

# Cost Analysis for Legal Surveys on First Nations Lands in Canada

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Prepared For:  
Natural Resources Canada (Surveyor General Branch)  
Indigenous and Northern Affairs Canada  
Association of Canada Lands Surveyors

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February 20, 2018

Revised July 12, 2018

# Acknowledgements

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The efforts and financial contributions of Natural Resources Canada and Indigenous and Northern Affairs Canada for the undertaking of this study are gratefully acknowledged.

Time and effort by the Association of Canada Lands Surveyors (ACLS), as well as the use of the Association's subscription services are also gratefully acknowledged.

Thank you for the Contribution of the Committee of Association and Government of Canada officials who helped define the activities that formed the basis of the Surveyors' Questionnaires.

Thank you to the many First Nations individuals who participated in the questionnaire.

Thank you to the Lands Managers who shared openly.

Thank you to the many Canada Lands Surveyors who provided their time and their data - this study would not be possible with you.

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## Study Highlights

### **A few insights distilled from the 116 people who contributed to this study...**

**Does size matter?** Not as much as you would think. Surveying is a precise, intricate, complicated process. And there are so many variables that go into the practice, it is not unusual for small surveys to end up costing as much or more than large ones. Distance surveyed does not appear to be a predictor of overall cost. The number of lots created is also less of a predictor of overall cost than one might expect.

**How much?** While it is true there are some processes required for surveys on First Nations lands that are not required for equivalent provincial projects, those processes do not appear to add significantly to the overall cost. The data also demonstrates that the costs for performing the nuts and bolts activities of survey work is similar for work performed under Provincial jurisdiction versus the work performed on First Nations Lands.

**The devil is in the details!** Surveyors and their staff spend more time doing calculations, drafting plans and exercising quality control than any other activity in the process, followed closely by field work. These are the nuts and bolts activities of the profession...the only way to produce mathematically accurate and legally correct plans. And these activities require the same effort for First Nations Lands work as they do for work in provincial jurisdictions.

**Monumental delays!** Nothing lasts forever. But it can get expensive when monuments go missing. One of the most expensive inputs to the survey process can be locating and confirming survey monuments. New construction, road work, carelessness or even water and time can erode the evidence necessary to perform survey work efficiently. When monuments must be reestablished, costs escalate.

**Got a new routine?** Experience matters, both for the surveyor and for the lands managers and contract administrators. Surveyors whose primary work is not on First Nations lands have told us they have a learning curve each time they undertake a project. Evolving processes aggravate that learning curve, requiring additional time, sometimes unpaid. The same is true on the lands management side, where frequent process changes erode efficiency for everyone.

**Scope this out!** Good communication matters. And for the most part, that seems to be happening between lands managers and surveyors. But when the communication is poor, the cost of surveys goes up. Just like in the construction industry, where changing a sink location after the drywall is installed means a lot of extra work (and extra money), poor communication on the scope of work means extra work for the surveyor.

**Yak, yak, yak...**while good communication is important to the outcome of a survey project, efficient communication is important to the overall cost. Much of the time a surveyor invests in a project comes at the front end of the process and the initial conversations about the project. Costs can accelerate when there are multiple touch points – people and agencies a surveyor must liaise with to complete the project.

**You look familiar!** While it's tempting to assume that familiarity with the site makes things easier for the surveyor and therefore less costly, that's not always the case. The feedback from surveyors in this study indicates that sometimes areas known to have challenges with things like evidence or topography are well known and are planned for accordingly – at a higher cost.

**Go the distance!** Performing work on remote, sparsely populated locations often means travel. Canada is California with a distribution problem – same population, twenty times the area. Providing services in Canada where the service requires onsite activity can be expensive.

**Whatever floats your boat!** Getting to sites that are a long way from home is only part of the equation. It's a lot cheaper to stay in a hotel and eat in restaurants than it is to fly back to the office every day. That said, meals and accommodation are not cheap. And when accommodation means renting a boat because that's the only way to get to an island and stay for the necessary amount of time – it definitely adds to the cost.

**Do you feel a draft?** There's no getting around it, analysis takes time. And the most time consuming activity when analyzing survey work is doing the calculations and drafting the plans.

**So when did you want me to start?** The best choice of when to conduct the field work for a survey project often depends on the terrain. Maybe in swampy conditions, it's easier to do the work in winter when everything is frozen. Late fall might make sense for heavily wooded areas that may require less cutting when the leaves are off the trees. While there may be some additional costs in delaying the work activity, it seems very often there are good reasons to do so. It also means that planning ahead can pay dividends.

**A square peg in a round hole?** Cost is not the only issue. There is a struggle with the dichotomy between the traditional view of collectively belonging to the land and having to work within the colonial system. The original Aboriginal system of land use does not fit into the colonial way, fostering frustration – as one lands manager put it, “hemmed in by a system, paying for the system, hampered by the system of land development that is not our own.”

## Executive Summary

### *The Study*

Why do legal surveys on First Nations Reserves cost so much? Are legal surveys on First Nations Reserves too expensive? Do legal surveys on First Nations Reserves cost more than legal surveys elsewhere in Canada? This in-depth study examines all components of Legal Surveys on First Nations Reserves and provides clear answers to these questions.

### *The study captures:*

- labour data from 95 recent survey projects across Canada;
- processes and issues identified by First Nations Lands Managers and others within First Nations organizations involved with Legal Surveys on First Nations Reserves; and
- all factors that influence the cost of Legal Surveys on First Nations Reserves.

### *The study finds:*

The data shows that, based on the multipliers used, surveys are charged out at the same rates on First Nations Reserves as in the provinces. The data from the study further shows that the amount of time spent on legal surveys on First Nations Reserves is often less than that of comparable legal surveys in the provinces.

### *What work goes into a Legal Survey on First Nations Reserves?*

The data from the Legal Survey Projects studied indicate the following steps in the process of preparing a legal survey on a First Nations Reserve:

- Initial discussion with client
- Review site in person and/or with online tools and aerial photography
- Research land interests
- Research previous and/or abutting surveys
- Determine estimate of costs
- Prepare sketch of proposed survey
- Obtain approvals from client and First Nations authorities
- Submit sketch, approvals, and title documents to Natural Resources Canada to obtain Survey Instructions
- Perform Field Survey, including:
  - Finding and taking measurements to acceptable survey monuments in the area,
  - cutting and blazing property lines,
  - placing survey monuments at new corners, and/or replacing disturbed or missing survey monuments from previous surveys,
  - Measuring up any encroachments/conflicting interests
  - Measuring up all features close to the boundaries, such as fencing

- Meeting client and/or First Nations Authorities on site
- Addressing concerns/questions from abutting homeowners
- Review the field work and perform necessary calculations
- Prepare a preliminary plan illustrating the field work
- Review the plan for legal, regulatory, and mathematical correctness
- Review the plan with the client and receive client approval
- Review the plan with First Nations authorities and receive their approvals
- Prepare a digital spatial file of the plan
- Submit the plan, digital spatial file, and approvals to SGB/NRCan for plan registration
- Provide copies of the registered plan to the client and First Nation authorities

The survey projects studied indicate that this work can take as little as fifteen hours of labour or as much as 20, 50, or hundreds of hours, depending on the size and number of parcels being surveyed, and their distance from the surveyor's office.

#### *What causes additional costs to a Legal Survey on First Nations Reserves?*

The data from the study determined several factors that increase the amount of work the surveyor must do, which increases the cost, namely:

- Missing or disturbed survey monumentation
- Resolving conflicts between cadastral evidence locations
- Changes to the project requirements
- Distance from surveyor's office
- Challenging topography
- Access difficulties
- Vegetation requiring cutting and hampering GPS equipment
- Long delays requiring the project information to be reviewed and/or updated

#### *How can these additional costs be avoided?*

##### *Lands managers can:*

- Have things in place before survey work is contracted
- Have funds available and accessible
- Be aware of everyone who has interests in the property
- Make sure all parties understand and are in agreement with the proposed survey, including any neighbours providing access rights-of-way
- Address potential objections to the survey from neighbours or other parties

##### *Surveyors can:*

- Capitalize on NRCan cadastral data for survey monument location

- Combine careful use of GPS technology with conventional techniques to avoid future conflicts between cadastral evidence locations
- Understand current regulations, processes and protocols to avoid critical issues when the plan is submitted, and seek advice from SBG staff when needed

*NRCan (SGB) can:*

- Provide an online webinar overview for Canada Lands Surveyors who have not (recently) performed Legal Surveys on First Nations Reserves
- Reduce the frequency of changes to processes and/or protocols

*How can a Survey Program Improve Future costs?*

The data from the study shows that Lands Managers who have a dedicated plan for future surveys are able to save on the costs of legal surveys in their communities, through efficiencies and better access to funding.

*Lands managers can:*

- Arrange surveys in the same general area to be performed at the same time
- Be aware of the best time of year for surveys in the community
- Be aware of sources of outside funding for survey work in the community
- Build a good working relationship with one or two surveyors
- Manage the survey contracts on behalf of community members, or offer their assistance
- Ensure that the surveyor receives approvals from all parties promptly
- Make sure all parties know what they need so project modifications can be avoided
- Retain funds to hire a surveyor to help plan efficiently for future surveys and to provide estimates for funding applications
- Consult a peer mentor or be a peer mentor for a less experienced lands manager
- Spread the word in the community about the importance of protecting survey monuments
- Understand the roles and responsibilities of INAC, NRCan and the surveyor within the process

*Surveyors can:*

- Commit to working closely with Lands Managers
- Show clients and Lands Managers the locations of the survey monuments once the survey is done and explain their significance

*NRCan (SGB) can:*

- Introduce SGB staff to Canada Lands Surveyors and First Nations and ensure that surveyors and Lands Managers know who to call in their area if they have questions

*INAC can:*

- Provide Lands Managers with easily accessed funding opportunities
- Publicize the location of documents explaining funding opportunities and their associated applications
- Prepare an online webinar to teach Lands Managers how to apply for funding
- Provide funding for a national peer mentoring program for Lands Managers

*ACLS can:*

- Perceptions exist within the ACLS membership that CLS work is overly complicated and unprofitable. It is important for the ACLS to better understand these sentiments in order to address both the myths and realities in the marketplace. The first step is undertaking a robust tracking effort to quantify the reasons why some CLS members choose not to renew their licenses.
- There is clearly a need for an interface that brings clients and surveyors together more efficiently. The ACLS could provide a simple platform, such as an email forwarding tool, to NALMA that would alert ACLS membership of potential available work, increasing access to CLS license holders to land managers, providing a more accessible market to surveyors and improving the overall stability of the ACLS

## Activity Based Cost Analysis on First Nations Lands

### *Purpose of Enquiry*

The Government of Canada, through the Departments of Indigenous and Northern Affairs Canada (INAC) and Natural Resources Canada (NRCan) in collaboration with the Association of Canada Lands Surveyors (ACLS) requested the preparation of a Report that identifies and explains the key cost drivers for Legal Surveys on First Nations Reserves and provides recommendations for changes in policies and practices to mitigate them.

### *Study Objective*

The objective of this project is as follows:

- i) Determine the key drivers of survey costs with respect to parcel and jurisdictional boundaries on First Nation Reserve Lands in Canada.
- ii) Provide an evidence based set of recommendations to address the key issues identified. Recommendations were to include the impact of:
  - The quality of land development regimes
  - Awareness and familiarity with the legal survey process
  - The condition of legal survey infrastructure
  - Land registries and legal survey regimes
  - Related information systems
  - Access to Canada Lands Surveyors
- iii) The data captured in this report may serve as a tool for the creation of educational resources to key stakeholders involved in survey projects who may not be familiar with all aspects of a survey and the associated costs.

### *Study Scope*

The scope of this report is limited to legal surveys performed on lands under the instructions of the Surveyor General of Canada and these surveys are made for the purpose of defining parcels for land transactions, defining jurisdictional limits and maintaining exterior boundaries. The project does not include non-Canada Lands Surveys such as those done under provincial statutes and regulations to support Additions to Reserves (ATR), Treaty Land Entitlement (TLE) and location surveys such as Real Property Reports, building location certificates, or technical surveys such as construction, topographic and engineering surveys. In addition, surveys made under the Indian Oil and Gas Act and associated regulations are not included.

Comparisons have been made to a representative sample of surveys on provincially regulated lands where cost data is available and the contractor has clearly demonstrated equivalency with a Canada Lands survey.

### *Study Approach*

This study was divided into three main sections that examined the issue of the cost of legal surveys on First Nations lands from different perspectives. The first section – PART A - attempts to gain an understanding of lands management resource capacity across First Nations reserves in Canada, identify best practices and gather information about challenges that First Nations lands managers are experiencing.

The second section – PART B – is a comprehensive examination of survey projects across the country that asks very specific questions about the time invested in each activity undertaken during the survey process. It also measures what will be further referred to as tombstone data, such as distance travelled, distance surveyed, monuments placed and extra expenses.

The third section – PART C – uses a similar set of questions to PART B but this time applies them to comparable First Nations and provincial projects done by the same surveyor in an attempt to gain an understanding of the differences between the two processes.

The resulting data has been used to pinpoint which activities generate the most work and therefore the most cost. In an effort to isolate and identify what drives the cost of survey work on First Nations lands in a way that is measurable, repeatable and precise, this study uses a form of Activity Based Costing (ABC).

ABC was conceived as a solution to address costing in single entity manufacturing companies. ABC is a method of assigning costs to products or services based on the resources that they consume. ABC is an alternative to traditional accounting in which a business's overhead (indirect costs such as lighting, heating and marketing) are allocated in proportion to an activity's direct costs.

ABC was designed to examine the costs of a single company – it does not work when comparing the costs of one company to the costs of another company, in one region versus another. One example of why ABC is not useful for comparing costs in different regions is because overhead costs, such as electricity, cannot be assumed to be equal across the country.

Instead, this study examines the costs of surveys on First Nations using a more specific “Time Driven” form of ABC. The costs are examined from a labour perspective (as labour is the most significant cost in the production of land surveys), and not from a dollar figure perspective. This method removes the influence of different charge out rates from one company to another, and in one region versus another.

Time Driven Activity Based Costing<sup>1</sup> focuses on the time needed to perform every component of a

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<sup>1</sup>: [HTTPS://HBR.ORG/2004/11/TIME-DRIVEN-ACTIVITY-BASED-COSTING](https://hbr.org/2004/11/time-driven-activity-based-costing)

project. Labour input is broken down into its smallest components for an accurate evaluation of the time required, or the “cost” to do a survey.

Activities were further broken down into type of labour, recognizing charge out rates for a CLS would be different from other labour such as field crew or administration. In PARTS B and C of this study, surveyors were asked to assign a value in number of hours to each category in each activity. To address the challenge in recognizing the full cost of surveys (recognizing other specific inputs), transportation costs (measured in kilometers) were also included for most of the activities listed. The intent was to test the assumption that distances from the project plays a significant role in the overall cost of surveys. In addition to using transportation as a key indicator, this study also measured numerous other elements as tombstone data for each project and factored those elements into the overall results.

## How to Use and Understand this Study

### *Activity Pools*

Activities required to perform the function of producing survey work were broken down into five general categories as a way of organizing how survey work is performed:

1. Procurement
2. Project Set-up
3. Project Execution
4. Project Analysis
5. Impact of Delays

### *Activities*

For the purposes of this study, activities are a breakdown of all the elements required to produce a legal survey on First Nations lands. The breakdown of activities involved in producing surveys provided in this report were a product of a collaborative and consultative process involving all of the project sponsors and refined by the project authors.

### *Cost Drivers*

For the purposes of this study, each activity has been measured as a function of time and distance travelled in order to understand the cost involved with each component of the survey process. There are no references to dollar values in this examination – only hours worked. It is important to note that variations in labour rates across the country would make effective comparisons difficult. While the effort expended in some of the activities described in this study is unavoidable, there may be options to improve efficiencies in some activities to mitigate costs. Identifying where labour intensity or distance travelled originates – the cost drivers - brings focus to solutions. Cost drivers are defined here as a function of the motivating factor underlying the performance of work. Accordingly, each activity was categorized into the following cost drivers:

1. Client
2. Process – Federal Government
3. Process – Provincial Government
4. Process – First Nation
5. Process – Other
6. Project Scope
7. Physical Features
8. Distance to Project
9. Legal Requirements
10. Due Diligence
11. Local Knowledge

### *Cost Accelerators*

Recognizing that not all projects are created equally, an attempt was made to identify cost accelerators where circumstances required extensive travel, accommodation, meals, equipment rental, etc. Generally, these accelerators are driven by the distance between the surveyor's office and the project location but cannot be captured by using time driven activity based costing alone.

### *Cost Centers*

Much of the analysis for this report relies on the reporting of both intensity of labour (the number of hours required to perform a specific activity) and frequency of labour (the number of surveyors reporting they performed that specific activity). This report also examines the intensity (distance travelled) and the frequency (the number of surveyors reporting that there was a travel component to their project) of work undertaken.

For the purposes of this report, cost centers are being defined as a function of high labour intensity multiplied by high labour frequency. While distance travelled is noted in the graphs illustrating cost centers, distance travelled is also both a cost driver and a cost accelerator. Distance travelled is therefore being treated as a secondary factor in identifying the cost centers among the various activities.

### *Case Studies*

Attempt to explain some of the results and provide context through specific examples derived from a specific respondent.

### *Use of Statistics*

In many cases throughout this document, responses are reported using mean (the average), maximum (the highest number reported), minimum (the lowest number reported) and the median (the middle number between the maximum and minimum). These statistics are used as a check and balance to understand when an average number might be skewed. For instance, as a random example, over the course of 20 jobs, the average number of hours expended was 109.5 hours per job. However, 19 of those jobs took only 10 hours each to complete. One job took 2000 hours to complete. By using the maximum (2000), minimum (10) and median (10) in the analysis, it is easy to see that the job that took 2000 hours is an anomaly.

## Part A – First Nations Questionnaire and Interviews

### *Description of Part A*

A selection of First Nations communities from across Canada was provided by the project authority. The selection included a representative sample of communities, where parcel and jurisdictional boundary surveys have been completed in the last three years.

The study gathered basic information about capabilities and sophistication for lands management on First Nations lands, how contracting is done, how surveys are financed and opinions about the role of surveyors and legal surveys.

### *Goals:*

- Identify factors that affect the cost of legal surveys on First Nations Reserves;
- Obtain information about specific topics (access to surveyors, experience of First Nations staff, etc.) that can be tabulated for a nation-wide response.
- Allow First Nations to express their comments and concerns that can be passed along to project stakeholders for their mutual benefit and understanding.
- Foster and further a positive and cooperative relationship

### *Methodology for Data Gathering in Part A*

The information was gathered using a two step approach:

**Step 1 – Survey Monkey Questionnaire** For consistency and accuracy for cross-country comparisons, general questions relating to obtaining surveys on First Nations and their associated cost drivers were posed in a Survey Monkey Questionnaire. This questionnaire was made available to individuals identified by the First Nations Group as having a leadership/management role. Each participant was requested to identify their leadership/management position as part of the questionnaire.

**Step 2 – Go-To-Meeting Interviews** Ten Lands Managers were interviewed using Go-To-Meeting. The questions asked of each Lands Manager was consistent. These questions related to obtaining surveys on First Nations and their associated cost drivers, but allowed the answers to be more specific to each group's unique situation.

## Survey Results

**1. There are 576 First Nations Communities in the 10 Provinces of Canada.** Responses to the First Nations Questionnaire (Part A) were satisfactorily distributed both across Canada and within each province. For example, 41% of those 576 First Nations Communities are located in BC – this 41% represents 198 communities in BC. 34% of the total responses to Part A came from communities in BC (31 responses from a total of 75 responses to Part A across Canada). Those 31 responses (out of 198 First Nation communities in BC) represented 16% of the First Nations Communities in BC.

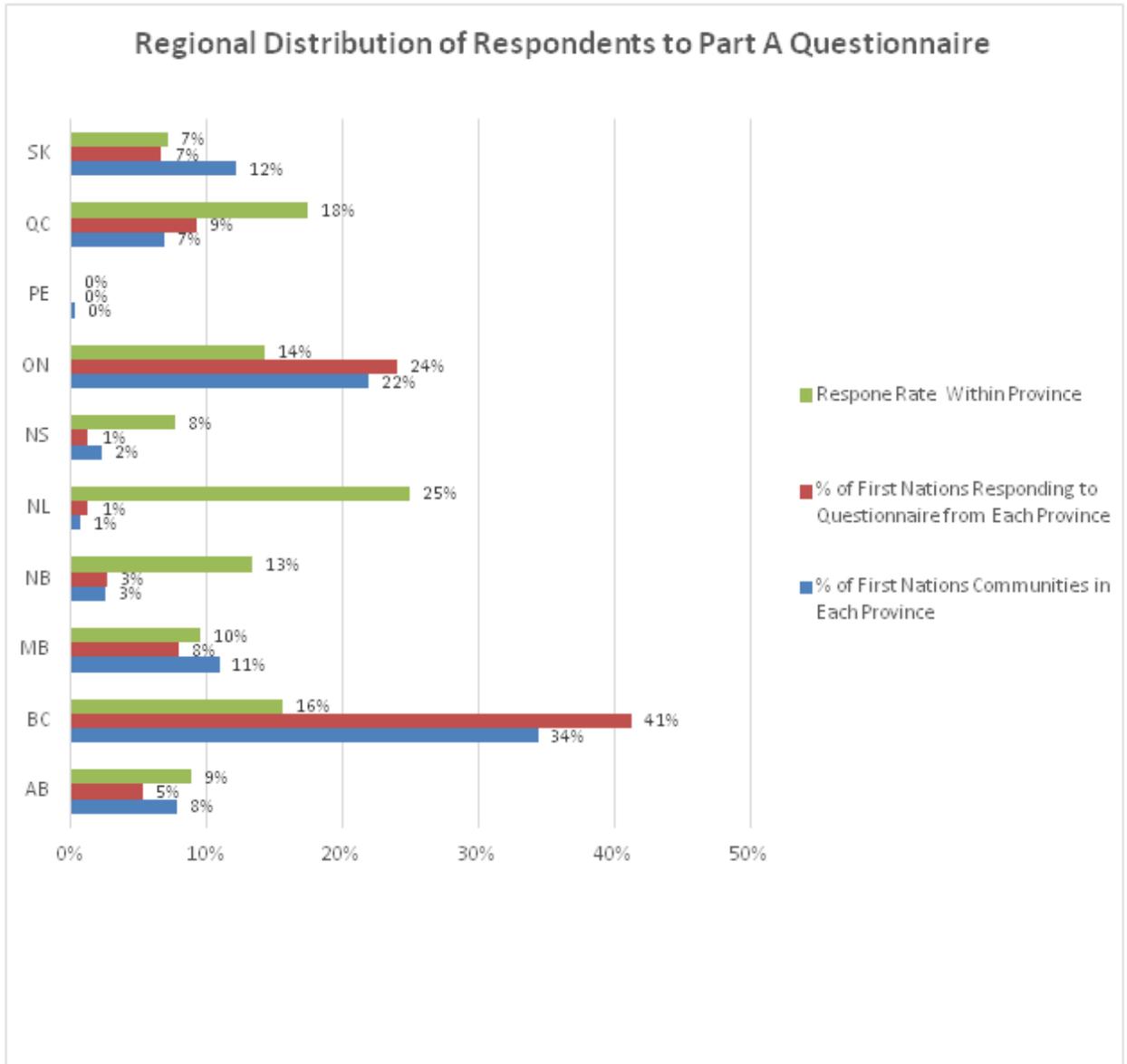


Figure 1 – Part A: Provincial Distribution

2. **“Preferred Surveyor” was the most common approach to assigning contracts.** The majority of respondents cited “Preferred Surveyor” (56%) when asked how survey work was awarded on lands they administer. Of the 56%, there were ten percent who “Never” used other options. Of those identifying as “Lands Managers”, 56% indicated they frequently used a “Preferred Surveyor” when contracting work, suggesting that there is a correlation between Lands Managers and the assignment of work to “Preferred Surveyors. At 10%, the “Tender” process was the least used option for contract awards.

How Surveys are Awarded	Don't know	Never	Sometimes	Frequently	Always	% responding to this question
<b>Preferred Surveyor</b>	7%	5%	33%	56%	10%	81%
<b>Client Preference</b>	23%	40%	23%	14%	0%	76%
<b>Tender</b>	11%	36%	39%	14%	0%	75%
<b>Price</b>	14%	20%	45%	21%	5%	8%

Figure 2 – How surveys are awarded

**3. The Majority of respondents identified as Lands Managers.** Overall, 57% of respondents to the First Nations questionnaire identified themselves as lands managers. While it appears that in some provinces the percentage of Lands Manager responses was very high (100%), the number of responses from First Nations in those Provinces was small. For example in Nova Scotia, while 100% of respondents identified as a lands manager, Nova Scotia only represents 1.3% of the total sample.

With respect to the question regarding the types of survey work happening on lands they administer, 8% of respondents indicated that they either didn't know or that all types of surveys never occurred or occurred infrequently. These same respondents also indicated that they had little experience in lands management, little training and few other resources to rely on in their respective organizations. They were also largely unaware of who manages survey contracts for their organization.

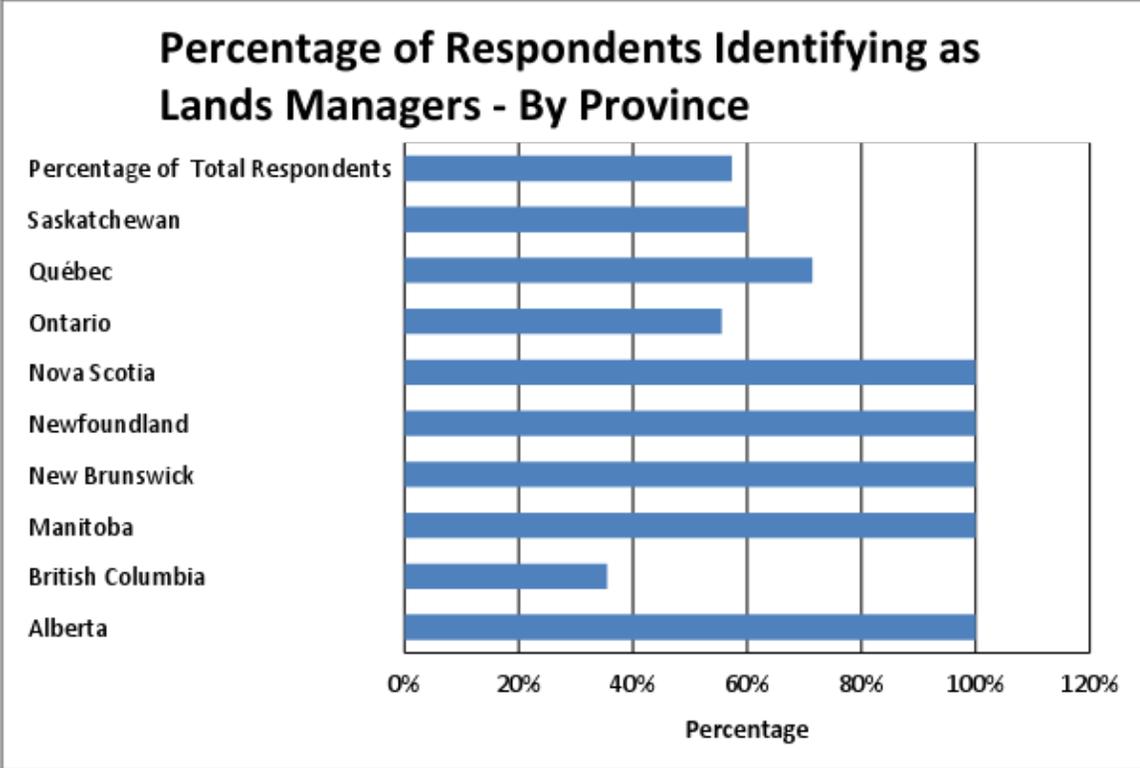


Figure 3 – Respondents identifying as Lands Managers

4. **Respondents self identifying as Lands Managers were likely to have significant experience.** Over 70% reported having 6 or more years of experience, whereas only 5% noted having less than 1 year of experience.

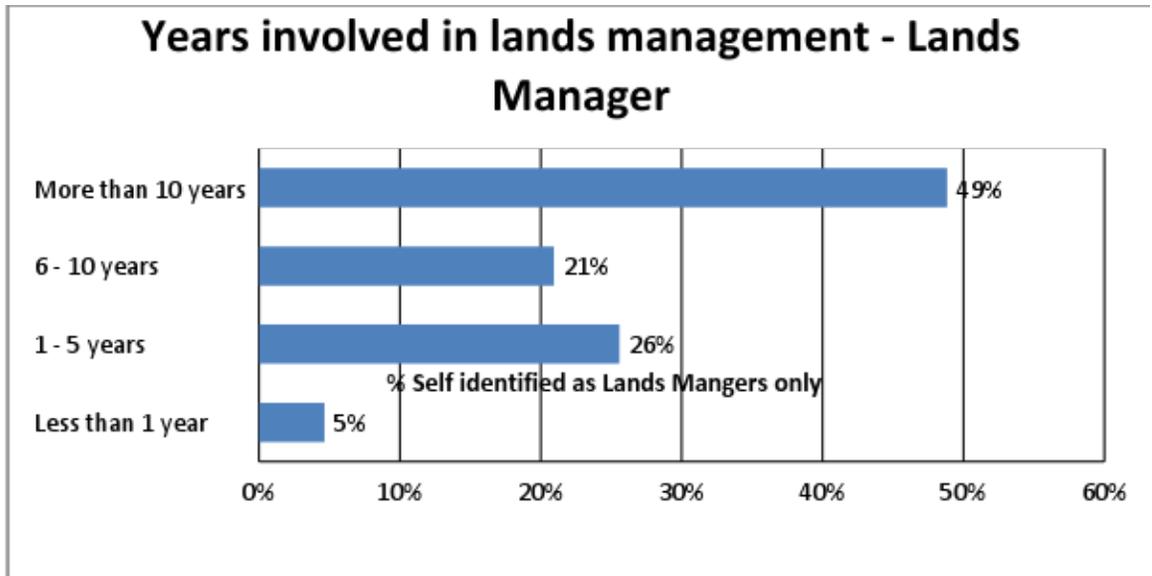


Figure 4 – Years involved as Lands Manager

Similarly, almost 60% of respondents identifying as Lands Managers had been in their current roles for more than 6 years. Moreover, some who noted they had been in their current role for less than a year, still had more than 10 years experience in the industry.

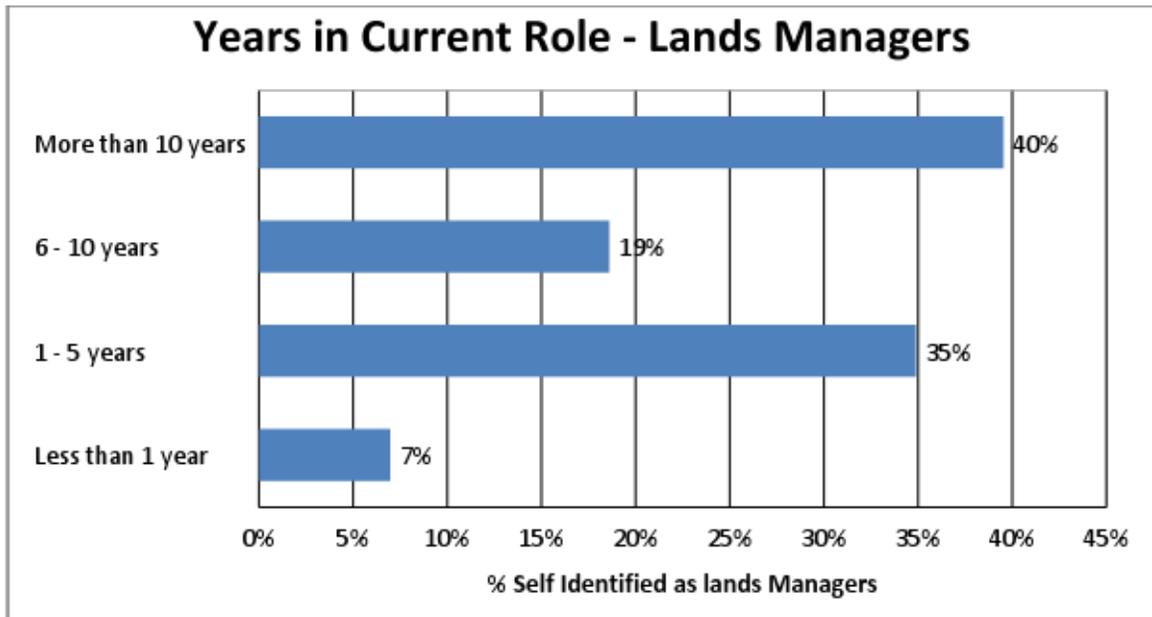


Figure 5 – Years in current role

5. **On the job training is the most common and frequently the only type of training used by respondents.** More than half of respondents (54%) take advantage of more structured training programs that go beyond short seminars.

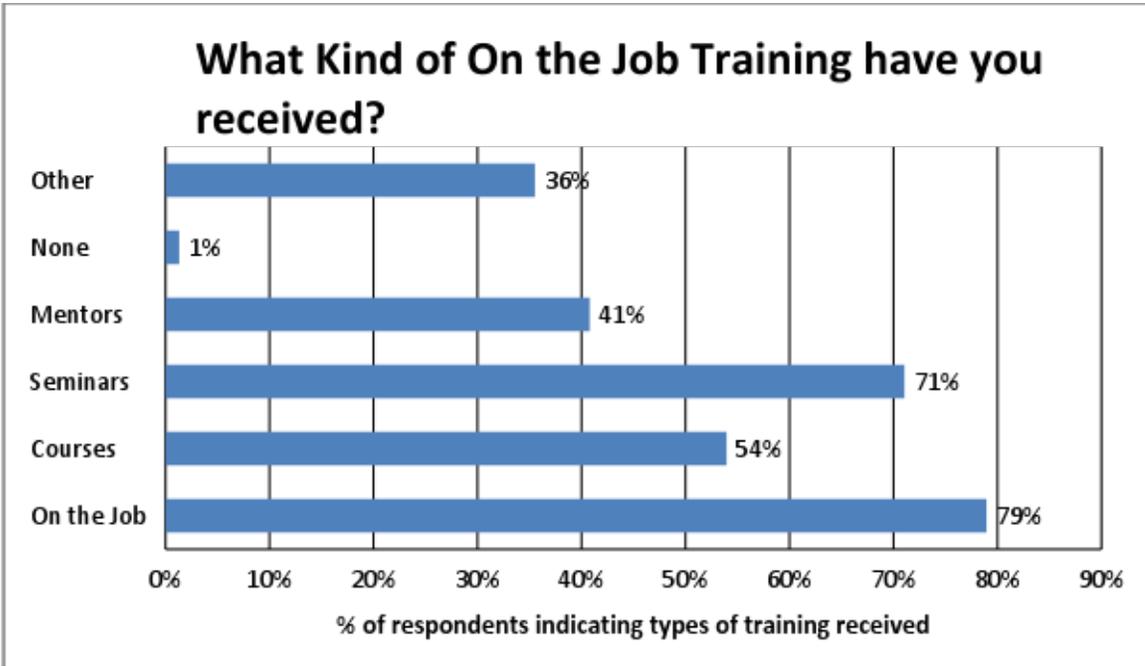


Figure 6 – Types of job training received

6. **It appears Lands Managers are receiving more training than non-lands managers.** Lands Managers in this study cited multiple modes of training more frequently than other respondents. 69% of Lands Managers noted three or more modes of training; whereas 53% of non-lands managers cited three or more modes of training.

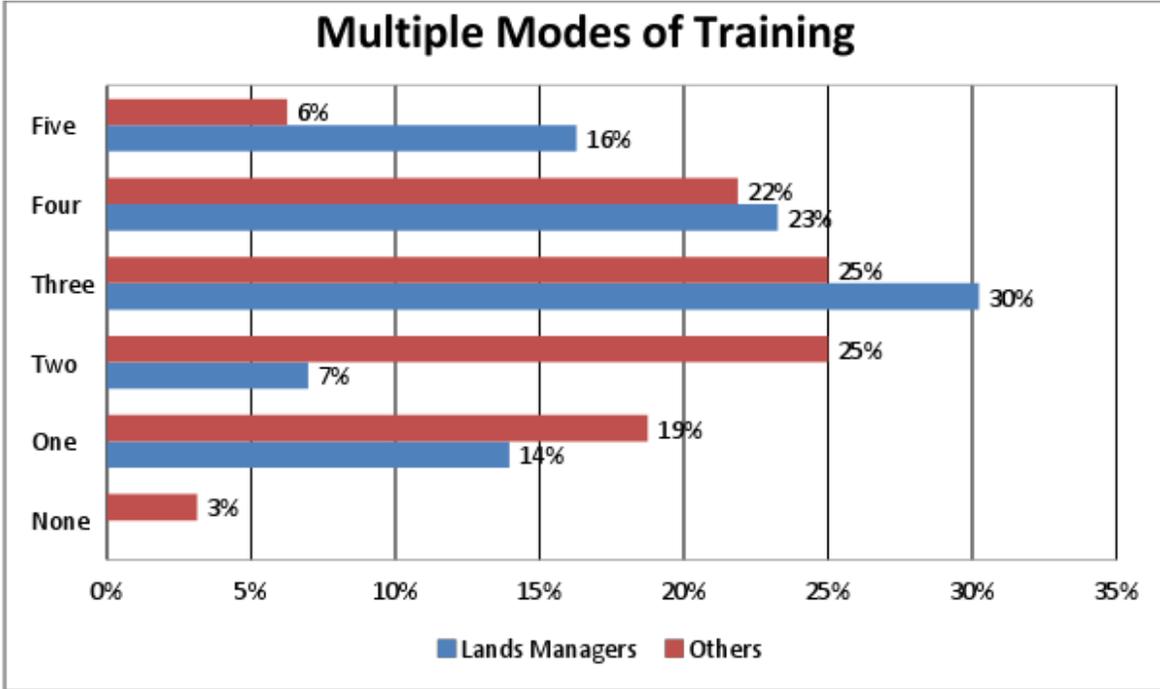


Figure 7 – Modes of training

7. **There appears to be a variety of professionals trained in disciplines that are related to lands management working in most First Nations communities.** Nine percent of respondents indicated they had some form of training related to surveying. Of concern is the 24% of respondents who indicated there were no additional professional resources in their community and 11% of respondents who cited they did not know if there were other trained professionals in their organization. For the most part, the respondents who indicated they “don’t know,” did not identify as lands managers or First Nations staff.



Figure 8 – Other trained individuals in organization

When asked about other individuals within their organization that had experience in lands management related disciplines, respondents returned similar results, indicating there were none (32%) or they were unaware of other's experience (20%).

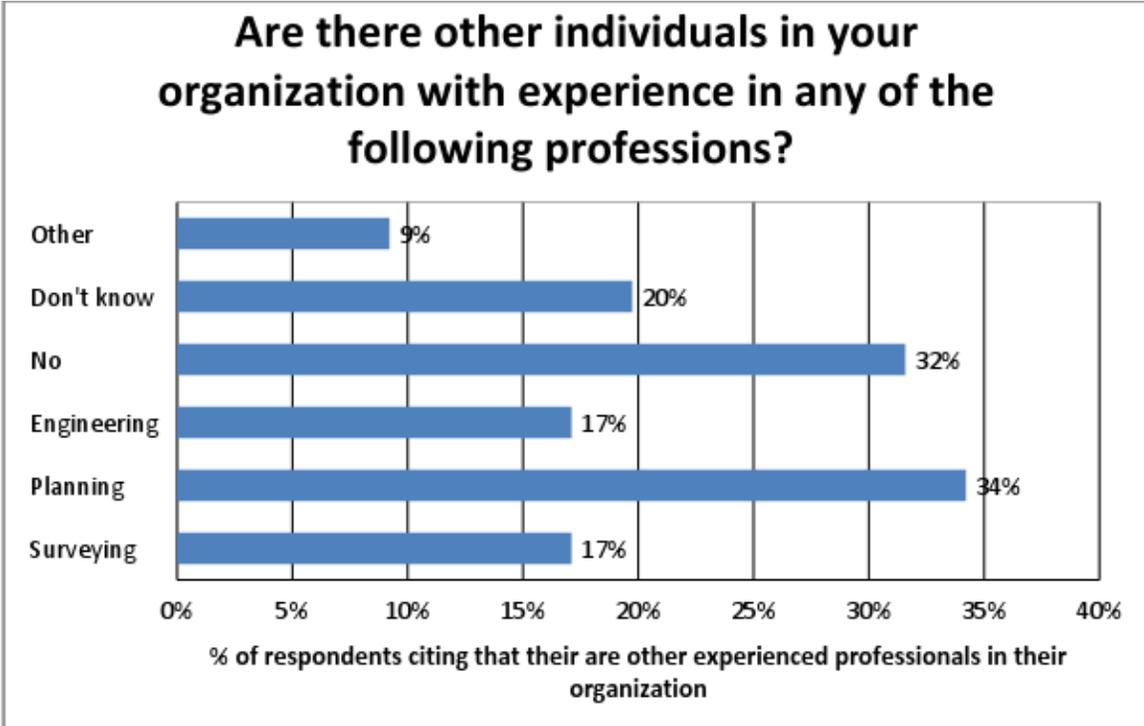


Figure 9 – Other experienced individuals in organization

With respect to interfacing with other professionals in lands management related disciplines, virtually all respondents indicated working with at least one or more. The most frequently cited was planners.

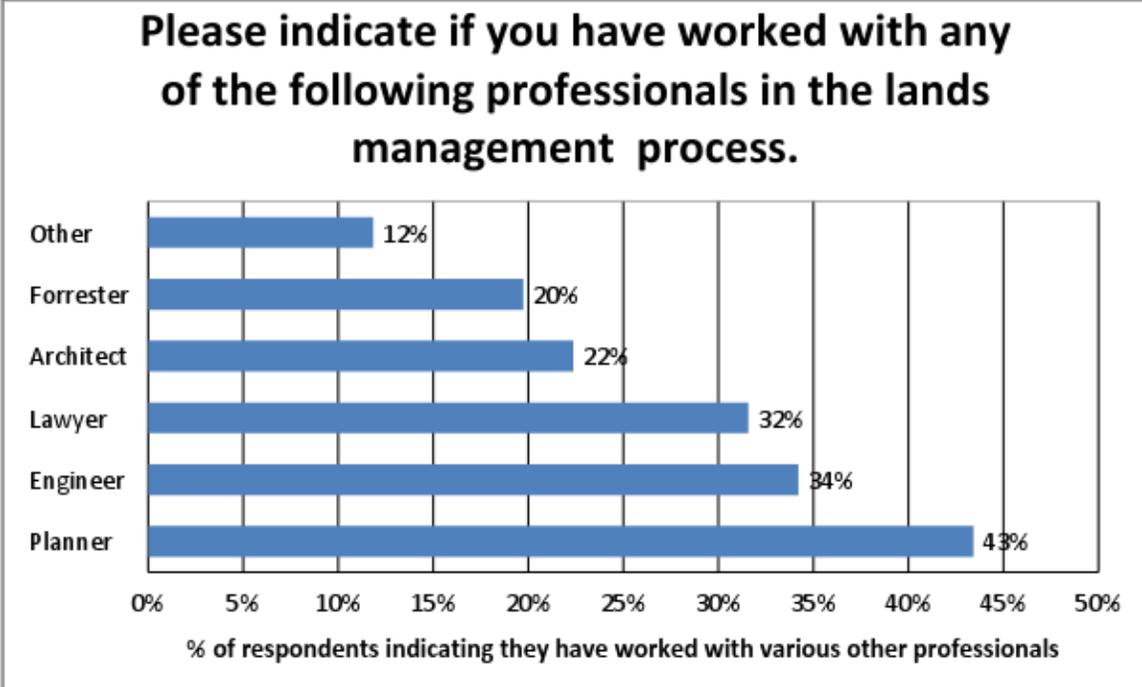


Figure 10 – Experience working with other professionals

8. **Efficiencies could be gained through providing electronic access to land tenure/information systems.** While not all respondents answered this question, it is important to note that only 16% of respondents indicated that electronic direct access to land tenure/managements systems was available to the surveyor in electronic format.

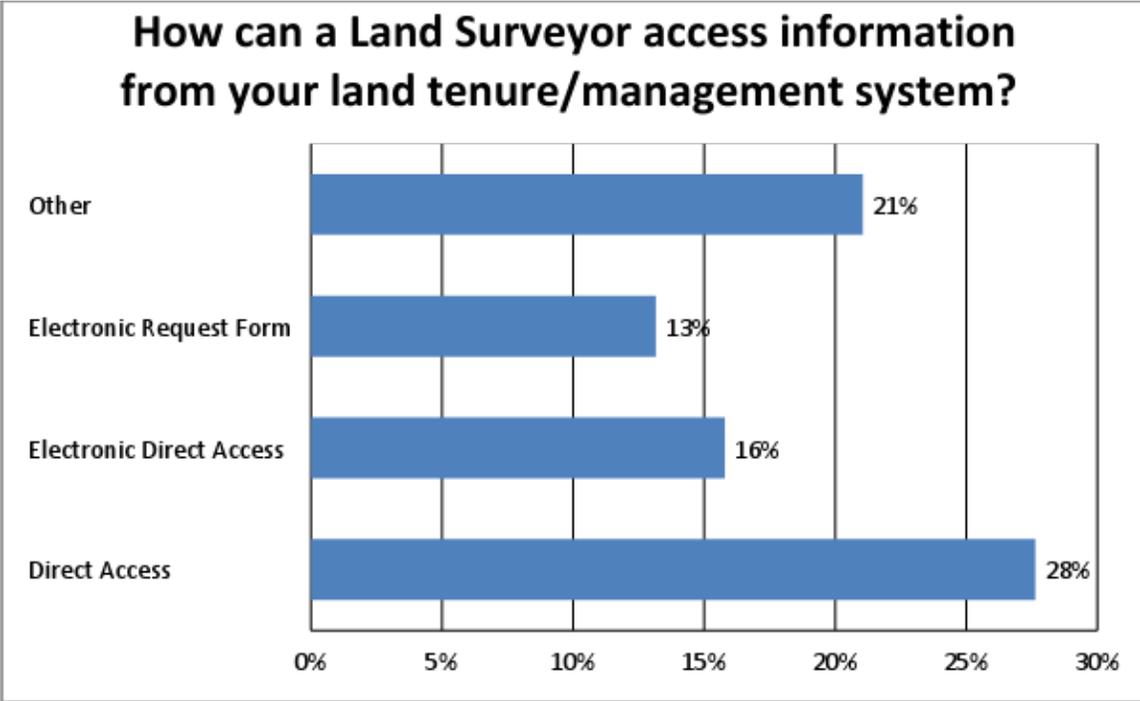


Figure 11 – Surveyor access to land tenure/management system

9. **Residential and commercial development, along with associated infrastructure such as roads and utilities are the most frequently cited activities that respondents advise on.** It may be worth further investigation to determine if training and tools dealing with other types of development would create efficiencies and drive down costs.

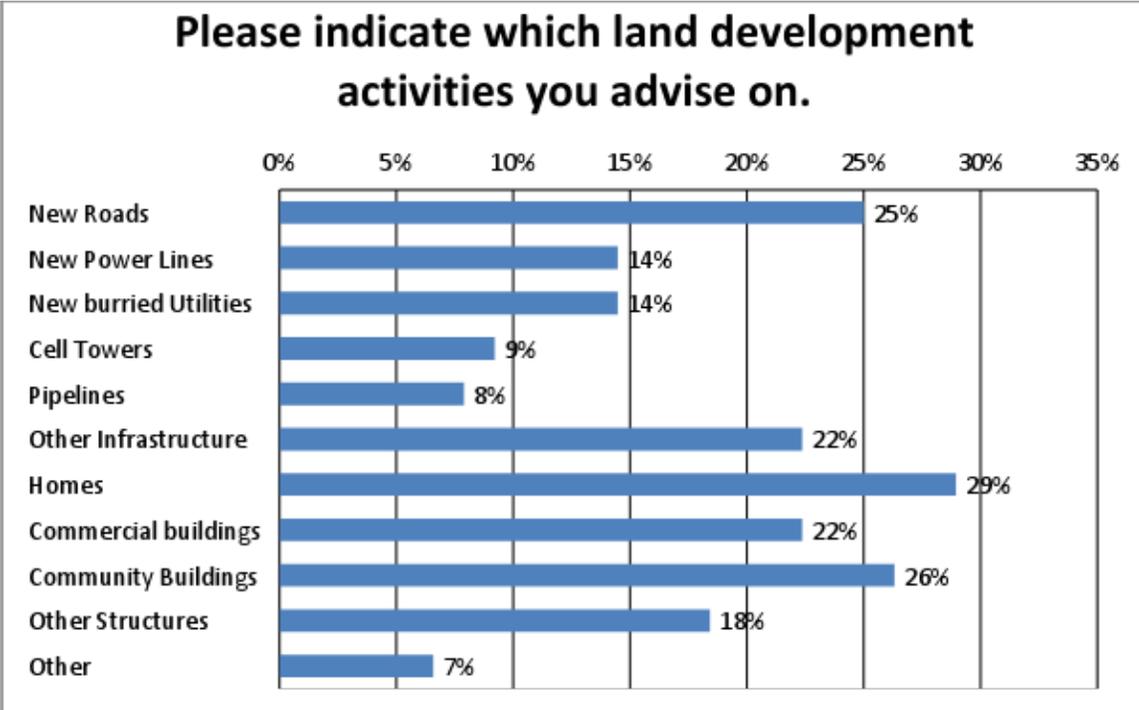


Figure 12 – Land development activities respondents advise on

## *Lands Manager Case Study #1*

A successfully managed First Nation must have solid Lands Management practices.

### *Lands Manager Profile*

This Lands Manager is a professional technologist with a university Planning education, and has been in this position since 1997. The Lands Manager has survey experience and is currently getting GPS training from Cansel, and spends 2 to 5 hours per week doing something relating to surveys in the community – developing proposals, tenders, responding to emails etc. This translates to approximately 6.5 weeks per year working on survey-related matters, based on a 40 hour week.

### *Planning Ahead*

The Lands Manager's organization has a 5 year Capital Plan and does Long Term Community Planning. Legal surveys are integrated in the budget when doing community planning. The Lands Manager looks for funding for special legal surveys and also for funding under capital projects as well as identifying a year's worth of work and then scheduling their identified projects immediately. It generally takes two weeks to get a survey started. The Band staff is always in contact with National Aboriginal Lands Management Association (NALMA), and Natural Resources Canada. Because there is always a list to work from, the Lands Manager can respond quickly when funding becomes available.

### *Managing the Survey Contract*

The Lands Manager manages the survey contract, from start to finish including invoicing, but does not, however, prepare the Land Status Report for the project - the surveyor does that.

The Lands Manager goes out in the field with the surveyor and shows how the legal survey is impacted by any development that doesn't show up in the Canada Lands Survey Records (CLSR). The surveyor is given the background of each project. It isn't necessary for the surveyor to walk the Lands Manager around the site when the project is done because the job is well-known already and the surveyor explains the outcomes of the survey. The preliminary survey plan is sent by email for approval by both the Lands Manager and council.

