

**GoCB WINDSOR
BUILDING CONDITION REPORT &
FEASIBILITY STUDY
441 UNIVERSITY AVE WEST
WINDSOR, ONTARIO**

FEASIBILITY STUDY

September 16, 2015
Revised: October 1, 2015

Hanscomb

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1.0 INTRODUCTION

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1.1 General

This Feasibility Study Estimate is intended to provide a high level, realistic allocation of direct and indirect construction costs for the proposed construction to the GoCB Windsor Building in Windsor, Ontario with the exception of items listed in 1.4 below.

Accordingly, this Feasibility Study Estimate should only be considered in conjunction within the full context and recommendations of documents provided for this estimate.

1.2 Methodology

From the documentation and information provided, quantities of all major elements were assessed or measured where possible and priced at rates considered competitive for a project of this type under a stipulated sum form of contract in Windsor, Ontario.

Pricing shown reflects probable construction costs obtainable in the Windsor, Ontario area on the effective date of this report. This estimate is a determination of fair market value for the construction of this project. It is not a prediction of low bid. Pricing assumes competitive bidding for every portion of the work.

Costs reported in this estimate provide for all building construction but exclude any related site development work, allowances for Furnishings & Equipment and Professional Fees & Expenses. Separate provision has also been made where appropriate for such things as building demolition, etc.

1.3 Specifications

For building components and systems where specifications and design details are not available, quality standards have been established based on discussions with the design team.

1.4 Exclusions

This Feasibility Study Estimate does not provide for the following, if required:

- owner's staff and management expenses
- all costs associated with hazardous or contaminated materials abatement
- land acquisition costs and expenses
- financing and/or fund raising expenses
- professional fees and all other soft costs
- furniture, furnishings and equipment
- window washing equipment
- A/V equipment
- Media display systems

2.0 DOCUMENTATION

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This Feasibility Study Estimate has been prepared from the documentation provided. Accordingly, this Feasibility Study Estimate report should only be considered in conjunction within the full context and recommendations of documents provided for this estimate.

All of the above documentaton was received from Dialog and was supplemented with information gathered in meeting(s) and telephone conversations with the design team, as applicable.

Design changes and/or additions made subsequent to this issuance of the documentation noted above have not been incorporated in this report.

3.0 COST CONSIDERATIONS

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3.1 Cost Base

All costs are estimated on the basis of competitive bids (a minimum of 6 general contractor bids and at least 3 subcontractor bids for each trade) being received in September 2015 from general contractors and all major subcontractors and suppliers based on a stipulated sum form of contract.

Escalation during the construction period is included in the unit rates used in this estimate.

3.2 Escalation

An allowance of 2.5% per annum has been made for construction cost escalation that may occur between September 2015 and the anticipated bid date for the project. Escalation during the construction period is included in the unit rates used in this estimate.

3.3 Contingencies

An allowance of 10% has been included to cover design and pricing unknowns. This allowance is not intended to cover any program space or quality modifications but rather to provide some flexibility for the designers and cost planners during the remaining design stages.

No allowance been made to cover construction (post contract) unknowns.

3.4 Unit Rates

The unit rates in the preparation of this Feasibility Study Estimate include labour and material, equipment, subcontractor's overheads and profit.

3.5 Taxes

No provision has been made for the Harmonized Sales Tax (HST). It is recommended that the owner make separate provision for the HST in the project budget.

3.6 Statement of Probable Costs

Hanscomb has no control over the cost of labour and materials, the general contractor's or any subcontractor's method of determining prices, or competitive bidding and market conditions. This opinion of probable cost of construction is made on the basis of experience, qualifications and best judgment of the professional consultant familiar with the construction industry. Hanscomb cannot and does not guarantee that proposals, or actual construction costs will not vary from this or subsequent estimates.

3.0 COST CONSIDERATIONS

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3.7 Ongoing Cost Control

Hanscomb recommends that the Owner and the design team carefully review this Feasibility Study Estimate document, including line item description, unit price clarifications, exclusions, inclusions and assumptions, contingencies, escalation and mark-ups. If the project is over budget, or if there are unresolved budgeting issues, alternative systems/schemes should be evaluated before proceeding into the next design phase.

Requests for modifications of any apparent errors or omissions to this document must be made to Hanscomb within ten (10) days of receipt of this estimate. Otherwise, it will be understood that the contents have been concurred with and accepted.

It is recommended that a final updated estimate be produced by Hanscomb using Bid Documents to determine overall cost changes which may have occurred since the preparation of this estimate. The final updated estimate will address changes and additions to the documents, as well as addenda issued during the bidding process. Hanscomb cannot reconcile bid results to any estimate not produced from bid documents including all addenda.

4.0 GROSS FLOOR AND SITE DEVELOPED AREAS

GROSS FLOOR AREA:

	Total GFA (m2)	Total Renovated GFA (m2)
Basement	450	
Ground Floor	2,440	2,440
Second Floor	2,360	2,360
Stair Expansion	43	43
Total GFA	5,293	4,843

The above areas have been measure in accordance with the Canadian Institute of Quantity Surveyor's Method of Measurement of Buildings by Area and Volume.

