

RBC Centre  
Design & Construction  
Manual

RBC  
CENTRE

A  PROPERTY





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## INTRODUCTION

### **Purpose: A Guide for Leasehold Improvement**

The purpose of the RBC Centre Design and Construction Manual (DCM) is to provide new and existing tenants and their contracted personnel with all the information they need to undertake leasehold improvements at the RBC Centre.

### **The DCM sets out:**

- Key RBC Centre contact information
- Required and recommended consultants and contractors
- Design recommendations
- Building standards and other specifications
- Construction procedures, practices, and processes
- Waste, material reuse, and pollution control strategies
- Permit forms

Tenants, along with their designated project managers, their consultants and contractors, are responsible for following the processes, procedures, rules and regulations set out in this manual. They are also responsible for following all relevant federal, provincial and municipal codes, standards, by-laws, regulations and other rules.

### **Maintaining the Integrity of RBC Centre**

Maintaining the integrity of the building's design, décor, and operations is crucial to maintaining the RBC Centre's brand, and every person and organization connected with the RBC Centre is expected to do their part.

It is imperative, therefore, that the landlord thoroughly review and approve any proposed tenant project, however small or limited in scope, before a tenant starts the work.

### **Contents to be read in conjunction with lease documentation**

The contents of this manual are to be read in conjunction with the tenant's governing lease documentation, as well as with any additional, relevant written agreements between the landlord and tenant. The landlord reserves the right to amend, add, or delete any information contained in this manual at any time. The tenant is obliged to abide by such changes upon being notified of same. For the most recent updates on this manual and permit forms, please visit

[www.rbccentre.ca](http://www.rbccentre.ca)

All costs associated with compliance shall be at the tenant's sole expense.

## Questions

All questions, comments and submissions related to proposed tenant improvements should be addressed to the Management Office:

PROPERTY MANAGER

Allison Stryland

The Cadillac Fairview Corporation Limited

160 Front Street West, Suite 1830

Toronto, ON M5J 0G4

T: 416-649-5133

[allison.stryland@cadillacfairview.com](mailto:allison.stryland@cadillacfairview.com)

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**The Cadillac Fairview Corporation Limited**

**RBC Centre Management Office**

160 Front Street West

Suite 1830, Toronto, ON M5J 0G4

Tel: 416-340-6615

[www.rbccentre.ca](http://www.rbccentre.ca)



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## LIST OF PERMIT FORMS

All forms are available at [www.rbccentre.ca](http://www.rbccentre.ca)

FORM 1 – Construction Work Permit

FORM 2 – Service Work Permit

FORM 3 – Freight Elevator Requisition

FORM 4 – Hot Work Permit

FORM 5 – X-Raying, Scanning & Coring Work Permit

FORM 6 – Fire Protection System Bypass Permit

FORM 7 – Building System Shutdown Request

## PART 1: RBC CENTRE GENERAL INFORMATION

### 1.1 Landlord's Project Manager

The tenant (or the tenant's designate) is responsible for notifying the landlord of any and all leasehold improvements within the leased premises. Upon notification, the landlord will appoint a project manager to oversee, assist, and liaise with the appropriate project parties.

The primary functions of the designated project manager are to:

- Guide and assist the tenant (and/or the tenant's designate) and their contractors during the design, construction, and commissioning/completion phases of their improvements within the leased premises;
- Review and comment upon all drawing submissions and relevant documentation before, during, and after work within the leased premises;
- Act as a liaison between and among the landlord, the tenant (and/or the tenant's designate), the tenant's contractor(s), and the tenant's designer;
- Provide guidance and recommendations on RBC Centre-approved contractors, trades, and base building consultants.

### 1.2 Consultants

The tenant is permitted to select its own design team for any proposed construction project. However, prior to engaging a consultant team, the tenant is advised to review the proposed team with the landlord as the selection is subject to the landlord's final approval.

### 1.3 Site Visit Before Design Work

The landlord recommends that the tenant and/or the tenant's design consultants visit the site to review and visually verify all site conditions before starting all design work. Intrusive investigation is not permitted without Landlord's written consent.

### 1.4 Property Personnel Contact Information

The following table provides key contact information for Cadillac Fairview Operations, Security & Life Safety, Project Management and Property Services.



**Table 1 – Property Personnel Contact Information**

<b>Cadillac Fairview Management</b>	<b>Contact Information</b>	<b>Email</b>
CF Management Office	(T) 416-340-6615	
Michael Manuel General Manager	(T) 416-649-5128	michael.manuel2@cadillacfairview.com
Allison Stryland Property Manager	(T) 416-649-5133	allisonstryland@cadillacfairview.com
Julia Vendittelli Tenant Relations Manager	(T) 416-202-6675	julia.vendittelli4@cadillacfairview.com
Kathleen Stoneburgh Tenant Relations Coordinator	(T) 647-923-3597	kathleen.stoneburgh@cadillacfairview.com
<b>Cadillac Fairview Operations</b>	<b>Contact Information</b>	<b>Email</b>
Paul Reinholz Senior Operations Manager	(T) 416-649-5129	paul.reinholz@cadillacfairview.com
Dennis Gatti Operations Supervisor	(T) 416-340-6615 ext. 128536	dennis.gatti@cadillacfairview.com
CF Connect	(T) 1-800-665-1000	cfconnect@cadillacfairview.com
<b>Cadillac Fairview Security and Fire &amp; Life Safety</b>	<b>Contact Information</b>	<b>Email</b>
Patrick Longshaw Manager, Security and Fire & Life Safety	(T) 416-649-5131	patrick.longshaw@cadillacfairview.com
Sean Sullivan Supervisor, Security & Life Safety	(T) 416-366-2775	sean.sullivan@cadillacfairview.com
Shipping & Receiving Loading Dock	(T) 416-340-6615 est. 128229	splsecurity@cadillacfairview.com
Security Desk East Lobby	(T) 416-596-0079	splsecurity@cadillacfairview.com



## PART 2: PROPERTY CONSULTANTS AND CONTRACTORS

### 2.1 Base Building Consultants and Building Engineers

Cadillac Fairview recommends that tenants retain the base building consultants and consulting engineers listed in Table 2 below when initiating a tenant improvement.

Should a tenant retain alternate providers, Cadillac Fairview will engage those listed below to review the submitted drawings – for their impact on the base building systems ONLY – before authorizing the tenant to proceed with their intended scope of work.

All drawing review costs incurred by Cadillac Fairview will be charged back to the tenant with a 15% administration charge for handling, review, and coordination. For further information on the drawing review process, please see the Drawings Submission & Review – Office section.

**Table 2 – Base Building Consultant Contact Information**

Consulting Discipline and Address	Contact Information
<b>Architect</b> Enform Architects	Contact: Alan Fraser (T) 647-948-7523 ext.1003 (E) alan.fraser@enformarchitects.com
<b>Code Consultants</b> LRI Fire Protection & Building Code Engineers	Contact: Zahid Urhashid (T) 416-515-9331 ext 319 (E) zhashis@lrifire.com
<b>Hazardous Materials/Environmental Consultant</b> Pinchin Ltd.	Contact: Georgia MacKay (T) 416-363-1469 ext. 1906 (E) gmackay@pinchin.com
<b>Mechanical Engineer</b> TMP	Contact: Tony Dingham (T) 416-753-8870 (E) tdingman@tmptoronto.com
<b>Electrical Engineer</b> Mulvey & Banani	Contact: Rob Marcuzzi (T) 416-751-2122 ext 213 (E) rob@mbii.com
<b>Structural Engineer</b> Quinn Dressel	Contact : Roger Ye (T) 416-961-8294 ext 220 (E) rye@quinndressel.com
<b>Base Building Controls</b> Modern Niagara	Contact: Les Martin (T) 416-749-6031 (E) lmartin@modernniagara.com
<b>Commissioning Agent</b> TMP	Contact: Tony Dingman (T) 416-753-8870 (E) tdingman@tmptoronto.com



## 2.2 Required Contractors/Consultants

When undertaking any project at RBC Centre, tenants are required to engage the following contractors/consultants for the noted services. This is because RBC Centre's various systems are complex, and because RBC Centre desires to maintain a consistent standard of care and quality of work.

**Table 3 – Required Contractors/Consultants**

Consulting Discipline and Address	Contact Information
<b>Air Duct &amp; Induction Unit Contractor</b> New Air Duct Services Ltd. (Air Duct Cleaning)	Contact: Fluvio Visone (T) 416-560-4348 (E) fluvio@newairductservice.ca
<b>Base Building Controls</b> Modern Niagara	Contact: Les Martin (T) 416-749-6031 (E) lmartin@modernniagara.com
<b>Base Building Structural Engineer</b> Quinn Dressel	Contact : Roger Ye (T) 416-961-8294 ext. 220 (E) rye@quinndressel.com
<b>Commissioning Agent</b> TMP (mechanical review)	Contact: Tony Dingman (T) 416-753-8870 (E) tdingman@tmptoronto.com
Modern Niagara (controls review)	Contact: Les Martin (T) 416-749-6031 (E) lmartin@modernniagara.com
<b>Fire Alarm Contractor – Installation</b> Guild Electric Ltd.	Contact: Yves Thibodeau (T) 416-288-82221 (E) yves.thibodeau@guidelectric.com
CMS Electrical	Contact: Brad Herring (T) 416-609-9992 ext 71 (E) brad@cmselectricalgroup.com
Plan Group	Dave Hutchings (T) 416-575-6371 (E) dhutchings@plan-group.coml
<b>Fire Alarm Contractor – Programming, Verifications &amp; Service</b> Siemens	Contact: Ryan Brockway (T) 416-388-7672 (E) ryan.brockway@siemens.com
<b>Fire Alarm Contractor – Verifications ONLY</b> Siemens	Contact: Ryan Brockway (T) 416-388-7672 (E) ryan.brockway@siemens.com
<b>Siemens Canada Limited Smart Infrastructure</b>	Contact: Ryan Brockway (M) 416-388-7672 (E) ryan.brockway@siemens.com 24/7 Service Dispatch Line: 905-799-3540

Consulting Discipline and Address	Contact Information
<b>Approved Sprinkler Contractors</b>	
Classic Fire Protection Inc.	Contact: Chris Berwick (T) 416-740-3000 (E) chrisberwick@classicfire.com
JD Collins	Contact: Dave Bested (T) 905-660-4535 (E) dave@jdcollins.ca
Onyx Fire Protection	Contact : John Lang (T) 416-674-5633 (E) jlang@onyx-fire.com
Tyco	Contact : Ray Fernandes (T) 416 659 7037 (E) rfernandez@tyco.ca
<b>Riser Room Management</b>	
The Attain Group	(T) 1-800-665-1000 (E) cfconnect@cadillacfairview.com

*Note: As part of base building services and quality control/assurance, the RBC Centre sprinkler contractor will perform a site review of all work, both during the project and upon being notified that the project has been completed.*

Refer to Table 15 for drain-down amounts. Tenants are required to submit a fire system bypass. This requires a minimum of 72 hours' notice and is subject to approval.



### 2.3 Contractors with Experience in the Building

The following table provides contact information for contractors of various disciplines that are familiar with RBC Centre's construction policies and procedures. Cadillac Fairview assumes no responsibility whatsoever for the use or selection of any contractor, or their workmanship and/or behaviour while working at RBC Centre.

Note that this list does not preclude alternate contractors from bidding on or performing proposed project work, subject to the approval of the project manager.

**Table 4 – Contractors with experience in the building**

General Contractors	Contact Information
Quoin Construction Ltd.	Contact: Tony Temelkovski (T) 905-232-5280 ext 203 (E) tony@quoin.ca
Greenferd Construction Inc.	Contact: Scott Hledin (T) 905-763-4200 (E) sh@greenferd.com
Marant Construction Ltd.	Contact: Gino Vettoreto (T) 416-425-6650 (E) gino@marant.ca
Rosscor General Contractors Ltd.	Contact: Emanuel DiFalco (T) 416-297-1811 (E) e.difalco@rosscorgc.com
Electrical Contractors	Contact Information
Ainsworth Inc.	Contact: Kevin Carr (T) 416-601-9525 (E) kevin.carr@ainsworth.com
Guild Electric Ltd.	Contact: Yves Thibodeau (T) 416-288-8222 (E) yves.thibodeau@guldelectric.com
Plan Group Inc.	Contact: Richard Bryson (T) 416 453 4408
CMS Electrical	Contact: Brad Herring (T) 416 609 9992 ext 71 (E) brad@cmselectricalgroup.com
XBase Electrical	Contact: Jordan McNamara (C) 289 928 9632 (E) jordan.mcnamara@xbase.com
Symtech	Contact: Fraser McGill (T) 416 559 5063 (E) fraser.mcgill@symtech.com
Multitech Trades Corporation	Contact: Peter Deguara (T) 647 242 5036 (E) peter.deguara@multitechcorp.ca

<b>Mechanical Contractors</b>	<b>Contact Information</b>
Modern Niagara Toronto Inc. (Downtown Division)	Contact: Jeff Sabourin (T) 416-749-6031 (E) jsabourin@modernniagara.com
Onyx Mechanical	Contact: Chris Neilsen (T) 905-866-6699 (E) chris@onyxmech.com
<b>X-Raying, Scanning &amp; Coring Contractors</b>	<b>Contact Information</b>
CB Concrete Testing & Coring Ltd.	Contact: Steve Bagnato (T) 416-346-5665 (E) cbsteve@rogers.com
Daly Concrete Coring Ltd.	Contact: Mike Daly (T) 416-717-7791 (E) mike@dalyconcrete.com
The Graff Company ULC (Graff X-Ray)	Contact: Customer Service (T) 905-457-8120
Unique Detection Ltd.	Contact: Mike Hunter (T) 1-888-651-0068 (E) xray@uniquedetection.com
<b>Flooring Contractors</b>	<b>Contact Information</b>
Tate Flooring	Contact: George Cumberbatch (T) 905-847-0138 ext. 1615 (E) gcumberbatch@tateasp.com
Innovative Flooring Inc. (Matting)	Contact: Ann Jackman (T) 416 261 6755 (E) ajackm0531@rogers.com
York Marble	Contact: Andre Marques (T) 416-235-0161 (E) andre@yorkmarble.com