### *Community Communication Reduces Problems*

During the process, this Lands Manager involves all the stakeholders so issues are resolved right away – concerns are brought up during initial discussions. On site preliminary visits show any potential problems and are dealt with and documented. The organization has an in-house approval process that works. The surveyor goes door to door during the survey, talks to homeowners, and explains what's going on. Every community member has the surveyor's cell phone number.

### *Relationship with Surveyor*

This Lands Manager has access to five survey firms, but has one survey firm used most regularly – while tenders do get put out, this regular surveyor has the best price. As well, continuity with the

surveyor is valuable.

The Lands Manager usually communicates with the surveyor directly. Communication with the Surveyor General Branch (SGB) of Natural Resources Canada is on an “as needed” basis. Communication via email works well, and there are no problems reaching SGB. The Lands Manager has no issues and no suggestions for improvement and feels there is a good working relationship with the surveyor and SGB.

### *Funding*

This Lands Manager demonstrates that the tools for good lands management are available through Indigenous and Northern Affairs Canada (INAC) and Natural Resources Canada. The need for a survey in this community is based on requests from the Housing Department; if they get funding they look at projects that need doing. **Almost 100% of the surveys are paid for by the Band, with funding.**

The Lands Manager’s organization’s Public Works Department is doing a GPS mapping project of all their manholes, utility assets and infrastructure. They use SGB’s Google Earth overlay. Autodesk map has the Canada Lands GIS info that they keep up to date. They will be adding the aerial photography. Their data will be cloud based. They installed a new \$100,000 server through INAC funding.

### *Mentoring*

Because of the importance of First Nations lands, the Lands Manager feels all First Nations should be looking at proper lands management; First Nations Lands Management plays a big role in providing housing for First Nation people.

The Lands Manager participates in a Canada Mortgage and Housing Corporation (CMHC) First Nations Housing Managers mentorship program, and also mentors at two other First Nations. It’s part of a social infrastructure Housing program; part of it was capacity development. It’s a brand new program.

The Lands Manager believes that First Nations Lands Management in Canada needs a mentorship program and feels that First Nations must work collectively to make plans for their future, to reap the benefits of their lands, and to take care of what they are leaving to the next generation.

## *Lands Manager Case Study #2*

Perceptions of unnecessary survey requirements and inflexible procedures lead to dissatisfaction.

### *Funding*

This Lands Manager feels that the community needs funding for staff, and funding for surveys. How long it takes to get a survey started depends on why it's needed. If it's a Band project, it may take time to get funding from Indigenous and Northern Affairs Canada (INAC). On lands held with a Certificate of Possession, "CP land", it may take longer because it won't start until the individual has the money to pay for the survey.

This Lands Manager has some communication with Natural Resources Canada, Surveyor General Branch (SGB), but not a lot. Usually the surveyor does the communicating with SGB. The Lands Manager does not have much communication with INAC – only to look after the transfer.

### *Training*

At this Lands Manager's office, it's considered to be "learn as you go". They haven't had much training, and feels it's worse elsewhere - on one Reserve, the new Lands Manager didn't know anything about surveys or surveying. The Lands Manager feels that INAC is no help but notes that the National Aboriginal Lands Management Association (NALMA) helps with training, though.

In the Land Manager's opinion, SGB's Manual "Getting a Survey Done" isn't user friendly and hasn't been well delivered, and feels there is not enough assistance to help new people in Lands Management.

### *Managing the Survey*

In this community, the need for a survey comes from Band projects, private lands, or from the Economic Development department. Once the money is in place it takes, on average, a couple of months to get a survey started. The seasons can be the cause of delays too. The whole process takes about a year once funding is in place. The field work usually takes about a week.

This Lands Manager manages the survey contract, whether the survey is on Band lands or for an individual. The Land Manager does not prepare the Land Status Report for the project, but does in-house historical search.

Approval of the survey involves comparing the preliminary plan to the original sketch. Sometimes the Lands Manager finds that an easement has been missed or the preliminary plan did not get sent to band council, and finds that almost all of the preliminary plans need some sort of correction, from either a road name to access rights-of-way.

### *Relationship with the Surveyor*

This Lands Manager feels there are an adequate number of surveyors in this service area. There is currently no need to advise the surveyor of development activity that may not show up in the

Canada Lands Survey Records but anticipates there will be in the future.

If the surveyor gives notification in advance, then the Lands Manager is able to talk to the community members if their lands are going to be surveyed or crossed. Unfortunately, advance notice is not always received that the surveyor will be on lands other than the specific parcel being surveyed.

Because this Lands Manager is not the client, the outcomes or results of the survey are not explained. There is no need nor want for the surveyor to show the boundaries that have been surveyed.

### *Challenges and Change*

This Lands Manager feels there have been too many policy changes – all of them affecting previously signed agreements with surveys in progress. Before 2007, land transfers would happen within a week and without a survey; the survey would take place later, within a year. The Lands Manager liked this system. In the past, INAC did everything: they took the sketch, did the transfer and sent it to NRCan, and INAC paid. Now, since 2007, it's all done by the band or the individual. With respect to the 2007 INAC changes, the Lands Manager feels the reasoning was: "we have to pay for our surveys so now you do too."

Under the Indian Act, the Minister has to approve all transactions. There have been instances where the requirements have changed between the time where the need for a transfer was identified and the time they got it ready to submit. Because the documentation was in the wrong format, the First Nations had to start over. This Lands Manager feels that since the Minister has the authority, the Minister should focus on the intent of the information in the document, and be more flexible regarding the format.

This Lands Manager feels that the Trilateral Agreement is not realistic, and also feels there is an unfair cost difference; off reserve they can use metes and bounds descriptions instead of always getting a survey. Community Members need proof of interest in the land to get homeowner's insurance, and they can't get insurance until the transfer is completed; there needs to be a way for people to prove they have an interest in the land.

### *Traditional Outlook*

"We don't own the land - we belong to the land".

## *Analysis – Part A*

### *About the First Nations Contributors*

The First Nations questionnaire gathered data from 76 respondents: primarily Lands Managers (59%) and First Nations Band staff (36%). Input was also received from some Chiefs and Band Council members, Directors, and from First Nations Public Works, Environment, and Lands management staff. More than half (55%) have been involved in Lands Management for 6 or more years.

### *Training and Education*

Most of the respondents have received on-the-job training (81%) and have attended seminars (73%). Other training included courses (56%), and mentors (41%). Additionally, 26 respondents indicated that they have related degrees (Engineering, Forestry, Indigenous Peoples Management), Certifications (Reserve Management, Lands Management, GIS, Administration), and/or training from the National Aboriginal Land Managers Association (NALMA), Indigenous and Northern Affairs Canada (INAC) and/or First Nations Lands Management Resource Center.

### *How are Legal Surveys Managed?*

Over half of the respondents indicated that there are others in their organization besides themselves who are involved with Legal surveys. Survey contracts are managed mostly by the Lands Managers themselves; with the surveyors managing a lesser number, and Natural Resources Canada being the third highest group that manages survey contracts for Legal Surveys on First Nations Reserves.

Almost 60% of respondents said that community planning is involved when the need for a Legal Survey is identified. Of those, almost 80% use a Planner as part of the community planning process, 62% use an Engineer, and 57% use the services of a Lawyer. Half of respondents indicated that themselves or someone in their organization prepares the Land Status reports for any Legal Surveys in their community, 78% of who said they use the INAC Electronic Registry Index Plan (E-RIP) to help generate the reports.

Over 60% of respondents said that their organization has its own form of landholder records system, with 71% of those saying the individual(s) who prepare the Scope of Work for Legal Surveys is aware of this records system. Surveyors can access the records directly, or by request.

Almost half of respondents make surveyors aware of development activity that doesn't show up in the Canada Lands Survey Records, primarily new roads and buildings, and new infrastructure. When choosing a surveyor, more than half of respondents stated that they frequently choose a surveyor with whom they have an established relationship. Having such a relationship was considered the most important factor when choosing a surveyor by more than 70% of respondents.

Once the need for a survey is determined and the surveyor is chosen, the typical length of time that

passes before a survey is started is 1 to 3 months, according to 45% of respondents. (When surveyors were asked the same question, they gave the same answer, on average). When there was a delay in getting started, respondents indicated the following most frequent reasons: time of year, difficulty getting an access right-of-way, physical access issues, landholder changes to scope of work, and difficulty accessing a surveyor.

At the conclusion of the survey project, 58% of respondents said that the surveyor offered to walk the boundaries with them, and 81% said that was very important.

### *Interviews with Ten Lands Managers*

During the course of the study, ten private interviews were conducted with Lands Managers who graciously and candidly shared their thoughts, concerns, and priorities with respect to Legal Surveys of lands in their communities. The interviews included the same questions as those asked in the questionnaire - the personal nature of the interview format allowed the conversation to extend into other areas of interest, and encouraged more individualized responses.

Following the regional distribution of the online questionnaires, the interviews were conducted with four Lands Managers from British Columbia, one from Manitoba, three from Ontario, one from Quebec, and one from the Atlantic region (Nova Scotia). Similar to the responses in the questionnaire, the Lands Managers interviewed indicated that the need for a survey was most often identified as part of a lands transaction - to facilitate a sale or a lease for Housing, Estates, or Economic Development.

Where lands have been previously surveyed by the Federal government, as part of a settlement agreement, the Lands Manager felt that there was no need for surveys at this time. Several Lands Managers indicated that they planned surveys at least one year in advance, specifically to reduce the costs of surveys through improved efficiencies. One Lands Manager who bundled surveys this way noted a savings of approximately \$1500 per survey. Another Lands Manager who bundled surveys found a savings in survey fees, but at a cost of productivity. In that instance, the Lands Manager felt there were too many projects taken on at once, which were difficult to manage.

Another Lands Manager, one who has over 20 years experience, maintains a list of needed surveys, and is constantly seeking programs and outside funding to pay for them. 100% of the cost of surveys in that community are paid for with outside funds. This Lands Manager has an education and background in engineering and planning, and feels the work that is required for Legal Surveys is justified, as is the cost.

### *Community Planning*

Most of the Lands Managers interviewed talked about their community planning programs - residential areas are separate from industrial sections. Community planning is updated every few years, using planners and engineers, some of whom are staff members. One Lands Manager stated they do no community planning and do not consult planners or engineers.

### *Getting Field Work Started*

Where funding is an issue, it is considered as a primary reason for delay in getting a project started. Once funding is in place, the survey may start within the week or within the month, but usually within two weeks. Several people commented that whenever the client is unsure of exactly what they want, there is often a delay in getting started. Two Lands Managers noted that, due to seasonal access issues, it usually takes several months to a year before a survey gets started, and finding a surveyor is difficult.

### *Communication with the Surveyor, NRCan/SGB and INAC*

One Lands Manager communicates primarily with SGB to get surveys done (rarely with the surveyor), and has an excellent relationship with them. They also communicates with INAC after the survey is done, and is concerned that they no longer have a local INAC person.

Most of the Lands Managers interviewed communicate primarily with the surveyor, and considerably less often with SGB and INAC. A few Lands Managers do not deal with the surveyor either, if an individual community member has ordered the survey. Most are satisfied with status of the communication.

### *Land Status Reports:*

Most Lands Managers interviewed indicated that they prepare the Land Status Report themselves, and most of those used the ERIP system. One Lands Manager stated the ERIP system is lengthy but thorough, hard but necessary. Another said it was confusing, but the information is better. One Lands Manager found an error in the system in the past. Some Lands Managers prefer to let the surveyor prepare the Land Status Reports.

### *Managing the Survey*

About half of the Lands Managers interviewed said they tell surveyors about development activity that does not show up on the Canada Lands Survey Records. Of those who said “no”, most said there is no development activity to talk about.

Most Lands Managers interviewed said they manage all survey contracts; some said the person ordering the survey manages the contract, and of those, some said they help. One said that NALMA manages the contract for surveys for commercial projects. All those interviewed said that

neighbours are informed when a surveyor may be crossing their lands, either by the Lands Manager, the surveyor, or by letter, or through the Band Council or communications officer.

About half of the Lands Managers interviewed said the surveyor walks them around the boundary at the conclusion of the project; the rest indicated that they don't require it, except one, who would like it but has not asked and it has not been offered.

All of the Lands Managers interviewed were satisfied with the format in which the plans were sent to them for review – most sent by email, others were hard copies sent by regular mail or hand delivered, and some received both digital and hard copies.

The approval process for the preliminary plan is mostly a combination of First Nation staff/Lands Manager review with the client, and/or First Nation staff/Lands Manager review with the Band Council.

Two of the Lands Managers interviewed said the surveyor does not explain the survey outcomes to them - the others said the surveyor explains the survey outcomes to them thoroughly. None felt there were any disagreements with the final survey, except some very old cases, one being that it was the "homeowner's fault".

The majority of the Lands Managers interviewed are satisfied with the number of surveyors they have access to - most indicated that they prefer to work with only one or two, and that they have a good working relationship with them. Two Lands Managers interviewed do not feel they have access to enough surveyors, and another Lands Manager expressed concern that some surveyors are nearing retirement.

### *First Nations Staff Training*

The amount and type of training and education of First Nations staff was inconsistent among those interviewed. A few Lands Managers indicated that there is little to no training in their organization, while others had Lands Manager certification, with staff that has training and/or education in engineering, surveying, and/or GIS.

### *Types of Surveys*

The main types of surveys needed by the Lands Managers interviewed are Mapping/GIS for resource extraction, topographic, construction, and legal surveys - some were 50% legal surveys and several were 90% legal surveys. On average, Lands Managers were spending 1 to 5 hours per week dealing with land surveys.

### *Suggested Improvements:*

Several Lands Managers expressed their opinion that plan registration times and parcel transfer times are considerably longer than in the provincial system, which affects their commercial dealings. Some stated that there needs to be more funding for surveys - one felt there was essentially no funding at all. One Lands Manager suggested that a better database could be attached to legal surveys - a tree GIS linking title documents to parcels.

### *Varying Opinions of INAC*

One Lands Manager feels that when NRCan does a survey there doesn't seem to be any communication between NRCan and INAC. Even though it's the band's responsibility to make sure stuff is registered with INAC, if something gets missed then they don't know what INAC did. Another wants a clearer line of communication within INAC office of who takes care of what, with a clearer directory (often contacts the wrong person). One Lands Manager is concerned that they no longer have a local INAC person.

Another Lands Manager stated that, in the past, INAC did everything: they took the sketch, did the transfer and sent it to NRCan, and INAC paid. Now, since 2007, it's all done by the band or the individual. With respect to the 2007 INAC changes, this Lands Manager feels the reasoning was: "we have to pay for our surveys so now you do too".

One Lands Manager complained that "INAC is changing the game and moving the goalposts."

### *Example:*

The environmental side is challenging. There are 7 phases of housing development. Regarding Committee compliance, INAC says they're reliant on a separate department. But the surveying portion of INAC has been pretty standard. One Lands Manager told that they installed a new \$100,000 server through INAC funding, and explained that they use an Autodesk map that has the Canada Lands GIS info that they keep up to date and that they will be adding aerial photography in the future. They also mentioned that their data will be cloud based.

### *Other Comments:*

One Lands Manager does not like the Trilateral Agreement at all, and feels it is unrealistic. As well, there needs to be a way for community members to prove they have an interest in the land. In one of the communities, they are in the process of having their survey techs get qualified as Canada Lands Surveyors. They are participating in a pilot project with NRCan and INAC where the survey techs do the survey work and NRCan and SGB oversee the projects.

The traditional outlook towards land ownership is "not that we own the land collectively - We all collectively belong to the land."

One Lands Manager had this to say: “First Nations must work collectively to make plans for their future, to reap the benefits of their lands, what are they leaving to the next generation.”

Regarding “living with the land regime that stole your land in the first place...Your choices are: Either suck it up or get out from under the Indian Act. Go after the original territory – which is larger than the reserve. A really solid lands management practice MUST be in place. There are tools available through INAC.”

One Lands Manager feels there is an unfair cost difference: that “off reserve people can use metes and bounds descriptions instead of always getting a survey.”

Another Lands Manager stated that, in this community, “under the Indian Act the Minister has to approve all transactions. There have been instances where the requirements have changed between the time the need for a transfer was identified and the time they got it ready to submit. Because their documentation was in the wrong format they had to start over.” Further, “since the Minister has the authority, the Minister should focus on the intent of the information in the document, and be more flexible regarding the format.”

In different a community, their Public Works Department is doing a GPS mapping project of all their manholes, utility assets and infrastructure. They use SGB’s Google Earth overlay.

## Part B – CLS Project Based Questionnaire

### *Description of Part B*

This phase of the project consists of a detailed Time Driven Activity-Based Cost analysis of 73 sample survey projects. A list of the activities that identify the key contributors to the cost of legal surveys made under the instructions of the Surveyor General of Canada Lands can be found in Appendix 6 (First Nations/Provincial Comparative Analysis Questionnaire) Part B Questionnaire.

These activities included any related interaction with the land administration regimes at the First Nation Level, INAC, the Surveyor General of Canada and the provincial Directors/Controllers of Surveys/Surveyor Generals and land titles/registry offices.

### *Goals:*

- To determine the cost drivers of legal surveys on First Nations to facilitate the creation of Activities Based Costing formulas.
- Assess options for mitigating costs.

### *Methodology for Data Gathering in Part B*

A sample of actively practicing Association of Canada Lands Surveyors members was selected that have recent and significant experience conducting parcel and jurisdictional surveys on First Nation Reserve lands within the last three years. The sample includes surveyors that do multiple surveys a year as well as those who do relatively few.

There were up to 106 questions asked to determine the time involved and related cost of every aspect of carrying out a boundary survey, parcel survey or right-of-way survey for First Nations. These questions included (but were not limited to) those listed in the Request for Proposals, and were written such that the answers can be analyzed according to Activities Based Costing (ABC).

The final list of questions was submitted to the Project Authority for approval. For consistency and accuracy for cross-country comparisons, these questions were posed in a Survey Monkey Questionnaire to those surveyors identified as meeting the criteria of the study. These surveyors were the authors of the 73 boundary surveys, parcel surveys and right-of-way surveys for First Nations that have been performed and registered within the past 3 years.

The tools available on MyCLSS were used to sift through the projects registered within the past 3 years. The 73 surveys were chosen in consultation with SGB to ensure that they are representative of the typical ratio for their type in their province, and such that the type of client (Government, First Nations, or 3rd party) is proportionally distributed.

Furthermore, the regional distribution and number of projects to be studied followed the outline in

the Request for Proposals as closely as possible.

### Survey Results

1. **The project sample distribution was consistent with what was put forward in the study proposal and roughly corresponds with the sample distributions for Part A and Part C of this study.** 73% projects from 32% Canada Lands Surveyors were examined. The criteria for including a survey project for review in this study was based on geographic location (was it required for the geographic distribution criteria), type of survey (jurisdictional boundary, parcel or right of way), when the survey project occurred (completed under the new national standards), from a variety of client types and from surveyors with varying levels of experience working on Canada Lands.

The sample included surveyors who perform several First Nations projects per year to those who perform no less than one First Nations project per year. The purpose of having some surveyors provide data for more than one survey project is to ensure the consistency of the data. Prior to their participation in the Survey Monkey Questionnaire, the surveyors participated in a GoTo-Meeting, during which the program was explained.

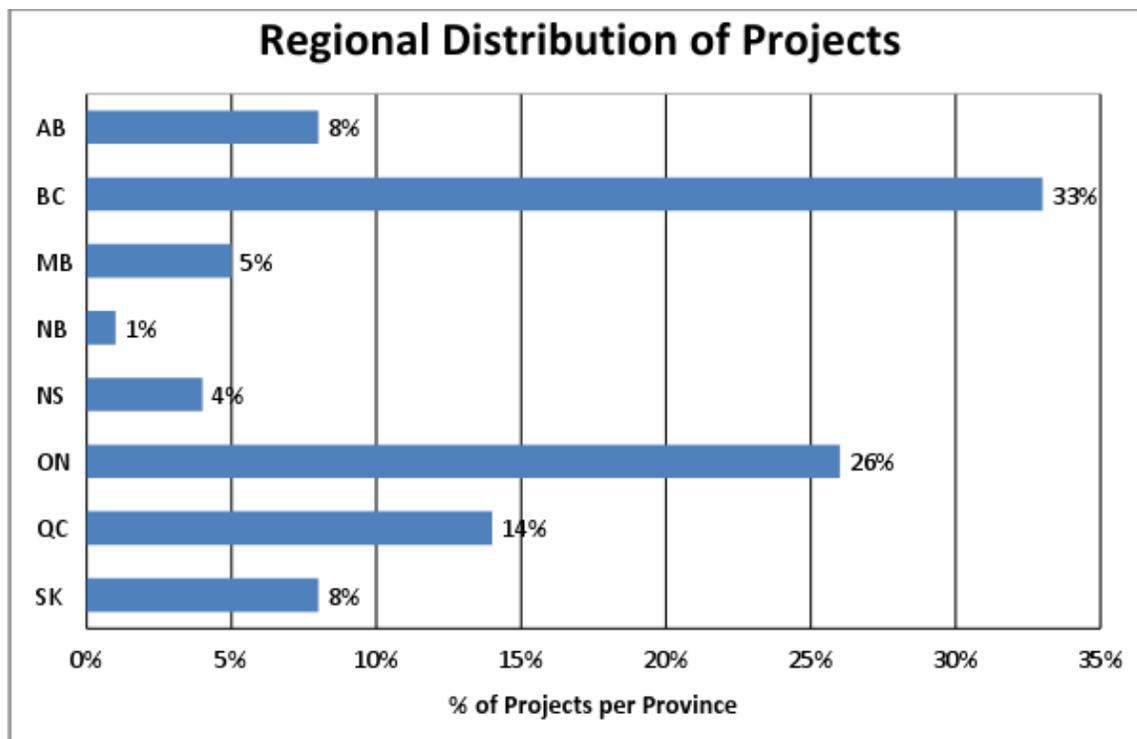


Figure 13 – Regional distribution of Part B projects

**2. The condition of boundary evidence for the projects reviewed for this study was mostly fair to good.** In order to avoid response bias when assessing the condition of boundary evidence, information collected for this indicator was done through an open ended question, asking respondents to describe the evidence found and how it impacted the project. For the purposes of comparing results, open ended responses were categorized and characterized the condition of boundary evidence as “Good,” “Fair” or “Poor.” Fifty-two percent of respondents indicated the boundary evidence for their project was good, fourteen percent indicated the evidence was fair and thirty percent indicated the evidence was poor. As an example of poor boundary evidence, one surveyor indicated that the community had installed all new roads and that the documentation established over years of work on that reserve had been demolished. In some cases (4%), the condition of boundary evidence was not applicable.

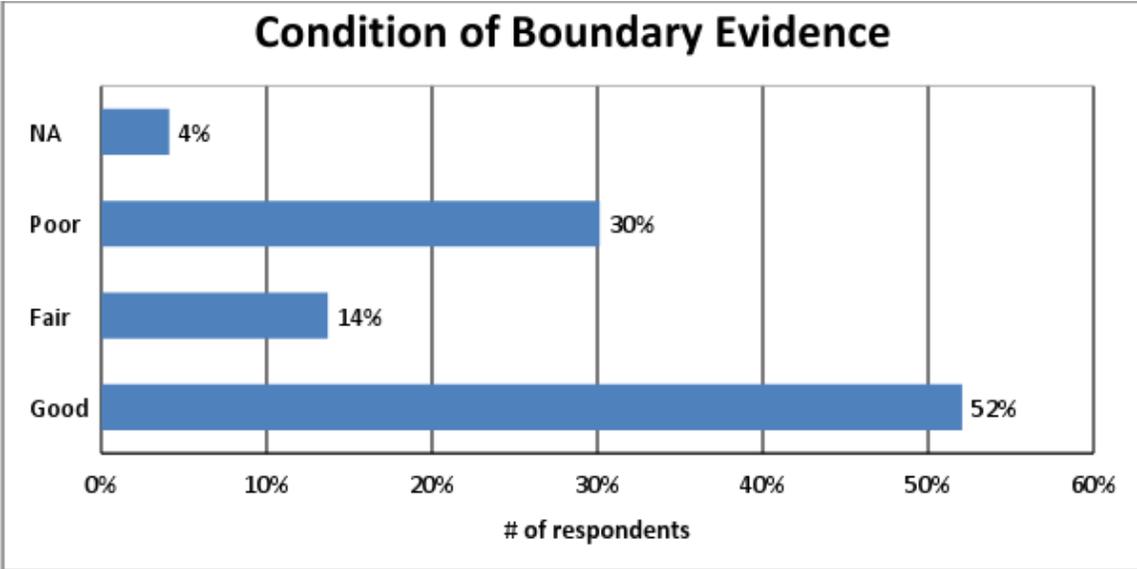


Figure 14 – Condition of boundary evidence

**3. Poor condition of boundary evidence can have a significant impact on labour inputs.**

The condition of boundary evidence was assumed to be a key indicator of labour intensity when designing the questionnaire for this study. When looking at average labour inputs for the different categories of boundary evidence, this appears to be an accurate assumption. While the specific inputs in the field execution activity pool for this indicator show higher labour inputs when the boundary evidence is good than when it is considered fair, this can be explained by the relative small number of projects that fit the fair category and a few projects in the good category that were exceptionally large and complicated, which tended to skew the average labour input.

<b>Condition of Boundary Evidence</b>	<b>Average Project Labour (hours)</b>	<b>Additional average hours required due to missing or disturbed monuments</b>	<b>Initial Control Establishment (average hours)</b>	<b>Evidence Searches (average hours)</b>	<b>Boundary Demarcation (average hours)</b>	<b>Resolve Cadastral evidence location conflicts (average hours)</b>
<b>Good</b>	<b>86</b>	<b>2</b>	<b>3.6</b>	<b>10</b>	<b>10.2</b>	<b>2.1</b>
<b>Fair</b>	<b>82</b>	<b>4</b>	<b>2.7</b>	<b>7.3</b>	<b>9.4</b>	<b>5.1</b>
<b>Poor</b>	<b>170</b>	<b>7.8</b>	<b>8.8</b>	<b>15.5</b>	<b>18</b>	<b>9.8</b>

Table 1 – Labour hours – Condition of boundary evidence

In addition to asking about the condition of evidence, a question was also asked about familiarity with the site and available evidence. 62% percent of respondents indicated they were very familiar with the location and evidence for the subject survey project on which they were reporting.

It is interesting to note surveyors with a high degree of familiarity with the site and survey evidence indicated that this reduced the cost of survey work in only 44% percent of cases. From open ended responses to this question, it appears that in some cases the surveyor was aware of issues or concerns with evidence in the area and had an expectation of increased costs in advance. It should also be noted that in a significant number of cases, it was unclear if site familiarity had an impact on cost.

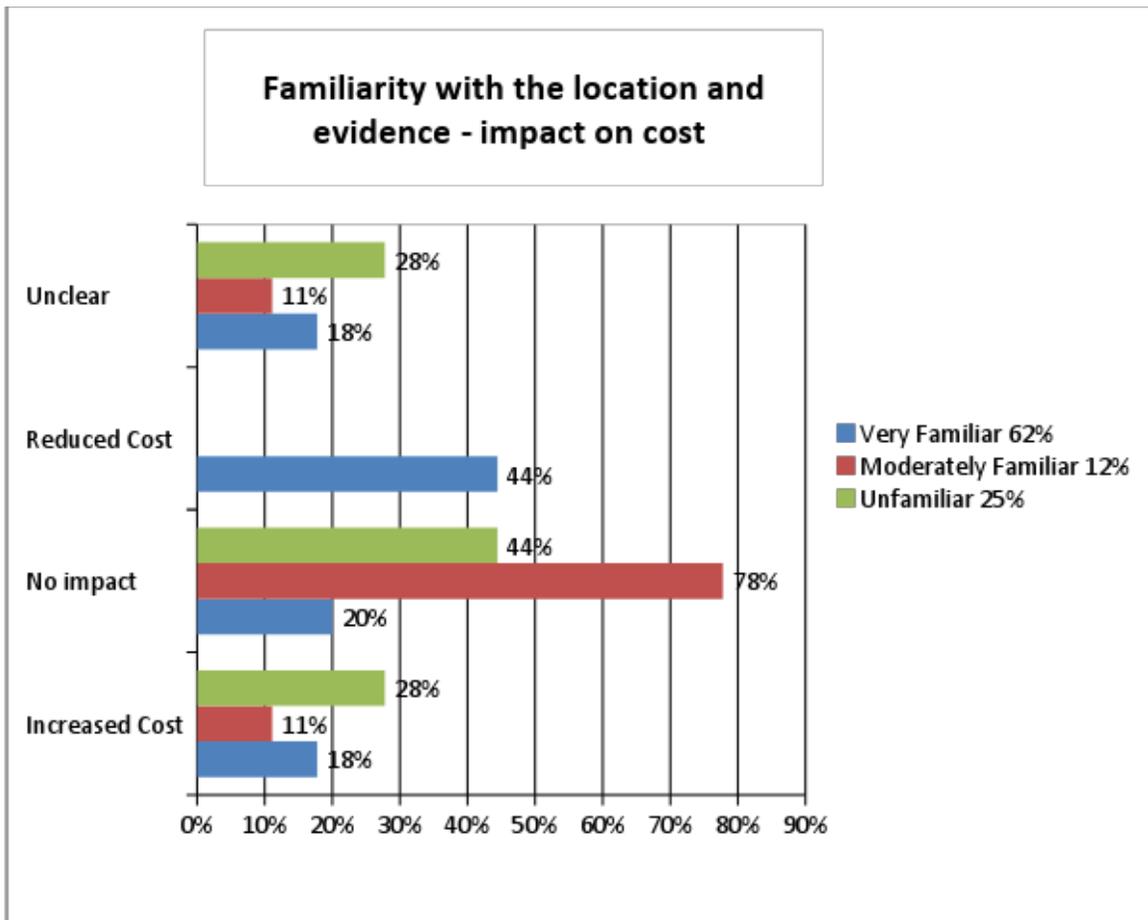


Figure 15 – Familiarity with location and impact on cost

4. **The scope of work was clear in the majority of projects reviewed for this study.** In only 16% of cases, the responding surveyor indicated that the scope of work presented to them was unclear.

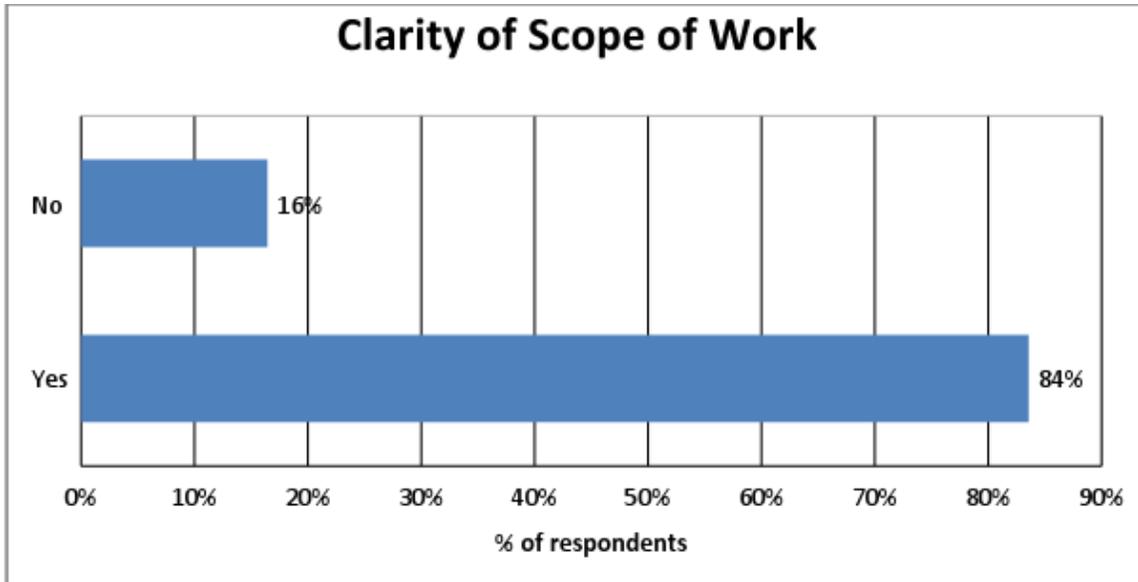


Figure 16 – Clarity of scope of work

5. **Clarity of scope of work has an impact on the cost of surveys.** While a small percentage (16%) of respondents indicated that the scope of work was not clear for the project they were reporting on, the average effort per project was higher by 31%.

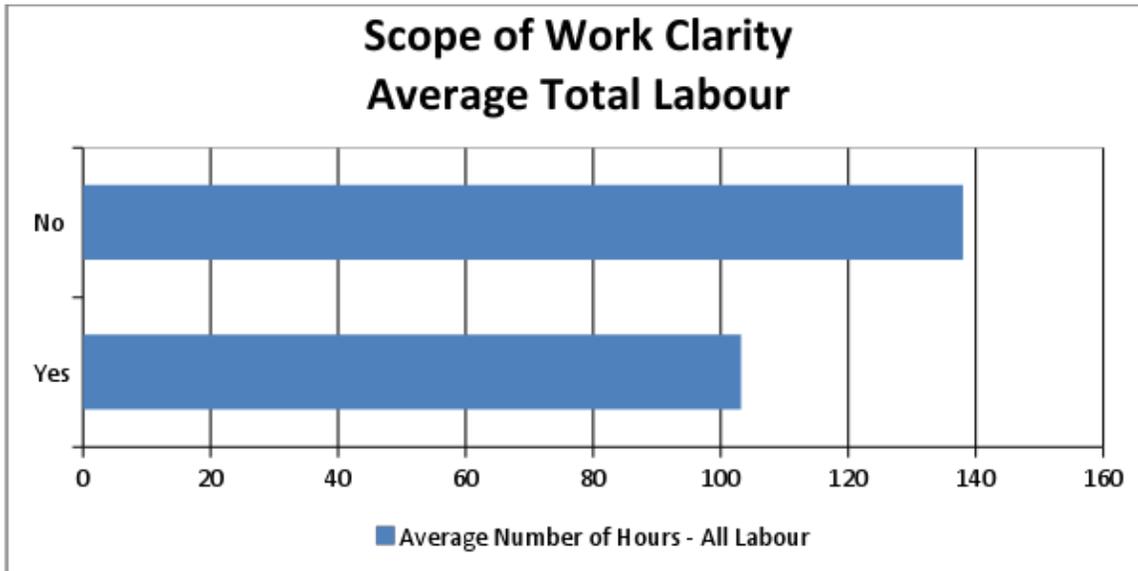


Figure 17 – Clarity of scope of work and average total labour

6. **Lack of Clarity in the Scope of Work had the most noticeable impact on delays.** Where there was a clear scope of work, there were fewer hours noted related to delays (only 2.4 hours). Where the scope of work was not clear, the average number of hours noted related to delays increased to 11 hours.

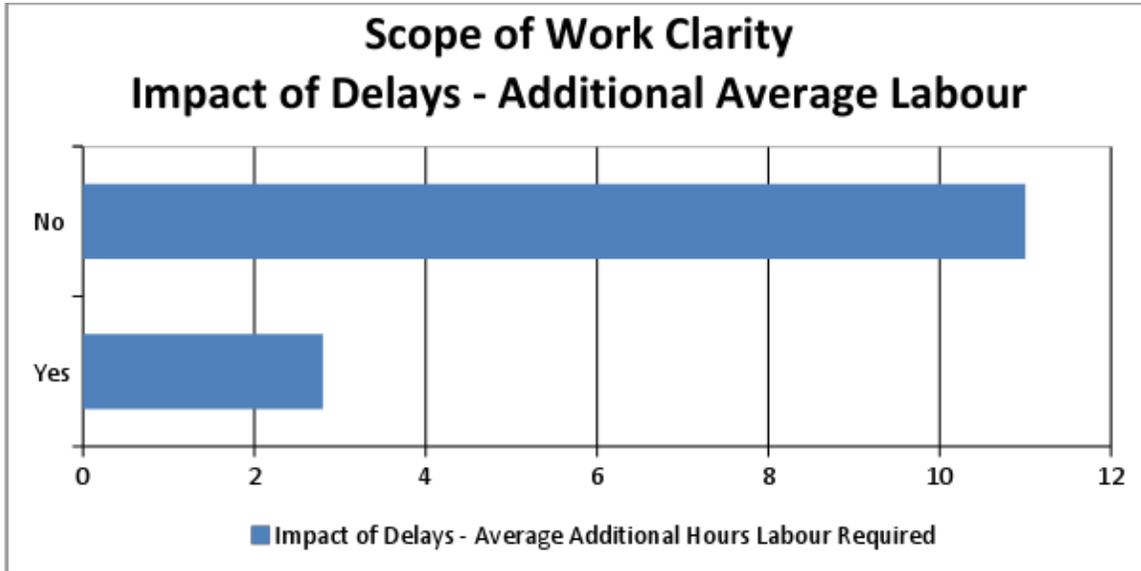


Figure 18 – Clarity of scope of work and impact of delays

7. **Jurisdictional boundary surveys cost more than parcel surveys or right-of-way surveys.**

On average, it took over three times the total number of hours of labour to produce jurisdictional boundary surveys than either parcel surveys or rights of way. While this roughly corresponds with the fact that that the average distance surveyed is roughly three times that of rights of way or parcel surveys, by using average metres surveyed as a metric to gauge output pace, jurisdictional boundaries required more time per metre than the other two survey types. This might be explained by the requirements to tie in both Provincial and Federal monumentation, which essentially doubles the distance surveyed. The dual process of approvals and registrations of jurisdictional survey plans also increases the costs relative to the other two types of surveys studied.

Type of survey	Average # hours labour/project	Average metres surveyed/project	Average metres/hour surveyed
Jurisdictional Boundary	359.9	6609.0	18.4
Parcel	94.2	1886.8	20.0
Rights of Way	107.3	2283.3	21.3

Table 2 – Types of surveys examined and impact on labour

**8. The average distance surveyed across all projects in Part B of this study was 2.8 km.** Distance surveyed was defined as the circumference of all parcels being created, distances surveyed for both federal and provincial processes where necessary as well as distances to appropriate evidence locations. One of the assumptions made in designing the questionnaire for this study was that total distance surveyed would have an impact on the intensity of labour for any given project.

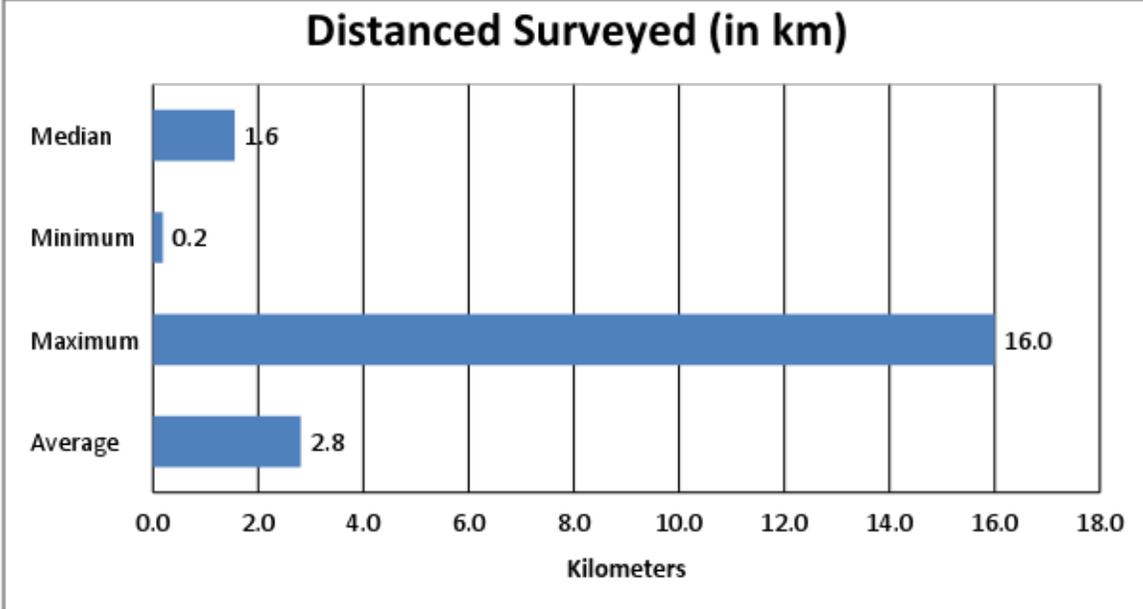


Figure 19 – Distance surveyed

9. **Distance surveyed does not have a linear relationship to labour hours input for the projects examined in this study.** While one might expect that the labour input requirements for a survey project would increase as the distance surveyed increased, that appears not to be the case for the purposes of this study. While there are certainly some spikes in the labour inputs for surveys exceeding 6000 metres, there is no linear relationship between distance surveyed and labour input requirements. The spikes in labour requirements are more likely explained by the requirements associated with different types of survey projects (jurisdictional boundary vs parcel).

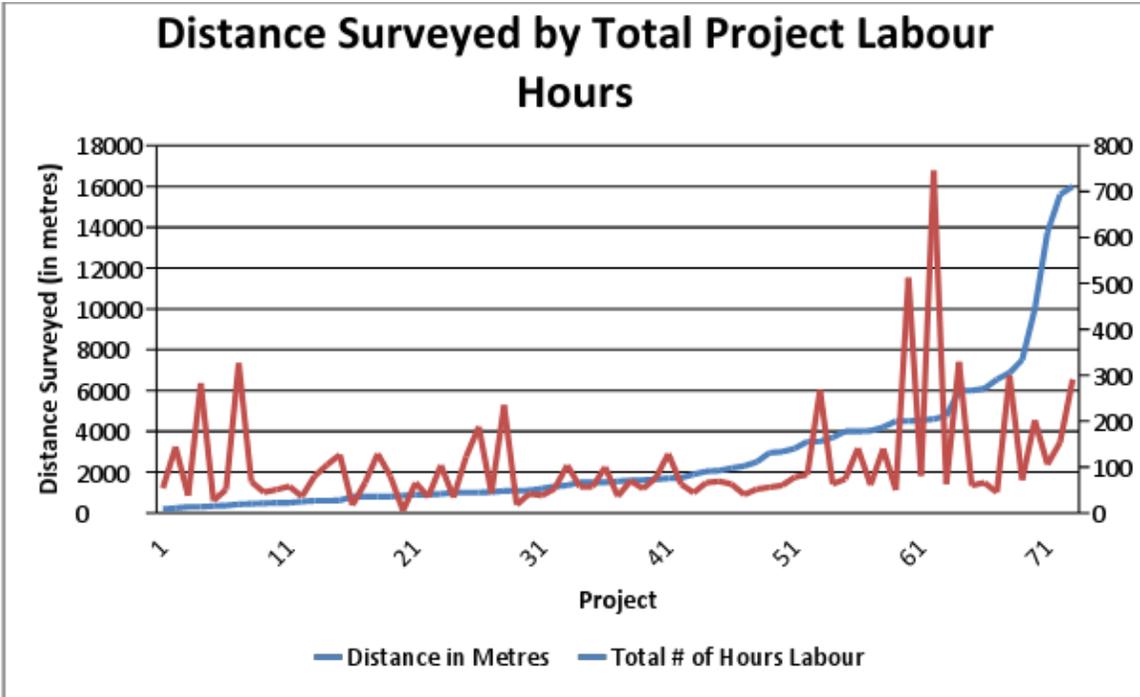


Figure 20 – Distance surveyed and impact on labour

**10. There was an average of 13.5 monuments placed across all projects for this study.** Monument placement is a labour intensive activity. A second assumption made in the design in the questionnaire for this study was that the number of monument placement would have an impact on the labour intensity of each project and that we should expect a linear relationship between monument placement and specific activities within the Field Execution and Impact of Delays Activity Pools. While there was a wide range of monuments placed (0-80) across all projects, the narrow gap between the average (13.5) and median (8) indicates that this indicator is relatively consistent between projects.

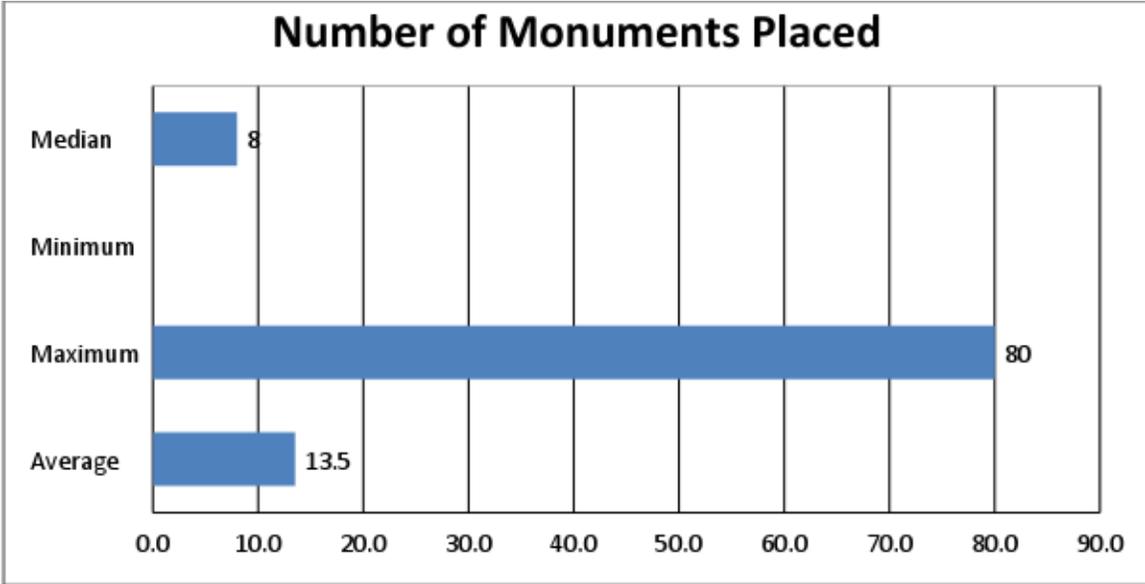


Figure 21 – Monuments placed

Surprisingly, using “number of monuments set” as a key indicator of labour intensity does not reveal a linear relationship. When measured against the specific activity of “boundary demarcation,” in some cases setting a relatively small number monuments required a relatively high intensity labour input. Conversely, there were projects where a high number of monuments were placed required a relatively low labour intensity.

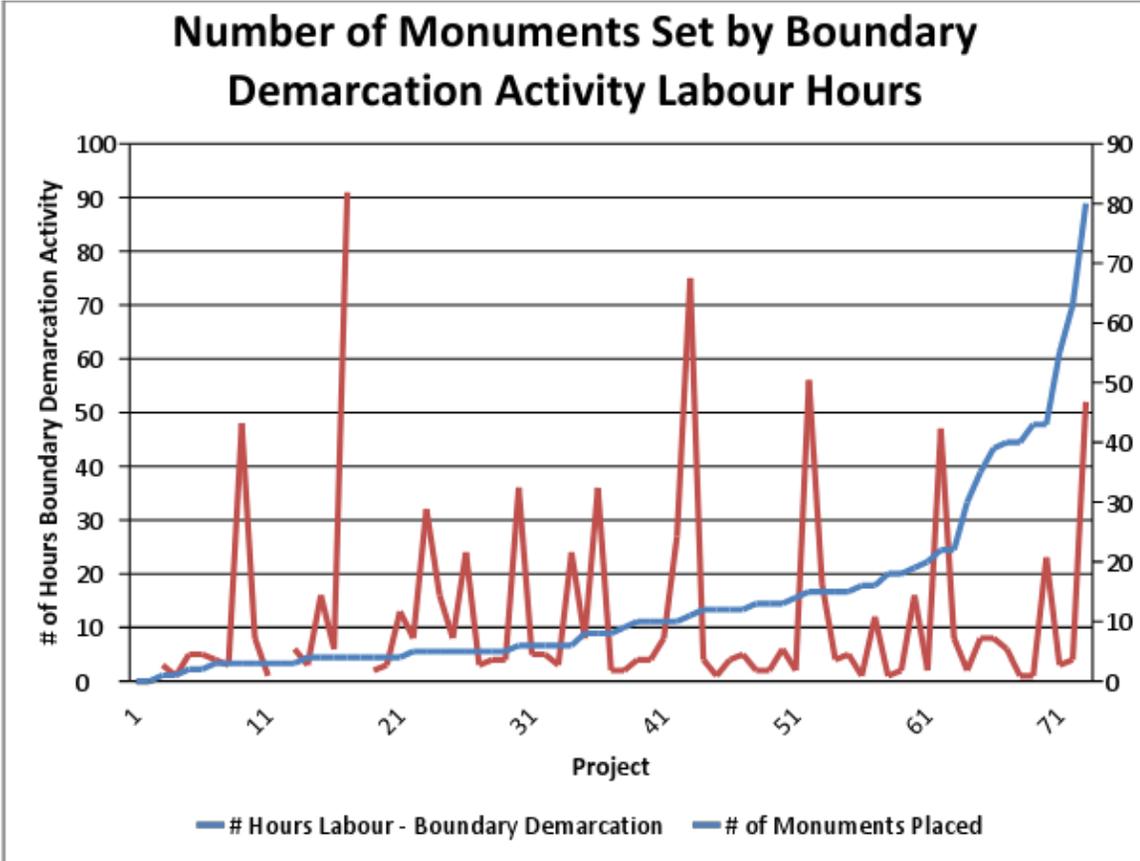


Figure 22 – Monuments placed and impact on Boundary Demarcation Activity labour

The same result was found when measuring the number of monuments set against the total number of hours of labour for each project – the relationship is not linear.

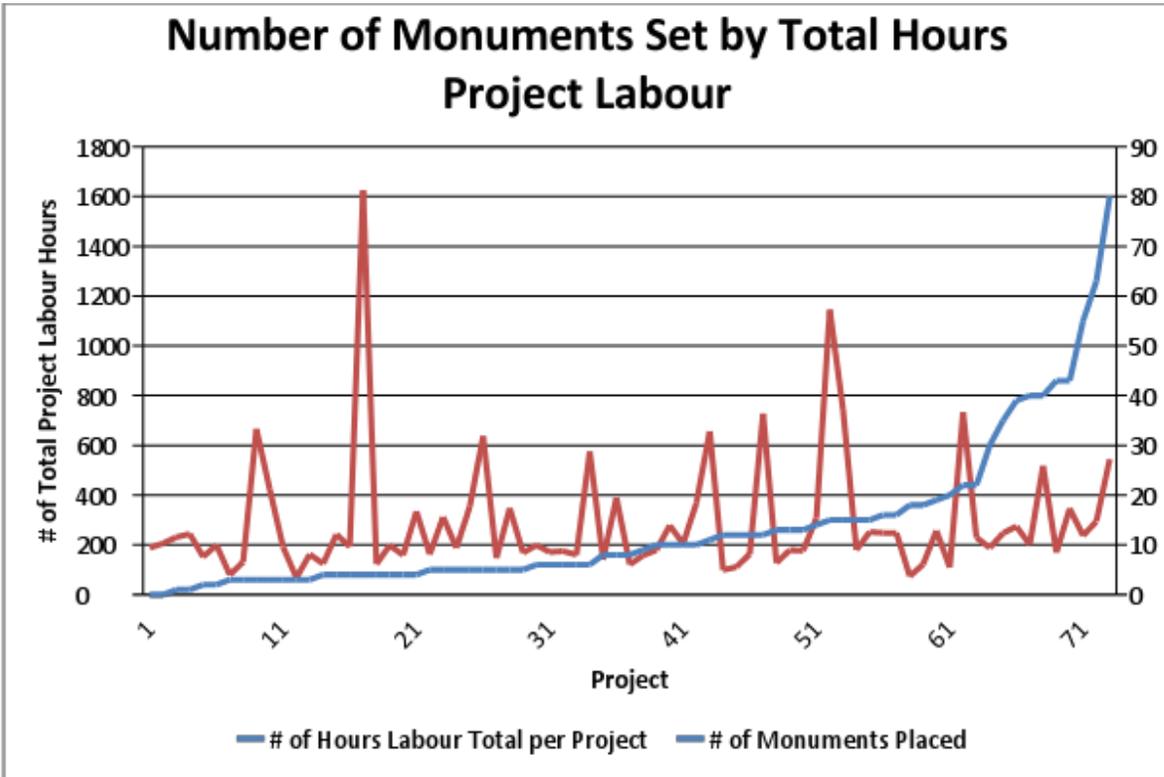


Figure 23 – Monuments set and impact on total average labour

**11. Time of year does not appear to be a significant factor in increasing the amount of time required to perform the activities necessary to produce surveys.** Generally speaking, work takes approximately the same amount of time year round. Although this may sound counterintuitive, it is due in part to the fact that surveyors will select the most appropriate time of year to accomplish work efficiently (where possible). 90% of the projects examined in Part B were split among summer, fall and winter. A small number of the projects studied (only 10%), had field work that was performed in the spring. These spring projects appear to have required the least amount of labour, (60 hours less on average than at other times of the year). However, because the sample is small, it may not be the most reliable.

