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Studies



## Building Condition Assessment

Commercial Property  
231 Cobourg Street  
Ottawa, Ontario

Report Prepared For,

**Uganda High Commission - Ottawa**  
231 Cobourg Street  
Ottawa, Ontario  
K1N 8J2

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## EXECUTIVE SUMMARY

Following the request of the Uganda High Commission - Ottawa, Paterson Group Inc. conducted a Building Condition Assessment (BCA) of the commercial property located at 231 Cobourg Street in Ottawa, Ontario. The walk-through survey for the report was carried out on January 18 and February 12, 2013.

The subject building was originally constructed in 1930 as a residential building and was later converted into a commercial office building for the Uganda High Commission in 1993. The property is two storeys in height with one level below grade. The total areal building footprint is approximately 200 m<sup>2</sup> (2,150 ft<sup>2</sup>).

Overall, property elements vary from unsatisfactory to good condition. Several elements require immediate repair and replacement work to ensure that they perform satisfactorily. Recommended repair and replacement work is separated into two groups, including immediate work, which should be undertaken within the next year, and short term work, which should be carried out within the remaining four years covered by the scope of this report. With repair and replacement requirements addressed, most property elements should provide many years of reliable service.

An estimated total of \$231,000 is required in 2013 for immediate work, which can be broken down as follows:

<input type="checkbox"/>	\$80,000	Interior Drywall Repairs, Door Resetting and Insulation Upgrade, Including Complete Repainting
<input type="checkbox"/>	\$50,000	Interior Floor Re-levelling
<input type="checkbox"/>	\$30,000	Foundation Wall Repairs
<input type="checkbox"/>	\$25,000	Interior Flooring Replacement
<input type="checkbox"/>	\$20,000	Concrete Slab-on-Grade Repairs
<input type="checkbox"/>	\$10,000	Tree Removal
<input type="checkbox"/>	\$5,000	Brick Masonry Repairs
<input type="checkbox"/>	\$4,500	Heat Piping Insulation
<input type="checkbox"/>	\$4,000	Domestic Water Piping Insulation
<input type="checkbox"/>	\$1,500	Electrical Equipment IR Inspection
<input type="checkbox"/>	\$1,000	Heating Convection Units Cleaning
<hr/>		
<input type="checkbox"/>	<b>\$231,000</b>	<b>Estimated Costs for Immediate Work</b>

Note that the concrete slab-on-grade repairs include only partial reconstruction of the slab since complete reconstruction is not warranted at this time. However, if complete reconstruction of the slab is desired then we estimate approximately \$60,000 would be required for this work.

In addition to the above immediate work, we anticipate that \$104,000 will be required from 2014 to 2017 for short term work, which can be broken down as follows:

<input type="checkbox"/>	\$35,000	Complete Window Replacement
<input type="checkbox"/>	\$30,000	Built-Up-Roof Replacement and Roof Space Insulation Upgrade
<input type="checkbox"/>	\$15,000	Heating Boiler Replacement
<input type="checkbox"/>	\$12,500	Sanitary and Storm Piping Replacement
<input type="checkbox"/>	\$9,000	T12 Light Fixture Upgrade
<input type="checkbox"/>	\$1,000	Pitched Canopy Roof Replacement
<input type="checkbox"/>	\$1,000	Exterior Painting
<input type="checkbox"/>	\$500	Window Air Conditioning Unit Replacement
<hr/>		
<input type="checkbox"/>	<b>\$104,000</b>	Estimated Costs for Short-Term Work

Wood frame windows are near their normal service life and are in mostly fair condition. As such, we recommend replacing the existing windows within the next five years to improve energy efficiency and occupant comfort. However, the windows can be made to last about seven to ten more years, if desired. Therefore, replacement of windows to upgrade the property is at the owner's discretion. Replacement costs are estimated at \$20,000, but window replacement is at the discretion of the owner at this time. If the wood frame windows are not replaced within the next five years, then the replacement of the caulking and isolated glazing pane replacement will be required, at an estimated \$5,000.

As such, a total of **\$335,000** is expected for repair and renewal work during the five-year scope covered by this report.

Our findings regarding the Building Condition Assessment are discussed in Section 5 of this report, while recommendations are provided in Section 6.

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## 1. INTRODUCTION

Following the request of the Uganda High Commission - Ottawa, Paterson Group Inc. (Paterson) conducted a Building Condition Assessment (BCA) of the commercial property located at 231 Cobourg Street in Ottawa, Ontario. The walk-through survey for the report was carried out on January 18 and February 12, 2013.

This report was prepared specifically and solely for the Uganda High Commission, and contains a summary of findings. The purpose of this BCA is to observe and report on the current physical condition of the subject property at the time of the review. This report provides a summary of findings and associated cost estimates for repair and replacement work recommended over the next five years. The property is currently being reviewed to develop a condition survey of the building and its proprietary componentry that will aid in the appropriate allocation of future funds for preventative repair and renovation programs as the need arises.

## 2. SCOPE OF WORK

This BCA was carried out in general accordance with the American Society for Testing and Materials (ASTM) E 2018-8, "Standard Guide for Property Condition Assessments: Baseline Property Condition Assessment Process", except as outlined herein. Deviations from ASTM E 2018-8 are that utilities, security systems, life safety and fire protection, and most interior elements are not included in the scope of work for this assessment.

The scope of work for this assignment includes:

- A review of documentation, including construction drawings, historical maintenance records, engineering reports, work orders, complaint reports, or other pertinent information, as available.
- Interviews with key information sources, including the owner of the building, current tenants, and building maintenance staff, as available.
- A visual examination (walk-through survey) and assessment of site features, including the parking areas and landscaping, where visible i.e. where not snow covered
- A visual examination (walk-through survey) and assessment of exterior building envelope surfaces, such as roofs, walls, windows, doors and sealants, including surface mounted and through wall detail.
- A review of primary mechanical and electrical systems, by mechanical and electrical sub-consultant LRL Associates Ltd.
- A condition review of interior wall and ceiling finishes.
- A review of exposed structural elements, including foundation walls.
- Photographic documentation of general conditions and deficiencies encountered during the walk-through survey.
- An engineering report summarizing findings, cost estimates, and further investigative work, if required, over a five-year period.

### **3. BUILDING CONDITION ASSESSMENT PROCESS**

#### **3.1 Phases of Work**

This BCA was carried out in four main phases, including document review and interviews, the walk-through survey, development of findings and costs, and the building condition report.

Document review and interviews are utilized to gather information regarding historical repairs and replacement and their costs, level of preventive maintenance exercised, and pending repairs and improvements. The document review and interview phase serves to augment the walk-through survey and to assist in the overall understanding of the property. As such, much of the document review and interview phase is carried out prior to the walk-through survey, so that any specific issues raised can be reviewed during the walk-through survey.

Next, a walk-through survey of the subject property is performed to assess the condition of property elements, including identification of physical deficiencies. In general, the walk-through survey includes a visual review of site elements, the structural frame and building envelope elements. These items are reviewed to the extent that they are easily visible and readily accessible. That is, that observations are made without intrusion, relocation or removal of materials, exploratory probing, or use of any specialized equipment or instruments. As a result, the review of the structural frame is typically very limited due to the concealed nature of such elements, and finding that the structural frame appears satisfactory is typically based on the lack of evidence of structural related distress on building envelope elements.

