

## APPENDIX "B"

BUILDING CONDITION REPORT, TOKYO, JAPAN

CONTRACT – SECTION 5 -  
PHASE 1- LEVEL 2 BCR DETAILED REQUIREMENTS

# LEVEL 2 BCR DETAILED REQUIREMENTS

## 1 Project Description

### 1.1 Project Information

1.1.1	PWGSC Project Title:	Tokyo Chancery
1.1.2	Location of Project:	7-3-38 Akasaka, Minato-ku, Tokyo 107-8503, Japan
1.1.3	Project Number:	TBD
1.1.5	Client / User:	Department of Foreign Affairs, Trade and Development - DFATD

### 1.2 Project Team

#### *Information to be provided at contract award.*

1.2.1	DFATD Project Director:	Phone:
1.2.2	DFATD Project Manager:	Phone:
1.2.3	PSPC Project Manager:	Phone:
1.2.4	DFATD Property Officer:	Phone:
1.2.5	DFATD Property Manager:	Phone:

#### 1.3.1 DFATD Mandate

Given the age of the chancery and the significant investments required to re-capitalize this asset, the importance of a rigorous analysis of the inventory through the preparation of a Building Condition Report is critical to the effective and efficient life-cycle management of this inventory.

DFATD needs to establish the current status of Place Canada Embassy compound by means of a level 2 general BCR which may also include specifically detailed level 3 investigations which are a sub-set of the same process to create the report. Once the requirements of the Building Condition Report are established jointly by the Project Team, the responses to found events will be defined in detail and used to inform the next stage of planning for the projected future of managing the Asset. DFATD used a facility asset management system called VFA (Vanderwell Facility Advisors). All information collected as part of this Phase 1 level 2 report will require input into DFATD's DATABASE Section provides more details.

- **Intended use of the Documentation**

The Report shall also include analysis of all viable options for the portfolio redevelopment for the Place Canada Embassy compound. This detailed summary will be contained in an appendix document within the report. It will be used to inform the investment analysis review and shall involve the retention of the chancery portion of the site as one of the Options presented.

#### 1.3.2 Project Background

Place Canada Embassy compound in Japan (Chancery, Official Residence, Canada Court) was constructed in 1991, valued in 2008 at JPY 8,600,000,000 (est. CAD \$111,542,000) and is currently operated via a complex arrangement ("the Master Agreement") among Canada, investors, a developer, a trustee, and a property manager (Mitsubishi UFJ Trust Bank with Shimizu Incorporated).

Canada currently owns the Chancery portion (52.5% of the building) under condominium title and the remaining 47.5% of the building (“the Surplus Portion”) is being rented out. Canada will take possession of the surplus portion in 2021, the terms of which have been agreed to by all parties. The rental agreements will be terminated by March 2021. As of July 2018, 30% of the Chancery portion is empty (15.75%) This will leave the entire structure approximately 60% vacant as of March 2021.

In Tokyo, Canada owns the official residence and a complex of staff quarters located on the compound known as Canada Court as well as two additional off-site compounds known as Azuba and Aoyama. Canada is in the process of selling a compound known as Motoyoyogu.

A feasibility study is under development with an aggressive target for completion of October 2019. This feasibility study must provide a detailed evaluation of the options related to the future of the portfolio in order to ensure the optimal solution to meet Canada’s property needs in Tokyo for the foreseeable future.

The Chancery was designed in the 1980s by Canadian architect Raymond Moriyama. It was constructed under a P3 arrangement and opened on Aoyama Avenue, in Minato-ku, Tokyo in 1991. The building has a total of 36,318 m<sup>2</sup> gross space. The official address is Akasaka 7-chome, Minato-ku. The Chancery is housed on the upper levels of the building while the lower above-grade levels house commercial rental tenants. The building is now 27 years into its life span and therefore, upon the termination of the Master Agreement in 2021, the building will be due for a major midlife upgrade/refit, including seismic and security upgrades. The property is situated directly across from imperial grounds in the Minato-Ku district of Tokyo; this fact – along with the 1979 shade legislation - places strict limitations on the built height and volume of potential structures on the property. Lot 167-1 and 167-2 are freehold. The leasehold of lot 167-2 is registered by Mitsubishi Trust Bank K.K.; the leasehold on lot 167-2 is entrusted by Mitsubishi Trust Bank into Trust Beneficiary interest until 28 March 2021 when the ownership will revert to Canada.

The space within the chancery is designated as follows:

• Chancery operations	7,864 m <sup>2</sup>
• Chancery Representational space	4,275 m <sup>2</sup>
• Space under Partner’s operations	13,993 m <sup>2</sup>
• Building services	8,626 m <sup>2</sup>
• Parking	1,560 m <sup>2</sup>
Total	36,318 m <sup>2</sup>

The distribution and segregation of base building systems have different patterns. For example, the distribution system is one system for the full compound.

The last condition assessment (Building Condition Report) was done in the year 2018. Given the requirement for detailed sort and long-term cost data, there needs to be a wholesome approach to these investigations in establishing the new baseline document. Assessments for the purposes of strategic decision making is usually done every 5 years.

