



1. How is “start” of building construction defined? Please describe physical and visual attributes to be observed by the satellites - such as clearing of land, foundation laid, framework of building established?

A: In keeping with the methodology of CMHC’s starts/completions survey the start of construction is defined as the foundation being poured.

2. RFI states “all building types across Canada” are of interest - is there a specific minimum-sized structure that would not be of concern? Thinking outhouses, personal gardens, etc.

A: Only buildings requiring a building permit would be of interest. Generally, a building smaller than 10ft by 10ft (or 3 meters by 3 meters) would likely not be of interest. This would also mean structures such as outhouses or a garden shed would not be of interest, whereas a garage, carport or an in ground pool would be in scope.

3. How is “completion” of building construction defined? Please describe physical and visual attributes to be observed by the satellites - roof installation etc.

A: There are a number of factors which will likely be considered in combination. They may include (but are not limited to): roof installation complete; sod/grass laid; heating or air conditioning on; removal of construction equipment; etc.

4. Link or detail information on “Building Construction Investment Program”. Is this a federal government program or private sector undertaking?

A: This is a federal government program. Information on the current program can be found at the following links (RES: <http://www23.statcan.gc.ca/imdb/p2SV.pl?Function=getSurvey&SDDS=5155> Non-Res: <http://www23.statcan.gc.ca/imdb/p2SV.pl?Function=getSurvey&SDDS=5014>). NOTE: The program is currently being updated and revised documentation will be published in the coming months.

5. List / link of two categories of sites: CMAs of +50,000 population; communities of < 50,000 population. Is there a minimum-sized community? Do all +50K communities require 100% coverage?

Please find the list of geographies that would need to be covered in the attached file. Communities with a CMACA value = 1 would need to be covered at least monthly, Communities with a CMACA value = 2 would need to be covered on at least a quarterly basis.

6. Please define “point of interest” remote sensing data model (Q10).

A: In a “point of interest” remote sensing data model, we would identify construction sites to be imaged using buildings permits data, rather than scanning whole blocks of geography for construction activity. The question about the type of data required refers to whether a civic address is sufficient, or whether you require a latitude/longitude, and information on the size of picture (swath), etc. Essentially, how much information is required to specify collection for a specific location or area, what type of information do you require, and in what format?



7. What is the projects flexibility in regards to frequency of collections?

A: Because the project is envisioned to be part of a production data model for an important component of the economy, there is very little flexibility in regards to frequency of collection. Areas that are defined for collection monthly, need to be tasked monthly. Areas tasked for collection quarterly must be collected quarterly. Having said that, within the month or quarter there could be flexibility with regards to exactly when the overpasses are completed, taking into account cloud cover, etc.

8. Is there a need to have a database of the raw imagery that provides the answer of “how long construction takes from start > finish” or just the answers? For accountability/review purposes...

A: Regardless there will need to be a repository of all of the imagery that is captured as part of this project as other areas within the agency/government of Canada may want to make use of them.

Having said that, there would be a need for a database of the raw imagery that provides the answer. As we are an agency that is constantly improving our systems, processes, and methodologies, we would need to be able to conduct reviews and data revisions should future methods prove to be better at extracting building construction investment activity.

9. The vast majority of construction projects will not be captured at the exact “start” (defined from the forthcoming answer to question 1) of construction, same goes for the “completion” - Does the project require exact precision in terms of start and finish date? What is acceptable?

A: The purpose of this project is to identify an estimated number of “starts” or “completions” in a month. A specific “day” is not required, and there is a basic assumption that the number of starts/completions missed or carried forward each month will roughly balance out. However every effort should be made to risk manage systemic errors, sampling errors, false positives, negatives, etc. Testing and evaluation will compare remote sensing data with data collected in the field by CMHC, as well as our interior data models, prior to program approval.

10. Is the Government of Canada looking for an estimated cost over the entire land mass of Canada, or just over the urban areas of interest?

A: Yes, the government of Canada would be looking for an estimate on **full coverage for the landmass of Canada** on a quarterly basis, though certain areas may be excluded in the future based on the protected nature of the land (i.e. areas where development is specifically prohibited, such as in national parks). The idea behind using this (radar imagery) approach would be to cover large swaths of land inexpensively to identify land-use change and develop a list of coordinates or “points of interest”, for further imaging and evaluation on whether construction activity is taking place. The radar imagery would not need to be at the sub 1 meter resolution.

Please provide an estimate for the level of detail you believe to be required in order to achieve this task. Provide whatever information you deem relevant to evaluate the value of this service.