After interviews and the walk-through survey are complete, the information gathered is analyzed to develop findings regarding repair and replacement requirements. Budget costs are estimated for all repair and replacement work recommended to address deficiencies and to renew building elements which have reached the end of their service life. For repair items, budget costs involve an estimate of the material and labour requirements for each specific item. For major renewal items, budget estimates are determined by multiplying the total quantity of the element in question by the expected unit price for the work of concern, based on a database of pricing for similar work. However, if an item is too complex to develop a cost using the quantity and unit price method, a lump sum opinion of probable cost is included for such an item. In certain situations, contractor input may be used to assist with budget estimates.

The budget estimates are intended to provide a better general understanding of the physical condition of the property by associating a cost to deficiencies. With this in mind, it is important to note that cost estimates in this report are preliminary 'order of magnitude' budgets. All budget estimates provided are estimated according to this year's costs and account for HST. It is not the intension of this assessment to report minor or insignificant maintenance work or deficiencies. As such, work items with budget costs that are less than the benchmark amount of \$1,000 may be omitted from this report, or several smaller items may be grouped together for an overall budget estimate for these items combined. The exception is that multiple like items which occur within the five-year scope covered by this report and collectively total the benchmark amount are included.

Once information is analyzed and findings and cost estimates are developed, an engineering report is prepared, providing written and photographic documentation of observed deficiencies. A remedial action plan is prepared for repair and replacement work required over the next five years, with this work separated into two groups, including immediate and short-term work. Immediate work includes any property element requiring immediate repair or replacement as a result of being potentially unsafe, contributing to system failure within one year, or resulting in a significant escalation in remedial cost if work is deferred. Short-term work includes any repair or renewal work that does not warrant immediate action, but is anticipated to require repair or renewal during the five-year scope covered by this report.

### **3.2 Summary of Document Review and Interviews**

The following is a list of key information sources reviewed.

#### **Engineering/Architectural Plans**

- Survey site plans were briefly reviewed at the time of our visit.

#### **Engineering reports**

- Various engineering reports were briefly reviewed at the time of our visit.

#### **Work Orders, Complaint Reports, Maintenance Schedules or Other**

- Various work orders and maintenance history were briefly reviewed at the time of our visit.

#### **Local information sources**

- Mr. Joshua Kalebo of the Uganda High Commission, provided access to the building and provided information regarding past repairs and maintenance work carried out at the building, in addition to recent historic building information.

## 4. DESCRIPTION OF PROPERTY

### 4.1 Brief History and Description

The subject building was originally constructed in 1930 as a residential building and was later converted into an office building for the Uganda High Commission in 1993. The property is two storeys in height with one level below grade. The total areal building footprint is approximately 200 m<sup>2</sup> (2,150 ft<sup>2</sup>).

Below grade, the building is supported by a combination of concrete block masonry and reinforced cast-in-place concrete foundation walls and footings. Above grade, the building is supported by load bearing concrete block walls, brick masonry and structural wood framing. The flat (low-slope) roof framing consists of wood deck boards over wood joist members. The floors are of wood framing construction. The exterior walls are predominantly clad with brick masonry, while precast concrete sills exist at upper level windows. Windows consist of a combination of single pane wood frame construction and double pane vinyl frame construction, while exterior doors are of solid wood core doors. Various wall mounted detail such as building light fixtures and security cameras exist on the building's facade. The main flat roof is composed of a conventional multi-ply built-up-roof (BUR) membrane system and is drained via internal roof drain assemblies. A roof space exists beneath the main flat roof and includes a vapour barrier and blown insulation. A pitched canopy roof exists above the main entrance and is protected with asphalt shingles and is drained via an eavestrough system.

Mechanical and electrical systems throughout the building include various systems related to plumbing and drainage, ventilation, heating and air conditioning, electrical distribution and lighting.

Exterior property elements include a gravel parking area, a precast concrete landing and step, precast concrete paver stones and the landscaped grounds.

### 4.2 Building Data

<input type="checkbox"/>	<b>Owner:</b>	Uganda High Commission
<input type="checkbox"/>	<b>Location:</b>	231 Cobourg Street
<input type="checkbox"/>	<b>Age:</b>	Approximately 83 years
<input type="checkbox"/>	<b>Height:</b>	Two storeys
<input type="checkbox"/>	<b>Levels Below Grade:</b>	One
<input type="checkbox"/>	<b>Roofs:</b>	Flat (low-slope) roof and pitched canopy roof
<input type="checkbox"/>	<b>Cladding:</b>	Brick masonry and precast concrete sills
<input type="checkbox"/>	<b>Floors:</b>	Cast-in-place concrete slab-on-grade and structural wood framing above grade
<input type="checkbox"/>	<b>Foundations:</b>	Concrete blocks and cast-in-place concrete foundation walls and footings



## **5. FINDINGS OF THE BUILDING CONDITION ASSESSMENT**

The scope of work for this building condition assessment included a review of site features, the structural frame, building envelope components and primary mechanical and electrical systems. Findings of the building condition assessment are as follows:

### **5.1 Site Features**

Due to the accumulation of snow, on-site verification of existing site feature elements was limited. Therefore, commentary regarding conditions of those snow covered elements cannot be performed. As such, for site features that were snow covered and could not be reviewed, it was reported that site feature elements included a gravel parking area, a precast concrete landing and step, precast concrete paver stones and the landscaped grounds.

#### Gravel Parking Area

A gravel parking area exists at the north side of the building. The gravel parking area was snow covered, so its condition could not be adequately assessed. According to information provided, the north end of the basement was used as a garage at the time when this building was utilized for residential purposes. The garage door openings were infilled with wood framing about 10 years ago, and the exterior grades were raised at these areas. Therefore, it is assumed that the parking area would have been properly re-graded at the time of this work. That being said, no major repair or replacement work is anticipated for the gravel parking area within the next five years.

#### Precast Concrete Landing and Step

A precast concrete landing and step exist at the front entrance to the building. The landing and step are covered with an exterior carpet and mat, so the condition of the landing and step could not be adequately assessed. Exposed areas of the concrete landing and step appeared to be in satisfactory condition. As such, no major repairs or replacement work is anticipated for the landing and step over the next five years.

#### Precast Concrete Paver Stones

As understood, precast concrete paver stones exist at the rear of the building and were completely snow covered at the time of our visits, so the condition of the paver stones could not be adequately assessed. Generally, precast concrete paver stones can provide many years of service before major repairs or replacement is required. Occasionally, resetting of isolated areas of the pavers could be required, but these repair costs are relatively minor and should be covered by the annual operating budget. As such, these costs were not included in this BCA report.

## Landscaped Grounds

The landscaped grounds were completely snow covered. That being said, the condition of the landscaped grounds can be presumed to be in overall satisfactory condition since no problems were reported and these types of elements seldom require significant expenses. General maintenance work such as replacement of shrubs, sod, or topsoil, or the replacement of other landscaping elements should be minimal, so major repair or replacement work to the shrubs, sod and topsoil is not anticipated within the next five years. However, according to the findings of our Geotechnical Assessment, dated February 15, 2013, the surrounding trees are contributing to building settlement as these trees are depleting the moisture from the underlying clay soils. Therefore, these trees should be removed. According to information provided, one tree has already been removed at the northwest corner of the property, several years ago.

## **5.2 Structural Frame**

The following commentary represents the structural configuration based on observations made during our walk-through survey, on the information obtained from test holes into the slab-on-grade during our recent Geotechnical Assessment, and based on background information gathered from the foundation wall replacement which was carried out approximately 10 years ago. No structural or architectural drawings of the building were available for our review.

