

Solicitation No. - N° de l'invitation
EP168-132237/A

Amd. No. - N° de la modif.

Buyer ID - Id de l'acheteur
fe171

Client Ref. No. - N° de réf. du client
20132237

File No. - N° du dossier
fe171EP168-132237

CCC No./N° CCC - FMS No/ N° VME

Description of Services - Project Administration

(PA)

Standing Offer Brief

1. Building Condition Report (BCR level 2) Terms of Reference
2. Functionality and Serviceability Assessment (Stand Alone Task)
3. Level III Studies (Stand Alone Task)
4. Accessibility Audit (Stand Alone Task)
5. Seismic Screening/Assessment (Stand Alone Task)
6. Appendix I - Capital versus Repair
7. Appendix II - Event Classification
8. Appendix III - Costing Tool
9. Appendix IV - Accessibility Audit Template

Reference Framework for the Preparation of Building Condition Reports (BCR)

1 Building Condition Report (BCR level 2) Terms of Reference

1.1 Background

PWGSC, as the service agency responsible for allocating accommodation to its tenant departments, is accountable for effectively acquiring and efficiently managing this accommodation program.

In addressing this mandate, PWGSC undertakes a series of cyclical evaluations of the current and proposed accommodation. These evaluations are performed in order to determine the most appropriate management strategy for the retention, maintenance and/ or retrofit/ renewal of these facilities in order to satisfy current and future client requirements.

In view of the age of the PWGSC building inventory and given the significant investments required to re-capitalize these assets, the importance of a rigorous analysis of the inventory through the preparation of Asset Management Plans, a financial analysis, is critical to the effective and efficient life-cycle management of this inventory.

Building Condition Reports provide the detailed technical information on which the Asset Management Plans are based. While the condition of the majority of PWGSC assets has been assessed in the past, the data in the Building Condition Reports and subsequently, the analysis Asset Management Plans, must be updated every 5 years to ensure their accuracy and to provide best support possible to managers making capital and repair investment decisions.

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1.2 Building Condition Report - The New Approach

Prior to 2002 PWGSC BCRs were always delivered as a paper-based report. While this approach worked reasonably well for single assets, performing an analysis to determine the overall condition of the portfolio was a very arduous task.

In 2002, PWGSC purchased an off-the-shelf database application to hold and summarize building condition information. This application, with the trade name "Recapp", was configured for use with existing business processes and named "Capital Asset Planning System" (CAPS) for use within the PWGSC environment.

This database application greatly increased the usefulness of the building condition data. Asset BCRs are kept current as yearly inflation updates to project costs and project completion information is entered. CAPS generated reports permit the planning of projects at the portfolio level with the potential for cost savings by taking advantage of the economies of scale.

1.3 Asset Validation Survey (AVS) Tool

To simplify the data entry process, the vendor of the CAPS application provides a self-configuring, Microsoft Access™ database that can be used to export the data one building at a time. This tool, called the Asset Validation Survey (AVS) tool, will be provided to users for use when conducting BCRs.

AVS data files exported from CAPS, for use in BCR data collection, contain all the current BCR data in the CAPS application and the latest Building Performance Review, which is updated annually. Once the BCR file is completed, it is to be reviewed by the Asset Manager for Quality Assurance. Upon Asset Manager approval, the file is returned to PWGSC for an administrative Quality Assurance, and then imported into the application. This allows a standardized approach for the collection of BCR data across Canada.

Training on the use of this tool will be provided, by PWGSC (CAPS Team), to standing offer holders just prior to the first standing offer call-up and can be repeated as required during the course of the standing offer.

1.4 General Requirements

This Statement of Work describes the work required to complete a Building Condition Report. In general, a BCR is an assessment of the condition of the components and recommended actions required to maintain the asset in operating condition during a projected 30 years. The BCR covers all components on the site and in the asset organized as follows:

- Site related components;
- Architectural related components;
- Structural components;
- Horizontal and vertical transportation;
- Mechanical components, and;
- Electrical components

There are multiple levels of reporting available to establish the current status of the building. One is the level 2 general BCR and another is a specifically detailed level 3 investigation (Stand-Alone) which can be a sub-set of the same process to create the overall BCR. Once the objectives of the Building Condition Report are established, there will be a clear indication of the level 2 or level 3 inclusion.

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The objective of a level 2 Building Condition Report is to investigate various building and site improvement factors including:

- Component condition and assessment of remaining life,
- Equipment obsolescence,
- Design problems and deficiencies that adversely affect operation and maintenance activities,
- Impact of compliance with Treasury Board Secretariat temperature, humidity and ventilation standards,
- Workstation density maximums imposed by design limitations,
- Compliance with the latest edition / revision of all applicable standards & codes (including, but not limited to: Health, Fire, Life Safety Codes, National Building Code, Electrical Safety Program),
- Compliance with pertinent local by-laws,
- Effective age and remaining economic life of building components,
- Confirmation of regulatory testing,
- Functionality/Serviceability Assessment
- Other level three studies (stand alone)
- Accessibility Audit (stand alone)
- Seismic screening/assessment, (stand alone)

The statement of work, specific to a call-up against the standing offer, will detail the extent of work required and will indicate event restrictions, if any, resulting from asset heritage classifications that the consultant/assessor will incorporate into the 30 year plan. The level of effort required could be as small as one of the "stand alone" tasks up to and including investigations required for a particular BCR.

Note: Sample BCRs (.pdf format) will be made available upon request. Please send requests to 'SPIB.CAPS@pwgsc.gc.ca'.

The intent of the level 2 BCR is to identify the events required to bring an asset to Class B (BOMA definition) level of accommodation and to maintain that level throughout a 30 year planning horizon. If an asset is at the Class A (BOMA definition) level of accommodation then the level to be maintained during the 30-year planning horizon is Class A (BOMA definition). The concept of full life cycle costing for the facility is the basis for the development of the long-term capital plan. The 30-year capital plan should indicate the optimal timing / grouping of recommended events in order to minimize overall cost and tenant disruption.

1.4.1 Thirty Year Window of Capital and Repair Events

Prior to the use of the Capital Asset Planning System, Building Condition Reports have always had a 25-year planning horizon. Since the BCR data in the CAPS application is kept up to date through yearly data entry, the 25-year horizon for CAPS reports would only be valid for one year. The number of years of valid planning data available reduces by one year for every year since the last BCR. To ensure PWGSC continues to have valid 25-year forecasts of events costs during the 5 years between BCRs, PWGSC now requires a 30-year planning horizon.

1.4.2 Component (or Element) list

To ensure consistency, PWGSC has defined a master list of components from which the specific components that make up an asset can be chosen. These components establish the level of detail required in the BCR. Once chosen for a particular asset, each component is entered into the AVS file.

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File No. - N° du dossier
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CCC No./N° CCC - FMS No/ N° VME

Component data, including projected costs to maintain building condition, are associated with the relevant component.

Note: In a recent update to a new version of the CAPS application the term “element” was introduced as a substitute for the word “component”. In this document we will use the word “element” and “component” interchangeably.

1.4.3 Events

An “event” is the name given to a recommended action to repair or replace a component. Events are typically grouped together into projects that are implemented once funding has been secured. In a BCR events shall be classified by event type so that various building performance measures can be calculated and the status of government programs can be ascertained.