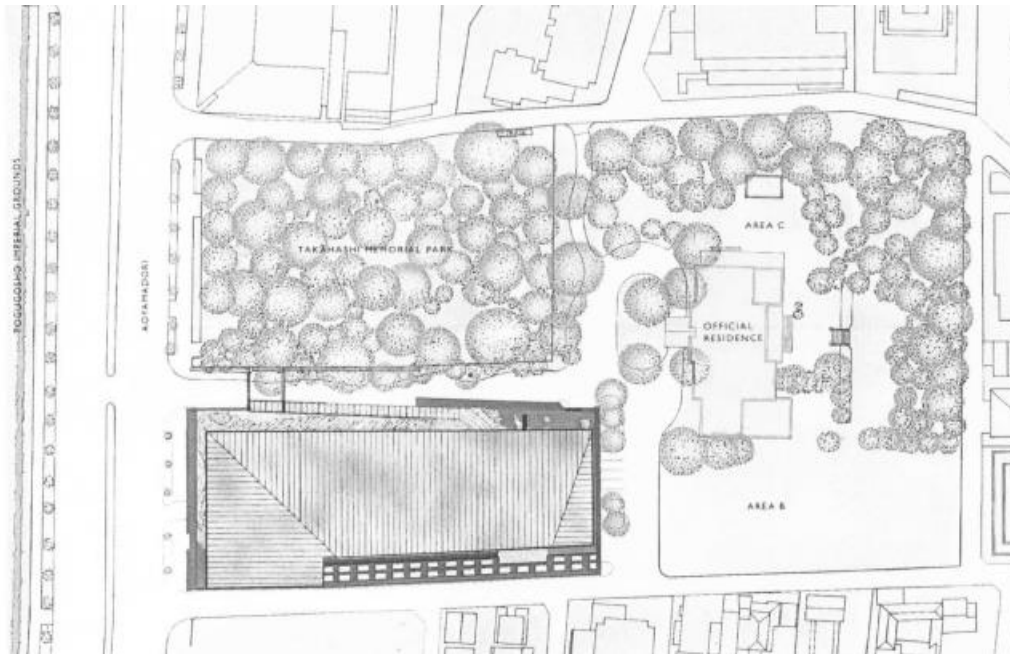
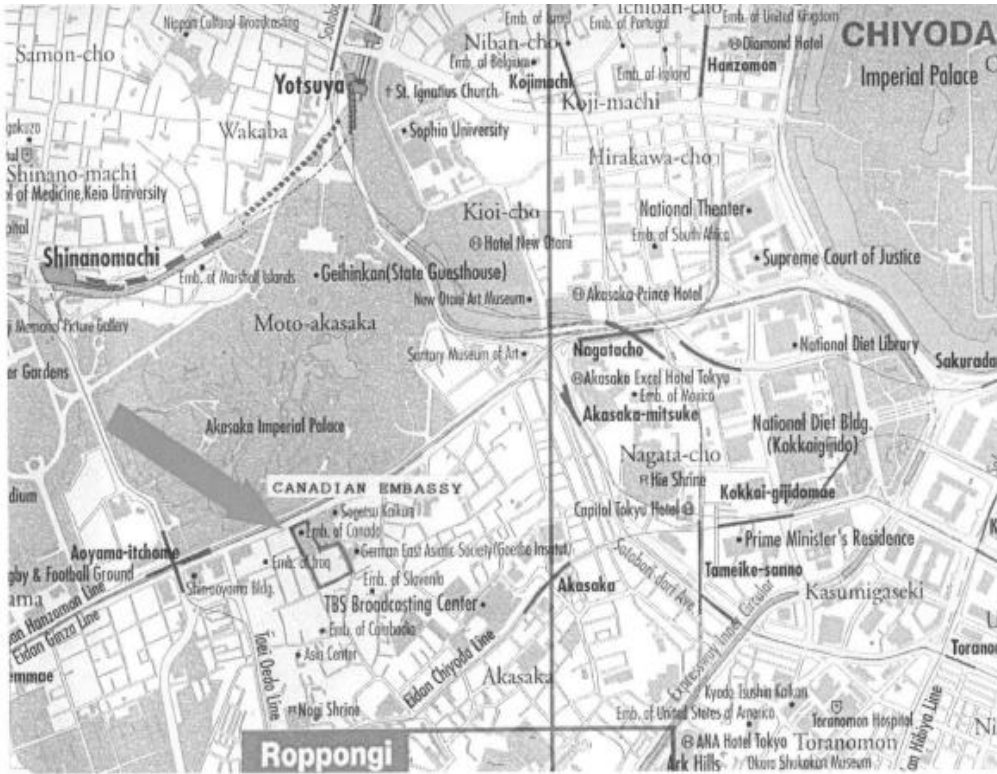
### 1.3.3. PHOTOS



Canadian Chancery Building on site



### 1.3.4. LOCATIONS



### 1.3.5. Level 2 BCR Matrix

Enclosed are the Terms of Reference for the Preparation of Building Condition Reports (BCR).

Summary Table of Terms of References for the BCR

#### Required Services Building Condition Report (BCR level 2) Terms of Reference

RS #	FEE summary to be supported by the Level of effort and schedule.		<input checked="" type="checkbox"/> (Serv) Indicates a proponent service requirement. <input checked="" type="checkbox"/> (Note) Indicates (noted) proponent service adjustment below. N/A indicates (not applicable) no proponent service requirement.	<u>Service requirement</u>	<u>See Note</u>
RS 1.0	\$ Fee proposed		<b>Background Information to be reviewed</b>	<input checked="" type="checkbox"/>	
			<b>Building Condition Report</b>	<input checked="" type="checkbox"/>	
RS 1.1	\$ Fee proposed	1.1	Manual Process Using Word Files	<input checked="" type="checkbox"/>	<u>1</u>
RS 1.2	\$ Fee proposed	1.2	Automated Process Using VFA	<input checked="" type="checkbox"/>	
RS 1.3	\$ Fee proposed	1.3	<b>VFA Surveys</b>	<input checked="" type="checkbox"/>	
RS 2.0	\$ Fee proposed	2.0	<b>General Requirements</b>	<input checked="" type="checkbox"/>	
		2.1	Thirty-Year Window of Capital and Repair Requirements	<input checked="" type="checkbox"/>	
		2.2	Component/System list	<input checked="" type="checkbox"/>	
		2.3	Requirements Structure	<input checked="" type="checkbox"/>	
RS 3.0	\$ Fee proposed		<b>Component/System Related Requirements</b>	<input checked="" type="checkbox"/>	
RS 3.1	\$ Fee proposed	3.1	Validation of the Component/System List	<input checked="" type="checkbox"/>	
RS 3.2	\$ Fee proposed	3.2	Component/System Name	<input checked="" type="checkbox"/>	
RS 3.3	\$ Fee proposed	3.3	Component/System Details	<input checked="" type="checkbox"/>	
		3.3.1	<ul style="list-style-type: none"> <li>Expected Life Span</li> </ul>	<input checked="" type="checkbox"/>	
		3.3.2	<ul style="list-style-type: none"> <li>Last major action year</li> </ul>	<input checked="" type="checkbox"/>	
		3.3.3	<ul style="list-style-type: none"> <li>Measurement units</li> </ul>	<input checked="" type="checkbox"/>	

		3.3.4	<ul style="list-style-type: none"> <li>Quantity (of the Component/Systems)</li> </ul>	<u>✓</u>	
		3.3.5	<ul style="list-style-type: none"> <li>Component/System narratives</li> </ul>	<u>✓</u>	
<b>RS 3.4</b>	<b>\$ Fee proposed</b>	3.4	System Narratives	<u>✓</u>	
		3.4.1	<ul style="list-style-type: none"> <li>Component/System description</li> </ul>	<u>✓</u>	
		3.4.2	<ul style="list-style-type: none"> <li>Component/System Condition &amp; Anticipated replacement date</li> </ul>	<u>✓</u>	
		3.4.3	<ul style="list-style-type: none"> <li>BCR Condition Narratives</li> </ul>	<u>✓</u>	
<b>RS 3.5</b>	<b>\$ Fee proposed</b>	3.5	Component/System Inspection & Evaluation Criteria List	<u>✓</u>	
<b>RS 3.6</b>	<b>\$ Fee proposed</b>	3.6	Establishing Component/System Condition	<u>✓</u>	
		3.6.1	Establishing Service Condition factors for all Components/systems		
<b>RS 3.7</b>	<b>\$ Fee proposed</b>	3.7	Required Component/System Photographs	<u>✓</u>	
<b>RS 4.0</b>	<b>\$ Fee proposed</b>		<b>Event Related Requirements</b>	<u>✓</u>	
<b>RS 4.1</b>	<b>\$ Fee proposed</b>	4.1	Event Details	<u>✓</u>	
		4.1.1	<ul style="list-style-type: none"> <li>Brief Event Description</li> </ul>	<u>✓</u>	
		4.1.2	<ul style="list-style-type: none"> <li>Event Narratives</li> </ul>	<u>✓</u>	
		4.1.3	<ul style="list-style-type: none"> <li>Current Event Year</li> </ul>	<u>✓</u>	
		4.1.4	<ul style="list-style-type: none"> <li>Estimated Event Cost</li> </ul>	<u>✓</u>	
<b>RS 4.2</b>	<b>\$ Fee proposed</b>	4.2	Requirement Descriptions	<u>✓</u>	
		4.2.1	<ul style="list-style-type: none"> <li>Implication of Requirement Deferral</li> </ul>	<u>✓</u>	
		4.2.2	<ul style="list-style-type: none"> <li>Closing a Completed Requirement</li> </ul>	<u>✓</u>	
<b>RS 4.3</b>	<b>\$ Fee proposed</b>	4.3	Requirement Event Photographs	<u>✓</u>	
<b>RS 5.0</b>	<b>\$ Fee proposed</b>		<b>Asset Data Requirements</b>	<u>✓</u>	
<b>RS 5.2</b>	<b>\$ Fee proposed</b>	5.2	Asset Details	<u>✓</u>	
		5.2.2	Asset Photographs	<u>✓</u>	
		5.2.3	Asset Narratives	<u>✓</u>	
		5.2.3.1	<ul style="list-style-type: none"> <li>BCR Project Team and Documents</li> </ul>	<u>✓</u>	
		5.2.3.2	<ul style="list-style-type: none"> <li>Building History</li> </ul>	<u>✓</u>	
		5.2.3.3	<ul style="list-style-type: none"> <li>BCR Executive Summary</li> </ul>	<u>✓</u>	
		5.2.3.4	<ul style="list-style-type: none"> <li>Design Parameters &amp; Definitions – current &amp; future</li> </ul>	<b>N/A</b>	