The building is supported by a combination of 8" thick concrete block masonry and 8" thick cast-in-place concrete foundation walls over 12" thick concrete footings. Additional supports were provided by interior wood posts, presumably on cast-in-place concrete foundation pads. Above grade, the building is supported by brick / concrete masonry exterior walls and wood stud walls and columns. The basement floor is of concrete slab on ground construction. Floors above grade consist of nominal 2" x 10" wood joists spaced at 14" o.c., with built-up wood beams supported by wood columns. The flat (low-slope) roof consists of nominal 1" x 6" tongue and groove wood deck boards over nominal 2" x 4" wood joist members spaced at 20" o.c.

Overall, numerous cracks were observed in the foundation walls, in the interior load bearing walls, in the concrete floor slab-on-grade and in many interior partition walls and ceilings. The concrete floor slab-on-grade is in unsatisfactory condition, and in particular, the slab at the north end of the building is severely cracked and has sunken significantly. Wood framed floors at the rear of the building are sloped up to 1-1/2" over a 4' span, and a "hump" exists in the ground floor at the rear of the building due to an interior partition wall in the basement heaving the floor above. Additionally, several interior doors are not plumb within the door frames. As reported in our Geotechnical Assessment report, dated February 15, 2013, all of the above irregularities are related to building settlement.

The above noted irregularities should be repaired now, by means of excavating the surrounding soil and installing a waterproofing membrane to repair all cracked foundation walls from the exterior, reconstructing the severely cracked and sunken slab-on-grade areas and sealing all other cracks within the slab-on-grade, repointing the cracked mortar joints in the concrete block masonry walls, re-levelling the sloped wood framed floors by constructing a new plywood floor on shims over the existing floors and/or by using self-levelling concrete topping (provided that existing framing is strong enough to support the weight of the new concrete), repairing / replacing the cracked drywall and ceiling finishes and resetting all offset interior doors to a plumb position.

### **5.3 Interior Finishes**

Many of the interior finishes were cracked throughout the building and these finishes should be repaired, as required. Furthermore, the sloped floors should be re-levelled and covered with new carpeting and/or tile flooring. Additionally, it was noted that little to no insulation exists within the exterior walls of the building. An exception is a portion of the exterior wall along the east elevation which appears to have been upgraded with insulation. As such, we recommend that insulation be added to the exterior walls during drywall repairs / replacement, in order to reduce heat loss and improve occupant comfort.

Due care must be exercised when repairing / replacing interior drywall as traces of asbestos was found during our recent Designated Substance Survey (refer to our Designated Substance Survey Report, dated January 31, 2013).

### **5.4 Building Envelope**

#### **5.4.1 Roofing**

The subject building is protected with one main flat (low-slope) roof. In addition, a small pitched canopy roof exists above the main entrance. The main flat roof is protected with a multi-ply built-up-roof (BUR) and is drained via internal roof drain assemblies. A roof space exists beneath the main flat roof and includes a vapour barrier and blown insulation. The pitched canopy roof is protected with asphalt shingles and is drained via an eavestrough system.

#### BUR Roof

According to information provided, the flat roof over the main building was replaced in 1998 with a multiply built-up-roof (BUR) that includes a 12 mm wood fiberboard insulation directly over the wood roof deck. Drainage is provided by two internal roof drain assemblies. Several deficiencies were noted, including isolated "blueberrying" asphalt flood coat, wind scoured protective gravel topping at perimeters, corroded roof drains and roof hatch and an unsecured roof hatch.

Overall, the roof is in generally fair condition, with no roof leaks reported and no evidence of moisture infiltration observed during this review. However, the roof is nearing the end of its reliable service life. Typically, conventional BUR roofs provide a reliable service life of approximately 20 years, but can last longer with proper, regular maintenance and repairs. Considering that the roof is nearing the end of its typical projected service and conditions are only fair, leak-free service is unlikely to continue for much longer. As such, we recommend that this roof area be replaced within the next five years.

### Roof Space

A cold vented roof space exists below the main flat roof. The roof deck is comprised of nominal 1" x 6" tongue and groove wood boards which are supported by nominal 2" x 4" wood joist members. The roof space could not be easily entered, so it was reviewed from a step ladder at the roof access hatch. Overall, insulation levels appeared to be unsatisfactory, with an average depth of 4" of blown insulation. The insulation levels should be increased at the time of roof replacement. A vapour barrier was detected at the observation location. Ventilation of the roof space appeared to be limited to the north elevation.

### Canopy Roof

The pitched canopy roof is located above the main entrance and is covered with asphalt shingle roofing. The canopy roof was partially snow covered at the time of our visit, so the condition of the roof could not be adequately assessed. The roof deck is comprised of plywood sheathing which is presumed to be supported by wood truss members. Drainage is provided by an eavestrough system at the eaves. Where exposed, several deficiencies were noted, including decayed roof deck, curled shingles and degranulated shingles. The canopy roof system appears to be nearing or at its normal projected service life of 18 to 22 years. As such, we recommend that this roof area be replaced within the next few years.

It should be noted that all roof areas should be inspected and maintained at least once per year by a qualified contractor to address as required maintenance repairs. Conducting such regular maintenance work will reduce the chances of leaks and increase the reliability and long term performance of the roofing systems, thereby increasing their service life.

## **5.4.2 Cladding**

The exterior walls are clad with brick masonry, while precast concrete sills are found at upper level windows. The concrete foundation walls of the building are exposed from about 200 mm at the front and sides of the building, to only 50 mm above grade at the rear. The foundation surrounds the entire perimeter of the building.. Wood boards are utilized on the exterior of the blocked-in garage portion. Each item is discussed below.

### Brick Masonry

Solid brick masonry is utilized along each elevation and for the most part, displays a standard running bond configuration with recessed mortar jointing, while stack bond and accent detail configurations are found occasionally throughout the facade. A brick masonry chimney exists at the west elevation. Overall, the exterior brick masonry appeared to be in fair to satisfactory condition, however, numerous brick units and mortar joints are cracked due to the settlement of the building. All cracked brick units and mortar joints should be repaired within the next five years.

### Concrete Elements

Precast concrete is employed as the upper level window sills and was noted to be in satisfactory condition as no visual evidence of major distress was observed. No large scale repair or replacement work for the concrete sills is anticipated over the next five years.

The concrete block and cast-in-place concrete foundation walls are experiencing widespread cracking. According to information provided, portions of the foundation wall were replaced near the northwest corner about 10 years ago. The foundation wall cracks should be repaired this year.

### **5.4.3 Windows and Doors**

Windows consist of a combination of single pane wood frame construction and double pane vinyl frame construction, while exterior doors consist of wood core doors.

#### Single Pane Wood Framed Glazing

Wood frame windows exist at the basement and first floor levels. The wood framed windows were reported to be original and have been upgraded since original construction by means of capping their wood frames with aluminum. Overall, these windows appear to be in poor condition and occasional window panes are cracked. Since the single pane configuration of the glazing provides poor thermal performance and since several window panes are cracked, we recommend replacing all single pane windows with new double glazed thermopane units within the next five years, for improved energy efficiency and tenant comfort. It should be noted that the windows still function adequately and the key reasons for immediate window replacement would be to improve energy efficiency, occupant comfort and serviceability. Therefore, this immediate work should be considered a non-critical discretionary expense. That being said, all wood frame windows should be repaired within the next few years.

### Double Pane Vinyl Framed Glazing

Vinyl frame windows exist at the second floor level. The vinyl frame windows are in generally fair condition and are approximately 31 years old, according to their date stamp of 1982. This type of vinyl frame window typically provides a service life of 25 to 30 years. Considering the age and current condition of the windows, these windows should be replaced within the next few years.

