

Area Measurement Policy

PWGSC Spatial Information Management

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1. Background

One of the challenges faced by the Real Property Services Branch (RPSB) is to better manage its space inventory. Meeting this challenge requires accurate and verifiable space data. It has therefore become critical to our operation to ensure that the data we use has been collected consistently across the nation and that it is easily accessed and verifiable.

On March 15th 1996, the Director General of Office Accommodation Services, M. François Brazeau, announced the Renewal of Space Measurement / Management Methodology and Tools Project. The space measurement policy project was given the following three objectives:

- The first was to update the PWGSC internal Space Measurement policy (1977).
- The second was to relate PWGSC measurement methodology to other standards such as BOMA, IFMA.
- The third was to establish a Space Measurement Procedures manual to allow for a consistent national implementation of the policy

This document and its related documents, the *Area Measurement Guidelines and Procedures* and the *Relationship of Rentable to Usable Space -- PWGSC 1998*, are the result of the above-mentioned project. These documents were approved by Office Accommodation Services and endorsed by Property and Facilities Management on July 15, 1997.

2. Defining Area Measurement and Space Management

The project team, during the review process, identified one key challenge that is significant in approaching the management of space. That challenge is the understanding of the difference between area measurement and space management.

- *Area measurement* defines the areas or objects to be measured and how they should be measured. Examples of measured areas are rooms used for various purposes, floor areas occupied by building elements such as structural columns or voids in the floor referred to as a vertical penetrations.

- *Space management* uses these measured areas or objects to model space and allocate space for various uses. *Floor Rentable Area* is really a space management term. *Floor Rentable Area* is not measured but is derived by subtracting *Building Services Areas* and *Inside Parking Areas* from the *Interior Gross Area*, all of these being measured areas.

3. Understanding Space Management

A major responsibility of Real Property Services is to manage the Rentable Area for government general purpose facilities. In order to ensure value to the crown and to establish a solid base for creating productive work environments, RPSB goes beyond managing Rentable Area into establishing and understanding Usable Area. This value added service ensures that our Clients will have an appropriate quantity of space to meet their program requirements while managing the Crown's investment in real property.

4. Area Measurement Policy

The Real Property Services Branch of PWGSC will manage its space inventory using the following area measurement elements:

- Building Outside Gross
- Floor Inside Gross
- Building Services
 - Vertical Penetrations
 - Services Areas/Rooms
- Inside Parking
- Floor Common Areas
 - Washrooms, Electrical/Phone/Janitor Closets
 - Convectors
 - Building Structure
 - Perimeter Structure
 - Interior Structure
 - Elevator Lobby Area
 - Primary Circulation
 - Legislated Fire Egress Crossover and Refuge Areas
- Floor Usable Area
 - User Specific Area
 - User Common Support Area

For more information on the elements listed, refer to Annex A : "Definitions of Area Measurement Elements". The use of these elements provides the information required to establish the calculations of Rentable and Usable Areas used for Space Management. These calculations are defined in the document entitled *Relationship of Rentable to Usable Space - PWGSC 1998*. The following details how the area measurement policy will apply to the various components of the inventory:

1. All "Crown Owned" and "Leased to Purchase" facilities, regardless of Rentable Area or number of occupants, will be measured for the above elements and these will be recorded in electronic (CADD) drawings that model the facility and provide an electronic audit trail.
2. The above also applies to *long-term leased* facilities with more than 1000 m² in Rentable Area, regardless of the number of occupants.

3. It also applies to *long-term leased* facilities with less than 1000 m² in Rentable Area but with more than one occupant.
4. In *other facilities*, the need for measurement and graphic modelling will be at the portfolio manager's discretion.

5. Enquiries

For more information on this document, please contact Ted Eedson (613-736-2620)

Prepared by:

Space Management Renewal Project Team

PWGSC Spatial Information Management

Annex A

Definitions of Area Measurement Elements

1. Building Outside Gross

Building Outside Gross is the total *constructed area* of a building. It is the sum of the outside gross areas of all floors including levels below grade. Building Outside Gross is measured from the *exterior surface* of the building perimeter walls. Building Outside Gross is useful for construction budgeting but is generally not used in lease negotiations or for rentable and usable area calculations.

2. Floor Inside Gross

Floor Inside Gross is the area defined within the inside *Dominant Portion* of exterior walls on a floor.

2.1 **Building Inside Gross** is the sum of the *Floor Inside Gross* for all floors.

2.2 **Dominant Portion** is defined as the largest area of either solid or glass making up the inside *Finished Surface* of the total permanent outer building wall along a single plane.

2.3 **Finished Surface** is the wall surface, including glass, as prepared for the occupant's use.

3. Building Services

Building Services are those areas of a facility which are necessary for the operation of the facility and are not available for general occupancy. Building Services include *Vertical Penetrations* and *Service Areas/Rooms*.

3.1 **Vertical Penetrations** are voids in the floor. Measurement of *Vertical Penetrations* includes the floor area of their enclosing walls. Examples of areas included in this classification are:

- Public stairs, elevator shafts, flues, fire towers, fire hose cabinets (because of the pipes attached to them), stacks, pipe shafts, vertical air conditioning ducts and other vertical ducts *and* their enclosing walls.
- Atria, light wells and similar penetrations through the floor.
- Dumbwaiters and mail conveyor systems that service the entire building.