		5.2.3.5	• Overview of Architectural & Structure Condition	✓	
		5.2.3.6	• Overview Site Condition	✓	
		5.2.3.7	• Overview of Vertical & Horizontal Transportation Condition	✓	
		5.2.3.8	• Overview of Mechanical Systems Condition	✓	
		5.2.3.9	• Overview of Electrical Systems Condition	✓	
		5.2.3.10	• Compliance with Air Quality Targets	<b>N/A</b>	
		5.2.3.11	• Regulatory Testing Confirmation	✓	
		5.2.3.12	• Compliance with Accessibility Standards	<b>N/A</b>	
		5.2.3.13	• Overview of Seismic Screening	<b>N/A</b>	
		5.2.3.14	• Overview of Environmental Issues	<b>N/A</b>	
		5.2.3.15	• Overview of Project Grouping	✓	
		5.2.3.16	• Code Compliance Summary	✓	
		5.2.3.17	• Building Performance Review	<b>N/A</b>	
<b>RS 6.0</b>	<b>\$ Fee proposed</b>	6.0	<b>Survey Inspection Process</b>	✓	
		6.1	VFA Survey Reports	✓	
		6.2	VFA Surveys	✓	
		6.3	Interview with the Asset Management Team	✓	
		6.4	Capital versus Repair	✓	
		6.5	Requirement Classification	✓	

**RS 7 Additional Stand Alone assessments**

<b>RS 7.0</b>		7.0	Specialty Expert - Can be used to describe some or all of the items below in the Required Services depending on the Proponent's expertise.		
<b>RS 7.1</b>		7.1	Stand Alone Task 1 - Functionality and Serviceability Assessment	<b>N/A</b>	
<b>RS 7.2</b>		7.2	Stand Alone Task 2 – Seismic Analysis	<b>N/A</b>	
<b>RS 7.3</b>	<b>\$ Fee proposed</b>	7.3	Stand Alone Task 3 – Criticality assessments	✓	<b>Art#</b> <b>3.5</b>
<b>RS 7.4</b>		7.4	Stand Alone Task 4 – Gap Analysis	<b>N/A</b>	



RS 7.5		7.5	Stand Alone Task 5 – FCI Scenario analysis – BMP cost projections	<u>N/A</u>	
RS 7.6		7.6	Stand Alone Task 6 - AMP documentation reporting	<u>N/A</u>	
RS 7.7		7.7	Stand Alone Task 7 – Accessibility Audit	<u>N/A</u>	
RS 7.8		7.8	Stand Alone Task 8 – Specialty Consulting work as per TOR	<u>N/A</u>	
RS 7.9		7.9	Stand Alone Task 9 – Building Capacity Assessment – Long Form	<u>N/A</u>	

### 1.3.6. Implementation Strategy - Work Breakdown Structure and Schedule

The Proponent must ensure the strict adherence to the implementation and scheduling plan as provided here, in consultation with the assigned Departmental Representative in order to ensure the strict adherence to the project objectives & deliverables, project implementation plans, schedule, and critical milestones.

	ACTIVITIES	# WEEKS FROM CONTRACT AWARD		COMMENTS
1.	Completion (Architectural)	16	Weeks	
	Client Review – 4 WEEKS	20	Weeks	
2.	Completion (Structural)	16	Weeks	
	Client Review - 4 WEEKS	20	Weeks	
3.	Completion (Mechanical)	16	Weeks	
	Client Review - 4 WEEKS	20	Weeks	
4.	Completion (Electrical)	16	Weeks	Complete Rough Data
	Client Review - 4 WEEKS	20	Weeks	
5.	Client confirmation of Option 2	16	Weeks	
6.	Completion of Report Level 2 BCR – 3 WEEKS	23	Weeks	1 <sup>st</sup> DRAFT Report Level 2 BCR
	Client Reviews Report Level 2 BCR – 3 WEEKS	26	Weeks	
7.	Client confirmation of Option 3	25	Weeks	
8.	Completion of Report Option 2 – 9 WEEKS	27	weeks	PRE-FINAL Report Option 2
	Client Reviews Report Option 2 - 2 WEEKS	29	weeks	
9.	Completion of Report Level 2 BCR – 3 WEEKS	29	Weeks	PRE-FINAL Report Level 2 BCR

	<b>Client Reviews -- 3 WEEKS</b>	<b>32</b>	<b>Weeks</b>	
<b>10.</b>	<b>Completion of Report Option 3 – 5 WEEKS</b>	<b>30</b>	<b>weeks</b>	<b>PRE-FINAL Report Option3</b>
	<b>Client Reviews Report Option 3 - 2 WEEKS</b>	<b>32</b>	<b>weeks</b>	
<b>11.</b>	<b>Completion of Report Option 2 – 2 WEEKS</b>	<b>31</b>	<b>weeks</b>	<b>FINAL Report Option 2</b>
<b>12.</b>	<b>Completion of Report Option 3 – 3 WEEKS</b>	<b>35</b>	<b>weeks</b>	<b>FINAL Report Option 3</b>
<b>13.</b>	<b>Completion of Report Level 2 BCR - 3 WEEKS</b>	<b>35</b>	<b>Weeks</b>	<b>FINAL Report Level 2 BCR</b>
<b>14.</b>	<b>Consultant input into client’s VFA system – 4 WEEKS</b>	<b>39</b>	<b>Weeks</b>	

## 2. BUILDING CONDITION REPORT (BCR) PROCEDURAL BRIEF

### 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 the next 30 years. The BCR covers all components on the site and in the asset organized as follows:

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

The Uniformat II system is a standard for classifying building specifications, cost estimating, and cost analysis in the U.S. and Canada. UniFormat is now a trademark of Construction Specifications Institute (CSI) and Construction Specifications Canada (CSC) and was most recently published in 2010 (refers to this link: <http://csc-dcc.ca/Document+Store/UniFormat/> ). It is a system that covers all systems on-site and in the asset organized as follows:

- A – Substructure
- B – Shell
- C – Interiors
- D – Services
- E – Equipment and Furnishings
- F – Special Construction and Demolition
- G – Building Site work

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,
- Condition of character defining elements for designated heritage buildings,
- 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 local by-laws,
- Effective age and remaining economic life of building components (Effective age must consider implications for a designated asset and Character Defining Elements in particular),
- Confirmation of regulatory testing, and
- Criticality assessments (stand Alone task 3 – RS 7.3)

The statement of work will detail the extent of work required and will indicate specific event considerations that the assessor will incorporate into the 30 year plan (E.g. heritage designation). The level of effort required could be as small as one of the “stand alone” task, up to and including investigations required for a particular BCR.

