

January 1, 20XX

Mr. John Smith
Company ABC
12345 Commercial Street
City, British Columbia V0V 1X1

Dear Mr. Smith:

The enclosed report has been prepared to provide pertinent technical information about the property at 1234 Industrial Road, City, British Columbia. This report meets or exceeds the ASTM standard E2018-15 for Property Condition Assessment. As such, the report is not technically exhaustive and should be considered preliminary.

The entire report must be considered in order to rely on the findings contained within. Sampling information in the report may put it out of context.

The report will not be released to anyone without your permission.

Thank you for giving us the opportunity to be of service. Should you have any questions regarding this report, please do not hesitate to call us.

Sincerely,



Engineer, P.Eng., RHI

PROPERTY CONDITION ASSESSMENT REPORT

1234 Industrial Road, City, British Columbia

DATE OF INSPECTION: January 1, 20XX

January 1, 20XX:

COVER PHOTO

Mr. John Smith
Company ABC
12345 Commercial Street
City, British Columbia V0V 1X1

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SAMPLE REPORT

January 1, 20XX

Property Condition Assessment Report

Property: 1234 Industrial Road, City, British Columbia

1.0 SUMMARY

This is a property condition assessment report (PCR) of the property at 1234 Industrial Road, City, British Columbia.

This is a single-storey industrial building. The building covers an estimated 20,700 total square feet, as approximated from the roof surface. There are office spaces located at the southwest first floor and the mezzanine above. These offices cover a combined total of approximately 4,500 square feet.

The visible evidence suggests that the building was constructed in 1994.

The building was vacant at the time of the inspection.

This report has been prepared by James Dobney Inspections on behalf of our client, Mr. John Smith of Company ABC.

Our client is the prospective purchaser of the property and this report has been prepared to provide general information on the condition of the property.

The site inspection was carried out on January 1, 20XX in the company of Mr. John Smith of Company ABC. Our inspection was limited to components that were readily visible and not obstructed by storage, finishes, vegetation, etc.

Overall Condition and Level of Maintenance:

This is a typical industrial building that, for the most part, has been well maintained. The building is in satisfactory overall condition. General maintenance has been satisfactory.

Most systems were found to be in satisfactory condition.

Structure:

The overall condition of the building structure is satisfactory. Maintenance has been adequate.

No major structural deficiencies were noted.

Electrical:

The overall condition of the electrical system is satisfactory. The general maintenance has been adequate.

No major electrical deficiencies were noted.

The older T-12 fluorescent light fixtures can be upgraded with higher efficient T-8 or T-5 fixtures and electronic ballast components. This however, is a discretionary improvement.

Heating and Air-Conditioning:

The overall condition of the heating and air-conditioning system is serviceable. The general maintenance has been adequate.

The rooftop package units are 16 and 20 years old. The economic service lifespan of this equipment is considered to be 20 years. This rooftop package equipment should be expected to require replacement within the timeframe considered by this report.

The gas-fired ceiling mounted warehouse unit heaters appear to be original, (20 years old) and are at or near the end of their economic service lifespan. This equipment should be expected to require replacement within the timeframe considered by this report.

Ventilation:

The overall condition of the ventilation system is serviceable. The general maintenance has been adequate.

The washroom exhaust fans appear to be 20 years into a 20-year expected useful lifespan. As such, this equipment will likely require replacement within the time frame considered by this report.

Plumbing:

The overall condition of the plumbing system is serviceable. Maintenance has been adequate.

No major deficiencies were noted with the building plumbing system.

Updating older plumbing fixtures in the first floor washroom would be desirable.

As is typical, a number of maintenance repairs to pipes and fixtures are required. This would include the replacement of the leaking fixture shut-off valves and supply tubing.

Roofing:

The overall condition of the roofing system is satisfactory. The general maintenance for the most part has been adequate.

Observed leaks should be further investigated and repaired and minor maintenance issues dealt with.

This installation is reported by to be ten years old. This type of system has an expected useful lifespan of 15 to 20 years. The lifespan of an EPDM system is highly dependent on original installation quality, material properties and maintenance level. The EPDM roof membrane is in serviceable overall condition. Its replacement is not anticipated within the timeframe considered by this report.

Exterior

The overall condition of the exterior components is satisfactory. Maintenance has been adequate.

Walls:

No major deficiencies were noted with the building walls and cladding systems.

Windows and Doors:

No major deficiencies were noted with the first floor office windows.

Moderate deterioration was noted at the south curtain wall glazing. The reflective coating applied to this component was observed to be deteriorating. Renewal of this coating is considered to be discretionary.

No major deficiencies were noted with the building doors.

Minor damage was noted at the bottom panel of the drive through overhead door.

Site Work:

No major deficiencies were noted with the asphalt paving on the site.

Extruded concrete curbs were observed to be damaged at the southeast entry driveway. Repairs to this curbing would be desirable.