**Projects by time of year, average # of hours, average distance surveyed and jurisdictional boundary surveys**

Season	% CLS	Average # of hours total labour	Average distance surveyed	Average # of Monuments planted	Jurisdictional Boundary Surveys
Fall	29%	146	1903	10	4
Spring	10%	90	1406	8	0
Summer	36%	153	3127	10	7
Winter	26%	156	3890	21	2

Table 3 – Projects - time of year, average labour, distance surveyed, survey type

**12. The distance travelled is a key indicator in the cost of producing legal surveys on First Nations lands.** While the relationship is not linear and the ratio of distance travelled to labour inputs appears to be different in each province, in all cases, the labour input intensity increases as the distance to the site increases. Presumably, this has an impact on the cost of the survey.

**Distance travelled per project (includes to and from the site, as well as during the survey)**

Province	Average # of hours total labour	Average transportation requirements per project (in km)
AB	201.0	1808.2
NB	0.0	0.0
NS	134.3	183.3
BC	213.4	543.4
MB	66.3	412.5
ON	125.4	383.2
QC	67.1	136.1
SK	97.8	559.2

Table 4 – Distance travelled per project

Major additional expenses (over \$1000 per item) were only cited in a small number of projects (11%). While these additional expenses should not be considered a key indicator in the cost of surveys on first nation’s lands as a general rule, it has a significant impact where these expenses do occur. For example, in one project, the surveyor noted four major expenses over \$5000 (air travel, accommodation, meals and boat rental).

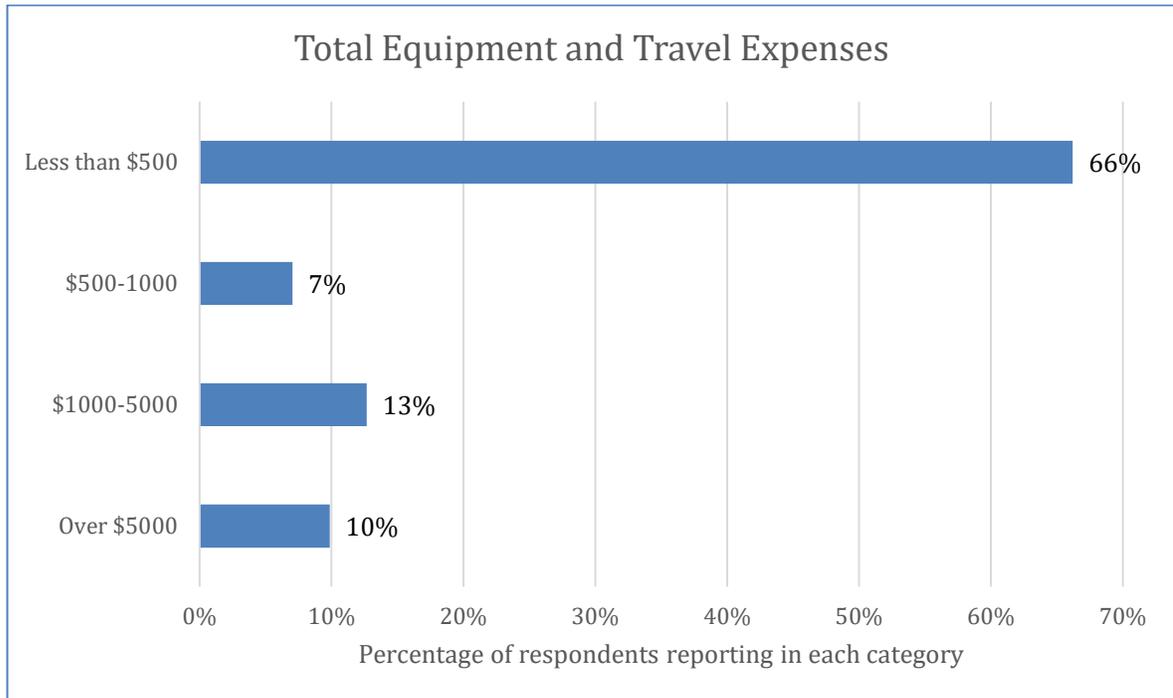


Figure 24 – Equipment and travel expenses

**13. SGB/NRCan Cadastral data is used less than fifty percent of the time.** While a little better than three quarters (78%) are aware of the tools available, less than half of respondents (48%) actually used them. Fewer still described the tool as being of value. Of the 48% that used the tools, only half of those (or 23% of the total sample) described the tools as very useful or somewhat useful.

**Awareness and Use of SGB/NRCan Cadastral Data**

Cadastral Data	% of CLS
Aware	78%
Not Aware	22%
Used	48%
Did not use	30%
No Response	22%

Table 5 – Awareness of SGB/NRCan cadastral data

**14. Line cutting and blazing is a key indicator in the cost of surveys on First Nations lands.** While only a small percentage of projects required this activity, invariably labour inputs escalated as the cutting distances increased. The number of hours devoted to cutting and blazing accounted for as much as half of the total labour for the project when distances surveyed exceeded 500m.

**Cutting and blazing – distance cut by time of year**

<b>Vegetation cut (Linear Metres and Avg Hours of Labour)</b>		
<b>Time of Year and Distance Cut</b>	<b>% of CLS responding to this question</b>	<b>Average Labour</b>
<b>Fall</b>		<b>146.3</b>
less than 100m	10%	73.0
101 - 500m	5%	84.0
501 - 1000m	5%	445.0
Greater than 1000m	14%	429.7
Not Applicable	67%	79.1
<b>Spring</b>		<b>90.3</b>
less than 100m	4%	109.0
101 - 500m	4%	145.0
Not Applicable	19%	75.6
<b>Summer</b>		<b>152.7</b>
less than 100m	19%	69.8
101 - 500m	12%	130.0
501 - 1000m	8%	202.0
Greater than 1000m	8%	590.5
Not Applicable	54%	117.6
<b>Winter</b>		<b>156.0</b>
101 - 500m	11%	47.0
501 - 1000m	5%	60.0
Greater than 1000m	21%	310.3
Not Applicable	58%	138.5

Table 6 – Cutting and blazing by time of year

**15. Multiple points of contact throughout the survey process can have impact on labour inputs, particularly for the CLS.** Surveys on Canada Lands often require consultation and liaison with multiple agencies and individuals. This consultation imperative escalates the labour intensity of survey projects for specific activities, particularly the initial consultation phase, instructions phase and approval processes. The graph below illustrates the frequency that surveyors are required to liaise with multiple agencies and clients in the execution of one project.

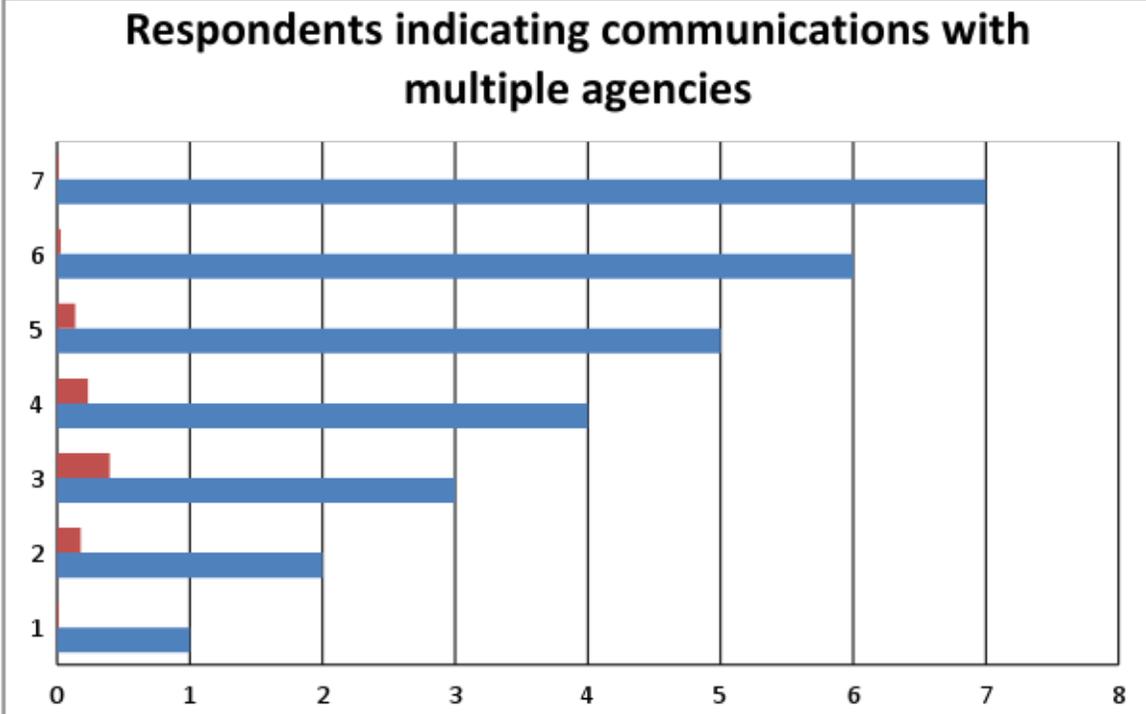


Figure 25 – Communicating with multiple agencies

**16. In some provinces, work takes longer to get off the ground.** It should be noted however that there were some anomalies. While in the Atlantic Provinces, Manitoba and Saskatchewan, there are fewer projects to base assumptions on, there seemed to be more consistency in the time between project notification and project commencement. In BC, Alberta and Ontario there appears to be an significant gap between the minimum and maximum number of days (571 days difference in Ontario), - some projects started as quickly as within 2 days of receiving notification of the need for a survey, while others took more than 2 years, suggesting issues that need to be addressed around communications, or the availability of funds. While the gap between notification and commencement is not of itself a delay in the production of work, it does have a tendency to force repetition of work already performed (refresh project details and title research, more time spent discussing the project with the client and authorities, and possibly re-applying for expired survey instructions, etc.

**Number of days from notification to commencement by Province**

Province	Average # of days	Minimum # Days	Maximum # Days
AB	53.3	2	122
NB	12.0	12	12
NS	19.7	0	40
BC	48.4	4	151
MB	24.0	15	37
ON	105.7	2	573
QC	32.1	1	260
SK	43.8	13	140

Table 7 – Number of business days from notification to commencement by Province

**17. Overall, there was a significant time delay (an average of 59 days) between project notification and project commencement for many of the projects examined in this study.** One consideration discussed at the outset of this study that was thought to contribute to the cost of surveys on First Nations lands was the time gap between project notification and project commencement. The sample distribution for this study indicates a very wide range of time gaps (between 0 and 573 days) as well as a relatively high median and average number of days (20.5 days and 59 days respectively).

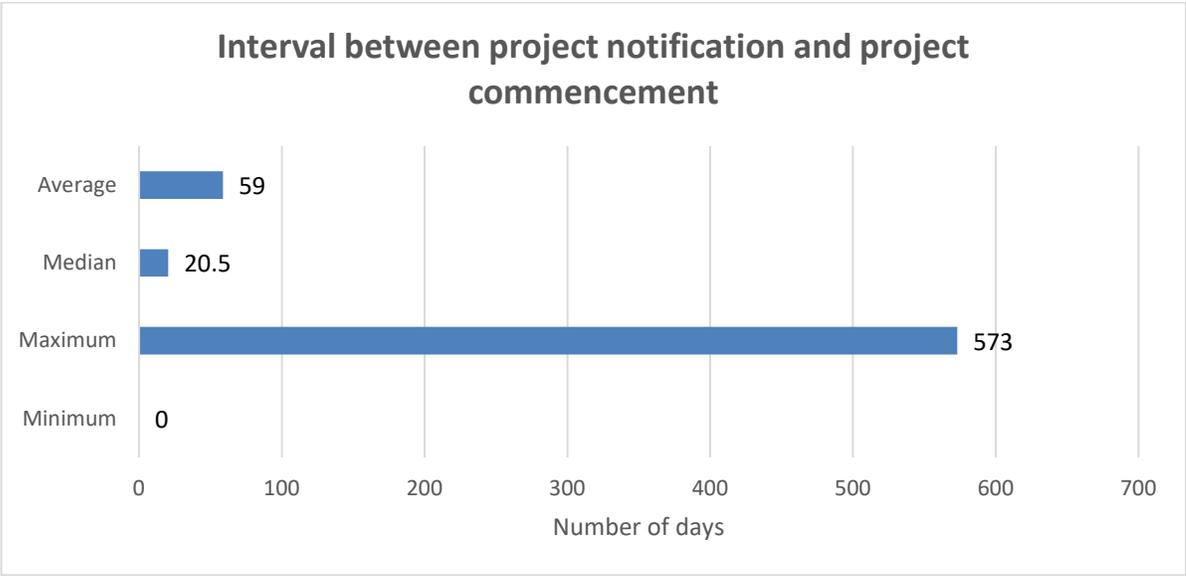


Figure 26 – Interval between project notification and commencement

When comparing time gaps to average labour inputs per project, there does not appear to be a direct correlation. Notably, some large projects with short intervals between notification and commencement had very large labour inputs, other projects with very long intervals also had relatively small intervals.

One explanation for large time intervals is the necessity of waiting for more efficient time of year to do the work. For example, in very wet locations, it may be more advantageous to wait for winter weather to do the work. Similarly, it is often difficult to find appropriate evidence in deep snow and waiting for more clement weather is necessary.

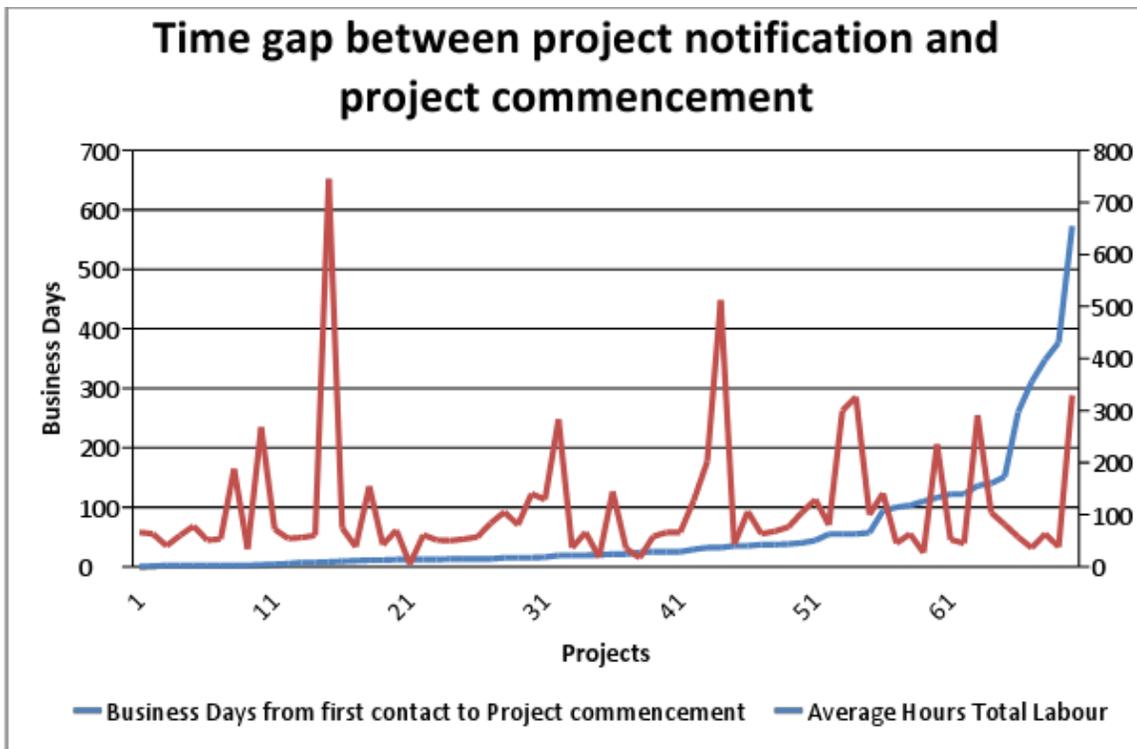


Figure 27 – Interval between project notification and commencement by hours labour

**18. The use of multipliers (base labour rate times x) as an estimation tool was not a common approach for the projects examined in this study.** Only 78% of respondents answered this question. Of those 67% indicated they do not use a multiplier per se but rather used an established daily or hourly rate. While this may be a distinction without a difference, it is perhaps more noteworthy that the average multiplier that was used was 3.15. It is also interesting to note that the majority indicated that their multiplier did not change from job to job, with only a few indicating their rates would change depending on the time of year or how busy they were.

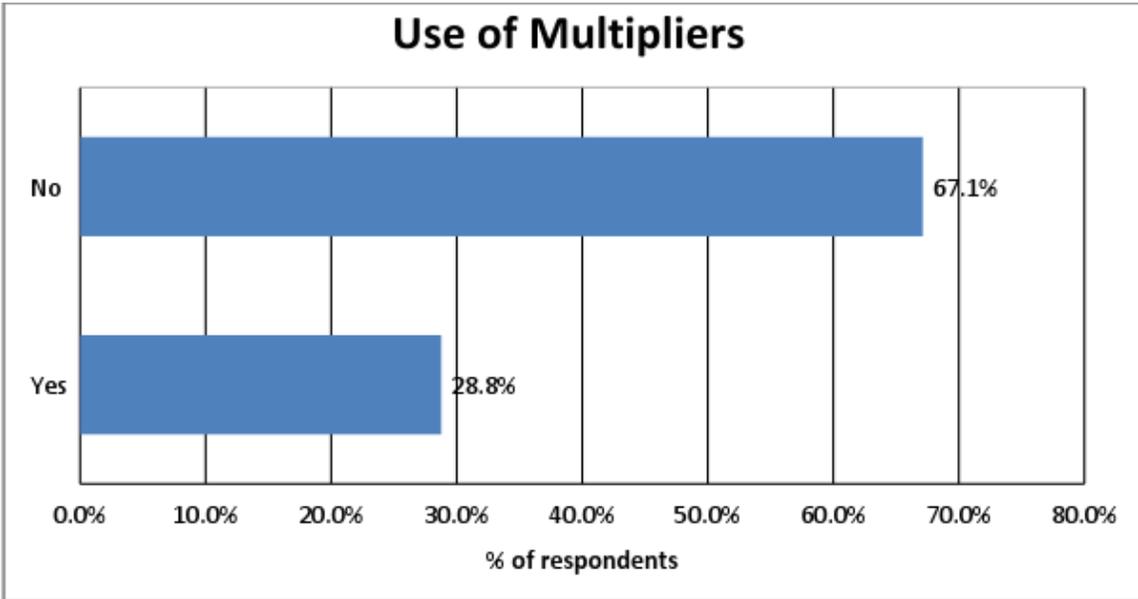


Figure 28 – Use of multipliers

Percentage of respondents who answered this question	78.1%
Average multiplier used	3.15
Maximum multiplier	25
Minimum multiplier	1
Median multiplier	2.5

Table 8 – Average multiplier used

19. When Canada Land Surveyors were asked who funded the projects they were reporting on, the results indicated that 63% of the projects were funded either by the land holder or the First Nation, making it appear that the majority of survey projects on First Nations Lands were funded from within the community. While only 3% of projects appear to be funded by INAC, this number is not likely representative of INAC’s involvement in funding surveys. AANDC (Aboriginal and Northern Development Canada) is responsible for allocating survey funds to regions and tracking funded surveying projects/activities, so at least some of the funding identified as coming from First Nations has INAC as its original source. Further, in the 2012/13 fiscal year, NALMA assumed the responsibility of managing AANDC’s Grants and Contributions Survey Program under a pilot arrangement, thus the funding that appears to be coming from NALMA likely originates from INAC.

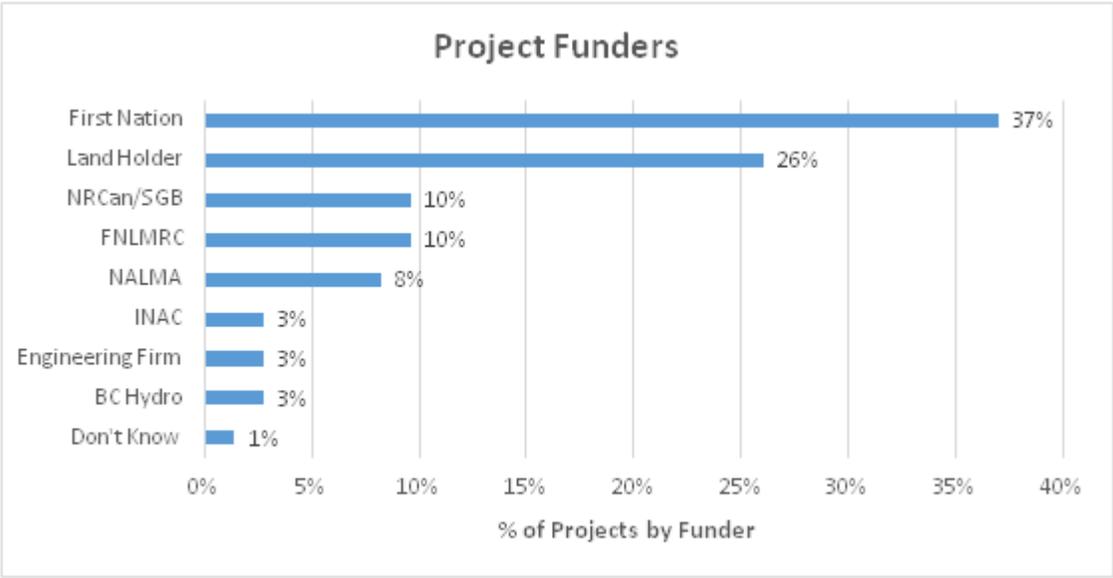


Figure 29 – Project funders

## Analysis

The following graphs illustrate the total average labour inputs (labour intensity represented by number of hours) and the total labour frequency (number of respondents citing each specific activity) across all projects for each activity examined in this study. The graphs are divided into the five activity pools used throughout the study: procurement, project set-up, field execution, analysis and impact of delays. The purpose of this exercise is to provide a visual representation of the activities that require the most time to undertake the most often.

In the Procurement activity pool, the most labour intensive activities were the Initial Research for Estimating - Land Use (2.51 hours on average) and Initial Contact (2.45 hours on average).

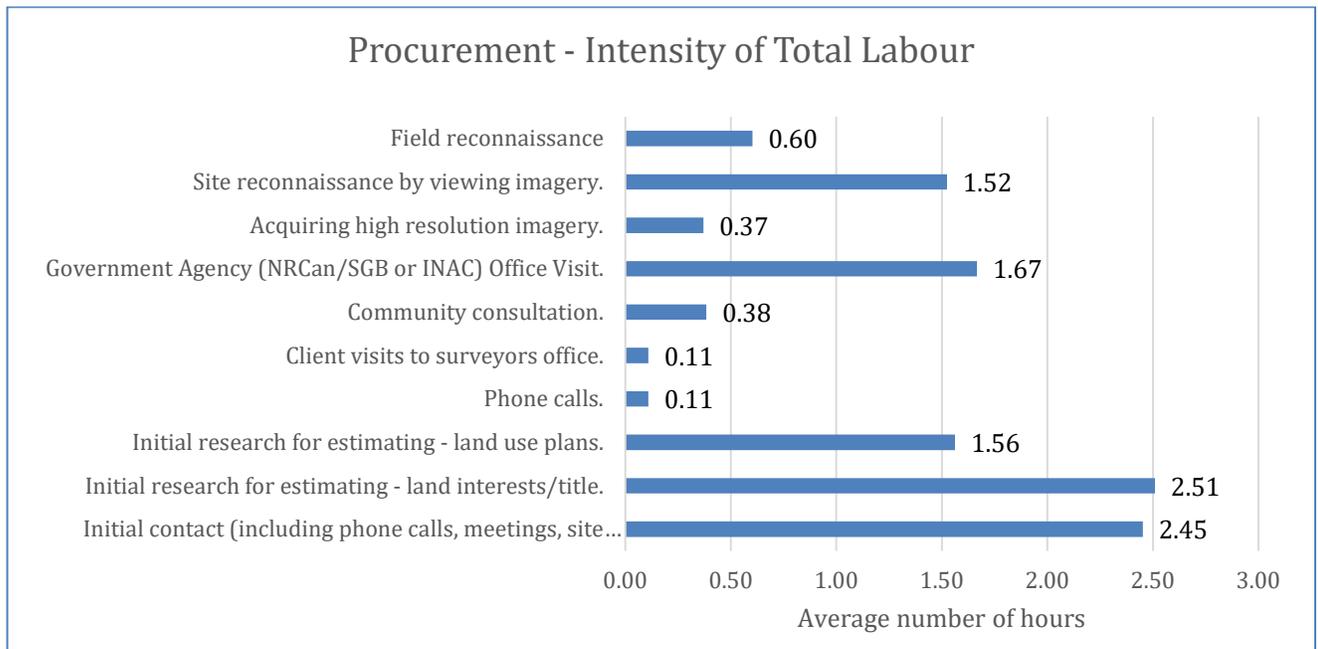


Figure 30 – Procurement – Intensity of total labour

However, when measured by how often those activities occurred across all projects, overall the Initial Contact activity took more time on average as it was performed by all surveyors. It is also important to note that the initial contact function is generally performed by the surveyor; whereas other activities in the procurement phase are often performed by other staff that may be charged out at a different rate. Although not captured in the data, follow-up questions with the surveyors who completed the questionnaires confirmed that some of the hours noted in the files during the procurement phase were considered “unpaid – part of the cost of doing business.”

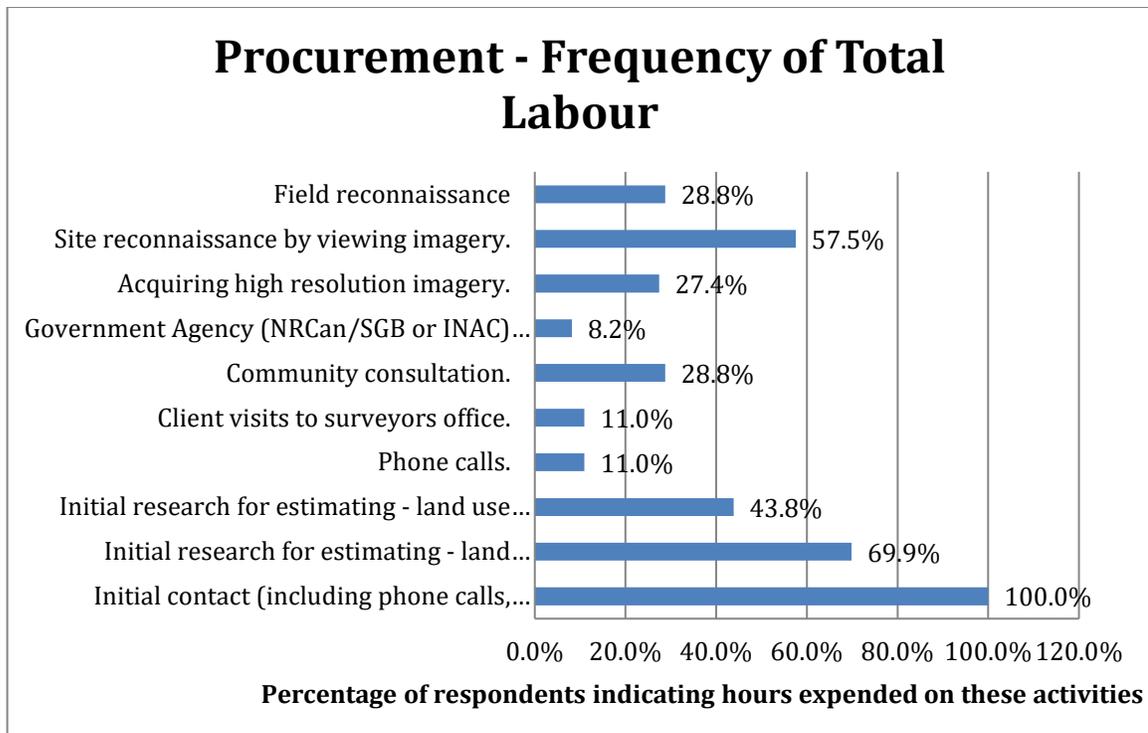


Figure 31 – Procurement – frequency of total labour

Project Set-up appears to be the least labour intensive component (activity pool) of the survey process, accounting for a very small percentage of the overall labour inputs, albeit the frequency of these labour inputs occurring is high.

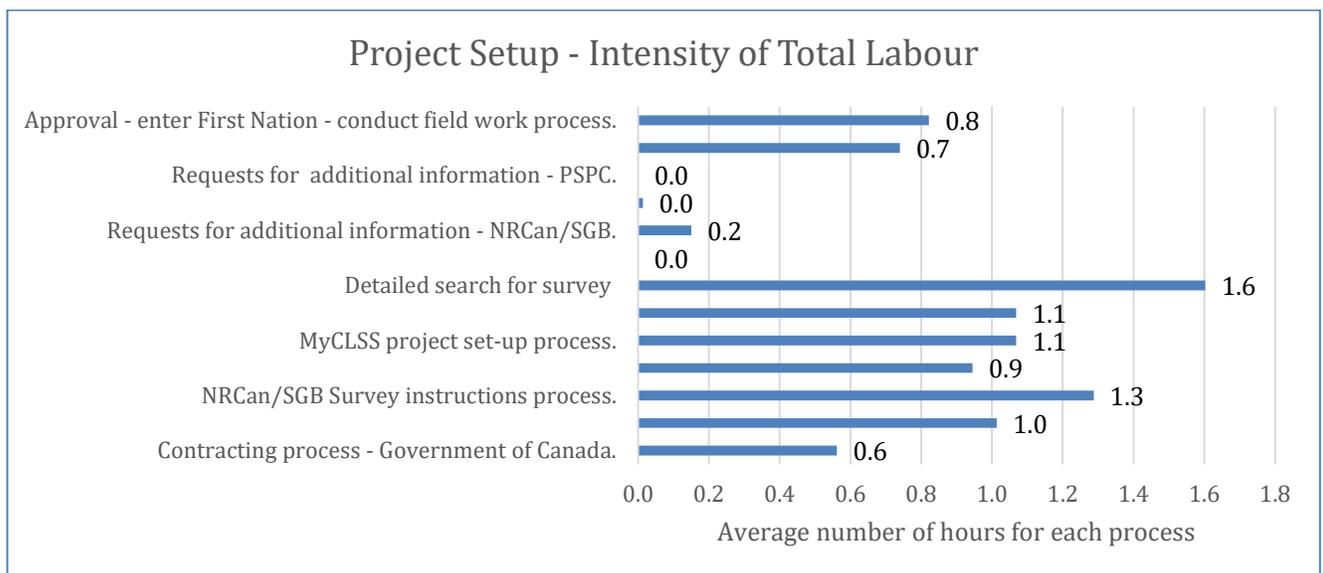


Figure 32 – Project Set-up – Intensity of total labour

## Project Setup - Frequency of Total Labour

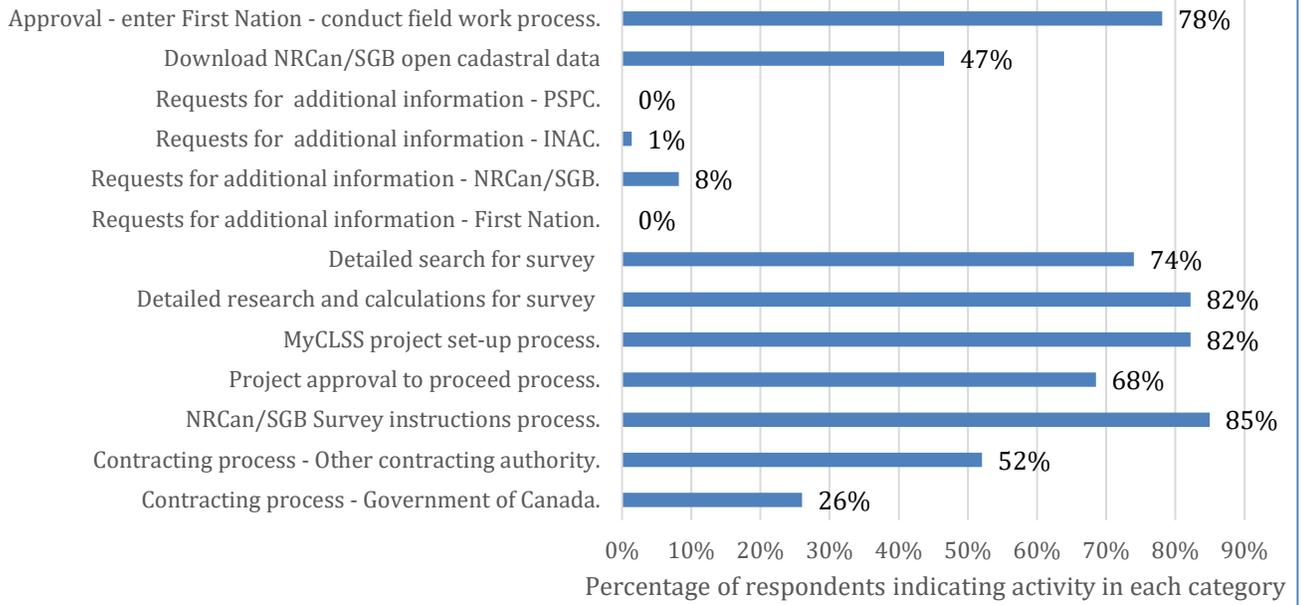


Figure 33 – Project Set-up – Frequency of total labour

The Field Execution and Analysis activity pools are the cost drivers in the survey process – most of the work happens here. Activities such as Boundary Demarcation (an average of 14.5 hours), Evidence Searches (an average of 12.7 hours) and mobilization (an average of 7.9 hours) stand out as both labour intensive and high frequency (they happen for every project).

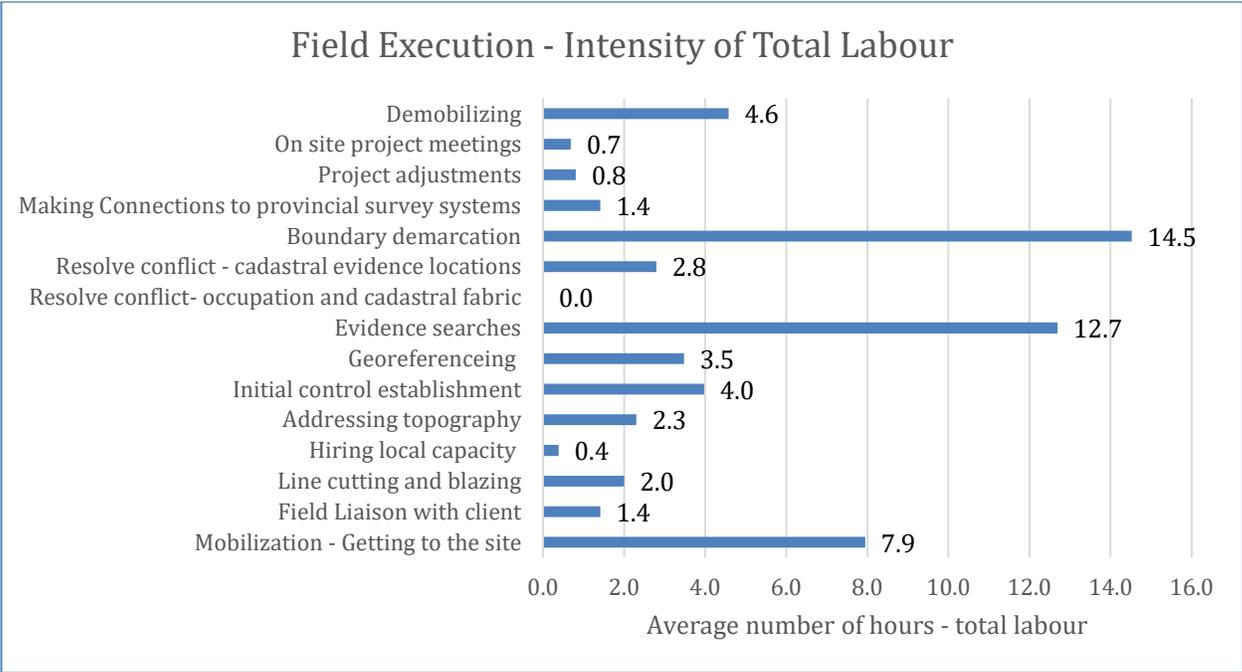


Figure 34 – Field Execution – Intensity of total labour

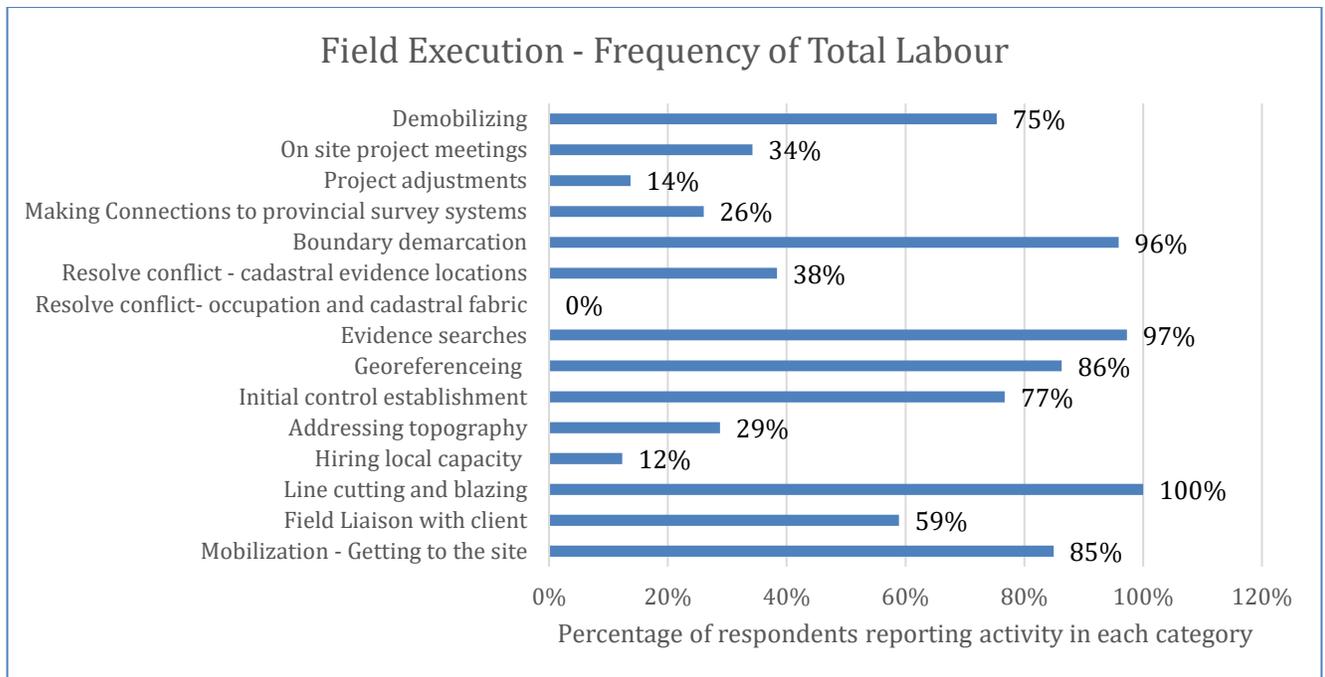


Figure 35 – Field Execution – Frequency of total labour

Similarly, Drafting (including calculations) and Quality Control stand out as frequent (in every project) and labour intensive activities.

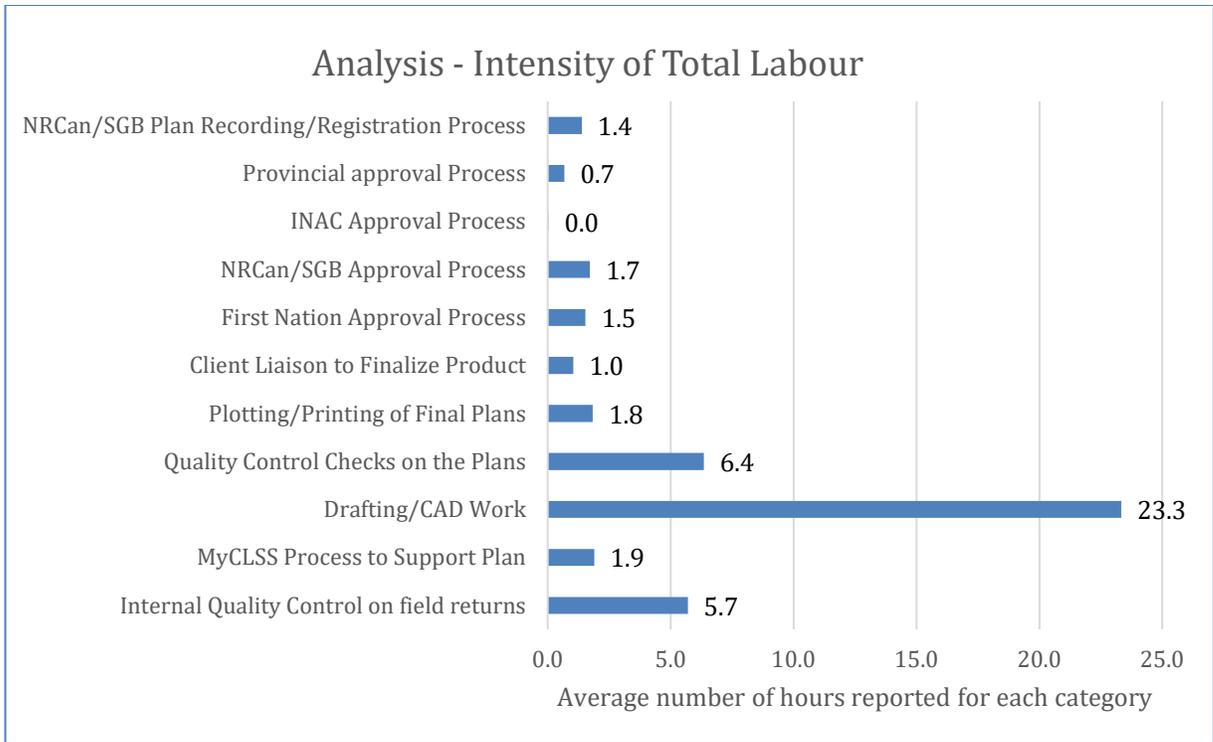


Figure 36 – Analysis – Intensity of total labour

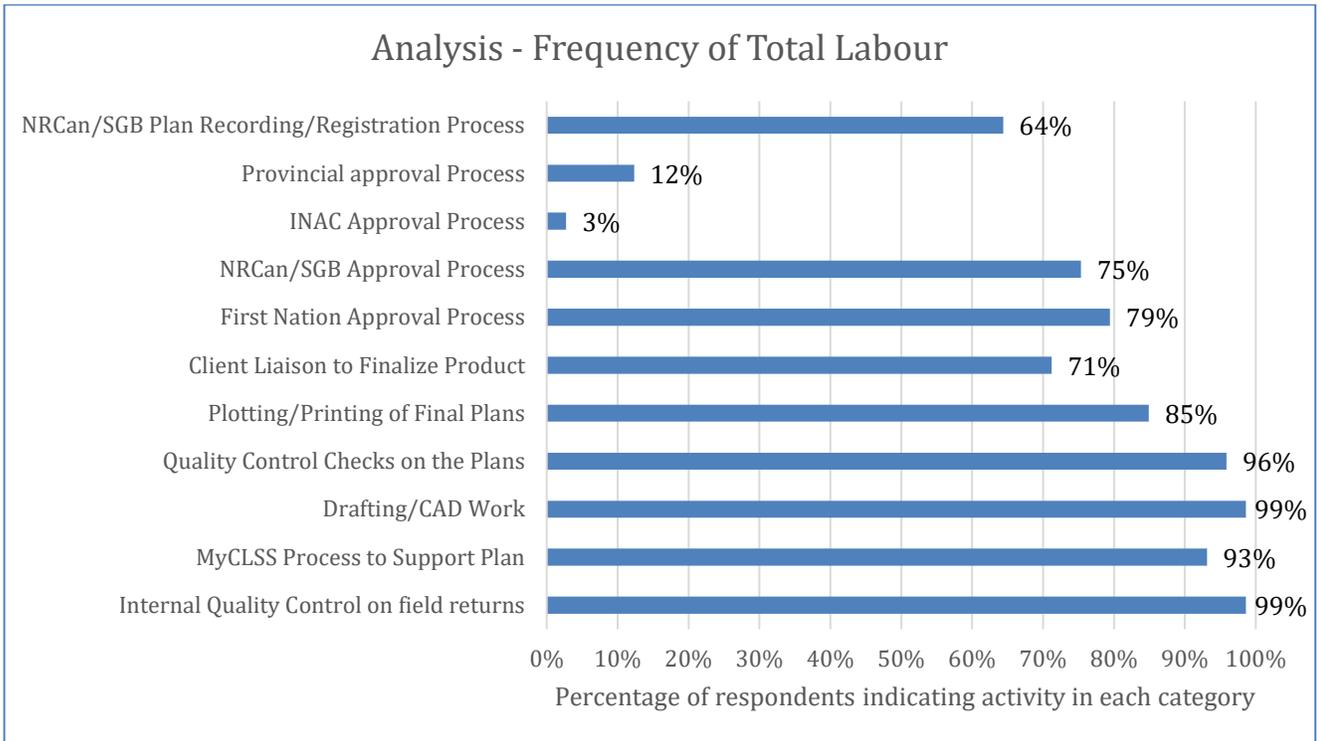


Figure 37 – Analysis – Frequency of total labour

The Impact of Delays is not so much an activity pool but more a fact of life when doing business. As such, this activity pool is measured differently than the previous pools. Many of the activities listed in this pool could easily be factored into other activities previously identified. In order to isolate the impact of delays, respondents were asked to estimate how much additional time or travel distance was added to the project for each of the indicators listed. In general, delays do not seem to factor significantly in the overall cost, with the exceptions missing or disturbed monuments, changes in project scope and critical issue notices from SGB. Across all projects, the impact is low on average (less than two hours). However, when measured only against projects where the delays occurred, the impact is much higher. For example, missing or disturbed monuments caused delays of 1.6 hours across all projects. But the delay only occurred in 21% of the projects reviewed. Looking at only those 21% of projects, the average number of extra hours jumps to 7.8 hours with a maximum additional number of hours reported of 25.

While it appears from this study that delays are not common (they occur in only one in five projects), the impact on cost when they do occur is significant.

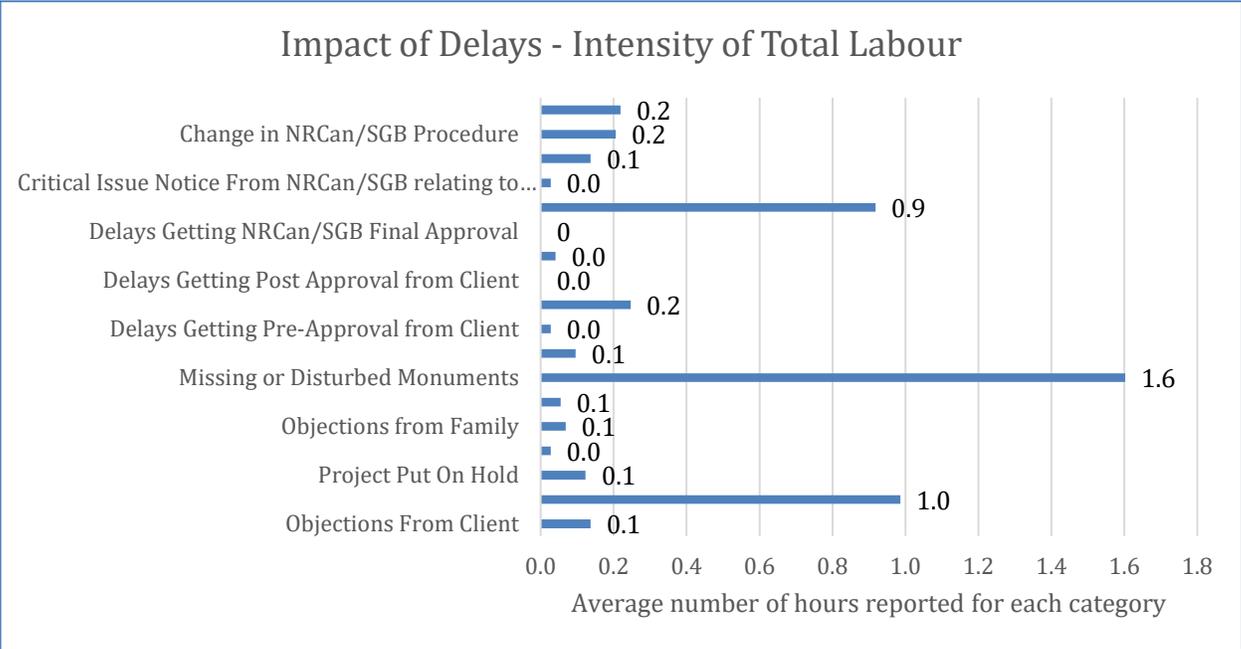


Figure 38 – Impact of Delays – Intensity of total labour

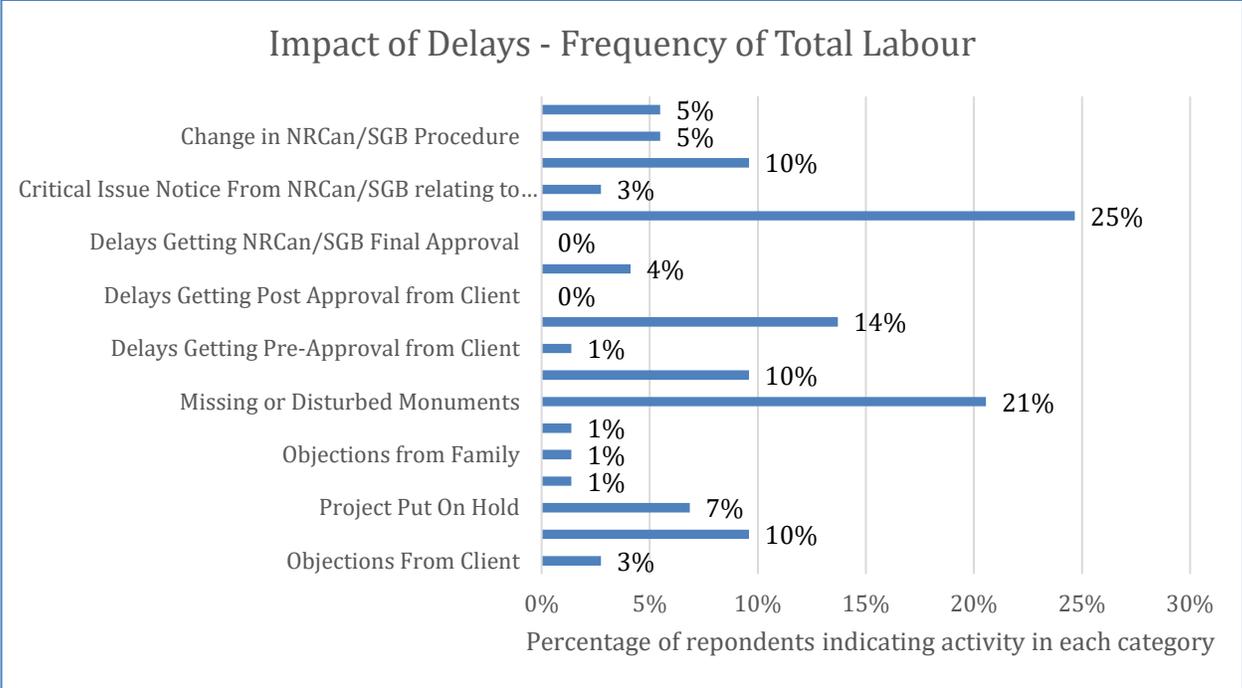


Figure 39 – Impact of Delays - Frequency of total labour

The table below lists the activities identified in the graphs as having a combination of the highest intensity (greatest number of hours) combined with the greatest frequency (largest number of surveyors citing the activity) in descending order. The tables also make an attempt to define the cost driver (the process, individual or circumstance that is the motivation behind undertaking the activity).