An event shall only cover that set of tasks that can be accomplished during one fiscal year. Recommended component repair or replacement events envisioned to last longer than one year shall be entered in AVS as multiple events. Each of these events shall cover one years worth of work and all these events shall be grouped to indicate that they are all part of a larger component replacement program.

1.5 Component Related Requirements

This section describes the work that the consultant/assessor will perform at the component level when producing a BCR.

1.5.1 Validation of the Component List

The AVS file for any building contains a component list specific to that building and site improvements. To ensure the BCR will cover the entire building, the first task in writing a BCR shall be to validate the existing component list. The existence of each component in the list shall be confirmed by visual confirmation at the building and site. Use the master component list in the AVS tool as a guide to establishing the granularity to which the building will be broken down. Components in the building's component list, but not found in the building shall be deleted. Components found to be of an incorrect type (e.g. tar and gravel roof cover instead of an inverted roof cover) shall be reclassified to the correct component type. Components in the building and in the master list but missing from the building component list shall be added.

1.5.2 Component Name

When using the AVS tool the default component name is the same as the component's name in the master component list with the asset name appended. To help position the component within the building, its location shall be inserted between these two parts of the default name. For example, if there were two different types of roof cover used on a building then the consultant/assessor will identify where each is located. (E.g. Penthouse, A wing, etc.) This will not be required where a component can be found in more than one location.

Solicitation No. - N° de l'invitation
EP168-132237/A

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20132237

File No. - N° du dossier
fe171EP168-132237

CCC No./N° CCC - FMS No/ N° VME

1.5.3 Component Inspection and the Component Evaluation Criteria List

Each component in the AVS tool has a list of possible deficiencies associated with it. As part of the inspection process, the deficiency list for each component shall be reviewed and those deficiencies found to be present identified by a mouse click in the default box for each one. A note/narrative can be entered to further explain the deficiency.

1.5.4 Establishing Component Condition

The first step in establishing the condition of a component is to decide on a component's remaining life. The remaining life shall be determined by considering the following factors:

- ◆ Age of the component
- ◆ Component expected life
- ◆ Identified deficiencies
- ◆ The component service conditions including duty cycles, weather conditions, hours of operation.
- ◆ Maintenance practices
- ◆ Obsolescence
- ◆ Operational or functional performance problems

Then, as a result of the inspection process the condition of each component shall be determined as "excellent", "good", "average", "fair" or "poor". For purposes of consistency, each of these five possible conditions is related to the remaining life of a component divided by its expected or theoretical life expressed as a percentage. The following chart can illustrate how this works.

Note: Percentages at the boundaries between two conditions shall link to the condition below the boundary. (E.g. 50% of life remaining would imply average condition).

Solicitation No. - N° de l'invitation
EP168-132237/A

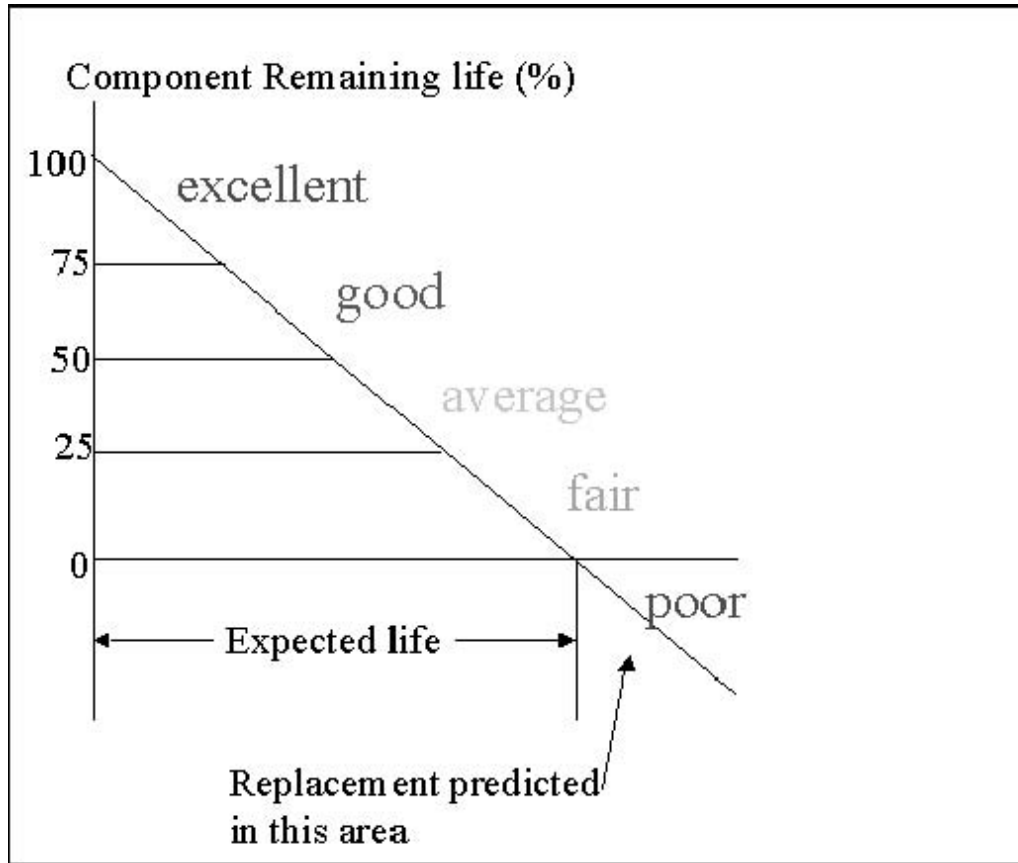
Amd. No. - N° de la modif.

Buyer ID - Id de l'acheteur
fe171

Client Ref. No. - N° de réf. du client
20132237

File No. - N° du dossier
fe171EP168-132237

CCC No./N° CCC - FMS No/ N° VME



Finally, the expected or theoretical life of every component shall be established as part of the inspection process. For convenience the average expected life of every component in the CAPS application has been determined. If the consultant/assessor feels that, under the circumstances in which the component is being used, this expected life is too high or too low, the expected life shall be modified to suit the situation.

1.5.5 Required Component Photographs

A good photograph is worth a thousand words. To give a better understanding of the asset, the consultant/assessor will always include a photograph of the following components:

- ❖ Asset (See 1.7.2)
- ❖ 00.1A-055 Signage
- ❖ 00.2A-010 Paved Parking Lots/ garage
- ❖ 01.3-050 Exterior Wall Finishes
- ❖ 01.4 Roof
- ❖ 03.1A-050 Boilers
- ❖ 03.1A-070 Chillers
- ❖ 03.1A-072 Cooling Towers
- ❖ 03.2A-010 Controls, Electrical or Pneumatic
- ❖ 03.3-025C05 Domestic Hot Water Tanks
- ❖ 04.1A-010 Primary Switch Gear
- ❖ 04.1A-020 Primary Transformer & Vault

Solicitation No. - N° de l'invitation
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File No. - N° du dossier
fe171EP168-132237

CCC No./N° CCC - FMS No/ N° VME

- ❖ 04.2 Secondary Service Electrical
- ❖ 04.2A-010 Secondary Switchgear
- ❖ 04.2A-020 Secondary Transformer
- ❖ 04.2A-050 Cabling, Raceways & Bus Ducts
- ❖ 04.2A-070 Distribution Panels
- ❖ 04.3A-010 General Lighting
- ❖ 09.1S - Cafeteria (link these photos to Cafeteria renovations)
- ❖ 09.2S - Lobby – all four sides, ceiling and floor (link these photos to Lobby renovations)
- ❖ 09.4S - Washrooms (typical, not one of each) (link these photos to Washroom renovations)

These photographs, as well as those specified elsewhere in this document must be in JPEG format and have VGA resolution (640 X 480). The camera's JPEG compression shall be set to "basic" or "normal" (16:1 or 8:1 respectively) to achieve the lowest possible file size the camera can generate. The consultant/assessor will include a description with photograph clearly explaining the subject matter. To avoid distortion within the CAPS application, please take all pictures in landscape format (Do not hold the camera on end).