Interior:

The overall condition of the interior system is serviceable. Maintenance has been adequate.

Cosmetic improvements represent an area where a significant amount of improvement could be made. While some cosmetic items are addressed in this report, they are not the intended focus.

Carpet and resilient floor tile replacement in various locations of the office would be desirable.

As is typical with older buildings, insulation levels are below modern standards. Increasing insulation levels is considered an improvement rather than a repair.

1.1 Five-Year Summary Report Timeframe

Please find the following table of recommendations made in this report, the priorities and associated cost estimates. A five-year time frame has been considered. Other minor recommendations can be found in the Recommendation Tables at the end of each building system section.

Five Year Summary of Recommended Repairs

1234 Industrial Road, City, BC

(2015 Dollars)

January 1, 20XX

Report Ref. #	RECOMMENDATION	Quantity	Units	Time Frame (years)	Present Cost of Replacement	Years out					
						0 2015	1 2016	2 2017	3 2018	4 2019	5 2020
ELECTRICAL											
3.2.4	Re-lamping or repairs to light fixtures	1	lump sum	0	\$ 1,500	1500					
MECHANICAL											
Heating and Air-conditioning											
4.2.2a	Replace one rooftop heating and air-conditioning unit	3	tons	5	\$ 6,750						6750
4.2.2b	Replace one rooftop heating and air-conditioning unit	5	tons	3	\$ 10,000				10000		
4.2.2c	Replace one rooftop heating and air-conditioning unit	6	tons	4	\$ 12,000					12000	
4.2.4a	Replace older warehouse heater - Phase 1	2	each	1	\$ 7,000		7000				
4.2.4b	Replace older warehouse heater - Phase 2	2	each	3	\$ 7,000				7000		
4.2.4c	Replace older warehouse heater - Phase 3	2	each	5	\$ 7,000						7000
Plumbing Fixtures											
6.2.7	Updating first floor washroom	1	each	1	\$ 3,000		3000				
ARCHITECTURAL											
Roof											
	No recommendations for major repairs at this time										
Interior											
8.2.4	Replace carpet at south and north open office areas	1800	sq ft	1	\$ 10,000		10000				
8.2.5	Replace carpet at northeast office space	1800	sq ft	5	\$ 2,500						2500
8.2.6	Replace resilient floor covering east of main entry and two rooms off of the warehouse	140	sq ft	2	\$ 4,800			4800			
8.2.10 & 8.2.11	Upgrading of hand/guardrails to warehouse stairs and guardrail to mezzanine walkway	125	lin ft	0	\$ 4,000	4000					
Structure											
	No recommendations for major repairs at this time										
Exterior											
	No recommendations for major repairs at this time										
TOTALS						\$ 5,500	\$ 20,000	\$ 4,800	\$ 17,000	\$ 12,000	\$ 16,250

Note: * The time frame for replacement is estimated, as the exact time frame is unpredictable by nature.
 ** This item is discretionary and time frame for providing is an estimate.

2.0 INTRODUCTION

2.1 Inspection Authorization and Scope

As per the request of Mr. John Smith of Company ABC and in accordance with our proposal dated October 30, 2014, a visual inspection was performed to identify the existing conditions of the following building components:

- Structure
- Electrical System
- Heating System
- Air-conditioning System
- Ventilation System
- Plumbing System
- Roofing System
- Interior Components
- Insulation
- Exterior Components

This assessment exceeds the ASTM standard E2018-08 for Property Condition Assessments in that a five-year timeframe was used. However, at the request of our client:

- Fire safety systems were not reviewed.
- A Building Code and Fire Code violation inquiry was not undertaken.

This report provides recommendations, preliminary cost estimates and priorities for:

- remedying major deficiencies,
- updating aging major components, and
- undertaking further detailed investigations.

The recommendations are for remedial actions that are considered to be beyond the normal maintenance of the building. Costs are provided for recommendations expected to exceed \$3,000. The costs are only intended to provide an order of magnitude, and do not include any engineering design or construction management fees. Contractors should be consulted for exact quotations.

This report is intended for the exclusive use of our client. Use of the information contained within the report by any other party is not intended and, therefore, we accept no responsibility for such use.

This report is considered to be preliminary in nature. Before any major repairs are undertaken, we recommend that a specialist perform a detailed condition survey and develop a plan of action.

The site inspection was carried out on January 1, 20XX in the company of Mr. John Smith of Company ABC. Our inspection was limited to components that were readily visible and not obstructed by storage, finishes, vegetation, etc.

The inspection included a visual review of the building exterior, roof and a sampling of the interior spaces.

The following defined terms are used to describe the condition of the components and systems reviewed:

- Satisfactory – Performing its intended function; no major defects noted.
- Serviceable – Performing its intended function, but has visible defects or is aging. It will require minor to moderate repairs.
- Fair – Barely performing its intended function. Has visible defects or is aging and will require moderate to major repairs in the short term.
- Poor – Not properly performing its intended function. At or beyond its useful life. Component requires major repair or replacement.