<b>Top 10 Labour Intensive Activities</b>				
<b>Activity Pool</b>	<b>Activity</b>	<b>Time Driver</b>	<b>Intensity</b>	<b>Frequency</b>
Analysis	Drafting/CAD Work	Product	23.3	99%
Execution	Boundary demarcation	Legal	14.5	96%
Execution	Evidence searches	Legal	12.7	97%
Execution	Mobilization - Getting to the site	Project Distance	7.9	85%
Analysis	Quality Control Checks on the Plans	Due Diligence	6.4	96%
Analysis	Internal Quality Control on field returns	Due Diligence	5.7	99%
Execution	Demobilizing	Project Distance	4.6	75%
Execution	Initial control establishment	Legal	4.0	77%
Execution	Georeferencing	Legal	3.5	86%
Procure	Initial contact	Client	2.45	100%

Table 9 – Top 10 labour intensive activities

As has been demonstrated earlier in this report, distance travelled is a key indicator (or cost driver) in the production of surveys on First Nations lands. The following table is an attempt to identify the types of activities that necessitate travel where vehicle, fuel, and labour costs can escalate.

<b>Top Resource Activities</b>				
<b>Activity Pool</b>	<b>Activity</b>	<b>Resource Driver</b>	<b>Intensity</b>	<b>Frequency</b>
Execution	Mobilization - Getting to the site	Project Distance	181.6	73%
Execution	Demobilizing	Project Distance	144.6	52%

Table 10 – Top resource activities

## Part C – Comparative Analysis of Provincial Vs Federal Jurisdiction

### *Description of Part C*

The third component of this study gathered evidence from surveyors who had completed work on comparable plans in both First Nations and Provincial jurisdictions. The intent was to apply the results of Time Driven Activities-Based Cost Analysis from Part B to determine a cost comparison of First Nations boundary or parcel survey projects and similar non-First Nations boundary or survey projects performed in 11 identified areas.

### *Goals:*

- Validate the responses collected in Parts A and B.
- Test assumptions about the comparative cost of Provincial vs. Federal jurisdiction work.

### *Methodology for Data Gathering in Part C*

Licensed surveyors who consistently perform work in the 11 identified areas (both on First Nations lands and in the abutting municipality) were approached to determine their willingness to participate and provide the verifiable cost data. Pairs of similar surveys performed within the last 3 years by the participating surveyors (one survey on First Nations lands and one similar survey in the abutting municipality) were identified with/by the participating surveyors.

For consistency, the participating surveyors were provided with the same Survey Monkey Questionnaire used in Part B to obtain the required data to “plug into” the Activities-Based Cost Analysis from Part B. Although many questions that apply to surveys on First Nations do not apply to the surveys on the abutting municipalities, the participating surveyors were given the option to answer “Not Applicable”. By using the same questionnaire, the differences in requirements in performing each of these surveys was evident, and allowed for better comparisons and recommendations.

### *Survey Results*

In 9 of 11 projects compared, more time was invested by the surveyor in First Nations projects than on the corresponding provincial project by an average of 5.8 hours (averaging 13.8 hours provincially and 19.5 hours on First Nations lands for surveyor time). In only 7 of 11 project comparisons was the total company labour higher on the First Nations projects (by an average of 7.1 hours). It is interesting to note that the largest gap between provincial and First Nations projects was 169 hours for the Provincial work and 106 for the equivalent First Nations project, a difference of 63 hours. In this case, there was no transportation requirements noted for the First Nations project. In the case of two other projects, the time invested in the First Nations work exceeded the time invested in the Provincial work by 41 hours (which required 492 km in transportation compared to the 360 km for the equivalent provincial project) and 34 hours (which

required 1500km in transportation compared to the 100 km for the equivalent provincial project) respectively.

## First Nation/Provincial Project Comparison - Surveyor Time/Total Company Time (# of hours)

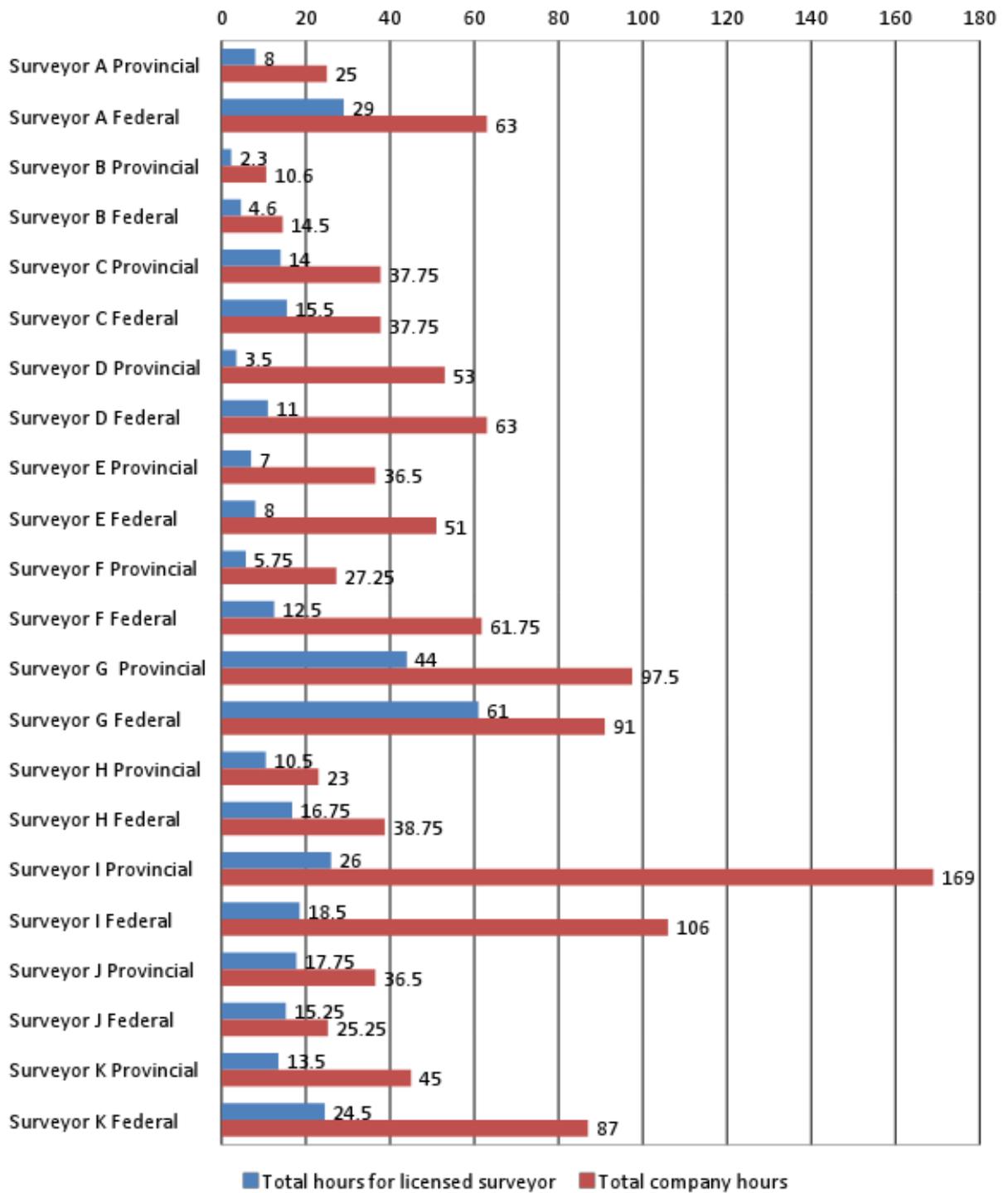


Figure 40 – First Nation/Provincial Project Comparison (Surveyor time and total labour)

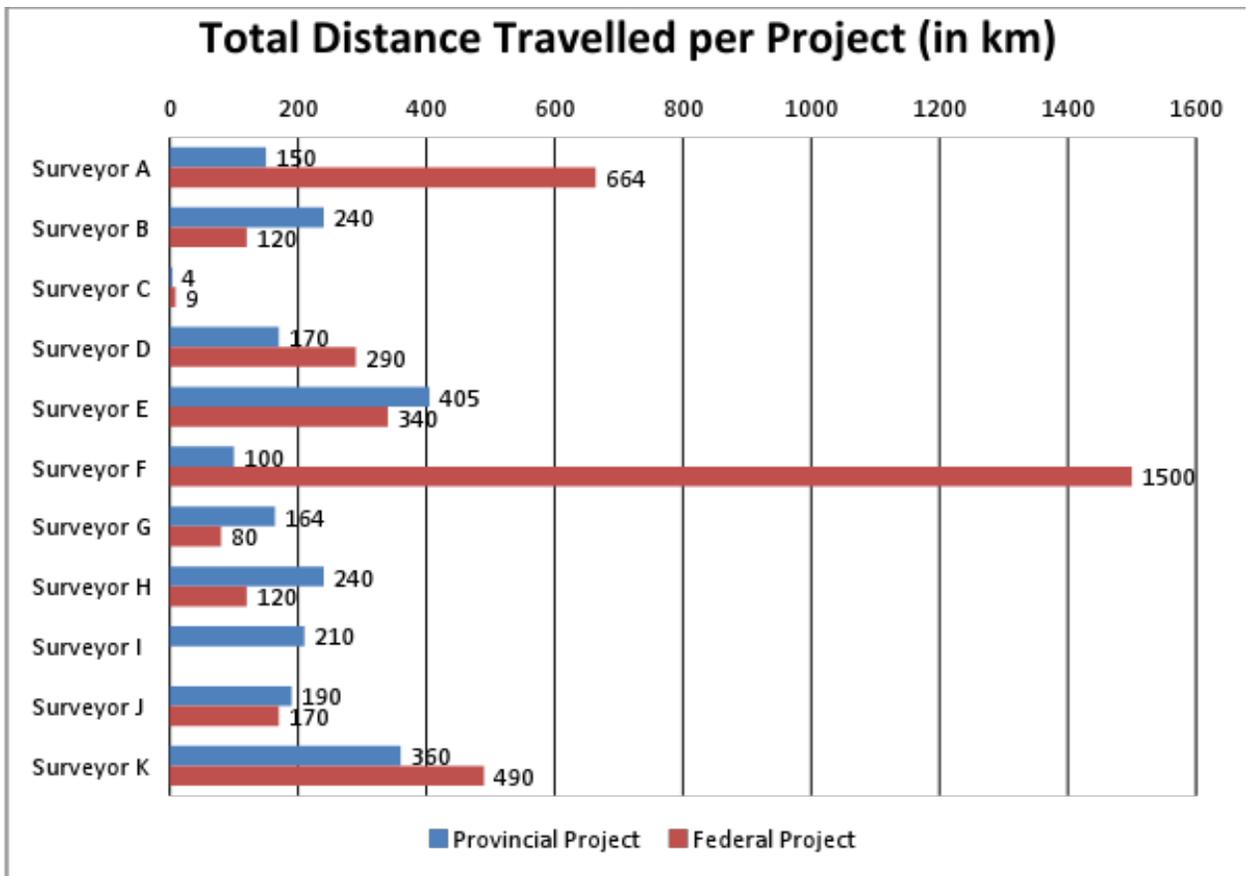


Figure 41 – Total distance travelled per project – Part C

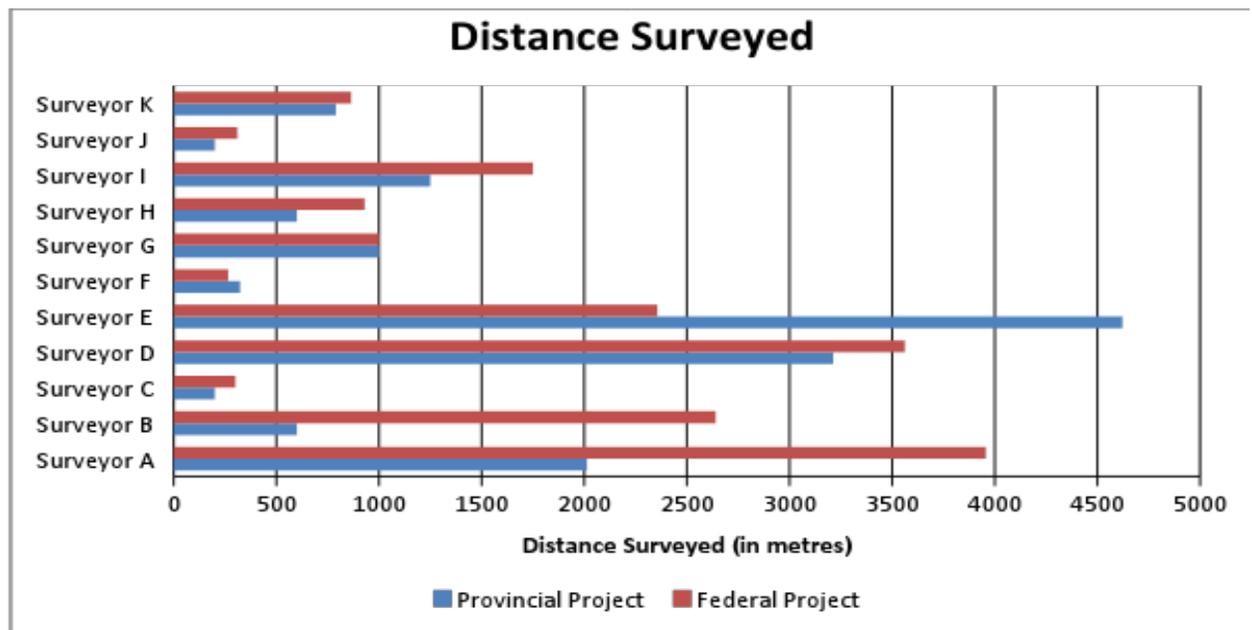


Figure 42 – Total distance surveyed per project – Part C

In the following graphs, activities where there is an expectation of difference between First Nations and provincial surveys have been examined.

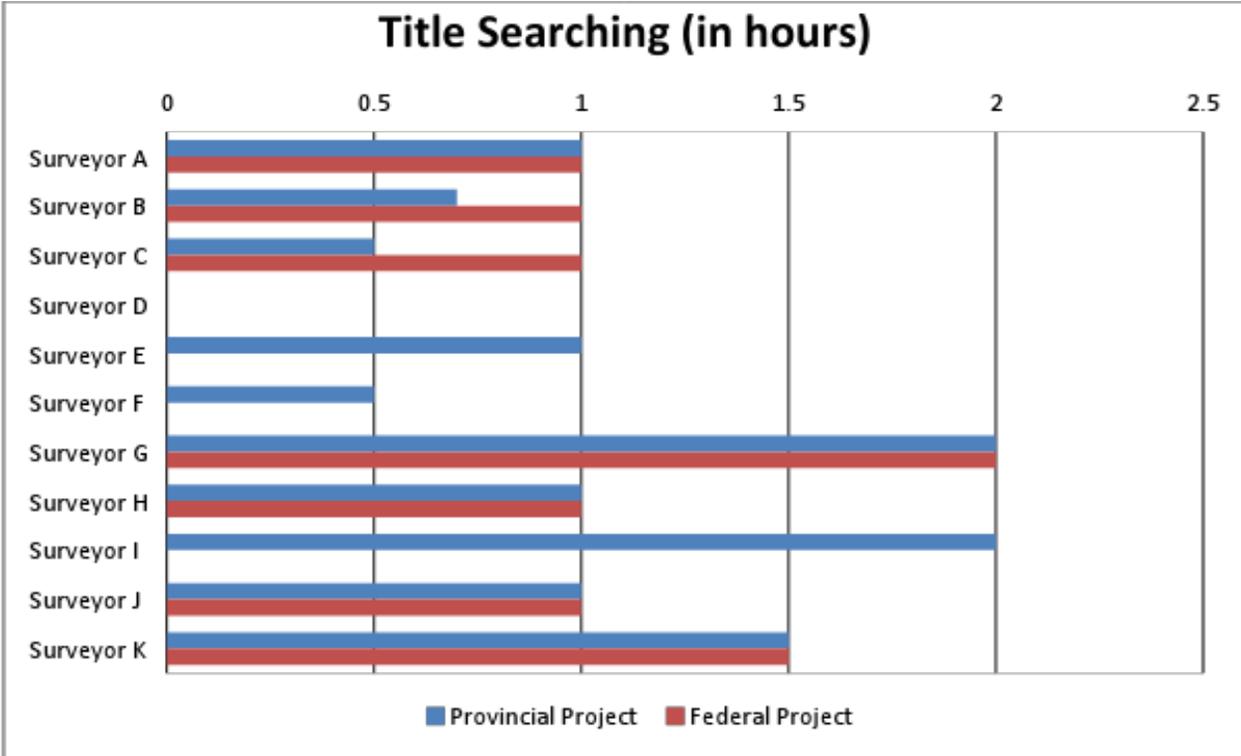


Figure 43 – Title searching total hours – Part C

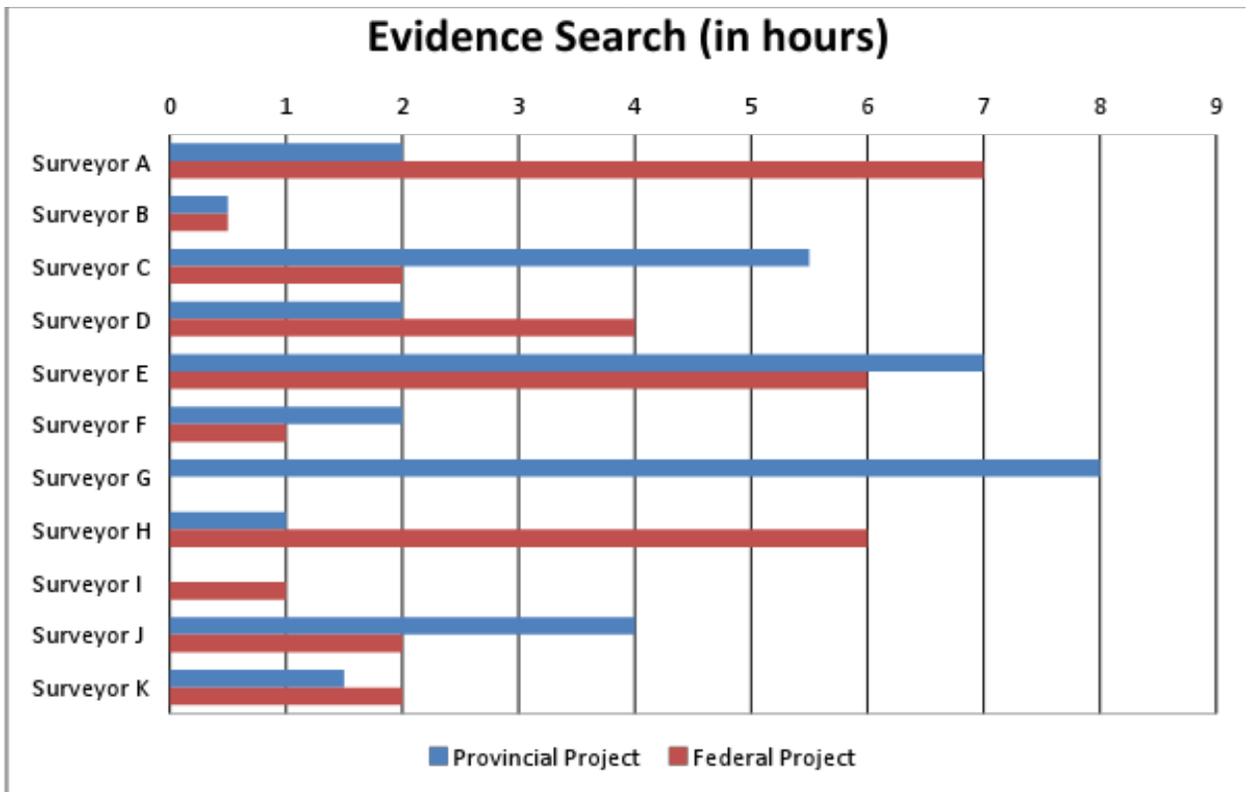


Figure 44 – Evidence search total hours – Part C

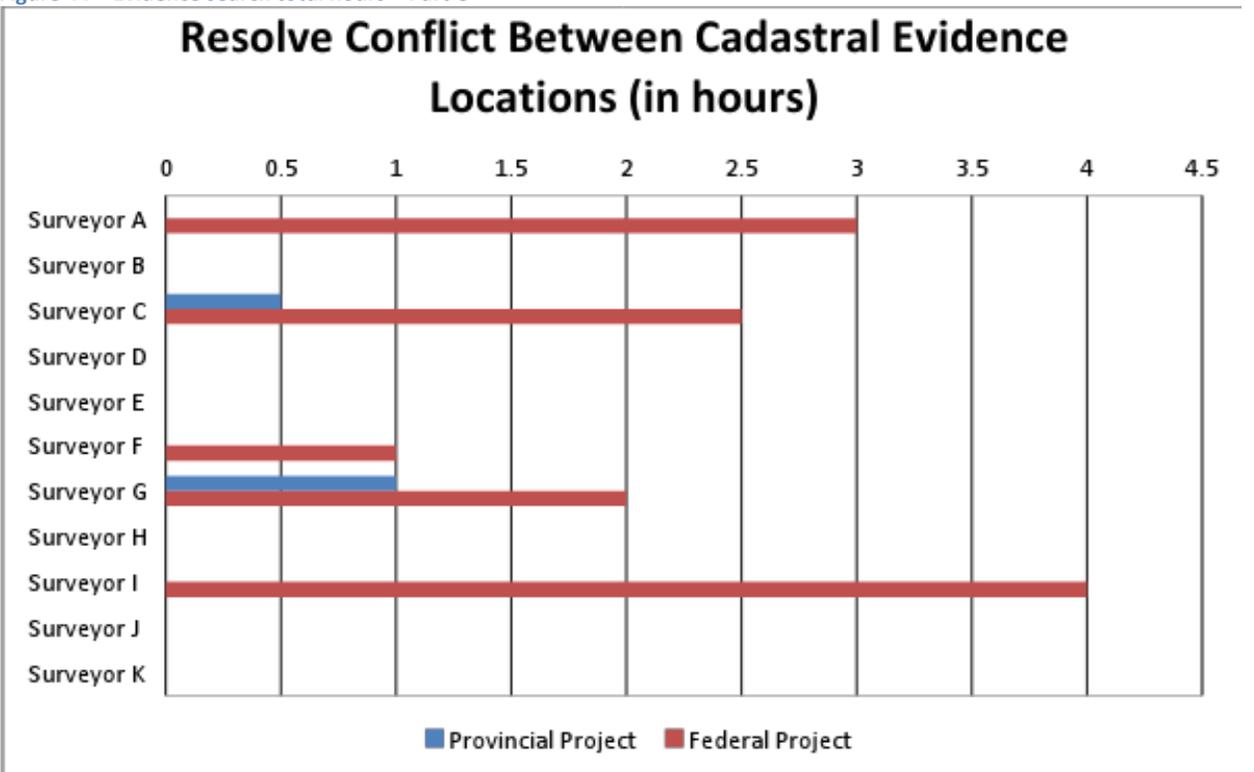


Figure 45 – Resolve evidence conflict total hours – Part C

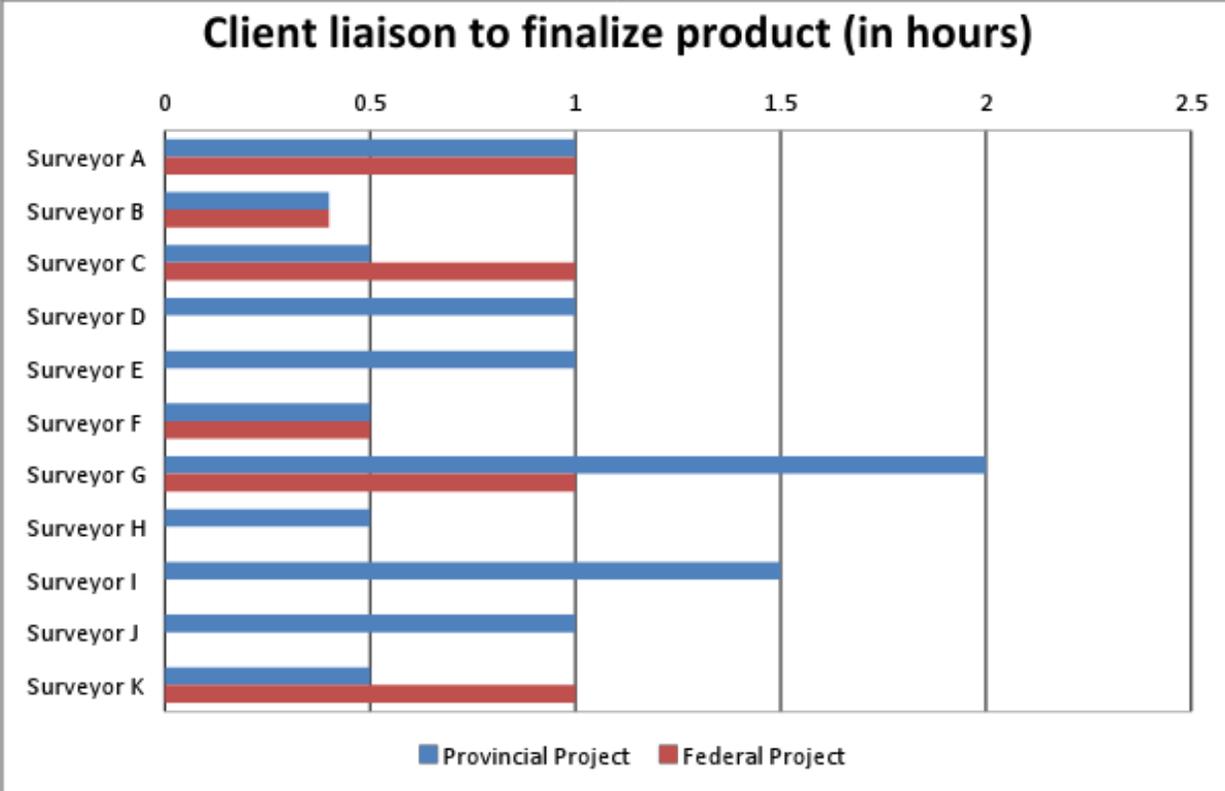


Figure 46 – Client liaison to finalize product total hours – Part C

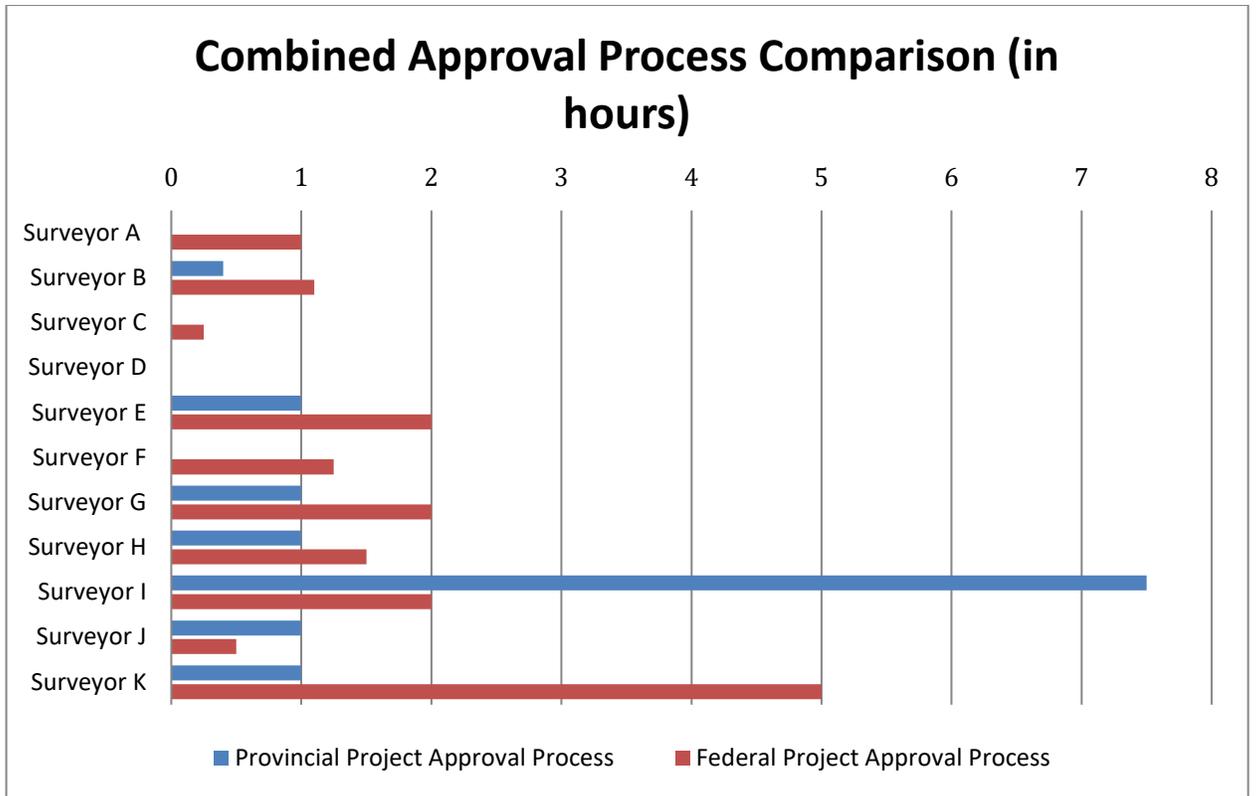


Figure 47 – Combined approval process total hours – Part C

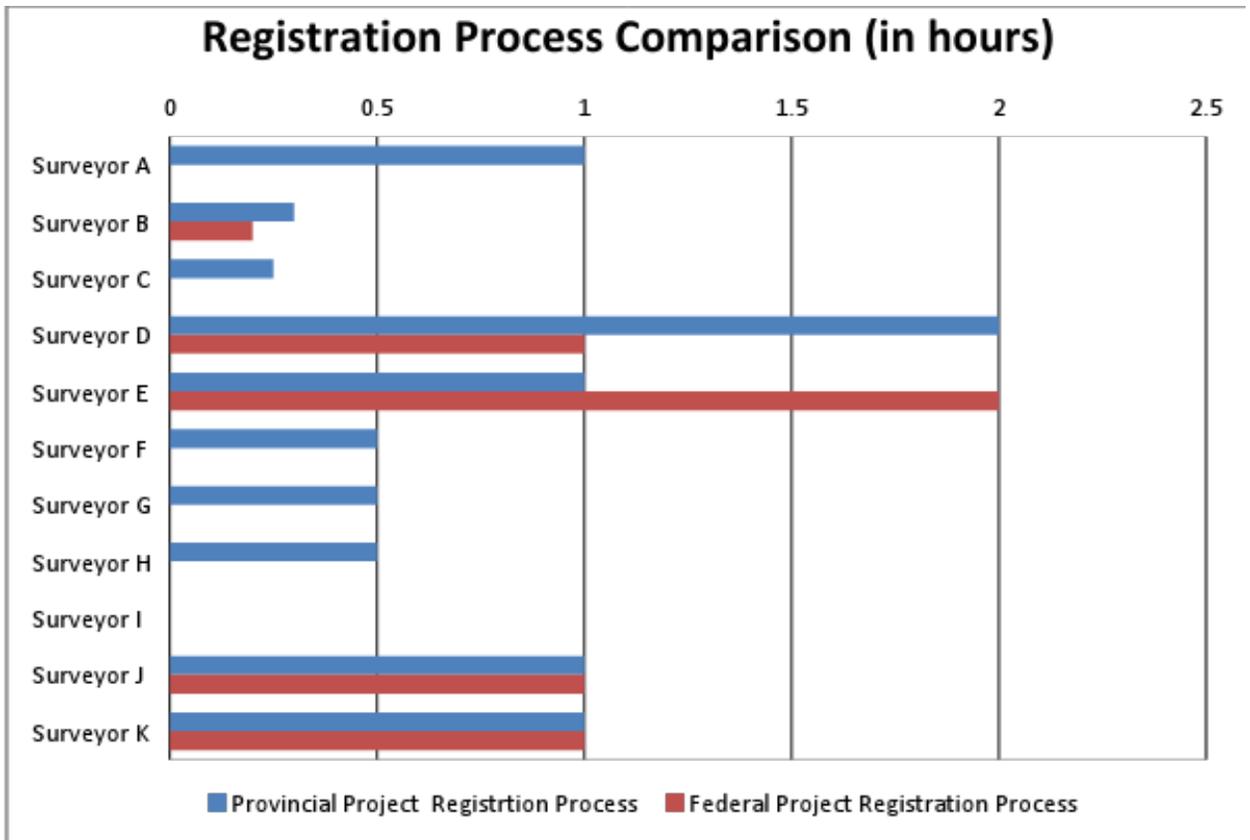


Figure 48 – Registration process comparison total hours – Part C

**Analysis**

When Surveyors who work in both the Federal and Provincial systems were asked which they prefer, the majority did not have a preference.

**Surveyor A:** This surveyor has registered 43 First Nations plans under the new National Standards.

**Highlights:**

First Nations project required considerably more Surveyor time and field time, because of distance from the office, two on-site client meetings, resolving conflicting survey evidence, dealing with missing monumentation and possibly because there were 2000 metres more to survey. The First Nations project also required more of the Surveyor’s time dealing with a government contract, setting up MyCLSS and applying for SGB instructions, using MyCLSS for plan registration, and getting First Nations and SGB approvals.

### *Project Details:*

Both surveys that were to divide off a parcel of land, had recent surveys in the area, and a clearly defined scope of work. The Surveyor was very satisfied with the amount information available online with respect to both projects.

Regarding registration, title searching, and approvals from registering authorities, this surveyor preferred the federal system for time to register the plan, and was more satisfied with the land registry system and ease of title searching provincially. The surveyor was “somewhat satisfied” with both systems with regards to obtaining approvals.

The First Nations project was completed and registered in less than 2 months. The field work was performed in the winter over two days, with expenses for hotel and meals. Some survey evidence was missing, which added 4 hours to the field work. The surveyor was required to liaise with 3 different parties/agencies: the client, SGB, and First Nations staff. The site was over 300 km from the surveyor’s office.

The provincial project was completed and registered in 6.5 months. The field work was performed in the spring, and there was good survey evidence in place. The surveyor was required to liaise with 5 different parties/agencies, including the client and a planner. The site was less than 100 km from the surveyor’s office.

**Surveyor B:** This surveyor has registered 26 First Nations plans under the new National Standards.

*Highlights:* Analysis was discontinued due to missing data.

### *Project Details:*

Both surveys were plans of subdivision, with field work performed in the fall. Both surveys were less than 50 kilometres from the office, had recent surveys in the area, and a clearly defined scope of work. Both required line cutting and blazing the boundary over a distance between 100 and 500 metres.

**Surveyor C:** This surveyor has registered 19 First Nations plans under the new National Standards.

### *Highlights:*

The two projects were similar in size and complexity, and required the same number of company hours to complete. The First Nations project required 1.5 hours more of the surveyor’s time, setting up MyCLSS and applying for SGB instructions, using MyCLSS for plan registration, and getting First

Nations and SGB approvals. The field crew took a little longer on the Provincial project, so the total hours balanced out.

#### *Project Details:*

Both surveys were parcel severances. Both surveys had a clearly defined scope of work, and were located very near the surveyor's office. Regarding registration, title searching, and approvals from registering authorities, this surveyor is equally satisfied with both systems.

The First Nations project was completed and registered in 4 months. The field work was performed in the fall over 3 days, and had recent surveys in the area. The surveyor was required to liaise with 4 different parties/agencies: the client, SGB, and First Nations staff and Band Council.

The provincial project was completed and registered in 7 months. The field work was performed in the summer, and there was good survey evidence in place. The surveyor was required to liaise with the client, an engineer and a planner.

**Surveyor D:** This surveyor has registered 7 First Nations plans under the new National Standards.

#### *Highlights:*

Both surveys were parcel surveys, with a clear scope of work and recent surveys in the area. The First Nations project took 8 hours more of surveyor time than did the Provincial project, relating to the SGB instruction process, MyCLSS set up. First Nation approval to enter, onsite client meeting and addressing a family objection. For both surveys, the surveyor was very satisfied with the amount information available online and the ease of title searching, and somewhat satisfied with the length of time it took for plan registration and approvals.

#### *Project Details:*

The First Nations project was completed and registered in 2.5 months. The field work was done in the spring, with 3562 metres surveyed. The NRCAN instruction process took 2 hours of surveyor time, 2 hours of draftsman time, and 3 hours administration time. MyCLSS set up took another hour for the surveyor. FN approval to enter, plus onsite meeting took 2 hours for the surveyor and 1 hour field crew. The NRCAN instruction process took 2 hours of surveyor time, 2 hours of draftsman time, and 3 hours administration time. MyCLSS set up took another hour for the surveyor. There was a delay because a family member objected to the parcel being severed, which required an extra hour of surveyor time and an extra 2 hours of drafting. The surveyor was required to liaise with 3 different parties/agencies: the client, SGB, and First Nations staff.

The Provincial project was completed and registered in less than 2 months, the field work done in the summer with 3213 metres surveyed. Provincial research took 1.5 hours more administration time for the provincial project than for the First Nations project. The surveyor is somewhat

satisfied with the registry system. The surveyor was required to liaise with the client, and the Municipal office.

**Surveyor E:** This surveyor has registered 7 First Nations plans under the new National Standards.

*Highlights:*

Both surveys were parcel surveys, and field work performed in the spring. Both projects had a clear scope of work and recent surveys in the area. The surveyor and field crew times were the same for both projects, but the First Nations project took twice as long for calculations and drafting, even though the distance surveyed was half as far for the First Nations project as for the Provincial due to SGB processes.

*Project Details:*

For both surveys, the surveyor was very satisfied with the amount of information available online and the ease of title searching, and was somewhat satisfied with the length of time it took for plan registration and approvals.

The First Nations project was completed and registered in 4.5 months. The distance surveyed was 2356 metres. The data shows that the First Nations project took 8 more hours of drafting and calculation time than did the Provincial project, relating to the instruction process and final plan submission to SGB. The surveyor was required to liaise with 4 different parties/agencies: the client, SGB, First Nations staff and a Utility company.

The Provincial project was completed and registered in just over 3 months. The distance surveyed was 4622 metres. The surveyor was required to liaise with the client and the Municipal office.

**Surveyor F:** This surveyor has registered 27 First Nations plans under the new National Standards.

*Highlights:*

Both surveys were parcel surveys, and the field work was performed in the fall. Both projects had a clear scope of work and recent surveys in the area. The entire First Nations project took twice as long as the Provincial, possibly in part because it was 700 kilometres farther away from the surveyor's office than the Provincial project.

The surveyor was very satisfied with the amount of information available online and the ease of title searching and the length of time it took for plan registration. The surveyor was somewhat satisfied with the length of time it took to obtain approvals federally, but very satisfied with the length of time it took to obtain approvals from the provincial registry office.

*Project Details:*

The First Nations project surveyed 265 metres and was 750 kilometers away from the surveyor's office. Packing up and getting to/from the work site took the field crew 8.5 hours each way. The field work was performed over a period of a month, which included hotel and meal costs. Adjusting for changing client needs added another 1.5 hours to the drafting/calculations time and almost 1 hour to the surveyor time. The surveyor was familiar with the area and they were able to bundle the project with another project, which allowed them to keep the costs down. The surveyor was required to liaise with the INAC and the First Nations staff.

The Provincial project surveyed 323 metres and was 50 kilometres away from the surveyor's office. The surveyor had previously surveyed one of the sides, so less research was required. The surveyor was required to liaise with the client and the Municipal office.

*Surveyor G:* This surveyor has registered 1 First Nations plan under the new National Standards.

*Highlights:*

The data demonstrates the discrepancy between a surveyor's hours in a "lesser known" system versus those with more experience. Both surveys had a clear scope of work, recent surveys in the area and were within 40 kilometres of the surveyor's office. The field hours in the provincial project are double the field hours in the First Nations project - yet the surveyor's hours are notably higher under the First Nations project. The surveyor has stated that 20% of the time was spent learning the SGB/MyCLSS/First Nations system - time that was not charged for.

For both surveys, the surveyor was very satisfied with the amount information available online, the ease of title searching, and the length of time it took for plan registration and approvals.

*Project Details:*

The First Nations project is a parcel survey of two lots in which approximately 1000 metres was surveyed in the spring. The plan was completed and registered in 4 months. The surveyor was required to liaise with the client (a government agency), SGB/NRCan and First Nation Band Council.

The Provincial project is a Plan of Subdivision of 10 lots and a Road in which approximately 1000 metres were surveyed in the winter. There was a change in the scope of work that added 8 hours of fieldwork, 3 hours of surveyor's time and 2 hours of drafting/calculations. It took over a year to complete the subdivision process and register the plan. The surveyor was required to liaise with the client (an engineering firm), a planner and a lawyer.

*Surveyor H:* This surveyor has registered 62 First Nations plans under the new National Standards.

*Highlights:*

The First Nations project has 6 more surveyor hours, and almost twice the drafting/calculations hours, when compared to its provincial “twin” survey. The additional surveyor hours can be tracked to MyCLSS set up, MyCLSS plan checking procedure, obtaining First Nations’ and SGB’s approval. The clear scope of work for both projects was “to sever a parcel out of the corner of a large property”, and there were recent surveys in the area for both projects. For both surveys, the surveyor was very satisfied with the amount of information available online.

#### *Project Details:*

The First Nations project was completed and registered in 7 months. The surveyor notes: “We do not register the plans without full payment. The majority of the time included in the total length of time to complete the project was getting paid”. The distance surveyed was 930 metres in the winter. The surveyor was required to liaise with 3 different parties/agencies: the client, SGB, First Nations staff. The client changed the scope of work, which required an additional hour of the surveyor’s time, plus additional field and drafting time. The surveyor was somewhat satisfied with the time it takes to get a plan registered.

The Provincial project was completed and registered in 1.5 months. The distance surveyed was 600 metres in the summer. The surveyor was required to liaise with the client and the Land Division Committee. For the Provincial survey, the surveyor was very satisfied with the land registry office and the time it takes to get the plan registered.

**Surveyor I:** This surveyor has registered 6 First Nations plans under the new National Standards.

#### *Highlights:*

A good demonstration of the additional work required to complete a Plan of Subdivision in the Provinces. **(See Case Study)**. The surveyor notes: “To get through the approval process - there is no real comparison because land use planning and decisions are already done on First Nation land, but take up more than 50% of any subdivision project on provincial land”. Both projects were Plans of Subdivision, with a clear scope of work and fairly recent surveys in the area. For both projects, the surveyor was very satisfied with the time it takes to get the plan registered.

#### *Project Details:*

The First Nations project took over a year to complete and register. The distance surveyed was 1750 metres, in the winter, with less than 500 metres of vegetation to cut. Missing monumentation added two hours of field time. The surveyor was required to liaise with 3 parties/agencies: INAC, SGB, and First Nations staff. The surveyor was somewhat satisfied with the ease of title searching, but was somewhat dissatisfied with the registry system, finding the MyCLSS site “very difficult to follow for final returns”.

The Provincial project took several years to complete, since the surveyor took care of the

applications for subdivision, preliminary approvals etc. This preliminary work included draft plans, which significantly increased the drafting/calculations hours and added some field hours as well. The distance surveyed was 1250 metres, in the fall. The surveyor was required to liaise with several parties/agencies: the client, the planner, the engineer, the lawyer, the utility company, the Planning Advisory Committee and the Ministry of Transportation. The surveyor was somewhat dissatisfied with the time it takes to obtain approval from the Land Registry authority, but very satisfied with the amount of information available online.

**Surveyor J:** This surveyor has registered 39 First Nations plans under the new National Standards.

*Highlights:*

A good example of how a small parcel can require as much or more time than a larger one. The First Nations project required fewer hours to complete than the Provincial project, even though the parcels on the Provincial project were only 0.0007 hectares and were closer to the surveyor's office. Both projects had the surveyor's own recent surveys in the area.

*Project Details:*

The First Nations project was a parcel survey requested by the First Nation, and was completed and registered in a little over a month. The distance surveyed was 310 metres, in the summer. The surveyor was required to liaise with 3 parties/agencies: a neighbour, SGB, and First Nations staff, including a preliminary site meeting to discuss the proposed boundaries, 80 kilometres away from his office. The surveyor was very satisfied with the amount information available online, the ease of title searching, and the length of time it took for plan registration and approvals. The surveyor was somewhat satisfied with the Registry system.

The Provincial project was a Right-of-Way survey for a utility company, and was completed and registered in a little over a month. The distance surveyed was 200 metres, in the summer. The surveyor was required to liaise with 4 parties/agencies: the utility company/client, two neighbours, and the Municipal Office. The surveyor was somewhat satisfied with the Registry system, the amount information available online, the ease of title searching, and the length of time it took for plan registration and approvals. The surveyor noted that there is no problem with getting a plan deposited but it does take two separate submissions - one pre-approval - one final.

**Surveyor K:** This surveyor has registered 21 First Nations plans under the new National Standards.

*Highlights:*

This is a good example of an experienced surveyor who is frustrated with the Federal system, stating "Things are more consistent in the Provincial System". The surveyor notes that "the cost to complete the Provincial project was half the cost of the First Nations project. Both projects were

within 10 kilometres of each other. The NRCan plan / report checking process are never consistent. We never know from one time to the next what they want on the plan or in the report”.

The surveyor was somewhat satisfied with both of the Registry systems, noting that “the Indian [land] registry is not a user friendly system”. He also notes: “CLSR system appears to be always changing”. He is somewhat satisfied with the ease of searching title.

#### *Project Details:*

The First Nations project is a parcel survey. The distance surveyed was 864 metres, in the fall. The surveyor is very familiar with the area, and did all the recent surveys near this project. The surveyor was required to liaise with 5 parties/agencies: an engineer, INAC, SGB, and First Nations staff and Band Council. The scope of work changed during the project: - “the initial project was to create a single lot to be leased for a motel but then we had to create a lot for the road and the lift station”.

The Provincial project is a three lot plan of subdivision, with an easement - the scope of work was clear. The distance surveyed was 790 metres, in the fall. The surveyor had never dealt with the City of [redacted] before so it took some additional time to find out who to deal with within the planning department. The surveyor was required to liaise with 4 parties/agencies: the client, a neighbour, the Planning Advisory Committee and the Municipal Office. The surveyor is somewhat satisfied with the time it takes to obtain approvals from the Land Registry authority, and the time to get a plan registered, and is very satisfied with the ease of searching title.

### Case Study – Plans of Subdivision

What type of survey was this?	Provincial M-Plan: 4 lots	First Nations CLSR Plan: 9 lots
Total hours for licensed surveyor	26	18.5
Total hours for field crew	44	34.5
Total hours for drafting/calcs	84	42
Total hours for administrative staff	15	11
Total company hours	169	106
In what season was the field work for this survey performed?	Fall	Winter

**Table 11 – Type of survey total hours – Part C Case Study**

Provincial Regulations involved to prepare and register a plan of subdivision are more onerous and time-consuming than for First Nations. Municipal by-laws, planning departments, and Approval authorities increase the time and workload for the land surveyor, thereby increasing costs, as compared to a similar survey on First Nations.

From *Subdividing in BC*, [https://www.th.gov.bc.ca/DA/L1\\_s\\_in\\_BC.asp](https://www.th.gov.bc.ca/DA/L1_s_in_BC.asp)

*Subdividing is a complex process involving many overlapping interests; depending on the size and complexity of your project, it can take many months to get from the idea stage to building. Every subdivision must be approved by an Approving Officer appointed under the **Land Titles Act**. For rural subdivisions the Approving Officer is situated in the Ministry of Transportation and Infrastructure district offices. There are other authorities, held by local governments and agencies that must be adhered to as well.*

To prepare a similar plan on First Nations, the land surveyor need not deal with any more approval

bodies than with a single parcel survey:

- First Nations approval
- NRCan SGB approval

For this provincial plan of subdivision, the surveyor performed a preliminary survey to design and prepare Proposed Subdivision plans for the approval process. The “drafting/calcs” work also included providing data for the engineered road design, contacting the archaeologist firm, and other referrals for preliminary subdivision approval process. As the surveyor noted, “This is not necessarily survey work - some survey firms leave this to outside agencies. Our firm takes care of all approval applications and deals with subcontractors as part of the complete package. Indian Reserve jobs usually do not require any of this, these land use decisions have been made internally.”

## Recommendations

The impetus for this study was to address First Nations concerns about the costs of Legal Surveys in their communities. Since Legal Surveys on First Nations are tied to Housing for First Nations community members, this concern is critical to the basic human need for Shelter. Throughout this study, input from Lands Managers and Land Surveyors has clearly shown that a Community Survey Program for each First Nations community, paid for with outside funding, provides the most efficient use of the funds and the best community planning.

Natural Resources Canada, Indigenous and Northern Affairs Canada, First Nations leaders and Lands Managers, and Canada Lands Surveyors can and must work more closely together. In so doing, there can be considerable improvements to the lives of individuals and communities on First Nations across Canada.