1.5.6 Component Details

Associated with each component listed, there are several component details that shall be reviewed and updated as necessary. These details are:

- ❖ Expected life
- ❖ Component Cost (if a replacement event is included)
- ❖ Component Condition (See **1.5.4 - Establishing Component Condition**)
- ❖ Quantity (quantities associated to all the components covered in the 30 year horizon)
- ❖ Measurement units to use for the quantity field above
- ❖ Last Major Action Year

The definition and requirements for each field are listed below:

1.5.6.1 Expected life span

The expected life span of a component is an estimate of the number of years a component will last, from brand new, before it must be replaced. Right clicking on any component in the AVS tool to "view structure details ..." will show the average estimated expected life for any component in the CAPS database. This number, or, a number modified as described in paragraph 1.5.4 above, shall be entered into this field.

1.5.6.2 Component Cost

The cost (replacement cost new) of each component shall be calculated and entered into this detail field, when there is a replacement event. This is to be done using the PWGSC provided cost-estimating tool. The best time to fill in this field is when an event cost to replace that component is being calculated.

Please see section **1.6.3.3 Estimated Event Cost** for a description of the Costing Tool and **Appendix III** for additional information.

Note: PWGSC may change the calculation for costs during the course of the standing offer contract. The AVS tool includes access to the baseline costing data, however location factors will be provided via a supplementary spreadsheet.

Solicitation No. - N° de l'invitation
EP168-132237/A

Amd. No. - N° de la modif.

Buyer ID - Id de l'acheteur
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Client Ref. No. - N° de réf. du client
20132237

File No. - N° du dossier
fe171EP168-132237

CCC No./N° CCC - FMS No/ N° VME

1.5.6.3 Quantity (of the component)

The quantity of the element or component in the building shall be determined for replacement cost estimating purposes. Distance, area and volume measurements shall be measured using the metric system. These values are required to calculate component replacement costs.

1.5.6.4 Measurement Units

Select the appropriate measurement unit for the quantity number entered in the field above. Selections required by the costing tool are:

- Bhp Boiler capacity is specified in Boiler Horse Power
- BTU Size of forced air furnaces is specified in British Thermal Units
- tons Air Handling Unit cooling capacity is specified in tons of cooling
- ea Number of units (e.g. doors, fixtures, etc.)
- flts The number of flights of stairs in the building
- Hp The total horsepower of the HVAC pumps
- level The number of levels an escalator rises/drops
- ltr Size of tanks in liters
- m Length of a component in meters
- m² Area of a component in square meters
- pt Total number of sensing and control points in a control system
- seat Total number of seats (e.g. bleachers)
- stop The number of stops (floors) an elevator services
- sum Total cost of the unit (e.g. traffic control system)

If the correct units are missing from the AVS tool, make reference to the correct units in the Component description narrative field.

1.5.6.5 Last Major Action Year

The last major action year for a component is the last year the component was replaced or renovated to the point where its expected life is now as long as if it were new. The consultant/assessor will update this field for each component in the asset as part of the BCR. If the last major action year is not known, then it shall be determined by subtracting the expected life for that component from the year the next replacement or renewal renovation is recommended. If the component has never been replaced, the consultant/assessor will use the year of construction as the last major action year for that component.

1.5.7 Component Narratives

There are two component level narratives associated with each component. Each of these narratives is listed below along with a description of the content required for each. If a narrative already exists, then it shall be reviewed and modified to reflect the current situation.

Solicitation No. - N° de l'invitation
EP168-132237/A

Amd. No. - N° de la modif.

Buyer ID - Id de l'acheteur
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Client Ref. No. - N° de réf. du client
20132237

File No. - N° du dossier
fe171EP168-132237

CCC No./N° CCC - FMS No/ N° VME

1.5.7.1 Component Description

The description of the component should include:

- ◆ Basic Description (i.e. make/model)
- ◆ The location of the component
- ◆ The quality of the component (Above average, average, below average)
- ◆ The capacity or performance of the component

This information is to be recorded against the component and carried forward in the executive summary.

1.5.7.2 Component Condition and Anticipated Replacement Date

This narrative field should include:

- ◆ An assessment of the impact of each of the components deficiencies on the component's remaining life.
- ◆ Quality and service conditions that will lengthen or shorten the component's expected life span, for example:
 - i. Below average quality component
 - ii. Component or system design
 - iii. No longer supported by the supplier
 - ☐ Inadequate maintenance
 - ☐ Inadequate performance
 - vi. Damage from external sources
- ◆ The rationale for component's condition rating (Excellent, Good, Average, Fair or Poor).
- ◆ The year the component was last replaced and establishment of the next replacement date.
- ◆ An overview of the component's condition and recommendations/predictions for future repair and replacement projects. (Details of these projects will be described within the event description narrative field)

1.5.7.3 BPR Narrative (Mandatory if component rating is unsatisfactory)

If, during the last Building Performance Review (BPR), one or more components were considered operationally unsatisfactory, the BPR team will have given each of those component an "unsatisfactory" status and filled in this narrative field describing the reason why. The consultant/assessor will review this narrative field for each "unsatisfactory" component and recommend and cost a course of action to rectify the problem described in the form of an event. Discussions with the Property Management team shall be held to ensure the consultant/assessor fully understands the problem described for each "unsatisfactory" component.

Note: This field can also hold valuable information from the BPR, even if the status is "Satisfactory".

1.6 Event Related Requirements

Once the process of evaluating a component's condition has been completed, the recommended replacement or repair events shall be entered into the AVS application.

Solicitation No. - N° de l'invitation
EP168-132237/A

Amd. No. - N° de la modif.

Buyer ID - Id de l'acheteur
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Client Ref. No. - N° de réf. du client
20132237

File No. - N° du dossier
fe171EP168-132237

CCC No./N° CCC - FMS No/ N° VME

Note: BCR events, within CAPS, typically apply to "replacement" or "repair" activities over \$5,000. However, events under \$5,000 may still be considered valid, as long as they do not apply to maintenance activities (i.e. changing oil or replacing filter).

When generating a report in the CAPS application, the user can check a box that will cause virtual events to be included in the report. Virtual cycling will automatically repeat all the repair/replacement events entered for one complete lifecycle for each component. The number entered into the component data field labeled "expected life" determines the component lifecycle. PWGSC has decided to make use of this feature. Therefore the consultant/assessor will only enter one lifecycle (expected life) worth of repair events and replacement events into the AVS tool.