Only the items specifically addressed in this report were examined. No comment is offered on fire protection equipment or on fire regulation, building code and building bylaw compliance, or environmental concerns.

The weather at the time of the inspection was overcast, with an approximate outdoor temperature of 12°C.

2.2 Building Description

This is a single-storey industrial building. The building covers an estimated 20,700 total square feet, as approximated from the roof surface. There are office spaces located at the southwest first floor and the mezzanine above. These office spaces cover a combined total of approximately 4,500 square feet.

It should be understood that all building sizes noted here are rough approximations based on site observations, and are for the purposes of this report only.

The visible evidence suggests that the building was constructed in 1994.

The building was vacant at the time of the inspection.

For the purpose of this report, the front of the building is considered to be facing south.

2.3 Documents Reviewed

As part of the Property Condition Assessment, a request was made to review available building plans, maintenance records, warranties and equipment lists.

No documentation was available at the time of this inspection.

3.0 ELECTRICAL

3.1 Description

The electrical service to the building is underground, believed to be supplied via a pad-mounted transformer located at the southwest corner of the property. It is also possible that the electrical service could be supplied from the pad-mounted transformer at the southeast corner of the property. There is no information on the transformers to indicate their size. This equipment is often the responsibility of the electric utility company.

The building is equipped with a 200-amp, 600-volt, three-phase, four-wire electrical service. This capacity was determined by the rating of the main disconnect switch. The service size should be verified by opening the main disconnect switch or contacting the electric utility provider.

The main service is divided into the following areas:

Load	Disconnect Switch Amperage Rating
Panel A - warehouse	200 amps
Panel B - office	200 amps
Panel C - warehouse	200 amps
Panel C1 - warehouse	200amps
Panel D - office	100 amps

There is a single meter for the building.

There is a 150-kVA transformer in the Electrical room that steps the 600-volt service down to 120/208-volts for the main building panels.

The distribution panels employ circuit breakers.

All wiring examined is copper. Wiring types noted include armoured cable and non-metallic sheathed.

The lighting fixtures for the office are of the incandescent and T12 fluorescent types. The lighting fixtures for the warehouse are of the T12 fluorescent type.

The building is not equipped with a standby generator.

The electricity is reported to be supplied to the building by British Columbia Hydro.

3.2 Observations and Discussion

3.2.1 It is impossible on an inspection such as this to determine adequacy for commercial demands.

3.2.2 The overall condition of the electrical system is satisfactory. The general maintenance has been adequate.

3.2.3 The distribution equipment is well arranged, for the most part. The distribution equipment displays no major deficiencies. Deficiencies noted at the distribution equipment are as follows:

- The unprotected openings at the Panel A panel should be covered over.

3.2.4 Representative samples of accessible wiring were examined. No major deficiencies were noted. Repairs are recommended as follows:

- Many lights in various locations are inoperative. These lights should be re-lamped, repaired, or replaced, as necessary. It was noted that a fuse was missing at one of the lighting distribution disconnect switches. This would probably account for at least some of the inoperative lights. This may be an indication that there is a problem with one of the lighting circuits. Further review in this respect is recommended.
- The lighting fixtures at the office and warehouse areas are four-foot and eight-foot T-12 fluorescent types. It is recommended that the older T-12s be upgraded with higher efficient T-8 or T-5 fixtures and electronic ballast components. This, however, is a discretionary improvement.

3.2.5 The electrical system appears to be properly grounded at grounding rods located at the electrical room.

3.3 Recommendations, Costs and Priorities

	Recommendation	Cost	Time Frame
3.3.1	Re-lamping or repairs to light fixtures	\$1,500 and up	Immediate
3.3.2	Upgrading fluorescent light fixtures to T-8 or T-5 fixtures (105 fixtures)	\$16,000 to \$20,000	Discretionary

4.0 HEATING AND AIR-CONDITIONING

4.1 Description

The office area of the building is heated by three roof-mounted, gas-fired, heating, (electric cooling) units. The total heat output of these units is 276,000 BTUs per hour. The total available cooling capacity for the building is approximately 14 tons.

The warehouse area of the building is heated by six gas-fired, ceiling-mounted unit heaters. The total heat output of these units is 724,000 BTUs per hour as calculated from the two heaters that were accessed.

The refrigerant used in the air-conditioning systems was identified as R-22.

There is one gas meter for the building, located at the southwest corner of the building. The supplier of natural gas to the building was not verified.

4.2 Observations and Discussion

4.2.1 The overall condition of the heating and air-conditioning system is serviceable. The general maintenance has been adequate for the most part.