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 occupant disruption.

## **2.1 Thirty year window of Capital and Repair requirements**

To ensure DFATD continues to have valid 25-year forecasts of requirement costs during the five years between BCR’s, DFATD requires a 30-year planning horizon.

## **2.2 Component/Systems List**

Components/Systems will be assessed to Uniformat II, Level-4. VFA uses Uniformat II, Level-3 as determined by the American Society for Testing and Materials (ASTM) to define the list of available building systems. These systems establish the level of detail required for a BCR. Once chosen for a particular asset, each system is included in the VFA Survey. System data, including lifetime and projected costs to maintain building condition, are associated with the relevant system.

## **2.3 Requirement Structure**

The VFA Requirement subclasses are the same for both Capital and Repair. The Requirement classification chosen shall reflect its primary justification (e.g. if the purpose of requirement is to remove asbestos, then the Regulatory Haz-Mat classification would be used, if the purpose of the requirement is to repair a system, then the Integrity-Reliability classification would be used).

The requirement structure is:

### **2.3.1 Integrity**

Lifecycle - Systems that are approaching or have exceeded their useful life (e.g. a 25-year old chiller that is approaching the end of its useful life and is recommended to be replaced within the next 5 years; a 15 year old membrane roof that is prematurely aged and showing signs of wear and leaking).

Reliability - Systems that are not working as designed and/or cannot be depended upon, but have not yet exceeded their useful life (e.g. a recently installed mechanical control that is not operating properly or functioning in an unpredictable manner; breaches in the roof membrane or deteriorated window sealants).

### **2.3.2. Optimization**

Abandoned - Systems that have been abandoned in place (e.g. old cooling tower abandoned on the roof; old oil storage tank abandoned in the basement).

Capacity - Problems with a System's ability to meet current demand (e.g. heating equipment that cannot adequately cover its intended area).

Energy - Conditions that adversely affect energy use (e.g. single-pane windows, lack of pipe insulation).

Maintenance - Systems that require routine maintenance (e.g. recalibration of thermostats, cleaning of ducts, cyclical painting, other aesthetic considerations).

Mission - Systems that do not meet the critical standards of the organization, as per guidelines provided by the client (e.g. a facility needs to be operational on a 24/7 basis, therefore redundancy/backup components need to be added; required additions/alterations associated with the conversion of a classroom facility into a dormitory; client driven security vulnerabilities).

Sustainability - Improvements where Systems potentially have a sustainable opportunity, other than Energy based (e.g. water conservation measures; use of building materials and resources based on sustainable procurement and with recycled/bio-based content; improvement of indoor environmental quality and considerations that reduce the impact of the building and its operations on the surrounding site).

Technological Improvements - Conditions that need to be made modern to meet current technological standards (e.g. pneumatic to DDC; non-energy based upgrades).

### **2.3.3. Regulatory**

Accessibility - Conditions that violate accessibility guidelines (e.g. non-accessible building entrances, plumbing fixtures, or door hardware).

Building Code - Conditions that violate applicable federal, provincial, regional and municipal regulatory requirements (e.g. lack of backflow protection, insufficient ventilation).

HazMat - Regulatory issues associated with Asbestos, Lead, PCB, and other situations in which hazardous materials are known or suspected to be present in the Asset (e.g. suspected asbestos pipe insulation or floor tiles).

Life Safety - Conditions that pose an immediate danger to human life or safety (e.g. blocked emergency egress, dead-end corridors, damaged and/or non-functional fire protection or emergency Systems).

The majority of requirements are usually classified in "Integrity" and a sub classification of Reliability or Lifecycle.

## **3.0 Component/System Related Requirements**

This section describes the work that the assessor will perform at the component level when producing a BCR. Regarding component inspection the Proponent shall ensure that deficiencies found to be present are clearly identified and/or the narrative field is used for further explanation.

### **3.1 Validation of the Component/Systems List**

The VFA Survey for any asset contains a system list specific to its building and site improvements. To ensure the BCR will cover the entire asset, the first task in writing a BCR shall be to validate the existing system list. The existence of each system in the list shall be confirmed by visual confirmation at the building and site. Use the master system list in VFA Survey as a guide to establishing the granularity to which the building will be broken down. Systems in this list, but not found in the building shall be deleted. Misclassifications (e.g. B1021 Flat Roof Construction instead of B1022 Pitched Roof Construction) shall be reclassified correctly. Systems in the building but missing from the building system list shall be added.

### **3.2 Component/System Name**

There is one system level description field associated with each system. If a narrative already exists, then it shall be reviewed and modified to reflect the current situation. This description field has a character limitation of 4,000 characters therefore narratives should be brief, concise and current to reflect BCR assessment.

### 3.3 Component/System 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/System Cost (if a replacement event is included)
- Quantity (quantities associated to all the components/systems covered in the 30year horizon)
- Measurement units to use for the quantity field above
- Last Major Action Year

The definition and requirements for each field are listed below:

#### 3.3.1 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 or rehabilitated. See section 2.0 regarding Heritage designated buildings.

#### 3.3.2 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 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 assessor will use the year of construction as the last major action year for that component.

#### 3.3.3 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
- cool tons	Air Handling Unit cooling capacity is specified in cool tons
- 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)
- ea	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 VFA data, make reference to the correct units in the Component/System description narrative field.

### **3.3.4 Quantity (of the component/system)**

The quantity of the element or component/system 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.

### **3.3.5 Component/System Cost**

The Replacement Cost of each system shall be automatically populated in the survey based on its Quantity and Unit Cost. If this cost is inaccurate, an Adjustment Factor is available to the assessor to modify.

## **3.4 Component Narratives / System Descriptions**

There is one system level description field associated with each system. If a narrative already exists, then it shall be reviewed and modified to reflect the current situation. This description field has a character limitation of 4,000 characters therefore narratives should be brief, concise and current to reflect BCR assessment.

### **3.4.1 Component/System Description**

The description of the component or system should include:

- Component/System name
- Year installed
- Basic Description (i.e. description of wall assembly, window, roof type, make/model of equipment)
- The location of the component/system
- The quality of the component/system (excellent, good, average, fair, poor)
- The capacity or performance of the component/system
- The replacement cost
- Identification of Character Defining Elements
- This information is to be recorded against the component or system and carried forward in the executive summary.

### **3.4.2 Component/System 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:
  - Below average quality component
  - Inappropriate component or system design
  - No longer supported by the supplier
  - Inadequate maintenance
  - Inadequate performance
  - Damage from external sources
- The rationale for component's condition rating (Excellent, Good, Average, Fair or Poor).
- The year the component/system was last replaced and establishment of the next replacement or rehabilitation date.

An overview of the component's/system's condition and the recommendations/predictions for future repair and replacement projects. (Details of particularly damaged components/systems should be provided in the format of the matrix below in section 3.6 which can be captured in VFA as a PDF file attachment with a reference flag within the event description narrative field)

### **3.4.3 BCR Condition Narrative**

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 components an “unsatisfactory” status and filled in this narrative field describing the reason why. The 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 assessor fully understands the problem described for each “unsatisfactory” component. Include conservation advice from conservation professionals for designated buildings.