1.6.1 Event Classification

In CAPS several event classes have been defined and placed in an event structure. The highest level of this event structure sorts the events into Capital and Repair projects. The criteria for determining whether an event is a Capital or Repair project are based on the rules for accrual accounting and can be found in Appendix I. An event shall always be classified at the lowest level of the event classification structure. Each branch of the structure tree, whether Capital or Repair is almost the same. The justification for recommending each event shall be used to determine that events classification. Possible choices are:

Environmental

- ❖ Asbestos
- ❖ Hazardous Materials
- ❖ Ozone Depleting Substances
- ❖ PCBs
- ❖ Storage Tanks
- ❖ Waste Management

Functional

- ❖ Accessibility
- ❖ Code / Directive Compliance (see subcategories in appendix II)
- ❖ Design Problems and Deficiencies
- ❖ Domestic Water Quality
- ❖ Federal Identity Program (FIP)
- ❖ Indoor Air Quality
- ❖ Security
- ❖ Seismic

Operational (consumption reduction)

- ❖ Chilled Water
- ❖ Domestic Water Usage
- ❖ Electrical
- ❖ Federal Building Initiative (FBI)
- ❖ Fuel Oil
- ❖ High Temperature Water
- ❖ Natural Gas
- ❖ Steam

Physical (condition)

- ❖ Component Life Extension
- ❖ Component Replacement or New (to the asset)

Solicitation No. - N° de l'invitation
EP168-132237/A

Amd. No. - N° de la modif.


Buyer ID - Id de l'acheteur
fe171

Client Ref. No. - N° de réf. du client
20132237

File No. - N° du dossier
fe171EP168-132237

CCC No./N° CCC - FMS No/ N° VME






Equipment Obsolescence

 **Whole Building Expenses** resulting in deliverables in document format, including: studies, reports, audits, plans, etc.

The majority of events are usually classified under the “physical” classification category as a component life extension or component replacement event. The other classification choices have been chosen to facilitate reporting on various government programs and to help determine asset performance in those areas.

1.6.2 Required Event Photographs

A photograph shall only be included with a recommend event if:

-  There is visual evidence of damage or wear.
-  There is a visually evident health or safety risk.
-  There is a visually evident code or directive compliance issue.
-  The photograph will help explain the event implementation strategy
-  Visual evidence is required to explain the event implementation strategy.

 There is some other valid reason for adding a photograph. Please refer to Section “**1.5.5 Required**

Component Photographs” for photograph specifications.

1.6.3 Event Details

The event details listed below shall be validated and entered or updated in the AVS file for every new or existing event.

1.6.3.1 Brief Event Description

This description is used in CAPS spreadsheet reports and should therefore be as short and concise as possible, preferably no more than 100 characters (e.g. replace roof, repair boiler, etc.), and should not be kept as the default name. This field should be used to identify any potential code or Health and Safety considerations.

Note: CAPS will automatically assign a priority ranking to each event, based on criteria linked to the classification of the asset, component and event, as well as the predetermined tier-value of the asset. CAPS prioritization data is a valuable component of the BMP Event Listing and is to be used by the PFM when determining their project priorities.

1.6.3.2 Current Event Year

The recommended year of event implementation shall be validated and entered into this field.

Solicitation No. - N° de l'invitation
EP168-132237/A

Amd. No. - N° de la modif.

Buyer ID - Id de l'acheteur
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Client Ref. No. - N° de réf. du client
20132237

File No. - N° du dossier
fe171EP168-132237

CCC No./N° CCC - FMS No/ N° VME

1.6.3.3 Estimated Event Cost

The total estimated event cost at a class D accuracy, in current year dollars, shall be validated and entered into this field.

To calculate component replacement costs, the consultant/assessor will use the PWGSC provided costing tool. This costing tool consists of a costing database, which is available through the AVS tool and is used to provide the baseline costs, and a spreadsheet, which contains location cost adjustment amounts determined by the city in which the asset is located. The location adjustment spreadsheet and instructions for use of the costing tool will be provided to those consultants awarded a standing offer contract.

To calculate the cost of component life extension events and component replacement cost if you feel that use of PWGSC costing tool would be inappropriate given component replacement requirements, cost estimates for component life extension events shall be determined using a commercially available cost-estimating tool, not provided. When costs are estimated without using the PWGSC provided cost estimating tool, the consultant/assessor will ensure the cost estimate includes a construction contingency equal to 15% of the base costs, and an amount to cover project soft costs of 30%. The base costs, construction contingency and project soft costs shall be separately entered into the AVS tool-costing module as cost lines to substantiate the total event cost.

Component replacement costs for each component shall also be entered into the component detail labeled "component cost". See section **1.5.6.2 Component Cost**.

Note: PWGSC may change the calculation of soft costs during the standing offer contract.

1.6.4 Event Narratives

There are three event narratives associated with each event. Each of these narratives is listed below along with a description of the content required for each.

Event Description

The following information shall be included in every event description:

- ❖ A full description of what is to be done
- ❖ The results expected from event implementation

Event Justification and Strategy

The following information shall be included in this narrative field:

- ❖ Rational for why the event is required.
- ❖ List of what deficiency(ies) the event correcting or enhancement is providing.
- ❖ Indicate any potential for cost savings, increased performance, changes in function, reduction in energy consumption, greater code compliance, and increased accessibility.
- ❖ How the event should be carried out; steps required
- ❖ Indicate if it would be better to wait for a particular time of year?
- ❖ Will the tenants be disrupted?
- ❖ Describe the precautions that should be adhered to, to minimize impact on the tenant and building operations.
- ❖ List other events that should be grouped with this event and implemented together.

Implication of Event Deferral (Risks)

The answers to the following questions shall be included in this event narrative:

- ❖ What will be the impact on asset operations if the event is delayed?
- ❖ Will there be any additional degradation (cost) if the event is delayed?

Solicitation No. - N° de l'invitation
EP168-132237/A

Amd. No. - N° de la modif.

Buyer ID - Id de l'acheteur
fe171

Client Ref. No. - N° de réf. du client
20132237

File No. - N° du dossier
fe171EP168-132237

CCC No./N° CCC - FMS No/ N° VME

- ❖ What is the potential impact of other components if the event is delayed?
- ❖ What is the impact on the tenants health and working environment if the event is delayed?
- ❖ What is the impact on other related events/projects?

1.7 Asset Data Requirements

The asset data requirements for a BCR are described in this section.

1.7.1 Asset Details

There is only one asset detail to be filled in. The field is called "Date of current BCR". The date the BCR will be completed shall be entered into this field.

1.7.2 Asset Photographs

The consultant/assessor will include a recent photograph of the front of the building and a description, including building name and location. Please refer to Section "1.5.5 Required Component Photographs" for photograph specifications.

1.7.3 Asset Narratives

The first ten narrative fields in the AVS file are used in the Asset Management Plan and don't need to be updated as part of this contract.

1.7.3.1 BCR Project Team and Documents

The following information should be included in this narrative field:

- ❖ Optional tasks included as part of the call-up for this BCR
- ❖ List of participants including: name, discipline and the company they work for
- ❖ Limitations on liability (only if required by the consultant)
- ❖ List of documents reviewed
- ❖ List of drawings reviewed

1.7.3.2 Building History

When creating or adding to the building history, include the following:

- ❖ Date the asset was constructed
- ❖ Subsequent additions
- ❖ Major alterations/renovations
- ❖ Any known changes in the building/facility use and occupancy

1.7.3.3 BCR Executive Summary

The following list describes what the consultant/assessor will include in the "BCR Executive Summary":

- ❖ A brief description of the Asset (if previously completed please verify content for accuracy) including:
 - i. Location

Solicitation No. - N° de l'invitation
EP168-132237/A

Amd. No. - N° de la modif.