### Exterior Doors

The main entrance door at the front of the building is a solid wood core door with a picture window and a transom lite, while the exit door at the rear of the building is simply a standard wood core door. All hardware is satisfactory, suitably attached and functioning well. Overall, the door conditions were found to be good with no evidence of distress. The exterior doors should not require replacement within the next five years but should be repainted regularly to maintain their satisfactory service.

The rear exit door was not easily accessible from the interior, and we recommend that a clear path be provided to the exit door in case of an emergency.

#### **5.4.5 Exterior Paint**

Painted elements throughout the building are limited to aluminum capped window frames, exterior doors and exposed exterior wooden elements. Overall, the paint finish was noted to be generally in satisfactory condition. However, painted elements should be finished regularly to ensure they provide a full service life. As such, we recommend repainting each element within the next five years, but excluding the aluminum capped windows if they are replaced at the owner's discretion.

#### **5.4.6 Caulking**

Caulking at the subject building is utilized along perimeters of windows, doors, metal flashings and at service penetrations. Caulking throughout the various building components was found to be in poor condition, as cracked, deteriorated or missing caulking was observed during our review. Replacement of all exterior caulking should be carried out within the next year.

#### **5.4.7 Wall Mounted Detail**

Wall mounted detail consists of exterior light fixtures, security cameras and exhaust vents. For the most part, these items appeared to be well secured and displayed no evidence of distress. Therefore, no major expenses are expected for the wall mounted detail during the next five years.

## 5.5 Mechanical and Electrical Systems

The primary mechanical and electrical systems of the building were reviewed by LRL Associates Ltd. A copy of the mechanical and electrical systems report is included in Appendix A. Overall, mechanical and electrical systems appear to be in generally satisfactory condition, however, maintenance repair and replacement work to many items is required within the five year scope covered by this report. For general budgeting purposes, we have taken the liberty in rounding the repair/replacement costings to the nearest \$500.

## 6. RECOMMENDATIONS

The subject property is in generally satisfactory condition, but some site features and building elements are in poor to unsatisfactory condition. Therefore, the affected building elements will require repair or replacement to restore these elements. Recommended repair and replacement work is separated into two groups, including immediate work, which should be undertaken within the current year, and short term work, which should be carried out within remaining four years covered by the scope of this report.

### 6.1 Immediate Work

Immediate work includes any property element requiring immediate repair or replacement as a result of being potentially unsafe, contributing to system failure within one year, or resulting in a significant escalation in remedial cost if work is deferred. An estimated total of \$231,000 is required in 2013 for immediate repairs and renewals, which can be broken down as follows:

<input type="checkbox"/>	\$80,000	Interior Drywall Repairs, Door Resetting and Insulation Upgrade, Including Complete Repainting
<input type="checkbox"/>	\$50,000	Interior Floor Re-levelling
<input type="checkbox"/>	\$30,000	Foundation Wall Repairs
<input type="checkbox"/>	\$25,000	Interior Flooring Replacement
<input type="checkbox"/>	\$20,000	Concrete Slab-on-Grade Repairs
<input type="checkbox"/>	\$10,000	Tree Removal
<input type="checkbox"/>	\$5,000	Brick Masonry Repairs
<input type="checkbox"/>	\$4,500	Heat Piping Insulation
<input type="checkbox"/>	\$4,000	Domestic Water Piping Insulation
<input type="checkbox"/>	\$1,500	Electrical Equipment IR Inspection
<input type="checkbox"/>	\$1,000	Heating Convection Units Cleaning
<input type="checkbox"/>	<b>\$231,000</b>	<b>Estimated Costs for Immediate Work</b>

Note that the concrete slab-on-grade repairs include only partial reconstruction of the slab since complete reconstruction is not warranted at this time. However, if complete reconstruction of the slab is desired then we estimate approximately \$60,000 would be required for this work.

## 6.2 Short Term Work

Short-term work includes any repair or replacement work that does not warrant immediate action, but is anticipated to require repair, renewal or significant routine maintenance during the five-year scope covered by this report. We anticipate that \$104,000 will be required from 2014 to 2017 for short term work, which can be broken down as follows:

<input type="checkbox"/>	\$35,000	Complete Window Replacement
<input type="checkbox"/>	\$30,000	Built-Up-Roof Replacement and Roof Space Insulation Upgrade
<input type="checkbox"/>	\$15,000	Heating Boiler Replacement
<input type="checkbox"/>	\$12,500	Sanitary and Storm Piping Replacement
<input type="checkbox"/>	\$9,000	T12 Light Fixture Upgrade
<input type="checkbox"/>	\$1,000	Pitched Canopy Roof Replacement
<input type="checkbox"/>	\$1,000	Exterior Painting
<input type="checkbox"/>	\$500	Window Air Conditioning Unit Replacement
<hr/>		
<input type="checkbox"/>	<b>\$104,000</b>	Estimated Costs for Short-Term Work

Wood frame windows are near their normal service life and are in mostly fair condition. As such, we recommend replacing the existing windows within the next five years to improve energy efficiency and occupant comfort. However, the windows can be made to last about seven to ten more years, if desired. Therefore, replacement of windows to upgrade the property is at the owner's discretion. Replacement costs are estimated at \$20,000, but window replacement is at the discretion of the owner at this time. If the wood frame windows are not replaced within the next five years, then the replacement of the caulking and isolated glazing pane replacement will be required, at an estimated \$5,000.

## 6.3 Summary of Recommended Work

As such, a total of **\$335,000** is expected for repair and renewal work during the five-year scope covered by this report.



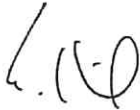
## 7. STATEMENT OF LIMITATIONS

This BCA has been carried out in general accordance with the agreed scope of work and with American Society for Testing and Materials (ASTM) E 2018-8, "Standard Guide for Property Condition Assessments: Baseline Property Condition Assessment Process". The conclusions presented herein are based on information gathered from limited document review, interviews and a walk-through survey. The historical research relies on information supplied by others and was limited within the scope of work, time and budget of the project herein.

Should any conditions be encountered at the subject site and/or historical information differ from the findings presented, Paterson Group Inc. should be notified immediately in order to allow for a reassessment.

This report was prepared for the sole use of Coinamatic Canada Inc. and their lending institution. Permission and notification from the aforementioned and this firm will be required to release this report to any other party for review or reliance purposes.

**Paterson Group Inc.**



Elliott Kiel, Technologist



John B. McIntyre, A.Sc.T.



Zbig Kisilewicz, P.Eng.

### Report Distribution:

*Uganda High Commission (1 copy)*  
*Paterson Group Inc. (1 copy)*

**APPENDIX A:**  
**MECHANICAL AND ELECTRICAL SYSTEMS REPORT**



**BUILDING CONDITION ASSESSMENT  
MECHANICAL & ELECTRICAL  
231 Cobourg Street  
Ottawa, Ontario**



Prepared for:

Paterson Group  
154 Colonnade Road  
Ottawa, Ontario  
K2E 7J5

Attention: Elliott Kiel, Technologist

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## **BUILDING CONDITION ASSESSMENT**

### **1.0 INTRODUCTION**

- 1.1a LRL Associates (LRL) has been retained by Paterson Group to prepare a Building Condition Assessment (BCA) of the existing building of the Uganda High Commission at 231 Cobourg Street, Ottawa, Ontario. The building is a 2 storey office building with full basement and was constructed in the 1930's (80 years old).
- 1.1b The report will identify mechanical & electrical items that will need replacement or repairs immediately (0 to 1 year) and in the short/mid-term (1 to 5 years).