4.2.2 One of the rooftop package units is 16 years old, and the other two rooftop package units are 20 years old. The economic service lifespan of this equipment is considered to be 20 years. The rooftop package equipment should be expected to require replacement within the timeframe considered by this report.

4.2.3 It should be understood that a package unit includes major components such as compressors and heat exchangers whose lifespans may be shorter than the unit's useful service life. Replacement of these components can be undertaken as needed, on a maintenance basis. Regular servicing helps manage these operating expenses.

It was observed that one of the package unit's economizer air filters was missing and another package unit's economizer air filter was in poor condition. Both of these filters should be replaced as a part of regular maintenance.

4.2.4 The unit heaters at the warehouse section of the building appear to be of similar ages and sizes. Access to these units was limited by height. The heat exchanger normally determines the life expectancy of this equipment. While it is impossible to predict with certainty when a heat exchanger will fail, the average life for heating systems of this type is 15 to 25 years. The life expectancy for the ceiling-mounted equipment is dependent on location and amount of use.

As such, end of lifespan replacement for the older equipment may be expected within the time frame considered by this report.

4.2.5 The supply air registers in the office areas of the building are overhead. All areas reviewed have heat sources. With an overhead heat supply, the installation of supplemental heat sources (such as electric baseboard heaters) may be desirable at floor level on exterior walls, especially below windows.

4.2.6 As is typical, the space between the ceiling finish and the underside of the roof deck and floor structure is used as the air return plenum. Air return is via grilles in the ceiling. All of the office spaces contain return air grilles.

4.2.7 Two of the rooftop package units were observed operating in the heating mode. The rooftop package servicing the first floor office area was not observed operating.

4.2.8 All of the unit heaters at the warehouse were observed in operation.

4.3 Recommendations, Costs and Priorities

	Recommendation	Cost	Time Frame
4.3.1	Replace the 16 year old rooftop package unit (three tons)	\$6,000 to \$7,500	Unpredictable
4.3.2	Replace two 20 year old rooftop package units (five and six tons)	\$20,000 to \$25,000	Unpredictable
4.3.3	Replace older unit heaters (six)	\$18,000 to \$24,000	Unpredictable

4.4 Limitations

4.4.1 Access to the warehouse unit heaters was restricted due to the ceiling height.

SAMPLE REPORT

5.0 VENTILATION

5.1 Description

There are no exhaust fan cabinets on the roof.

The washrooms are ventilated by individual exhaust fan units.

The offices receive fresh air from the heating and cooling rooftop units. The units are equipped with a fresh-air make-up ducts and/or economizer units, which allow fresh air from the exterior to mix with the return air stream. This introduction of fresh air helps to improve indoor air quality, and compensates for air that is expelled through exhaust fans.

5.2 Observations and Discussion

5.2.1 The overall condition of the ventilation system is serviceable. The general maintenance has been adequate.

5.2.2 The individual washroom exhaust fans appear to be original, 20 years old. These units have a typical life expectancy of 20 years. As such, end of lifespan replacement of this equipment may be expected within the timeframe considered by this report.

5.2.3 The southwest second floor office has an exhaust fan. The fan did not appear to be original and, as such, it is not expected to require replacement within the timeframe considered by this report. This fan is discharging into the interior ceiling space outside of this office. While this is not seen as a major deficiency, typically exhaust fans should be vented to the building exterior.

5.3 Recommendations, Costs and Priorities

	Recommendation	Cost	Time Frame
5.3.1	Replace washroom exhaust fans	Minor	Unpredictable
5.3.2	Vent southwest office exhaust fan to exterior	Minor	Discretionary

6.0 PLUMBING

6.1 Description

There is a two-inch-diameter, plastic domestic water supply line to the building. The main shutoff valve is located in the water entry / sprinkler room. The building is equipped with a backflow prevention device at the main domestic water service entrance.

All supply plumbing examined is copper. The visible drain, waste and vent piping is a combination of ABS plastic, copper and cast iron. The visible storm drain piping is primarily cast iron.

There is a 113.6-litre, electric domestic water heater in the ceiling space above the second floor offices.

Three two-piece washrooms are located at the second floor office area. One two-piece washroom is located off the first floor office area.

There are no sump pumps noted in the building.

The domestic water supply to the building is provided by the City of Delta.

6.2 Observations and Discussion

- 6.2.1** The overall condition of the plumbing system is serviceable. Maintenance has been adequate.
- 6.2.2** The water flow was observed at a remote washroom in. The reduction in water flow noted with simultaneous fixture use was not considered excessive.
- 6.2.3** No active leaks were noted in the supply plumbing pipes.
- 6.2.4** Most of the water supplies were turned off to fixtures in the washrooms and the kitchen. Minor leaks were noted at three shut off valves when these valves were opened. These valves were closed and the remaining fixture shutoff valves were not opened. We would recommend replacing all the fixture shut off valves as well as the supply tubing to the fixtures.
- 6.2.5** The domestic water heater is 11 years old. While it is impossible to predict with certainty when a domestic water heater will fail, these units typically last 10 to 15 years. Therefore, replacing the water heater may be necessary within the next few years. This is typically a minor expense.
- 6.2.6** The plumbing fixtures that were sampled operated satisfactorily with the exception of leaks at the valves. The plumbing fixtures examined are older and in fair condition.
- 6.2.7** The plumbing fixtures and finishes in the first floor office washroom are showing signs of deterioration. Updating this washroom would be desirable.