Buyer ID - Id de l'acheteur
fe171

Client Ref. No. - N° de réf. du client
20132237

File No. - N° du dossier
fe171EP168-132237

CCC No./N° CCC - FMS No/ N° VME

- ii. Exterior walls
- iii. Roof cover
 - ☐ Frame
 - ☐ Heating and Cooling System
- vi. Number of Floors above and below grade, gross area
- vii. Parking structures/lots
- viii. Other significant site improvements
- ◆ A description of the original design intent.
- ◆ Description of what the asset is currently being used as.
- ◆ Provide an overall assessment of the condition of the asset and provide an estimate of its remaining service life. ◆
- ◆ State the cumulative cost of all events as a percentage of the asset replacement cost new (RCN).
- ◆ For each of the following disciplines state the 5 and 10-year cumulative costs in dollars and as a percentage of the asset's RCN.
 - i. Site
 - ii. Architecture and Structural
 - iii. Vertical and Horizontal Transportation
 - ☐ Mechanical
 - ☐ Electrical
 - vi. Renovations

1.7.3.4 Design Parameters & Deficiencies – Current and Future

If a Functionality/Serviceability assessment has been carried out since the last BCR was completed, the consultant/assessor will review the identified serviceability issues and recommend solutions by creating and entering events into the AVS file. The consultant/assessor will describe the issues reviewed and write an overview of the recommendations under this heading in the AVS file.

If a Functionality/Serviceability Assessment has not been completed, components that received an unsatisfactory rating during the last BPR shall be considered as the source of serviceability issues. Each unsatisfactory component shall be reviewed, serviceability issues identified and solutions recommended. The consultant/assessor will describe the issues reviewed and write an overview of the recommendations under this heading in the AVS file.

See paragraph **1.7.3.16 Building Performance Review** for instructions on how to process the information provided and what to add to this narrative field.

For the parameters listed below, the consultant/assessor will compare the maximum capacities against those required for the current workstation density, and any workstation density proposed for the future and make recommendations to overcome any physical or code limiting factors, excluding floor area.

If a workstation density for the future is not provided, use the maximum number possible. The maximum possible number of workstations can be calculated by dividing the usable area of the building by the target area allowed per workstation, as per the PWGSC 2005 fit-up standard. The parameters are:

- ◆ Maximum floor loading
- ◆ Maximum heating capacity
- ◆ Maximum cooling capacity
- ◆ Maximum electrical capacity
- ◆ Elevator capacities
- ◆ Washroom capacities
- ◆ Emergency exit stairwell size

1.7.3.5 Overview of Architectural and Structural Condition

Solicitation No. - N° de l'invitation
EP168-132237/A

Amd. No. - N° de la modif.

Buyer ID - Id de l'acheteur
fe171

Client Ref. No. - N° de réf. du client
20132237

File No. - N° du dossier
fe171EP168-132237

CCC No./N° CCC - FMS No/ N° VME

The Consultant/Assessor will provide a description of the following structural characteristics:

- ❖ Size of structural column grid with respect to floor layout, remodeling potential and floor plate dimensions.
- ❖ Eccentricity of the core relative to the center of the building.
- ❖ Floor – ceiling dimensions.
- ❖ Adequacy of the plenum space.
- ❖ Shear walls, X-bracing, moment frame.
- ❖ Run-off water control.
- ❖ Abnormal deflection/deformation of visible structural components

The Consultant/Assessor will provide an overview, condition, recommendations and the long-term outlook for the following building elements:

- ❖ Foundations, basements, crawl spaces.
- ❖ Super Structure, including the frame and floor and roof structure
- ❖ Overview of seismic screening (only if it is part of the call up)
- ❖ Building Envelope, including the exterior cladding, the windows (including skylights, exterior doors, and the roof cover.
- ❖ Interior elements including, interior design/layout, the wall finishes, ceiling finishes, floor finishes, lobby, washrooms and cafeteria.

1.7.3.6 Overview of Site Condition

The Consultant/Assessor will provide an overview of the functionality and condition of the site improvements and long-term outlook, including the following components:

- ❖ Landscaping and site related components
- ❖ Paved surface systems including, roadways, sidewalks, parking lots, recreational areas and playgrounds
- ❖ Unpaved surface systems including, roadways, walkways, parking lots, recreational areas, and playground.

1.7.3.7 Overview of Vertical and Horizontal Transportation Condition

The Consultant/Assessor will provide an overview of the condition and recommendations for the primary vertical/horizon transportation systems, including the long-term outlook.

1.7.3.8 Overview of Mechanical Systems Condition

The Consultant/Assessor will provide an overview of the condition and recommendations for the major mechanical systems, including the long-term outlook.

1.7.3.9 Overview of Electrical Systems Condition

The Consultant/Assessor will provide an overview of the condition and recommendations for the major electrical systems, including the long-term outlook.

1.7.3.10 Compliance with TBS Temperature and Humidity Targets

Solicitation No. - N° de l'invitation
EP168-132237/A

Amd. No. - N° de la modif.

Buyer ID - Id de l'acheteur
fe171

Client Ref. No. - N° de réf. du client
20132237

File No. - N° du dossier
fe171EP168-132237

CCC No./N° CCC - FMS No/ N° VME

The Consultant/Assessor will ensure compliance with "TBS Occupational Health and Safety Directive, Appendix A – Temperature and Humidity Targets" (http://www.tbs-sct.gc.ca/pubs_pol/hrpubs/tbm_119/oshd-dsst/oshd-dsst01-eng.asp). If the asset meets or exceeds these targets the consultant/assessor will describe any adverse effects on the asset's components, if they exist. If the asset does not meet or exceed these targets, the consultant/assessor will describe why and what could be done to meet the temperature and humidity targets. Any recommended events shall be added to the AVS file.

1.7.3.11 Regulatory Testing Confirmation

The Consultant/Assessor will review the latest regulatory testing results and list any tests that were omitted. Include recommendations for remedial action if necessary and the reasons for omission.

1.7.3.12 Compliance with Accessibility Standards

The Consultant/Assessor will complete this narrative field when an accessibility audit is part of the call-up. The narrative field shall contain a summary of the results of the audit.

1.7.3.13 Overview of Environmental Issues

The Consultant/Assessor will review the latest Environmental assessment and create events to address any environmental issues raised. These issues could include:

- ❖ Asbestos Management
- ❖ PCB Management
- ❖ Hazardous Material Management
- ❖ Ozone Depleting Substances Management
- ❖ Pest Management Initiatives
- ❖ Storage Tanks
- ❖ Waste Management Initiatives
- ❖ If asked, the consultant/assessor will write a summary of the results of Green Globes Assessment

1.7.3.14 Overview of Project Grouping Recommendations

The Consultant/Assessor will list, in summary format, all the events that should be grouped and implemented at the same time due to their interdependence. The consultant/assessor will provide a justification for each grouping proposed and indicate if the tenants will need to vacate the area or the whole asset during project implementation. This shall be included in BCR Executive Summary.

