

Facility Condition Assessment Summary Report

**British Columbia Institute of Technology
NE4 - Carpentry Shop Building**



Submitted by:

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Burnaby Centre

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Asset Detail Report

by Asset Name

NE4 - Carpentry Shop Building

Post BCIT
 Secondary
 Institution:
 Campus: BCIT Burnaby

Asset Name: NE 4 - Carpentry Shop

Asset Number: NE4

STATISTICS

FCI Cost:	1,331,600	FCI:	0.20
Total Requirements Cost :	1,567,661	RI:	0.23

Current Replacement Value	6,682,165	Address 1	3700 Willingdon Avenue
Size	2,057 SM	Address 2	-
Year Constructed	1959	City	Burnaby
Year Renovated	1992	State/Province/Region	British Columbia
Commission Date	-	Zip/Postal Code	V5G 3H2
Decommission Date	-	Architect	-
Ownership	Client Owned	Historical Category	None
Floors	1	Construction Type	IBC - Type 1B
Type	Building	Use	Classroom / Training

PHOTO



NE 4 - Carpentry Shop

NE 4 - Carpentry Shop

ASSET DESCRIPTION

ARCHITECTURAL

General

The NE4 building , is within the British Columbia Ministry of Advanced Education and is part of College of the BCIT (British Columbia Institute of Technology) in Burnaby's campus. It is located at 3700 Willingdon Avenue Burnaby, BC. Originally built on this site in 1959 with 2,057 SM of space. The facility is composed of a one level building with mezzanino used for classroom, office and storage.

Substructure

All costs in CAD.

The substructure construction of the building features concrete perimeter foundation walls on reinforced concrete footings. The facility has a concrete slab on grade.

Superstructure

The building has both load bearing CMU's wall construction and steel columns with steel frame construction with concrete filled steel pan for the mezzanine floor framing and sloped steel open web joist with steel decking for roof framing and on the exterior covered area has glulam beams on the concrete and metal columns for the roof framing.

Exterior Construction

Exterior walls at NE4 building includes metal cladding finishing's construction. Exterior windows are single glazed metal framed assemblies. Entry doors are typically either glazed / unglazed hollow metal assemblies. The roof includes sloped metal roof system covering and adhered SBS modified roofing membrane covering.

Interior Construction

Floor finishes throughout the facility are vinyl composite tiles, carpet, sheet goods, wood strip flooring and concrete floor. Wall finishes are painted gypsum wallboard and painted block. The ceiling finishes are generally 600 x 1200 ACT or no finish (open to roof structural components). The interior doors are finished wood assemblies, some with glazed panels. Interior door hardware is typically a combination of knob with panic hardware where required at exterior door fire exit locations.

Accessibility

The building is not considered barrier free per the requirements of section 3.8 Building Requirements for Persons with Disabilities of the 2006 British Columbia Building Code.

Occupancy Type

According to the 2006 British Columbia Building Code, Article 3.1.2.1. (1), the NE4 building is classified as an Assembly Group A, Division 2 occupancy.

MECHANICAL

BCIT – Carpentry Shop NE04

HVAC

Heating for the carpentry shop building is supplied by main hot water line coming from water heating boiler station. Hot water is distributed to the six radiant unit heaters and washrooms.

Ventilation is provided by two 1500 CFM industrial exhaust fans installed inside the shop-trade 101.

Cooling is provided by two A/C units installed in second floor windows and serves the office rooms.

Heating is provided by 8 gas-fired Infrared tube heaters hung in workshop ceiling manufactured by REVERBE RAY Company.

Heating for some office spaces and some classroom spaces are also provided by perimeter hydronic fin tube heaters and electric baseboard heaters too.

Exhaust fans are provided for the washrooms and store rooms.

The building management system includes Direct Digital Control (DDC) installed in 2005.

PLUMBING

A four inches domestic cold water service enters the building. Piping is distributed to all plumbing fixtures and hose bibs.

Plumbing fixtures includes vitreous china water closets, urinals and lavatories in the washrooms; custodial service sinks in the service room.

The building sanitary waste piping system with gravity discharge flows to the main campus system.

Rainwater is collected by gutters with downspouts and roof drain access which discharges directly into internal leaders which are connected to the storm drainage system.

All costs in CAD.