### **3.5 Component/System 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.

### **3.6 Establishing Component/System Condition**

The objective of a level 2 Building Condition Report is to investigate factors related to condition such as the following:

The component’s condition rating is established as (Good, Fair, Poor).

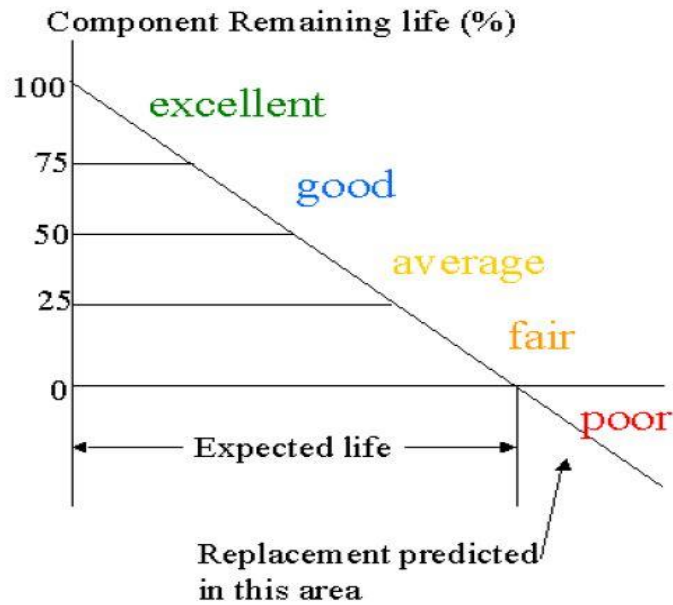
The greater the matrix score the better the condition.

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
- Character Defining Elements in Designated Buildings
- 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 at a basic level.

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)

**Note:** Even though the component's/system condition rating has been established as (Good, Fair, Poor).

Certain Components/Systems require additional scrutiny to a **level 4** based on the industry standard Uniformat II – ASTM. The greater the matrix score the better the condition so use this additional scrutiny to re-confirm the system status before placing the narrative in the system status description.

Total Number of Score Available Per Component/System is 1 to 10 - Weight Factor Range is 1 to 15

Maximum Total Weighted Points 1200

Between 700 and 1200 Points = Good Condition

Between 400 and 700 Points = Fair Condition

Less than 400 Points = Poor Condition

	<u>Criteria</u>	<u>Description</u>	<u>Score</u>	<u>Weight Factor</u>	<u>Total Weighted Points</u>
1	% of Remaining economic life	Less than 25% of L/C = 10 Between 26% and 50% of L/C = 9 Between 51% and 75% of L/C = 7 Between 76% and 100 % of L/C = 4 Exceeded 100% of LC = 3 Exceeded 125 % of LC = 2 Exceeded 150% of LC = 1		3	
2	Equipment parts obsolescence	Parts available = 10		4	



		Parts are becoming rare = 7 Parts can be custom made = 3 Parts not available = 1			
3	No longer supported by the supplier	Still supported by supplier = 10 Supplier support diminishing = 7 Alternate support available = 3 No Support = 1		4	
4	Design problems & deficiencies (DP&D)	No (DP&D) = 10 Minor (DP&D) = 7 Major (DP&D) = 3 (DP&D) cannot be fixed = 1		4	
5	Operational performance problems	No operational problems = 10 Minor operational problems = 7 Major operational problems = 3 Doesn't meet requirements = 1		5	
6	Functional performance problems	No functional problems = 10 Minor functional problems = 7 Major functional problems = 3 Doesn't meet requirements = 1		5	
7	Code Compliance	Code compliant = 10 Minor code problems = 7 Major code problems = 3 Immediate H/S code problems = 1		5	
8	Confirmation of regulatory testing,	Yes = 10 No = 1		6	
9	Maintenance practices	Reactive = 1 Scheduled PM = 5 Enhanced PM = 10		6	
10	Design problems and deficiencies that affect O&M activities	Yes = 1 Yes minor = 5 No = 10		4	

11	The component in service conditions	Low service conditions = 10 Medium service conditions = 7 High service conditions = 3 Extreme service conditions = 1		3	
12	State of repair or damage	Poor needs attention = 1 Poor = 3 Fair needs attention = 5 Fair = 7 Good = 9 Excellent = 10		10	
13	Aesthetic Appearance	Pleasing = 10 Not pleasing = 1		3	
14	Environmental (releases, GHG emissions, energy)	Low risk = 10 Med risk = 5 High risk = 1		3	
15	Demand Capacity	Yes met = 10 Pressured = 5 Not met = 1		5	
16	Industrial History of Unit	Yes history of Problems = 1 Average history of problems = 5 No history of problems = 10		10	
17	History of Leaks, Failures, shutdowns (events)	Yes = 1 No = 10		10	
18	More Reliable Technology Exists	Yes = 0 No = 10		2	
19	Provincial or Federal Policy Drivers	Yes = 1 No = 10		4	
20	Proponents Condition Judgment (Knowledge & Experience)	Overall condition poor = 1 Overall condition fair = 5 Overall condition good = 10		15	
				<b>TOTAL</b>	

**3.7. Establishing Service Condition factors for all Components/systems.**

Once the component condition is established to suit the basic overview, the Proponent shall address additional specifics on the Component Conditions to be able to minimize the Risk to the Management and Operations of the Portfolio by the Owner Investor.

**Specifically evaluating assessed components of the building for Operational Criticality :**

Take the completed BCR Asset Tracker & reports of the building to create as follows (appendix B refers)

Focus on the Uniformat level 4 list of components for this exercise and review all the narratives and component/system conditions on the Asset Tracker spreadsheets.

Assess the condition of the building component/systems as determined under the category of “Event / Requirement Listings”, then indicate the component’s/system’s remaining life. There are hundreds of sub-components that affect the Criticality status of the building so ensure to group the categories to suit the “ASTM Uniformat II classification for Building Elements” . Establish the sub-elements as per the ASTM Standard and NISD standard structures.

Review the “Priorities”, and “action required” timelines in the Narratives as well as all the available supporting studies provided by the Asset in the format of a Criticality assessment as described below.

Provide each line to represent each of the required components to be assessed. Additional sub-categories may be deemed necessary as the process begins.

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
<b>Uniformat Level 4 – Required Component review headings.</b>															
Uniformat identification number															

**Create the summary chart for inclusion in the final criticality assessment report.**

Provide from left to right 15 columns each representing 1 year of the 15 year life cycle span.

Where each row (system component) intersects a year we will insert a value which represents the systems/ component condition (the condition value will comprise two factors).

These factors applied together consider health and safety/continuity of operation/ asset threat and regulatory compliance.

- Good condition (score 5)
- Low risk of failure (score 4)
- Medium risk – but near end of life – less than 5 years remaining (score 3)
- Critical condition – high risk of failure (score 2)
- System failed (score 1)

Produce a heat map broken down into three distinct horizons (i.e. **1-5 years, 6-10 years, 11-15 years**) per high level system where each distinct horizon will be colour coded to the reflect the following as applicable:

- **Black** = Already failed and needs immediate action
- **Red** = Imminent Timeline Failure
- **Yellow** = Deferred Intermediate Timeline Failure
- **Green** = Deferred Long-Term Timeline Failure

Once this chart is generated, the conditions as colour coded need to be rated in terms of criticality within the component category. This determines the true criticality relative to the overall Asset condition. Multiply the rating factor on the chart by the specific condition rating described below to get a new criticality value.