<b>Window Film Installation Supplier</b>	<b>Contact Information</b>
Convenience Group Inc.	Contact: Paul Alarie (T) 416-233-6900 (E) <a href="mailto:paralie@conveniencegroup.com">paralie@conveniencegroup.com</a>
<b>Electrical Metering Provider</b>	<b>Contact Information</b>
Intellimeter	Contact: Fidel Gonzalez (T) 905 839 9199 ext 225 (E) <a href="mailto:fgonzales@intellimeter.com">fgonzales@intellimeter.com</a> (E) <a href="mailto:service@intellimeter.ca">service@intellimeter.ca</a>
<b>Security System Contractors</b>	<b>Contact Information</b>
Securitas Electronic Security	Contact: Brian Keller (T) 647-407-0060 (E) <a href="mailto:brian.keller@securitates.com">brian.keller@securitates.com</a>
JCI	Contact: Gord Wilson (T) 905-301-8921 (E) <a href="mailto:gord.walter.wilson@jci.com">gord.walter.wilson@jci.com</a>
360 ASC	Andrew Pierce (T) 416-798-2228 (E) <a href="mailto:andrew.p@360asc.com">andrew.p@360asc.com</a>
<b>Drywall Contractors</b>	<b>Contact Information</b>
Four Seasons Drywall Systems & Acoustics Ltd.	Contact: Gerry Bechard (T) 905-474-9960 (E) <a href="mailto:gerry@fourseasonsdw.com">gerry@fourseasonsdw.com</a>
Maxan Drywall Ltd.	Contact: Roxanne St-Denis (T) 905-829-0070 ext. 227 (E) <a href="mailto:purchaser@maxandrywall.com">purchaser@maxandrywall.com</a>
Trans-Ontario Ceiling & Wall Systems Inc.	Contact: Neil Arbour (T) 905-669-0666 (E) <a href="mailto:neil@trans-ontario.ca">neil@trans-ontario.ca</a>
<b>Painting Contractors</b>	<b>Contact Information</b>
American Colors Painting Inc.	Contact: Ralph Paparelli (T) 905-264-8674 (E) <a href="mailto:ralph@americancolors.ca">ralph@americancolors.ca</a>
Meritview	Contact: Rob Dardengo (T) 905-850-5070 (E) <a href="mailto:rob@meritview.ca">rob@meritview.ca</a>
Urban Painting & Decorating Ltd.	Contact: Angela Rossi (T) 905-856-9598 (E) <a href="mailto:info@urban-painting.com">info@urban-painting.com</a>

Riser Room Management Firm	Contact Information
The Attain Group	Contact: Customer Care (T) 613-739-9424 (E) client.services@theattaingroup.com
Housekeeping (Cleaning) Services	Contact Information
C&W Services	Contact: Gayah Badal (T) 416-570-8517 (E) Gayah.Badal@cwservices.com
Security Escort Provider	Contact Information
Paladin Security	Contact: Franco Lopez (T) 416-916-6767 (C) 416-994-7004 (E) FLopez@paladinsecurity.com
Elevator Service Contractor	Contact Information
TKE	Care of RBC Centre Management Team (T) 416 340 6615
Air Balancing Contractors	Contact Information
ACE Commercial Inc.	Contact: Ajay Jhajj (T) 416-727-2009 (E) info@aceairbalancing.com
Design Test Balance Inc.	Contact: Surrinder Sahota (T) 905-886-6513 (E) ssahota@designtest.ca

#### 2.4 Contractor Check Required – Third-Party Certification

Cadillac Fairview requires all contractors, sub-trades and consultants doing work on behalf of Cadillac Fairview to be registered and approved by ContractorCheck.

Cadillac Fairview will annually review and approve pre-qualified contractors and sub- trades for RBC Centre projects.

Contact Information:

ContractorCheck Limited	(T) 855-640-6949
2235 Sheppard Ave. East	(F) 416-640-2445
Atria II, Suite 1501	(email) info@contractorcheck.ca
Toronto, ON, M2J 5B5	(web) www.contractorcheck.ca



## PART 3: DESIGN CONSIDERATIONS

### 3.1 Integrated Design Process (IDP)

The landlord recognizes that every leasehold improvement project is unique. Each presents its own opportunities and challenges, and each design team has its own personality.

With such complexity, the landlord strongly encourages tenants to follow the Integrated Design Process. By advocating multidisciplinary collaboration, the IDP ensures that all stakeholders, including the tenant, consultants, contractors and design professionals, are sufficiently engaged in the project and aligned as to the outcome.

### 3.2 Involving the Landlord Early in the Design Process

It is also important that the tenant involve the landlord early in the design process. This not only ensures that all requirements, conditions and issues are thoroughly considered, but it also contains costs and helps avoid unnecessary extras down the line.

For further information regarding the Integrated Design Process and/or the involvement of the landlord in design coordination meetings, please contact the Tenant Projects department.

### 3.3 Tenant's Project Team Responsibility

The project team refers to the tenant and all designates, including project managers, consultants, contractors, suppliers, etc. Ultimately, the tenant is responsible for their project team, and will be held solely accountable for oversights and/or a failure to adhere to any policies or procedures outlined.

The project team must provide the landlord with documentation that demonstrates that the mandatory requirements are incorporated into the design process and that these requirements are followed in the construction phase(s).

Cadillac Fairview encourages the project team to also review the Recommended Best Practices in this document and wherever possible also incorporate these into the project's design strategy and construction activities.

Note: Project design professionals and builders must ensure that local codes, standards and by-laws are met. This responsibility is not superseded by the sustainable measures and requirements outlined in this manual.

### 3.4 Sustainable Design

Not all construction projects undertaken at RBC Centre are required to be LEED or WELL-certified projects. However, the standards listed in the following pages are based on LEED v4 Operations, WELL Building Standard v1.0, Maintenance (O+M) and LEED v4 Interior Design and Construction (ID+C) requirements and can assist tenants with a LEED ID+C and WELL Certification for new and existing interiors.

The following section provides critical information on sustainable design requirements for proposed build-outs, as well as RBC Centre base building standards. Tenants and their consultants should thoroughly review this section, as the project team must provide the landlord with documentation demonstrating that these sustainable design considerations have been incorporated into the design process, and implemented during the construction phase(s).



### 3.5 Sustainable Materials

This section of the guide applies to all materials purchased for facility renovations, retrofits and new construction activities at RBC Centre.

Fixtures, equipment, mechanical/electrical fixtures and equipment, plumbing or elevator components are not subject to these requirements.

#### 3.5.1 Mandatory Requirements

Materials used for the project, including furniture, must meet one or more of the following criteria where applicable.

- All adhesives and sealants wet-applied onsite have VOC contents that meet the applicable VOC content requirements of SCAQMD Rule 1168 (2005), Adhesive and Sealant Applications (<http://www.aqmd.gov/docs/default-source/rule-book/reg-xi/rule-1168.pdf>)
- All paints and coatings wet-applied on site have VOC contents that meet the applicable VOC content requirements of the South Coast Air Quality Management District Rule 1113 (<http://www.aqmd.gov/docs/default-source/rule-book/reg-xi/r1113.pdf>)
- Thermal and acoustic insulation, flooring materials and finishes, ceiling materials and finishes, and wall materials and finishes are either inherently non-emitting of VOCs, or are tested and determined compliant in accordance with California Department of Public Health Standard Method V1.1-2010, using the applicable exposure scenario.

#### Recommended Best Practices

It is recommended that materials used for the project, including furniture, meet one or more of the following criteria, where applicable:

- Contain recycled content
- Are locally-sourced (i.e., extracted, manufactured and purchased within 160 kilometres of RBC Centre)
- Use salvaged, refurbished or reused products
- Contain bio-based products that meet the Sustainable Agriculture Network's Sustainable Agriculture Standard (<https://www.sustainableagriculture.eco>)
- Wood products are certified by the Forest Stewardship Council (<https://ic.fsc.org/en>)
- Are Cradle to Cradle™ certified (<http://www.c2ccertified.org/>)
- Products that have fully inventoried chemical ingredients to 100 ppm, and have no Benchmark 1 hazards. GreenScreen Chemicals provides assessments of projects and chemical ingredients (<https://www.greenscreenchemicals.org/>)
- Products do not contain substances that meet REACH criteria for substances of very high concern. (<https://echa.europa.eu/regulations/reach/understanding-reach>)
- Composite woods contain low formaldehyde emissions that meet the California Air Resources Board requirements for ultra-low-emitting formaldehyde, or no-added formaldehyde-based resins
- Paints, coatings, adhesives or sealants contain no added methylene chloride and perchloroethylene
- Furniture and furnishings have VOC content that meets all limits set by ANSI/BIFMA e3-2011 Furniture Sustainability Standard sections 7.6.1 and 7.6.2, tested in accordance with ANSI/BIFMA Standard Method M71-2011. Not applicable for salvaged/reused furniture.



### 3.5.2 Submittals

The project team is responsible for collecting and submitting documentation to Cadillac Fairview when the project is complete. Cadillac Fairview reserves the right to request and review supporting documentation during the project.

At a minimum the documentation must consist of the following:

Sustainability log noting which criteria the material meets from the mandatory requirements above. A detailed template can be downloaded from the US Green Building Council - [www.usgbc.org](http://www.usgbc.org).

Each material claimed to meet one or more of the above criteria must have supporting documentation such as MSDS sheets, product data sheets, manufacturer's letter, etc.

### 3.6 Construction & Demolition Waste Management

Cadillac Fairview has procedures to divert construction and demolition debris from landfill and incineration facilities. To reduce the demand for virgin materials, prevent overburdening of existing landfills, and avoid pollution caused by incineration and ground water, the landlord aims to reach a minimum diversion rate of 90% (by volume).

#### 3.6.1 Requirements

To help the landlord achieve a minimum of 90% waste diversion by volume, the project team is responsible for incorporating the following guidelines and requirements into their design and construction activities throughout the project:

- All waste must be evaluated for recycling or redirection back to the manufacturing process. Any materials that can be recycled or redirected must be diverted accordingly. See Table 5 for waste reduction strategies.
- The project team must designate areas specific for recycling construction and demolition waste and train workers on recycling protocols and effective container labelling.
- To minimize the demand for new/virgin products and materials, the project team should strongly consider innovative ways to recycle materials typically known to be difficult to recycle.

### 3.7 Waste Reduction Strategies

Table 5 lists various waste reduction strategies to increase the diversion rate.

**Table 5 – Waste Reduction Strategies**

Item	Reduction Strategy
Design	Review designs and plans to ensure optimal use of material. Where possible, specify materials with a longer lifespan and potential for recycling or reuse after deconstruction.
Planning	Plan and schedule projects efficiently and continuously monitor material quantities to minimize leftovers.
Packaging	Request that suppliers deliver products with minimum packaging. Where possible, order in bulk.
Storage	Store materials as required to prevent damage or contamination. Where possible, order materials on-demand to prevent long storage times and potential damage.
Ordering Errors	Review material quantities carefully to ensure the correct amount is received.
Ordering Excess	Order materials in appropriate quantities. Where possible, order pre-cut pieces or measure and cut accurately and collect and store reusable pieces.
Handling	Handle all materials with care to prevent damage, breakage or contamination.

\*Throughout the project all construction materials should be evaluated for reuse onsite and/or at alternate sites. Where possible, return materials that cannot be reused to the supplier or manufacturer.



### 3.7.1 Submittals

The landlord reserves the right to request and review supporting documentation that demonstrates the specification and implementation of construction waste management strategies. Documentation must outline on-site plans for waste collection.

Upon Substantial Completion, the project team must submit a report with supporting documentation detailing the amount and types of waste diverted, and identifying the hauler and the recycler.

### 3.8 Material Reuse Strategies

Throughout the project, the project team should evaluate all construction materials for reuse on site and/or at alternate sites. Where possible, materials that cannot be reused should be returned to the supplier or manufacturer. Table 6 provides suggestions to institute the reuse of common materials during construction.

**Table 6 – Material Reuse Strategies**

Item	Reduction Strategy
Wood	Salvage off-cuts for bridging, blocking and back framing. Reuse or return pallets to vendors. Inspect wood forms for reuse for other areas of the project or other job sites.
Metal	Save cuttings for possible reuse. Joist off-cuts can be cut up and used as stakes for forming or for headers around openings in the floor assemblies.
Drywall	Reuse off-cuts to finish off gaps, small bulkheads, etc.
Cardboard	Use boxes for storage of tools and materials or floor protection.
Rigid Insulation	Use as ventilation baffles.

#### 3.8.1 Submittals

The landlord reserves the right to request and review supporting documentation that demonstrates the specification and implementation of construction waste management strategies. Documentation must outline onsite plans for waste collection.

Upon substantial completion, the project team must submit a report with supporting documentation detailing the amount and types of waste diverted, and identifying the hauler and the recycler.

### 3.9 Air Quality Control

Any construction activity that produces VOCs and/or dust is considered a source of air pollutants. These pollutants can be created during demolition/repair/construction by materials that off-gas VOCs and/or equipment that generates combustion by-products. Table 7 provides some examples of potential air pollutant sources.

**Table 7 – Pollutant Sources**

<b>Products</b>	<b>Sources</b>
Building Materials	Wood, plaster, concrete, roofing, drywall, insulation, engineered wood, ceiling tiles, cove base
Wet Products	Paint & stains, sealants & coatings, caulking, adhesives, grout, acid finishes, epoxy coatings
Furnishings	Carpet & wall coverings, wood flooring, cabinets, furniture & partitions
Solutions	Solvents, fuels, cleaning products, pesticides
Equipment	Generators & heavy equipment, compressors, vehicles, portable heaters, welders & cutting torches, soldering guns



### 3.9.1 Mandatory Requirements

Maintaining high indoor air quality helps ensure the comfort and well-being of all building occupants and construction workers alike. The project team must therefore prepare an indoor Air Quality Management Plan. The Air Quality Management Plan will impact the choice of paints, coatings, sealants, flooring materials, etc.

To maintain satisfactory air quality, all systems, spaces under construction, and occupied spaces must be protected from dust, odours and other contaminants. Containing the work area, modifying HVAC operations, reducing emissions, and intensifying housekeeping are steps the project team should consider when preparing the Air Quality Management Plan.

The following elements are required to be implemented during construction as part of each project's indoor Air Quality Management Plan:

- HVAC Protection: Keep contaminants out of the HVAC system. Do not run permanently installed equipment if possible, or appropriate filtration media, as determined by ASHRAE 52.2-2007, must be used at each return air grille and return or transfer duct inlet opening. Maintain proper filtration if it is used.
  - o All ducts are either:
    - Sealed and protected from possible contamination during construction;
    - Vacuumed out prior to installing registers, grilles and diffusers.
  - o If the ventilation system is operating during construction, all filters are to be replaced prior to occupancy.
- Source Control: Keep sources of contaminants out of the building and have a plan to eliminate any that are introduced.
  - o A secure area is designated to store and protect absorptive materials from absorbing and later releasing VOCs emitted by other sources. At a minimum, this area must be separated from general construction activity units, tarps or polyethylene barriers; materials must be stored off the floor; and access to this area must be restricted to essential construction personnel. Absorptive materials to be protected in this manner include but are not limited to: carpets, acoustical ceiling panels, fabric wall coverings, insulation, upholstery and furnishings.
  - o Install and allow wet materials to fully cure before installing any absorptive materials. Wet materials include but are not limited to: adhesives, wood preservatives and finishes, sealants, glazing compounds, paints and joint fillers.
  - o Install and allow hard finishes that require adhesive installation to dry for a minimum of 24 hours before installing any absorptive materials.
  - o Prevent exhaust fumes (from idling vehicles, equipment, and fossil-fueled tools) from entering the building. o Enforce the no-smoking or vaping job site policy.
- Pathway Interruption: Prevent circulation of contaminated air when cutting concrete or wood, sanding drywall, installing VOC-emitting materials, or performing other activities that affect IAQ in other work spaces.
  - o All active areas of work are isolated from other spaces by sealed doorways or windows or through the use of temporary barriers.
  - o Disposable tacky mats are used at all entryways to the construction area to reduce the transfer of dirt and pollutants. Mats shall be positioned inside the construction area, and shall cover the width of the entryway and be a minimum three (3) feet long in the direction of travel. Walk-off mats are to be replaced once tacky surface is completely used.
  - o Saws and other tools use dust guards or collectors to capture generated dust.