### **2.0 ASSESSMENT METHOD**

- 2.1a This BCA is based on a visual inspection of various mechanical & electrical systems carried out on January 17th, 2013. The survey consisted of non-intrusive visual observations only. Only areas which were readily accessible and easily visible components and systems of the subject property have been evaluated. Where items were inaccessible or otherwise not inspected the observations made shall be considered representative. No operational or other testing was conducted and therefore where visual inspection provides insufficient information for full evaluation typical equipment, material and systems working lifespan will be considered.
- 2.1b The normal life expectancy of the mechanical and electrical systems and components is based on manufacturer's published data and accepted industry standards. Expected service life will vary depending on maintenance, proactive repairs and other practices and possible partial replacement of the equipment over period of this study. Therefore the life expectancy of this equipment could be extended beyond their normal life expectancy indicated.
- 2.1c Opinions of anticipated costs will be provided for material, physical deficiencies and not specifically for repairs or improvements that could be classified as cosmetic or decorative works, part or parcel to a building renovation program or routine or timely preventive maintenance, or any combination thereof, unless otherwise indicated.
- 2.1d Opinions of anticipated costs where provided are limited to construction related costs; the types commonly provided by contractors who perform the work. Business related, design, management fees, professional services and other indirect costs are all excluded, unless otherwise indicated.
- 2.1e For some physical deficiencies, determining the appropriate suggested remedy or scope may necessitate further study/research or design, testing, exploratory probing, and exploration of various repair schemes, or a combination thereof, all of which are outside the scope of this report. Where possible and appropriate the anticipated cost of this work will be indicated, otherwise the scope of the evaluation will be specifically limited.

### 3.0 MECHANICAL SYSTEMS

#### 3.1 PLUMBING & DRAINAGE

##### 3.1a System Descriptions:

- i. Sanitary drains to the municipal sanitary sewer by gravity.
- ii. Storm drains from roof to the municipal storm sewage by gravity.
- iii. Domestic water piping (25ømm) is connected to the municipal main, metered, and distributed throughout the building with copper piping.
- iv. A “Rheem” gas-fired domestic hot water heater provides domestic hot water to the building.

##### 3.1b Field Observations & Recommendations:

- i. The domestic water piping (copper) distribution piping appears to be in good condition. The maintenance staff has not reported any issues or leakage with the domestic water piping.
- ii. Most of the domestic water piping located in the basement ceiling space were not insulated. We recommend insulating all domestic water piping in order to reduce heat losses and to increase the overall efficiency.
- iii. The sanitary and storm drains generally appear to be original to the building. Some sections of sanitary drains have been replaced with plastic (ABS) piping from cast iron. The remaining original cast iron drainage piping appears to be approaching their estimated expected service life.
- iv. The existing plumbing fixtures appeared to be functional and in good condition.

##### 3.1c Summary of Anticipated Costs – Plumbing & Drainage

<b>Item:</b>	<b>Replacement Cost/Unit</b>	<b>Replacement Period</b>
Domestic Water Piping Insulation	\$3,750.00	Immediately
Sanitary & Storm Piping Replacement	\$12,250.00	3 Years

All other components of the system have a remaining estimated service life of more than 5 years. However, preventative maintenance and minor repairs should be covered by the annual operating/maintenance budget.

#### 3.2 FIRE PROTECTION

##### 3.2a System Descriptions:

- i. The building is provided with portable fire extinguishers.

3.2b Field Observations & Recommendations:

- i. Base upon a visual inspection, in general, the portable fire extinguishers appear to be in good working conditions.
- ii. Existing portable fire extinguishers should be maintained according to the requirements of NFPA-10. These costs should be included in the regular operating/maintenance budget. Portable fire extinguishers should be tested yearly as per NFPA 10.

3.2c Summary of Anticipated Costs – Ventilation

All components of the system have a remaining estimate service life of more than 5 years. However, preventive maintenance, minor repairs & testing should be covered by the annual operating/maintenance budget.

3.3 VENTILATION

3.3a System Description:

- i. Various ceiling exhaust fans are provided for the washrooms exhaust.

3.3b Field Observations & Recommendations:

- i. Based on a visual inspection, in general all the ventilation systems appear to be in good working condition.

3.3c Summary of Anticipated Costs – Ventilation

All other components of the system have a remaining estimated service life of more than 5 years. However, preventative maintenance, minor repairs, air filters and motors replacement should be covered by the annual operating/maintenance budget.

### 3.4 HEATING & AIR CONDITIONING SYSTEMS

#### 3.4a System Description:

- i. A “Warden King” gas-fired heating boiler provides heating hot water to the building.
- ii. Hot water convection units are typically provided on the perimeter of the building for space heating.
- iii. A “Kenmore” air handling unit complete with DX cooling coil is provided in the basement for space cooling of the ground floor. The air-cooled condensing unit is located outside at the rear of the building.
- iv. A portable window air conditioning unit is provided for space cooling of one of the office on the 2<sup>nd</sup> floor.

#### 3.4b Field Observations & Recommendations:

- i. Based on a visual inspection, in general the heating & air conditioning systems appear to be in good working conditions.
- ii. The “Warden King” heating boiler appears to be original to the building and approaching its estimate expected service life. When replacement, the boiler should be replaced with a new high efficiency near-condensing boiler in order to reduce heating costs.
- iii. Most the black steel heating pipes located on the basement ceiling were not insulated. We recommend insulating the heating piping in order to reduce heat losses and increase the overall efficiency of the system.
- iv. In general the “Kenmore” air handling unit and condensing units located outside appear to be in good working condition.
- v. In general the “Kenmore” window air conditioning unit on the 2<sup>nd</sup> floor appears to be in good working condition.
- vi. The perimeter heating convection units appear to be in good working condition, however, they appeared to be very dirty and should be cleaned to ensure that they are working properly.

#### 3.4C Summary of Anticipated Costs - Heating & Air Conditioning

<b>Item:</b>	<b>Replacement Cost/Unit</b>	<b>Replacement Period</b>
Heating Boiler (Total of 1)	\$15,000.00	2 years
Window Air Conditioning Unit (Total of 1)	\$500.00	5 years
Heat Piping Insulation	\$4,250.00	Immediately
Heating Convection Units Cleaning	\$950.00	Immediately

All other components of the system have a remaining estimated service life of more than 5 years. However, preventative maintenance, minor repairs, air filter and motors replacement should be covered by the annual operating/maintenance budget.

## 4.0 ELECTRICAL SYSTEMS

### 4.1 ELECTRICAL DISTRIBUTION

#### 4.1a System Description:

- i. A pole mounted transformer located on the south side of the building provides a 200A, 120/240V, 1-phase, 3-wire electrical service to the building.
- ii. Each floor of the building are metered separately and fed from the main electrical room in the basement (60A public/basement, 100A ground floor & 100A 2<sup>nd</sup> floor).
- iii. Electrical panels with circuits breakers and disconnect switches systems (120/240 volt, 1-ph, 3-wire) are provided for electrical load distribution system.
- iv. The building electrical wiring system is a combination of EMT conduits & BX cables.