The final criticality assessment value provides for the highest criticality of renewals and condition of the building elements. The heat map will now have a change in colour coding for the building systems on the 15 year planning horizon where **0 to 30 points are in red** for the highest criticality of renewal, **31 to 70 points in yellow** for medium, and **71 to 100 points in green** for low.

The scoring of the major component categories will comprise of 4 scoring categories at a maximum of 25 points each under the four factors listed above. **Health and safety, Continuity of operation, Asset threat and Regulatory compliance.**

**(4 x 25points = 100 points maximum).**

<b>Health and Safety</b>	
<b>Description</b>	<b>Condition Rating</b>
No exposure to hazards or injuries.	1
No exposure to hazards under normal operation.	2
Minor exposure to hazards and/or non-disabling injury.	3
Significant exposure to hazards and/or non-disabling injury.	4
Definite exposure to hazards capable of causing disabling injury or death. Immediate action required.	5

<b>Continuity of Operations</b>	
<b>Description</b>	<b>Condition Rating</b>
Failure of component/system can be corrected with minimal effect upon the users of the asset. Repairs can be undertaken without significant disruption to workspace during normal working hours.	1
Failure of the component/system can be corrected with minimal effect upon the users of the asset during normal working hours, however users may experience disruptive noise and activity in their general vicinity for an extended period.	2
Failure of the component/system cannot be corrected without evacuating a portion of the building for a brief period.	3
Failure of the component/system cannot be corrected without evacuating a portion of the building for an extended period.	4
Failure of the component/system cannot be corrected without evacuating the entire asset for an extended period.	5

<b>Threat to Asset</b>	
<b>Description</b>	<b>Condition Rating</b>
No exposure to hazards. Condition of the component/system has no relationship to the physical integrity of the asset.	1

Minor exposure to hazards under normal operations.	2
Some exposure to hazards. Failure of the component/system may have deleterious, localized effect on the physical integrity of the asset.	3
Major exposure to hazards.	4
Extreme exposure to hazards. Failure of the component/system has immediate and profound effect on the overall physical integrity of the asset.	5

Regulatory Compliance	
Description	Condition Rating
Component/system is fully compliant with current/fire codes and standards.	1
Component/system is partially compliant with applicable codes and standards.	2
Component/system has been identified as not compliant with applicable codes and standards.	3
Component/system is not compliant with applicable codes and standards, and has been identified as a life safety concern by authorities having jurisdiction.	4
Component/system is not compliant with applicable codes and standards, and authorities having jurisdiction have identified it as a major life safety threat. Immediate action is required.	5

### 3.8. Required Component Photographs

A good photograph is worth a thousand words. To give a better understanding of the asset, the assessor will always include as many photographs (up to 10) as it takes to adequately describe the condition of the component being reviewed.

The Proponent shall provide at a minimum photographs of every component/system in the entire Asset. For Components/Systems with multiple types, one photograph is inadequate. E.g. One photo for an asset with stone and brick and other masonry cladding is not acceptable. Provide at least one photo for each type of cladding material which can be sub-categories to the Component/System.

These photograph files, as well as those specified elsewhere in this document, must be:

- .JPG or .JPEG files.
- Less than 2 MB.

VFA Auditor includes advanced Photo Management functionality allowing users to link multiple photos to an Asset, System, and Requirements. Users have the option to link photos directly from a mobile device camera (iPad only at this time) or select from a camera roll or photo folder. Position the subject matter in the photo as such that it is close enough to clearly present the required details of the component and the issue, if any, yet show surrounding detail so that the photo location can be confirmed.

### 3.9 Recommended Level 3 surveys

Establishing the component condition and remaining useful life is one of the most challenging aspects of this report. The Proponent shall make recommendation for in-depth level 3 studies (L3) where necessary, and provide the evaluation matrix provided in the appendix and a summary table listing the components that are recommended for L3 inspections.

### **3.10 Existing Service Agreements**

Regarding service agreements summarize all asset components that have preventative or corrective maintenance or service contracts using the following format; component serviced, company, description of service, frequency of service, date of last inspection or services, typical cost. Also identify components that should have service agreements put in place that currently do not and provide an estimated cost.

### **3.11 Risk Management**

The Proponent shall provide assistance to the Departmental Representative in Risk identification and Mitigation.

## **4.0 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.

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. DFATD has decided to make use of this feature. Therefore the assessor will only enter one lifecycle (expected life) worth of repair events and replacement events into the AVS tool.

### **4.1 Event Details**

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

#### **4.1.1 Brief Event Description**

This description is used in VFA reports and should therefore be as short and concise as possible, preferably no more than 40 characters. (e.g. replace roof, repair boiler, etc.)

#### **4.1.2 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 (include advice from conservation consultants and conservators as required for Character Defining Elements)
- The results expected from event implementation
- If the provided costing tool is not used to calculate component replacement events, describe why and provide costing breakdown.

#### **Event Justification and Strategy**

The following information shall be included in this narrative field:

- Any pertinent background information
- Rational for why the event is required.
- List of what deficiency(ies) is the event correcting or enhancement is it providing.
- Indicate any potential for cost savings, increased performance, changes in function, reduction in energy consumption, greater code compliance, and increased accessibility.
- Identify Character Defining Elements of heritage designated buildings and seek advice from a heritage professional
- 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 occupants be disrupted?
- Describe the precautions that should be adhered to, to minimize impact on the occupant 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?
- Does it involve a Character Defining Element(s)
- What is the potential impact of other components if the event is delayed?
- What is the impact on the occupants' health and working environment if the event is delayed?
- What is the impact on other related events/projects?

#### **4.1.3 Current Event Year**

The recommended year of event implementation shall be validated and provided in the report.

#### **4.1.4 Estimated Event Cost**

In VFA, the replacement costs are automatically populated. However, the Proponent is expected to look at the condition ratings and remaining life to be able to adjust accordingly. Alternatively, the total estimated event cost at a class D accuracy, in current year dollars, shall be validated and provided as follows.

The budget estimations shall be developed using R.S. Means and the Proponent's cost data experience with previous similar projects. If the project is deemed critical, the NCA reserves the right to have a Cost Consultant mandatory in the contract for third party verifications that are acceptable to the Crown. The budget provided shall include – at a minimum - demolition, mobilization, material, labour, soft costs such as engineering, project management and contingency as applicable to the event or project. The event budget breakdown percentages are customized to scope of work of each event; however typical event budgets is in the Report should be in the range as follows:

- Labour and materials – 60%
- Contingency – 15%
- Soft costs – 25%

It should be noted that the Current Replacement Value (CRV) and the event costs should be determined based on different approaches. The CRV for the building is the total amount of expenditure in current dollars required to replace the asset and meet the current acceptable standards of construction, and comply with regulatory requirements. The CRV at the component level is an approximate cost contribution at component or system level to the total CRV. The event costs are event scope specific and cannot be compared with the CRV. The renewal budget includes an inflation of two (2%) percent which is added per year from 2015 to 2043 which is based on the past ten (10) year historic average. The budget typically should not include applicable taxes.

#### **4.2 Requirement Descriptions**

In VFA there is one description field associated with each Requirement as detailed below along with a description of their required content. The following information shall be included in every Requirement description:

- A full description of what is to be done;
- The expected results;
- The justification and strategy, including the following details;
- Rational for why the event is required.
- List of what deficiency(ies) is the event correcting or enhancement is it 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.
- Identify potential occupant disruptions.
- Describe the precautions that should be adhered to, to minimize impact on the occupant and building operations.
- List other requirements that should be grouped with this event and implemented together.