### 3.9.2 IAQ Testing Before Occupancy

Baseline IAQ testing is to be conducted after construction ends and before occupancy, using testing protocols consistent with the United States Environmental Protection Agency “Compendium of Methods for Determination of Air Pollutants in Indoor Air”.

Test results must demonstrate that the contaminant levels listed in the table below are not exceeded. If the levels are exceeded, the project team must take remedial action and repeat the test until all requirements have been met.

**Table 8 – IAQ Testing**

Chemical Contaminant	Maximum Concentration
Formaldehyde	27 ppb
Particulate Matter (PM2.5)	15 ug/m3
Particulate Matter (PM10)	50 ug/m3
Total Volatile Organic Compounds	500 ug/m3
Ozone	51 ppb
Carbon Monoxide ( CO)	9 ppm and no greater than 2 ppm above outdoor levels

*Note: Required only if carpets with Styrene Butadiene (SB) latex backing materials are installed*

### Recommended Best Practices

It is recommended that the project team incorporate the following sections of the Sheet Metal and Air Conditioning National Contractors Association (SMACNA) IAQ Guidelines for Occupied Buildings under Construction, Second Edition (2007), ANSI/SMACNA 008-2008, into the project Indoor Air Quality Management Plan.

- HVAC Protection
  - o If conditioning is required during construction, use supplementary HVAC units instead of permanently installed equipment if possible.
  - o If permanently installed HVAC system must be used during construction, install filtration to protect the return (negative pressure) side of the system. Replace these filters regularly during construction.
  - o Do not store materials in mechanical rooms, to reduce potential debris and contamination to mechanical systems.
- Source Control
  - o Use low-toxicity and low-VOC materials to the greatest extent possible.
  - o Develop protocols for the use of any high-toxicity materials. Isolate areas where high-toxicity materials are being installed and use temporary ventilation for that area.



- o Protect stored materials from moisture because absorbent materials exposed to moisture during construction can mould and degenerate long after installation. Store materials in dry conditions indoors, under cover, and off the ground or floor.
- o If materials are improperly exposed to moisture, replace the material and consider testing air quality before occupancy to make sure no mould contamination has occurred.
- Pathway Interruption
  - o Depressurize the work area to allow a differential between construction areas and clean areas. Exhaust to the outdoors using 100% outdoor air, if possible.
- Housekeeping: Maintaining a clean job site results in fewer IAQ contaminants to manage.
  - o Maintain good job site housekeeping on a daily basis. Use vacuum cleaners with high-efficiency particulate filters and use sweeping compounds or wetting agents for dust control when sweeping.
  - o Keep materials organized to improve job site safety as well as indoor air quality.
- Scheduling: Sequence construction activities to reduce air quality problems in new construction projects. For major renovations, coordinate construction activities to minimize or eliminate disruption of operations in occupied areas.
  - o Keep trades that affect IAQ physically isolated on site and separated from each other by the construction schedule. For example, schedule drywall finishing and carpet installation for different days or different sections of the building.
  - o Install absorptive-finish materials after wet-applied materials have fully cured whenever possible. For example, install carpet and ceiling tile after paints and stains are completely dry.
  - o If applicable, plan adequate time to conduct a flush-out and/or perform IAQ testing before occupancy.

### 3.9.3 Submittals

The landlord reserves the right to request and review supporting documentation that demonstrates that the mandatory requirements have been specified and implemented.

The following documentation must be collected throughout the project and submitted to Cadillac Fairview upon project completion.

Upon project completion, the project team must provide the following documentation to the landlord:

1. At least six (6) photographs demonstrating the IAQ measures that were implemented during construction
2. Filter data sheets indicating the MERV rating that was installed during construction
3. Air quality test results demonstrating the project is below the air pollutant thresholds noted above



### 3.10 Energy & Water Efficiency

Commercial office interior renovations include the installation of mechanical and electrical systems and devices that are beyond base building supplied standards. These include: pot lighting, LED lighting, boardroom/conference room A/V equipment, supplemental air conditioning units, fan coil units, televisions, computer equipment, lavatory fixtures and kitchen appliances such as stoves, refrigerators, and toasters.

Using energy efficient technologies can significantly reduce electricity and water consumption. This ultimately results in lower operating costs.

#### Recommended Best Practices

- Lighting control systems, including daylighting control and occupancy sensor lighting controls
- For Energy Star eligible appliances, select models that are Energy Star certified
- Reduce connected lighting power density by 5% below ASHRAE 90.1-2010 using the space-by-space method or by applying the whole-building lighting power allowance to the entire tenant space
- Provide a separate control zone for each solar exposure and interior space
- Provide controls capable of sensing space conditions and modulating the HVAC system in response to space demand for all private offices and other enclosed spaces (e.g., conference rooms, classrooms)
- Training sessions/seminars for the project team and leased space occupants for equipment and system(s) use
- Thorough design and planning of expected occupancy demands
- Commissioning of all new (and if applicable, existing) equipment and systems
- Low/Ultra low flow lavatory and kitchen fixtures (water closets, faucets, etc.) that consume no more than:
  - o WCs 1.6 gpf/6 Lpf
  - o Urinals 1 gpf/3.8 Lpf
  - o Faucets 0.5 gpm/1.9 Lpm @ 60 psi
  - o Showerhead 2.5 gpm/9.5 Lpm @ 80 psi
  - o Any newly installed water closets, urinals, or showerheads should be WaterSense labelled.

#### 3.10.1 Submittals

The landlord reserves the right to request and review supporting documentation that demonstrates that these measures have been specified and implemented. Upon request, the project team must provide relevant product cut sheets and engineering specifications.



## PART 4: BUILDING STANDARDS

This part provides design information and guidance for RBC Centre. Please review all the information closely to ensure that project drawings comply with the landlord’s established standards and recommendations.

Note: These are general guidelines that should be confirmed by each tenant for their premises

### 4.1 General Building Information

Table 9 provides general information about RBC Centre. The project team may obtain additional information available online at [rbccentre.ca](http://rbccentre.ca).

**Table 9 – General Building Architectural Information**

Building	Storeys Above Grade	Crossover Floors	Building Sprinklered	Length of Fire Hose in Cabinets
RBC Centre	42 above grade	Podium: 3, 8	Yes	100 ft.
155 Wellington St W	3 below grade	Tower: 2, 7, 12, 16, 21, 26, 31, 36, 41		

### 4.2 Architectural Finishes/Features

#### 4.2.1 Ceilings

The base building standard for the ceilings is exposed concrete. Tenants have an option to install T-bar ceiling systems and acoustical lay-in ceiling tiles, or a gypsum board ceiling should they choose to do so.

Drilling and mechanically fastening or applying adhesive to the exposed concrete slab is not permitted unless authorized by the Landlord. Also, refer to Section 5.2.3 Structural Drawings.

After removal of existing partition walls, mechanical pipes or ducts, in cases where the concrete surface is to remain exposed within the space, the contractor must patch and make good the concrete surface where said partition walls, pipes, or ducts were attached, per Landlord’s specifications. In cases where Tenants install additional exposed infrastructure, the Contractor must ensure all such infrastructure is painted to match base building standards.

#### 4.2.2 Base Building Doors & Frames

Entrances to electrical rooms, janitor rooms, washrooms, stairways, etc., will be hollow metal doors in pressed steel frames, painted to base building standard.

#### 4.2.3 Tenant Doors & Frames

For all suite entrance doors for leased premises on multi-tenant floors, the project team must submit a paint sample to the landlord's project manager for approval.

Before construction starts, the project team must apply CGI White Opaque Privacy Film to the interior face of all glass doors visible from common area corridors. The film may be removed after the construction work is completed.

All locks installed by the tenant at entrance and interior doors must be keyed to the Building Master Keying System. The system allows the tenant complete freedom to lock offices, while concurrently providing access to each office at all times for both normal cleaning and emergency situations.

The landlord's Locksmith maintains the master keying system and keeps key coding and distribution records. Tenants are strictly forbidden to engage external locksmiths or lock manufacturers to change the keying of any locks.

For further information on the required locksmith, please contact CF Connect.

#### 4.2.4 Demising Walls

All interior demising walls shall be constructed with metal studs, acoustic insulation and gypsum wallboard running from the raised floor to the underside of the ceiling.

The partitions that separate one tenancy from another will be acoustically attenuated from the suspended ceiling to the underside of the structural slab.

All services penetrating demising walls are to be fire stopped in accordance with all relevant building codes and standards. In cases where the tenant's work uncovers/encroaches on areas that do not comply with this requirement, the tenant is responsible, at their sole expense, to ensure that such elements do comply.

#### 4.2.5 Automated Blinds and Light Shelves

RBC Centre has automatic blinds and light shelves along the perimeter windows on each floor. These units are controlled by Building Operations, and can be adjusted as necessary if tenants reach out to [cfconnect@cadillacfairview.com](mailto:cfconnect@cadillacfairview.com).

The automatic blinds are programmed to respond to exterior light conditions. The light shelves automatically adjust themselves throughout the day in order to diffuse more light onto the ceiling and create a brighter, more open space.

#### 4.2.6 Exterior/Perimeter Walls and Interior Columns

To maintain the integrity of the building vapour barrier, it is strictly prohibited to penetrate the interior surface of exterior wall assemblies or of window frames and mullions. Partitions abutting a mullion shall be sealed with double-sided closed-cell PVC tape and a partition kit. Similarly, tenants are not permitted to penetrate (or apply adhesive to) the surface of interior base building columns.

#### 4.2.7 Signage

Tenant identification signs on main floor/lobby directories, elevator lobbies, and adjacent to tenant entrance doors must conform to Cadillac Fairview's design criteria, including for style, location and size.

Tenants must submit a written request for signs to the Property Management Team approximately one month before the date the signage is required. The request should indicate the exact wording and spelling required. The cost of tenant signage is charged to the tenant's account.



#### 4.2.8 LAN Rooms and Associated Equipment

The maintenance and monitoring of tenant-owned equipment (including A/C units) and LAN rooms shall be the tenant's responsibility. Cadillac Fairview does not monitor LAN rooms on behalf of tenants, and alarm points are not permitted to be wired into the Building Automation System. All units using a condensate pump shall be wired such that if the condensate pump fails, the air conditioner cannot run.

Tenants shall, at their sole cost and expense, ensure that the following is in place for their respective LAN rooms and equipment:

1. Tenants shall enter into an equipment maintenance contract with an approved mechanical contractor to regularly service tenant A/C units according to manufacturer recommendations.
2. Tenants shall contract with a third-party monitoring company to monitor conditions within tenant LAN rooms.
3. Tenants shall contract with an approved mechanical contractor to respond on an emergency basis to any alarms or other equipment issues within tenant LAN rooms.
4. Any domestic cold water back up system for tenant cooling equipment must be equipped with a separate meter, at the tenants expense.

#### 4.2.9 Control Systems

The project team must submit all control system modifications to the landlord before construction. This is to verify compatibility with base building standards.

All new and existing controls in renovated areas are to be verified and/or commissioned for proper operation. Commissioning is mandatory and is handled by the RBC Centre base building commissioning agent. See RBC Centre Required Contractors/Consultants in Table 3. Table 11 provides information about the RBC Centre's control systems.

#### Table 11 – RBC Centre Building Control Systems

- Electronic VAV boxes
- Electronic induction unit valves
- Integrated lighting controls with phone codes

#### 4.2.10 Communication Trunk

The project team may obtain the communication trunk layout for the Building Automation System (BAS) from the landlord. Any additions to these systems must be documented and reflected in revised drawings, then returned to the landlord before tenant occupation. All communication wiring must be colour-coded for identification purposes.

Requests for BAS passwords are to be directed to CF Connect, through a Service Work Permit.

#### 4.2.11 Smoke Mode

Before whole-floor demolition, smoke damper lines must be capped in the riser room at the solenoid. After demolition, the smoke lines must be made safe and tested for air leaks.

These activities must be coordinated by the contractor and relevant subtrades, and a signed, written statement must be submitted to the landlord confirming that the smoke system was made safe.

### 4.3 Structural

#### 4.3.1 Typical Floor Design

Approximately 24,500 square feet to up to 26,400 square feet

Ceiling: Exposed concrete with option for conventional ceiling tile system

Ceiling heights: 11 feet 2 inches (exposed ceiling), 9 feet 3 inches (suspended ceiling)

Planning module: 5 feet

Bay size: +30 feet (typical)

Window size: 5 feet wide

Floor Loading: live load of 80lbs/ft<sup>2</sup> and partition load of 20lbs/ft<sup>2</sup> in office area

Core to window depth: 48 feet 7 inches

Raised floor height: 18 inches

Situations requiring unusually heavy loading, such as central filing areas, high-density file storage units, storage areas, vaults, and safes, must be specifically indicated on the project drawings with the calculated additional tenant loads clearly stated. Plans for such situations are subject to the approval of the landlord's base building structural engineer. Live loads may not exceed the load limit for the floor slabs without the landlord's prior approval.

#### 4.3.2 Base Building Structural Work

Any alterations and/or additions to the base building structure that may be required to accommodate the tenant's design shall be subject to the approval of the landlord and its base building structural engineer. The tenant's contractor may carry out this work (such as drilling, cutting, x-raying, coring), provided the landlord has approved of the contractor, but the landlord's base building structural engineer must supervise the work.

The tenant is responsible for all associated costs. If the landlord coordinates the work on the tenant's behalf, any costs incurred will be charged back to the tenant, plus a 15% administration fee.

### 4.4 Electrical Systems

#### 4.4.1 Metering & Specifications

The tenant is responsible for all costs associated with the installation of electrical and mechanical metering consumption devices for the entire leased premises. Submeters are required for all electrical services, including receptacles, lighting, and supplementary HVAC units.

The contractor is responsible for the removal of all redundant cabling to the original source. Cable layouts are to coincide with the original base building drawings. Modifications to the base building trench system, including cutting, drilling, and coring, are prohibited.

The landlord strongly recommends that each tenant install a dedicated electrical panel, as required. Please refer to the metering specifications for more information on metering requirements.

#### 4.4.2 Lighting & Lighting Control

The lighting system at RBC Centre consists of suspended linear T8 luminaires complete with electronic ballasts.

Lighting power at RBC Centre is 347 volts.

The tenant and/or the tenant's contractor are responsible for any and all costs for damages to lighting fixtures.

All tenant luminaires must be connected to the base building lighting control system. Alternatively, an occupancy sensor-based lighting control system in compliance with ASHRAE 90.1-2007 must be incorporated.