There are no scuppers in rooftop.

Natural gas is distributed to the gas-fired Infrared tube heaters.

FIRE PROTECTION

The fire protection systems include a wet fire sprinkler system serving the building. There is a Siamese fire hose connection for the fire fighters. Numerous handheld fire extinguishers are located throughout the building to supplement the fire suppression system.

ELECTRICAL

Main Electrical Service

The building contains a 12.47kV, single-ended unit substation. The system includes incoming feeders, a 15kV disconnect switch, and one 500kVA 12.47kV-480/277V transformer. A 600A-480/277V (3-ph 4-wire) switchgear provides the circuit breaking for the building. The switchgear includes metering. All equipment is located along the exterior.

Electrical Service and Distribution

Downstream electrical distribution is handled by panelboards distributed throughout the building. There is also a step-down transformer.

Branch Wiring Devices

The branch wiring for this building includes a heavy concentration of interior branch wiring, electrical devices, conduit, wire, safety switches, cable trays, and utilization equipment.

Lighting

The building includes a lighting system with a variety of fixtures. The shop area has 300x1200mm suspended fluorescent lights. There are no lenses with these lights. The office and class areas also have recessed 600x1200mm fluorescents and compact fluorescents.

The exterior perimeter lighting consists of HID mounted in the wall.

The canopy that was erected in 2006 has approximately fifty HID down lights. They are rated for 320W and are pulse arc types.

Telephone System

The building has a telephone system which includes conduit, cable, switches, punch panels, and head end equipment.

Fire Alarm System

This building includes a fire alarm system. The fire alarm system includes head end equipment, pull stations at all exit doors, bells, smokes, conduit, wire, and connections. The fire alarm annunciator panel is located along the exterior of the building.

LAN System

The building includes a local area network system with head end equipment, conduit, switches, racks, patch panels, fiber optics, as well as Cat5 and Cat5e cable. There is an effort to add Cat6 wiring when upgrades occur.

Exit Signs

The emergency lighting system includes the installation of exit signs. The installation includes single and double sided exit signs, conduit, wire, boxes, conduit bends, connections and circuit breakers.

Emergency Lighting

All costs in CAD.

The emergency lighting is handled by battery backup lights.

REQUIREMENTS

Requirement Name	Prime System	Category	Priority	Action Date	Cost
Natural Gas Supply for Bldg Renewal	D2090-Other Plumbing Systems	Beyond Useful Life	2- Short Term (1-2 years)	01/31/2013	23,122
Water Dist Complete - Average Renewal	D2020-Domestic Water Distribution	Beyond Useful Life	2- Short Term (1-2 years)	01/31/2013	73,080
Sanitary Waste - Gravity Disch - Average Renewal	D2030-Sanitary Waste	Beyond Useful Life	2- Short Term (1-2 years)	01/31/2013	79,599
Site Drainage Renewal	G3030-Storm Sewer	Beyond Useful Life	2- Short Term (1-2 years)	01/31/2013	71,855
Custodial Sink Renewal	D2010-Plumbing Fixtures	Beyond Useful Life	2- Short Term (1-2 years)	01/31/2013	8,373
Drinking Fountains Renewal	D2010-Plumbing Fixtures	Beyond Useful Life	2- Short Term (1-2 years)	01/31/2013	2,752
Gutters and Downspouts - Copper Renewal	B30-Roofing	Beyond Useful Life	2- Short Term (1-2 years)	01/31/2013	31,921
Window/Wall Unit Air Conditioner Renewal	D3030-Cooling Generating Systems	Beyond Useful Life	2- Short Term (1-2 years)	01/31/2013	3,605
Perimeter Heat System - Hydronic Fin Tube Renewal	D3040-Distribution Systems	Beyond Useful Life	2- Short Term (1-2 years)	01/31/2013	30,843
Restroom Fixtures Renewal	D2010-Plumbing Fixtures	Beyond Useful Life	2- Short Term (1-2 years)	01/31/2013	21,710
Kitchen Sinks Renewal	D2010-Plumbing Fixtures	Beyond Useful Life	2- Short Term (1-2 years)	01/31/2013	2,928
Roof Drainage - Gravity - Internal Leaders Renewal	D2040-Rain Water Drainage	Beyond Useful Life	2- Short Term (1-2 years)	01/31/2013	54,904
Lighting - Exterior - Perimeter Renewal	D5022-Lighting Equipment	Beyond Useful Life	2- Short Term (1-2 years)	01/31/2013	5,515
Emergency Lighting Renewal	D5092-Emergency Light and Power Systems	Beyond Useful Life	2- Short Term (1-2 years)	01/31/2013	15,016
Telephone System Renewal	D5033-Telephone Systems	Beyond Useful Life	2- Short Term (1-2 years)	01/31/2013	1,098
Lighting Equipment - Occupancy Sensors Not Functioning	D5022-Lighting Equipment	Reliability	2- Short Term (1-2 years)	01/31/2013	11,020
Unit Heaters - Electric Renewal	D3050-Terminal and Package Units	Beyond Useful Life	3- Long Term (3-5 years)	01/31/2015	2,554