Throughout the work of this study, the passion and dedication of the professionals in each sector - First Nations, Canada Lands Surveyors, INAC, and NRCan/SGB, was clearly demonstrated. There is no question that everyone who participated and commented has considerable concern and respect for the issues surrounding legal surveys on First Nations lands, and their associated costs, uses, and benefits to the First Nations communities.

The following recommendations aim to fill in the gaps in service and funding from Government agencies, improve the training of Lands Managers and Canada Lands Surveyors, and address the concerns expressed throughout this study:

1. **Systemic Stability.** As in all relationships, communication is critical - as is consistency and stability. First Nations and Canada Lands Surveyors are both “customers” of INAC and NRCan. The study has shown that these customers are required to become experts in the programs run by these agencies, and to do so, there needs to be stability within these programs.

Surveyors and Lands Managers have both expressed frustration with the changing requirements to have Legal Surveys performed on First Nations lands. Each of these groups juggle many responsibilities, and have little time, patience, or funds to become proficient in each new process, and to train their staff in the changes as well.

The Competitive Enterprise Institute notes in its 2017 annual snapshot of the Federal Regulatory State that “firms generally pass the costs of some taxes along to consumers. Some regulatory compliance costs borne by businesses will find their way into the prices that consumers pay, will affect the wages that workers earn, and will hinder growth and prosperity.”<sup>2</sup> In his April 4, 2017

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<sup>2</sup> <http://www.cbo.gov/sites/default/files/cbofiles/ftpdocs/122xx/doc12239/06-14-2011-corporatetaxincidence.pdf>

article *The Insidious Cost of Regulation*, Chief Economist of the National Federation of Independent Business, William Dunkelberg, explains that framework instability is tantamount to an indirect tax. Every change in regulation, policy or process requires time (in the form of learning, understanding and staff training) and resources to implement. “If firms cannot pass these costs on, profit will continually be eroded until it is no longer profitable to stay in business.”<sup>3</sup>

A small example for land surveyors is the recent changes to how plans are signed. In both the federal and provincial systems, all plans will soon be submitted digitally - some provinces have enacted this already. While digitally submitted plans have clear benefits and potential for future cost savings and efficiencies, there is a cost to implementing this change that is borne only by the employers of the practitioners. One surveyor explained that learning and implementing this change has taken more than 6 hours (of non-chargeable time). Multiply those hours by every surveyor across Canada and the cost to small business is huge, and not to be dismissed.

2. **Funding support.** The study has shown that INAC has improved the capacity of some First Nations through funding and support. How to access this funding and support, and who the designated contact people are needs to be better communicated to all First Nations communities. There should be no labyrinth of departments to navigate. All First Nations communities deserve equal access to these benefits.

3. **Training and experience.** Data from the study has shown a wide range in training and experience among Lands Managers. Insufficient training of Land Managers can lead to inefficiencies and potential higher costs of Legal Surveys. It also may lead to frustration for the Land Manager and higher turnover in that position. Conversely, the data shows that those Land Managers who are experienced and educated in complementary fields (planning, engineering, surveying) have more success obtaining government funding, have stayed in their positions for more than 10 years, and are satisfied with the cost of legal surveys.

Peer training and peer mentoring is an excellent solution. The less experienced Land Manager should be partnered with an experienced Land Manager from another location, allowing for learning in a “hands on” way from a true peer. Each should spend a few days in the others’ community, possibly billeting with a local family to gain the best understanding of the community. According to one interviewed Land Manager, learning from a peer would be better than trying to get answers from an intimidating manual or a “faceless” government employee.

Benefits of a Well Trained Land Manager:

- Greater job satisfaction and reduction in turnover of First Nations staff
- Improved contracts with land surveyors

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<sup>3</sup> <https://www.forbes.com/sites/williamdunkelberg/2017/04/04/the-insidious-cost-of-regulation/#504f1de25c7b>

- Reduced delays and confusion during legal surveys
- Better interaction with community members, Band Council, land surveyor, INAC, SGB, and other agencies
- Able to garner more funds from Government agencies and elsewhere
- May increase number of legal surveys, which encourages more participation from Canada Lands Surveyors, which improves access to Canada Lands Surveyors

4. **Relationships.** Every Land Manager needs to be on a first-name basis with their Surveyor General Branch (SGB) Client Liaison staff member. According to some interviewed Land Managers, SGB tends to be more available and more knowledgeable to help manage survey contracts and survey questions than other agencies.

5. **Best Practices.** The costs of Legal Surveys can be best mitigated with good management. Discussions and data from Lands Managers and Land Surveyors have filtered out the following suggestions for the four main parties to these survey projects - First Nations Lands Managers, Canada Lands Surveyors, NRCan and INAC.

Lands managers can have things in place before survey work is contracted, preferably as part of a well managed Survey Program:

- have funds available and accessible
- be aware of everyone who has interests in the property
- make sure all parties understand and are in agreement with the proposed survey, including any neighbours providing access rights-of-way
- Address potential objections to the survey from neighbours or other parties
- Arrange surveys in the same general area to be performed at the same time
- Plan ahead so surveys can be performed at the best time of year
- Obtain outside funding for survey work in the community
- Build a good working relationship with one or two surveyors
- Manage the survey contracts on behalf of community members
- Ensure that the surveyor receives approvals from all parties promptly
- Make sure all parties know what they need so project modifications can be avoided
- Retain funds to hire a surveyor to help plan efficiently for future surveys and to provide estimates for funding applications
- Consult a peer mentor or be a peer mentor for a less experienced lands manager
- Spread the word in the community about the importance of protecting survey monuments

Surveyors can:

- Capitalize on NRCan cadastral data for survey monument location
- Combine careful use of GPS technology with conventional techniques to avoid future conflicts between cadastral evidence locations

- Understand current regulations, processes and protocols to avoid critical issues when the plan is submitted, and seek advice from SGB staff when needed
- Commit to working closely with Lands Managers
- Show clients and Lands Managers the locations of the survey monuments once the survey is done and explain their significance

NRCan (SGB) can:

- Provide an online webinar overview for Canada Lands Surveyors who have not (recently) performed Legal Surveys on First Nations Reserves
- Reduce the frequency of changes to processes and/or protocols
- Introduce SGB staff to Canada Lands Surveyors and First Nations and ensure that surveyors and Lands Managers know who to call in their area if they have questions

INAC can:

- Provide Lands Managers with easily accessed funding opportunities
- Publicize the location of documents explaining funding opportunities and their associated applications
- Prepare an online webinar to teach Lands Managers how to apply for funding
- Provide funding for a national peer mentoring program for Lands Managers

6. **Access to Surveyors.** Better access to Canada Lands Surveyors was identified as a need for some First Nations. How many Canada Lands Surveyors are not doing surveys for First Nations? How many are not participating due to actual or perceived barriers, such as:

- Too complicated
- Regulations have changed
- Too frustrating and time consuming to work with untrained Land Manager or uninformed community members
- There are insufficient funds for work to be profitable

7. **Awareness.** During interviews with current CLS license holders, it became clear that there were some who were willing to travel well beyond provincial geographic borders to undertake large or bundled projects. There is a need for an interface that brings clients and surveyors together more efficiently. NALMA has taken on the lead role for ensuring survey completion and the deployment of funding and is well positioned to function as a beacon for potential contractors. The ACLS could provide a simple platform to NALMA that would alert ACLS membership of potential available work.

For example, by creating a dedicated email address that would automatically forward messages

from NALMA to surveyors who have subscribed to the service would greatly increase the reach to available professionals for lands managers. This would demonstrate to surveyors who do not have licenses/permits, that there is ample work available and would direct surveyors with licenses and permits to available work. First Nations would benefit from the exposure to a greater number of professionals. The ACLS would benefit by fulfilling a stated goal in their strategic plan. With more surveyors meeting currently unmet survey needs, there will be increased fees paid to the ACLS in the form of plan fees and monument fees. As more of the membership is encouraged to utilize their CLS designation, there will also be more fees paid to the ACLS for licenses and permits. It would also improve the stability of the ACLS by increasing the financial health of members.

8. **Education.** An education piece for Land Surveyors could improve efficiencies and could also encourage more Canada Lands Surveyors to work on First Nations. Perhaps a very basic recorded webinar on How to Do a Parcel Survey on First Nations with Step by Step guide could be prepared, with INAC funding.

The ACLS is currently providing excellent continued education for its members with free webinars and free updates regarding changes to regulations and government policies.

## Appendix 1 -First Nations Questionnaire

We need your input!  
*Nous vous remercions de votre contribution importante!*

Greetings,

Un message en français suivra.

The Department of Indigenous Affairs and Northern Development Canada (INAC) and Natural Resources Canada (NRCan), in collaboration with the Association of Canada Lands Surveyors (ACLS) are requesting your comments and opinions in regards to the cost drivers related to land survey projects in your community. The following questionnaire has between 28 and 34 questions, depending on your answers and should take about 20 minutes to complete.

This questionnaire is necessary to get a thorough understanding of the key factors impacting the current procedures and related cost drivers of legal surveys on First Nation lands. The information you provide will be held in the strictest confidence; therefore, we are encouraging honest and direct responses to ensure quality findings and recommendations.

We ask that the questionnaire be completed by November 4th, 2016 in order to ensure your comments and opinions are captured in the study.

We thank you for your important input!

Salutations,

Le ministère des Affaires autochtones et Développement du Nord Canada (AINC) et Ressources naturelles Canada (RNCan), en collaboration avec l'Association des terres du Canada (AATC) demandent vos commentaires et vos opinions en ce qui concerne les facteurs de coûts liés à l'arpentage projets en votre communauté. Le questionnaire suivant a 28 et 34 questions, en fonction de vos réponses et devrait prendre environ 20 minutes.

Ce questionnaire est nécessaire pour obtenir une compréhension approfondie des principaux facteurs influant sur les procédures actuelles et les facteurs de coûts liés d'enquêtes juridiques sur les terres des Premières nations. Les informations que vous fournissez seront conservées dans la plus stricte confidentialité; Par conséquent, nous encourageons les réponses honnêtes et directs pour assurer conclusions et de recommandations.

Nous demandons que le questionnaire soit complété d'ici le 4 Novembre, 2016, afin d'assurer vos commentaires et opinions sont capturées dans l'étude.

Nous vous remercions de votre contribution importante!

\* 1. Address/

Adresse

What

organization/Community

do you represent?

Quelle organisation  
représentez-vous?

Province(s)

Province(s)

Postal Code

Code postal

2. What is your role in your organization/community? Please check all that apply.

Quel rôle assumez-vous au sein de votre organisation? Veuillez cocher toutes les réponses qui s'appliquent.

- Chief/Chef de bande
- Staff Member/Membre du personnel
- Lands Manager/Gestionnaire des terres
- Public Works (roads/infrastructure/etc)/Travailleur des travaux publics (routes, infrastructures)
- Band Council/Membre du conseil de bande
- Other (please specify)/Autre (SVP spécifier)

3. How long have you been in your current role within your organization/community?

Depuis combien de temps occupez-vous ce poste?

- Less than 1 year/Moins d'un an
- 1 - 5 years/De 1 à 5 ans
- 6 - 10 years/De 6 à 10 ans
- More than 10 years/Plus de 10 ans

4. How many years have you been involved with lands management (including your current role)?

Depuis combien d'années participez-vous à la gestion des terres (en incluant votre rôle actuel)?

- Less than 1 year/Moins d'un an
- 1 - 5 years/De 1 à 5 ans
- 6 - 10 years/De 6 à 10 ans
- More than 10 years/Plus de 10 ans

5. What kind of job training have you received in your current role? Please check all that apply.

*Quel type de formation professionnelle avez-vous reçue dans le cadre de votre rôle actuel? Veuillez cocher toutes les réponses qui s'appliquent.*

- On the job/*Une formation en milieu de travail*
- Courses/*Des cours*
- Seminars/workshops/*Des séminaires ou des ateliers*
- Mentors from outside organisations/*Une formation avec des mentors externes à votre organisation*
- None/*Aucun*
- Other (please specify)/*Autre (SVP spécifier)*

6. Are there other individuals in your organisation trained in any of the following professions? Please check all that apply.

*Votre organisation compte-t-elle d'autres membres formés pour exercer l'une des professions suivantes? Veuillez cocher toutes les réponses qui s'appliquent.*

- Surveying/*Arpenteur*
- Planning/*Planificateur (aménagement des terres)*
- Engineering/*Ingénieur*
- Forestry/*Foresterie*
- No/*Non*
- Don't know/*Sait pas*
- Other (please specify)/*Autre (SVP spécifier)*

7. Are there other individuals in your organization with experience in any of the following professions?

Please check all that apply.

*Votre organisation compte-t-elle d'autres membres possédant de l'expérience dans l'une des professions suivantes? Veuillez cocher toutes les réponses qui s'appliquent.*

- Surveying/Arpenteur
- Planning/Planificateur (aménagement des terres)
- Engineering/Ingénieur
- No/Non
- Don't know/Sait pas
- Other (please specify)/Autre (SVP spécifier)

\* 8. Are there other individuals in your organization/community that regularly participate in survey projects on lands administered by your organization?

*Votre organisation compte-t-elle d'autres membres participant régulièrement à des projets d'arpentage sur les terres qu'elle administre?*

- Yes/Oui
- No/Non
- Don't know/Sait pas

9. Because you indicated that more than one person in your organization participates in survey projects on the lands you administer, please estimate how many FTE (full time employee) weeks per year this participation (including yourself) consists of?

*Puisque vous avez indiqué qu'au sein de votre organisation plus d'une personne participait aux projets d'arpentage des terres qu'elle administre, veuillez estimer le nombre de semaines mobilisant des employés à temps plein (ETP) que requièrent ces projets? (N'oubliez pas de vous inclure.)*

- 1 - 5 weeks/De 1 à 5 semaines
- 6 - 10 weeks/De 6 à 10 semaines
- 11 - 20 weeks/De 11 à 20 semaines
- 20 weeks to 1 year/De 20 semaines à 1 an
- More than 1 year/Plus d'un an

10. Please indicate the frequency of the different types of survey work that take place on lands you administer.

*Veillez indiquer la fréquence des différents travaux d'arpentage qui ont lieu sur les terres administrées par votre organisation.*

	Frequently/ <i>Souvent</i>	Sometimes/ <i>À l'occasion</i>	Never/ <i>Jamais</i>	Don't know/ <i>Sait pas</i>
Topographic/site surveys (ie. Illustrate surface features such as elevations and structures)/ <i>Levés topographiques</i>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Mapping or GIS activities/ <i>Activités associées à la cartographie ou aux systèmes d'information géographique (SIG)</i>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Construction surveys/ <i>Levés de construction</i>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Property dispute/ <i>Levés de dispute de limites</i>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Survey bar or monument replacement/ <i>Levés pour remplacer des monuments ou bornes</i>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Survey for estates and wills/ <i>Levés de succession (testament)</i>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Boundary stakeout/ <i>Piquetage (implantation de nouvelles bornes)</i>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Fence line survey/ <i>Levés pour l'implantation de clôtures</i>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Building location survey/ <i>Implantation de bâtiments</i>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Survey to create new lot(s)/ <i>Levés pour créer des nouveaux lots</i>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

	Frequently/ <i>Souvent</i>	Sometimes/ <i>À l'occasion</i>	Never/ <i>Jamais</i>	Don't know/ <i>Sait pas</i>
Survey for easements/ <i>Levés de servitudes</i>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Survey for roads/road widenings/ <i>Levés de routes ou d'élargissement de chemin</i>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Survey for utilities/ <i>Levés de services publics</i>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other (please specify)/ <i>Autres types de levés (veuillez préciser, le cas échéant)</i>				
<input type="text"/>				
<p>11. Who manages survey contracts for your organization/community? Please indicate how often each of the following choices occurs.  <i>Qui est responsable de la gestion des contrats d'arpentage au sein de votre communauté? Il est probable que chaque option présentée ci-dessous s'applique de manière périodique. Veuillez préciser la fréquence de chacune de ces options.</i></p>				
	Frequently	Sometimes	Never	Don't know/ <i>Sait pas</i>
First nation/ <i>Un membre d'une Première nation</i>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
NALMA (National Aboriginal Lands Managers Association)/ <i>L'Association nationale des gestionnaires des terres autochtones (ANGTA)</i>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
FNLM-RC (First Nation Land Management Resource Centre)/ <i>Le Centre de ressources sur la gestion des terres des Premières Nations (CR-GTPN)</i>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
INAC/ <i>Le ministère des AANC</i>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
NRCan/ <i>Ressources naturelles Canada (RNCan)</i>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Land surveyor/ <i>Des arpenteurs</i>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other (please specify)/ <i>Autres (veuillez préciser)</i>				
<input type="text"/>				

\* 12. Community development planning is a process by which stakeholders contribute to the identification of goals, objectives and resource allocation for local projects and planning policy. Is community development planning involved when the need for a survey in your community is identified?

*La planification du développement de la communauté est un processus qui nécessite la participation des intervenants en vue de déterminer les buts, les objectifs et la manière dont les ressources seront réparties dans le cadre de projets locaux et de l'élaboration de politiques d'aménagement. Procédez-vous à la planification du développement de la communauté lorsqu'un besoin en matière d'arpentage est soulevé au sein de votre communauté?*

- Yes/Oui
- No/Non
- Don't know/Sait pas

13. Because you answered yes to the previous question about community planning, please indicate if you have worked with any of the following professionals in that process. Please check all that apply.  
*Puisque vous avez répondu « oui » à la question précédente concernant la planification de la communauté, veuillez indiquer si vous avez déjà travaillé avec l'un des professionnels suivants dans le cadre de ce processus. Veuillez cocher toutes les réponses qui s'appliquent.*

Planner/Planificateur (aménagement des terres)

Engineer/Ingénieur

Lawyer/Avocat

Architect/Architecte

Forester/Forestier

Other (please specify)/Autre (veuillez préciser)

\* 14. A Land Status Report is a report containing all relevant information concerning easements and/or interests on a plot of land. Do you (or does someone in your organization/community) prepare the Land Status Report for survey projects in your community?

*Le rapport sur le statut des terres est un rapport qui contient toute l'information pertinente concernant les servitudes et/ou intérêts sur une parcelle de terrain. Un membre de votre organisation, ou vous-même, est-il responsable de préparer le rapport sur le statut des terres pour les projets d'arpentage de votre communauté?*

- Yes/Oui
- No/Non
- Don't know/Sait pas

15. Do you use the INAC (Indigenous and Northern Affairs Canada) E-RIP (Electronic Registry Index Plan) to help generate the Land Status Report?

*Utilisez-vous le Plan de référence du registre électronique (PRRE) du ministère des Affaires autochtones et du Nord Canada (AANC) pour vous aider à produire vos rapports?*

- Yes/*Oui*
- No/*Non*
- Don't know/*Sait pas*

\* 16. Do you have your own form of record keeping for land holders or other entities that might be of value to the land surveyor?

*Possédez-vous votre propre système de gestion ou de régimes fonciers permettant de conserver des renseignements, lequel pourrait se révéler utile pour les arpenteurs?*

- Yes/*Oui*
- No/*Non*
- Don't know/*Sait pas*

17. Are the people who prepare the Scope of Work for surveys in your community aware of your land tenure/management system?

*Les personnes responsables de l'élaboration du cadre de travail des projets d'arpentage de votre communauté connaissent-elles votre système de gestion ou de régimes fonciers?*

- Yes/Oui
- No/Non
- Don't know/Sait pas

18. How can a Land Surveyor access information from your land tenure/management system? Please check all that apply.

*De quelle manière un arpenteur peut-il accéder aux renseignements de votre système de gestion ou de régimes fonciers?*

- Direct access/Accès direct
- Electronic direct access/Accès direct par voie électronique
- Electronic request form/Formulaire électronique de demande d'accès
- Other (please specify)/Autre (veuillez préciser)

\* 19. Do you advise the Land Surveyor of development activity that may not show up in the CLSR (Canada Lands Survey Records)?

*Informez-vous l'arpenteur des activités de développement susceptibles de ne pas figurer parmi les archives d'arpentage des terres du Canada (AATC)?*

- Yes/*Oui*
- No/*Non*
- Don't know/*Sait pas*

20. Because you answered yes about advising the Land Surveyor about development activity that does not show up in the CLSR, please indicate which activities you advise on. Please check all that apply.

*Puisque vous avez répondu que vous informiez l'arpenteur des activités de développement qui ne figurent pas dans les AATC, veuillez indiquer de quelles activités vous l'avez informé. Veuillez cocher toutes les réponses qui s'appliquent.*

- New roads/*Nouvelles routes*
- New power lines/*Nouvelles lignes électriques*
- New buried utilities/*Nouveaux services publics enfouis*
- Cell towers or other communications infrastructure/*Stations cellulaires ou autres infrastructures de communication*
- Pipelines/*Oléoducs*
- Other infrastructure/*Autre infrastructure*
- Homes/*Maisons*
- Commercial buildings/*Bâtiments commerciaux*
- Community buildings/*Bâtiments communautaires*
- Other structures/*Autres constructions*
- Other (please specify)/*Autre (veuillez préciser)*

21. How do you decide which Land Surveyor does your work? Please indicate how often each of the following choices occurs.

*Comment procédez-vous pour choisir l'arpenteur qui effectuera vos travaux? Veuillez donc préciser la fréquence à laquelle vous recourrez à chacune des options ci-dessous.*

	Frequently/Souvent	Sometimes/À l'occasion	Never/Jamais	Don't know/Sait pas
By Price/En fonction du tarif	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
By Tender/Par appel d'offres	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Community member, client, cp holder preference/En fonction de la préférence d'un membre de la communauté, du client ou du titulaire du certificat de possession	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Preferred surveyor with whom you have had a working relationship/En faisant appel à votre arpenteur préféré, avec lequel vous entretenez une relation d'affaires	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other (please specify)/Autre (veuillez préciser)	<input type="text"/>			

22. Please rank how important the deciding factors are in how you decide which surveyor does your work. *S'il vous plaît classer l'importance des facteurs décisifs sur la façon dont vous décidez quel arpenteur fera le travail.*

	Very important/ <i>Une grande importance</i>	Somewhat important/ <i>Une certaine importance</i>	Not important/ <i>Aucunes importance</i>
Price/ <i>En fonction du tarif</i>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Tender/ <i>Par appel d'offres</i>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Community member/client/cp holder preference/ <i>En fonction de la préférence d'un membre de la communauté, du client ou du titulaire du certificat de possession</i>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Preferred surveyor with whom you have had a working relationship/ <i>En faisant appel à votre arpenteur préféré, avec lequel vous entretenez une relation d'affaires</i>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other (please specify)/ <i>Autre (veuillez préciser)</i>	<input type="text"/>		

23. What influences the number of survey projects you have done per year? Please indicate how often each of the following choices occurs. *Quels facteurs ont une incidence sur le nombre de projets d'arpentage que vous effectuez annuellement? Veuillez donc préciser la fréquence à laquelle vous recourrez à chacune des options ci-dessous.*

	Frequently/ <i>Souvent</i>	Sometimes/ <i>À l'occasion</i>	Never/ <i>Jamais</i>	Don't know/ <i>Sait pas</i>
Client driven/ <i>Les exigences des clients</i>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
INAC funding/ <i>Le financement accordé par les AANC</i>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
NRCAN driven/ <i>Les exigences de RNCAN</i>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other (please specify)/ <i>Autre (veuillez préciser)</i>	<input type="text"/>			

24. Do you talk to the community members if their lands are going to be surveyed or crossed?  
*Informez-vous les membres de la communauté lorsque leurs terres doivent être arpentées ou franchies?*

Frequently/Souvent      Sometimes/À l'occasion      Never/Jamais      Don't know/Sait pas

25. Does the surveyor talk to the Community members if their lands are going to be surveyed or crossed?  
*L'arpenteur informe-t-il les membres de la communauté lorsque leurs terres doivent être arpentées ou franchies?*

Frequently/Souvent      Sometimes/À l'occasion      Never/Jamais      Don't know/Sait pas

26. Have you encountered objections from Community members when a survey is proposed near their land? Please indicate how often objections occur.  
*Vous êtes-vous déjà heurté à des objections de la part de membres de la communauté lorsqu'un projet de levé est situé à proximité de leurs terres?*

Frequently/Souvent      Sometimes/À l'occasion      Never/Jamais      Don't know/Sait pas

If you have encountered objections, please describe the most common ones./Si vous vous êtes-vous déjà heurté à des objections, SVP décrire les raisons les plus communes

27. What is the typical length of time that passes between the decision to have survey work done to when the surveyor begins field work?  
*Combien de temps s'écoule habituellement avant l'amorce d'un projet d'arpentage?*

- Less than 1 month/Moins d'une mois
- 1-3 months/De 1 à 3 mois
- 4-6 months/De 4 à 6 mois
- 6 months to a year/De 6 à 12 mois
- More than a year/Plus d'un an

28. If there are delays before the surveyor begins field work, what is usually the cause of the delay? Please indicate how often each of these options occurs.

*Quelle est généralement la cause du retard des travaux, le cas échéant? Veuillez donc préciser la fréquence à laquelle ces causes s'appliquent.*

	Frequently/Souvent	Sometimes/À l'occasion	Never/Jamais
Land holder approval/Approbation du titulaire du certificat de possession	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Band approval/Approbation de la bande	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Access to the surveyor/Accès à un arpenteur	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Land holder modifications to the project/Changements concernant le titulaire du certificat de possession	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Physical access issues/Problèmes concernant l'accès physique au site	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Difficulties getting right of way for access from another land holder/L'obtention d'un droit de passage	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Difficulty with instructions from NRCan/Difficulté à suivre les directives de la DAG	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Time of year (weather, seasonal activities)/La période de l'année (température, activités saisonnières)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Other (please specify)/Autre (veuillez préciser)

29. Does the surveyor offer to show you the boundaries on the ground that have been surveyed?  
*L'arpenteur vous offre-t-il de vous montrer les limites physiques du terrain dont il vient de faire le levé?*

- Yes/Oui  
 No/Non  
 Don't know/Sait pas

30. Do you think walking or reviewing the boundaries with the surveyor is an important part of understanding the project?

*À votre avis, quelle importance revêt le fait de marcher le long des limites avec l'arpenteur, ou de les examiner avec lui, pour comprendre le projet?*

Very important/Une grande importance	Somewhat important/Une certaine importance	Not important/Aucune importance
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

31. How is the survey plan submitted to you by the surveyor in order to obtain the necessary approvals?  
*De quelle manière l'arpenteur vous remet-il le plan d'arpentage en vue d'obtenir les approbations nécessaires?*

	Frequently/Souvent	Sometimes/À l'occasion	Never/Jamais	Don't know/Sait pas
Personal delivery/Par livraison en mains propres	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Courier or regular mail/Par service de messagerie ou par courrier ordinaire	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Electronically/Par voie électronique	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Other (please specify)/Autre (SVP préciser)

32. How would you prefer survey plans to be submitted to you in order to obtain the necessary approvals?  
*Comment préférez-vous des plans enquête à soumettre à vous afin d'obtenir les autorisations nécessaires?*

- Personal Delivery/Par livraison en mains propres  
 Courier or regular mail/Par service de messagerie ou par courrier ordinaire  
 Electronically/Par voie électronique  
 Other (please specify)/Autre (SVP préciser)

33. Is the method of delivery of survey plans discussed with the surveyor at the start of the project?  
*Discutez-vous avec l'arpenteur de la manière dont il vous remettra les plans avant l'amorce du projet?*

- Yes/*Oui*
- No/*Non*
- Don't know/*Sait pas*

## Appendix 2 – First Nations Interview Questions and Responses (interpreted transcript of comments)

### 1. What is the process within your First Nation to identify the need for a survey?

**Respondent 1:** A legal survey is needed when a Band member either has land they want surveyed or a Band member is requesting land. The Lands office does the sketch, and then the Band Council approves it. There is a 6 week posting within the community if the land is currently “Band Lands”. The Lands office gets the estimate from a surveying company.

They are considering changing their process. They want to use aerial imagery for surveys and then GPS to set property corners.

They are in the process of having their survey techs get qualified as Canada Lands Surveyors. They are participating in a pilot project with NRCan and INAC where the survey techs do the survey work and NRCan and SGB oversee the projects.

**Respondent 2:** A legal survey is needed usually because individuals want land transfers.

Through the FNLN program, all of the reserve was surveyed, 11 kilometres of road was surveyed and encroachments were tied in.

**Respondent 3:** The Federal government has already surveyed all of the lots over 50, 000 acres of land.

There is no need for surveying, so there is no process to identify the need.

**Respondent 4:** A legal survey is needed if someone wants to sublease, or if there is a need for a head lease, a right of way, or an easement. Surveys are required mostly for individuals and for the Tech Services Department. The survey is triggered by a need, 80% by a CP holder.

The survey is usually requested by email or a leasee will go directly to the surveyor.

Their office has a couple of surveyors they refer people to, and people call the surveyors directly.

**Respondent 5:** A legal survey is needed for a potential lease, but mostly for estates and land transfers.

**Respondent 6:** The need for a legal survey comes from a couple of sources:

- to locate boundaries, or
- because an individual wants a severance for a parcel for another family member or
- Band Land severances for Economic Development

Also through the FNLM Program: The Economic Development department is working with surveyors to reconcile boundaries where there are discrepancies from past construction – i.e. house on another person’s land, road in wrong place etc.

**Respondent 7:** A land survey is needed when there is a need to provide ownership – a certificate of ownership from a severance or for someone on the housing list.

**Respondent 8:** The need for a survey comes from Band projects, private lands, or from the Economic Development department.

**Respondent 9:** The need for a survey is based on requests from the Housing Department; if they get funding they look at projects that need doing. Almost 100% of the surveys are paid for by the Band, with funding.

The Band staff is always in contact with NALMA, and Canada Lands – NRCan.

Because he always has a list to work from he can respond quickly when funding becomes available.

**2. Is Community Planning involved when there is a need for surveys to be done? i.e. do you work with a Planner? Or, engineer? Or, other professionals (which profession)?**

**Respondent 1:** Not currently; lands are already set aside for residential use. They are looking to buy land for RTRS and may possibly use an engineer or planner at that time. Currently they have an industrial park being completed - planning was done by an in-house Lands-Use planner about 6 years ago.

**Respondent 2:** No.

**Respondent 3:** Not yet. It has been only 16 years since they got the land in 6 huge parcels, so it is not needed yet. They are developing a permit/lands committee.

Haven’t needed any yet. They are not connected to INAC because of the Land Management Regime or First Nation Lands Regime. They made an agreement with Ottawa to make their own laws etc.

**Respondent 4:** They have planners and engineers on staff; the community plan is updated every 3-4 years.

**Respondent 5:** Depending on the project, yes, community planning is involved. They use a planner but mostly an engineer.

**Respondent 6:** Yes and no – because there’s no budget for surveying, it’s a reactionary thing. When a survey is requested the band finds monies. Currently a community planner from the University of British Columbia is being used to help create a design with them, using their own funds.

**Respondent 7:** They use a consultation coordinator.

**Respondent 8:** For subdivisions of Band Land they use an engineer.

**Respondent 9:** The Land Manager is a professional technologist with planning education from university.

They have a 5 year Capital Plan and Long Term Community Planning. He integrates legal surveys in the budget when doing community planning. They look for funding for special legal surveys and also for funding under capital projects.

### **3. What is the length of time that may pass before the identified surveys are started? If there are delays, what is usually the cause of the delay?**

**Respondent 1:** It takes two weeks, which is felt to be reasonable. Delays may be caused by monuments being missing. Has been in the job only since April – so far, there have been no delays getting started. Dealt the only one need for a survey: Neighbours wanted clarification about a shared boundary.

**Respondent 2:** It takes a month on average, which is felt to take too long. Feels the whole process takes too long. Thinks perhaps surveyors are too busy and aren’t making enough money. There are only 3 Canada Lands Surveyors within an hour drive. The average cost is \$2500-\$3000 for a 1 acre survey.

**Respondent 4:** The proposal sketch gets circulated among staff, couple of days turn around.

**Respondent 5:** Depends on the surveyor - usually within a week; he’s wonderful. Delays are caused when they are not totally sure they have all their preliminary info.

**Respondent 6:** Depends on the scope of work – usually a 2 week turn around to get a survey started.

Delays stem from locatees who change their minds or aren’t completely sure until they see a draft. Finds the registration process long and will push the surveyor. Finds the NRCan process takes quite a few weeks.

Delays also come from locatees having to pay for the survey; Indian Affairs does not fund anything.

Struggles with the dichotomy of having to work within the colonial system. Because the original Aboriginal system of land use does not fit into the colonial way, it is a bit of a pill to swallow – hemmed in by a system, paying for the system, hampered by the system of land development that is not their own.

**Respondent 7:** Can take 6 months to a year to get a survey started. It's hard to get someone to come, and there are seasonal access difficulties.

**Respondent 8:** How long it takes to get a survey started depends on why it's needed. If it's a Band project, it may take time to get funding from INAC. On CP land may take longer to start because they have to wait until the individual has the money to pay for the survey.

Once the money is in place it takes, on average, a couple of months to get a survey started.

Seasons can be the cause of delays too. The whole process takes about 1 year once funding is in place. The field work usually takes 1 week.

**Respondent 9:** They identify a year's worth of work and then they schedule their identified projects immediately. They have a regular survey firm that they work with. They do put out for tenders, but their regular surveyor was the best price. They have continuity with that surveyor. It takes 2 weeks to get a survey started.

**4. How much communication is there with SGB, INAC, the surveyor and you during the course of a survey? Are there any issues with the amount of communication? Are there any suggestions to improve the communication and/or the government processes?**

**Respondent 1:** Has an excellent relationship with SGB. Communicates with INAC after survey is done, and only communicates with surveyors when needed. Concerned with INAC because there is no longer a local person – they have to deal with Toronto – so now has an extra workload.

**Respondent 2:** Has no communication with SGB, and none with INAC. The surveyor and NRCan cc the respondent on their communication. Would like a flow chart with expected time frames.

**Respondent 4:** There is not too much communication with INAC. The communication is mostly with the surveyor, and mostly for getting approvals. They do not have any issues with the current level of communication. They find SGB is very accommodating.

**Respondent 5:** Communication is mostly with the surveyor. The surveyor does the communicating with INAC and then they contact the respondent. Satisfied with the level of communication and always feels they know what's going on. Thinks a clearer line of communication within INAC office of who takes care of what, with a clearer directory (often

contacts the wrong person).

**Respondent 6:** Does not have much with SGB or INAC. Once the survey request goes in to the surveyor, most of the communication is with the surveyor. Feels there is inconsistency with the communication: when NRCan does a survey there doesn't seem to be any communication between NRCan and INAC. Even though it's the band's responsibility to make sure stuff is registered with INAC, if something gets missed they don't know what INAC did.

By the way: Saved \$30,000 by identifying surveying needs over next 4 years and bundling surveys together. Tendered it out and saved \$1500/survey.

**Respondent 7:** They have very little communication with SGB or INAC. Any communication is mostly between the surveyor and the community member.

**Respondent 8:** Has some communication with SGB, but not a lot. Usually surveyor does the communicating with SGB. Does not have much communication with INAC – only to look after the transfer.

In the past, INAC did everything: they took the sketch, did the transfer and sent it to NRCan, and INAC paid. Now, since 2007, it's all done by the band or the individual.

With respect to the 2007 INAC changes, Feels the reasoning was: "we have to pay for our surveys so now you do too".

Also feels there is an unfair cost difference: off reserve they can use metes and bounds descriptions instead of always getting a survey.

On Rapid Lake Reserve it is all band land. Under the Indian Act, the minister has to approve all transactions. There have been instances where the requirements have changed between the time the need for a transfer was identified and the time they got it ready to submit. Because their documentation was in the wrong format they had to start over. Feels that since the Minister has the authority, the Minister should focus on the intent of the information in the document, and be more flexible regarding the format.

**Respondent 9:** Usually communicates with the surveyor. Sometimes communicates with SGB.

Has no issues. Communication is on an "as needed" basis. Communication via email works well, and has no trouble reaching SGB. Has no suggestions for improvement. Has a good working relationship with the surveyor and SGB.

Their Public Works Department is doing a GPS mapping project of all their manholes, utility assets and infrastructure. They use SGB's Google Earth overlay.

**5. Do you prepare the Land Status Report for the project? If so, do you use the INAC E-RIP (Electronic Registry Index Plan) to help generate the report? What are your impressions of requirements associated with this task? Do you have own land tenure/management system that maintains information that might be of value to the land surveyor? If Yes. Is this known to those who prepare the scope of Work? How can the land surveyor access this information?**

**Respondent 1:**

*Do you prepare the Land Status Report for the project? Yes.*

*Do you use the INAC E-RIP? Yes. Likes the E-RIP etc.*

Has an excellent internal information system that is provided to the surveyor when needed.

They no longer issue CP

**Respondent 4:** *Do you prepare the Land Status Report for the project? Yes*

*Do you use the INAC E-RIP? No. It's not user friendly, and it's cumbersome to navigate.*

INAC E-RIP has had errors in the past

They have their own system. It's a public registry so surveyors have access. It's a sub-registry under ILRS. They are not sure if people preparing the scope of work are aware of their system.

They are self-governing.

**Respondent 5:** *Do you prepare the Land Status Report for the project? Yes*

*Do you use the INAC E-RIP? Yes. E-RIP seems more confusing than the Land Parcel Report. The process is more confusing but the information is better.*

No, they don't have an internal information system, but they wish they did.

**Respondent 6:** *Do you prepare the Land Status Report for the project? Yes*

*Do you use the INAC E-RIP? Yes. It's lengthy but thorough. It's hard but it's necessary.*

But they keep coming up with new checklists.

Regarding Land Status Reports: if there are encumbrances, sourcing out the information is a real challenge.

INAC is changing the game and moving the goalposts.

Example: The environmental side is challenging. There are 7 phases of housing development.

Committee compliance, INAC says they're reliant on a separate department

But the surveying portion of INAC has been pretty standard.

They have "SBJ" land tenure and paper copy records. They are working with surveyors to have electronic copies of surveys in their system. They are looking to be more self-reliant, wanting to have their own land system of records, and "shape" files from surveyors.

Their GIS system is in place and is built upon. It is not public information yet but surveyors seem to have all the information already.

**Respondent 7:** *Do you prepare the Land Status Report for the project?* Yes

*Do you use the INAC E-RIP?* No. They use the ILR.

**Respondent 8:** *Do you prepare the Land Status Report for the project?* No.

*Do you use the INAC E-RIP?* No, do own in-house historical search

**Respondent 9:** *Do you prepare the Land Status Report for the project?* No, the surveyor does that.

Autodesk map has the Canada Lands GIS info that they keep up to date. They will be adding the aerial photography. Their data will be cloud based. They installed a new \$100,000 server through INAC funding.

Participates in a CMHC First Nations Housing managers' mentorship program. It's part of a social infrastructure Housing program; part of it was capacity development. It's a brand new program. Respondent mentors at other First Nations.

Has worked there since 1997

The First Nation had their act together because their – needs a dedicated individual - Support from leadership of that career

#1 suggestion

Knowledge: Processes: accessing funding then \$ amount becomes irrelevant

**6. Do you advise the surveyor of development activity that may not show up in the CLSR? For example. New roads, new power lines, new buried utilities, other new facilities, such as pipelines, homes, structures, etc.**

**Respondent 1:** No, everything is status quo

**Respondent 2:** No

**Respondent 4:** Only if it was on parcel that was being surveyed

They put unregistered info on their Land Registry

**Respondent 5:** Yes, currently enhancing that by telling surveyor where access and easements are.

**Respondent 6:** Yes – they try to relay as much as they can, waterline project is upcoming, and they divulge this info

**Respondent 7:** Yes

**Respondent 8:** Not a problem right now but will be a problem in the future

**Respondent 9:** Yes. Respondent goes out in the field with surveyor and shows how the legal survey is impacted

Gives background of each project

**7. Who managed the survey contract? (First Nation? NALMA? FNLM-RC (formerly Lab-RC)? INAC? SGB? Land surveyors? Others?)**

**Respondent 1:** Depends: residential – FN Office, commercial – NALMA

**Respondent 4:** Whoever is ordering manages the contract Development Services

They play a part in it re: approval, the requester does the managing

**Respondent 5:** Usually the respondent, especially for estates

Some individuals deal with the contract themselves

**Respondent 6:** In most cases it's the FN management! Even when it's triggered by the LAB-RC

For contracting it's usually an Economic Development or locate project – they manage contract, not the locate

They look after all the approvals, not the surveyor

6-12 weeks for certificate of possession that's not the pace of business

**Respondent 7:** Client manages the contract themselves

**Respondent 8:** Band lands – they do, Individual – they do too

**Respondent 9:** He does, from start to finish – including invoicing

**8. Do you or the surveyor talk to the community members if their lands are going to be surveyed or crossed?**

**Respondent 1:** Yes

**Respondent 2:** Yes

**Respondent 4:** No, just the person ordering the survey.

Chief: council is aware of what's happening on community lands.

**Respondent 5:** Yes, they like them on site so they have a clear understanding of what's happening.

Also those people may have additional information.

**Respondent 6:** For third party interests, they give them a written letter and also speak to the affected locatees. They have a communication officer who uses social media and a newsletter for notification.

**Respondent 7:** Yes

**Respondent 8:** If surveyor notifies them in advance, then yes.

**Respondent 9:** The surveyor goes door to door doing the survey, and talks to homeowners, and explains what's going on. Every community member has the surveyor's cell phone number.

**9. Does the surveyor offer to show you the boundaries that have been surveyed? If not, would you prefer to review/walk the boundaries with the surveyor?**

**Respondent 1:** Yes

**Respondent 2:** Would be nice – wouldn't hurt

**Respondent 4:** Only if requested

**Respondent 5:** Yes, surveyor always sends a preliminary drawing and walks them around the site.

**Respondent 6:** Yes, since the respondent has been there.

**Respondent 7:** No.

**Respondent 8:** No, doesn't need it or want it.

**Respondent 9:** No – surveyor knows the job already.

**10. How is the survey plan submitted to you by the surveyor, in order to obtain the necessary approvals (i.e. in person, by e-mail)? What would be your preferred method and is this discussed at the start of the project?**

**Respondent 1:** Receives a paper copy via mail, and is happy with that set up. Has GIS capabilities and will eventually want digital versions as well.

**Respondent 2:** The plan is sent by email or snail mail.

**Respondent 4:** The plan is emailed – that is preferred method.

**Respondent 5:** The plan is sent by email, and yes, is happy with that method.

**Respondent 6:** Both FNLMA pre-approval and approval are done with the plan sent by email and then a hard copy of the plan is hand delivered. They have in house plotters. This method is not discussed at the start of the project but seems understood.

**Respondent 7:** The plan is sent by email and hardcopy is sent in the mail.

**Respondent 8:** The preliminary plan is usually sent by email.

**Respondent 9:** The plan is sent by email – respondent prefers this method.

**11. Briefly describe the approval process for a survey plan at your First Nation.**

**Respondent 1:** The plan goes to staff committee – lands – for review. Once it's approved it is sent to council for approval.

**Respondent 2:** Looks at it, and confirms it meets the expectations.

**Respondent 4:** The surveyor asks permission on behalf of the client and provides a proposal sketch.

The sketch is circulated among planners and engineer on staff. If it is approved, they email an approval. When the work is done the provisional plan is emailed to them and gets re-circulated. The approval is emailed to surveyor.

**Respondent 5:** Gets the plan via email to confirm that it meets the requirements. Gets a hold of the individual (client) to discuss then emails the approval; or

If changes are needed or there are questions, they discuss it over the phone and on site if necessary.

**Respondent 6:** Usually they have a plan ahead of time and use GIS to determine what they want.

Lease modification "comes through the back end": When a locatee owns industrial and commercial land the locatee commissions the surveyor themselves.

Respondent doesn't have complete access when locatee gets their own stuff done.

**Respondent 7:** The client sees the preliminary plan, chief and council see it, and sends the letter of approval.

**Respondent 8:** They compare the preliminary plan to the original sketch. Sometimes an easement gets missed, or it does not go to band council. Almost all of the preliminary plans need some sort of correction, from a road name to access/rights-of-way.

At their office, it's "Learn as they go". They haven't had much training. It's worse on other reserves. On another Reserve, the new person didn't know anything about surveys or surveying. – INAC is no help. NALMA helps with training.

The Manual "Getting a survey done"- isn't user friendly and hasn't been well delivered. Feels there is not enough assistance to help new people.

**Respondent 9:** Gets an email of the preliminary plan and brings it to council for their approval.

**12. Are the outcomes or results of the survey explained to you so that it is clear as to what was done and what is being approved?**

**Respondent 1:** The results of the survey are not explained by the surveyor, so no. But respondent reviews the plan with the in-house technician who understands surveys.

**Respondent 2:** Yes

**Respondent 4:** In most cases, the proposed work is explained at the time of the initial request.

**Respondent 5:** Yes.

**Respondent 6:** Definitely. Yes, thoroughly.

**Respondent 7:** Yes

**Respondent 8:** They're the ones asking for a survey (referring to the client), so no.

**Respondent 9:** Yes

**13. Have you had any disagreements with the results of a survey? If so, did these get resolved and how?**

**Respondent 1:** No

**Respondent 2:** Homeowner's fault

**Respondent 4:** Oh yes, years ago (60's) – INAC's fault, is still pending.

No, not recently.

**Respondent 5:** Not usually a disagreement more just a miscommunication.

**Respondent 6:** There is discrepancy from 30 years ago, just old stuff.

There was Parcel Fabric Renewal done 7 years 8 months ago and a 3 year strategic plan

Not sure how process works.

**Respondent 7:** No

**Respondent 9:** No – during the process they involve all the stakeholders so issues are resolved right away – concerns are brought up during initial discussions.

On site preliminary visits show any potential problems and are dealt with and documented.

They have an in-house approval process that works.

**14. Are there any processes or procedures that you believe need to be improved or need to be implemented?**

**Respondent 1:** No, they understand how it works and have no issues.

**Respondent 2:** Tighten up the timelines.

**Respondent 4:** The length of time that it takes to have the plan finally registered - the length of time between final approval to actual registration. Developers who are used to the provincial system complain to First Nation staff about the length of time. Although when there is a rush job they have accommodated them but they don't like ask too often.

**Respondent 5:** Just in house, nothing to do with INAC or surveyor, they should be using "Net Lands".

**Respondent 6:** Provincial vs. Federal

Replacement of title: lack of communication between NRCan and Indian Affairs

Re: membership lists, name changes

Not in control of membership lists – registry system doesn't work

**Respondent 7:** No funding at all for surveys

**Respondent 8:** There needs to be a way for people to prove they have an interest in the land

Trilateral agreement is “crap “– it's not realistic.

Land ownership is not that we own collectively - We all collectively belong to the land.

Traditional outlook – we don't own the land, we belong to the land

**Respondent 9:** With respect to legal surveys: a better database for land surveys to have all of Indian Affairs attached or linked to legal surveys; a tree GIS linking title documents to parcels.

**15. In your view, are there an adequate number of Canada Lands Surveyors to engage within your service area?**

**Respondent 1:** Right now yes, but they are nearing retirement.

**Respondent 2:** No

**Respondent 4:** They believe so, yes – they stick with only a couple but they have a good working relationship with these two. They tell CP holders when the surveyors are coming.

They use the person who has good communication with their members and their staff, who tells them right away when there are issues, and gets along with everyone.

**Respondent 5:** Yes

**Respondent 6:** Yes – knows of at least four.

**Respondent 7:** 2 only

**Respondent 8:** Yes

**Respondent 9:** Yes – can access 5 firms.

**16. Do you have staff trained in surveying, planning, or engineering? Do you have staff experienced in surveying, planning or engineering? Do you have staff that regularly participates in surveys on your lands? How many weeks per year would this participation take place? What kind of survey work took place? (are they: topographic surveys? Mapping/GIS activities? Construction surveys? Legal surveys? Other kind of surveys (what kind)?)**

**Respondent 1:** Survey tech surveying for 9 years – CLS in training

1 person who has 5 years experience – CLS in training

1 green horn – college trained

± 90 hrs/week

Internally working on estate files

**Respondent 2:** 50 – all legal surveys

**Respondent 3:** They have a Staff of 2. There are 6 elected council members, and there is good continuity on Council – overlapping terms.

**Respondent 4:** Planning – yes, Engineering – yes, some surveying training too.

Yes – experienced all categories.

How many staff hours depends on volume, averages a couple of hours per week.

They probably review one survey per week. Their workload is mostly development driven – subdivision, utilities, CP transfers every couple of months.

**Respondent 5:** No training, No experience.

They have lots of development so about 50% of their work is for economic development. Their water system is getting upgraded, their industrial park is expanding.

The type of survey work done is Mapping/GIS for resource extraction, topographic, construction, and legal surveys.

**Respondent 6:** Trained in certified Lands Manager, but no certified technicians.

Public works has experienced people, a Natural Resources department that use GPS

Yes, they have staff who are experienced in surveying/planning/engineering.

Their work includes “presenting” to the community.

Easily 3 weeks per year for the Lands Manager

Out of a 40 week ± 5 hours per week is spent on survey related work.

Construction surveys, new developments/subdivision, new legal

In transportation – new bridge requires

Aggregates pits, archeological studies

**Respondent 7:** No – one guy in engineering dept. With training in surveying

Consultation coordinator has experience

100 hours per year

Roads 99% is private ownership

**Respondent 8:** P/T person who went to school for surveying

2 people deal with surveys, 26 weeks

99% is legal surveys for CP's

Also getting an opinion on a meandering river that form boundaries

Rivers are moving

Funding for staff, Funding for surveys

People need proof of interest in the land – can't get insurance

Too many policy changes – all of them affecting previous signed agreements with surveys in progress

Before 2007 – land transfers would happen within a week, survey took place later, within a year

They liked this system

**Respondent 9:** Respondent and public works is getting GPS training from Cansel

Yes- respondent

Spends 2-5 hours/week doing something – developing proposals, tenders, responding to emails etc.

Translates approx ± 6.5 weeks/ year

Based on a 40 hour /week

Land Management plays a big role in housing. The importance of FN lands and Lands management needs a mentorship program. All FN should be looking at proper lands management

Regarding living with the land regime that stole your land in the first place...

Your choices are:

Either suck it up or get out from under the Indian Act

Go after their original territory – which is larger than the reserve

Really solid lands management practices MUST be in place

Are there tools available? Under INAC.

Says yes

First Nation must work collectively to make plans for their future. To reap the benefits of their lands, what are they leaving to the next generation?

## Appendix 3 – Part B - CLS Project Questionnaire

**We need your input!**  
**Nous avons besoin de votre avis!**

Greetings,

*Un message en français suivra.*

Thank you for agreeing to contribute to this important study. The Department of Indigenous Affairs and Northern Development Canada (INAC) and Natural Resources Canada (NRCan/SGB), in collaboration with the Association of Canada Lands Surveyors (ACLS) are requesting your comments and opinions in regards to the cost drivers related to a specific land survey project you have undertaken. We have been retained by the Government of Canada to conduct this study. The following questionnaire has up to 105 questions, depending on your answers and should take 1.5 hours to complete.

This questionnaire is necessary to get a thorough understanding of the key factors impacting the current procedures and related cost drivers of legal surveys on First Nation lands. The information you provide will be held in the strictest confidence; therefore, we are encouraging honest and direct responses to ensure quality findings and recommendations.

We ask that the questionnaire be completed by January 20th, 2017 in order to ensure the data you have provided is captured in the study.