#### 4.4.3 Data, Communications & Telephone

To ensure and maintain the integrity of telecom spaces, including the Main Telephone Rooms (MTR), riser rooms, Distributed Antenna System (DAS) and rooftop, all tenant construction move in/out work affecting the property's common telecom spaces and tenant ceilings must be reviewed by the property management team, in advance of work taking place. The base building consultant must be engaged, to conduct pre-construction and post-construction inspections of all communication and data activity within the riser rooms. The tenant/contractor is responsible for all associated costs, and must submit drawings and any other requested documentation to the base building consultant for approval before the work may begin. All requests require a minimum of forty-eight (48) hours' advanced notice. All requests should be forwarded to CF Connect at [cfconnect@cadillacfairview.com](mailto:cfconnect@cadillacfairview.com). The Riser Room Access Request form is available at [rbccentre.ca](http://rbccentre.ca).

Any installations that require cabling to pass vertically through more than one (1) riser room and/or cabling that extends beyond riser rooms through the parking garage, concourse, or ground level will require a pre-construction site review. The pre-construction site review should consist of the onsite riser manager, the landlord, the contractor, and the tenant. Subsequent to the audit, the base building consultant will provide a written report outlining all findings. At the landlord's discretion, additional onsite review audits may be required at the tenant's/contractor's sole expense.

#### 4.4.4 Telecom Service Providers

Internet, telephone, and/or television service providers

- Zayo Group (Allstream)
- Beanfield
- Bell Canada
- Cogent
- Epik Networks
- Rogers
- Telus
- TeraGo

#### 4.5 Telecommunications Cabling

Cabling must conform to the standards as shown below. Specifically, all floor slab penetrations must be fire-stopped and smoke sealed. If a Contractor's work infringes on a conduit/penetration that does not comply with relevant codes and standards, it is the contractor's sole responsibility to ensure that measures are taken to meet these requirements. Non-compliant penetrations will be grandfathered; all work performed must be completely compliant.

- Work must be performed in a professional manner, adhering to standards such as those published by BICSI and local building and fire codes.
- Cables and innerduct/coreflex installed in the building's horizontal floor space will be plenum rated/FT-6, regardless of whether the space is plenum or not.
- Cables and innerduct/coreflex installed vertically throughout the building will be plenum rated/FT6/CMP, regardless of whether the space is plenum or not.

- Contractors will replenish the firestopping in the riser sleeves that are used to route the cables, regardless of the previous condition of the firestopping. If cores must be drilled, all penetrations (wall or floor) must be x-rayed and approved by the base building structural engineer before work may proceed. Contractors must also have a CF permit for x-ray and coring activities, via CF Connect, available on rbccentre.ca.
- All cables and innerduct/coreflex must be independently supported. Attaching cables and innerduct/coreflex to ceiling hangers, gas/water pipes, tenant cable tray, tenant j-hooks or resting cables over tiles and light fixtures is not acceptable. All cables and innerduct/coreflex must be properly supported and “strain relieved”.
- Vertical cables and innerduct/coreflex must be labelled on either end and on every floor, and horizontal cables and innerduct/coreflex must be labelled every 30 linear feet.
- Cables and innerduct/coreflex must be properly dressed.

If the contractor fails to implement the above guidelines, then they will be asked to perform remedial action to correct the deficiencies. Failing to take corrective action will result in the contractor being barred from performing any work on the property until all deficiencies are corrected.

All telecommunication work performed at RBC Centre must conform to the following codes and standards:

- ANSI/TIA/EIA telecommunications cabling standards
- Ontario Electrical Code (OEC)
- National Fire Protection Association (NFPA)
- Ontario Fire Code
- Ontario Occupational Health and Safety Act (provincially regulated companies) or Canada Labour Code Part II (federally regulated companies)
- Telecommunication standards and industry best practices as published by BICSI in the Telecommunications Distribution Methods Manual, Thirteenth Edition.

If the guidelines in this manual exceed the local building or fire codes, this manual is the governing document.

#### **4.5.1 Building Risers: Copper or Fibre Cables**

Contractors must install cables and innerduct/coreflex in a professional manner adhering to standards such as those published by BICSI and local building, electrical and fire codes.

- Cables and innerduct/coreflex installed in a building’s riser system must be FT-6 fire rated.
- Cables and innerduct/coreflex must be properly supported and “strain relieved”.
- Cables and innerduct/coreflex must be labelled on either end and on every floor.
- Cables and innerduct/coreflex must be properly dressed.
- Contractors will replenish the fire-stopping in the riser sleeves that are used to route the cables, regardless of the previous condition of the fire-stopping.
- Contractors will replace/repair fire-stopping where the cabling passes through a fire rated wall, floor or barrier.

Before any work can begin on any installations passing vertically through more than four (4) floors, the basebuilding service provider must review and approve drawings.



#### 4.5.2 Building Risers: Equipment

No active components requiring electrical power may be installed within the riser rooms. These spaces are common. They are intended to house equipment and components that serve base building systems and to deliver Telco services to the tenants.

Risers are to be left in “as is” or better condition. Contractors are required to sweep and/or vacuum and remove all debris/firestop material from core holes.

Contractors are required to remove all equipment, ladders, cable reels, cable boxes, and tools from the risers at the end of each shift. Nothing is to be stored in tenant space either.

#### 4.5.3 Building Floor Space: Copper or Fibre

Contractors must install cables in a professional manner adhering to standards such as those published by BICSI and local building and fire codes.

- Cables and innerduct/coreflex installed in the building’s horizontal floor space or overhead ceiling space will be plenum rated/FT-6, regardless of whether or not the space is plenum.
- Firestop shall be replaced/repared by the contractor/service provider where the cabling and innerduct/ coreflex passes through a fire-rated wall, floor or barrier.
- Cables and innerduct/coreflex installed in the buildings’ horizontal floor space must be labelled on either side of the walls the cable penetrates through.
- Overhead cables and innerduct/coreflex must be routed in conduit, cable trays or on J-hooks. Running cables over the ceiling tiles and light fixtures is not acceptable. Cabling must be supported independent of existing conduit/ threaded rod. Securing conduits or cabling to tenant cable tray or conduit will not be permitted as this could void the warranty on tenant’s network cabling.
- Cables and innerduct/coreflex must be properly dressed, supported and strain relieved.
- FT-4 rated cables and innerduct/coreflex can be used provided they are fully enclosed in metal conduit for the entire length of the run.

#### 4.5.4 Rooftop

- Fall Arrest and Working at Heights training certificates must be readily available upon request.
- Proper rooftop PPE (Personal Protective Equipment) including harness, lanyard, and other prescribed safety equipment must be worn at all times on the rooftop.
- Before leaving the site, contractors must ensure all openings on the rooftop are repaired to meet code requirements. This is to ensure no water, rodents or insects can enter the building.
- Service providers/contractors must ensure their rooftop installation conforms to the requirements of the latest published version of Safety Code 6.
- Cinder blocks are to be lashed together using a lashing product similar or equal to aircraft cable. Ideally, this cable should be connected at either end so it makes it difficult for one to remove it. The service provider is to carry enough ballast on the non-penetrating rooftop mount to meet code requirements based on the equipment based on the rooftop.



- All equipment and cabling on the rooftop must be clearly labelled as owner of the service along with who the tenant in the building using the service is (if applicable). It is the service provider's responsibility to provide labels that will last through all four (4) seasons of a typical year.
- Service providers must install sufficient grounding wire from their mast located on the roof to the nearest telecommunications grounding bar. Ground wire shall be labelled in each riser room.
- Service providers must implement a surge arrestor at the transition point between outside plant and inside plant copper cabling to allow for the installation of FT-6 rated cabling within the building.
- All contractors must sign Roof Waiver at the Loading Dock office before commencing work

#### 4.5.5 Outside Plant Work

The Telco provider is responsible for designing, engineering and obtaining permits for outside plant work, which details conduits and telecommunications cabling outside of the building.

RBC Centre Management will review and approve the Final Entrance Facility location. The contractor designing the work shall provide all drawings to Cadillac Fairview for comment and review. The base building consultant will review the drawings and provide onsite project management at the base building consultant's current billable rate.

#### 4.5.6 Pathways

Pathways are spaces that allow telecommunication cabling to run from a source to a destination location. These spaces consist of conduits and sleeves. Pathways can be installed through parking levels, concourse levels, lobbies, riser rooms, and common areas.

RBC Centre's specific requirements for pathways are as follows:

Telecommunication cabling shall be installed within conduits located in the parking garages, concourse levels, and common areas extending from the riser room to a tenant suite. Cabling is permitted to be run free air within the riser space, provided that best industry practices are followed and the installation conforms to section 2.0 Cabling. The owner is responsible for fixing and/or replacing any damaged cable running free air within the property. RBC Centre will not be held responsible for any damages done or revenues lost.

Should the tenant or Telco provider want to install conduit within the riser, they should submit their plan to the onsite riser manager for review and approval. We recommend that the conduit be sized for expected growth.

Conduits, connectors, couplers, pull boxes, and covers located in the parking garage area and throughout other common visible areas must be painted powder coat white; no other form of paint will be accepted. Painting must be done off site.

Conduits and cabling must be labelled on both sides of walls and floor penetrations, and at both ends of a termination point. Labels shall clearly identify the ownership of the conduit. RBC Centre also recommends adding items such as source and destination locations as well as contact phone numbers.

Labels on conduits running horizontal shall be placed approximately every fifteen (15) linear feet. Conduits running vertically in the riser system shall be labelled in two places: near the top in the middle at eye level, and near the bottom close to the core hole.

Any pre-existing conduits that are not currently labelled and have a single ownership should be labelled with the company who owns the pathway. Common pathways with multiple ownerships do not need to be labelled.



Any type of x-raying, scanning, or coring must have a permit submitted to CF Connect and approved by the RBC Centre management team. The project manager must book a site review by RBC Centre Operations personnel to confirm core locations and obtain approval before submitting a permit form. Permit forms can be downloaded from the RBC Centre website from the Manuals, Forms & Permits section [www.rbccentre.ca](http://www.rbccentre.ca).

All concrete structures require x-raying before any core drilling or cutting takes place. The tenant's contractor is required to use a RBC Centre preferred contractor for this work. Both the base building structural engineer and the preferred contractor can review the work at the same time. No cutting of the structural steel and/or rebar shall be permitted or tolerated. Damage may result in fines and additional repair costs. The contractor is to have available on request a copy of the x-ray for the RBC Centre representative to review.

The contractor is responsible to ensure that all vertical and horizontal holes that their pathway and/or cabling passes through are correctly fire-stopped.

Where the cabling enters into a conduit or connector, the contractor is responsible to provide fire-stopping of the conduit as well as the hole the conduit passes through in the fire rated wall.

RBC Centre requests that contractors wear white gloves and take great care in handling the ceiling tiles when doing work on the concourse level ceiling tiles. If ceiling tiles are damaged, RBC Centre will request the contractor performing the work repair and/or replace the ceiling tile.

#### **4.5.7 Spaces (Telecommunication Equipment Locations)**

Spaces include accumulation panels, passive equipment, active equipment, Telco gear, tenant telecommunication rooms or tenant gear.

RBC Centre's requirements with respect to spaces are as follows:

No active components requiring electrical power shall be permitted to be installed within the riser rooms. These are common spaces, and intended to house equipment and components that serve base building systems, as well as deliver Telco services to tenants.

Tenants are permitted to install demarcation extension cables inside riser rooms or to gain access to the cellular floor system only. Under no circumstances are tenants permitted to install or terminate any station cabling within these riser rooms or to place active gear there.

Telco providers are permitted to set up Point-Of-Presence (POP) spaces within the RBC Centre. These spaces require design drawings from an engineering firm. Telco providers setting up these spaces are required to contact the base building consultant to perform site review services. These site review services are billable back to the Telco provider at the base building consultant's current rates.

Consultants and designers are required to obtain the services of base building consultant whenever a piece of hardware is to be installed or mounted within the riser room. The base building consultant will provide RBC Centre's recommendations in writing, and they will be located and assign the required amount of space. These site review services are billable at the base building consultant's current rates.

If any contractor fails to adhere to the above guidelines, they will be asked to perform remedial action to correct the deficiencies. Further, any contractor who fails to take corrective action will be barred from performing any work on the property until all deficiencies are corrected.

#### **4.5.8 Distributed Antenna System (DAS) - Riser Rooms, Common Areas and Tenant Space**

Rogers has installed wireless infrastructure within the property, referred to as Long Term Evolution (LTE) standard. To ensure the integrity of the DAS throughout the designed lifespan, it is important that contractors performing work on behalf of the tenants are aware of the system components and the process involved in the removal or relocation (if necessary) of infrastructure.

In the event of a tenant renovation, back-to-base project, or new build-out, the property's project manager must be informed that there is DAS infrastructure located within the project construction area. At that point, the landlord's project manager will notify the base building consultant who will then coordinate the removal and relocation of the DAS equipment.

The costs associated with the relocation and coordination of DAS infrastructure will be billed back to the tenant or the general contractor/contractor performing the work on the tenant's behalf. Service providers/contractors must ensure their DAS installation conforms to the latest published version of Safety Code 6.

#### **4.5.9 Return to Base Building - Cable Abatement Management & Control**

To comply with fire codes, all abandoned cabling within the complex and in the riser rooms is to be restored to its originating source. The base building consultant can assist the tenant with cable audit and abatement activities.

Should the tenant/general contractor/landlord request the base building consultant's services, the base building consultant will provide a Proposal for an Audit and Abatement for removing all abandoned cabling for the floors involved in the back-to-base project. Cable abatement activities are billable back to the last tenant unless other arrangements have been made with the landlord.

The base building consultant recommends that the following parties attend the site review meeting: base building consultant, the building operator, tenant representation, consultants, engineers, and the contractor performing the work. These parties will walk through the scope of work and collaborate on how the scope of work will be or has been conducted. Once the site review is completed, the base building consultant will provide a Site Review Report to all parties who attended.

#### **4.6 Power**

Capacity for the wiring of power and telephone systems is provided by means of an under-floor raceway system. Power for duplex outlets at 120/208 volts is available on each floor at a design capacity of two (2) watts per square foot of leased space. The tenant is solely responsible to supply, install and connect outlets.

#### **4.7 Fire Alarm System**

RBC Centre uses the Siemens MXL Fully Addressable Two Stage Fire Alarm System.

During the construction phase, the tenant's contractor is responsible for any and all costs associated with deleting, reprogramming and re-verifying all devices, due to modifications at both the beginning and end of the renovation. These services can be carried out by a base building contractor only.

During tenant build-out, all additional fire alarm devices are to be installed as per ULC S524, Installation of Fire Alarm Systems and Ontario Building Code. These new devices will be tested under ULC S536 and verified under ULC S537.

The Manager, Security and Fire & Life Safety will review and approve all drawings.



## 4.8 Elevators

The recommended base building elevator contractors are the only contractors permitted to undertake work involving elevator modifications, such as to destination dispatch, call buttons, cab indicators, doors and frames. The tenant is responsible for any and all costs related to elevator modifications.

## 4.9 Mechanical Systems

### 4.9.1 Heating, Ventilation, & Air Conditioning (HVAC) Systems

All utility consumption equipment for tenant-installed, non-base-building space must be metered as per RBC Centre's metering specifications.