All costs in CAD.

Requirement Name	Prime System	Category	Priority	Action Date	Cost
Fire Alarm System - Notification & Initiating Devices Renewal	D5037-Fire Alarm Systems	Beyond Useful Life	3- Long Term (3-5 years)	01/31/2014	42,823
Branch Wiring - Equipment & Devices Renewal	D5021-Branch Wiring Devices	Beyond Useful Life	3- Long Term (3-5 years)	01/31/2014	24,607
Panelboards, Feeders, Disconnects, Transformers - 480/277V & 120/208V Renewal	D5012-Low Tension Service and Dist.	Beyond Useful Life	3- Long Term (3-5 years)	01/31/2014	98,978
Exit Signs Renewal	D5092-Emergency Light and Power Systems	Beyond Useful Life	3- Long Term (3-5 years)	01/31/2014	14,153
LAN System Renewal	D5039-Local Area Networks	Beyond Useful Life	3- Long Term (3-5 years)	01/31/2015	4,315
Transformers - Not Up To Current Standards	D5012-Low Tension Service and Dist.	Capacity/Design	3- Long Term (3-5 years)	01/31/2016	15,884
Overhead Rolling Doors Renewal	B2030-Exterior Doors	Beyond Useful Life	3- Long Term (3-5 years)	01/31/2016	14,337
Windows - Steel Renewal	B2020-Exterior Windows	Beyond Useful Life	3- Long Term (3-5 years)	01/31/2016	235,040
Metal Roofing Renewal	B30-Roofing	Beyond Useful Life	3- Long Term (3-5 years)	01/31/2014	410,926
Overhead Rolling Doors - Large Renewal	B2030-Exterior Doors	Beyond Useful Life	3- Long Term (3-5 years)	01/31/2016	16,596
Carpeting - Broadloom Renewal	C3020-Floor Finishes	Beyond Useful Life	3- Long Term (3-5 years)	01/17/2016	13,142
Vinyl Composite Tile Renewal	C3020-Floor Finishes	Beyond Useful Life	3- Long Term (3-5 years)	01/17/2016	6,726
ACT Ceilings: Aged	C3030-Ceiling Finishes	Reliability	3- Long Term (3-5 years)	01/31/2016	10,062
Branch Wiring Devices - Wiring Not Code Compliant & Corroding Conduit	D5021-Branch Wiring Devices	Building Code	5- Does Not Meet Current Code	-	11,605
Entrance Doors - Not Handicapped Accessible	B2030-Exterior Doors	Accessibility	5- Does Not Meet Current Code	-	18,070
Non Barrier Free Washrooms - Lack Accessible Stalls	C1030-Fittings	Accessibility	5- Does Not Meet Current Code	-	18,513
Door Hardware - Not Compliant Knob Type	C1020-Interior Doors	Accessibility	5- Does Not Meet Current Code	-	10,356

All costs in CAD.

Requirement Name	Prime System	Category	Priority	Action Date	Cost
Handrails and Guards: Not Building Code Compliant	C20-Stairs	Building Code	5- Does Not Meet Current Code	-	60,756
Green Roof: Lacks Fall Protection	B30-Roofing	Building Code	5- Does Not Meet Current Code	-	40,559
Egress: Lacks Second Exit on Green Roof	C20-Stairs	Building Code	5- Does Not Meet Current Code	-	60,319
				Total	1,567,662