#### 4.1b Field Observations & Recommendations:

- i. Based on a visual inspection, the electrical distribution appears to be in good working conditions. Most of the observed electrical equipment appears to have been replaced in the last 10-15 years, however, the main disconnect switches appear to be original to the building. We recommend having the electrical distribution equipment inspected by a qualified electrical contractor to verify the internal condition of the equipment by means of infra-red camera inspections. Replacement of these components should be done following the results of this inspection.
- ii. Circuit breakers replacement in the distribution panels, minor repairs and regular maintenance if required should be included in the annual operating/maintenance budget.
- iii. It is recommended that the electrical systems should be maintained regularly. A preventive maintenance should be performed according to the manufacturer's recommendations to ensure that the systems remain in good working condition at all times.

#### 4.1C Summary of Anticipated Costs - Electrical Distribution:

<b>Item:</b>	<b>Replacement Cost/Unit</b>	<b>Replacement Period</b>
Electrical Equipment IR Inspection	\$1,200.00	Immediately

All other components of the system have a remaining estimated service life of more than 5 years. However, preventative maintenance and minor repairs should be covered by the annual operating/maintenance budget.



## 4.2 LIGHTING

### 4.2a System Description:

- i. Interior lighting generally consists of T-12 fluorescent and incandescent surface mounted lights.

### 4.2B Field Observations & Recommendations:

- i. Based on a visual inspection, in general the lighting systems appeared to be in working conditions.
- ii. Most of the light fixtures inside the building are equipped with T-12 fluorescent lamps. As of July 2012, these lamps and ballasts have begun to be phased out of production and will become less available for replacement. In the event of failure of one of these light fixtures, replacement parts may no longer be available and a complete replacement will be required. We recommend replacing the existing light fixtures with the newer more efficient T-8 or T-5 fluorescent light fixtures. Although not immediately required, we recommend replacing these fixtures within the next 2-3 year as replacement parts may become no longer be available.

### 4.2C Summary of Anticipated Costs - Lighting:

<b>Item:</b>	<b>Replacement Cost/Unit</b>	<b>Replacement Period</b>
T12 Light Fixture Upgrade (Estimate 35)	\$250.00	2-3 Years

All other components of the system have a remaining estimated service life of more than 5 years. However, preventative maintenance and minor repairs should be covered by the annual operating/maintenance budget.

## 5.0 CONCLUSIONS AND RECOMMENDATIONS

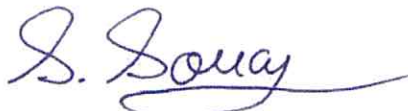
Base on our evaluation, and detailed in this report, we have found that in general the building is in good condition. The current condition is typical for a building of this type and age.

You will find in the table below a summary of the foreseeable investment cost that will be required for the property that has been detailed in the report. The costs below do not include replacement costs that would normally be incorporated in the annual operation and maintenance budget.

<b>SUMMARY OF INVESTMENT REQUIRED</b>			
	Investment Periods		
	Immediately	0 to 1 year	2 to 5 years
Mechanical	\$8,950.00	-	\$27,250.00
Electrical	\$1,200.00	-	\$8,750.00
<b>Total</b>	<b>\$10,150.00</b>	<b>-</b>	<b>\$36,000.00</b>

**LRL Associates Ltd.**

Prepared by:



— Sébastien Soucy, P.Eng. —  
Mechanical Engineer


**SITE VISIT PHOTOGRAPHS**

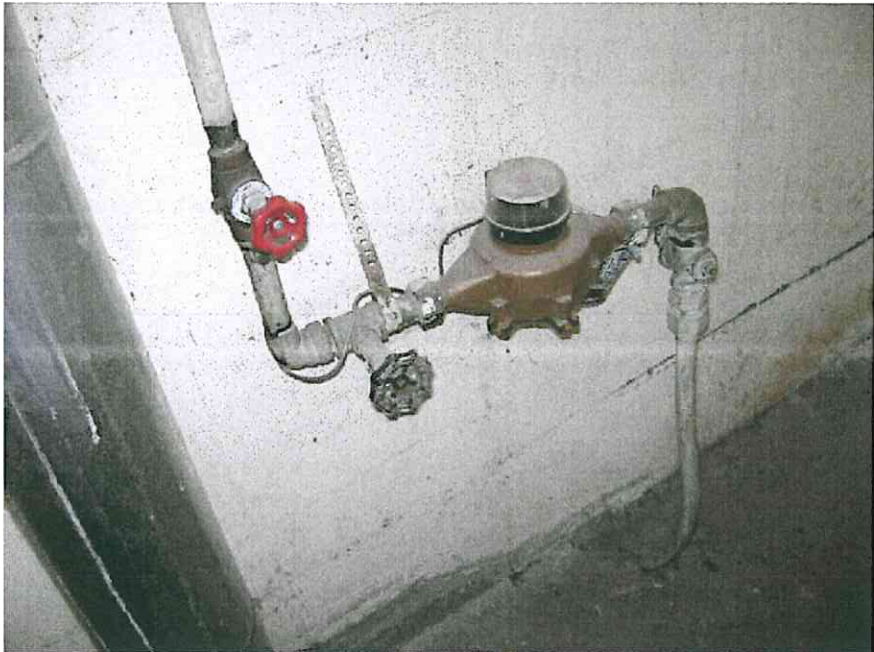
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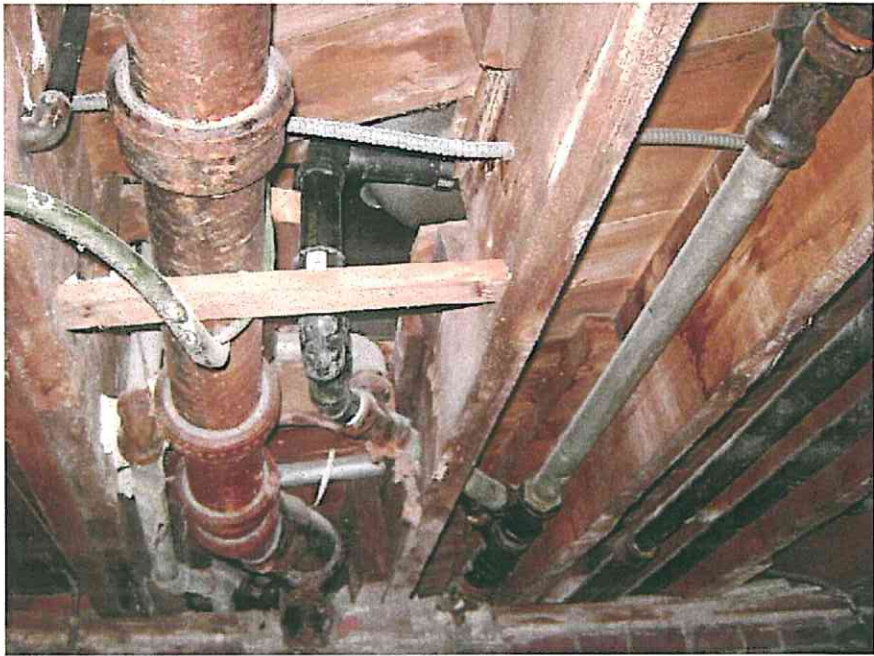
Client: Paterson Group


Project: Building Condition Assessment

Site Location: 231 Cobourg Street, Ottawa, Ontario

Photograph No. 1	
Date: 1/17/2013	
Description Existing gas fired boiler	

Photograph No. 2	
Date: 1/17/2013	
Description Water entry and meter	

Photograph No. 3	
Date: 1/17/2013	
Description Typical plumbing in the ceiling space on the basement. Note the not insulated heating piping on the right	