We thank you for your important input!

Salutations,  
Meldrum Surveying Limited

*Bonjour,*

*Nous vous remercions d'avoir accepté de participer à cet important sondage. Le ministère des Affaires autochtones et du Nord Canada (AANC) et Ressources naturelles Canada (RNCan/DAG), de concert avec l'Association des arpenteurs des terres du Canada (AATC), sollicitent vos commentaires et opinions concernant les inducteurs de coûts relatifs à un projet d'arpentage que vous avez entrepris. Le gouvernement du Canada a retenu nos services pour mener ce sondage. Le questionnaire qui suit comporte 105 questions et, en fonction de vos réponses, devrait prendre 1,5 heures pour terminer.*

*Le présent questionnaire a été conçu afin d'acquérir une compréhension approfondie des principaux facteurs qui exercent une influence sur les procédures actuelles et les inducteurs des coûts associés aux levés officiels des terres des Premières nations. L'information que vous nous fournirez demeurera strictement confidentielle; par conséquent, nous vous invitons à nous fournir des réponses franches et directes afin que nous puissions en tirer des constats et des recommandations de la plus haute qualité.*

***Nous vous demandons de nous retourner le questionnaire dûment rempli avant le 20 janvier 2017 afin d'assurer que les données soient prises en compte dans l'analyse du sondage.***

***Nous vous remercions de votre importante contribution!***

***Salutations,  
Meldrum Surveying Limited***

**Part 1: Data About Your Example Project**  
*Partie 1 : Données sur votre projet d'exemple*

1. For plan comparison purposes, please provide your name.  
*Veillez indiquer votre nom pour les comparaisons des plans.*

2. Please enter the plan number for the example project you are using to answer this questionnaire.  
*Veillez inscrire le numéro du plan pour le projet que vous nous donnez à titre d'exemple dans le cadre de ce questionnaire.*

3. When were you first contacted about this project?  
*Quand avez-vous été approché à propos de ce projet?*

Date  
Date

MM DD YYYY  
 /  /

4. When did the work for this project commence?  
*Quand les travaux ont-ils commencé pour ce projet d'arpentage?*

Date  
Date

MM DD YYYY  
 /  /

5. When was the plan registered?  
*Quand le plan a-t-il été enregistré?*

Date  
Date

MM DD YYYY  
 /  /

6. In what season was the field work for this survey performed?

*Les travaux sur le terrain nécessaires pour ce projet d'arpentage ont été exécutés pendant quelle saison?*

- Spring  
*Printemps*
- Summer  
*Été*
- Fall  
*Automne*
- Winter  
*Hiver*

7. What type of survey was this?

*Type de levés?*

- Jurisdictional Boundary  
*Limites juridictionnelles*
- Parcel  
*Parcelle*
- Rights of Way  
*Droits de passage*
- Parcel Severance/Subdivision  
*Coupure de colis/subdivision*

8. Please indicate the total distance surveyed for this project (in linear metres).

*Veillez indiquer la distance totale arpentée dans le cadre de ce projet (en mètres linéaires).*

9. Please indicate the number of monuments required for this project.

*Veillez indiquer le nombre de bornes repères requises pour ce projet.*

10. If there was a requirement to cut vegetation for this project, please indicate the length of line that required cutting.

*Si votre projet a nécessité la coupe de végétation, veuillez indiquer la longueur de ligne que vous avez dû couper.*

- less than 100m  
*Moins de 100m*
- 101 - 500m  
*Entre 101 - 500m*
- 501 - 1000m  
*Entre 501 - 1000m*
- Greater than 1000m  
*Plus de 1000m*
- Not Applicable  
*Sans objet*

11. Who initiated the survey project that you are using as an example to respond to this questionnaire? If the project was initiated jointly by more than one organization, please check all that apply.

*Qui est à l'origine du projet d'arpentage que vous utilisez à titre d'exemple pour répondre à ce questionnaire? Si le projet a été entrepris conjointement par plus d'une organisation, veuillez cocher toutes les réponses qui s'appliquent.*

- First Nation staff member  
*Employé d'une Première nation*
- First Nation Community member  
*Membre d'une Première nation RNCan/DAG*
- NRCan/SGB  
*RNCan/DAG*
- INAC  
*AANC*
- Public Services and Procurement Canada (PSPC)  
*Services publics et Approvisionnement Canada (SPAC)*
- National Aboriginal Land Managers Association (NALMA)  
*Association nationale des gestionnaires des terres autochtones (ANGTA)*
- First Nations Land Management Resource Center (FNLMRC)  
*Centre de ressources sur la gestion des terres des Premières nations*
- Lawyer  
*Avocat*
- Client  
*Client*
- Other (please specify)  
*Autres (veuillez préciser)*

12. Was this survey project the subject of a competitive bidding process?

*Ce projet d'arpentage a-t-il fait l'objet d'un processus d'appel d'offres?*

Yes  
*Oui*

No  
*Non*

13. Did the bidding process for this project influence how you prepared your proposal?

*Le processus d'appel d'offres a-t-il influencé la manière dont vous avez préparé votre proposition?*

Yes  
*Oui*

No  
*Non*

If you answered yes, please explain how the bidding process influenced your proposal.  
*Si vous avez répondu oui, veuillez expliquer de quelle manière l'appel d'offres a influencé votre proposition.*

14. Please describe how the condition of boundary evidence impacted the cost of this survey.

*Veillez décrire de quelle manière l'état des bornes repères indiquant les limites a eu des répercussions sur le coût de ce projet.*

15. Please describe how your familiarity with the location of evidence impacted the cost of this survey.

*Veillez présenter la manière dont votre connaissance de l'emplacement des bornes repères s'est reflétée sur les coûts de ce projet.*

16. Please indicate all of the organizations (or individuals) you interacted with during the course of your work on this survey project.

*Veillez indiquer toutes les organisations (ou personnes) avec qui vous avez interagi dans le cadre des travaux que vous avez réalisés pour ce projet d'arpentage.*

INAC  
*AANC*

NRCan/SGB  
*RNCan/DAG*

- PSPC  
SPAC
- NALMA  
ANGTA
- First Nation Council  
*Conseil d'une Première nation*
- First Nation Staff  
*Personnel d'une Première nation*
- Community Member - Client  
*Membre d'une communauté – Client*
- Community Member - Neighbor  
*Membre d'une communauté – Voisin*
- FNLMRC  
*Centre de ressources sur la gestion des terres des Premières nations*
- Planner  
*Planificateur*
- Engineer  
*Ingénieur*
- Utility owner  
*Propriétaire d'une installation de service public*
- Land Registry Office  
*Bureau d'enregistrement*
- Lawyer  
*Avocat*
- Land Division Committee  
*Comité de la division des terres*
- Planning Advisory Committee  
*Comité consultatif de planification*
- Committee of Adjustment  
*comité de dérogation mineure*
- Municipal Office  
*Bureau Municipal*
- Other (please specify)  
Autre (veuillez préciser)

17. What was the scope of work for this survey project? Please describe in as much detail as possible.  
*En quoi consistait l'étendue des travaux réalisés dans le cadre de ce projet d'arpentage? Veuillez répondre de la façon la plus détaillée possible.*

18. Was the scope of work clear when the project was initiated?  
*L'étendue des travaux était-elle précise dès l'amorce du projet?*

Yes  
*Oui*

No  
*Non*

If the answer was no, please describe the clarifications that were required.  
*Si vous avez répondu non, veuillez décrire les précisions qui ont dû être apportées.*

19. When you were undertaking this project, were there other recent surveys in this area that you expected to rely on as a source of evidence?

*Au cours de l'exécution de ce projet, y avait-il d'autres levés récents dans cette région sur lesquels vous aviez prévu vous appuyer en tant que source d'éléments probants?*

Yes - my own  
*Oui - le mien*

Yes - from another surveyor  
*Oui - celui d'un autre arpenteur*

No  
*Non*

20. Were there opportunities to bundle the work for this survey with other projects?

*Y a-t-il eu des occasions de jumeler les travaux réalisés dans le cadre de ce levé avec ceux d'autres projets?*

Yes  
*Oui*

No  
*Non*

Don't know  
*Je l'ignore*

If yes, please describe.  
*Si oui, veuillez préciser*

21. Please indicate if there were any additional costs associated with this project and the approximate dollar value.

*Veillez préciser si d'autres coûts ont été associés à ce projet et leur valeur monétaire approximative.*

	Less than \$100 <i>Moins de 100\$</i>	101-\$500 <i>de 101 à 500\$</i>	501-\$1000 <i>de 501 à 1000\$</i>	1001-\$5000 <i>de 1001 à 5000 \$</i>	Greater than \$5000 <i>Plus de 5000\$</i>
ATV Rental <i>Location de VTT</i>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other vehicle rental <i>Location d'un autre véhicule</i>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Air transportation (airplane) <i>Transport aérien (avion)</i>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Air transportation (helicopter) <i>Transport aérien (hélicoptère)</i>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Transportation across water (boat or ferry) <i>Transport marin (bateau ou traversier)</i>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Line cutting equipment rental <i>Location d'équipement de coupage de lignes</i>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other equipment rental <i>Location d'autre équipement</i>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Hotel accommodation <i>Hébergement à l'hôtel</i>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Local resource contracts <i>Contrats avec des ressources locales</i>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Meals or other expenses <i>Repas et autres dépenses</i>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Not applicable <i>Sans objet</i>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Other (please specify)

*Autre (veuillez préciser)*

Part 2: Activity Pools - Procurement  
*Partie 2 : Groupes d'activités – approvisionnement*

The following activities pertain to the work required to secure the contract to undertake your example project. For each of the activities involved in this process (outlined in the questions to follow), please estimate the number of hours of labour incurred and/or distance travelled for this project during the procurement process. At the end of this section, there is an option for you to provide additional information or comments that you believe was an important consideration for the procurement process of this project.

*Les activités suivantes concernent les travaux requis en vue d'obtenir le contrat pour réaliser le projet que vous avez donné à titre d'exemple. Pour chaque activité comprise dans ce processus (et présentée dans les questions qui suivront), veuillez estimer le nombre d'heures de travail que vous y avez consacrées et la distance parcourue uniquement dans le cadre du processus d'approvisionnement pour ce projet. À la fin de la présente section, vous disposerez d'un espace dans lequel vous pourrez inscrire tout renseignement supplémentaire ou commentaire pertinent au sujet d'éléments qui ont constitué d'importants facteurs à prendre en considération lors du processus d'approvisionnement pour ce projet.*

22. Initial contact (including phone calls, meetings, site visits, etc).

*Premier contact (y compris les appels téléphoniques, les réunions, les visites des sites, etc.)*

Labour - CLS (in hours)

*Main-d'œuvre – ATC (en heures)*

Labour - Field Staff (in hours)

*Main-d'œuvre – Personnel sur le terrain (en heures)*

Labour - Drafting and Calculations (in hours)

*Main-d'œuvre – Ébauches et calculs (en heures)*

Labour - Administration (in hours)

*Main-d'œuvre – Administration (en heures)*

Transportation (in kms)

*Transport (en kilomètres)*

23. Initial research for estimating - land interests/title.

*Recherche initiale pour l'estimation – Intérêts ou titres fonciers.*

Labour - CLS (in hours)

*Main-d'œuvre ATC (en heures)*

Labour - Field Staff (in hours)

*Main-d'œuvre Personnel sur le terrain (en heures)*

Labour - Drafting and Calculations (in hours)

*Main-d'œuvre Ébauches et calculs (en heures)*

Labour - Administration (in hours)

*Main-d'œuvre*

*Administration (en heures)*

Transportation (in kms)

*Transport (en kilomètres)*

24. Initial research for estimating - land use plans.

*Recherche initiale pour l'estimation – Plans d'utilisation des terres.*

Labour - CLS (in hours)

*Main-d'œuvre ATC (en heures)*

Labour - Field Staff (in hours)

*Main-d'œuvre Personnel sur le terrain (en heures)*

Labour - Drafting and Calculations (in hours)

*Main-d'œuvre Ébauches et calculs (en heures)*

Labour - Administration (in hours)

*Main-d'œuvre*

*Administration (en heures)*

Transportation (in kms)

*Transport (en kilomètres)*

25. Phone calls.

*Appels téléphoniques.*

Labour - CLS (in hours)

*Main-d'œuvre ATC (en heures)*

Labour - Field Staff (in hours)

*Main-d'œuvre Personnel sur le terrain (en heures)*

Labour - Drafting and Calculations (in hours)

*Main-d'œuvre Ébauches et calculs (en heures)*

Labour - Administration (in hours)

*Main-d'œuvre*

*Administration (en heures)*

Transportation (in kms)

*Transport (en kilomètres)*

26. Client visits to surveyors office.

*Visites du client au bureau de l'arpenteur.*

Labour - CLS (in hours)

*Main-d'œuvre ATC (en heures)*

Labour - Field Staff (in hours)

*Main-d'œuvre Personnel sur le terrain (en heures)*

Labour - Drafting and Calculations (in hours)

*Main-d'œuvre Ébauches et calculs (en heures)*

Labour - Administration (in hours)

*Main-d'œuvre*

*Administration (en heures)*

Transportation (in kms)

*Transport (en kilomètres)*

27. Community consultation.

*Consultation de la communauté.*

Labour - CLS (in hours)

*Main-d'œuvre ATC (en heures)*

Labour - Field Staff (in hours)

*Main-d'œuvre Personnel sur le terrain (en heures)*

Labour - Drafting and Calculations (in hours)

*Main-d'œuvre Ébauches et calculs (en heures)*

Labour - Administration (in hours)

*Main-d'œuvre*

*Administration (en heures)*

Transportation (in kms)

*Transport (en kilomètres)*

28. Government Agency (Municipality, NRCan/SGB or INAC) Office Visit.

*Visite des organismes gouvernementaux (Municipalité, RNCAN/DAG ou AANC) au bureau de l'arpenteur.*

Labour - CLS (in hours)

*Main-d'œuvre ATC (en heures)*

Labour - Field Staff (in hours)

*Main-d'œuvre Personnel sur le terrain (en heures)*

Labour - Drafting and Calculations (in hours)

*Main-d'œuvre Ébauches et calculs (en heures)*

Labour - Administration (in hours)

*Main-d'œuvre*

*Administration (en heures)*

Transportation (in kms)

*Transport (en kilomètres)*

**29. Planning Advisory Committee**  
*Comité consultatif de planification*

Labour - CLS (in hours)  
*Main-d'œuvre ATC (en heures)*

Labour - Field Staff (in hours)  
*Main-d'œuvre Personnel sur le terrain (en heures)*

Labour - Drafting and Calculations (in hours)  
*Main-d'œuvre Ébauches et calculs (en heures)*

Labour - Administration (in hours)  
*Main-d'œuvre Administration (en heures)*

Transportation (in kms)  
*Transport (en kilomètres)*

**30. Land Division Committee**  
*Comité de la division des terres*

Labour - CLS (in hours)  
*Main-d'œuvre ATC (en heures)*

Labour - Field Staff (in hours)  
*Main-d'œuvre Personnel sur le terrain (en heures)*

Labour - Drafting and Calculations (in hours)  
*Main-d'œuvre Ébauches et calculs (en heures)*

Labour - Administration (in hours)  
*Main-d'œuvre Administration (en heures)*

Transportation (in kms)  
*Transport (en kilomètres)*

**31. Committee of Adjustment**

**comité de dérogation mineure**

Labour - CLS (in hours)

*Main-d'œuvre ATC (en heures)*

Labour - Field Staff (in hours)

*Main-d'œuvre Personnel sur le terrain (en heures)*

Labour - Drafting and Calculations (in hours)

*Main-d'œuvre Ébauches et calculs (en heures)*

Labour - Administration (in hours)

*Main-d'œuvre*

*Administration (en heures)*

Transportation (in kms)

*Transport (en kilomètres)*

**32. Acquiring high resolution imagery.**

**Acquisition d'images à haute résolution.**

Labour - CLS (in hours)

*Main-d'œuvre ATC (en heures)*

Labour - Field Staff (in hours)

*Main-d'œuvre Personnel sur le terrain (en heures)*

Labour - Drafting and Calculations (in hours)

*Main-d'œuvre Ébauches et calculs (en heures)*

Labour - Administration (in hours)

*Main-d'œuvre*

*Administration (en heures)*

Transportation (in kms)

*Transport (en kilomètres)*

**33. Site reconnaissance by viewing imagery.**

*Reconnaissance du site grâce à la visualisation d'images.*

Labour - CLS (in hours)

*Main-d'œuvre ATC (en heures)*

Labour - Field Staff (in hours)

*Main-d'œuvre Personnel sur le terrain (en heures)*

Labour - Drafting and Calculations (in hours)

*Main-d'œuvre Ébauches et calculs (en heures)*

Labour - Administration (in hours)

*Main-d'œuvre*

*Administration (en heures)*

Transportation (in kms)

*Transport (en kilomètres)*

**34. Field reconnaissance.**

*Reconnaissance du site.*

Labour - CLS (in hours)

*Main-d'œuvre ATC (en heures)*

Labour - Field Staff (in hours)

*Main-d'œuvre Personnel sur le terrain (en heures)*

Labour - Drafting and Calculations (in hours)

*Main-d'œuvre Ébauches et calculs (en heures)*

Labour - Administration (in hours)

*Main-d'œuvre*

*Administration (en heures)*

Transportation (in kms)

*Transport (en kilomètres)*

35. Please provide any additional information or comments you believe relevant to the procurement process for this project.

*Veillez fournir tout renseignement ou commentaire supplémentaires qui vous semble pertinent dans le cadre du processus d'approvisionnement pour ce projet.*

**Part 3: Activity Pool - Project Set-up**  
*Partie 3 : Groupe d'activités – mise en œuvre du projet*

The following activities pertain to the work required to set-up your example project, once the contract was secured. For each of the activities involved in this process (outlined in the questions to follow), please estimate the number of hours of labour incurred and/or distance travelled for this survey during the project set-up process. At the end of this section, there is an option for you to provide additional information or comments that you believe was an important consideration for the project set-up process of this project.

*Les activités suivantes concernent les travaux requis en vue de mettre en œuvre le projet que vous avez donné à titre d'exemple, une fois le contrat obtenu. Pour chaque activité comprise dans ce processus (et présentée dans les questions qui suivront), veuillez estimer le nombre d'heures de travail que vous y avez consacrées et la distance parcourue uniquement dans le cadre de la mise en œuvre du projet. À la fin de la présente section, vous disposerez d'un espace dans lequel vous pourrez inscrire tout renseignement supplémentaire ou commentaire pertinent au sujet d'éléments qui ont constitué d'importants facteurs à prendre en considération lors de la mise en œuvre de ce projet.*

**36. Contracting process - Government of Canada.**

*Processus de passation de contrats – gouvernement du Canada.*

Labour - CLS (in hours)

*Main-d'œuvre ATC (en heures)*

Labour - Field Staff (in hours)

*Main-d'œuvre Personnel sur le terrain (en heures)*

Labour - Drafting and Calculations (in hours)

*Main-d'œuvre Ébauches et calculs (en heures)*

Labour - Administration (in hours)

*Main-d'œuvre Administration (en heures)*

Transportation (in kms)

*Transport (en kilomètres)*

37. Contracting process - Other contracting authority.

*Processus de passation de contrats – toute autre autorité contractante.*

Labour - CLS (in hours)

*Main-d'œuvre ATC (en heures)*

Labour - Field Staff (in hours)

*Main-d'œuvre Personnel sur le terrain (en heures)*

Labour - Drafting and Calculations (in hours)

*Main-d'œuvre Ébauches et calculs (en heures)*

Labour - Administration (in hours)

*Main-d'œuvre*

*Administration (en heures)*

Transportation (in kms)

*Transport (en kilomètres)*

38. NRCan/SGB Survey instructions process.

*NRCan/DAG – Processus pour les directives d'arpentage.*

Labour - CLS (in hours)

*Main-d'œuvre ATC (en heures)*

Labour - Field Staff (in hours)

*Main-d'œuvre Personnel sur le terrain (en heures)*

Labour - Drafting and Calculations (in hours)

*Main-d'œuvre Ébauches et calculs (en heures)*

Labour - Administration (in hours)

*Main-d'œuvre*

*Administration (en heures)*

Transportation (in kms)

*Transport (en kilomètres)*

39. Project approval to proceed process.

*Processus d'approbation du projet.*

Labour - CLS (in hours)

*Main-d'œuvre ATC (en heures)*

Labour - Field Staff (in hours)

*Main-d'œuvre Personnel sur le terrain (en heures)*

Labour - Drafting and Calculations (in hours)

*Main-d'œuvre Ébauches et calculs (en heures)*

Labour - Administration (in hours)

*Main-d'œuvre*

*Administration (en heures)*

Transportation (in kms)

*Transport (en kilomètres)*

40. MyCLSS project set-up process.

*Processus de démarrage du projet sur MonSATC.*

Labour - CLS (in hours)

*Main-d'œuvre ATC (en heures)*

Labour - Field Staff (in hours)

*Main-d'œuvre Personnel sur le terrain (en heures)*

Labour - Drafting and Calculations (in hours)

*Main-d'œuvre Ébauches et calculs (en heures)*

Labour - Administration (in hours)

*Main-d'œuvre*

*Administration (en heures)*

Transportation (in kms)

*Transport (en kilomètres)*

41. Detailed research and calculations for survey (legal survey plan and document research, survey control, NRCan/SGB and provincial records for jurisdictional boundaries, precalculation for the position of evidence, download to field data collectors).

*Recherche et calculs détaillés pour l'arpentage (plan d'arpentage officiel et documentation de la recherche, contrôle de l'arpentage, dossiers de la DAG et des provinces concernant les limites juridictionnelles, calculs préliminaires pour déterminer la position des bornes repères, téléchargement vers les programmes de collecte de données sur le terrain).*

Labour - CLS (in hours)

*Main-d'œuvre ATC (en heures)*

Labour - Field Staff (in hours)

*Main-d'œuvre Personnel sur le terrain (en heures)*

Labour - Drafting and Calculations (in hours)

*Main-d'œuvre Ébauches et calculs (en heures)*

Labour - Administration (in hours)

*Main-d'œuvre Administration (en heures)*

Transportation (in kms)

*Transport (en kilomètres)*

42. Detailed search for survey (land interests, Indian lands registry, First Nation records, client records, Provincial records for adjoining lands).

*Recherche détaillée pour l'arpentage (intérêts fonciers, Registre des terres indiennes, dossiers des Premières nations, dossiers du client, dossiers provinciaux des terres adjacentes).*

Labour - CLS (in hours)

*Main-d'œuvre ATC (en heures)*

Labour - Field Staff (in hours)

*Main-d'œuvre Personnel sur le terrain (en heures)*

Labour - Drafting and Calculations (in hours)

*Main-d'œuvre Ébauches et calculs (en heures)*

Labour - Administration (in hours)

*Main-d'œuvre Administration (en heures)*

Transportation (in kms)

*Transport (en kilomètres)*

**43. Requests for delivery of additional information from client.**

*Demandes de renseignements supplémentaires auprès de la client.*

Labour - CLS (in hours)

*Main-d'œuvre ATC (en heures)*

Labour - Field Staff (in hours)

*Main-d'œuvre Personnel sur le terrain (en heures)*

Labour - Drafting and Calculations (in hours)

*Main-d'œuvre Ébauches et calculs (en heures)*

Labour - Administration (in hours)

*Main-d'œuvre*

*Administration (en heures)*

Transportation (in kms)

*Transport (en kilomètres)*

**44. Requests for delivery of additional information from NRCan/SGB.**

*Demandes de renseignements supplémentaires auprès de NRCan/DAG.*

Labour - CLS (in hours)

*Main-d'œuvre ATC (en heures)*

Labour - Field Staff (in hours)

*Main-d'œuvre Personnel sur le terrain (en heures)*

Labour - Drafting and Calculations (in hours)

*Main-d'œuvre Ébauches et calculs (en heures)*

Labour - Administration (in hours)

*Main-d'œuvre*

*Administration (en heures)*

Transportation (in kms)

*Transport (en kilomètres)*

45. Requests for delivery of additional information from INAC.

*Demandes de renseignements supplémentaires auprès d'AANC.*

Labour - CLS (in hours)

*Main-d'œuvre ATC (en heures)*

Labour - Field Staff (in hours)

*Main-d'œuvre Personnel sur le terrain (en heures)*

Labour - Drafting and Calculations (in hours)

*Main-d'œuvre Ébauches et calculs (en heures)*

Labour - Administration (in hours)

*Main-d'œuvre*

*Administration (en heures)*

Transportation (in kms)

*Transport (en kilomètres)*

46. Requests for delivery of additional information from PSPC.

*Demandes de renseignements supplémentaires auprès de SPAC.*

Labour - CLS (in hours)

*Main-d'œuvre ATC (en heures)*

Labour - Field Staff (in hours)

*Main-d'œuvre Personnel sur le terrain (en heures)*

Labour - Drafting and Calculations (in hours)

*Main-d'œuvre Ébauches et calculs (en heures)*

Labour - Administration (in hours)

*Main-d'œuvre*

*Administration (en heures)*

Transportation (in kms)

*Transport (en kilomètres)*

47. Download NRCan/SGB open cadastral data for evidence searches and plan preparation.

*Téléchargement des données cadastrales accessibles au public de RNCan/DAG pour la recherche des bornes repères et la préparation du plan.*

Labour - CLS (in hours)

*Main-d'œuvre ATC (en heures)*

Labour - Field Staff (in hours)

*Main-d'œuvre Personnel sur le terrain (en heures)*

Labour - Drafting and Calculations (in hours)

*Main-d'œuvre Ébauches et calculs (en heures)*

Labour - Administration (in hours)

*Main-d'œuvre*

*Administration (en heures)*

Transportation (in kms)

*Transport (en kilomètres)*

48. Approval to enter the First Nation and conduct field work process.

*Autorisation et processus pour pénétrer sur les terres des Premières nations et procéder aux travaux sur le terrain.*

Labour - CLS (in hours)

*Main-d'œuvre ATC (en heures)*

Labour - Field Staff (in hours)

*Main-d'œuvre Personnel sur le terrain (en heures)*

Labour - Drafting and Calculations (in hours)

*Main-d'œuvre Ébauches et calculs (en heures)*

Labour - Administration (in hours)

*Main-d'œuvre*

*Administration (en heures)*

Transportation (in kms)

*Transport (en kilomètres)*

49. For the purpose of generating estimates, please indicate the multiplier you use to cover overhead costs (rent, utilities, materials, administration, etc.), expressed as a multiple of your labour rate (for example labour x 1.5)

*En vue de produire des estimations, veuillez indiquer le multiplicateur, exprimé sous forme de multiple de vos coûts de main-d'œuvre (par exemple, « salaires » x 1,5), que vous utilisez pour couvrir les frais indirects (loyer, services publics, fournitures, administration, etc.).*

50. Does this multiplier change throughout the year depending on economic conditions?

*Ce multiplicateur change-t-il au courant de l'année en fonction des conditions économiques?*

Yes  
*Oui*

No  
*Non*

Please feel free to elaborate.  
*N'hésitez pas à préciser votre réponse.*

51. Please provide any additional information or comments you believe relevant to the project set-up process for this project.

*Veuillez fournir tout renseignement ou commentaire supplémentaires qui vous semble pertinent à la mise en œuvre de ce projet.*

**Part 4: Activity Pool - Field Execution**  
*Partie 4 : Groupe d'activités – exécution sur le terrain*

The following activities pertain to the work required to conduct the field work for your example project. For each of the activities involved in this process (outlined in the questions to follow), please estimate the number of hours of labour incurred and/or distance travelled for this survey during the field work process. At the end of this section, there is an option for you to provide additional information or comments that you believe was an important consideration for the field execution of this project.

*Les activités suivantes concernent le travail requis pour réaliser les travaux sur le terrain pour le projet que vous avez donné à titre d'exemple. Pour chaque activité comprise dans ce processus (et présentée dans les questions qui suivront), veuillez estimer le nombre d'heures de travail que vous y avez consacrées et la distance parcourue uniquement dans le cadre des travaux sur le terrain pour ce projet d'arpentage. À la fin de la présente section, vous disposerez d'un espace dans lequel vous pourrez inscrire tout renseignement supplémentaire ou commentaire pertinent au sujet d'éléments qui ont constitué d'importants facteurs à prendre en considération lors des travaux sur le terrain pour ce projet.*

**52. Mobilization - Getting to the site.**

*Mobilisation – Se rendre sur le site.*

Labour - CLS (in hours)

*Main-d'œuvre ATC (en heures)*

Labour - Field Staff (in hours)

*Main-d'œuvre Personnel sur le terrain (en heures)*

Labour - Drafting and Calculations (in hours)

*Main-d'œuvre Ébauches et calculs (en heures)*

Labour - Administration (in hours)

*Main-d'œuvre Administration (en heures)*

Transportation (in kms)

*Transport (en kilomètres)*

**53. Field Liaison with client (Including before, during and at conclusion of job).**

*Relation avec le client sur le terrain (avant, pendant et après la fin des travaux).*

Labour - CLS (in hours)

*Main-d'œuvre ATC (en heures)*

Labour - Field Staff (in hours)

*Main-d'œuvre Personnel sur le terrain (en heures)*

Labour - Drafting and Calculations (in hours)

*Main-d'œuvre Ébauches et calculs (en heures)*

Labour - Administration (in hours)

*Main-d'œuvre*

*Administration (en heures)*

Transportation (in kms)

*Transport (en kilomètres)*

**54. Line cutting and blazing.**

*Défrichement des limites et encochement des arbres.*

Labour - CLS (in hours)

*Main-d'œuvre ATC (en heures)*

Labour - Field Staff (in hours)

*Main-d'œuvre Personnel sur le terrain (en heures)*

Labour - Drafting and Calculations (in hours)

*Main-d'œuvre Ébauches et calculs (en heures)*

Labour - Administration (in hours)

*Main-d'œuvre*

*Administration (en heures)*

Transportation (in kms)

*Transport (en kilomètres)*

55. Hiring local capacity to support survey activity. For clarity, this question is intended to determine the amount of time and distances travelled to undertake the hiring process.

*Embauche de main-d'œuvre locale pour aider aux travaux d'arpentage (Par souci de clarté, la question vise à déterminer la quantité de temps consacré au processus d'embauche ainsi que la distance parcourue uniquement à cette fin).*

Labour - CLS (in hours)

*Main-d'œuvre ATC (en heures)*

Labour - Field Staff (in hours)

*Main-d'œuvre Personnel sur le terrain (en heures)*

Labour - Drafting and Calculations (in hours)

*Main-d'œuvre Ébauches et calculs (en heures)*

Labour - Administration (in hours)

*Main-d'œuvre*

*Administration (en heures)*

Transportation (in kms)

*Transport (en kilomètres)*

56. Addressing topography and land cover.

*Topographie et territoire couvert.*

Labour - CLS (in hours)

*Main-d'œuvre ATC (en heures)*

Labour - Field Staff (in hours)

*Main-d'œuvre Personnel sur le terrain (en heures)*

Labour - Drafting and Calculations (in hours)

*Main-d'œuvre Ébauches et calculs (en heures)*

Labour - Administration (in hours)

*Main-d'œuvre*

*Administration (en heures)*

Transportation (in kms)

*Transport (en kilomètres)*

57. Initial control establishment.

*Établissement initial du contrôle.*

Labour - CLS (in hours)

*Main-d'œuvre ATC (en heures)*

Labour - Field Staff (in hours)

*Main-d'œuvre Personnel sur le terrain (en heures)*

Labour - Drafting and Calculations (in hours)

*Main-d'œuvre Ébauches et calculs (en heures)*

Labour - Administration (in hours)

*Main-d'œuvre*

*Administration (en heures)*

Transportation (in kms)

*Transport (en kilomètres)*

58. Georeferencing (precise point positioning or other method).

*Géoréférencement (positionnement précis de repères ou autre méthode).*

Labour - CLS (in hours)

*Main-d'œuvre ATC (en heures)*

Labour - Field Staff (in hours)

*Main-d'œuvre Personnel sur le terrain (en heures)*

Labour - Drafting and Calculations (in hours)

*Main-d'œuvre Ébauches et calculs (en heures)*

Labour - Administration (in hours)

*Main-d'œuvre*

*Administration (en heures)*

Transportation (in kms)

*Transport (en kilomètres)*

59. Evidence searches.

Recherches des bornes repères indiquant les limites.

Labour - CLS (in hours)

Main-d'œuvre ATC (en heures)

Labour - Field Staff (in hours)

Main-d'œuvre Personnel sur le terrain (en heures)

Labour - Drafting and Calculations (in hours)

Main-d'œuvre Ébauches et calculs (en heures)

Labour - Administration (in hours)

Main-d'œuvre

Administration (en heures)

Transportation (in kms)

Transport (en kilomètres)

60. Resolve conflict between occupation and cadastral fabric.

Résolution des conflits en matière d'occupation territoriale ne correspondant pas au morcellement foncier.

Labour - CLS (in hours)

Main-d'œuvre ATC (en heures)

Labour - Field Staff (in hours)

Main-d'œuvre Personnel sur le terrain (en heures)

Labour - Drafting and Calculations (in hours)

Main-d'œuvre Ébauches et calculs (en heures)

Labour - Administration (in hours)

Main-d'œuvre

Administration (en heures)

Transportation (in kms)

Transport (en kilomètres)

**61. Resolve conflict between cadastral evidence locations.**

*Résolution des problèmes concernant les données des cadastres sur l'emplacement des bornes repères.*

Labour - CLS (in hours)

*Main-d'œuvre ATC (en heures)*

Labour - Field Staff (in hours)

*Main-d'œuvre Personnel sur le terrain (en heures)*

Labour - Drafting and Calculations (in hours)

*Main-d'œuvre Ébauches et calculs (en heures)*

Labour - Administration (in hours)

*Main-d'œuvre*

*Administration (en heures)*

Transportation (in kms)

*Transport (en kilomètres)*

**62. Boundary demarcation.**

*Délimitation des limites.*

Labour - CLS (in hours)

*Main-d'œuvre ATC (en heures)*

Labour - Field Staff (in hours)

*Main-d'œuvre Personnel sur le terrain (en heures)*

Labour - Drafting and Calculations (in hours)

*Main-d'œuvre Ébauches et calculs (en heures)*

Labour - Administration (in hours)

*Main-d'œuvre*

*Administration (en heures)*

Transportation (in kms)

*Transport (en kilomètres)*

**63. Making Connections to provincial survey systems.**

*Établissement de liens avec les systèmes d'arpentage provinciaux.*

Labour - CLS (in hours)

*Main-d'œuvre ATC (en heures)*

Labour - Field Staff (in hours)

*Main-d'œuvre Personnel sur le terrain (en heures)*

Labour - Drafting and Calculations (in hours)

*Main-d'œuvre Ébauches et calculs (en heures)*

Labour - Administration (in hours)

*Main-d'œuvre*

*Administration (en heures)*

Transportation (in kms)

*Transport (en kilomètres)*

**64. Project adjustments to accommodate changing client needs.**

*Changements apportés au projet en vue de l'adapter aux nouveaux besoins du client.*

Labour - CLS (in hours)

*Main-d'œuvre ATC (en heures)*

Labour - Field Staff (in hours)

*Main-d'œuvre Personnel sur le terrain (en heures)*

Labour - Drafting and Calculations (in hours)

*Main-d'œuvre Ébauches et calculs (en heures)*

Labour - Administration (in hours)

*Main-d'œuvre*

*Administration (en heures)*

Transportation (in kms)

*Transport (en kilomètres)*

65. On site client and other project meetings.

*Réunions sur place avec le client pour ce levé et d'autres raisons relatives au projet.*

Labour - CLS (in hours)

*Main-d'œuvre ATC (en heures)*

Labour - Field Staff (in hours)

*Main-d'œuvre Personnel sur le terrain (en heures)*

Labour - Drafting and Calculations (in hours)

*Main-d'œuvre Ébauches et calculs (en heures)*

Labour - Administration (in hours)

*Main-d'œuvre*

*Administration (en heures)*

Transportation (in kms)

*Transport (en kilomètres)*

66. Demobilizing (pack up and go home).

*Démobilisation (rassembler le matériel et rentrer chez soi).*

Labour - CLS (in hours)

*Main-d'œuvre ATC (en heures)*

Labour - Field Staff (in hours)

*Main-d'œuvre Personnel sur le terrain (en heures)*

Labour - Drafting and Calculations (in hours)

*Main-d'œuvre Ébauches et calculs (en heures)*

Labour - Administration (in hours)

*Main-d'œuvre*

*Administration (en heures)*

Transportation (in kms)

*Transport (en kilomètres)*

67. Please provide any additional information or comments you believe relevant to the field execution for this project.

*Veillez fournir tout renseignement ou commentaire supplémentaires qui vous semble pertinent dans le cadre des travaux sur le terrain de ce projet.*

Part 5: Activity Pool - Analysis  
*Partie 5 : Groupe d'activités – analyse*

The following activities pertain to the work required to finalize your example project, once the field work component was complete. For each of the activities involved in this process (outlined in the questions to follow), please estimate the number of hours of labour incurred and/or distance travelled for this survey during the analysis process. At the end of this section, there is an option for you to provide additional information or comments that you believe was an important consideration for the project analysis component of this project.

*Les activités suivantes concernent le travail nécessaire pour finaliser le projet que vous avez donné à titre d'exemple, une fois les travaux sur le terrain complétés. Pour chaque activité comprise dans ce processus (et présentée dans les questions qui suivront), veuillez estimer le nombre d'heures de travail que vous y avez consacrées et la distance parcourue uniquement dans le cadre du processus d'analyse. À la fin de la présente section, vous disposerez d'un espace dans lequel vous pourrez inscrire tout renseignement supplémentaire ou commentaire pertinent au sujet d'éléments qui ont constitué d'importants facteurs à prendre en considération lors de l'analyse de ce projet.*

68. Internal Quality Control on field returns.

*Contrôle de qualité à l'interne du rendement sur le terrain.*

Labour - CLS (in hours)

*Main-d'œuvre ATC (en heures)*

Labour - Field Staff (in hours)

*Main-d'œuvre Personnel sur le terrain (en heures)*

Labour - Drafting and Calculations (in hours)

*Main-d'œuvre Ébauches et calculs (en heures)*

Labour - Administration (in hours)

*Main-d'œuvre*

*Administration (en heures)*

69. MyCLSS process to support plan recording.

*Processus du site MonSATC pour enregistrer le plan.*

Labour - CLS (in hours)

*Main-d'œuvre ATC (en heures)*

Labour - Field Staff (in hours)

*Main-d'œuvre Personnel sur le terrain (en heures)*

Labour - Drafting and Calculations (in hours)

*Main-d'œuvre Ébauches et calculs (en heures)*

Labour - Administration (in hours)

*Main-d'œuvre*

*Administration (en heures)*

70. Drafting/CAD Work.

*Ébauches et travaux de conception assistée par ordinateur.*

Labour - CLS (in hours)

*Main-d'œuvre ATC (en heures)*

Labour - Field Staff (in hours)

*Main-d'œuvre Personnel sur le terrain (en heures)*

Labour - Drafting and Calculations (in hours)

*Main-d'œuvre Ébauches et calculs (en heures)*

Labour - Administration (in hours)

*Main-d'œuvre*

*Administration (en heures)*

71. Quality control checks on the plans and reports.

*Vérifications de contrôle de la qualité des plans et des rapports.*

Labour - CLS (in hours)

*Main-d'œuvre ATC (en heures)*

Labour - Field Staff (in hours)

*Main-d'œuvre Personnel sur le terrain (en heures)*

Labour - Drafting and Calculations (in hours)

*Main-d'œuvre Ébauches et calculs (en heures)*

Labour - Administration (in hours)

*Main-d'œuvre*

*Administration (en heures)*

72. Plotting/printing of final plans.

*Traçage ou impression des plans finaux.*

Labour - CLS (in hours)

*Main-d'œuvre – ATC (en heures)*

Labour - Field Staff (in hours)

*Main-d'œuvre – Personnel sur le terrain (en heures)*

Labour - Drafting and Calculations (in hours)

*Main-d'œuvre – Ébauches et calculs (en heures)*

Labour - Administration (in hours)

*Main-d'œuvre –*

*Administration (en heures)*

Transportation (in kms)

*Transport (en kilomètres)*

73. Client liaison to finalize product.

*Relation avec le client pour finaliser le produit.*

Labour - CLS (in hours)

*Main-d'œuvre – ATC (en heures)*

Labour - Field Staff (in hours)

*Main-d'œuvre – Personnel sur le terrain (en heures)*

Labour - Drafting and Calculations (in hours)

*Main-d'œuvre – Ébauches et calculs (en heures)*

Labour - Administration (in hours)

*Main-d'œuvre – Administration (en heures)*

Transportation (in kms)

*Transport (en kilomètres)*

74. First Nation approval process and requirements.

*Processus d'approbation par les Premières nations et exigences particulières.*

Labour - CLS (in hours)

*Main-d'œuvre – ATC (en heures)*

Labour - Field Staff (in hours)

*Main-d'œuvre – Personnel sur le terrain (en heures)*

Labour - Drafting and Calculations (in hours)

*Main-d'œuvre – Ébauches et calculs (en heures)*

Labour - Administration (in hours)

*Main-d'œuvre – Administration (en heures)*

Transportation (in kms)

*Transport (en kilomètres)*

75. NRCan/SGB approval process and requirements.

*Processus d'approbation par RNCan/DAG et exigences particulières.*

Labour - CLS (in hours)

*Main-d'œuvre – ATC (en heures)*

Labour - Field Staff (in hours)

*Main-d'œuvre – Personnel sur le terrain (en heures)*

Labour - Drafting and Calculations (in hours)

*Main-d'œuvre – Ébauches et calculs (en heures)*

Labour - Administration (in hours)

*Main-d'œuvre – Administration (en heures)*

Transportation (in kms)

*Transport (en kilomètres)*

76. INAC approval process and requirements.

*Processus d'approbation par l'AANC et exigences particulières.*

Labour - CLS (in hours)

*Main-d'œuvre – ATC (en heures)*

Labour - Field Staff (in hours)

*Main-d'œuvre – Personnel sur le terrain (en heures)*

Labour - Drafting and Calculations (in hours)

*Main-d'œuvre – Ébauches et calculs (en heures)*

Labour - Administration (in hours)

*Main-d'œuvre – Administration (en heures)*

Transportation (in kms)

*Transport (en kilomètres)*

77. Land Registry Office Approval.

*Approbation de Bureau d'enregistrement*

Labour - CLS (in hours)

*Main-d'œuvre – ATC (en heures)*

Labour - Field Staff (in hours)

*Main-d'œuvre – Personnel sur le terrain (en heures)*

Labour - Drafting and Calculations (in hours)

*Main-d'œuvre – Ébauches et calculs (en heures)*

Labour - Administration (in hours)

*Main-d'œuvre – Administration (en heures)*

Transportation (in kms)

*Transport (en kilomètres)*

78. NRCan/SGB plan recording/registration process.

*Processus d'enregistrement du plan de NRCan/DAG.*

Labour - CLS (in hours)

*Main-d'œuvre – ATC (en heures)*

Labour - Field Staff (in hours)

*Main-d'œuvre – Personnel sur le terrain (en heures)*

Labour - Drafting and Calculations (in hours)

*Main-d'œuvre – Ébauches et calculs (en heures)*

Labour - Administration (in hours)

*Main-d'œuvre – Administration (en heures)*

Transportation (in kms)

*Transport (en kilomètres)*

79. Land Registry Office plan recording/registration process.

*Processus d'enregistrement du plan de Bureau d'enregistrement*

Labour - CLS (in hours)

*Main-d'œuvre – ATC (en heures)*

Labour - Field Staff (in hours)

*Main-d'œuvre – Personnel sur le terrain (en heures)*

Labour - Drafting and Calculations (in hours)

*Main-d'œuvre – Ébauches et calculs (en heures)*

Labour - Administration (in hours)

*Main-d'œuvre – Administration (en heures)*

Transportation (in kms)

*Transport (en kilomètres)*

80. Please provide any additional information or comments you believe relevant to the analysis component of this project.

*Veuillez fournir tout renseignement ou commentaire supplémentaires qui vous semble pertinent dans le cadre de l'analyse de ce projet.*

Part 6: Impact of Delays  
*Partie 6 : Répercussions des retards*

In the following bank of questions, we are asking you to estimate the amount of additional time and/or travel distance that was required to complete the project that resulted from the delays that are noted. At the end of this section, there is an option for you to provide additional information or comments that you believe was an important consideration in how this project may have been delayed and what measures should be undertaken to reduce the impact of delays.

*Pour la liste de questions qui suit, nous vous demandons d'estimer la quantité de temps supplémentaire et les kilomètres parcourus en plus en raison des retards constatés dans l'avancement des travaux pour mener à bien ce projet. À la fin de la présente section, vous disposerez d'un espace dans lequel vous pourrez inscrire tout renseignement supplémentaire ou commentaire pertinent au sujet d'importants facteurs à prendre en considération pour comprendre les causes des retards et les mesures qui auraient dû être prises pour réduire leurs répercussions.*

81. Objections from client (disagreement with results of survey).  
*Objections du client (désaccord avec les résultats de l'arpentage).*

Labour - CLS (in hours)  
*Main-d'œuvre ATC (en heures)*

Labour - Field Staff (in hours)  
*Main-d'œuvre Personnel sur le terrain (en heures)*

Labour - Drafting and Calculations (in hours)  
*Main-d'œuvre Ébauches et calculs (en heures)*

Labour - Administration (in hours)  
*Main-d'œuvre Administration (en heures)*

Transportation (in kms)  
*Transport (en kilomètres)*

**82. Change in scope.**

*Changement de la portée des travaux.*

Labour - CLS (in hours)

*Main-d'œuvre ATC (en heures)*

Labour - Field Staff (in hours)

*Main-d'œuvre Personnel sur le terrain (en heures)*

Labour - Drafting and Calculations (in hours)

*Main-d'œuvre Ébauches et calculs (en heures)*

Labour - Administration (in hours)

*Main-d'œuvre*

*Administration (en heures)*

Transportation (in kms)

*Transport (en kilomètres)*

**83. Project put on hold then restarted.**

*Projet interrompu, puis repris.*

Labour - CLS (in hours)

*Main-d'œuvre ATC (en heures)*

Labour - Field Staff (in hours)

*Main-d'œuvre Personnel sur le terrain (en heures)*

Labour - Drafting and Calculations (in hours)

*Main-d'œuvre Ébauches et calculs (en heures)*

Labour - Administration (in hours)

*Main-d'œuvre*

*Administration (en heures)*

Transportation (in kms)

*Transport (en kilomètres)*

**84. Client changes his/her mind.**

*Changement d'avis du client.*

Labour - CLS (in hours)

*Main-d'œuvre ATC (en heures)*

Labour - Field Staff (in hours)

*Main-d'œuvre Personnel sur le terrain (en heures)*

Labour - Drafting and Calculations (in hours)

*Main-d'œuvre Ébauches et calculs (en heures)*

Labour - Administration (in hours)

*Main-d'œuvre*

*Administration (en heures)*

Transportation (in kms)

*Transport (en kilomètres)*

**85. Objections from family.**

*Objections soulevées par une famille.*

Labour - CLS (in hours)

*Main-d'œuvre ATC (en heures)*

Labour - Field Staff (in hours)

*Main-d'œuvre Personnel sur le terrain (en heures)*

Labour - Drafting and Calculations (in hours)

*Main-d'œuvre Ébauches et calculs (en heures)*

Labour - Administration (in hours)

*Main-d'œuvre*

*Administration (en heures)*

Transportation (in kms)

*Transport (en kilomètres)*

**86. Dispute between neighbours.**

*Conflit entre voisins.*

Labour - CLS (in hours)

*Main-d'œuvre ATC (en heures)*

Labour - Field Staff (in hours)

*Main-d'œuvre Personnel sur le terrain (en heures)*

Labour - Drafting and Calculations (in hours)

*Main-d'œuvre Ébauches et calculs (en heures)*

Labour - Administration (in hours)

*Main-d'œuvre*

*Administration (en heures)*

Transportation (in kms)

*Transport (en kilomètres)*

**87. Missing or disturbed monuments that were recently planted.**

*Absence ou déplacement de bornes repères récemment posées au sol.*

Labour - CLS (in hours)

*Main-d'œuvre ATC (en heures)*

Labour - Field Staff (in hours)

*Main-d'œuvre Personnel sur le terrain (en heures)*

Labour - Drafting and Calculations (in hours)

*Main-d'œuvre Ébauches et calculs (en heures)*

Labour - Administration (in hours)

*Main-d'œuvre*

*Administration (en heures)*

Transportation (in kms)

*Transport (en kilomètres)*

**88. Delays getting pre-approval from band signing authority.**

*Approbation tardive du signataire autorisé de la bande préalable à l'amorce des travaux*

Labour - CLS (in hours)

*Main-d'œuvre ATC (en heures)*

Labour - Field Staff (in hours)

*Main-d'œuvre Personnel sur le terrain (en heures)*

Labour - Drafting and Calculations (in hours)

*Main-d'œuvre Ébauches et calculs (en heures)*

Labour - Administration (in hours)

*Main-d'œuvre*

*Administration (en heures)*

Transportation (in kms)

*Transport (en kilomètres)*

**89. Delays getting pre-approval from client.**

*Approbation tardive du client préalable à l'amorce des travaux.*

Labour - CLS (in hours)

*Main-d'œuvre ATC (en heures)*

Labour - Field Staff (in hours)

*Main-d'œuvre Personnel sur le terrain (en heures)*

Labour - Drafting and Calculations (in hours)

*Main-d'œuvre Ébauches et calculs (en heures)*

Labour - Administration (in hours)

*Main-d'œuvre*

*Administration (en heures)*

Transportation (in kms)

*Transport (en kilomètres)*

90. Delays getting post approval from band signing authority.

*Approbation tardive du signataire autorisé de la bande subséquente aux travaux.*

Labour - CLS (in hours)

*Main-d'œuvre ATC (en heures)*

Labour - Field Staff (in hours)

*Main-d'œuvre Personnel sur le terrain (en heures)*

Labour - Drafting and Calculations (in hours)

*Main-d'œuvre Ébauches et calculs (en heures)*

Labour - Administration (in hours)

*Main-d'œuvre*

*Administration (en heures)*

Transportation (in kms)

*Transport (en kilomètres)*

91. Delays getting post approval from client.

*Approbation tardive du client subséquente aux travaux.*

Labour - CLS (in hours)

*Main-d'œuvre ATC (en heures)*

Labour - Field Staff (in hours)

*Main-d'œuvre Personnel sur le terrain (en heures)*

Labour - Drafting and Calculations (in hours)

*Main-d'œuvre Ébauches et calculs (en heures)*

Labour - Administration (in hours)

*Main-d'œuvre*

*Administration (en heures)*

Transportation (in kms)

*Transport (en kilomètres)*

92. Delays getting survey instructions.

*Obtention tardive des directives d'arpentage.*

Labour - CLS (in hours)

*Main-d'œuvre ATC (en heures)*

Labour - Field Staff (in hours)

*Main-d'œuvre Personnel sur le terrain (en heures)*

Labour - Drafting and Calculations (in hours)

*Main-d'œuvre Ébauches et calculs (en heures)*

Labour - Administration (in hours)

*Main-d'œuvre*

*Administration (en heures)*

Transportation (in kms)

*Transport (en kilomètres)*

93. Delays in response from lawyer's office

*Obtention tardive des bureau d'avocats*

Labour - CLS (in hours)

*Main-d'œuvre ATC (en heures)*

Labour - Field Staff (in hours)

*Main-d'œuvre Personnel sur le terrain (en heures)*

Labour - Drafting and Calculations (in hours)

*Main-d'œuvre Ébauches et calculs (en heures)*

Labour - Administration (in hours)

*Main-d'œuvre*

*Administration (en heures)*

Transportation (in kms)

*Transport (en kilomètres)*

94. Delays getting NRCan/SGB final approval.

*Approbation finale tardive de RNCan/DAG.*

Labour - CLS (in hours)

Labour - Field Staff (in hours)

Labour - Drafting and Calculations (in hours)

Labour - Administration (in hours)

Transportation (in kms)

95. Critical issue notice from NRCan/SGB relating to plan.

*Constatation d'un problème crucial de RNCan/DAG concernant le plan.*

Labour - CLS (in hours)  
*Main-d'œuvre ATC (en heures)*

Labour - Field Staff (in hours)  
*Main-d'œuvre Personnel sur le terrain (en heures)*

Labour - Drafting and Calculations (in hours)  
*Main-d'œuvre Ébauches et calculs (en heures)*

Labour - Administration (in hours)  
*Main-d'œuvre Administration (en heures)*

Transportation (in kms)  
*Transport (en kilomètres)*

96. Critical issue notice from NRCan/SGB relating to report.

*Constatacion d'un problème crucial de RNCan/DAG concernant le rapport.*

Labour - CLS (in hours)

*Main-d'œuvre ATC (en heures)*

Labour - Field Staff (in hours)

*Main-d'œuvre Personnel sur le terrain (en heures)*

Labour - Drafting and Calculations (in hours)

*Main-d'œuvre Ébauches et calculs (en heures)*

Labour - Administration (in hours)

*Main-d'œuvre*

*Administration (en heures)*

Transportation (in kms)

*Transport (en kilomètres)*

97. Critical issue notice from NRCan/SGB relating to digital spatial file.

*Constatacion d'un problème crucial de RNCan/DAG concernant le fichier numérique des données spatiales.*

Labour - CLS (in hours)

*Main-d'œuvre ATC (en heures)*

Labour - Field Staff (in hours)

*Main-d'œuvre Personnel sur le terrain (en heures)*

Labour - Drafting and Calculations (in hours)

*Main-d'œuvre Ébauches et calculs (en heures)*

Labour - Administration (in hours)

*Main-d'œuvre*

*Administration (en heures)*

Transportation (in kms)

*Transport (en kilomètres)*

98. Changes required by Land Registry Office.

*Modifications requises de Bureau d'enregistrement*

Labour - CLS (in hours)

*Main-d'œuvre ATC (en heures)*

Labour - Field Staff (in hours)

*Main-d'œuvre Personnel sur le terrain (en heures)*

Labour - Drafting and Calculations (in hours)

*Main-d'œuvre Ébauches et calculs (en heures)*

Labour - Administration (in hours)

*Main-d'œuvre*

*Administration (en heures)*

Transportation (in kms)

*Transport (en kilomètres)*

99. Change in Registry Office or NRCan/SGB procedure.

*Changement de la procédure de le Bureau d'enregistrement ou RNCAN/DAG.*

Labour - CLS (in hours)

*Main-d'œuvre ATC (en heures)*

Labour - Field Staff (in hours)

*Main-d'œuvre Personnel sur le terrain (en heures)*

Labour - Drafting and Calculations (in hours)

*Main-d'œuvre Ébauches et calculs (en heures)*

Labour - Administration (in hours)

*Main-d'œuvre*

*Administration (en heures)*

Transportation (in kms)

*Transport (en kilomètres)*

100. Were you satisfied with the amount of research information available for this project (online browsers and online data)?