1.7.3.15 Code Compliance Summary

The Consultant/Assessor will check for code compliance of the following building equipment and systems:

- ❖ Occupancy types/loads
- ❖ Ventilation
- ❖ Heating
- ❖ Cooling
- ❖ Pressure Vessels
- ❖ Fire Detection/Protection

Solicitation No. - N° de l'invitation
EP168-132237/A

Amd. No. - N° de la modif.

Buyer ID - Id de l'acheteur
fe171

Client Ref. No. - N° de réf. du client
20132237

File No. - N° du dossier
fe171EP168-132237

CCC No./N° CCC - FMS No/ N° VME

- ❖ Emergency doors/exits/lighting
- ❖ Electrical power capacity
- ❖ Lighting
- ❖ Elevators
- ❖ Washrooms

The Consultant/Assessor will review the latest version of the Building Performance Review (see the next heading) and review the paragraph on code compliance.

The Consultant/Assessor will list all code infractions, categorized by:

- ❖ National Building Code
- ❖ Provincial Building Code
- ❖ Fire and Safety Code (incl. CLC)

For each infraction, the Consultant shall include a recommended remedy in the form of an event entered into the AVS file and indicate if addressing the infraction could be delayed due to the age of the building.

1.7.3.16 Building Performance Review

When completed, the latest Building Performance Review will have been entered under this heading in the AVS file and each component will have a satisfactory or unsatisfactory rating. The Consultant/Assessor will review the section on tenant satisfaction and discuss any “unsatisfactory” ratings with the Property Manager. Equipment or systems that have ongoing operational issues shall be assessed and recommendations in the form of events to address these issues shall be added to the AVS file and a summary of the issues and recommendation shall be written in narrative field “Design Parameters & Deficiencies – Current and Future”.

1.8 Inspection Process

1.8.1 Asset Validation Survey Tool Reports

The AVS tool can generate three types of reports. The first is known as the “spreadsheet report” and lists the asset’s components and all the associated event information.

The second type of report is called the “condition report” which is available with or without pictures. This report will give the user a complete record of all the data that has been entered into the AVS tool, including all of the asset narratives. Printed off at the beginning of the inspection process, this report can also be used by the BCR inspection team to collect the building condition information. It contains a list of all the deficiencies that can be chosen for each component.

The third type of report is called a “technical component list”. This report is used to give the user an overview of component condition and the total of all events scheduled in any given year for each component.

1.8.2 AVS Files

When a Consultant/Assessor uses a single person to enter all the data into the AVS file, the file is exported to include all disciplines. If each discipline lead is required to enter their own data, a separate AVS export file can be provided for each. The Consultant/Assessor can specify which approach they wish to use when asking for the AVS files for a building.

Solicitation No. - N° de l'invitation
EP168-132237/A

Amd. No. - N° de la modif.

Buyer ID - Id de l'acheteur
fe171

Client Ref. No. - N° de réf. du client
20132237

File No. - N° du dossier
fe171EP168-132237

CCC No./N° CCC - FMS No/ N° VME

1.8.3 Interview with the Asset management Team

It is the responsibility of the consultant/assessor to schedule an interview with the asset management team at the beginning of every building inspection. This meeting will give the Consultant/Assessor an opportunity to validate the asset's component list, confirm the existence of operational problems, collect information about projects that have been completed since the last BCR and schedule escorted access to the building for the BCR team.

During the winter months, components located outside the asset may not be accessible or visible due to a layer of snow. In these circumstances the Consultant/Assessor use the condition assessment provided by the property management team to prepare a preliminary schedule of proposed events. As part of each call-up the consultant/assessor will return to the asset, weather permitting, and confirm the condition of all those components whose condition could not be assessed during the original visit. The Consultant/Assessor will update the BCR with any changes required to reflect actual component condition. This process shall not delay the delivery of the first version of the BCR.

Solicitation No. - N° de l'invitation
EP168-132237/A

Amd. No. - N° de la modif.

Buyer ID - Id de l'acheteur
fe171

Client Ref. No. - N° de réf. du client
20132237

File No. - N° du dossier
fe171EP168-132237

CCC No./N° CCC - FMS No/ N° VME

2. Functionality and Serviceability Assessment (stand alone task)

The Consultant/Assessor will be asked to perform Functionality and Serviceability Assessments (FSA) for office buildings, as part of this standing offer. The standards and parameters, against which the office building's serviceability shall be measured, will be determined by PWGSC before the first call-up.

For the purpose of determining the experience and level of personnel required to carryout this assessment, the ASTM standards on Whole Building Functionality and Serviceability, as well as Fit-Up standards for Office and Support Space Allocations, will be used as the source documents for FSA methodology, parameters and standards.

PWGSC has established a profile of requirements, for office buildings, against which "serviceability" and "space suitability" ratings from the assessment shall be compared. For all areas in which the rating is below the PWGSC requirement level, the consultant/assessor will make recommendations in the form of a mitigation plan, including: options available for each discrepancy, approximate costing information, expected time frames, and associated risks.

Other work, required to complete a FSA, will include a full workstation count of the facility.

The Consultant/Assessor will use the Asset Validation Survey (AVS) Tool to collect and transfer FSA data in the ProCapp module of the Capital Asset Planning System (CAPS).

Solicitation No. - N° de l'invitation
EP168-132237/A

Amd. No. - N° de la modif.

Buyer ID - Id de l'acheteur
fe171

Client Ref. No. - N° de réf. du client
20132237

File No. - N° du dossier
fe171EP168-132237

CCC No./N° CCC - FMS No/ N° VME

3. Level III Studies (stand alone task)

A Building Condition Report - Level 3 is a specialized technical review undertaken to address specific deficiencies or recommendations identified from the BCR - Level 2. It can be performed on an ad hoc basis or in response to special custodian requests. The BCR - Level 3 normally covers specialized issues such as occupant environmental complaints or energy audits. It may also be called for as part of a broader feasibility study related to key investment decisions, such as a major renovation, acquisition, or disposal. Level 3 reviews are performed by technical specialists and could involve one or more disciplines. As part of this standing offer, the Consultant may be asked to undertake level 3 investigations that could include items listed below:

The selection could be part of these series of building and site improvement factors including but not limited to:

- 1. Assessment of specific building systems in any building category.**
 - 1.1 Building envelopes to include all types of cladding and roof assemblies. "
 - 1.2 Seismic screenings and assessments "
 - 1.3 Thermography and Energy Audits "
 - 1.4 Fire Alarms Systems "
 - 1.5 Fire Protection to include suppression, emergency lighting and extinguishers. "
 - 1.6 Mould Inspections "
 - 1.7 Asbestos verifications "
 - 1 Accessibility under Federal Barrier Free standards "
- 2 Assessment of Specialty Areas in any building category**
 - 2.1 Generator Rooms "
 - 2.2 Major Mechanical equipment rooms (heating) "
 - 2.3 Elevator Machine Rooms "
 - 2.4 Boiler Rooms "
 - 2.5 Pump and Sprinkler Rooms "
 - 2.6 Transformer Vaults "
 - 1 Ventilation & Air Conditioning Equipment Rooms "
- 2 Assessment of Specialty Structures**
 - 3.1 Air Supported Structures "
 - 3.2 Parking Structures "
 - 3.3 Retaining Wall Structures "
 - 3.4 Structures covering Public Spaces "
 - 3.5 Anchor Systems on Bldg. exteriors "
 - 1 Storage Tanks (excluding fuel) "
 - 2 Assessment of Landscape Features
 - 4.1 Fences and Gates "
 - 4.2 Sculpture "
 - 1 Outdoor Paving "
- 2 Assessment of Environmental Features**
 - 5.1 Fuel tank storage assessed in conjunction with a Federal protocol by the PWGSC Environmental Services."
 - 5.2 Storm drainage solutions "
 - 5.3 Retention ponds & cooling structures "
 - 5.4 Sub-surface drainage, culverts and ditches "

Solicitation No. - N° de l'invitation
EP168-132237/A

Amd. No. - N° de la modif.