#### **4.2.1 Implication of Requirement Deferral**

In VFA the answers to the following questions shall be included in the description field:

- 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 ?
- What is the potential impact of other systems if the event is delayed ?
- What is the impact on the occupant’s health and working environment if the event is delayed?
- What is the impact on other related requirements/projects ?

#### **Closing a completed requirement**

- In VFA the assessor is to "Close" Requirements that are 100% complete. When reviewing an overdue/deferred Requirement, it is imperative that the assessor does not close it unless the issue has been 100% completed and resolved. In the case of overdue/deferred Requirements where the details are inaccurate, the assessor shall modify the details. Deleting an overdue/deferred Requirement and creating a new one skews FCI and related calculations resulting in a false picture of asset condition. The assessor can split a requirement to show that 30% of the requirement has been completed thus leaving 70% open.

#### **4.3 Required Event Photographs**

In addition to the photographs required under section 3.7, a photo shall be included 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 requirement implementation strategy.
- Visual evidence is required to explain the requirement implementation strategy.

#### **5.0 Asset Data Requirements as they relate to VFA**

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

##### **5.1 Asset Details**

There is only one asset detail to be filled in; “Date of Most Recent Assessment”. The date the BCR will be completed shall be entered into this field.

##### **5.2.2 Asset Photographs**

The assessor will include a recent photograph of the front of the building and a description, including building name and location.

Refer to section 3.7 for photograph specifications.

##### **5.2.3 Asset Narratives**

Note that all VFA narrative fields are limited to 4,000 characters, which equates to around one page of text. In cases where existing narratives exceed this limitation, the content will be truncated; however its full content will be available in a document attached to the asset for first time review and update in VFA.



All narrative fields must be updated when updating a BCR in VFA.

#### **5.2.3.1 BCR Project Team and Documents**

Include the following information:

- Brief introduction identifying initiation details and requested scope.
- List of participants (inspection team members, asset staff, others), including: name, discipline, company, date of site visit.
- Limitations on liability.
- List of documents reviewed.
- List of drawings reviewed.
- List of other information reviewed.
- List of reference documents (codes, polices, standards, etc.).

#### **5.2.3.2 Building History**

Include the following information:

- Original design information, including facility type/use, size (storeys/levels), date and designer.
- Original construction information, including completion date, contractor, and supervision.
- Subsequent addition(s) information, including dates, type/use, size (storeys/levels), designer, contractor, supervision, and date(s).
- Major alteration/renovation information, including dates and brief scope(s).
- Changes in the facility use and/or occupancy.

#### **5.2.3.3 BCR Executive Summary**

Include the following information:

- A brief summary of the asset, including: municipal address, name (if applicable), current use, and heritage status.
- A brief summary of the building, including: location/orientation on the site, number of storeys above grade, other storeys (i.e. below grade and/or rooftop penthouses), construction (frame and exterior walls), and gross floor area.
- A brief summary of the site, including: size, surrounding features (streets, development, etc.), paved vehicle areas, and other significant site improvements.
- An overall assessment of the condition of the asset and provide an estimate of its remaining service life.

#### **5.2.3.4 Design Parameters & Deficiencies – current & future**

Review and modify as necessary preamble for design/performance.

For the parameters listed below, the 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).

The parameters are:

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

#### **5.2.3.5 Overview of Architectural & Structure Condition**

Provide overviews of the condition and recommendations for the various architectural systems (building envelop ( roofs, exterior walls and most particularly the windows), substructure, shell, interiors, and equipment and fittings), including for each:

- General description.
- General overall condition and performance.
- Any notable exceptions in condition and/or performance.
- Any significant (high cost, health/safety, etc.) elements identified for correction in the short-term.
- General long-term outlook.

#### **5.2.3.6 Overview Site Condition**

Provide overviews of the condition and recommendations for the various site systems (site elements, landscaping, and pavements), including for each:

- General description.
- General overall condition and performance.
- Any notable exceptions in condition and/or performance.
- Any significant (high cost, health/safety, etc.) elements identified for correction in the short-term.
- General long-term outlook.

#### **5.2.3.7 Overview of Vertical & Horizontal Transportation Condition**

Provide an overview of the condition and recommendations for the vertical/horizon transportation systems, including:

- General description.
- General overall condition and performance.
- Any notable exceptions in condition and/or performance.
- Any significant (high cost, health/safety, etc.) elements identified for correction in the short-term.
- General long-term outlook.

#### **5.2.3.8 Overview of Mechanical Systems Condition**

Provide an overview of the condition and recommendations for the mechanical systems, including:

- General description.
- General overall condition and performance.
- Any notable exceptions in condition and/or performance.
- Any significant (high cost, health/safety, etc.) elements identified for correction in the short-term.
- General long-term outlook.

#### **5.2.3.9 Overview of Electrical Systems Condition**

Provide an overview of the condition and recommendations for the electrical systems, including:

- General description.
- General overall condition and performance.
- Any notable exceptions in condition and/or performance.
- Any significant (high cost, health/safety, etc.) elements identified for correction in the short-term.
- General long-term outlook.

#### **5.2.3.10 Compliance with Indoor Air Quality (IAQ) Targets - LEFT BLANK INTENTIONALLY**

#### **5.2.3.11 Regulatory Testing Confirmation**

Provide an overview of the on-site regulatory testing and inspection, including:

- Preamble for regulatory testing and inspection – provided.
- List of regulatory testing and inspection records found and reviewed on-site.
- List of regulatory testing and inspection records not found on-site, and reason why.
- List of regulatory testing and inspection not performed, and reason why.
- Recommendations for remedial action if necessary and the reasons for omission.

#### **5.2.3.12 Compliance with Accessibility Standards - LEFT BLANK INTENTIONALLY**

#### **5.2.3.13 Overview of Seismic Screening – LEFT BLANK INTENTIONALLY**

#### **5.2.3.14 Overview of Environmental Issues LEFT BLANK INTENTIONALLY**

Provide an overview of the status of environmental issues, including:

- Preamble for environmental issues – provided.
- Identification of any previously completed environmental assessment.
- Identification of any suspect materials/equipment visually identified on-site.
- Recommendations for action if necessary.

#### **5.2.3.15 Overview of Project Grouping**

This will be defined in detail in each individual TOR as generated for the Asset to be evaluated.

#### **5.2.3.16 Code Compliance Summary**

The Code Compliance Summary Matrix reference shall follow the format provided in the Appendix A as part of the level 2 base building assessment and should include the following information:

- Code compliance preamble.
- Applicable code version in force at the time of: original construction, any subsequent addition(s)/alteration(s), and any major renovations.
- Applicable code version currently in force and the relevant building code data matrix information, including: building area, building height, storeys below grade, sprinklered, major occupancy(ies), subsidiary occupancy(ies), number of streets, construction type, required fire-resistance ratings, and fire alarm.
- Occupant loads, including: maximum potential occupant load based on occupancy type(s), and current occupant load.
- Adequacy of existing washroom fixtures to serve maximum potential occupant load.
- A listing of all identified code issues, including:
- Code issues covered under individual Systems.
- General (multi-system) code design issues not already covered under individual Systems.
- Code issues identified in the code compliance paragraph of the latest version of the BPR (see 5.2.3.17).
- Identify for each code issue the applicable reference (i.e. name of code, standard, policy, etc. and its clause, rule, etc.) – e.g. (NBCC 3.3.1.17).
- Include for each infraction a recommended corrective action in the form of a Requirement entered into the VFA Survey and indicate if addressing the infraction could be delayed due to the age of the building.