To maintain maximum efficiency, the following must be observed:

1. Furniture cannot be placed in any way over top of the perimeter grilles or floor diffusers to restrict or disturb supply airflow.
2. Sufficient space between the window and tenants furniture layout needs to remain to allow for servicing of the HVAC system, blinds, and light shelves. Tenants are to submit their layout plan to the Landlord for review, prior to installation, for the Landlord to provide feedback and approval.

HVAC is provided by the raised floor system, all air is circulated below the floor tiles.

Chilled water is available for tenant supplemental cooling and must be properly metered as per the metering specifications.

### 4.9.2 Plumbing

Tenants and their contractors must carefully consider plumbing installations. They must select the appropriate material: Plastic piping will not be permitted, including for coffee maker supply lines, water filter systems, refrigerators, and other applications.

Below are the requirements for plumbing installations:

- All chilled water piping must be installed with black steel pipe, complete with isolation valves.
- Type K copper is required for plumbing installations where the flow is under pressure.
- Type K copper is required for all restroom facility installations, including toilets, urinals and faucets.
- The appropriately specified type, as mandated by codes having jurisdiction, engineering design, or experienced professional judgment, must be used.
- All kitchen sink drains must be equipped with strainers/filters.
- Stainless steel flexible braided hoses to supply dishwashers.
- Garburators are not permitted.
- Grey water pumps are not permitted.
- The sanitary lines must be insulated completely with PVC jacketing and must be heat traced.

#### 4.9.4 Plumbing & Drainage

All plumbing material must be CSA/ULC approved. Subject to the landlord's approval, plumbing tie-ins to the main domestic cold-water supply and connections to the sanitary drain and vent risers are provided to allow for the addition of a limited number of private washrooms in leased premises. For these washrooms, the tenant's consultant is responsible to ensure that floor drains are added and properly sloped. Tenants requiring hot water for kitchens must provide hot-water tanks.

All hot water tank installations are to be completed with 2" deep indirectly drained drip pan, to fully cover the installation area, including isolation valves and all tank piping connections. Leak detector and solenoid shutoff assembly to be installed, with leak detector in drip pan connected to solenoid shutoff on incoming domestic cold water. Solenoid valve is to be located such that it cuts off the water supply to all fixtures/equipment, to fail closed and with no connection to base building BAS.

#### 4.10 Metering Specifications

##### 4.10.1 Tenant Responsibilities

The tenant is responsible for providing drawings and site access, as required, so the landlord can verify meter specifications and installations completed by the tenant. The landlord will also require ongoing access to tenant space for meter readings and calibrations. The tenant is responsible for all costs, including to supply, install, wire, program, and commission all electrical and mechanical metering consumption devices for the entire leased premises as per the requirements below.

##### 4.10.2 Utility Meter Requirements

Tenants must install utility sub-meters for all utility services beyond base building services (which include HVAC, standard washrooms and common area lighting). Tenants on multi-tenant floors must be individually sub-metered for consumption; they may not share with other tenants on the floor.

Please see Table 12 below for minimum meter requirements for utilities. Detailed manufacturers' specifications for each specific utility meter type can be found later in this section.



**Table 12 – Minimum Meter Requirements for Utilities**

Utility	Minimum Meter Requirements
Electricity	<ul style="list-style-type: none"> <li>• All tenant electricity consumption, including plug and lighting</li> <li>• Tenant-installed lighting and all plug loads in leased storage areas</li> </ul>
Water	<ul style="list-style-type: none"> <li>• Office floor serveries: two (2) or more serveries per floor or greater than 10% of the usable area on the floor</li> <li>• Storage area water use</li> <li>• Showers</li> <li>• Laundry, car washing</li> <li>• Fountains irrigation</li> <li>• Humidification</li> <li>• Domestic water backup cooling</li> <li>• Cooling tower water</li> <li>• Retail food or beverage business</li> <li>• Dental offices or other high-consumption, non-food retail</li> </ul>
Chilled Water	<ul style="list-style-type: none"> <li>• LAN/Server room cooling</li> <li>• Condenser water</li> <li>• Tenant-installed supplemental cooling units</li> </ul>
Natural Gas	<ul style="list-style-type: none"> <li>• All direct tenant gas consumption</li> </ul>
Steam	<ul style="list-style-type: none"> <li>• All direct tenant steam consumption</li> <li>• Contact Building Management</li> </ul>

Meters must be accessible. The preferred location is in common areas with access hatches if required. Meters should be installed as per ASME standards for orientation at the nearest suitable location downstream of the base building riser. Please refer to the manufacturer's specifications regarding straight pipe distance requirements for meter installation details.

All meters will include the pulse output modules available as per the specifications and be wired to the base building via the Building Automation System (mechanical) or Intellimeter (electrical) monitoring system.

The base building controls contractor will perform the BAS programming at the tenant's cost. Meters should be programmed so that the meter billing report includes programming details and daily and monthly trending reports.

For programming DCW, steam and gas meters, the tenant shall provide the following information to the base building BAS contractor:

- Network Engine (NAE)
- Field Controller (FEC)
- Physical Point (BI-7 or BI-8)
- Pulse Constant

For CHW consumption meters, the tenant shall provide.

- Network Engine (NAE)
- Address of Meter on Bus

Tenants are also to provide the following information about their sub-meters: Meter type, serial #, model #, cutsheet, and a drawing illustrating the location of the installed meter.

Meters shall be labelled in the field and on the BAS.

The approved base building commissioning agent will commission and calibrate all meters as per the manufacturer's specifications. The project team is required to include a Meter Addition Information Work Sheet with the project closeout documentation.

#### **4.10.3 Electrical Meter Specifications**

Electronic metering and sub-metering requirements, equipment, and services must be supplied by Intellimeter.

Fidel Gonzales

(E) fgonzales@intellimeter.com.mx

(T) 905-839-9199 ext. 225



## 4.12 Fire Protection

### 4.12.1 Sprinkler, Fire Hose & Cabinets

Each floor at RBC Centre is equipped with fire hose cabinets (FHCs), portable fire extinguishers, smoke detectors, and automatic sprinkler systems. Podium floors have interior window sprinklers around the perimeter. As well, every floor has an alarm valve.

With the approval of the Manager, Security and Fire & Life Safety, tenants may add additional FHCs. Tenants are responsible for the cost and must submit drawings for review before beginning the work.

All existing tenant FHCs will be reviewed for the installation of a new/newer 1 ½” PRV valve and new valve on the 2 ½”. This replacement is a RBC Centre base building standard.

Our consultants will review all existing tenant FHCs to determine if the PRV valves should be replaced.

Siemens must inspect and certify any fire alarm device that has been replaced, modified or altered, as per ULC S537.

### 4.12.2 Design Guidelines – General Requirements for Office Floors

#### 4.12.2.a Manual Pull Stations

- Any fire alarm manual pull station that has been replaced will remain in its existing location, provided it is within ULC S524 requirements of 1400 mm.
- New fire alarm manual pull stations are to be installed at 1200 mm.
- Manual pull stations installed at mag locks require local release.

#### 4.12.2.b. Smoke Detection

All building electrical and telephone rooms must have a smoke detector as per ULC S524 requirements.

- All sides of the openings of interconnected areas, such as internal stairs, require smoke detection devices. Signal sequence programming must be altered to provide signal operation to all interconnected floor areas.
- New or relocated smoke detection wiring with the floor areas must be FAS 90 Cable in EMT with flexible connections to each device not exceeding five (5) feet.

#### 4.12.2.c Floor Areas Smoke Detection

- All common office floor areas and public corridors require smoke detection as per ULC S524 requirements
- In a 30-foot x 30-foot area, coverage is to be 900 sq. ft. per device.
- In corridors no wider than 10 feet, coverage should be no more than 20 feet from the end wall and no more than 40 feet apart.
- Devices are to be programmed as supervisory input to the fire alarm system.
- New or replacement smoke detection wiring within the floor areas must be FAS 90 Cable in EMT with flexible connections to each device not exceeding five (5) feet.
- Area protection is not required in spaces such as individual offices, conference rooms, boardrooms, kitchen, and washrooms with an area less than 900 sq. ft.



#### 4.12.2.d Voice Communication Speakers

- All speakers are to match existing floor speakers. Any painted speaker is to be replaced.
- Speakers are to be 70V, tapped at 0.5 watt.
- General open office coverage is 30 feet x 30 feet.
- Speakers must meet minimum audibility requirements of 65dba.
- Note that sound will not carry from an open area or corridor through a door to an office or through two sets of doors to a back room. Speakers would be required in each room.
- New or relocated speaker wiring within the floor areas must be FAS 90 Cable in EMT with flexible connections to each device not exceeding five (5) feet.

#### 4.13 Chilled Water

Victaulic couplings are not permitted on any chilled water at RBC Centre. All couplings must be welded.

#### 4.14 Perimeter Grilles

Unless otherwise approved by the landlord, perimeter grilles are to be base building standard. Furniture or equipment is not to be placed on perimeter grilles. Tenants will be charged for any replacements required.

For service and maintenance, the landlord must have complete access to the perimeter units.



## PART 5: TENANT DRAWINGS

### 5.1 General

All drawings should be sent to the Property Management Office or your designated Project Manager.

#### 5.1.1 Drawing Review Process – Limited to Base Building Systems

Drawing review by the landlord and its base building consultants is limited to the impact of the proposed design on the base building systems.

The review process does not verify or consider whatsoever the adequacy of the design in relation to applicable and/or relevant building codes, standards, tenant requirements, etc. The tenant's design team is responsible to consider and/or verify the adequacy of the design against applicable and/or relevant building codes, standards, tenant requirements, etc.

As well, the review process does not consider whatsoever the functionality or performance of the designed systems in the installed condition.

#### 5.1.2 Landlord's Right to Request Additional Information

The landlord reserves the right to request additional information, to define or clarify any item, before giving approval.

If a tenant fails to observe any RBC Centre requirement when preparing drawings, the landlord or the landlord's base building consultant may request revisions and resubmission.

The landlord also reserves the right to alter any section of this Design & Construction Manual information without notice, which may require the tenant to make a further submission.

#### 5.1.3 Notice Required and Turnaround Time

The landlord requires up to ten (10) business days to review drawings and provide comments and/or approval. Any revisions to the approved drawing set must be re-submitted for subsequent approval. Resubmissions also require up to ten (10) business days for review.

When submitting drawings, the tenant and/or the tenant's design team should consider the turnaround time, and plan accordingly. The landlord will not be held responsible for any delays in the project that may result from tardy or incomplete submissions or drawings requiring resubmission.

#### 5.1.4 Fees for Drawing Review

Drawing reviews carried out by any of the landlord's base building consultants will be subject to a fee. Such fee will be charged back to the tenant, plus a 15% administration fee, as per RBC Centre's standard lease agreement. Below are approximate fees for drawing review (subject to change based on project size and complexity):

Architectural	Approximately \$700/drawing set
Electrical	Approximately \$900/drawing set
Mechanical	Approximately \$900/drawing set
Telecom	Approximately \$700/drawing set
Structural	Approximately \$700/drawing set

Actual fees will be invoiced to the Tenant after review complete. Should the tenant elect to engage any base building consultant, the corresponding fee shall be waived. If, during construction, the landlord deems it necessary for the base building consultant to verify the work in progress, the additional cost of this review will be charged to the tenant in full plus the 15% administration fee.

## **5.2 Drawings Submission & Review – Office Space**

### **5.2.1 Drawings and Specifications**

The tenant is responsible for submitting the following to the Tenant Projects department:

1. One (1) electronic set of all project plans (REVIT, CAD & PDF) issued for tender and related documentation in one complete package
2. Complete architectural, structural, mechanical, sprinkler, electrical, building-automation, security system and life-safety system drawings
3. Specifications and drawings must show:
  - all proposed work including external hoarding and dust mitigation.
  - compliance with Authorities Having Jurisdiction (Ontario Building Code and Accessibility for Ontarians with Disabilities Act).
  - all parts of the base building system that remain unchanged and the new HVAC, Plumbing, Sprinkler and Electrical (Power, Lighting) tie-ins;
  - Tie-ins and extensions to base building security, fire alarm and communications systems.

### **5.2.2 Environmental/Sustainable Document Submissions**

As part of RBC Centre's commitment to environmentally sustainable practices, tenants must submit the following additional documents with the drawing set:

1. Waste management plan for any and all construction debris
2. IAQ management plan
3. Material and product data sheets
4. Project schedule indicating when IAQ testing will take place

### **5.2.3 Structural Drawings**

Where the tenant's project has special requirements, such as high-density file storage areas or openings in slabs, the tenant should provide structural drawings prepared and stamped by a Registered Structural Engineer in Ontario. If the project requires openings of any kind (i.e., coring drilling) in the concrete floor, the tenant should contact the landlord's base building structural engineer in advance of submitting the drawings so the landlord's base building structural engineer can review and approve the proposed renovations. The landlord's base building structural engineer must review and approve all renovations having a structural impact. Tenant to provide structural design documentation prepared and stamped by a Registered Structural Engineer in Ontario for all Tenant elements supported by the existing base building structure above – floor slab, beams and columns. For example: sliding doors, audio/visual equipment (televisions, projection screens). The structural design must be approved by the Landlord and Authorities Having Jurisdiction prior to construction.



#### **5.2.4 Reflected Ceiling/Lighting Plans**

Reflected ceiling/lighting plans should include:

- Lighting layout, including fixture types and counts, pattern, materials and suspension details
- The locations of all access panels required to service building systems
- Life Safety Systems including Sprinklers.

#### **5.2.5 Floor Plans**

Where the leased premises occupy less than a full floor, plans must show the entire floor plan and identify the location of the premises and their relationship to the elevator lobby, exits, washrooms, etc.

Floor plans should include the following information:

1. Location of all major fixed elements within the leased premises dimensionally related to grid lines and demising partitions
2. Room names and uses, including the location and layout of rooms with unusual loading concentrations
3. Materials and finishes throughout the premises
4. Key Plan showing (a) travel distance to the nearest EXIT in compliance with Authorities Having Jurisdiction, and (B) distance to the nearest hose station which shows that every portion of the tenant space can be reached by a hose stream in compliance with Authorities Having Jurisdiction.”

#### **5.2.6 Approved Drawings**

The project team must keep a set of prints of the approved permit drawings on the premises for the duration of the construction period. A full set of City-approved drawings and permits must be available for reference purposes to the landlord’s authorized representatives.

### **5.3 Drawings Submission & Review – Retail Space**

A meeting with Cadillac Fairview’s Client Design and Delivery team and the property’s retail project manager is to be coordinated at the start of the project.