6.3 Recommendations, Costs and Priorities

Recommendation		Cost	Time Frame
6.3.1	Replace fixture shutoff valves and supply tubing	Minor	Immediate
6.3.2	Replace domestic water heater	Minor	Unpredictable
6.3.3	Update first floor washroom	\$2,000 to \$4,000	One year

6.4 Limitations

- 6.4.1 For the most part, water flows and the operation of individual fixtures was not determined due to turned off fixture water supply valves.

SAMPLE
REPORT

7.0 ROOFING

7.1 Description

The building is covered by a single-ply EPDM membrane on one level. The membrane appears to be loose laid and is covered by large-stone ballast.

The roof drainage is via an interior collection system. There are three roof drains above the roof.

There are six metal chimneys above the roof. These chimneys are for the warehouse unit heaters.

7.2 Observations and Discussion

7.2.1 The overall condition of the roofing system is satisfactory. Maintenance has been adequate.

7.2.2 This installation is reported to be approximately 10 years old. This type of system has an expected useful lifespan of 15 to 20 years. The age of this membrane was not verified by either invoicing or warranties. However, gravel, as would be used in a built-up asphalt and gravel roof system, was observed at various locations on the upper side of the suspended ceiling tiles and in the metal deck channels that were visible at the roof access hatch. This suggests that the original roofing system was built up asphalt and gravel and the EPDM rubber membrane is a reroof.

The lifespan of an EPDM system is highly dependent on original installation quality, material properties and maintenance level. The EPDM roof membrane is in serviceable overall condition. Its replacement is not anticipated within the timeframe considered by this report.

7.2.3 To maximize the life of the roof system, repairs are recommended to the following areas:

- The roof drains should be cleaned. The area around the north roof drain in particular showed signs of ponding water.
- There are trees overhanging the roof at the northeast corner. Trees drop debris on the roof, damage perimeter roof flashings and are generally recommended to be kept away from roofs. The trees should be pruned back away from the roof.
- The metal chimneys have minor corrosion. Corrosion can be removed and the chimneys painted as a part of regular building maintenance.
- There were various water stains on the suspended ceiling of the offices. Two of these stains were wet at the time of the inspection. There was also a metal tray suspended from the central steel beam in the warehouse. This tray drained into a roof storm drain at floor level. It would appear that there are at least two active roof leaks, possibly more. These leaks should be further investigated and repaired as necessary.
- The washroom exhaust fan roof vent terminations are suspect. The rubber roof jack is secured to the vent termination with a mechanical metal joint clamp. It is believed that at least one of the noted roof leaks is below one of the vent terminations. Improvements to these terminations as required is necessary.

7.3 Recommendations, Costs and Priorities

	Recommendation	Cost	Time Frame
7.3.1	General roof improvements –drain cleaning, chimney improvements and tree pruning	Minor	Immediate and ongoing
7.3.2	Further investigation and roof leak repairs, including improvements as necessary to vent terminations	Depending on repairs required	Immediate

7.4 Limitations

As the roof is covered with a large stone ballast (as it should be), the membrane could not be closely examined.

SAMPLE
REPORT

8.0 INTERIOR COMPONENTS

8.1 Description

In general, the warehouse, mechanical and janitorial areas of a building are not finished. This section addresses the conditions noted in the finished areas of the building. Since the condition of interior components is subjective to some degree, comments here are general except where functional concerns are noted.

The finished area floor coverings consist of carpet, resilient tile and ceramic tile.

The wall finishes consist of drywall.

The ceiling finishes consist of suspended tile and drywall.

There are three wood staircases in the building. The staircase at the southwest off the main entry lobby is covered with carpet. The staircases located at the southeast and west of the office space and in the central warehouse are painted wood.