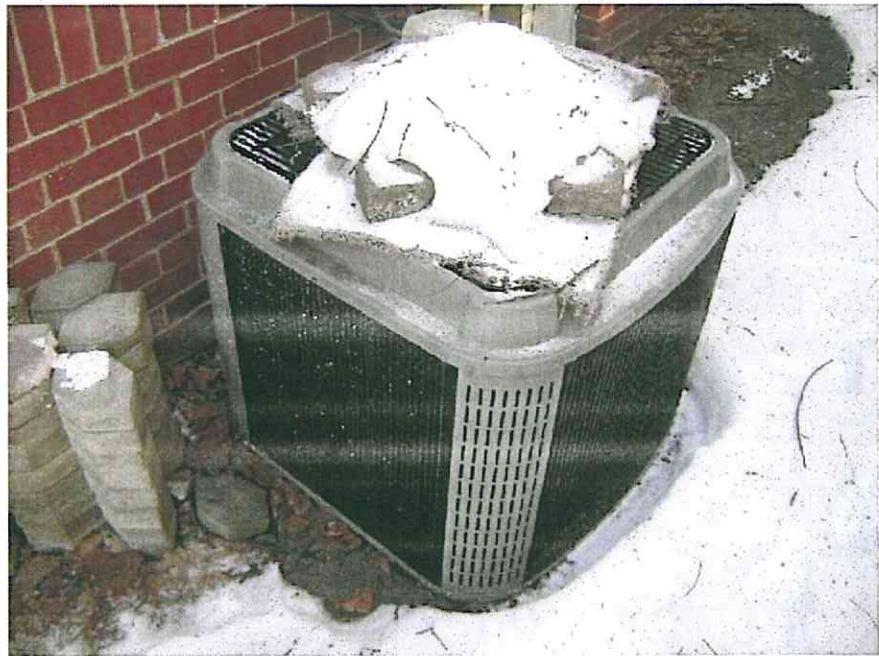
Photograph No. 4	
Date: 1/17/2013	
Description Air handling unit in the basement for space cooling of the ground floor.	

Photograph No. 5

Date: 1/17/2013

Description

Condensing unit for  
basement air handling  
unit located at the rear  
of the building