#### **5.3.1 Mechanical & Electrical Submission**

The mechanical and electrical drawings are to include all of the following:

1. Detailed ductwork layout, diffuser layout, and proposed location of thermostat(s)
2. Complete heat gain/loss calculations
3. Location and details of any required roof opening and related roof-mounted equipment
4. Sprinkler layout showing pipes, size and head location
5. Plumbing layout indicating fixture specifications, hot water tank, drains and any other equipment and materials
6. Single line riser diagram with an electrical load summary on the basis of watts per square foot showing connected and demand loads and electrical panel schematics

7. Location of all electrical equipment and light fixtures, including night, emergency and exit lights. Specify size, wattage, type and mounting with specifications that accompany each drawing
8. Location and details of electrical and mechanical meters as per the Meter Addition Information Worksheet

#### 5.4 Construction Dust Migration Minimization

In areas of construction that are open to the elevators (e.g., full floor construction), Pinchin's "RBC Centre - Construction Dust Migration Minimization" procedure is to be in place by the Tenant at their cost.

Please refer to section 5.4.1.

This is to be in place for the duration of construction. If there is no elevator lobby, then the contractor must install a temporary structure to allow for the implementation of the Pinchin procedure.

Sticky dust mats are also required going in and out of the poly enclosure, as well as at ALL elevators. These dust mats should be changed with regular frequency or at the request of the CF PM.

Regular vacuuming and cleaning of elevator sills with magnets is required. All costs for this dust migration procedure are to be borne by the contractor.

Diffusers: The round floor diffusers need to be covered during construction and will need to be cleaned at the end of construction. Do not leave the plenum open overnight (cover over), re-depressurizing the plenum airflow. Any access floor tiles that are removed must be replaced and the floor made air tight by 7:00 am.

Air Grilles on Walls: Need to be covered with orange filter material to prevent transfer of dust.

##### 5.4.1 Dust Prevention Description of Instructions

1. The following instructions are provided to prevent dust (generated by construction activities) from entering the elevator cabs and hoist ways during general construction activities of suite demising.
  - 1.1 Construct rip-proof polyethylene passage flaps across the entrance to the elevator lobbies.
  - 1.2 Construction is to be from floor to ceiling/deck. Overlap polyethylene flaps by a minimum of 12 inches.
  - 1.3 Flaps to be weighted at the bottom using pieces of 2 x 4 wood at least six (6) inches in length.
  - 1.4 Flaps are to remain overlapping and should not be propped open during regular construction activities on the floor.
  - 1.5 Should dust still migrate from construction floor to elevator lobbies, install negative air units on the floor, exhausting to the exterior of the building to redirect air flow from elevator lobbies.
2. The following instructions are provided to prevent dust generated by lobby construction activities from entering elevator cabs and hoist ways.
  - 2.1 Use existing polyethylene flaps at entrance to elevator lobbies, or install flaps to separate elevator lobbies from remainder of the floor.
  - 2.2 Install negative air units within elevator lobbies, which will exhaust out of the elevator lobbies and onto the adjacent floor.
  - 2.3 Number of negative air units will be determined onsite by amount of dust generated and by the air movement created by elevators.



## 5.5 Signage and Hoarding

### 5.5.1 Construction Signage

All signage is to be computer printed at a minimum font size of 20 point. Signage should be laminated and secured with non-visible means. Hand written notices are not permitted.

Note: Mechanical and electrical drawings are reviewed by the landlord's consultants. Tenants should direct any questions to these consultants.

### 5.5.3 External Hoarding

Any work outside of the leased premises must be enclosed by full-height drywall hoarding painted to match the surrounding finishes.

### 5.5.4 Retail Hoarding

The tenant is permitted to install its own storefront hoarding, provided the hoarding meets with the landlord's design criteria outlined below. Note: Complete hoarding install, including mudding, sanding and painting, is to be completed within a three-day time frame, without exception. Tenants must install Landlord approved graphics within three days of hoarding completion.

- Hoarding must be built to the underside of the ceiling. Avoid damaging ceiling finishes and perimeter electrical outlets.
- All corners and edges on hoarding are to be trimmed with 1"x 3" MDF.
- Hoarding is to be secured in place from the structure above demising walls, using two-sided tape.
- All hoarding, including trim, is to be taped, mudded and sanded. No screws should be visible.
- All hoarding, including door(s) and frames, are to be painted with one primer coat and two finish coats of White Interior Latex Eggshell.
- If the proposed hoarding will obstruct/conceal a fire hose cabinet, pull station or fire exit sign, the tenant is to coordinate any installation and/or removal of temporary fire hose/pull station/fire exit signage with the RBC Centre Fire & Life Safety team. Tenants must ensure that sprinkler heads are not blocked and can operate fully.
- Any damages to base building finishes, including walls and ceilings, are to be repaired by the tenant.
- All hoarding materials must be non-combustible. For example, Gypsum Wall Board with supporting steel studs"
- Tenant may be required to install vinyl graphics, subject to Landlord approval. Refer to 5.5.5 Retail Hoarding Graphics

The tenant is responsible for the cost of the hoarding.

### 5.5.5 Retail Hoarding Graphics

The tenant is responsible for the design and installation of all hoarding graphics. Tenant must submit proposed graphics to the landlord for review and approval prior to install.

The tenant is responsible for all associated design, production and installation costs.

The tenant is not permitted to tape or otherwise add any signs or posters to the hoarding.

## PART 6: CONSTRUCTION PROCEDURES

### 6.1 Pre-Construction

The landlord recommends that the tenant and the tenant's designer carefully review the information contained in this part before starting any work. This will help ensure that the tenant's submission package is complete, and allow the landlord to expedite any required revisions and approvals.

#### 6.1.1 General Requirements

##### 6.1.1.a Appointment of the Contractor

The tenant is required to engage its own contractors, and sub-contractors where applicable, for the purpose of carrying out its construction work. All contractors are subject to approval by the landlord and must:

- be in good standing with the provincial Workers' Safety & Insurance Board;
- ensure that the work performed by each unionized trade does not conflict with the work that other unionized trades are legally entitled to do by virtue of their collective agreements;
- use subcontractors for automation, mechanical, electrical and fire-alarm approved work that are familiar with the base building systems;
- use base-building-required contractors where directed by the landlord in this manual.

Please refer to the list of Experienced Contractors in Table 3 for contractors of various disciplines who are experienced with the RBC Centre's construction policies and procedures.

Note: The list of Experienced Contractors is meant to serve as a recommendation only. Cadillac Fairview assumes no responsibility whatsoever for the selection/use of any contractor, their workmanship, or their behaviour while working at RBC Centre.

##### 6.1.1.b Trades

For all project work at the RBC Centre, the tenant must employ contractors whose union affiliation is compatible with the landlord's contractors. This is because the landlord may be bound by collective bargaining agreements that require all labour employed in connection with any work to be performed on or in the premises to have union affiliations compatible with those collective bargaining agreements.

The tenant must employ contractors with the following union affiliations:

- Bricklayer and masonry work: Contractors bound to either the Provincial ICI Collective Agreement between Ontario Provincial Conference and the Masonry Industry Employers Council of Ontario; or the Brick and Allied Craftworker Union Provincial ICI collective agreement
- Carpentry work: Contractors bound to the Provincial ICI Collective Agreement with The Carpenters' Employer Bargaining Agency and The Carpenters' District Council of Ontario, United Brotherhood of Carpenters and Joiners of America
- Labourers work: Contractors bound to the Labourers ICI Provincial Collective Agreement with the Labourers Employer Bargaining Agency and Labourers International Union of North America, Ontario Provincial District Council

The tenant is solely responsible for all damages (and associated repair costs) that may result from its contractors' failure to comply with this requirement.

The tenant is permitted to use non-unionized trades only for painting, furniture moving/setting, and audio/visual installations/work.



### 6.1.1.c Required Documentation

The tenant must submit the following documents/information to the landlord's project manager, before any proposed work begins:

1. Written confirmation that landlord has accepted the tenant drawings/specifications
2. Construction schedule: Schedule must be provided in a Gantt chart format showing milestones and must be broken down by trade and the duration of the work
3. Confirmation that the base building consultant has approved all relevant drawings
4. Copies of all general contractors' health & safety policies, together with a letter indicating that their policy will provide blanket coverage for all sub-trades
5. All relevant RBC Centre permit forms, completed to the best of the contractor's ability. The most recent RBC Centre work permits can be obtained from [www.rbccentre.ca](http://www.rbccentre.ca).
6. Comprehensive contact Information, including emergency contact numbers and email addresses for all of the contractors' and subcontractors' employees designated to work on the project
7. A copy of all relevant City of Toronto building permits (e.g. architectural, mechanical, etc, including ESA permit)
8. A copy of the Notice of Project (if applicable)
9. A copy of the Health Department approval (if applicable)
10. Valid WSIB Clearance Certificate
11. SDS sheets (if applicable)
12. Certificate of Insurance with complete coverage and additional insured parties named.
13. A letter on signed company letterhead indicating that the contractor has read this entire document and agrees to abide by the terms and conditions as stated herein
14. A copy of the Hazardous Materials Assessment Report (DSS report) applicable to the work area (DSS)
15. Coordination with RYCOM for DAS antennas (if applicable)
16. A comprehensive list of all trades that will work on the project, including emergency contact information for each trade (i.e. cellular phone numbers)

### 6.1.1.d Health & Safety

The tenant and its contractor are responsible to ensure strict compliance with OHSA and any other applicable health and safety regulations. The tenant and its contractor shall take all necessary precautions to safeguard workers and the public from injury and accident, while preserving the integrity of all private and public property.

The landlord will visit the site regularly to review the project progress, workmanship, and general safety conditions, and to ensure that the work conforms with the landlord's contractors rules and regulations. The landlord reserves the right to issue a "cease work" order until any unsafe work conditions or practices are resolved.



### 6.1.2 RBC Centre Permits

To manage the daily activities throughout the tower, and to create a line of communication between the contractor and the facility operations, the landlord has created several permit forms.

Table 13 describes the various forms and when they should be used. To obtain any form, visit [rbccentre.ca](http://rbccentre.ca).

**Table 13 – Permit Forms Descriptions**

Permit	Description
Construction Work Permit	This permit must be filled out and submitted to the landlord prior to the execution of any work. In addition to the permit, a detailed Trades sheet must be attached. This sheet must provide the names and contact numbers of all personnel that will work on the project (i.e., general contractor and subtrade personnel).
Service Work Permit	This permit is used for service contracts between tenants and contractors. This form permits a contractor access to a tenant space to perform service and maintenance work.
Freight Elevator Requisition	This form is used to secure the exclusive use of the service elevator.
Hot Work Permit	This permit is used to notify the Fire & Life Safety department of any work for the purpose of welding of any type. A Fire Protection System Bypass permit must accompany.
X-Raying, Scanning and Coring Work Permit	This permit is used to schedule x-raying, scanning and coring work (typically for plumbing and electrical floor penetrations).
Fire Protection System Bypass Permit	This permit is used to notify the Fire & Life Safety department of any work on Fire Protection systems (i.e., sprinkler systems, fire alarms, etc.)
Building Systems Shutdown Request	This permit is used to notify the building team of any systems shutdown.
Riser Room Access Request	This permit is used to arrange riser room access

Tenants must submit permit forms to CF Connect. If a tenant requires clarification or assistance completing or submitting any permit form, please speak to the assigned Cadillac Fairview project manager.

In addition to the above, whenever a tenant wishes to reserve the service elevator, the tenant must submit a RBC Centre Elevator Requisition permit.

Failure to submit a completed permit application for any cited activities could result in a construction violation, and the tenant may be subject to a fine. Please see the Construction Violations section for further information.



### 6.1.3 Insurance Requirements

The contractor must provide evidence, in a form acceptable to the landlord, that the contractor has General Liability Insurance for a minimum of \$5M.

If a company is a subsidiary of another firm, the contractor must provide proof of adequate insurance, either in the form of an actual Certificate of Insurance, as outlined above, or a letter and Certificate of Insurance from the parent firm indicating acceptance of responsibility for the subsidiary's work.

Insurance coverage must include the names listed in Table 14 as additionally insured parties.

#### Table 14 – Additionally Insured Parties

The Cadillac Fairview Corporation Limited  
Ontrea Inc.  
Ontario Pension Board  
OPB (155 Wellington) Inc.

### 6.1.4 Construction Deposit

The landlord requires a construction deposit, from the contractor, payable by cheque made out to The Cadillac Fairview Corporation Limited (or CFCL) RBC Centre.

The size of the construction deposit depends on the size and complexity of the project. The landlord's project manager will advise the contractor of the exact amount of the deposit, which may be up to \$10,000.

The landlord will hold the deposit, with no interest accruing, until the landlord receives all close-out documentation.

Additionally, if for any reason the contractor fails to rectify any outstanding deficiencies at project completion, or repair any damage done to the RBC Centre premises, the landlord will use the deposit to execute the work on the contractor's behalf.

The landlord may also apply the construction deposit against any outstanding fine levied by the landlord for infractions incurred by the contractor during the project.

The landlord will refund any unused monies to the contractor.

**If complete close-out documents are not submitted to the Landlord within 6 months of project completion, the construction deposit will be forfeited.**

## 6.2 Construction in Progress

The following pages contain critical information for all contractors and subtrades working on the RBC Centre premises. All contractors and subtrades must abide by the policies, procedures, and guidelines contained in this manual. The tenant is also responsible to ensure that their project team abides by this manual.

### 6.2.1 Construction Access

Construction contractor(s) and sub-trade(s) are to access the RBC Centre via the freight elevators ONLY. They are to access ONLY the floor(s) where they are permitted to work. Failure to follow these access rules constitutes a violation under this manual, and the landlord will automatically issue a fine. The fine will increase by 50% for any subsequent violations.

### 6.2.2 Construction Hours

The tenant must communicate, agree on, and arrange working hours with the project manager.

Generally, office construction may take place within the leased premises during normal business hours – 0700 to 1900 hrs, Monday to Friday.

Known noise-generating work, such as demolition, hammering, drilling, cutting, and other sensitive work must be done outside normal business hours – generally between 1900 to 0600 hrs, Monday to Friday, and any time during weekends.

Sensitive work is defined as work that causes odours, vibrations, noise or other undesirable effects that, in the landlord's opinion, are objectionable or interfere with the safety, comfort or convenience of the building and its occupants.

Construction materials, supplies, equipment, and any other large scale deliveries must take place after normal business hours.

If at any time the landlord deems that work is sensitive, it reserves the right to immediately reschedule the work to the evenings, between 1900 to 0600 hrs at the tenant's sole expense and responsibility.

Note: Hours for noisy or smelly work may be modified due to the operation of neighbouring tenants and special events. Tenant is to contact landlord for further clarifications prior to pricing their work.

### 6.2.3 Temporary Services

The contractor is responsible for the distribution of temporary power and telephone service within the work areas.

Exposed electrical cords are not permitted outside the occupied areas.

### 6.2.4 Construction Services

Table 15 contains costing information for various services required in typical construction projects. The contractor must request these services via the RBC Centre Permit Forms found on the RBC Centre website.

Cheques must be made out to: The Cadillac Fairview Corporation Limited RBC Centre.

Cheques pertaining to sprinkler/standpipe system drain downs or H-tests must be hand delivered to a representative of the Security Team, or the assigned project manager, 72 hours in advance of the scheduled work.