*Avez-vous été satisfait de la quantité d'informations de recherche disponibles pour ce projet (navigateurs en ligne et données en ligne)?*

- Very Satisfied  
*Très satisfait*
- Somewhat Satisfied  
*Plutôt satisfait*
- Somewhat Dissatisfied  
*Assez insatisfait*
- Very Dissatisfied  
*Très insatisfait*

Please elaborate on your reason for this answer.

*Veuillez expliquer la raison de cette réponse.*

101. Unexpected or undocumented land use or land rights.

*Utilisation des terres ou droits fonciers inattendus ou non documentés.*

Labour - CLS (in hours)

*Main-d'œuvre ATC (en heures)*

Labour - Field Staff (in hours)

*Main-d'œuvre Personnel sur le terrain (en heures)*

Labour - Drafting and Calculations (in hours)

*Main-d'œuvre Ébauches et calculs (en heures)*

Labour - Administration (in hours)

*Main-d'œuvre Administration (en heures)*

Transportation (in kms)

*Transport (en kilomètres)*

102. Please tell us how satisfied you were with the land registry system you used for this project.  
*Dites-nous si vous étiez satisfait du système d'enregistrement foncier utilisé pour ce projet.*

- Very Satisfied  
*Très satisfait*
- Somewhat Satisfied  
*Plutôt satisfait*
- Somewhat Dissatisfied  
*Assez insatisfait*
- Very Dissatisfied  
*Très insatisfait*

Please elaborate on your reason for this answer.  
*Veillez expliquer la raison de cette réponse.*

103. Please tell us how satisfied you were with:

	Very Satisfied <i>Très satisfait</i>	Somewhat Satisfied <i>Plutôt satisfait</i>	Somewhat Dissatisfied <i>Assez insatisfait</i>	Very Dissatisfied <i>Très insatisfait</i>
The length of time to get your plan registered.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Obtaining approval from the land registry authority	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
the ease of title searching for this project	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

104. If you had a choice between projects, which would you prefer?  
*Si vous aviez le choix entre les projets, lequel préférez-vous?*

- A project for Provincial registration  
*Un projet d'inscription provinciale*
- A project for CLSR registration  
*Un projet d'enregistrement Système d'arpentage des terres du Canada*
- No preference  
*Pas de préférence*

Please elaborate on your answer.  
*Veillez préciser votre réponse.*

105. Please comment on any other unanticipated issues or items that were not estimated for that you may have experienced on this (or other surveys) that had a significant impact on the cost of the survey and what measures could be implemented to reduce delays.

*Veillez signaler tout autre problème ou élément dont vous avez fait l'expérience dans le cadre de ce projet (ou d'un autre projet d'arpentage) qui n'a pas été pris en considération dans les estimations précédentes et qui a eu une forte incidence sur les coûts de l'arpentage. Indiquez également toutes les mesures qui contribueraient à réduire les retards dans l'avancement des travaux.*

## Appendix 4 – Part B Project Procurement Data Summary

Ques34

Initial contact (including phone calls, meetings, site visits, etc).						
CLS	Field Staff	Drafting and Calculations	Administration	Total Labour	Transportation (in kms)	
Sum	115	46	20	13	179	135
Avg	1.69	7.67	2.86	1.44	2.45	22.50
Max	5	27	14	2	47	85
Min	1	1	1	1	0	1
Med	1	3	1	1	1	8
Count	68	6	7	9	73	6

Ques35

Initial research for estimating - land interests/title.						
CLS	Field Staff	Drafting and Calculations	Administration	Total Labour	Transportation (in kms)	
Sum	108	6	11	16	128	0
Avg	1.48	0.08	0.15	0.22	2.51	0.00
Max	12	4	4	4	14	0
Min	0	0	0	0	1	0
Med	1	0	0	0	1	0
Count	54	2	6	9	51	0

Ques36

Initial research for estimating - land use plans.						
CLS	Field Staff	Drafting and Calculations	Administration	Total Labour	Transportation (in kms)	
Sum	43	0	3	8	50	0
Avg	0.59	0.00	0.04	0.11	1.56	0.00
Max	4	0	1	1	4	0
Min	0	0	0	0	1	0
Med	0	0	0	0	1	0
Count	32	0	3	8	32	0

Ques37

<b>Phone calls.</b>						
CLS	Field Staff	Drafting and Calculations	Administration	Total Labour	Transportation (in kms)	
Sum	58	3	2	5	68	0
Avg	0.79	0.04	0.03	0.07	0.93	0.00
Max	5	1	2	2	5	0
Min	0	0	0	0	0	0
Med	1	0	0	0	1	0
Count	47	3	1	4	46	0

Ques38

<b>Client visits to surveyors office.</b>						
CLS	Field Staff	Drafting and Calculations	Administration	Total Labour	Transportation (in kms)	
Sum	8	0	0	0	8	0
Avg	0.11	0.00	0.00	0.00	0.11	0.00
Max	2	0	0	0	2	0
Min	0	0	0	0	0	0
Med	0	0	0	0	0	0
Count	7	0	0	0	8	0

Ques39

<b>Community consultation.</b>						
CLS	Field Staff	Drafting and Calculations	Administration	Total Labour	Transportation (in kms)	
Sum	19	3	2	4	28	0
Avg	0.26	0.04	0.03	0.05	0.38	0.00
Max	2	2	2	1	4	0
Min	0	0	0	0	0	0
Med	0	0	0	0	0	0
Count	18	2	1	4	21	0

Ques40

<b>Government Agency (NRCan/SGB or INAC) Office Visit.</b>						
CLS	Field Staff	Drafting and Calculations	Administration	Total Labour	Transportation (in kms)	
Sum	9	0	0	1	10	40
Avg	0.12	0.00	0.00	0.01	1.67	0.55
Max	2	0	0	1	2	40
Min	0	0	0	0	1	0
Med	0	0	0	0	1	0
Count	6	0	0	1	6	1

Ques41

<b>Acquiring high resolution imagery.</b>						
CLS	Field Staff	Drafting and Calculations	Administration	Total Labour	Transportation (in kms)	
Sum	13	3	6	5	27	150
Avg	0.18	0.04	0.08	0.07	0.37	2.05
Max	2	2	2	1	4	150
Min	0	0	0	0	0	0
Med	0	0	0	0	0	0
Count	11	2	5	5	20	1

Ques42

<b>Site reconnaissance by viewing imagery.</b>						
CLS	Field Staff	Drafting and Calculations	Administration	Total Labour	Transportation (in kms)	
Sum	51	3	9	1	64	0
Avg	1.31	1.50	1.80	1.00	1.52	0.00
Max	4	2	4	1	8	0
Min	1	1	1	1	1	0
Med	1	1.5	1	1	1	0
Count	39	2	5	1	42	0

Ques43

<b>Field reconnaissance</b>						
CLS	Field Staff	Drafting and Calculations	Administration	Total Labour	Transportation (in kms)	
Sum	29	13	2	0	44	1720
Avg	0.40	0.18	0.03	0.00	0.60	23.56
Max	8	6	1	0	8	1000
Min	0	0	0	0	0	0
Med	0	0	0	0	0	0
Count	18	6	2	0	21	6

## Appendix 5 – Part B Project Set-up Data Summary

<b>Ques45</b>						
<b>Contracting process - Government of Canada.</b>						
	Labour - Field Staff	Labour - Drafting and Calculations	Labour - Administration	Total Labour	Transportation	
Sum	37	0	1	3	41	0
Avg	0.5	0.0	0.0	0.0	0.6	0.0
Max	12	0	1	1	12	0
Min	0	0	0	0	0	0
Med	0	0	0	0	0	0
Count	19	0	1	3	19	0

<b>Ques46</b>						
<b>Contracting process - Other contracting authority.</b>						
	Labour - Field Staff	Labour - Drafting and Calculations	Labour - Administration	Total Labour	Transportation	
Sum	56	0	1	17	74	0
Avg	0.8	0.0	0.0	0.2	1.0	0.0
Max	8	0	1	8	16	0
Min	0	0	0	0	0	0
Med	0	0	0	0	1	0
Count	35	0	1	9	38	0

<b>Ques47</b>						
<b>NRCan/SGB Survey instructions process.</b>						
	Labour - Field Staff	Labour - Drafting and Calculations	Labour - Administration	Total Labour	Transportation	
Sum	75	1	12	6	94	0
Avg	1.0	0.0	0.2	0.1	1.3	0.0
Max	5	1	3	1	6	0
Min	0	0	0	0	0	0
Med	1	0	0	0	1	0
Count	59	1	8	6	62	0

<b>Ques48</b>						
<b>Project approval to proceed process.</b>						
	Labour - Field Staff	Labour - Drafting and Calculations	Labour - Administration	Total Labour	Transportation	
Sum	49	1	12	7	69	0
Avg	0.7	0.0	0.2	0.1	0.9	0.0
Max	2	1	8	2	10	0
Min	0	0	0	0	0	0
Med	1	0	0	0	1	0
Count	43	1	4	6	50	0

<b>Ques49</b>						
<b>MyCLSS project set-up process.</b>						
	Labour - Field Staff	Labour - Drafting and Calculations	Labour - Administration	Total Labour	Transportation	
Sum	58	2	10	8	78	25
Avg	0.8	0.0	0.1	0.1	1.1	0.3
Max	5	1	4	1	9	25
Min	0	0	0	0	0	0
Med	1	0	0	0	1	0
Count	51	2	6	8	60	1

<b>Ques50</b>						
<b>Detailed research and calculations for survey</b>						
	Labour - Field Staff	Labour - Drafting and Calculations	Labour - Administration	Total Labour	Transportation	
Sum	58	2	10	8	78	25
Avg	0.8	0.0	0.1	0.1	1.1	0.3
Max	5	1	4	1	9	25
Min	0	0	0	0	0	0
Med	1	0	0	0	1	0
Count	51	2	6	8	60	1

<b>Ques51</b>						
<b>Detailed search for survey</b>						
	Labour - Field Staff	Labour - Drafting and Calculations	Labour - Administration	Total Labour	Transportation	
Sum	94	4	8	11	117	0
Avg	1.3	0.1	0.1	0.2	1.6	0.0
Max	10	4	4	2	10	0
Min	0	0	0	0	0	0
Med	1	0	0	0	1	0
Count	49	1	4	10	54	0

<b>Ques52</b>						
<b>Requests for delivery of additional information from First Nation.</b>						
	Labour - Field Staff	Labour - Drafting and Calculations	Labour - Administration	Total Labour	Transportation	
Sum	13	1	2	3	0	0
Avg	0.2	0.0	0.0	0.0	0.0	0.0
Max	2	1	1	1	0	0
Min	0	0	0	0	0	0
Med	0	0	0	0	0	0
Count	10	1	2	3	0	0

<b>Ques53</b>						
<b>Requests for delivery of additional information from NRCan/SGB.</b>						
	Labour - Field Staff	Labour - Drafting and Calculations	Labour - Administration	Total Labour	Transportation	
Sum	9	1	1	0	11	0
Avg	0.1	0.0	0.0	0.0	0.2	0.0
Max	3	1	1	0	3	0
Min	0	0	0	0	0	0
Med	0	0	0	0	0	0
Count	6	6	6	6	6	6

<b>Ques54</b>						
<b>Requests for delivery of additional information from INAC.</b>						
	Labour - Field Staff	Labour - Drafting and Calculations	Labour - Administration	Total Labour	Transportation	
Sum	1	0	0	0	1	0
Avg	0.0	0.0	0.0	0.0	0.0	0.0
Max	1	0	0	0	1	0
Min	0	0	0	0	0	0
Med	0	0	0	0	0	0
Count	1	0	0	0	1	0

<b>Ques55</b>						
<b>Requests for delivery of additional information from PSPC.</b>						
	Labour - Field Staff	Labour - Drafting and Calculations	Labour - Administration	Total Labour	Transportation	
Sum	0	0	0	0	0	0
Avg	0.0	0.0	0.0	0.0	0.0	0.0
Max	0	0	0	0	0	0
Min	0	0	0	0	0	0
Med	0	0	0	0	0	0
Count	0	0	0	0	0	0

<b>Ques56</b>						
<b>Download NRCan/SGB open cadastral data for evidence searches</b>						
	Labour - Field Staff	Labour - Drafting and Calculations	Labour - Administration	Total Labour	Transportation	
Sum	30	1	16	7	54	12
Avg	0.4	0.0	0.2	0.1	0.7	0.2
Max	2	1	5	2	5	12
Min	0	0	0	0	0	0
Med	0	0	0	0	0	0
Count	26	1	10	4	34	1

**Ques57**

**Approval to enter the First Nation and conduct field work process.**

	CLS	Labour - Field Staff	Labour - Drafting and Calculations	Labour - Administration	Total Labour	Transportation
Sum	55	0	2	3	60	0
Avg	0.8	0.0	0.0	0.0	0.8	0.0
Max	2	0	1	1	2	0
Min	0	0	0	0	0	0
Med	1	0	0	0	1	0
Count	53	0	2	3	57	0

## Appendix 6 – Part B Project Field Execution Data Summary

Ques61						
Mobilization - Getting to the site						
	Labour - Field Staff	Labour - Drafting and Calculations	Labour - Administration	Total Labour	Transportation	
CLS						
Sum	199	359	20	2	580	13254
Avg	2.7	4.9	0.3	0.0	7.9	181.6
Max	32	64	18	2	96	1259
Min	0	0	0	0	0	0
Med	1	2	0	0	3	80
Count	38	62	2	1	62	53

Ques62						
Field Liaison with client						
	Labour - Field Staff	Labour - Drafting and Calculations	Labour - Administration	Total Labour	Transportation	
CLS						
Sum	62	33	2	6	103	160
Avg	0.8	0.5	0.0	0.1	1.4	2.2
Max	12	8	1	4	12	100
Min	0	0	0	0	0	0
Med	0	0	0	0	1	0
Count	34	18	2	2	43	3

Ques63						
Line cutting and blazing						
	Labour - Field Staff	Labour - Drafting and Calculations	Labour - Administration	Total Labour	Transportation	
CLS						
Sum	244	612	0	1	146	830
Avg	3.3	8.4	0.0	0.0	2.0	11.4
Max	50	140	0	1	2	700
Min	0	0	0	0	2	0
Med	0	0	0	0	2	0
Count	13	19	0	1	73	3

<b>Ques64</b>						
<b>Hiring local capacity</b>						
	Labour - Field Staff	Labour - Drafting and Calculations	Labour - Administration	Total Labour	Transportation	
CLS						
Sum	22	2	0	4	28	700
Avg	0.3	0.0	0.0	0.1	0.4	9.6
Max	4	2	0	3	9	500
Min	0	0	0	0	0	0
Med	0	0	0	0	0	0
Count	9	1	0	2	9	3

<b>Ques65</b>						
<b>Addressing topography</b>						
	Labour - Field Staff	Labour - Drafting and Calculations	Labour - Administration	Total Labour	Transportation	
CLS						
Sum	47	120	1	0	168	30
Avg	0.6	1.6	0.0	0.0	2.3	0.4
Max	10	36	1	0	40	30
Min	0	0	0	0	0	0
Med	0	0	0	0	0	0
Count	14	19	1	0	21	1

<b>Ques66</b>						
<b>Initial control establishment</b>						
	Labour - Field Staff	Labour - Drafting and Calculations	Labour - Administration	Total Labour	Transportation	
CLS						
Sum	103	176	11	0	290	188
Avg	1.4	2.4	0.2	0.0	4.0	2.6
Max	18	18	2	0	36	80
Min	0	0	0	0	0	0
Med	0	1	0	0	2	0
Count	29	53	9	0	56	8

<b>Ques67</b>						
<b>Georeferencing</b>						
	Labour - Field Staff	Labour - Drafting and Calculations	Labour - Administration	Total Labour	Transportation	
CLS						
Sum	100	120	29	5	254	63
Avg	1.4	1.6	0.4	0.1	3.5	0.9
Max	25	12	4	1	25	30
Min	0	0	0	0	0	0
Med	1	1	0	0	2	0
Count	38	48	17	5	63	5

<b>Ques68</b>						
<b>Evidence searches</b>						
	Labour - Field Staff	Labour - Drafting and Calculations	Labour - Administration	Total Labour	Transportation	
CLS						
Sum	275	638.3	12	1	926.3	946
Avg	3.8	8.7	0.2	0.0	12.7	13.0
Max	41	41	6	1	82	400
Min	0	0	0	0	0	0
Med	1	5.3	0	0	7	0
Count	38	70	4	1	71	11

<b>Ques69</b>						
<b>Resolve conflict between occupation and cadastral fabric</b>						
	Labour - Field Staff	Labour - Drafting and Calculations	Labour - Administration	Total Labour	Transportation	
CLS						
Sum	22	33	7	4	0	30
Avg	0.301	0.452	0.096	0.055	0.000	0.411
Max	4	8	3	4	0	20
Min	0	0	0	0	0	0
Med	0	0	0	0	0	0
Count	10	7	4	1	0	2

<b>Ques70</b>						
<b>Resolve conflict between cadastral evidence locations</b>						
CLS	Labour - Field Staff	Labour - Drafting and Calculations	Labour - Administration	Total Labour	Transportation	
Sum	90	72	42	0	204	527
Avg	1.233	0.986	0.575	0.000	2.795	7.219
Max	10	10	16	0	31	300
Min	0	0	0	0	0	0
Med	0	0	0	0	0	0
Count	26	13	7	0	28	4

<b>Ques71</b>						
<b>Boundary demarcation</b>						
CLS	Labour - Field Staff	Labour - Drafting and Calculations	Labour - Administration	Total Labour	Transportation	
Sum	233	758	69	0	1060	2245
Avg	3.2	10.4	0.9	0.0	14.5	30.8
Max	50	50	30	0	91	1000
Min	0	0	0	0	0	0
Med	0	5	0	0	6	0
Count	33	66	12	0	70	9

<b>Ques72</b>						
<b>Making Connections to provincial survey systems</b>						
CLS	Labour - Field Staff	Labour - Drafting and Calculations	Labour - Administration	Total Labour	Transportation	
Sum	26	66	11	0	103	20
Avg	0.4	0.9	0.2	0.0	1.4	0.3
Max	8	8	5	0	16	10
Min	0	0	0	0	0	0
Med	0	0	0	0	0	0
Count	10	17	3	0	19	2

<b>Ques73</b>						
<b>Project adjustments</b>						
	Labour - Field Staff	Labour - Drafting and Calculations	Labour - Administration	Total Labour	Transportation	
CLS						
Sum	18	30	11	0	59	1520
Avg	0.247	0.411	0.151	0.000	0.808	20.822
Max	5	16	5	0	22	1000
Min	0	0	0	0	0	0
Med	0	0	0	0	0	0
Count	9	4	4	0	10	3

<b>Ques74</b>						
<b>On site project meetings</b>						
	Labour - Field Staff	Labour - Drafting and Calculations	Labour - Administration	Total Labour	Transportation	
CLS						
Sum	33	15	0	2	50	55
Avg	0.5	0.2	0.0	0.0	0.7	0.8
Max	4	3	0	2	6	25
Min	0	0	0	0	0	0
Med	0	0	0	0	0	0
Count	21	10	0	1	25	3

<b>Ques75</b>						
<b>Demobilizing</b>						
	Labour - Field Staff	Labour - Drafting and Calculations	Labour - Administration	Total Labour	Transportation	
CLS						
Sum	129	205	0	0	334	10555
Avg	1.8	2.8	0.0	0.0	4.6	144.6
Max	12	24	0	0	36	1500
Min	0	0	0	0	0	0
Med	0	1	0	0	2	10
Count	31	55	0	0	55	38

## Appendix 7 – Part B Project Analysis Data Summary

<b>Ques77</b>					
<b>Internal Quality Control on field returns</b>					
CLS	Labour - Field Staff	Labour - Drafting and Calculations	Labour - Administration		Total Labour
Sum	185	44	175	12	416
Avg	2.534	0.603	2.397	0.164	5.699
Max	20	24	20	4	56
Min	0	0	0	0	0
Med	1	0	1	0	2
Count	57	10	44	4	72

<b>Ques78</b>					
<b>MyCLSS Process to Support Plan</b>					
CLS	Labour - Field Staff	Labour - Drafting and Calculations	Labour - Administration		Total Labour
Sum	104	0	18	16	138
Avg	1.425	0.000	0.247	0.219	1.890
Max	8	0	3	8	16
Min	0	0	0	0	0
Med	1	0	0	0	1
Count	64	0	12	6	68

<b>Ques79</b>					
<b>Drafting/CAD Work</b>					
CLS	Labour - Field Staff	Labour - Drafting and Calculations	Labour - Administration		Total Labour
Sum	444	32	1215	12	1703
Avg	6.1	0.4	16.6	0.2	23.3
Max	235	10	140	6	375
Min	0	0	0	0	0
Med	1	0	10	0	12
Count	38	6	63	3	72

<b>Ques80</b>					
<b>Quality Control Checks on the Plans</b>					
CLS	Labour - Field Staff	Labour - Drafting and Calculations	Labour - Administration	Total Labour	
Sum	324	12	112	16	464
Avg	4.438	0.164	1.534	0.219	6.356
Max	92	8	20	10	92
Min	0	0	0	0	0
Med	2	0	0	0	2
Count	70	2	24	5	70

<b>Ques81</b>						
<b>Plotting/Printing of Final Plans</b>						
CLS	Labour - Field Staff	Labour - Drafting and Calculations	Labour - Administration	Total Labour	Transportation	
Sum	47	1	75	11	134	0
Avg	0.6	0.0	1.0	0.2	1.8	0.0
Max	4	1	8	4	12	0
Min	0	0	0	0	0	0
Med	0	0	1	0	1	0
Count	26	1	42	7	62	0

<b>Ques82</b>						
<b>Client Liaison to Finalize Product</b>						
CLS	Labour - Field Staff	Labour - Drafting and Calculations	Labour - Administration	Total Labour	Transportation	
Sum	63	0	2	11	76	120
Avg	0.9	0.0	0.0	0.2	1.0	1.6
Max	4	0	1	5	5	120
Min	0	0	0	0	0	0
Med	1	0	0	0	1	0
Count	49	0	2	5	52	1

<b>Ques83</b>						
<b>First Nation Approval Process</b>						
	Labour - Field Staff	Labour - Drafting and Calculations	Labour - Administration	Total Labour	Transportation	
CLS						
Sum	99	0	0	13	112	330
Avg	1.4	0.0	0.0	0.2	1.5	4.5
Max	30	0	0	2	30	200
Min	0	0	0	0	0	0
Med	1	0	0	0	1	0
Count	51	0	0	11	58	3

<b>Ques84</b>						
<b>NRCan/SGB Approval Process</b>						
	Labour - Field Staff	Labour - Drafting and Calculations	Labour - Administration	Total Labour	Transportation	
CLS						
Sum	89	0	21	15	125	1
Avg	1.2	0.0	0.3	0.2	1.7	0.0
Max	10	0	8	4	16	1
Min	0	0	0	0	0	0
Med	1	0	0	0	1	0
Count	50	0	7	6	55	1

<b>Ques85</b>						
<b>INAC Approval Process</b>						
	Labour - Field Staff	Labour - Drafting and Calculations	Labour - Administration	Total Labour	Transportation	
CLS						
Sum	0	0	0	2	2	0
Avg	0.0	0.0	0.0	0.0	0.0	0.0
Max	0	0	0	1	1	0
Min	0	0	0	0	0	0
Med	0	0	0	0	0	0
Count	0	0	0	2	2	0

<b>Ques86</b>						
<b>Provincial approval Process</b>						
	Labour - Field Staff	Labour - Drafting and Calculations	Labour - Administration	Total Labour	Transportation	
CLS						
Sum	21	0	24	4	49	0
Avg	0.3	0.0	0.3	0.1	0.7	0.0
Max	5	0	10	2	15	0
Min	0	0	0	0	0	0
Med	0	0	0	0	0	0
Count	9	0	5	2	9	0

<b>Ques87</b>						
<b>NRCan/SGB Plan Recording/Registration Process</b>						
	Labour - Field Staff	Labour - Drafting and Calculations	Labour - Administration	Total Labour	Transportation	
CLS						
Sum	63	0	18	20	101	0
Avg	0.9	0.0	0.2	0.3	1.4	0.0
Max	8	0	8	10	16	0
Min	0	0	0	0	0	0
Med	1	0	0	0	1	0
Count	40	0	8	9	47	0

## Appendix 8 – Part B Project Impact of Delays Data Summary

Ques89						
Objections From Client						
	Labour - Field Staff	Labour - Drafting and Calculations	Labour - Administration	Total Labour	Transportation	
CLS						
Sum	4	4	2	0	10	26
Avg	0.1	0.1	0.0	0.0	0.1	0.4
Max	3	4	2	0	7	25
Min	0	0	0	0	0	0
Med	0	0	0	0	0	0
Count	2	1	1	0	2	2

Ques90						
Change In Scope						
	Labour - Field Staff	Labour - Drafting and Calculations	Labour - Administration	Total Labour	Transportation	
CLS						
Sum	16	40	15	1	72	1550
Avg	0.2	0.5	0.2	0.0	1.0	21.2
Max	5	16	5	1	21	1000
Min	0	0	0	0	0	0
Med	0	0	0	0	0	0
Count	7	5	5	1	7	3

Ques91						
Project Put On Hold						
	Labour - Field Staff	Labour - Drafting and Calculations	Labour - Administration	Total Labour	Transportation	
CLS						
Sum	6	2	1	0	9	0
Avg	0.082	0.027	0.014	0.000	0.123	0.000
Max	2	2	1	0	4	0
Min	0	0	0	0	0	0
Med	0	0	0	0	0	0
Count	5	1	1	0	5	0

<b>Ques92</b>						
<b>Client Changes Mind</b>						
	Labour - Field Staff	Labour - Drafting and Calculations	Labour - Administration	Total Labour	Transportation	CLS
Sum	2	0	0	2	0	
Avg	0.027	0.000	0.000	0.027	0.000	
Max	2	0	0	2	0	
Min	0	0	0	0	0	
Med	0	0	0	0	0	
Count	1	0	0	1	0	

<b>Ques93</b>						
<b>Objections from Family</b>						
	Labour - Field Staff	Labour - Drafting and Calculations	Labour - Administration	Total Labour	Transportation	CLS
Sum	2	0	0	2	0	3
Avg	0.0	0.0	0.0	0.1	0.0	0.0
Max	2	0	0	2	0	3
Min	0	0	0	0	0	0
Med	0	0	0	0	0	0
Count	1	0	0	1	0	1

<b>Ques94</b>						
<b>Dispute Between Neighbors</b>						
	Labour - Field Staff	Labour - Drafting and Calculations	Labour - Administration	Total Labour	Transportation	CLS
Sum	0	0	0	0	0	4
Avg	0.000	0.000	0.000	0.055	0.000	0.055
Max	0	0	0	0	0	4
Min	0	0	0	0	0	0
Med	0	0	0	0	0	0
Count	0	0	0	1	0	1

<b>Ques95</b>						
<b>Missing or Disturbed Monuments</b>						
	Labour - Field Staff	Labour - Drafting and Calculations	Labour - Administration	Total Labour	Transportation	CLS
Sum	32	63	22	0	117	10
Avg	0.4	0.9	0.3	0.0	1.6	0.1
Max	6	12	10	0	25	10
Min	0	0	0	0	0	0
Med	0	0	0	0	0	0
Count	13	14	6	0	15	1

<b>Ques96</b>						
<b>Delays Getting Approval From Band Signing Authority</b>						
	Labour - Field Staff	Labour - Drafting and Calculations	Labour - Administration	Total Labour	Transportation	CLS
Sum	6	0	1	0	7	0
Avg	0.1	0.0	0.0	0.0	0.1	0.0
Max	1	0	1	0	1	0
Min	0	0	0	0	0	0
Med	0	0	0	0	0	0
Count	6	0	1	0	7	0

<b>Ques97</b>						
<b>Delays Getting Pre-Approval from Client</b>						
	Labour - Field Staff	Labour - Drafting and Calculations	Labour - Administration	Total Labour	Transportation	CLS
Sum	2	0	0	0	2	0
Avg	0.0	0.0	0.0	0.0	0.0	0.0
Max	2	0	0	0	2	0
Min	0	0	0	0	0	0
Med	0	0	0	0	0	0
Count	1	0	0	0	1	0

<b>Ques98</b>						
<b>Delays Getting Post Approval From Band Signing Authority</b>						
	Labour - Field Staff	Labour - Drafting and Calculations	Labour - Administration	Total Labour	Transportation	
CLS						
Sum	16	0	0	2	18	0
Avg	0.2	0.0	0.0	0.0	0.2	0.0
Max	5	0	0	2	5	0
Min	0	0	0	0	0	0
Med	0	0	0	0	0	0
Count	9	0	0	1	10	0

<b>Ques99</b>						
<b>Delays Getting Post Approval from Client</b>						
	Labour - Field Staff	Labour - Drafting and Calculations	Labour - Administration	Total Labour	Transportation	
CLS						
Sum	0	0	0	0	0	0
Avg	0.0	0.0	0.0	0.0	0.0	0.0
Max	0	0	0	0	0	0
Min	0	0	0	0	0	0
Med	0	0	0	0	0	0
Count	0	0	0	0	0	0

<b>Ques100</b>						
<b>Delays Getting Survey Instructions</b>						
	Labour - Field Staff	Labour - Drafting and Calculations	Labour - Administration	Total Labour	Transportation	
CLS						
Sum	3	0	0	0	3	0
Avg	0.0	0.0	0.0	0.0	0.0	0.0
Max	1	0	0	0	1	0
Min	0	0	0	0	0	0
Med	0	0	0	0	0	0
Count	3	0	0	0	3	0

<b>Ques101</b>						
<b>Delays Getting NRCan/SGB Final Approval</b>						
	Labour - Field Staff	Labour - Drafting and Calculations	Labour - Administration	Total Labour	Transportation	CLS
Sum	13	0	1	0	0	0
Avg	0.2	0.0	0.0	0.0	0.0	0.0
Max	10	0	1	0	0	0
Min	0	0	0	0	0	0
Med	0	0	0	0	0	0
Count	4	0	1	0	0	0

<b>Ques102</b>						
<b>Critical Issue Notice from NRCan/SGB Relating to Plan</b>						
	Labour - Field Staff	Labour - Drafting and Calculations	Labour - Administration	Total Labour	Transportation	CLS
Sum	29	22	16	0	67	1500
Avg	0.4	0.3	0.2	0.0	0.9	20.5
Max	10	12	2	0	20	1500
Min	0	0	0	0	0	0
Med	0	0	0	0	0	0
Count	14	2	11	0	18	1

<b>Ques103</b>						
<b>Critical Issue Notice From NRCan/SGB relating to Report</b>						
	Labour - Field Staff	Labour - Drafting and Calculations	Labour - Administration	Total Labour	Transportation	CLS
Sum	1	0	1	0	2	0
Avg	0.0	0.0	0.0	0.0	0.0	0.0
Max	1	0	1	0	1	0
Min	0	0	0	0	0	0
Med	0	0	0	0	0	0
Count	1	0	1	0	2	0

<b>Ques104</b>						
<b>Critical Issue Notice from NRCan/SGB Relating to Digital Spatial File</b>						
	Labour - Field Staff	Labour - Drafting and Calculations	Labour - Administration	Total Labour	Transportation	
CLS						
Sum	4	0	6	0	10	0
Avg	0.1	0.0	0.1	0.0	0.1	0.0
Max	1	0	2	0	3	0
Min	0	0	0	0	0	0
Med	0	0	0	0	0	0
Count	4	0	4	0	7	0

<b>Ques105</b>						
<b>Change in NRCan/SGB Procedure</b>						
	Labour - Field Staff	Labour - Drafting and Calculations	Labour - Administration	Total Labour	Transportation	
CLS						
Sum	9	0	6	0	15	0
Avg	0.1	0.0	0.1	0.0	0.2	0.0
Max	3	0	6	0	9	0
Min	0	0	0	0	0	0
Med	0	0	0	0	0	0
Count	4	0	1	0	4	0

<b>Ques106</b>						
<b>Undocumented or Unexpected Land Use or Land Rights</b>						
	Labour - Field Staff	Labour - Drafting and Calculations	Labour - Administration	Total Labour	Transportation	
CLS						
Sum	8	2	4	2	16	0
Avg	0.1	0.0	0.1	0.0	0.2	0.0
Max	3	2	4	2	10	0
Min	0	0	0	0	0	0
Med	0	0	0	0	0	0
Count	4	1	1	1	4	0

## Appendix 9 – First Nations/Provincial Comparative Analysis Questionnaire

**We need your input!**  
**Nous avons besoin de votre avis!**

Greetings,

*Un message en français suivra.*

Thank you for agreeing to contribute to this important study. The Department of Indigenous Affairs and Northern Development Canada (INAC) and Natural Resources Canada (NRCan/SGB), in collaboration with the Association of Canada Lands Surveyors (ACLS) are requesting your comments and opinions in regards to the cost drivers related to a specific land survey project you have undertaken. We have been retained by the Government of Canada to conduct this study. The following questionnaire has up to 105 questions, depending on your answers and should take 1.5 hours to complete.

This questionnaire is necessary to get a thorough understanding of the key factors impacting the current procedures and related cost drivers of legal surveys on First Nation lands. The information you provide will be held in the strictest confidence; therefore, we are encouraging honest and direct responses to ensure quality findings and recommendations.

We ask that the questionnaire be completed by January 20th, 2017 in order to ensure the data you have provided is captured in the study.

We thank you for your important input!

Salutations,  
Meldrum Surveying Limited

*Bonjour,*

*Nous vous remercions d'avoir accepté de participer à cet important sondage. Le ministère des Affaires autochtones et du Nord Canada (AANC) et Ressources naturelles Canada (NRCan/DAG), de concert avec l'Association des arpenteurs des terres du Canada (AATC), sollicitent vos commentaires et opinions concernant les inducteurs de coûts relatifs à un projet d'arpentage que vous avez entrepris. Le gouvernement du Canada a retenu nos services pour mener ce sondage. Le questionnaire qui suit comporte 105 questions et, en fonction de vos réponses, devrait prendre 1,5 heures pour terminer.*

*Le présent questionnaire a été conçu afin d'acquérir une compréhension approfondie des principaux facteurs qui exercent une influence sur les procédures actuelles et les inducteurs des coûts associés aux levés officiels des terres des Premières nations. L'information que vous nous fournirez demeurera strictement confidentielle; par conséquent, nous vous invitons à nous fournir des réponses franches et directes afin que nous puissions en tirer des constats et des recommandations de la plus haute qualité.*

***Nous vous demandons de nous retourner le questionnaire dûment rempli avant le 20 janvier 2017 afin d'assurer que les données soient prises en compte dans l'analyse du sondage.***

***Nous vous remercions de votre importante contribution!***

***Salutations,  
Meldrum Surveying Limited***

**Part 1: Data About Your Example Project**  
*Partie 1 : Données sur votre projet d'exemple*

1. For plan comparison purposes, please provide your name.  
*Veillez indiquer votre nom pour les comparaisons des plans.*

2. Please enter the plan number for the example project you are using to answer this questionnaire.  
*Veillez inscrire le numéro du plan pour le projet que vous nous donnez à titre d'exemple dans le cadre de ce questionnaire.*

3. When were you first contacted about this project?  
*Quand avez-vous été approché à propos de ce projet?*

Date  
Date

MM	DD	YYYY
<input type="text"/>	<input type="text"/>	<input type="text"/>

4. When did the work for this project commence?  
*Quand les travaux ont-ils commencé pour ce projet d'arpentage?*

Date  
Date

MM	DD	YYYY
<input type="text"/>	<input type="text"/>	<input type="text"/>

5. When was the plan registered?  
*Quand le plan a-t-il été enregistré?*

Date  
Date

MM	DD	YYYY
<input type="text"/>	<input type="text"/>	<input type="text"/>

6. In what season was the field work for this survey performed?

*Les travaux sur le terrain nécessaires pour ce projet d'arpentage ont été exécutés pendant quelle saison?*

- Spring  
*Printemps*
- Summer  
*Été*
- Fall  
*Automne*
- Winter  
*Hiver*

7. What type of survey was this?

*Type de levés?*

- Jurisdictional Boundary  
*Limites juridictionnelles*
- Parcel  
*Parcelle*
- Rights of Way  
*Droits de passage*
- Parcel Severance/Subdivision  
*Coupure de colis/subdivision*

8. Please indicate the total distance surveyed for this project (in linear metres).

*Veillez indiquer la distance totale arpentée dans le cadre de ce projet (en mètres linéaires).*

9. Please indicate the number of monuments required for this project.

*Veillez indiquer le nombre de bornes repères requises pour ce projet.*

10. If there was a requirement to cut vegetation for this project, please indicate the length of line that required cutting.

*Si votre projet a nécessité la coupe de végétation, veuillez indiquer la longueur de ligne que vous avez dû couper.*

- less than 100m  
*Moins de 100m*
- 101 - 500m  
*Entre 101 - 500m*
- 501 - 1000m  
*Entre 501 - 1000m*
- Greater than 1000m  
*Plus de 1000m*
- Not Applicable  
*Sans objet*

11. Who initiated the survey project that you are using as an example to respond to this questionnaire? If the project was initiated jointly by more than one organization, please check all that apply.

*Qui est à l'origine du projet d'arpentage que vous utilisez à titre d'exemple pour répondre à ce questionnaire? Si le projet a été entrepris conjointement par plus d'une organisation, veuillez cocher toutes les réponses qui s'appliquent.*

- First Nation staff member  
*Employé d'une Première nation*
- First Nation Community member  
*Membre d'une Première nation RNCan/DAG*
- NRCan/SGB  
*RNCan/DAG*
- INAC  
*AANC*
- Public Services and Procurement Canada (PSPC)  
*Services publics et Approvisionnement Canada (SPAC)*
- National Aboriginal Land Managers Association (NALMA)  
*Association nationale des gestionnaires des terres autochtones (ANGTA)*
- First Nations Land Management Resource Center (FNLMRC)  
*Centre de ressources sur la gestion des terres des Premières nations*
- Lawyer  
*Avocat*
- Client  
*Client*
- Other (please specify)  
*Autres (veuillez préciser)*

12. Was this survey project the subject of a competitive bidding process?

*Ce projet d'arpentage a-t-il fait l'objet d'un processus d'appel d'offres?*

Yes  
*Oui*

No  
*Non*

13. Did the bidding process for this project influence how you prepared your proposal?

*Le processus d'appel d'offres a-t-il influencé la manière dont vous avez préparé votre proposition?*

Yes  
*Oui*

No  
*Non*

If you answered yes, please explain how the bidding process influenced your proposal.  
*Si vous avez répondu oui, veuillez expliquer de quelle manière l'appel d'offres a influencé votre proposition.*

14. Please describe how the condition of boundary evidence impacted the cost of this survey.

*Veuillez décrire de quelle manière l'état des bornes repères indiquant les limites a eu des répercussions sur le coût de ce projet.*

15. Please describe how your familiarity with the location of evidence impacted the cost of this survey.

*Veuillez présenter la manière dont votre connaissance de l'emplacement des bornes repères s'est reflétée sur les coûts de ce projet.*

16. Please indicate all of the organizations (or individuals) you interacted with during the course of your work on this survey project.

*Veuillez indiquer toutes les organisations (ou personnes) avec qui vous avez interagi dans le cadre des travaux que vous avez réalisés pour ce projet d'arpentage.*

INAC  
*AANC*

NRCan/SGB  
*RNCan/DAG*

- PSPC  
SPAC
- NALMA  
ANGTA
- First Nation Council  
*Conseil d'une Première nation*
- First Nation Staff  
*Personnel d'une Première nation*
- Community Member - Client  
*Membre d'une communauté – Client*
- Community Member - Neighbor  
*Membre d'une communauté – Voisin*
- FNLMRC  
*Centre de ressources sur la gestion des terres des Premières nations*
- Planner  
*Planificateur*
- Engineer  
*Ingénieur*
- Utility owner  
*Propriétaire d'une installation de service public*
- Land Registry Office  
*Bureau d'enregistrement*
- Lawyer  
*Avocat*
- Land Division Committee  
*Comité de la division des terres*
- Planning Advisory Committee  
*Comité consultatif de planification*
- Committee of Adjustment  
*comité de dérogation mineure*
- Municipal Office  
*Bureau Municipal*
- Other (please specify)  
Autre (veuillez préciser)

17. What was the scope of work for this survey project? Please describe in as much detail as possible.  
*En quoi consistait l'étendue des travaux réalisés dans le cadre de ce projet d'arpentage? Veuillez répondre de la façon la plus détaillée possible.*

18. Was the scope of work clear when the project was initiated?  
*L'étendue des travaux était-elle précise dès l'amorce du projet?*

Yes  
*Oui*

No  
*Non*

If the answer was no, please describe the clarifications that were required.  
*Si vous avez répondu non, veuillez décrire les précisions qui ont dû être apportées.*

19. When you were undertaking this project, were there other recent surveys in this area that you expected to rely on as a source of evidence?

*Au cours de l'exécution de ce projet, y avait-il d'autres levés récents dans cette région sur lesquels vous aviez prévu vous appuyer en tant que source d'éléments probants?*

Yes - my own  
*Oui – le mien*

Yes - from another surveyor  
*Oui – celui d'un autre arpenteur*

No  
*Non*

20. Were there opportunities to bundle the work for this survey with other projects?

*Y a-t-il eu des occasions de jumeler les travaux réalisés dans le cadre de ce levé avec ceux d'autres projets?*

Yes  
*Oui*

No  
*Non*

Don't know  
*Je l'ignore*

If yes, please describe.  
*Si oui, veuillez préciser*

21. Please indicate if there were any additional costs associated with this project and the approximate dollar value.

*Veillez préciser si d'autres coûts ont été associés à ce projet et leur valeur monétaire approximative.*

	Less than \$100 <i>Moins de 100\$</i>	101-\$500 <i>de 101 à 500\$</i>	501-\$1000 <i>de 501 à 1000\$</i>	1001-\$5000 <i>de 1001 à 5000 \$</i>	Greater than \$5000 <i>Plus de 5000\$</i>
ATV Rental <i>Location de VTT</i>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other vehicle rental <i>Location d'un autre véhicule</i>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Air transportation (airplane) <i>Transport aérien (avion)</i>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Air transportation (helicopter) <i>Transport aérien (hélicoptère)</i>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Transportation across water (boat or ferry) <i>Transport marin (bateau ou traversier)</i>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Line cutting equipment rental <i>Location d'équipement de coupage de lignes</i>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other equipment rental <i>Location d'autre équipement</i>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Hotel accommodation <i>Hébergement à l'hôtel</i>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Local resource contracts <i>Contrats avec des ressources locales</i>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Meals or other expenses <i>Repas et autres dépenses</i>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Not applicable <i>Sans objet</i>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Other (please specify)  
Autre (veuillez préciser)

**Part 2: Activity Pools - Procurement**  
*Partie 2 : Groupes d'activités – approvisionnement*

The following activities pertain to the work required to secure the contract to undertake your example project. For each of the activities involved in this process (outlined in the questions to follow), please estimate the number of hours of labour incurred and/or distance travelled for this project during the procurement process. At the end of this section, there is an option for you to provide additional information or comments that you believe was an important consideration for the procurement process of this project.

*Les activités suivantes concernent les travaux requis en vue d'obtenir le contrat pour réaliser le projet que vous avez donné à titre d'exemple. Pour chaque activité comprise dans ce processus (et présentée dans les questions qui suivront), veuillez estimer le nombre d'heures de travail que vous y avez consacrées et la distance parcourue uniquement dans le cadre du processus d'approvisionnement pour ce projet. À la fin de la présente section, vous disposerez d'un espace dans lequel vous pourrez inscrire tout renseignement supplémentaire ou commentaire pertinent au sujet d'éléments qui ont constitué d'importants facteurs à prendre en considération lors du processus d'approvisionnement pour ce projet.*

22. Initial contact (including phone calls, meetings, site visits, etc).

*Premier contact (y compris les appels téléphoniques, les réunions, les visites des sites, etc.)*

Labour - CLS (in hours)

*Main-d'œuvre – ATC (en heures)*

Labour - Field Staff (in hours)

*Main-d'œuvre – Personnel sur le terrain (en heures)*

Labour - Drafting and Calculations (in hours)

*Main-d'œuvre – Ébauches et calculs (en heures)*

Labour - Administration (in hours)

*Main-d'œuvre – Administration (en heures)*

Transportation (in kms)

*Transport (en kilomètres)*

23. Initial research for estimating - land interests/title.

*Recherche initiale pour l'estimation – Intérêts ou titres fonciers.*

Labour - CLS (in hours)

*Main-d'œuvre ATC (en heures)*

Labour - Field Staff (in hours)

*Main-d'œuvre Personnel sur le terrain (en heures)*

Labour - Drafting and Calculations (in hours)

*Main-d'œuvre Ébauches et calculs (en heures)*

Labour - Administration (in hours)

*Main-d'œuvre*

*Administration (en heures)*

Transportation (in kms)

*Transport (en kilomètres)*

24. Initial research for estimating - land use plans.

*Recherche initiale pour l'estimation – Plans d'utilisation des terres.*

Labour - CLS (in hours)

*Main-d'œuvre ATC (en heures)*

Labour - Field Staff (in hours)

*Main-d'œuvre Personnel sur le terrain (en heures)*

Labour - Drafting and Calculations (in hours)

*Main-d'œuvre Ébauches et calculs (en heures)*

Labour - Administration (in hours)

*Main-d'œuvre*

*Administration (en heures)*

Transportation (in kms)

*Transport (en kilomètres)*

**25. Phone calls.**

*Appels téléphoniques.*

Labour - CLS (in hours)

*Main-d'œuvre ATC (en heures)*

Labour - Field Staff (in hours)

*Main-d'œuvre Personnel sur le terrain (en heures)*

Labour - Drafting and Calculations (in hours)

*Main-d'œuvre Ébauches et calculs (en heures)*

Labour - Administration (in hours)

*Main-d'œuvre*

*Administration (en heures)*

Transportation (in kms)

*Transport (en kilomètres)*

**26. Client visits to surveyors office.**

*Visites du client au bureau de l'arpenteur.*

Labour - CLS (in hours)

*Main-d'œuvre ATC (en heures)*

Labour - Field Staff (in hours)

*Main-d'œuvre Personnel sur le terrain (en heures)*

Labour - Drafting and Calculations (in hours)

*Main-d'œuvre Ébauches et calculs (en heures)*

Labour - Administration (in hours)

*Main-d'œuvre*

*Administration (en heures)*

Transportation (in kms)

*Transport (en kilomètres)*

27. Community consultation.

*Consultation de la communauté.*

Labour - CLS (in hours)

*Main-d'œuvre ATC (en heures)*

Labour - Field Staff (in hours)

*Main-d'œuvre Personnel sur le terrain (en heures)*

Labour - Drafting and Calculations (in hours)

*Main-d'œuvre Ébauches et calculs (en heures)*

Labour - Administration (in hours)

*Main-d'œuvre*

*Administration (en heures)*

Transportation (in kms)

*Transport (en kilomètres)*

28. Government Agency (Municipality, NRCan/SGB or INAC) Office Visit.

*Visite des organismes gouvernementaux (Municipalité, RNCAN/DAG ou AANC) au bureau de l'arpenteur.*

Labour - CLS (in hours)

*Main-d'œuvre ATC (en heures)*

Labour - Field Staff (in hours)

*Main-d'œuvre Personnel sur le terrain (en heures)*

Labour - Drafting and Calculations (in hours)

*Main-d'œuvre Ébauches et calculs (en heures)*

Labour - Administration (in hours)

*Main-d'œuvre*

*Administration (en heures)*

Transportation (in kms)

*Transport (en kilomètres)*

**29. Planning Advisory Committee**  
*Comité consultatif de planification*

Labour - CLS (in hours)  
*Main-d'œuvre ATC (en heures)*

Labour - Field Staff (in hours)  
*Main-d'œuvre Personnel sur le terrain (en heures)*

Labour - Drafting and Calculations (in hours)  
*Main-d'œuvre Ébauches et calculs (en heures)*

Labour - Administration (in hours)  
*Main-d'œuvre Administration (en heures)*

Transportation (in kms)  
*Transport (en kilomètres)*

**30. Land Division Committee**  
*Comité de la division des terres*

Labour - CLS (in hours)  
*Main-d'œuvre ATC (en heures)*

Labour - Field Staff (in hours)  
*Main-d'œuvre Personnel sur le terrain (en heures)*

Labour - Drafting and Calculations (in hours)  
*Main-d'œuvre Ébauches et calculs (en heures)*

Labour - Administration (in hours)  
*Main-d'œuvre Administration (en heures)*

Transportation (in kms)  
*Transport (en kilomètres)*

**31. Committee of Adjustment**  
**comité de dérogation mineure**

Labour - CLS (in hours)

*Main-d'œuvre ATC (en heures)*

Labour - Field Staff (in hours)

*Main-d'œuvre Personnel sur le terrain (en heures)*

Labour - Drafting and Calculations (in hours)

*Main-d'œuvre Ébauches et calculs (en heures)*

Labour - Administration (in hours)

*Main-d'œuvre*

*Administration (en heures)*

Transportation (in kms)

*Transport (en kilomètres)*

**32. Acquiring high resolution imagery.**

***Acquisition d'images à haute résolution.***

Labour - CLS (in hours)

*Main-d'œuvre ATC (en heures)*

Labour - Field Staff (in hours)

*Main-d'œuvre Personnel sur le terrain (en heures)*

Labour - Drafting and Calculations (in hours)

*Main-d'œuvre Ébauches et calculs (en heures)*

Labour - Administration (in hours)

*Main-d'œuvre*

*Administration (en heures)*

Transportation (in kms)

*Transport (en kilomètres)*

**33. Site reconnaissance by viewing imagery.**

*Reconnaissance du site grâce à la visualisation d'images.*

Labour - CLS (in hours)

*Main-d'œuvre ATC (en heures)*

Labour - Field Staff (in hours)

*Main-d'œuvre Personnel sur le terrain (en heures)*

Labour - Drafting and Calculations (in hours)

*Main-d'œuvre Ébauches et calculs (en heures)*

Labour - Administration (in hours)

*Main-d'œuvre*

*Administration (en heures)*

Transportation (in kms)

*Transport (en kilomètres)*

**34. Field reconnaissance.**

*Reconnaissance du site.*

Labour - CLS (in hours)

*Main-d'œuvre ATC (en heures)*

Labour - Field Staff (in hours)

*Main-d'œuvre Personnel sur le terrain (en heures)*

Labour - Drafting and Calculations (in hours)

*Main-d'œuvre Ébauches et calculs (en heures)*

Labour - Administration (in hours)

*Main-d'œuvre*

*Administration (en heures)*

Transportation (in kms)

*Transport (en kilomètres)*

35. Please provide any additional information or comments you believe relevant to the procurement process for this project.