Buyer ID - Id de l'acheteur
fe171

Client Ref. No. - N° de réf. du client
20132237

File No. - N° du dossier
fe171EP168-132237

CCC No./N° CCC - FMS No/ N° VME

6. Specific types of analyses

- 6.1 Development of alternative solutions rated through risk and cost/benefit analyses
- 6.2 Recommendation of solutions to provide immediate relief and long term asset integrity
- 6.3 Development of costed projects, broken down to the component/event level and including the same narrative and detail data described in section 1.5 and 1.6 for components and event.

Solicitation No. - N° de l'invitation
EP168-132237/A

Amd. No. - N° de la modif.

Buyer ID - Id de l'acheteur
fe171

Client Ref. No. - N° de réf. du client
20132237

File No. - N° du dossier
fe171EP168-132237

CCC No./N° CCC - FMS No/ N° VME

4. Accessibility Audit (stand alone task)

If included as part of the Standing Offer call-up, the consultant shall complete the Accessibility Audit template in Appendix IV by comparing the current asset configuration against the requirements specified by the 2006 Treasury Board *Accessibility Standard for Real Property* policy available at the website listed below.

-5.1 Accessibility Requirements of the Treasury Board *Accessibility Standard for Real Property* or subsequent editions (web link: <http://www.tbs-sct.gc.ca/pol/doc-eng.aspx?id=12044§ion=text>) and
-CAN CSA B651-95 *Barrier Free Design* or CAN CSA B651-04 *Accessible Design for the Built Environment* Standards (confirm with PWGSC the technical standard that is to be referenced prior to commencement of the Building Condition Report).

Once the template has been completed, the consultant shall enter the recommended events against the relevant components in the AVS file. The year event implementation is recommended and Class "C" cost estimates, including the soft costs as specified in the event costing section, shall be included for each event. **(Note: The costing tool cannot be used here because it is only accurate to Class "D".)** Other event details and the three narrative fields shall be entered as previously described. One additional event detail indicating the policy year (1995 or 2004) driving the event may need to be entered by the Consultant.

The completed template shall be delivered to PWGSC in MS Word 2000 format.

Solicitation No. - N° de l'invitation
EP168-132237/A

Amd. No. - N° de la modif.

Buyer ID - Id de l'acheteur
fe171

Client Ref. No. - N° de réf. du client
20132237

File No. - N° du dossier
fe171EP168-132237

CCC No./N° CCC - FMS No/ N° VME

5. Seismic Screening/Assessment (stand alone tasks)

5.1 GENERIC TERMS OF REFERENCE for Seismic Screenings

A seismic screening shall be carried out in accordance with NRC's "Manual for Screening of Buildings for Seismic Investigation". The screening shall include a site review, a review of available existing building drawings/reports and the submission of the completed NRC Seismic Screening Form. The form is to contain a photograph of the building, relevant sketch(es) and a completed comments section indicating notable observations and any qualifications used in determining the Structural Priority Index (SPI) score. Comments by consultants should not be limited by the space available on the form. It is recommended that a separate write-up describing relevant observations during the review be included. If, for the specific type of building, significant changes have been made in the seismic provisions of the new 2005 National Building Code of Canada, a brief paragraph describing the nature of the changes shall be included in the comments. A provincially registered professional engineer (structural) shall stamp the Seismic Screening Form with his seal.

Context of Screening Results

The SPI score indicates deviation by contributing seismic factors to current seismic construction practices. It is not a detailed assessment and does not identify the level of specific building vulnerabilities. NRC suggests SPI scores be used for evaluation and planning purposes on the following basis:

- less than 10: low priority for further evaluation
- between 10 and 20: medium priority for further evaluation
- between 20 and 30: high priority for further evaluation
- higher than 30: can be considered an exceptional risk

Note: It is understood that NRC's "Manual for Screening of Buildings for Seismic Investigation" was based on NBCC 1990. Should a new screening document based on NBCC 2005 become available, PWGSC may require the screening to be carried out in accordance with both the NRC Manual and the new document.

Seismic Evaluation (Level 3)

Solicitation No. - N° de l'invitation
EP168-132237/A

Amd. No. - N° de la modif.

Buyer ID - Id de l'acheteur
fe171

Client Ref. No. - N° de réf. du client
20132237

File No. - N° du dossier
fe171EP168-132237

CCC No./N° CCC - FMS No/ N° VME

5.2 GENERIC TERMS OF REFERENCE for Detailed Seismic Assessment

Detailed Seismic Assessment includes:

- 1 A gathering and review of existing plans and other documentation on the building.
- 2 A review of the building's main structural resistance system and elements to both the applicable provincial code, and the NBCC 2005 seismic requirements;
- 3 Performing relevant on-site investigations and a condition survey of existing elements;
- 4 Involvement of a geotechnical engineer to address site classifications and foundation requirements;
- 5 A detailed structural analysis, in accordance to the applicable provincial code and the NBCC 2005, taking into account the proposed alterations and building occupancy;
- 6 Review of operational and functional components (i.e. non-structural elements) as it relates to operational and life safety requirements. These include, but are not limited to building components such as canopies over exit ways, partitions in corridors and stairwells, roof parapets, mechanical and electrical systems, ceilings, and cladding at access/egress locations.
- 7 Submission of a seismic assessment report including an evaluation of the sufficiency of the main building structure expressed as a percentage of the applicable provincial code, and the NBCC 2005. The report is also to include an assessment of the non-structural elements identified in 6.

The bulk of the seismic assessment will be done by a structural engineer, but other disciplines (e.g. geotechnical/electrical/mechanical/elevator/architecture) may be required to help coordinate with discipline-specific issues as required. Documents such as NRC's "Guidelines for the Seismic Evaluation of Existing Buildings" and CSA-S832-2006 "Seismic Risk Reduction of Operational and Functional Components of Buildings" shall be considered as reference documents.

Options assessment for seismic upgrades

If the main building structure does not meet 60% of either the applicable provincial code (while it continues to be based on NBCC 1995), or of NBCC 2005 requirements for new construction, upgrade options and approaches are to be investigated, so as to upgrade the seismic resistance of the main structure to at least the 60% level, but preferably to the 100% level. The optimal level of upgrade shall be selected based on financial, functional, operational, security and client requirements. Incorporation of practical aspects of the building alteration is to be carefully considered. New and emerging technologies are also to be carefully considered. Upgrade options for non-structural items are also to be investigated. Options, cost estimates and recommended seismic upgrading approaches are to be documented.

Reference documents such as NRC's "Guideline for Seismic Upgrading Techniques of Building Structures" and the CSA-S832-2006 "Seismic Risk Reduction of Operational and Functional Components of Buildings" are considered as reference documents.

