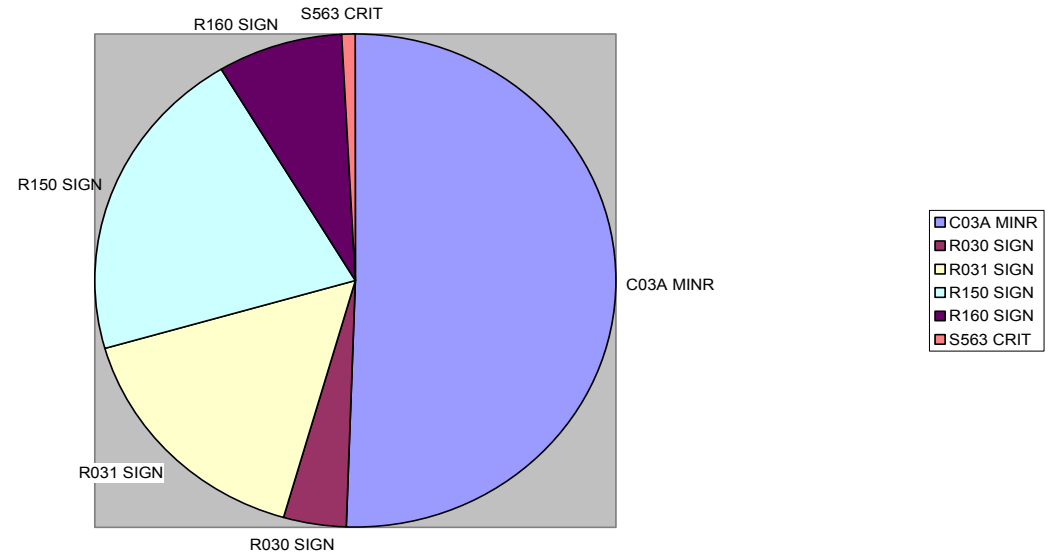
Cadastral Audit Framework



Requisitions

- Total requisitions **11,872** 1 November 2004 – 31 October 2005
- Predominantly relates to 6 requisition codes:

•Code	Number	Severity
•C03A	4030	Minor
•R031	1291	Significant
•R030	316	Significant
•R150	1656	Significant
•R160	625	Significant
•S563	66	Critical



The Future for Survey

Reg QA intend to:

- implement reporting to Survey firms on: types of requisitions, rates of requisitions, and severity in an effort to decrease the requisition rate

Controls (office processes)

- Office Quality Assurance procedures performed before a CSD is submitted to LINZ.
- Field notes are retained on file and reviewed by a Licensed Cadastral Surveyor.
- Traverse Sheets and calculation sheets are retained on file and reviewed.
- Survey equipment used has a current certificate of calibration.
- Internal and external audits conducted to assess the operating effectiveness of documented processes.
- Who (Licensed Cadastral Surveyor?) has performed the field work for the more complex jobs.
- Mentoring of graduates, field assistants and staff members.
- Consistency of practices nationally.
- Random field audits by your Licensed Cadastral Surveyor.
- ISO 9001 Accreditation.

“Can any licensed cadastral surveyor by looking at the office project/cadastral survey files gain reasonable assurance that the work in the field complies with the Cadastral Survey Act 2002 and the Surveyor General’s Rules 2002/2”

Field Work Processes

- The field audits will include the following activities:
 - Evaluating the field evidence
 - Testing survey dimensions
 - Testing the adequacy of location and connection to existing survey reference or boundary marks (ie the definition)

Sampling

- Random sample of Project/Office Files to gain Quality Assurance (currently 2 files)
- Survey Field Work
 - Good processes/controls in place - then we will do two field audits. Results identify major issues, then a further sample of between 2 and 8 field audits will be undertaken
 - No evidence of effective processes/controls in place - then we will do the lower of 10 field audits or 5% of all survey undertaken in the last 12 months.

Current Methodology (Pilot)

Examples	Office QA Processes	Field Work	Next Steps
Firm A	√	√	No further work
Firm B	√	X	More sampling
Firm C	X	√	More sampling
Firm D	X	X	Refer to SG/CSLB

√ - Pass

X - Fail

Field Work Issues

Key Issues noted from 107 Field Audits done in 2005

- Pegging not within Rule 26 tolerances, pegs not put in place, monumentation issues, mark descriptions - Approx 80% of issues noted.
- Not enough effort put into locating old survey marks (old witness marks, and old pegs) which were later located by LINZ auditor – Approx 10% of issues noted
- Issues arising from existing occupation not adequately considered or reported on – Approx 10% of issues noted