### 6.2.5 Fire Alarm Bypass Procedures

Contractors submitting bypass permits must await approval from the Fire and Life Safety department before any work can begin. Prior to any work, the contractor must attend the Loading Dock Office. The contractor must call from the Loading Dock Office and initiate their bypass request. Only then may the contractor begin their work.

Upon completion of the work, the contractor must attend the Loading Dock Office again to cancel the bypass and return system to normal operation. Please note that bypass requests are not transferable; the same contractor that initiates the bypass must also restore it.

**Table 15 – Construction Service Costs**

Service	Cost
Hydrostatic Test	\$500/day*
Drain Down	\$500/day (includes HST)
Standpipe Drain Down	\$500/standpipe/zone/day
Cancellation of any of the above	50% refund of payment
Audit – Contractor Logs or Passcards	\$50/hour
Freight Elevator Requisition	No Charge

*Note: Required only if carpets with Styrene Butadiene (SB) latex backing materials are installed*

All cheques pertaining to sprinkler/standpipe system drain downs or H-tests must be hand delivered to the Cadillac Fairview Management Office, or a representative, 72 hours in advance of scheduled work. Cheques must be made out to The Cadillac Fairview Corporation Limited.

### 6.2.6 Shipping, Receiving, and Hoisting

Materials and equipment may be brought to the site via the loading dock and freight elevators ONLY. Contractors are strictly prohibited from using passenger elevators and escalators. Violations of this rule will result in fines.

The loading dock is located on west side of Simcoe Street, between Front Street West and Wellington Street West.

The loading dock can accommodate a maximum length of 53ft.

Tenants must reserve the freight elevators 48 hours in advance of intended use.

Small item delivery and pick-ups (such as office supplies) are permitted at the loading dock between 0600 and 1800 hrs. Deliveries and pick-ups are permitted at the loading dock between 0600 and 1800 hrs. Thirty (30) minutes are allowed for loading/unloading.

All large deliveries, including construction materials, furniture, etc. must be delivered between 1800 and 0600 hrs. Tenants require specific, prior permission to deliver construction materials to the loading dock Monday to Friday between 0600 and 1800 hrs.

Under no circumstances should the building waste compactor or equipment be blocked by bins or vehicles or be used for construction materials. Failure to comply with this rule will result in a vehicle ban and towing from the Loading Dock at the owner's sole expense.

Equipment and/or material deliveries to the construction site must be via designated routes. The contractor may not use landlord's equipment such as bins or dollies. Contractors are prohibited from moving material through the common areas between the hours of 0600 and 1800 hrs.

Any large deliveries to the main floor must first be reviewed by the Management Team for approval of delivery timing and weight load.

Pre-approved construction disposal bins are permitted between 1800 and 0600 hrs Monday to Friday and anytime during weekends and holidays. Bins should be placed in designated areas only.

Contractors, service personnel and tenants must take all necessary precautions to minimize damage to elevator walls, doors, floors and ceilings. The tenant and tenant's contractor will be responsible for all costs associated with repairs to damaged items/finishes. Contractors are expected to report any property damage to Security immediately to ensure accountability.

### **6.2.7 Site Work**

The tenant and their contractor must ensure that all construction work is carried out strictly according to the approved drawings. They must also ensure that all construction work complies with all applicable laws, by-laws, codes and regulations, including all applicable construction safety regulations such as, but not limited, to OHSA and WHMIS.

Detailed below are requirements for typical workplace construction activities.

#### **6.2.7.a Building Automation System (BAS) Work**

The tenant's project team is responsible for providing the landlord's project manager with an itemized list of all systems and items, such as temperature sensors, that will be tied in to the RBC Centre Building Automation System (BAS).

The purpose of this list is to ensure that connections are appropriately captured so as to mitigate the effects of any potential oversights that surface when the tenant begins operations within the leased premises.

#### **6.2.7.b Drilling, Cutting, and X-raying**

The landlord and the landlord's base building structural engineer must review and approve any and all proposed drilling or cutting into the building's concrete structure. Drilling or cutting without authorization is strictly prohibited.

Before drilling or cutting, the contractor is to engage an experienced X-ray contractor to locate all embedded material via an x-ray of the slab in the immediate location of the proposed hole. All drilling/coring locations shall be identified in drawings, accompanied by the corresponding film, for review and approval by the appropriate parties at the tenant's sole expense. For landlord projects, the contractor is responsible to cover the costs associated with base building structural engineer review.

Once the Landlord's Structural Engineer has approved the locations of the drilling, coring, and x-ray work, the tenant must submit an X-Raying, Scanning & Coring Work permit. The landlord requires 7 days' advance notice before issuing a permit.



### **6.2.7.c Electrical Power Shutdowns**

The tenant must submit all requests for electrical power shutdowns in writing to the assigned project manager for approval at least four (4) weeks before the scheduled shut-down date. See Building Systems Shutdown form.

For shutdowns required on a 600V or 13.8kV switchboard, the landlord will supply an electrician to de-energize and re-energize the respective feeder. The minimum fee for this work is \$2,500.00. An electrician must remain onsite for the duration of the shutdown. Four (4) hours of electrician time is included in the base fee. If the electrician is required beyond four hours, the tenant will be charged \$200 per hour for the additional time required.

### **6.2.7.d Riser Room Access/Work**

The Management Team controls access to the riser rooms throughout the RBC Centre. Please see Table 3 - Required Contractors/ Consultants for the base building consultant's contact information.

The tenant's contractor is responsible for coordinating access to the riser rooms, and must supply any requested documentation to the base building consultant in advance of performing the work.

Work in the riser rooms must be done in accordance with all relevant and applicable building codes and standards. Specifically, all floor slab penetrations must be smoke-stopped and fire-sealed.

If a tenant's work infringes on a conduit/penetration that does not comply with relevant codes and standards, the tenant is responsible to ensure that measures are taken to meet said requirements. Penetrations that are not compliant will not be "grandfathered"; all performed work must be completely compliant.

### **6.2.7.e Security Electrical Contractor**

Only approved contractors may work on the Security & Life Safety Systems (i.e., card readers, cameras, etc.). Please see Table 3 for a list of RBC Centre Required Contractors/Consultants.

### **6.2.7.f Air System Shutdowns (HVAC)**

The tenant must submit requests for air system shutdowns for approval by the assigned project manager at least 48 hours in advance. (See Building Systems Shutdown form.)

Note: A tenant's request for extra air conditioning will take precedence over a contractor's shutdown request.

### 6.2.7.g Sprinkler Systems

The landlord must approve all requested revisions to the base building sprinkler system.

The sprinkler-control valve will be closed and the line(s) will be drained until the work on a given floor is completed. Upon completion of all work, the system must be water-pressure tested at 200psi for two hours. H-tests must be performed when twenty (20) or more heads have been altered as per NFPA 13.

It is imperative that the tenant forward test certificates to the Security and Fire & Life Safety Manager within 24 hours of testing. The sprinkler system will be reactivated once all tests have been approved.

When ceiling tiles are removed during construction, existing sprinkler heads must be temporarily removed, and upright heads installed in accordance with relevant codes and standards. Once construction is complete and ceiling tiles have been installed, the original sprinkler heads must be reinstated in accordance with relevant codes and standards.

During both return to base and tenant build-outs, the general contractor is responsible at all times for maintaining proper sprinkler detection once the ceiling has been removed and/or the upright heads are changed to pendant heads. Sprinkler heads may be covered by paper bags or cellophane during spray painting, resin application or other construction that would cause damage to the sprinkler head. Plastic based bags, cups or cellophane is not acceptable. These materials must be removed once the job is complete.

### 6.2.7.h Freight Elevator Bookings

Elevators must be booked a minimum of 48 hours in advance.

### 6.2.7.i Water System Shutdowns

Contractors must submit all requests for water system draindowns, such as fire system and domestic water, to the RBC Centre Management Team at least 72 hours in advance. Requests for standpipe shutdowns require 96 hours' notice. See Building Systems Shutdown form.

If the contractor wants to cancel the shutdown, they must provide the Operations department with at least 24 hours' notice. The contractor will be charged 50% of the full draindown cost if they fail to provide adequate cancellation notification to Operations staff.

### 6.2.7.j Plumbing

Where plumbing is removed within the leased premises, all lines and connections must be removed back to the core riser, properly capped, and fire-stopped if applicable. This rule applies even if the plumbing runs through other occupied areas before reaching the core riser.

All tenant washrooms must have floor drains and a waterproofing membrane on the floor.

### 6.2.7.k Access Panels

Access panels in finished walls, ceilings and floors must be provided to permit access to equipment or services. Access panels must be a minimum of 600 mm x 600 mm (24"x24").



### **6.2.7.l Revisions to Life Safety Systems**

For any work on the life safety systems, the tenant must use RBC Centre Required Contractors/Consultants in Table 3.

The authorities having jurisdiction must approve all revisions to the base building life safety systems. Revisions to the fire alarm system must be approved by the landlord, and any proposed revisions must equal or exceed the standard level of protection and detection throughout the RBC Centre.

Any person working on the fire alarm system must have on their person a valid Canadian Fire Alarm Association (CFAA) certificate.

The contractor is solely responsible to clear all Trouble Alerts from the system. At no time is the fire alarm system to remain in Trouble Mode after work is completed, and at no time is any work on the system to impair detection or communication with adjacent or satellite areas.

### **6.2.7.m Electromagnetic Locking Devices**

Electromagnetic locking devices and related signage must be installed in accordance with the Ontario Building Code. The landlord has no authority to respond to requests for deviations.

Before activating the electromagnetic locking devices, the installing contractor must complete the installers'/owners' certificate required by the City of Toronto Fire Department and must have it verified by the landlord's fire alarm service contractor.

The contractor is solely responsible to make all arrangements with the landlord's fire alarm service contractor seven (7) business days in advance of such work. The contractor must submit all required form(s) to the Life Safety department when the request for verification by the landlord's fire alarm service contractor is made. All verification paperwork must be submitted to the manager of the Security and Fire & Life Safety department within 24 hours of completion.

### **6.2.7.n Voice-Communication Speakers**

At no time may a floor be occupied during normal office hours if the speaker system is out of operation. All revisions must be performed during the night shift and co-ordinated to ensure that the system is fully operational and checked out by the start of business the following day.

### **6.2.7.o Peripheral Devices**

Fire alarm peripheral devices, including, but not limited to, pull stations, smoke/thermal heat detectors, strobe lights, speaker systems, and pre-action systems may not be modified/tampered with without the landlord's prior approval.

Additionally, the base building EVC speakers may only be painted using a ULC compliant paint, verified by ULC and Siemens upon completion of all work. Alarm speakers must not be painted. Speakers that have been painted will be replaced and re-verified at the tenant's sole expense.



### 6.2.7.p Fire System Work

At the start and end of any work on the RBC Centre Fire Annunciation System, the contractor is responsible for employing the RBC Centre-required contractor to re-program the fire alarm system. This applies for such work as temporary or permanent deletion or removal of smoke alarms, manual pull stations, speakers and/or heat detectors. Failure to engage the RBC Centre-required contractor to re-program the fire alarm system will result in all rectification costs being charged back to the contractor and/or the tenant.

### 6.2.7.q Fireproofing Material

All fireproofing material that is either removed through construction/deconstruction or found to be non-existent on structural steel elements and floor penetrations must be reinstated with a suitable and approved fireproofing material. The landlord-approved fire resistant material is CAFCO 300SB. This material is specially designed for the retrofit construction market.

The contractor is solely responsible for installing replacement material according to the relevant building and fire codes.

### 6.2.7.r Fire Watch/Hot Work

Before requesting a permit for hot work, the contractor must always consider whether there is a safer alternative.

If hot work is deemed necessary, the contractor must submit the RBC Centre Hot Work permit in advance. A Cadillac Fairview employee is required to complete the Hot Work permit for approval before the work begins. The Hot Work permit must be displayed at the project location.

During a required fire watch, the appointed fire watch must:

- be a different person from the one conducting the hot work;
- work alongside the tenant, contractor or employee who performs the hot work;
- maintain a constant vigil during the hot work for stray sparks, ignition or other fire hazards;
- have an ABC 10 lb fire extinguisher within 10 feet and be trained in the use of it; and
- remain in the work area for one hour after the work is done to ensure there are no smoldering fires.

### 6.2.7.s Common Area Restrooms

The tenant's contractor and their subtrades may not use common area restrooms, except where the tenant occupies a full floor. Public restrooms are available on the ground floor.



### 6.3 Site Protection

Contractors must ensure that all building finishes, including window film (where applicable) and carpets, are adequately protected to prevent damage. The following protection is required:

- The contractor must supply and protect carpet finishes with plywood and plastic sheets.
- Dust control mats must be placed at all construction exit points.
- Window shades, light shelves, and blinds in the up position
- Protect perimeter grilles and air diffusers

The landlord will repair any damage to building finishes and charge the cost to the contractor.

### 6.5 Construction Visits and Violations

The landlord periodically visits the construction site to review general health and safety and construction practices. This is done to ensure that the proper and prescribed construction policies, procedures, and guidelines are followed throughout the project and to educate and promote a culture of health and safety.

The landlord encourages the tenant's project team to talk to the landlord about how to promote safety while concurrently abiding by all applicable policies, procedures, guidelines, and this Design & Construction Manual.

The tenant's contractor is responsible for the actions of all project tradespeople and delivery people. Poor construction practices, unsafe workplace health and safety practices, and delinquent behaviour are not tolerated whatsoever. Any person found to be performing an unsafe act or exhibiting a blatant disregard for existing work, or disrespect towards tenants or other people at RBC Centre will be promptly removed from the premises and not permitted to return.

The landlord will record any violations, and will issue fines/warnings according to Table 17 below. Incidents remain recorded for 18 months.

RBC Centre has a zero tolerance policy for any violation of provincial, federal or other authorities having jurisdiction codes or regulation. Fines, according to Table 17, will be automatically levied. Continued disregard will result in an escalation of 50% per occurrence with the possibility of being barred from working at the property.

Continued neglect for the stated construction guidelines and expectations may result in a temporary or indefinite ban from performing work in the Cadillac Fairview Toronto Office Portfolio.

The landlord will not be held responsible for the costs resulting from the ban of a contractor and/or an employee from the RBC Centre premises.

The landlord will bill any costs associated with a construction violation back to the contractor.

If, at any point in the project, the action(s) of a contractor results in a cost to the landlord, the contractor will be held solely responsible for all costs plus a 15% administration fee. The landlord will make appropriate and reasonable notifications and issue invoices accordingly.