#### **5.2.3.17 Building Performance Review**

When completed, the latest BPR will have been entered under this heading in the VFA Survey and each system will have a “Satisfactory” or “Unsatisfactory” rating. Systems that have ongoing operational issues are to be assessed and recommendations in the form of requirements made to address these issues shall be added to the BCR Survey.

A summary of the issues and recommendations shall be written in narrative field “Design Parameters & Deficiencies – current & future” (see 5.2.3.4).

## **6.0 Survey Inspection Process**

VFA increases the usefulness and standardization of building condition data and will be populated with all existing BCR data. Asset BCRs are kept current as yearly inflation updates to project costs and project completion information is entered. System 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.

Basic training on the use of VFA Surveys will be provided if and when required. However, it would be beneficial if the Consultants secure detailed knowledge of this software interface prior to the commencement of the contract services.

Instructions on How to Access & Complete VFA BCR files are as follows:

- The Departmental representative will identify user accounts using a User Access Template for the creation of secure accounts by region to an entity to be designated by DFATD
- BCR survey responders (Vendors and employees) and, TBD
- PSPC officials for acceptance by region TBD
- New User access template
- Confirm accounts created with SMEs via email.
- SMEs will confirm the asset has not already been assigned as another survey, for example a BPR. .Only one survey can be assigned at once otherwise this will result in loss of data.
- Once confirmed, the SME will then proceed with assignment of BCR files to responders.
- Responders will receive an email notice advising them they have been assigned a BCR survey to complete with instructions to proceed.
- Responders will complete surveys and submit for approval.
  
- The Approver will receive an email advising they have been assigned a BCR survey for review and acceptance, if accepted it will automatically be uploaded to VFA, if rejected an email will be sent to responder highlighting issues requiring correction.
- The BCR Survey request template needs to be filled out and submitted so that the Regional SME can assign the BCR based on needs (By discipline)
- Regional SME must assign BCR based on needs (by discipline) using the correct template.
- If assistance is required contact AFM BCR team.
- Multiple surveys for an asset can't be assigned at the same time.

## **6.1 VFA Survey Reports**

The VFA suite can generate various types of reports. Three key report types that will be useful to the BCR team are:

- System/Requirement listing – a list of the asset's Systems and associated Requirement information.
- Condition - a condition report, available with or without pictures, giving a complete record of all data and deficiencies entered into the VFA Survey, 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).
- Technical Listing - a technical component list giving an overview of System condition and the total of all requirements scheduled in any given year for each system.

## **6.2 VFA Surveys**

When an assessor uses a single person to enter all the data into the BCR Survey, it includes all disciplines. If each discipline lead is required to enter data, separate discipline specific VFA Surveys can be provided. The assessor can specify which approach they wish to use when requesting a Survey for a building.

**List of Appendices**

**Appendix A - Code Requirements**

**Appendix B – 15 year Asset Tracker Statistics Sheet**

**APPENDICES**

## APPENDIX A: CODE REQUIREMENTS

### SECTION 5.2.3.16

#### 1.0 INTRODUCTION

- **Background:** the code summary review is an integral component of the building condition report. To meet this objective the Proponent shall undertake a code summary review of the existing building Asset known as Tokyo Chancery located in Tokyo, Japan. The purpose of this service requirement is to gather information, access and make event recommendations related to existing code conditions and the latest fire and life safety codes.
- **Scope of Work:** this report shall act to identify and articulate the key fire and life safety requirements stipulated within the applicable codes, and review the parameters of the codes in light of the existing building conditions not undergoing renovation.
- **Methodology:** the contents of the report is to be based on visual analysis, current code requirements, existing conditions, tempered by the knowledge & expertise of certified subject matter experts, comprehensive site visit; coupled with a prudent analysis of the applicable situation and relevant codes.
- **Limitations:** the summary review is limited to the technical performance the key fire and life safety code requirements. Also, available asset information may be limited or not available.

#### 2.0 APPLICABLE CODES and LAWS

- **Legislative Requirements:** the Tokyo Chancery building is a Canadian federally occupied building, therefore the Canada Labour Code (CLC) and the Canada Occupational Health & Safety Regulations (COHS) apply. Although the National Building Code of Canada (NBCC) is referenced by the COHS Regulations it is to be applied in prudent, practical and reasonable manner with regard to existing buildings that may be non-compliant with the current code. Presently, the COHS Regulations reference the 2010 edition of the (NBCC) and the National Fire Code (NFCC) this may be subject to future change within the COHS regulations.
- **Treasury Board Standards:** the Treasury Board (TB) Fire Protection Standard (2010) stipulates that its policy intent is to “...protect and minimize losses to federal real property and protect the lives of those who use these properties from fire-related risk” and expresses that this shall be the responsibility of the Custodian Department that has administrative responsibility for the building. This policy references the NBCC, NFC and the intent of applicable local codes that may meet or exceed.
- **Japan Building Standard Law (BSL):** the primary law concerning building codes in Japan. The BSL acts to safeguard life, health, and property by providing minimum building standards. The BSL applies to all buildings in Japan, but is complimented by additional documents based on regional conditions.
- **Fire Service Law:** acts to prevent, detect, extinguish, and minimize damage caused by fires, earthquakes and other disasters, and should be considered in conjunction with the BSL.
- **Barrier-free Law:** provides regulations for accessible design standards for specified buildings, and should be used in conjunction with the BSL.

#### 3.0 APPLICATION OF THE BSL TO THE EXISTING BUILDING

- Application
- Building Size, Use and Occupancy
  - Building Size
  - Use and Occupancy
  - Occupant Load
- Construction Requirements
- Spatial Separation
  - Exposure Conditions at Exits

- Fire Department Access  
Fire Department Access Route  
Fire Department Access
- Fire Separations and Compartmentation  
Fire Separations and Fire Protection Ratings
- Egress and Exits  
Number of Exits and Travel Distance  
Door Swing  
Distance Between Exits  
Exit Capacity  
Exit Discharge  
Door Hardware  
Egress Configuration  
Integrity of Exits
- Fire Protection Systems and Emergency Power  
Fire Alarm system  
Sprinkler System  
Standpipe System  
Emergency Lighting  
Exit Signs
- Fuel Storage
- Washroom Requirement
- Barrier-free Requirements

## **APPENDIX B: 15 YEAR ASSET TRACKER STATISTICS SHEET**

The following column fields are required as part of the 15-year asset tracker statistics sheet:

- a) Nomenclature Item # (as per the Unifomat II System)
- b) BCR Pg #
- c) Building Component
- d) Quantity
- e) Quantity Location
- f) Recommendation
- g) Risk If Not Done
- h) Risk Type
- i) Issues
- j) Priority (i.e. P1, P2, P3, P4, P5) (as found on the Asset Tracker)
- k) Prior to [date to be confirmed upon contract award]
- l) Years 1-5 (i.e. FY 2019/2020 to 2023/2024)
- m) Years 6-10 (i.e. FY 2024/2025 to 2028/2029)
- n) Years 11-15 (i.e. FY 2029/2030 to 2033/2034)