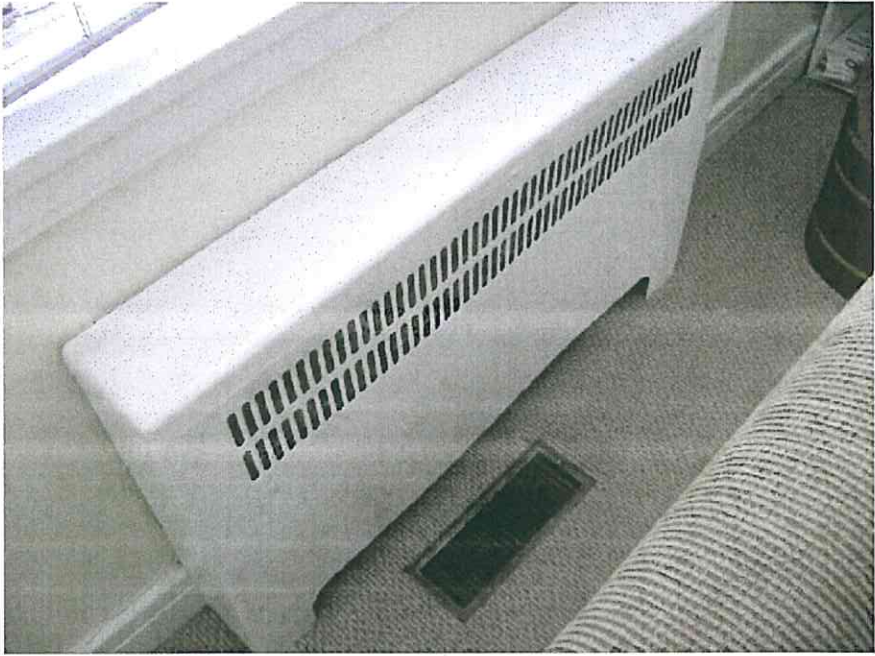
Photograph No. 6

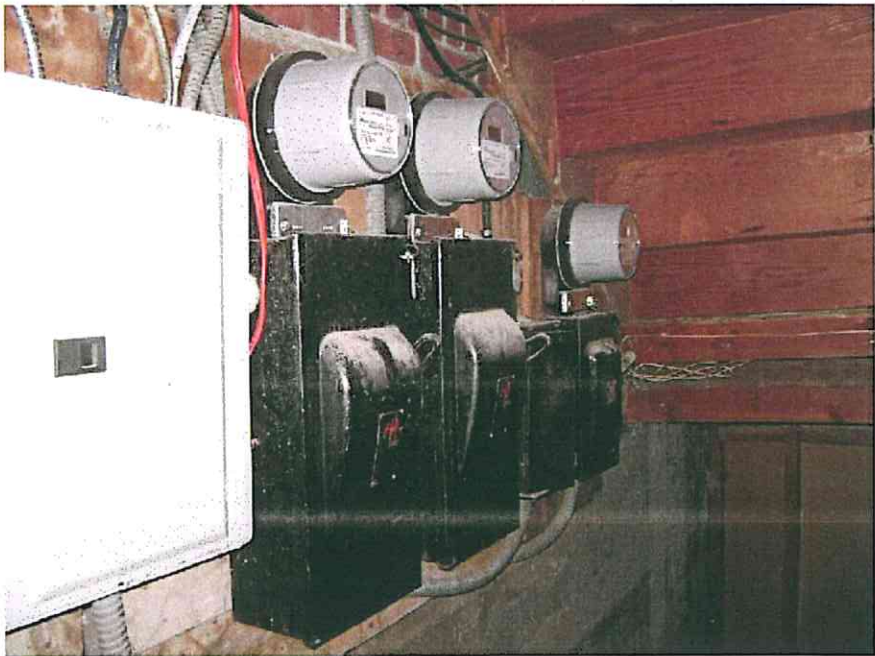
Date: 1/17/2013

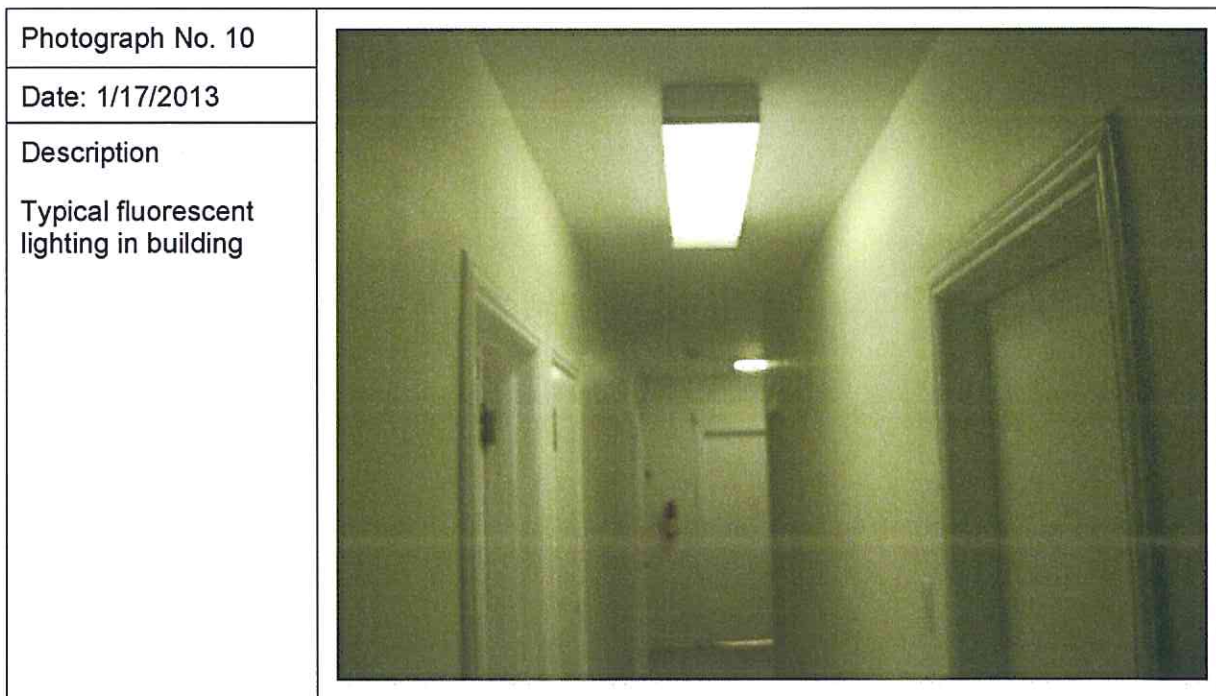
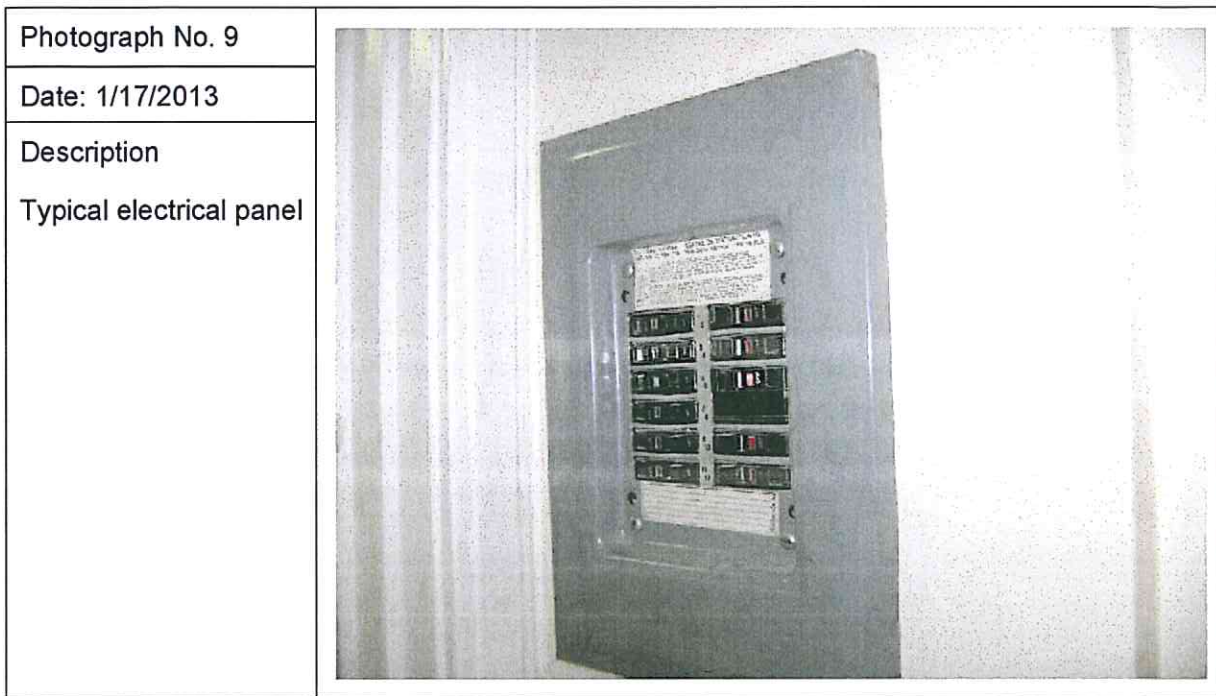
Description

Window air  
conditioning unit for  
2<sup>nd</sup> floor office



Photograph No. 7	
Date: 1/17/2013	
Description Typical perimeter hot water convection heater	

Photograph No. 8	
Date: 1/17/2013	
Description Main building disconnects and meters	



**APPENDIX B:**  
**PHOTOGRAPHIC CATALOGUE OF GENERAL CONDITIONS**





Photo 1 - View of front (west) building elevation.



Photo 2 - View of side (north) building elevation.



Photo 3 - View of rear (east) building elevation.



Photo 4 - View of side (south) building elevation.

**APPENDIX C:**  
**PHOTOGRAPHIC CATALOGUE OF DEFICIENCIES**



Photo 1 - Showing an example of a crack in the foundation wall.



Photo 2 - Showing an example of a crack in a load bearing wall.



Photo 3 - Showing an example of a crack in the slab-on-grade.

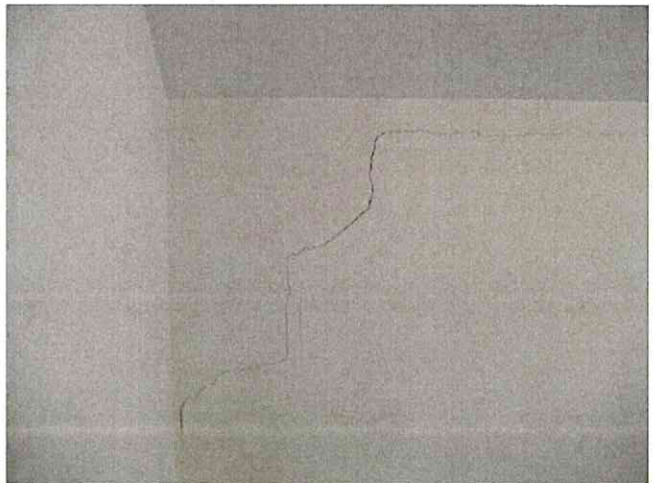


Photo 4 - Showing an example of a crack in the interior drywall.



**Photo 5** - Showing an example of an off-level door within the door frame, and also showing an interior drywall crack.



**Photo 6** - Showing isolated exposed flood coat due to scoured gravel ballast, and also showing a corroded roof drain.



**Photo 7** - Showing an unsecured roof hatch as well as corrosion on roof hatch.



**Photo 8** - Showing typical cracked mortar joints in solid brick masonry between windows.



Photo 9 - Showing deteriorated wood deck at canopy roof.



Photo 10 - Showing a cracked window pane.

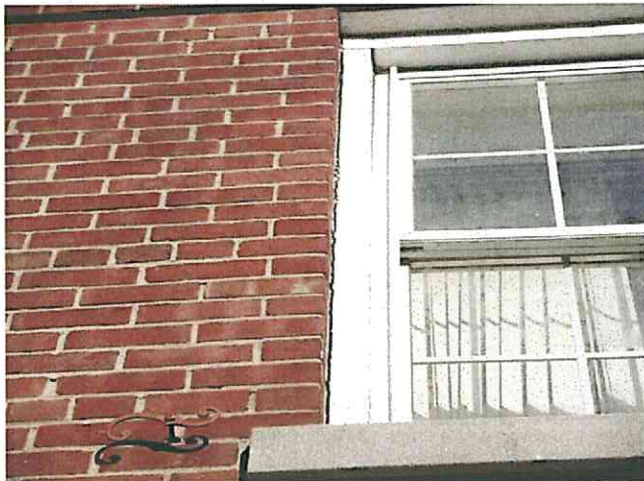


Photo 11 - Showing cracked / deteriorated caulking along windows.