*Veillez fournir tout renseignement ou commentaire supplémentaires qui vous semble pertinent dans le cadre du processus d'approvisionnement pour ce projet.*

**Part 3: Activity Pool - Project Set-up**  
*Partie 3 : Groupe d'activités – mise en œuvre du projet*

The following activities pertain to the work required to set-up your example project, once the contract was secured. For each of the activities involved in this process (outlined in the questions to follow), please estimate the number of hours of labour incurred and/or distance travelled for this survey during the project set-up process. At the end of this section, there is an option for you to provide additional information or comments that you believe was an important consideration for the project set-up process of this project.

*Les activités suivantes concernent les travaux requis en vue de mettre en œuvre le projet que vous avez donné à titre d'exemple, une fois le contrat obtenu. Pour chaque activité comprise dans ce processus (et présentée dans les questions qui suivront), veuillez estimer le nombre d'heures de travail que vous y avez consacrées et la distance parcourue uniquement dans le cadre de la mise en œuvre du projet. À la fin de la présente section, vous disposerez d'un espace dans lequel vous pourrez inscrire tout renseignement supplémentaire ou commentaire pertinent au sujet d'éléments qui ont constitué d'importants facteurs à prendre en considération lors de la mise en œuvre de ce projet.*

**36. Contracting process - Government of Canada.**

*Processus de passation de contrats – gouvernement du Canada.*

Labour - CLS (in hours)

*Main-d'œuvre ATC (en heures)*

Labour - Field Staff (in hours)

*Main-d'œuvre Personnel sur le terrain (en heures)*

Labour - Drafting and Calculations (in hours)

*Main-d'œuvre Ébauches et calculs (en heures)*

Labour - Administration (in hours)

*Main-d'œuvre Administration (en heures)*

Transportation (in kms)

*Transport (en kilomètres)*

37. Contracting process - Other contracting authority.

*Processus de passation de contrats – toute autre autorité contractante.*

Labour - CLS (in hours)

*Main-d'œuvre ATC (en heures)*

Labour - Field Staff (in hours)

*Main-d'œuvre Personnel sur le terrain (en heures)*

Labour - Drafting and Calculations (in hours)

*Main-d'œuvre Ébauches et calculs (en heures)*

Labour - Administration (in hours)

*Main-d'œuvre*

*Administration (en heures)*

Transportation (in kms)

*Transport (en kilomètres)*

38. NRCan/SGB Survey instructions process.

*NRCan/DAG – Processus pour les directives d'arpentage.*

Labour - CLS (in hours)

*Main-d'œuvre ATC (en heures)*

Labour - Field Staff (in hours)

*Main-d'œuvre Personnel sur le terrain (en heures)*

Labour - Drafting and Calculations (in hours)

*Main-d'œuvre Ébauches et calculs (en heures)*

Labour - Administration (in hours)

*Main-d'œuvre*

*Administration (en heures)*

Transportation (in kms)

*Transport (en kilomètres)*

39. Project approval to proceed process.

*Processus d'approbation du projet.*

Labour - CLS (in hours)

*Main-d'œuvre ATC (en heures)*

Labour - Field Staff (in hours)

*Main-d'œuvre Personnel sur le terrain (en heures)*

Labour - Drafting and Calculations (in hours)

*Main-d'œuvre Ébauches et calculs (en heures)*

Labour - Administration (in hours)

*Main-d'œuvre*

*Administration (en heures)*

Transportation (in kms)

*Transport (en kilomètres)*

40. MyCLSS project set-up process.

*Processus de démarrage du projet sur MonSATC.*

Labour - CLS (in hours)

*Main-d'œuvre ATC (en heures)*

Labour - Field Staff (in hours)

*Main-d'œuvre Personnel sur le terrain (en heures)*

Labour - Drafting and Calculations (in hours)

*Main-d'œuvre Ébauches et calculs (en heures)*

Labour - Administration (in hours)

*Main-d'œuvre*

*Administration (en heures)*

Transportation (in kms)

*Transport (en kilomètres)*

41. Detailed research and calculations for survey (legal survey plan and document research, survey control, NRCan/SGB and provincial records for jurisdictional boundaries, precalculation for the position of evidence, download to field data collectors).

*Recherche et calculs détaillés pour l'arpentage (plan d'arpentage officiel et documentation de la recherche, contrôle de l'arpentage, dossiers de la DAG et des provinces concernant les limites juridictionnelles, calculs préliminaires pour déterminer la position des bornes repères, téléchargement vers les programmes de collecte de données sur le terrain).*

Labour - CLS (in hours)

*Main-d'œuvre ATC (en heures)*

Labour - Field Staff (in hours)

*Main-d'œuvre Personnel sur le terrain (en heures)*

Labour - Drafting and Calculations (in hours)

*Main-d'œuvre Ébauches et calculs (en heures)*

Labour - Administration (in hours)

*Main-d'œuvre Administration (en heures)*

Transportation (in kms)

*Transport (en kilomètres)*

42. Detailed search for survey (land interests, Indian lands registry, First Nation records, client records, Provincial records for adjoining lands).

*Recherche détaillée pour l'arpentage (intérêts fonciers, Registre des terres indiennes, dossiers des Premières nations, dossiers du client, dossiers provinciaux des terres adjacentes).*

Labour - CLS (in hours)

*Main-d'œuvre ATC (en heures)*

Labour - Field Staff (in hours)

*Main-d'œuvre Personnel sur le terrain (en heures)*

Labour - Drafting and Calculations (in hours)

*Main-d'œuvre Ébauches et calculs (en heures)*

Labour - Administration (in hours)

*Main-d'œuvre Administration (en heures)*

Transportation (in kms)

*Transport (en kilomètres)*

**43. Requests for delivery of additional information from client.**

*Demandes de renseignements supplémentaires auprès de la client.*

Labour - CLS (in hours)

*Main-d'œuvre ATC (en heures)*

Labour - Field Staff (in hours)

*Main-d'œuvre Personnel sur le terrain (en heures)*

Labour - Drafting and Calculations (in hours)

*Main-d'œuvre Ébauches et calculs (en heures)*

Labour - Administration (in hours)

*Main-d'œuvre*

*Administration (en heures)*

Transportation (in kms)

*Transport (en kilomètres)*

**44. Requests for delivery of additional information from NRCan/SGB.**

*Demandes de renseignements supplémentaires auprès de NRCan/DAG.*

Labour - CLS (in hours)

*Main-d'œuvre ATC (en heures)*

Labour - Field Staff (in hours)

*Main-d'œuvre Personnel sur le terrain (en heures)*

Labour - Drafting and Calculations (in hours)

*Main-d'œuvre Ébauches et calculs (en heures)*

Labour - Administration (in hours)

*Main-d'œuvre*

*Administration (en heures)*

Transportation (in kms)

*Transport (en kilomètres)*

45. Requests for delivery of additional information from INAC.

*Demandes de renseignements supplémentaires auprès d'AANC.*

Labour - CLS (in hours)

*Main-d'œuvre ATC (en heures)*

Labour - Field Staff (in hours)

*Main-d'œuvre Personnel sur le terrain (en heures)*

Labour - Drafting and Calculations (in hours)

*Main-d'œuvre Ébauches et calculs (en heures)*

Labour - Administration (in hours)

*Main-d'œuvre*

*Administration (en heures)*

Transportation (in kms)

*Transport (en kilomètres)*

46. Requests for delivery of additional information from PSPC.

*Demandes de renseignements supplémentaires auprès de SPAC.*

Labour - CLS (in hours)

*Main-d'œuvre ATC (en heures)*

Labour - Field Staff (in hours)

*Main-d'œuvre Personnel sur le terrain (en heures)*

Labour - Drafting and Calculations (in hours)

*Main-d'œuvre Ébauches et calculs (en heures)*

Labour - Administration (in hours)

*Main-d'œuvre*

*Administration (en heures)*

Transportation (in kms)

*Transport (en kilomètres)*

47. Download NRCan/SGB open cadastral data for evidence searches and plan preparation.

*Téléchargement des données cadastrales accessibles au public de RNCan/DAG pour la recherche des bornes repères et la préparation du plan.*

Labour - CLS (in hours)

*Main-d'œuvre ATC (en heures)*

Labour - Field Staff (in hours)

*Main-d'œuvre Personnel sur le terrain (en heures)*

Labour - Drafting and Calculations (in hours)

*Main-d'œuvre Ébauches et calculs (en heures)*

Labour - Administration (in hours)

*Main-d'œuvre*

*Administration (en heures)*

Transportation (in kms)

*Transport (en kilomètres)*

48. Approval to enter the First Nation and conduct field work process.

*Autorisation et processus pour pénétrer sur les terres des Premières nations et procéder aux travaux sur le terrain.*

Labour - CLS (in hours)

*Main-d'œuvre ATC (en heures)*

Labour - Field Staff (in hours)

*Main-d'œuvre Personnel sur le terrain (en heures)*

Labour - Drafting and Calculations (in hours)

*Main-d'œuvre Ébauches et calculs (en heures)*

Labour - Administration (in hours)

*Main-d'œuvre*

*Administration (en heures)*

Transportation (in kms)

*Transport (en kilomètres)*

49. For the purpose of generating estimates, please indicate the multiplier you use to cover overhead costs (rent, utilities, materials, administration, etc.), expressed as a multiple of your labour rate (for example labour x 1.5)

*En vue de produire des estimations, veuillez indiquer le multiplicateur, exprimé sous forme de multiple de vos coûts de main-d'œuvre (par exemple, « salaires » x 1,5), que vous utilisez pour couvrir les frais indirects (loyer, services publics, fournitures, administration, etc.).*

50. Does this multiplier change throughout the year depending on economic conditions?

*Ce multiplicateur change-t-il au courant de l'année en fonction des conditions économiques?*

Yes  
*Oui*

No  
*Non*

Please feel free to elaborate.  
*N'hésitez pas à préciser votre réponse.*

51. Please provide any additional information or comments you believe relevant to the project set-up process for this project.

*Veuillez fournir tout renseignement ou commentaire supplémentaires qui vous semble pertinent à la mise en œuvre de ce projet.*

**Part 4: Activity Pool - Field Execution**  
*Partie 4 : Groupe d'activités – exécution sur le terrain*

The following activities pertain to the work required to conduct the field work for your example project. For each of the activities involved in this process (outlined in the questions to follow), please estimate the number of hours of labour incurred and/or distance travelled for this survey during the field work process. At the end of this section, there is an option for you to provide additional information or comments that you believe was an important consideration for the field execution of this project.

*Les activités suivantes concernent le travail requis pour réaliser les travaux sur le terrain pour le projet que vous avez donné à titre d'exemple. Pour chaque activité comprise dans ce processus (et présentée dans les questions qui suivront), veuillez estimer le nombre d'heures de travail que vous y avez consacrées et la distance parcourue uniquement dans le cadre des travaux sur le terrain pour ce projet d'arpentage. À la fin de la présente section, vous disposerez d'un espace dans lequel vous pourrez inscrire tout renseignement supplémentaire ou commentaire pertinent au sujet d'éléments qui ont constitué d'importants facteurs à prendre en considération lors des travaux sur le terrain pour ce projet.*

**52. Mobilization - Getting to the site.**

*Mobilisation – Se rendre sur le site.*

Labour - CLS (in hours)

*Main-d'œuvre ATC (en heures)*

Labour - Field Staff (in hours)

*Main-d'œuvre Personnel sur le terrain (en heures)*

Labour - Drafting and Calculations (in hours)

*Main-d'œuvre Ébauches et calculs (en heures)*

Labour - Administration (in hours)

*Main-d'œuvre Administration (en heures)*

Transportation (in kms)

*Transport (en kilomètres)*

**53. Field Liaison with client (Including before, during and at conclusion of job).**

*Relation avec le client sur le terrain (avant, pendant et après la fin des travaux).*

Labour - CLS (in hours)

*Main-d'œuvre ATC (en heures)*

Labour - Field Staff (in hours)

*Main-d'œuvre Personnel sur le terrain (en heures)*

Labour - Drafting and Calculations (in hours)

*Main-d'œuvre Ébauches et calculs (en heures)*

Labour - Administration (in hours)

*Main-d'œuvre*

*Administration (en heures)*

Transportation (in kms)

*Transport (en kilomètres)*

**54. Line cutting and blazing.**

*Défrichement des limites et encochement des arbres.*

Labour - CLS (in hours)

*Main-d'œuvre ATC (en heures)*

Labour - Field Staff (in hours)

*Main-d'œuvre Personnel sur le terrain (en heures)*

Labour - Drafting and Calculations (in hours)

*Main-d'œuvre Ébauches et calculs (en heures)*

Labour - Administration (in hours)

*Main-d'œuvre*

*Administration (en heures)*

Transportation (in kms)

*Transport (en kilomètres)*

55. Hiring local capacity to support survey activity. For clarity, this question is intended to determine the amount of time and distances travelled to undertake the hiring process.

*Embauche de main-d'œuvre locale pour aider aux travaux d'arpentage (Par souci de clarté, la question vise à déterminer la quantité de temps consacré au processus d'embauche ainsi que la distance parcourue uniquement à cette fin).*

Labour - CLS (in hours)

*Main-d'œuvre ATC (en heures)*

Labour - Field Staff (in hours)

*Main-d'œuvre Personnel sur le terrain (en heures)*

Labour - Drafting and Calculations (in hours)

*Main-d'œuvre Ébauches et calculs (en heures)*

Labour - Administration (in hours)

*Main-d'œuvre*

*Administration (en heures)*

Transportation (in kms)

*Transport (en kilomètres)*

56. Addressing topography and land cover.

*Topographie et territoire couvert.*

Labour - CLS (in hours)

*Main-d'œuvre ATC (en heures)*

Labour - Field Staff (in hours)

*Main-d'œuvre Personnel sur le terrain (en heures)*

Labour - Drafting and Calculations (in hours)

*Main-d'œuvre Ébauches et calculs (en heures)*

Labour - Administration (in hours)

*Main-d'œuvre*

*Administration (en heures)*

Transportation (in kms)

*Transport (en kilomètres)*

57. Initial control establishment.

*Établissement initial du contrôle.*

Labour - CLS (in hours)

*Main-d'œuvre ATC (en heures)*

Labour - Field Staff (in hours)

*Main-d'œuvre Personnel sur le terrain (en heures)*

Labour - Drafting and Calculations (in hours)

*Main-d'œuvre Ébauches et calculs (en heures)*

Labour - Administration (in hours)

*Main-d'œuvre*

*Administration (en heures)*

Transportation (in kms)

*Transport (en kilomètres)*

58. Georeferencing (precise point positioning or other method).

*Géoréférencement (positionnement précis de repères ou autre méthode).*

Labour - CLS (in hours)

*Main-d'œuvre ATC (en heures)*

Labour - Field Staff (in hours)

*Main-d'œuvre Personnel sur le terrain (en heures)*

Labour - Drafting and Calculations (in hours)

*Main-d'œuvre Ébauches et calculs (en heures)*

Labour - Administration (in hours)

*Main-d'œuvre*

*Administration (en heures)*

Transportation (in kms)

*Transport (en kilomètres)*

**59. Evidence searches.**

**Recherches des bornes repères indiquant les limites.**

Labour - CLS (in hours)

*Main-d'œuvre ATC (en heures)*

Labour - Field Staff (in hours)

*Main-d'œuvre Personnel sur le terrain (en heures)*

Labour - Drafting and Calculations (in hours)

*Main-d'œuvre Ébauches et calculs (en heures)*

Labour - Administration (in hours)

*Main-d'œuvre*

*Administration (en heures)*

Transportation (in kms)

*Transport (en kilomètres)*

**60. Resolve conflict between occupation and cadastral fabric.**

**Résolution des conflits en matière d'occupation territoriale ne correspondant pas au morcellement foncier.**

Labour - CLS (in hours)

*Main-d'œuvre ATC (en heures)*

Labour - Field Staff (in hours)

*Main-d'œuvre Personnel sur le terrain (en heures)*

Labour - Drafting and Calculations (in hours)

*Main-d'œuvre Ébauches et calculs (en heures)*

Labour - Administration (in hours)

*Main-d'œuvre*

*Administration (en heures)*

Transportation (in kms)

*Transport (en kilomètres)*

**61. Resolve conflict between cadastral evidence locations.**

*Résolution des problèmes concernant les données des cadastres sur l'emplacement des bornes repères.*

Labour - CLS (in hours)

*Main-d'œuvre ATC (en heures)*

Labour - Field Staff (in hours)

*Main-d'œuvre Personnel sur le terrain (en heures)*

Labour - Drafting and Calculations (in hours)

*Main-d'œuvre Ébauches et calculs (en heures)*

Labour - Administration (in hours)

*Main-d'œuvre*

*Administration (en heures)*

Transportation (in kms)

*Transport (en kilomètres)*

**62. Boundary demarcation.**

*Délimitation des limites.*

Labour - CLS (in hours)

*Main-d'œuvre ATC (en heures)*

Labour - Field Staff (in hours)

*Main-d'œuvre Personnel sur le terrain (en heures)*

Labour - Drafting and Calculations (in hours)

*Main-d'œuvre Ébauches et calculs (en heures)*

Labour - Administration (in hours)

*Main-d'œuvre*

*Administration (en heures)*

Transportation (in kms)

*Transport (en kilomètres)*

**63. Making Connections to provincial survey systems.**

*Établissement de liens avec les systèmes d'arpentage provinciaux.*

Labour - CLS (in hours)

*Main-d'œuvre ATC (en heures)*

Labour - Field Staff (in hours)

*Main-d'œuvre Personnel sur le terrain (en heures)*

Labour - Drafting and Calculations (in hours)

*Main-d'œuvre Ébauches et calculs (en heures)*

Labour - Administration (in hours)

*Main-d'œuvre*

*Administration (en heures)*

Transportation (in kms)

*Transport (en kilomètres)*

**64. Project adjustments to accommodate changing client needs.**

*Changements apportés au projet en vue de l'adapter aux nouveaux besoins du client.*

Labour - CLS (in hours)

*Main-d'œuvre ATC (en heures)*

Labour - Field Staff (in hours)

*Main-d'œuvre Personnel sur le terrain (en heures)*

Labour - Drafting and Calculations (in hours)

*Main-d'œuvre Ébauches et calculs (en heures)*

Labour - Administration (in hours)

*Main-d'œuvre*

*Administration (en heures)*

Transportation (in kms)

*Transport (en kilomètres)*

65. On site client and other project meetings.

*Réunions sur place avec le client pour ce levé et d'autres raisons relatives au projet.*

Labour - CLS (in hours)

*Main-d'œuvre ATC (en heures)*

Labour - Field Staff (in hours)

*Main-d'œuvre Personnel sur le terrain (en heures)*

Labour - Drafting and Calculations (in hours)

*Main-d'œuvre Ébauches et calculs (en heures)*

Labour - Administration (in hours)

*Main-d'œuvre*

*Administration (en heures)*

Transportation (in kms)

*Transport (en kilomètres)*

66. Demobilizing (pack up and go home).

*Démobilisation (rassembler le matériel et rentrer chez soi).*

Labour - CLS (in hours)

*Main-d'œuvre ATC (en heures)*

Labour - Field Staff (in hours)

*Main-d'œuvre Personnel sur le terrain (en heures)*

Labour - Drafting and Calculations (in hours)

*Main-d'œuvre Ébauches et calculs (en heures)*

Labour - Administration (in hours)

*Main-d'œuvre*

*Administration (en heures)*

Transportation (in kms)

*Transport (en kilomètres)*

67. Please provide any additional information or comments you believe relevant to the field execution for this project.

*Veillez fournir tout renseignement ou commentaire supplémentaires qui vous semble pertinent dans le cadre des travaux sur le terrain de ce projet.*

Part 5: Activity Pool - Analysis  
*Partie 5 : Groupe d'activités – analyse*

The following activities pertain to the work required to finalize your example project, once the field work component was complete. For each of the activities involved in this process (outlined in the questions to follow), please estimate the number of hours of labour incurred and/or distance travelled for this survey during the analysis process. At the end of this section, there is an option for you to provide additional information or comments that you believe was an important consideration for the project analysis component of this project.

*Les activités suivantes concernent le travail nécessaire pour finaliser le projet que vous avez donné à titre d'exemple, une fois les travaux sur le terrain complétés. Pour chaque activité comprise dans ce processus (et présentée dans les questions qui suivront), veuillez estimer le nombre d'heures de travail que vous y avez consacrées et la distance parcourue uniquement dans le cadre du processus d'analyse. À la fin de la présente section, vous disposerez d'un espace dans lequel vous pourrez inscrire tout renseignement supplémentaire ou commentaire pertinent au sujet d'éléments qui ont constitué d'importants facteurs à prendre en considération lors de l'analyse de ce projet.*

68. Internal Quality Control on field returns.

*Contrôle de qualité à l'interne du rendement sur le terrain.*

Labour - CLS (in hours)

*Main-d'œuvre ATC (en heures)*

Labour - Field Staff (in hours)

*Main-d'œuvre Personnel sur le terrain (en heures)*

Labour - Drafting and Calculations (in hours)

*Main-d'œuvre Ébauches et calculs (en heures)*

Labour - Administration (in hours)

*Main-d'œuvre*

*Administration (en heures)*

69. MyCLSS process to support plan recording.

*Processus du site MonSATC pour enregistrer le plan.*

Labour - CLS (in hours)

*Main-d'œuvre ATC (en heures)*

Labour - Field Staff (in hours)

*Main-d'œuvre Personnel sur le terrain (en heures)*

Labour - Drafting and Calculations (in hours)

*Main-d'œuvre Ébauches et calculs (en heures)*

Labour - Administration (in hours)

*Main-d'œuvre*

*Administration (en heures)*

70. Drafting/CAD Work.

*Ébauches et travaux de conception assistée par ordinateur.*

Labour - CLS (in hours)

*Main-d'œuvre ATC (en heures)*

Labour - Field Staff (in hours)

*Main-d'œuvre Personnel sur le terrain (en heures)*

Labour - Drafting and Calculations (in hours)

*Main-d'œuvre Ébauches et calculs (en heures)*

Labour - Administration (in hours)

*Main-d'œuvre*

*Administration (en heures)*

71. Quality control checks on the plans and reports.

*Vérifications de contrôle de la qualité des plans et des rapports.*

Labour - CLS (in hours)

*Main-d'œuvre ATC (en heures)*

Labour - Field Staff (in hours)

*Main-d'œuvre Personnel sur le terrain (en heures)*

Labour - Drafting and Calculations (in hours)

*Main-d'œuvre Ébauches et calculs (en heures)*

Labour - Administration (in hours)

*Main-d'œuvre*

*Administration (en heures)*

72. Plotting/printing of final plans.

*Traçage ou impression des plans finaux.*

Labour - CLS (in hours)

*Main-d'œuvre – ATC (en heures)*

Labour - Field Staff (in hours)

*Main-d'œuvre – Personnel sur le terrain (en heures)*

Labour - Drafting and Calculations (in hours)

*Main-d'œuvre – Ébauches et calculs (en heures)*

Labour - Administration (in hours)

*Main-d'œuvre –*

*Administration (en heures)*

Transportation (in kms)

*Transport (en kilomètres)*

73. Client liaison to finalize product.

*Relation avec le client pour finaliser le produit.*

Labour - CLS (in hours)

*Main-d'œuvre – ATC (en heures)*

Labour - Field Staff (in hours)

*Main-d'œuvre – Personnel sur le terrain (en heures)*

Labour - Drafting and Calculations (in hours)

*Main-d'œuvre – Ébauches et calculs (en heures)*

Labour - Administration (in hours)

*Main-d'œuvre – Administration (en heures)*

Transportation (in kms)

*Transport (en kilomètres)*

74. First Nation approval process and requirements.

*Processus d'approbation par les Premières nations et exigences particulières.*

Labour - CLS (in hours)

*Main-d'œuvre – ATC (en heures)*

Labour - Field Staff (in hours)

*Main-d'œuvre – Personnel sur le terrain (en heures)*

Labour - Drafting and Calculations (in hours)

*Main-d'œuvre – Ébauches et calculs (en heures)*

Labour - Administration (in hours)

*Main-d'œuvre – Administration (en heures)*

Transportation (in kms)

*Transport (en kilomètres)*

75. NRCan/SGB approval process and requirements.

*Processus d'approbation par RNCan/DAG et exigences particulières.*

Labour - CLS (in hours)

*Main-d'œuvre – ATC (en heures)*

Labour - Field Staff (in hours)

*Main-d'œuvre – Personnel sur le terrain (en heures)*

Labour - Drafting and Calculations (in hours)

*Main-d'œuvre – Ébauches et calculs (en heures)*

Labour - Administration (in hours)

*Main-d'œuvre – Administration (en heures)*

Transportation (in kms)

*Transport (en kilomètres)*

76. INAC approval process and requirements.

*Processus d'approbation par l'AANC et exigences particulières.*

Labour - CLS (in hours)

*Main-d'œuvre – ATC (en heures)*

Labour - Field Staff (in hours)

*Main-d'œuvre – Personnel sur le terrain (en heures)*

Labour - Drafting and Calculations (in hours)

*Main-d'œuvre – Ébauches et calculs (en heures)*

Labour - Administration (in hours)

*Main-d'œuvre – Administration (en heures)*

Transportation (in kms)

*Transport (en kilomètres)*

77. Land Registry Office Approval.

*Approbation de Bureau d'enregistrement*

Labour - CLS (in hours)

*Main-d'œuvre – ATC (en heures)*

Labour - Field Staff (in hours)

*Main-d'œuvre – Personnel sur le terrain (en heures)*

Labour - Drafting and Calculations (in hours)

*Main-d'œuvre – Ébauches et calculs (en heures)*

Labour - Administration (in hours)

*Main-d'œuvre – Administration (en heures)*

Transportation (in kms)

*Transport (en kilomètres)*

78. NRCan/SGB plan recording/registration process.

*Processus d'enregistrement du plan de NRCan/DAG.*

Labour - CLS (in hours)

*Main-d'œuvre – ATC (en heures)*

Labour - Field Staff (in hours)

*Main-d'œuvre – Personnel sur le terrain (en heures)*

Labour - Drafting and Calculations (in hours)

*Main-d'œuvre – Ébauches et calculs (en heures)*

Labour - Administration (in hours)

*Main-d'œuvre – Administration (en heures)*

Transportation (in kms)

*Transport (en kilomètres)*

79. Land Registry Office plan recording/registration process.

*Processus d'enregistrement du plan de Bureau d'enregistrement*

Labour - CLS (in hours)

*Main-d'œuvre – ATC (en heures)*

Labour - Field Staff (in hours)

*Main-d'œuvre – Personnel sur le terrain (en heures)*

Labour - Drafting and Calculations (in hours)

*Main-d'œuvre – Ébauches et calculs (en heures)*

Labour - Administration (in hours)

*Main-d'œuvre – Administration (en heures)*

Transportation (in kms)

*Transport (en kilomètres)*

80. Please provide any additional information or comments you believe relevant to the analysis component of this project.

*Veuillez fournir tout renseignement ou commentaire supplémentaires qui vous semble pertinent dans le cadre de l'analyse de ce projet.*

**Part 6: Impact of Delays**  
*Partie 6 : Répercussions des retards*

In the following bank of questions, we are asking you to estimate the amount of additional time and/or travel distance that was required to complete the project that resulted from the delays that are noted. At the end of this section, there is an option for you to provide additional information or comments that you believe was an important consideration in how this project may have been delayed and what measures should be undertaken to reduce the impact of delays.

*Pour la liste de questions qui suit, nous vous demandons d'estimer la quantité de temps supplémentaire et les kilomètres parcourus en plus en raison des retards constatés dans l'avancement des travaux pour mener à bien ce projet. À la fin de la présente section, vous disposerez d'un espace dans lequel vous pourrez inscrire tout renseignement supplémentaire ou commentaire pertinent au sujet d'importants facteurs à prendre en considération pour comprendre les causes des retards et les mesures qui auraient dû être prises pour réduire leurs répercussions.*

81. Objections from client (disagreement with results of survey).  
*Objections du client (désaccord avec les résultats de l'arpentage).*

Labour - CLS (in hours)  
*Main-d'œuvre ATC (en heures)*

Labour - Field Staff (in hours)  
*Main-d'œuvre Personnel sur le terrain (en heures)*

Labour - Drafting and Calculations (in hours)  
*Main-d'œuvre Ébauches et calculs (en heures)*

Labour - Administration (in hours)  
*Main-d'œuvre Administration (en heures)*

Transportation (in kms)  
*Transport (en kilomètres)*

82. Change in scope.

*Changement de la portée des travaux.*

Labour - CLS (in hours)

*Main-d'œuvre ATC (en heures)*

Labour - Field Staff (in hours)

*Main-d'œuvre Personnel sur le terrain (en heures)*

Labour - Drafting and Calculations (in hours)

*Main-d'œuvre Ébauches et calculs (en heures)*

Labour - Administration (in hours)

*Main-d'œuvre*

*Administration (en heures)*

Transportation (in kms)

*Transport (en kilomètres)*

83. Project put on hold then restarted.

*Projet interrompu, puis repris.*

Labour - CLS (in hours)

*Main-d'œuvre ATC (en heures)*

Labour - Field Staff (in hours)

*Main-d'œuvre Personnel sur le terrain (en heures)*

Labour - Drafting and Calculations (in hours)

*Main-d'œuvre Ébauches et calculs (en heures)*

Labour - Administration (in hours)

*Main-d'œuvre*

*Administration (en heures)*

Transportation (in kms)

*Transport (en kilomètres)*

**84. Client changes his/her mind.**

*Changement d'avis du client.*

Labour - CLS (in hours)

*Main-d'œuvre ATC (en heures)*

Labour - Field Staff (in hours)

*Main-d'œuvre Personnel sur le terrain (en heures)*

Labour - Drafting and Calculations (in hours)

*Main-d'œuvre Ébauches et calculs (en heures)*

Labour - Administration (in hours)

*Main-d'œuvre*

*Administration (en heures)*

Transportation (in kms)

*Transport (en kilomètres)*

**85. Objections from family.**

*Objections soulevées par une famille.*

Labour - CLS (in hours)

*Main-d'œuvre ATC (en heures)*

Labour - Field Staff (in hours)

*Main-d'œuvre Personnel sur le terrain (en heures)*

Labour - Drafting and Calculations (in hours)

*Main-d'œuvre Ébauches et calculs (en heures)*

Labour - Administration (in hours)

*Main-d'œuvre*

*Administration (en heures)*

Transportation (in kms)

*Transport (en kilomètres)*

**86. Dispute between neighbours.**

*Conflit entre voisins.*

Labour - CLS (in hours)

*Main-d'œuvre ATC (en heures)*

Labour - Field Staff (in hours)

*Main-d'œuvre Personnel sur le terrain (en heures)*

Labour - Drafting and Calculations (in hours)

*Main-d'œuvre Ébauches et calculs (en heures)*

Labour - Administration (in hours)

*Main-d'œuvre*

*Administration (en heures)*

Transportation (in kms)

*Transport (en kilomètres)*

**87. Missing or disturbed monuments that were recently planted.**

*Absence ou déplacement de bornes repères récemment posées au sol.*

Labour - CLS (in hours)

*Main-d'œuvre ATC (en heures)*

Labour - Field Staff (in hours)

*Main-d'œuvre Personnel sur le terrain (en heures)*

Labour - Drafting and Calculations (in hours)

*Main-d'œuvre Ébauches et calculs (en heures)*

Labour - Administration (in hours)

*Main-d'œuvre*

*Administration (en heures)*

Transportation (in kms)

*Transport (en kilomètres)*

**88. Delays getting pre-approval from band signing authority.**

*Approbation tardive du signataire autorisé de la bande préalable à l'amorce des travaux*

Labour - CLS (in hours)

*Main-d'œuvre ATC (en heures)*

Labour - Field Staff (in hours)

*Main-d'œuvre Personnel sur le terrain (en heures)*

Labour - Drafting and Calculations (in hours)

*Main-d'œuvre Ébauches et calculs (en heures)*

Labour - Administration (in hours)

*Main-d'œuvre*

*Administration (en heures)*

Transportation (in kms)

*Transport (en kilomètres)*

**89. Delays getting pre-approval from client.**

*Approbation tardive du client préalable à l'amorce des travaux.*

Labour - CLS (in hours)

*Main-d'œuvre ATC (en heures)*

Labour - Field Staff (in hours)

*Main-d'œuvre Personnel sur le terrain (en heures)*

Labour - Drafting and Calculations (in hours)

*Main-d'œuvre Ébauches et calculs (en heures)*

Labour - Administration (in hours)

*Main-d'œuvre*

*Administration (en heures)*

Transportation (in kms)

*Transport (en kilomètres)*

90. Delays getting post approval from band signing authority.

*Approbation tardive du signataire autorisé de la bande subséquente aux travaux.*

Labour - CLS (in hours)

*Main-d'œuvre ATC (en heures)*

Labour - Field Staff (in hours)

*Main-d'œuvre Personnel sur le terrain (en heures)*

Labour - Drafting and Calculations (in hours)

*Main-d'œuvre Ébauches et calculs (en heures)*

Labour - Administration (in hours)

*Main-d'œuvre*

*Administration (en heures)*

Transportation (in kms)

*Transport (en kilomètres)*

91. Delays getting post approval from client.

*Approbation tardive du client subséquente aux travaux.*

Labour - CLS (in hours)

*Main-d'œuvre ATC (en heures)*

Labour - Field Staff (in hours)

*Main-d'œuvre Personnel sur le terrain (en heures)*

Labour - Drafting and Calculations (in hours)

*Main-d'œuvre Ébauches et calculs (en heures)*

Labour - Administration (in hours)

*Main-d'œuvre*

*Administration (en heures)*

Transportation (in kms)

*Transport (en kilomètres)*

92. Delays getting survey instructions.

*Obtention tardive des directives d'arpentage.*

Labour - CLS (in hours)

*Main-d'œuvre ATC (en heures)*

Labour - Field Staff (in hours)

*Main-d'œuvre Personnel sur le terrain (en heures)*

Labour - Drafting and Calculations (in hours)

*Main-d'œuvre Ébauches et calculs (en heures)*

Labour - Administration (in hours)

*Main-d'œuvre*

*Administration (en heures)*

Transportation (in kms)

*Transport (en kilomètres)*

93. Delays in response from lawyer's office

*Obtention tardive des bureau d'avocats*

Labour - CLS (in hours)

*Main-d'œuvre ATC (en heures)*

Labour - Field Staff (in hours)

*Main-d'œuvre Personnel sur le terrain (en heures)*

Labour - Drafting and Calculations (in hours)

*Main-d'œuvre Ébauches et calculs (en heures)*

Labour - Administration (in hours)

*Main-d'œuvre*

*Administration (en heures)*

Transportation (in kms)

*Transport (en kilomètres)*

94. Delays getting NRCan/SGB final approval.

*Approbation finale tardive de RNCan/DAG.*

Labour - CLS (in hours)

Labour - Field Staff (in hours)

Labour - Drafting and Calculations (in hours)

Labour - Administration (in hours)

Transportation (in kms)

95. Critical issue notice from NRCan/SGB relating to plan.

*Constatation d'un problème crucial de RNCan/DAG concernant le plan.*

Labour - CLS (in hours)  
*Main-d'œuvre ATC (en heures)*

Labour - Field Staff (in hours)  
*Main-d'œuvre Personnel sur le terrain (en heures)*

Labour - Drafting and Calculations (in hours)  
*Main-d'œuvre Ébauches et calculs (en heures)*

Labour - Administration (in hours)  
*Main-d'œuvre Administration (en heures)*

Transportation (in kms)  
*Transport (en kilomètres)*

96. Critical issue notice from NRCan/SGB relating to report.

*Constatacion d'un problème crucial de RNCan/DAG concernant le rapport.*

Labour - CLS (in hours)

*Main-d'œuvre ATC (en heures)*

Labour - Field Staff (in hours)

*Main-d'œuvre Personnel sur le terrain (en heures)*

Labour - Drafting and Calculations (in hours)

*Main-d'œuvre Ébauches et calculs (en heures)*

Labour - Administration (in hours)

*Main-d'œuvre*

*Administration (en heures)*

Transportation (in kms)

*Transport (en kilomètres)*

97. Critical issue notice from NRCan/SGB relating to digital spatial file.

*Constatacion d'un problème crucial de RNCan/DAG concernant le fichier numérique des données spatiales.*

Labour - CLS (in hours)

*Main-d'œuvre ATC (en heures)*

Labour - Field Staff (in hours)

*Main-d'œuvre Personnel sur le terrain (en heures)*

Labour - Drafting and Calculations (in hours)

*Main-d'œuvre Ébauches et calculs (en heures)*

Labour - Administration (in hours)

*Main-d'œuvre*

*Administration (en heures)*

Transportation (in kms)

*Transport (en kilomètres)*

**98. Changes required by Land Registry Office.**

***Modifications requises de Bureau d'enregistrement***

Labour - CLS (in hours)

*Main-d'œuvre ATC (en heures)*

Labour - Field Staff (in hours)

*Main-d'œuvre Personnel sur le terrain (en heures)*

Labour - Drafting and Calculations (in hours)

*Main-d'œuvre Ébauches et calculs (en heures)*

Labour - Administration (in hours)

*Main-d'œuvre*

*Administration (en heures)*

Transportation (in kms)

*Transport (en kilomètres)*

**99. Change in Registry Office or NRCan/SGB procedure.**

***Changement de la procédure de le Bureau d'enregistrement ou RNCAN/DAG.***

Labour - CLS (in hours)

*Main-d'œuvre ATC (en heures)*

Labour - Field Staff (in hours)

*Main-d'œuvre Personnel sur le terrain (en heures)*

Labour - Drafting and Calculations (in hours)

*Main-d'œuvre Ébauches et calculs (en heures)*

Labour - Administration (in hours)

*Main-d'œuvre*

*Administration (en heures)*

Transportation (in kms)

*Transport (en kilomètres)*

100. Were you satisfied with the amount of research information available for this project (online browsers and online data)?

*Avez-vous été satisfait de la quantité d'informations de recherche disponibles pour ce projet (navigateurs en ligne et données en ligne)?*

- Very Satisfied  
*Très satisfait*
- Somewhat Satisfied  
*Plutôt satisfait*
- Somewhat Dissatisfied  
*Assez insatisfait*
- Very Dissatisfied  
*Très insatisfait*

Please elaborate on your reason for this answer.

*Veuillez expliquer la raison de cette réponse.*

101. Unexpected or undocumented land use or land rights.

*Utilisation des terres ou droits fonciers inattendus ou non documentés.*

Labour - CLS (in hours)

*Main-d'œuvre ATC (en heures)*

Labour - Field Staff (in hours)

*Main-d'œuvre Personnel sur le terrain (en heures)*

Labour - Drafting and Calculations (in hours)

*Main-d'œuvre Ébauches et calculs (en heures)*

Labour - Administration (in hours)

*Main-d'œuvre Administration (en heures)*

Transportation (in kms)

*Transport (en kilomètres)*

102. Please tell us how satisfied you were with the land registry system you used for this project.  
*Dites-nous si vous étiez satisfait du système d'enregistrement foncier utilisé pour ce projet.*

- Very Satisfied  
*Très satisfait*
- Somewhat Satisfied  
*Plutôt satisfait*
- Somewhat Dissatisfied  
*Assez insatisfait*
- Very Dissatisfied  
*Très insatisfait*

Please elaborate on your reason for this answer.  
*Veillez expliquer la raison de cette réponse.*

103. Please tell us how satisfied you were with:

	Very Satisfied <i>Très satisfait</i>	Somewhat Satisfied <i>Plutôt satisfait</i>	Somewhat Dissatisfied <i>Assez insatisfait</i>	Very Dissatisfied <i>Très insatisfait</i>
The length of time to get your plan registered.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Obtaining approval from the land registry authority	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
the ease of title searching for this project	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

104. If you had a choice between projects, which would you prefer?  
*Si vous aviez le choix entre les projets, lequel préférez-vous?*

- A project for Provincial registration  
*Un projet d'inscription provinciale*
- A project for CLSR registration  
*Un projet d'enregistrement Système d'arpentage des terres du Canada*
- No preference  
*Pas de préférence*

Please elaborate on your answer.  
*Veillez préciser votre réponse.*

105. Please comment on any other unanticipated issues or items that were not estimated for that you may have experienced on this (or other surveys) that had a significant impact on the cost of the survey and what measures could be implemented to reduce delays.

*Veillez signaler tout autre problème ou élément dont vous avez fait l'expérience dans le cadre de ce projet (ou d'un autre projet d'arpentage) qui n'a pas été pris en considération dans les estimations précédentes et qui a eu une forte incidence sur les coûts de l'arpentage. Indiquez également toutes les mesures qui contribueraient à réduire les retards dans l'avancement des travaux.*

## Appendix 10 - Acronyms of Groups, Boards, Agencies, and Resources

**AANDC:**        **Aboriginal Affairs and Northern Development Canada (INAC)**  
AANDC is one of the federal government departments responsible for meeting the Government of Canada's obligations and commitments to First Nations, Inuit and Métis, and for fulfilling the federal government's constitutional responsibilities in the North.

**ACLS:**        **Association of Canada Lands Surveyors**  
The ACLS is not-for-profit, non-governmental organization that governs the activities of its members in the field of cadastral (boundary or legal) surveying. Cadastral surveying is typically governed by provincial legislation. In fact, each Canadian province has a surveying association which is responsible for regulating its members. Provincial legislation does not govern surveying on “Canada Lands”, so the ACLS comes in as the eleventh surveying association.

<https://www.acls-aatc.ca/about-the-association-of-canada-lands-surveyors-acls/>

**CLS:**        **Canada Lands Surveyor**  
The Canada Lands Surveyor is an expert in spatial positioning and property rights systems and can provide the following services:

- Advice and consultation on surveying and boundary matters
- Property surveys, land descriptions and construction surveys
- General advice and consultation on all land administration and land management matters.

Canada Lands Surveyors specialize in one or more disciplines but have some knowledge of all so is the professional of choice to find the best solution to any technical or management problem related to measurement and spatial positioning.

Canada Lands Surveyors who are licensed members of the Association of Canada Lands Surveyors are the only individuals legally authorized to perform cadastral surveys on a special category of lands called “Canada Lands”. Cadastral surveying is the branch of surveying that encompasses all activities related establishing and defining the extent of a legal interest in land. These activities are also referred to as boundary or legal surveying.

<https://www.acls-aatc.ca/what-is-a-canada-lands-surveyor-cls/>

**FNLMA:**        **First Nations Land Management Act**

The First Nations Land Management (FNLM) Regime allows First Nations to opt out of 32 sections of the Indian Act relating to land management. First Nations can then develop their own laws about land use, the environment and natural resources and take advantage of economic development opportunities with their new land management powers.

<https://www.aadnc-aandc.gc.ca/eng/1327090675492/1327090738973>

**INAC\*:** **Indigenous and Northern Affairs Canada**

Indigenous and Northern Affairs Canada (INAC) supports Indigenous peoples (First Nations, Inuit and Métis) and northern peoples in their efforts to:

- improve social well-being and economic prosperity
- develop healthier, more sustainable communities
- participate more fully in Canada's political, social and economic development — to the benefit of all Canadians

INAC is one of 34 federal government departments responsible for meeting the Government of Canada's obligations and commitments to First Nations, Inuit and Métis, and for fulfilling the federal government's constitutional responsibilities in the North. INAC's responsibilities are largely determined by numerous statutes, negotiated agreements and relevant legal decisions. Most of INAC's programs and spending are delivered through partnerships with Indigenous communities and federal-provincial or federal-territorial agreements. INAC also works with urban Indigenous peoples, Métis and Non-Status Indians (many of whom live in rural areas).

INAC's mandate is derived from a number of sources including:

- Canadian Constitution
- Department of Indian Affairs and Northern Development Act
- Indian Act, as amended over the years
- statutes dealing with environmental and resource management such as the Nunavut Planning and Project Assessment Act (2013)
- other statutes such as the Northwest Territories Devolution Act (2014)

INAC is also mandated to work with First Nations to implement legislation designed to provide them with jurisdictional powers outside of the *Indian Act*. INAC's mandate is further defined by specific statutes enabling modern treaties and self-government agreements and implementation of those agreements.

<https://webcache.googleusercontent.com/search?q=cache:MeZ7iapF7T4J:https://www.aadnc-aandc.gc.ca/eng/1100100010023/1100100010027+&cd=2&hl=en&ct=clnk&gl=ca>

**\*In August 2017, the Prime Minister announced plans for the dissolution of Indigenous and Northern Affairs Canada (INAC) and the creation of two new departments: Indigenous Services Canada (ISC) and Crown-Indigenous Relations and Northern Affairs Canada (CIRNAC). This transformation will take time and includes engagement with Indigenous peoples.**

<https://www.canada.ca/en/indigenous-services-canada.html>

**ISC: Indigenous Services Canada**

Indigenous Services Canada (ISC) works collaboratively with partners to improve access to high quality services for First Nations, Inuit and Métis. Our vision is to support and empower Indigenous peoples to independently deliver services and address the socio-economic conditions in their communities.

In August 2017, the Prime Minister announced plans for the dissolution of Indigenous and Northern Affairs Canada (INAC) and the creation of two new departments: Indigenous Services Canada (ISC) and Crown-Indigenous Relations and Northern Affairs Canada (CIRNAC). This transformation will take time and includes engagement with Indigenous peoples.

<https://www.canada.ca/en/indigenous-services-canada.html>

**LAB-RC  
and FNLM:**

**First Nations Land Management Resource Centre - Lands Advisory Board**

The First Nations have established a Lands Advisory Board and a Resource Centre to assist them in implementing their own land management regimes. The LAB is the political body composed of Chiefs regionally elected from among the First Nations involved. The resource centre is the technical body intended to support First Nations in the developmental and operational phases implementing the *Framework Agreement*.

The Land Advisory Board's functions include;

- Provide strategic direction to the Resource Centre
- proposing to the Minister such amendments to the *Framework Agreement* and the federal legislation as it considers necessary or advisable
- in consultation with First Nations, negotiating a funding method with the Minister
- performing such other functions or services for a First Nation as are agreed to between the Board and the First Nation.

<http://landsadvisoryboard.ca/faqs/>

**NALMA: National Aboriginal Lands Managers Association**

The National Organization of First Nation Lands Managers which will actively network towards the enhancement of professional development and technical expertise in the functions of Lands Management and which will also incorporate First Nations values and beliefs in Lands Management always keeping in mind the grass-root practices when dealing with Lands Management.

NALMA manages INAC's Grants and Contributions program for survey requirements of First Nations.

<https://nalma.ca>

**NRCan: Natural Resources Canada**

Natural Resources Canada (NRCan) seeks to enhance the responsible development and use of Canada's natural resources and the competitiveness of Canada's natural resources products. We are an established leader in science and technology in the fields of energy, forests, and minerals and metals and use our expertise in earth sciences to build and maintain an up-to-date knowledge base of our landmass.

<http://www.nrcan.gc.ca/department>

**SGB: Surveyor General Branch**

The *Canada Lands Surveys Act* sets out that surveying Canada Lands is done in accordance with the Surveyor General's instructions. The Surveyor General has the legal responsibility, subject to the direction of the Minister of Natural Resources, to manage all surveys on Canada Lands and to maintain all the original plans, journals, field notes and other documents connected with those surveys. Additionally, more than 20 pieces of federal and territorial legislation set out property rights systems that rely upon the work of the Surveyor General.

These legal responsibilities are delivered through the main offices of the Surveyor General Branch (SGB) in Edmonton and Ottawa, and its regional offices in Amherst, Quebec City, Toronto, Winnipeg, Regina, Vancouver, Whitehorse, Yellowknife and Iqaluit. This regional structure allows SGB to be responsive to the needs of aboriginal groups, Aboriginal Affairs and Northern Development Canada, Parks Canada, Justice Canada, provincial and territorial governments, land administrators, land surveyors, land surveying associations and others who work with Canada Lands.

The Surveyor General also serves as the Canadian Commissioner of the International Boundary Commission (IBC) and as the Canadian member of the tripartite Alberta-

British Columbia Boundary Commission.

<http://www.nrcan.gc.ca/earth-sciences/geomatics/canada-lands-surveys/surveyor-general/10876>