**Table 17 – Construction Violations & Associated Fines**

<b>Construction Violations</b>	<b>Fine Per Occurrence</b>
Cause of fire. Any incurred damages will be added to this fine	\$10,000
Failure to comply with the Cadillac Fairview Fire Watch/Hot Work Policy	Up to \$5,000
Negligent or deliberate disconnection of the fire alarm system without authorization, contractor certification or activation of fire alarms (i.e., tones and/or no tones)	\$5,000
Leaving the RBC Centre premises without reinstating the fire alarm system bypass	\$3,000
Obstruction of any fire equipment (i.e., pull stations, hose stations, etc.)	\$1,500
Improperly stored compressed gas cylinders while not in use	\$1,500
Failure to comply with the national or provincial fire code, building code, OHSA, ESA or any other relevant code regulation or applicable act.	Up to \$5,000
Failure to post all building permits, WSIM, WHMIS, H&S Policy in visible location	\$500
Storage of combustibles in common areas or unsafe accumulation of refuse	\$1,000
Obstructing or “wedging open” any means of egress	\$500/door
Smoking or vaping while working on project sites at RBC Centre premises	Automatic Removal from RBC Centre
Storing equipment in areas other than the construction site (including riser rooms)	\$1,500/room
Failure to return badges, keys or passcards to the Access Control Centre	\$500
Failure to wear appropriate/required PPE as required by OHSA	\$500 to General Contractor
The use of passenger elevators and escalators by contractor. <i>*Any additional costs for damages will be charged back to the vendor</i>	\$500
Unauthorized parking, welding, sawing and/or cutting in the loading dock	\$500
Unauthorized garbage disposal at the loading dock	\$500
Improper implementation of dust control measures at entrance and exit to construction areas. <i>*Any additional cleaning costs will be charged back to the vendor</i>	\$500
Failure to use wooden support for construction bins in the loading dock	\$500



## 6.6 Site Cleanliness

### 6.6.1 Cleanliness

At the end of each day, contractors must ensure that the construction site and common areas are completely free of debris, dirt, marks, etc. If necessary, they should make arrangements with the base building cleaners for cleaning. The contractor is solely responsible for the cost of any cleaning required.

When working near the elevator lobbies and air handling equipment, contractors are required to ensure that dirt and debris does not enter the elevator shaft or air handling equipment. They must install protection such as a plastic sheet taped around the elevator door perimeter to ensure a tight seal. Refer to IAQ guidelines for additional information.

Contractors must take safety precautions when extension cords are required. Where possible, the extension cord must be run through the ceiling to the desired location.

Any work impacting the elevator lobby requires sealing of elevator openings.

### 6.6.2 Garbage & Waste

The contractor is solely responsible to remove all generated construction debris. To avoid fire hazards, contractors must avoid accumulating large quantities of construction debris within the construction premises. To remove construction debris, contractors must reserve the freight elevator.

Contractors must arrange for disposal bin delivery through the Shipping and Receiving department. The Shipping and Receiving department can provide contractors with a list of companies authorized to deliver disposal bins. Bins must be placed upon wooden supports in designated areas. As loading dock space is limited, disposal bins are only allowed to remain in designated areas between 1800 and 0600 hrs Monday through Friday, and all hours on Saturday, Sunday and holidays. After the bins have been removed, the contractor shall leave the area in a tidy, swept condition.

For recycling information purposes, the disposal bin provider will be required to submit a copy of the materials weight scale ticket to the Project Manager within 24 hours.

Please also refer to the Construction & Demolition Waste Management guidelines. project teams are required to incorporate those guidelines into their projects.

#### 6.6.2.a Yard Bins for Controlled Demolition Removal

Contractors are required to book all bins through Security, [spsecurity@cadillacfairview.com](mailto:spsecurity@cadillacfairview.com).

Security requires the following info when booking a bin:

- Size of the bin
- Name of the company delivering the bin
- Name and telephone number for onsite contact

If contractors require a freight booking, please use the “Scope of Work” line on the freight requisition.

Bins can be delivered starting at 1800 hrs and must be removed no later than 0600 hrs the following morning, or anytime on the weekends.

### 6.6.2.b Location of Loading Docks

The RBC Centre Loading Dock is shared between RBC Centre, Simcoe Place, and the Ritz Carlton.

The Loading Dock is located between Front Street West and Wellington Street West, on the west side of Simcoe Street.

## 6.7 Construction Completion

Before work is deemed substantially complete, the contractor must obtain the landlord's written approval indicating that work has been carried out in a satisfactory and acceptable manner.

If the contractor does obtain the landlord's approval, the landlord may be required to complete or revise various portions of the work to align it with RBC Centre standards. The tenant will be solely responsible for the cost of any such work.

### 6.7.1 Premises Cleaning

Upon construction completion, and before the leased premises are occupied or reoccupied, the tenant is responsible for ensuring the premises are in a clean, "move-in" condition.

To avoid possible conflict with the building's cleaning program, tenants/contractors are requested to employ the RBC Centre Housekeeping Services provider. Please see the list of Experienced Contractors in Table 3 for post-construction cleaning.

The following areas and/or items are to be cleaned:

- All light fixtures and lenses
- Ceilings and ceiling tiles
- Floor tiles and carpets
- Corridor walls and doors immediately adjacent to the occupied premises
- Perimeter grilles and diffusers
- Intake grills, discharge grills, lint screens, coils, drains (as applicable) for induction units
- Convector grills and fins for hot water heating/radiation systems
- Interior face of perimeter windows – where window film is installed, the landlord's contractor will perform this work at the tenant's expense
- Electrical trench header ducts, including those adjacent to the occupied premises
- All service rooms
- All restroom facilities where tenants occupy the full floor

In addition, all plumbing drains are to be flushed and cleared to the main plumbing stack, and all janitor sinks must be snaked back to riser stand.



### 6.7.2 Premises HVAC Systems

To minimize post-construction cleaning costs, the landlord highly recommends that the project team protect any HVAC systems affecting the work area by supplementary filtration and periodic cleaning during construction. Refer to IAQ for additional information.

Before the tenant takes occupation, the RBC Centre Required or Experienced Contractors must provide a Consolidated Air Balancing Report verifying that the items listed below have been completed. The tenant is responsible for covering verification costs.

Consolidated Air Balancing Report (including perimeter induction units and VMA on open area):

- Calibration of all induction unit controls and VAVs
- Cleaning of all perimeter induction units with steamed cleaning process
- Duct cleaning (supply, return, exhaust and transfer) for base building distribution systems as well as additional base building terminal equipment, such as fan coil units
- Equipment cleaning of fan coils, heat pumps, exhaust fans and/or any other air handling equipment including replacement air filters and/or coil cleaning as determined to be necessary by Operations\*\*
- Dedicated floor compartment fan units
- Pressure sensing equipment, such as duct static sensors
- Condensate drains for HVAC equipment having such to the point of termination
- Verification of all HVAC systems. Refer to Commissioning

\*\*to be determined during initial project kick-off meeting

Note: Service calls after the tenant has taken occupation that are determined to be caused by lack of cleaning will be charged back to the respective tenant(s).

### 6.7.3 Commissioning

Commissioning the leased premises prior to move in is a required construction practice at the RBC Centre. The base building commissioning agent handles all commissioning (see Required Property Consultants in Table 3). The tenant is responsible for all costs associated with commissioning.

Commissioning is a structured and documented process aimed at ensuring that mechanical and electrical systems are designed, installed, functionally tested, and capable of being operated and maintained according to the owner's operational needs.

The commissioning process confirms the design criteria with respect to achieving business functionality and occupant comfort. Ensuring that the HVAC and electrical systems will perform as designed and intended is paramount to the tenant's satisfaction with the leased premises over the duration of the term.

It is essential to understand the fundamental differences between commissioning processes and the standard services provided by engineering consultants. Please see Table 18.

**Table 18 – Commissioning Process**

**Program Phase**

- Review and verify documentation of Owner’s Requirements (Design Intent – DI)
- Review and verify documentation of Designers’ Basis of Design (BD)
- Develop a Commissioning Plan

**FOR CADILLAC FAIRVIEW PROJECT MANAGER USE ONLY**

Project Value:	Budgeted: <input type="checkbox"/> Yes <input type="checkbox"/> No	Project/Expense Code:
Project Manager:	Project Type: <input type="checkbox"/> Operations <input type="checkbox"/> Project Management	
Procurement Method: <input type="checkbox"/> RFP	Sole Source (Approved): <input type="checkbox"/> Yes <input type="checkbox"/> No	

**Design Phase**

- Review and verify that the schematic design satisfies the DI and BD
- Refine the Commissioning Plan
- Review and verify commissioning specifications for construction documents
- Review and verify that the construction documents satisfy the DI and BD

**CONSULTANT**

Review of all documents (digital and hardcopy)

Name: \_\_\_\_\_

Initial: \_\_\_\_\_

Date: \_\_\_\_\_

**PROJECT ADMIN**

Document filing review upon close-out

Name: \_\_\_\_\_

Initial: \_\_\_\_\_

Date: \_\_\_\_\_

**PROJECT MANAGER**

Final review

Name: \_\_\_\_\_

Initial: \_\_\_\_\_

Date: \_\_\_\_\_

**PROJECT SPONSOR**

Final review

Name: \_\_\_\_\_

Initial: \_\_\_\_\_

Date: \_\_\_\_\_



### 6.7.4 Required Close-Out Documentation

In order for a project to be considered substantially performed and for the landlord to release the security deposit, the tenant and/or the contractor is required to provide close-out documentation within four (4) months of substantial performance of site work. The tenant must submit the documentation to your CF project manager in one submission (via USB or Dropbox) plus a hard copy close out binder, separated by the folder structure outlined below. Please see the Contractor’s Project Close Out Check List below. Contractors may also download the Check List from [rbccentre.ca](http://rbccentre.ca).

Note: Not all fields are applicable to tenant projects.

If for any reason any of the listed items are not provided to the landlord’s satisfaction and within four (4) months of Substantial performance, the landlord will contact the tenant to coordinate the delivery of said documents. If the documents are not delivered to the landlord within an acceptable period as agreed upon by both the landlord and tenant, the landlord will carry out the required measures to substantially close the project. The tenant will be responsible for any and all costs of this work, as well as a 15% administration fee. Also, refer to 6.1.4 Construction Deposit”

#### DESCRIPTION

##### 1. AS-BUILT DRAWINGS

(architectural, mechanical, electrical, structural, and communication) to include:

A. One (1) electronic as-built CAD (.dwg) or REVIT drawing	<input type="checkbox"/>
B. One (1) electronic as-built PDF (.pdf) format drawing	<input type="checkbox"/>
C. Copies of engineers’ review letters or review stamp stating acceptance of all as-built drawings	<input type="checkbox"/>
D. Locations and identifications of all terminal control devices (e.g., thermostats, etc.)	<input type="checkbox"/>

#### Notes

1. Section 9. PROCUREMENT of the close-out checklist which will be completed by the Tenants includes documentation required for Substantial Performance and not Substantial Completion. Please note that it is possible to be Substantially Complete without being Substantially Performed.

#### Substantial Completion vs. Performance Note\*:

- Substantial Completion - This term originates in the Ontario Building Code.
- Substantial Performance - This term originates in the Construction Lien Act R.S.O. 1990, Chapter C.30, continues in the Construction Act, and is incorporated in the CCDC standard contracts.

#### The Differences:

(A) Substantial Completion	(B) Substantial Performance
- Building Code only	- Construction Lien Act or Construction Act
- Health & Life Safety focus	- Project as a whole
- No financial threshold	- Sliding financial threshold
- Required for partial occupancy	
- Publication not required	
- Involves Chief Building Official	



DESCRIPTION	CONTRACTOR	CHECK IF N/A (MUST provide a reason if N/A)	CF PROJECT MANAGER
<b>2. METERS</b>			
A. Verification of all required meter installations, including floor plans	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
B. Meter Addition Information Work Sheet including meter locations and sent to energy manager	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Note: Depending on project requirements, include all info on BTU and domestic water meters			
<b>3. BALANCING</b>			
A. Air and water balancing reports including mechanical engineers' review letter or confirmation of review and acceptance	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
B. Electrical Load Balance Report for all panels	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>4. LIGHTING</b>			
A. Lighting Circuits/Zone Relay Diagram for base building lighting programming	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Note: This information should be made available to the CF project manager at least two (2) weeks in advance of the tenant move-in date to ensure adequate timing for building operations to program all lighting codes			
<b>5. SYSTEM PREPARATION</b>			
A. Chilled Water Flush-Out reports if connected to the base building CW riser (if applicable)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
B. Completed Duct Cleaning report (new air duct services)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
C. Completed Perimeter Induction Unit Cleaning letter (packaged maintenance)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>6. SUSTAINABILITY</b>			
A. IAQ Test reports and/or flush-out results/calculations	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
B. Waste diversion log and waybills	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
C. Sustainable purchasing log	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>7. FIRE SYSTEM</b>			
A. Fire Alarm Verification reports	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>8. TRAINING AND DOCUMENTATION</b>			
A. All equipment operation and maintenance manuals	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
B. Conducted operational training (at handover), including trouble shooting guides	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
C. Recommended preventative maintenance tasks	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
D. Recommended spare parts list	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
E. Document change in systems control sequence	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
F. Engineer/PM and CF Operations wrap-up meeting to review project completion/handover			<input type="checkbox"/>
<b>9. PROCUREMENT</b>			
A. Letter of Substantial Completion or Certificate of Substantial Performance from the consultant	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
B. Proof of either publication in the Commercial Daily News or Certificate of Last Supply	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
C. Statutory Declaration	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
D. Statement of accounts from all vendors (indicating paid and outstanding invoices)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
E. Procurement checklist			<input type="checkbox"/>



DESCRIPTION	CONTRACTOR	CHECK IF N/A (MUST provide a reason if N/A)	CF PROJECT MANAGER
<b>10. SYSTEM TESTING/COMMISSIONING</b>			
A. Verification of hazardous material reporting and implementation (project) from the consultant	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
B. Verification of hazardous material reporting (master plan) from the consultant	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
C. Copy of performance and product warranties and extended warranties + D31	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
D. Updated schedules, set points and updated technical specifications	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
E. Completed deficiency-free Commissioning Report (TMP)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
F. Copies of all site visit & final deficiency reports, and consultant(s)' review letters stating all deficiencies are resolved	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
G. Verification of equipment performance	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
H. Verification and documentation of energy performance and savings from the consultant	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I. Financial savings stated/actual verification from the consultant	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
J. Verification of BAS sequence and alarming from the consultant	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
K. RYCOM's report for completion of the removal and re-installation of DAS antennas (if applicable)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>11. SAFETY/INSURANCE</b>			
A. WSIB Certificate	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
B. Certificate of Occupancy	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
C. City of Toronto permit closure documents (building, HVAC, and plumbing)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
D. ESA and all other relevant permit closure documents	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
E. Identification and labelling of hazards completed/ reviewed, and function/location of safety devices	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
F. All regulatory documents	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
G. Technical specification (as-built)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>12. MISCELLANEOUS</b>			
A. Manufacturer/Vendor/Contractor contact information	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
B. Upload as-builts, commissioning reports, balancing reports and any other documents to project history log (ArchiDATA)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
C. Electronic PDF files of ALL above close-out documents	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
D. Complete Contractor Performance Evaluation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

RBC  
CENTRE

A  PROPERTY

**The Cadillac Fairview Corporation Limited**  
**RBC Centre Management Office**

160 Front Street West  
Suite 1830, Toronto, ON M5J 0G4  
Tel: 416-340-6615

[www.rbccentre.ca](http://www.rbccentre.ca)