Selection of an upgrade option (whether 60%, 100% or other level) will include consideration of the following, among others:

Solicitation No. - N° de l'invitation
EP168-132237/A

Amd. No. - N° de la modif.

Buyer ID - Id de l'acheteur
fe171

Client Ref. No. - N° de réf. du client
20132237

File No. - N° du dossier
fe171EP168-132237

CCC No./N° CCC - FMS No/ N° VME

- Seismic performance level
- Design, project management and construction costs
- Constructability considerations
- Client requirements
- Operational requirements
- Displacement of building occupants
- Long-term flexibility requirements for the building
- Architectural aspects of improvements
- Heritage aspects

Consideration of options will be documented in part by ensuring:

Renovation plans contain the seismic assessment report name, author and date.

Where seismic upgrade work is not required, the existing level of seismic resistance expressed as a percentage of the current NBCC requirements is to be described on the renovation plans.

Where seismic upgrading work is included, details of the seismic improvements including the level of seismic upgrade in relation to the current NBCC requirements, seismic design loads and design philosophy are to be described on the renovation plans.

Solicitation No. - N° de l'invitation
EP168-132237/A

Amd. No. - N° de la modif.

Buyer ID - Id de l'acheteur
fe171

Client Ref. No. - N° de réf. du client
20132237

File No. - N° du dossier
fe171EP168-132237

CCC No./N° CCC - FMS No/ N° VME

6. Appendix I – Capital versus Repair

6.1 The Definitions of Capital versus Repair used for event classification in CAPS.

Before assigning an event as CAPITAL, the cost must be greater than \$25k, and one or more of the following rules must apply. Otherwise the event should be classified as a REPAIR:

6.1.1 Does the event...

◆ Provide an increase in quality over original? The work is being done solely for the purpose of improving the functioning of the asset. If however the work is being done due to the poor condition of the component and the replacement is inherently more functional or of higher quality due to being newer, then the event is a Repair event.

◆ Improve operating efficiency? The work is being done solely for the purpose of improving the operating efficiency of the asset. If, however, the work is being done due to the poor condition of the component and the replacement is inherently more operationally efficient, then the event is a Repair event.

◆ Add a new item, system or function to the asset? Adding accessibility capability such as door openers to an asset that does not have them would be considered a Capital event, but replacing existing door openers that are in poor condition would be a Repair event.

◆ Increase the area of the building? Adding a new wing or floor to the asset.

◆ Modifications, Upgrades, Refits, Optimize, Refurbish, Aesthetics etc. These words do not automatically denote a CAPITAL project, but here are some rules to guide you:

i. If the optimizations, upgrade etc. are being performed on a technology-related component (Certain electrical components, DDC Controls, Elevator controls etc) the replacement event is probably an improvement in quality over the original as opposed to a replacement due to physical condition and should therefore be classed as CAPITAL. If an element is being replaced for any reason other than poor condition or obsolescence, its associated event should be classified as CAPITAL.

ii. Most Lobby refurbishments/refits are for aesthetic purposes. These events normally occur before the end of the typical service life of most lobbies finishes, as there is a need to keep the 'street-appeal' of the asset fresh and new. These events should be classed as CAPITAL.

Solicitation No. - N° de l'invitation
EP168-132237/A

Amd. No. - N° de la modif.

Buyer ID - Id de l'acheteur
fe171

Client Ref. No. - N° de réf. du client
20132237

File No. - N° du dossier
fe171EP168-132237

CCC No./N° CCC - FMS No/ N° VME

7. Appendix II - Event Classification

7.1 Event Structure

The event subclasses are the same for both Capital and Repair. The event classification chosen shall reflect the primary reason for the event. (E.g. if the purpose of event is to remove asbestos, then the Environmental Asbestos classification would be used, if the purpose of the event is to repair a component, then the Physical Component life extension event would be used). Where not self-explanatory, definitions are provided:

7.1.1 Environmental

- ❖ E Asbestos.
- ❖ E Hazardous Materials
- ❖ E Ozone
- ❖ E PCBs
- ❖ E Storage Tanks - This includes oil, propane, gas, and chemical and water storage tanks.
- ❖ E Waste Management

7.1.2 Functional

For any event proposed to ensure code or regulatory compliance not covered by environmental classification. Ensure Code reference number is identified in narrative.

- ❖ F Accessibility – events required to address deficiencies when the asset is assessed against current deficiency guidelines.
- ❖ F Building Code/Canada Labor Code - event to ensure compliance to a specific code:
 - i. F Municipal Codes
 - ii. F National Codes
 - iii. F Fire and Safety Codes – event is prompted by the results of an examination of Fire and Safety Code.
 - F Provincial Codes
 - F Treasury Board Secretariat or Deputy Minister Directive – event due to policy/ directive)
- ❖ F Domestic Water Quality –when event is prompted due to contamination
- ❖ F Federal Identity Program (policy on signage)
- ❖ F Indoor Air Quality - event is prompted due to results of an examination of Indoor Air Quality. Include events that rectify mold or contamination. Do not include events that rectify temperature comfort issues.
- ❖ F Security Events dealing with access control and monitoring over and beyond the normal. EG the current system is adequate but a video monitoring system is installed. This does not include replacing an outdated security system.
- ❖ F Seismic event is prompted due to results of Seismic Screening
- ❖ F Design Problems or Deficiencies (events dealing with space usability issues)

7.1.3 Operational (Opportunities for energy savings)

Solicitation No. - N° de l'invitation
EP168-132237/A

Amd. No. - N° de la modif.

Buyer ID - Id de l'acheteur
fe171

Client Ref. No. - N° de réf. du client
20132237

File No. - N° du dossier
fe171EP168-132237

CCC No./N° CCC - FMS No/ N° VME

Ensure that the event narratives specifically state that the event is being performed for energy efficiency. Do not class events here that are prompted due to end of life conditions.

- ❖ O Chilled Water – More efficient Chillers, Chilled water piping systems
- ❖ O Domestic Water Usage – Energy efficient faucets, toilets, spray nozzles etc.
- ❖ O Electrical – Changing old ballast for energy efficient ones, T8 bulbs for T12s
- ❖ O Federal Building Initiative - event is prompted to effect compliance with the FBI
- ❖ O Fuel Oil – More efficient Oil-fired Furnaces/heaters
- ❖ O Hot Water Heating – More efficient Hot Water Heater
- ❖ O Natural Gas – More efficient Natural Gas furnace/heaters
- ❖ O Steam – More efficient Boilers, piping

7.1.4 Physical

Physical class can be used to describe 90 percent or more of events in the database. The challenge is to first select another class that may better suit or that describes the event in more detail and if there were none that fits then the event would be placed in one of the two subclasses here.

- ❖ P Component life extension - an action that will allow the component to last longer -repair floor slab, patch leaking roof areas
- ❖ P Component replacement or new – replacement of the component – paint, carpeting, doors, pumps etc.
- ❖ P Equipment Obsolescence - the component still works but there are problems with obtaining spare parts or service/maintenance contracts

7.1.5 Whole Building Expenditures

This category includes any Studies/Reports/Investigations and Level III Studies (All components with the number 10.1A-* and 10.2-* inclusive) If the money budgeted for the study includes a physical action, and is over 25K then the event should be classed as CAPITAL. If the money budgeted for the study does not include a physical action, then the event should be classed as REPAIR.