8.2 Observations and Discussion

- 8.2.1** The overall condition of the interior system is satisfactory. Maintenance has been adequate.
- 8.2.2** Considering the age of the building, walls are relatively plumb, doorjambs are square and floors are reasonably level.
- 8.2.3** The east vestibule/warehouse wall does not have a drywall finish. It is beyond the scope of this assessment to determine requirements for fire ratings and assemblies between areas of different building uses. Installation of drywall for the purpose of this report is considered discretionary.
- 8.2.4** The carpet flooring at the large open office areas at the south and north are worn and replacement would be desirable in the short term.
- 8.2.5** The carpet flooring at the northeast office space off the mezzanine walkway is showing signs of deterioration. Replacement of this carpet within the time frame considered by this report would be considered discretionary.
- 8.2.6** The resilient floor tiles at the office space to the east of the main entry lobby as well as the two finished rooms off of the warehouse are worn and stained. Replacement of these resilient tiles would be desirable.
- 8.2.7** There were various interior doors which will require adjustment in order to operate properly. There is also a damaged door jamb at the double doors leading to the office space off the mezzanine walkway and a detached door closure at the top of the west exit stairwell that also need repairs

- 8.2.8** Water stained or damaged finishes were noted in several locations. The locations noted and the suspected sources of moisture are as follows:

Location of Stain / Damage	Suspected Source
Ceiling at southwest corner of southwest office - dry at time of inspection	Roof
Ceiling at closet of southwest office - wet at time of inspection	Roof
Ceiling at centre of office space above electrical panel B - dry at time of inspection	Roof
Ceiling at office space outside west exit stairwell - wet at time of inspection	Roof

The water damaged finishes should be repaired or replaced and causes of water staining investigated and repaired. See roofing section.

- 8.2.9** There were no major deficiencies noted with the staircases in the office space.
- 8.2.10** The wood hand/guardrails at the central warehouse stairs are nonconforming. They are climbable and the spaces between their components are too large. This creates a fall hazard which should be improved. Vertical wood pickets could be installed to the existing rails or new conforming rails installed. The installation of vertical wood pickets has been considered for the purpose of this report
- 8.2.11** The wood guardrail at the north mezzanine walkway is also considered to be nonconforming for the same reasons as discussed above. This guardrail also includes a small section of removable steel pipe rail. The mezzanine walkway guardrails should also be upgraded.

8.3 Recommendations, Costs and Priorities

	Recommendation	Cost	Time Frame
8.3.1	Carpet flooring replacement at north and south open office areas (approximately 2,000 square feet)	\$8,000 to \$12,000	One year
8.3.2	Carpet flooring replacement at northeast office space (500 square feet)	\$2,000 to \$3,000	Five years, discretionary
8.3.3	Resilient tile floor replacement at office off the main entry lobby and two rooms off warehouse (1,200 square feet)	\$4,200 to \$5,400	Two years
8.3.4	Improving the operation of various interior doors	Minor	Immediate
8.3.5	Replacement of water damaged ceiling tiles (see roofing section for repairs to roof)	Minor	One year
8.3.6	Installing and taping and filling of drywall to east vestibule/warehouse wall (350 square feet)	Minor	Discretionary
8.3.7	Upgrading of hand/guard rails to warehouse stairs and guardrail to mezzanine walkway (125 linear feet)	\$2,500 to \$5,000	Immediate

9.0 INSULATION

9.1 Description

It should be understood that a review of the thermal characteristics of the building envelope is beyond the scope of our assessment. Only general information is provided here.

The presence of insulation in the exterior walls could not be verified. No insulation was noted at the warehouse exterior walls, as is typical.

The presence of insulation in the flat roof was spot checked at roof deck penetrations. Rigid foam insulation, valued at approximately R-7.5, was noted on the roof.

The presence of sprayed-on insulation was observed on the underside of the mezzanine floor where it was exposed to the warehouse area. This insulation, while providing thermal resistance, may also be providing fire resistance to the steel floor assembly. The quality and need for fire resistance of this floor assembly is beyond the scope of this assessment.

9.2 Observations and Discussion

9.2.1 The amount of insulation noted on the roof is considered typical for a building of this age. The modern standard is R-20. It is typically not cost-effective to upgrade insulation until the roof membrane is replaced.

9.2.2 It should be understood that increasing insulation levels in a building is more an upgrade than a necessary repair. Overall building energy usage is, however, an on-going consideration.

9.3 Recommendations, Costs and Priorities

Recommendation	
9.3.1	None at present

10.0 STRUCTURE

10.1 Description

The building is of slab-on-grade construction. It is possible that the concrete slab is reinforced and supported on piles or piers.

Concrete caps which presumably are connected to the top of either piles or piers were observed at some locations and appeared to be supporting the concrete tilt-up panels.

The composite metal pan and concrete floors for the mezzanine are supported by open web steel joists. The joists are supported by the exterior walls and steel beams and columns.

The steel roof deck is supported by open web steel joists. The joists are supported by exterior walls and steel beams and columns.

10.2 Observations and Discussion

10.2.1 The overall condition of the building structure is satisfactory. Maintenance has been adequate.

10.3 Recommendations, Costs and Priorities

Recommendation	
10.3.1	None at present

10.4 Limitations

10.4.1 The examination of the structural components was visual only; a design review was not undertaken.

11.0 EXTERIOR COMPONENTS

11.1 Description

The exterior walls are painted pre-cast concrete panels.