Note: Structural columns and openings for vertical runs of electric and/or telephone/data cable distribution are not considered *Vertical Penetrations*. Not included in this definition are vertical penetrations built for the private use of a tenant occupying more than one floor.

3.2 **Service Areas/Rooms** are floor areas necessary to the general operation of the facility and are not available for general occupancy. Measurement of *Service Areas/Rooms* includes the floor area of their enclosing walls except when adjacent to a *Vertical Penetration* in which case the area of the wall is included in the *Vertical Penetration*. Examples of *Service Areas/Rooms* include:

- Main entrance lobby including vestibules,
- Air conditioning, ventilation, machine and boiler rooms,
- Meter rooms, pipe rooms, garbage rooms,
- Loading docks servicing the entire building,
- Janitorial storage room servicing the entire building, and
- Concierge and/or security posts
- Interstitial Areas: These are areas of load bearing surfaces located below or above occupied building floors. These areas are not available for general occupancy because they either have inadequate clear headroom or they contain or provide access to building mechanical or electrical systems which primarily serve adjacent floors.

Note: Not included in *Service Areas/Rooms* are loading docks required as part of a process operation of an occupant (e.g. in a warehouse or manufacturing plant). These loading docks are included as part of the occupant's *Usable Area*.

1. Inside Parking

Inside Parking is the area inside the building envelope that is used for parking vehicles. A parking structure (parking garage) is considered Inside Parking.

2. Floor Common Areas

Floor Common Areas are the common use areas that service a floor. Such common use areas include

- Washrooms
- Janitor Closets
- Electrical and Telephone Closets
- Building Structure
- Convectors
- Elevator Lobby
- Primary Circulation
- Legislated Fire Egress Crossover and Fire Refuge Areas (in excess of Primary Circulation).

Measurement of *Floor Common Areas* includes the floor area of their enclosing walls except when adjacent to a *Building Service Area*, in which case the wall area is already measured as part of the *Building Service Area*. Areas that would normally be considered *Floor Common Areas* on floors without any *Usable Area* will be classified as *Building Services*.

Note: Within PWGSC, *Floor Common Areas* were formerly designated as *Accessory A* areas.

5.1 **Washrooms, Electrical, Telephone and Janitorial** are areas used for these functions and that service a single floor.

5.2 **Building Structure** is the area occupied by columns or other structural elements that prevent the use of the area for placement of furniture, equipment, circulation or other functions. This space classification is divided into two subgroups:

5.2.1 **Interior Structure** sub-classification includes columns and other such structural elements (structural walls) located in the interior of the building.

5.2.2 **Perimeter Structure** sub-classification includes columns and other such structural elements located on or near the building's perimeter.

Building Structure located within *Building Services Areas* (i.e. janitor's offices or mechanical rooms) will be included in the *Building Services Area* and not be identified separately.

5.3 **Convectors** are the areas occupied by window sills, convectors, baseboard heating units and radiators that prevent the occupant or tenant from using that area for furniture, equipment, circulation or any other function.

When a convector is part of the perimeter wall, the area of the convector will be measured to the *Dominant Portion* reference point.

Convectors located within *Building Services Areas* (i.e. janitor's offices or mechanical rooms) will be included in the *Building Services Area* and not be identified separately.

5.4 **Floor Elevator Lobby** is the area adjacent to the elevator entry points on a floor whether defined by walls or not.

5.5 **Primary Circulation** is defined as the area required for floor occupants to access exits, stairs, elevators and washrooms.

Primary Circulation is determined by identifying the *reasonable minimum circulation space* required to access these elements.

Bridges and tunnels that do not meet this definition but that cannot be readily used for other purposes are considered part of *Primary Circulation*.

Measurement of *Primary Circulation* includes the floor area of their enclosing walls except when adjacent to another *Floor Common Area* or a *Building Service Area*. In both these cases, the wall areas are already measured.

5.6 **Legislated Fire Egress Crossover and Fire Refuge Areas** are designated fire egress routes connecting existing stairs in excess of identified *Primary circulation* areas. *Legislated Fire Refuge Areas* are designated fire protected areas. Designated areas shall be referenced to the appropriate legislated requirements.

6. Floor Usable Area

Floor Usable Area is the space that is available for the occupant to establish productive work environments. Its area can be calculated using the equations defined in the document entitled *Relationship of Rentable to Usable Area - PWGSC 1998*. The *Floor Usable Area* may be calculated:

- by subtracting the measured *Floor Common Areas (on Single or Multiple Occupant Floors)* from the *Floor Rentable Area*
- as the sum of the measured *User Specific* and *User Common Support Areas*.

6.1 User Specific Area is the *Floor Usable Area* allocated to a specific occupant (or group of occupants).

6.2 User Common Support Area is the area required to provide a support service to occupants. As these services are shared the space is not allocated to any specific occupant. These areas may include but are not limited to:

- shared conference rooms
- lounges or vending areas, food service facilities
- health or fitness centres, locker or shower facilities
- mail rooms, fire control rooms

Note: Within PWGSC, *User Common Support Areas* were formerly designated as *Accessory B* areas and were excluded from Usable Area.