The upper 20 feet of the south exterior wall is clad with a double glazed curtain wall system. This curtain wall appears to have an exterior applied reflective coating

The front entrance doors are aluminum-framed, single-glazed units. The front entrance windows are aluminum-framed, double-glazed units.

The personnel doors are steel units.

There are two loading docks and two overhead steel sectional doors at the southeast corner of the building. The driveway to the loading docks is paved with asphalt and includes poured concrete retaining walls and a pipe guardrail on the west side.

There is an overhead steel sectional drive-in door to the west of the loading docks. The ramp to the drive-in door is paved in asphalt.

There is one operable office window. This window is an aluminum-framed, double-glazed, horizontal sliding unit.

The driveway entrances to the property at the southwest and southeast are paved with asphalt.

There are approximately 12 standard parking stalls at the south side of the building, and the west side of the building is mostly paved with asphalt.

There is a poured-concrete sidewalk at the south side of the building.

There is a six-foot high, chain link fence along the west side of the property. There is an eight-foot high, chain link fence at the northwest corner of the building returning to the west fence. There are gates at the southwest corner of the building.

11.2 Observations and Discussion

11.2.1 The overall condition of the exterior components is satisfactory. Maintenance has been adequate.

11.2.2 The tilt-up panels rely on caulking at the panel joints to maintain their weather seal. The caulking appeared in satisfactory condition.

11.2.3 No major deficiencies were noted with the exterior painting.

11.2.4 The main entry door, all personnel doors and the two loading dock overhead doors sampled operated properly.

11.2.5 The drive in door has a damaged bottom panel. This door panel requires replacement.

11.2.6 The curtain wall glazing reflective coating is deteriorating. Replacement of this coating would be expensive and is considered to be discretionary.

- 11.2.7** The west office window has lost its seal and condensation has formed between the glazing. The glazing can be replaced. This is a discretionary repair.
- 11.2.8** There was damaged concrete curbing noted at the southeast entry driveway which can be replaced.
- 11.2.9** No major deficiencies were noted with the asphalt paving.
- 11.2.10** No major deficiencies were noted with the sidewalks.
- 11.2.11** No major deficiencies were noted with the retaining walls.
- 11.2.12** Two sections of the fence are damaged and leaning. The affected areas should be repaired.

11.3 Recommendations, Costs and Priorities

	Recommendation	Cost	Time Frame
11.3.1	Replace bottom panel of drive-in door	Minor	Immediate
11.3.2	Replacement of reflected coating on curtain wall (1,200 square feet)	\$12,000 and up	Discretionary
11.3.3	Replace failed sealed unit at west office window	Minor	Discretionary
11.3.4	Replacement of concrete curbing at southeast driveway entry (12 linear feet)	Minor	Two years
11.3.5	Repairs to chain link fence (14 linear feet)	Minor	One year

11.4 Limitations

- 11.4.1** Drive-in door was not operated due to damaged bottom panel.

12.0 CLOSING COMMENTS

This report provides you with an overview of the condition of the major components in the building. We trust this information is of value. CDW Engineering would be pleased to assist with implementing any of our recommendations. Should you have any questions, please do not hesitate to contact us.

Appendix A contains photographs documenting conditions noted in our report.

Please observe the Maintenance Recommendations for some of the building components, outlined in Appendix B.

Appendix C is a summary of the rooftop heating and cooling equipment.

A statement of qualifications and a glossary of terms that may have been used in this report are also included for your reference.

Sincerely,



Engineer, P.Eng., RHI

SAMPLE
REPORT

APPENDIX A

PHOTOGRAPHS

**1234 Industrial Road
City, BC**



Photo 1. South elevation of building.



Photo 2. West elevation of building.



Photo 3. North elevation of building.



Photo 4. East elevation of building.



Photo 5. Main building entry.



Photo 6. Glass curtain wall at south elevation.
Note deteriorated surface coating on glass.



Photo 7. Loading dock area at south east corner of building.



Photo 8. Section of roof.



Photo 9. Section of roof.



Photo 10. Roof access hatch (note corrosion).



Photo 11. Typical metal chimney.



Photo 12. Roof drain (note organic debris and minor water ponding).



Photo 13. Roof top exhaust fan vent. Suspect roof jack connection.



Photo 14. One of three rooftop heating and cooling units.



Photo 15. One of three rooftop heating and cooling units.



Photo 16. One of three rooftop heating and cooling units.



Photo 17. Electric domestic water heater above office ceiling.



Photo 18. One of six warehouse unit heaters.



Photo 19. South west office exhaust fan.



Photo 20. Water service entry and sprinkler room.



Photo 21. Main shut off valve for domestic water supply.



Photo 22. Electrical room.



Photo 23. Main disconnect switch.



Photo 24. Typical electrical disconnect switch.



Photo 25. Step down transformer in electrical room.



Photo 26. Typical fluorescent light fixture.



Photo 27. Typical exterior light fixture.



Photo 28. Probable transformer servicing the building.



Photo 29. Open web steel joist above office ceiling.



Photo 30. Return air grille.



Photo 31. Main entry lobby.



Photo 32. View of warehouse.



Photo 33. View of warehouse.



Photo 34. Stairs leading from warehouse to office mezzanine. Note open guard rails.



Photo 35. Walkway and nonconforming guardrail at north end of office mezzanine.



Photo 36. Open web steel joist roof structure.



Photo 37. Large open office space at north offices.



Photo 38. Large open office space at south offices.



Photo 39. Deteriorated and worn carpet.



Photo 40. View of typical wood staircase.



Photo 41. Kitchen area on second floor.



Photo 42. Typical washroom.



Photo 43. Water stain at suspended ceiling.



Photo 44. Water stain at suspended ceiling.



Photo 45. Typical steel service door.



Photo 46. Drive through overhead door.



Photo 47. Damage at drive through overhead door.



Photo 48. One of two loading dock overhead doors.

APPENDIX B

MAINTENANCE RECOMMENDATIONS

**1234 Industrial Road
City, BC**

This Appendix provides maintenance recommendations related to items mentioned in our report. These recommendations are intended to be general and should not be construed as all-inclusive. Maintenance should be undertaken by qualified personnel only.

Activity		As Necessary	As Directed	Weekly	Monthly	Quarterly	Semi-Annually	Annually
ELECTRICAL								
1	The area in front of electrical panels and disconnects should always be accessible (storage or debris should not be placed in front or on top of the equipment).	x						
2	Each circuit should be labelled to identify the area or equipment it controls.	x						
3	Circuit breakers should be manually tripped and reset semiannually.						x	
4	Dirt deposits on transformers and relays should be cleaned monthly to minimize operating temperature and maintain optimum efficiency.				x			
5	Electrical switches and other moving parts should not be lubricated unless specified by the manufacturer. The type and grade of lubricant specified should be strictly followed. Oil and grease should be kept away from conductor insulation to prevent damage.		x					
6	Extension cords should not be used as permanent wiring.	x						
7	Electrical modifications should be performed by qualified personnel only.	x						
8	The switchgear internal connections should be checked and retightened annually.							x
HEATING AND AIR-CONDITIONING								
1	The heating systems should be serviced annually by a qualified technician.							x
2	The air-conditioning systems should be inspected and recharged as necessary by a serviceperson, before annual start-up.							x
3	The fans and motors should be lubricated as directed by a serviceperson or the manufacturer.		x					
4	The casings on the rooftop units should be maintained weathertight.	x						
5	The filters should be inspected monthly and cleaned or replaced as necessary during heating system operation.				x			
6	Electric baseboard heaters should be tested periodically and replaced as necessary. Heating fins should be vacuumed annually. Internal wire connectors should be checked for tightness annually. Special service connectors should be used.							x
PLUMBING								
1	The main shutoff valve for the plumbing system (located sprinkler room) should be operated semiannually to ensure that it can be closed in an emergency.						x	
2	Every fall, the inside control valves for outdoor faucets should be closed. The outside pipes should be drained and the exterior faucets left open.							x
3	The domestic water heaters and associated equipment should be serviced annually by a qualified technician.							x
4	The plumbing fixtures should be inspected monthly for leakage and repairs made promptly.				x			
ROOFING								
1	The roofs should be inspected semiannually. Particular attention should be paid to the flashings, edges and intersections.						x	
2	The roof drains should be periodically inspected to ensure that they are free of debris.				x			
3	The metal chimneys should be examined annually for corrosion, leaning and loose or missing rain caps.							x
INTERIOR COMPONENTS								
1	Windows should be inspected at least annually for damage resulting from leakage and condensation.							x
2	Wall and ceiling surfaces should be periodically examined for evidence of roof or plumbing leakage.				x			
3	Stairwells should be kept clear of storage and exit doors unobstructed.	x						
EXTERIOR COMPONENTS								
1	Stucco should be inspected at least annually for cracks. Minor cracks should be filled promptly.							x
2	The caulking and weather stripping should be inspected every fall.							x
3	The asphalt paving should be visually examined annually for cracks or depressions. Repairs should be made promptly.							x

APPENDIX C

**SUMMARY OF ROOFTOP
HEATING AND COOLING EQUIPMENT**

**1234 Industrial Road
City, BC**

HVAC Unit #	Year Built	Cooling Capacity tons	Heating Capacity X 1000 BTUS (output)	Operating Mode	Makeup Air	Manufacturer	Area Served	Comments
1	1994	5	100	Heating	Economizer	Lennox	Second floor south office	
2	1994	6	104	Idle	Economizer	Lennox	First floor office	
3	1998	3	72	Heating	Duct	Lennox	Second floor north office	

SAMPLE REPORT