SITE DEVELOPED AREA:

	Total GFA (m2)
Area of site development	N/A
Site Developed Area	N/A

Site Developed Area is the area of the site less the foot-print area of the building for new construction. For renovations, the Site Developed Area is the actual area of work.

5.1 CONSTRUCTION COST ESTIMATE SUMMARY

A Option #1, Base			
Shell	4,843 m2	221.31	\$1,071,800
Interiors	4,843 m2	316.19	\$1,531,300
Mechanical	4,843 m2	517.72	\$2,507,300
Electrical	4,843 m2	329.53	\$1,595,900
Site Works	4,843 m2	4.50	\$21,800
Demolitions & Alterations	4,843 m2	208.18	\$1,008,200
General Requirements & Fee	9%		\$707,100
Sub-Total Construction Cost	4,843 m2	1,743.42	\$8,443,400
Design & Pricing Allowance	10%		\$844,300
Escalation (2.5% per annum)	2.5%		\$232,200
Total Construction Cost	4,843 m2	1,965.70	\$9,519,900
Construction Contingency (Excluded, PWGSC to provide)	0%		\$0
Total Construction Cost (Including Construction Contingency)	4,843 m2	1,965.70	\$9,519,900
B Option #2, Skylight			
Shell	4,843 m2	248.69	\$1,204,400
Interiors	4,843 m2	325.34	\$1,575,600
Mechanical	4,843 m2	517.72	\$2,507,300
Electrical	4,843 m2	329.53	\$1,595,900
Site Works	4,843 m2	4.50	\$21,800
Demolitions & Alterations	4,843 m2	235.49	\$1,140,500
General Requirements & Fee	9%		\$735,400
Sub-Total Construction Cost	4,843 m2	1,813.11	\$8,780,900
Design & Pricing Allowance	10%		\$878,100
Escalation (2.5% per annum)	2.5%		\$241,500
Total Construction Cost	4,843 m2	2,044.29	\$9,900,500
Construction Contingency (Excluded, PWGSC to provide)	0%		\$0
Total Construction Cost (Including Construction Contingency)	4,843 m2	2,044.29	\$9,900,500
C Option #3, North Wall Addition			
Shell	4,843 m2	294.42	\$1,425,900
Interiors	4,843 m2	325.34	\$1,575,600
Mechanical	4,843 m2	517.72	\$2,507,300
Electrical	4,843 m2	329.53	\$1,595,900
Site Works	4,843 m2	4.50	\$21,800
Demolitions & Alterations	4,843 m2	255.11	\$1,235,500
General Requirements & Fee	9%		\$764,200
Sub-Total Construction Cost	4,843 m2	1,884.41	\$9,126,200
Design & Pricing Allowance	10%		\$912,600
Escalation (2.5% per annum)	2.5%		\$251,000
Total Construction Cost	4,843 m2	2,124.67	\$10,289,800
Construction Contingency (Excluded, PWGSC to provide)	0%		\$0
Total Construction Cost (Including Construction Contingency)	4,843 m2	2,124.67	\$10,289,800

**APPENDIX A
Option #1, Base**

Project : GoCB WINDSOR
 Project : BUILDING CONDITION REPORT &
 Location : WINDSOR, ONTARIO
 Owner : GoCB WINDSOR
 Consultant : Dialog

Plan Date : September 16, 2015

ELEMENTAL COST SUMMARY
Option #1, Base

Const Type : Reno
 Area : 4,843 m2

ELEMENT	Ratio to GFA	Element Cost		Element Amount		Rate per m2 of GFA		
		Quantity	Unit Rate	Sub-total	Total	Sub-total	Total	
A SHELL		4,843 m2			1,071,800		221.31	12.7
A1 SUBSTRUCTURE					0		0.00	0.0
A11 Foundations	0.000	0 m2	0.00	0		0.00		
A12 Basement Excavation	0.000	0 m3	0.00	0		0.00		
A13 Special Conditions	0.000	0 m2	0.00	0		0.00		
A2 STRUCTURE					23,100		4.77	0.3
A21 Lowest Floor Construction	0.000	0 m2	0.00	0		0.00		
A22 Upper Floor Construction	0.000	0 m2	0.00	0		0.00		
A23 Roof Construction	0.009	43 m2	537.21	23,100		4.77		
A3 EXTERIOR ENCLOSURE					1,048,700		216.54	12.4
A31 Walls Below Grade	0.000	0 m2	0.00	0		0.00		
A32 Walls Above Grade	0.187	907 m2	509.48	462,100		95.42		
A33 Entrances	0.001	5 No.	5,480.00	27,400		5.66		
A34 Roof Covering	0.491	2,378 m2	231.67	550,900		113.75		
A35 Projections	0.000	1 Sum	8,300.00	8,300		1.71		
B INTERIORS		4,843 m2			1,531,300		316.19	18.1
B1 PARTITIONS & DOORS					443,500		91.58	5.3
B11 Partitions	0.247	1,197 m2	277.28	331,900		68.53		
B12 Doors	0.013	62 No.	1,800.00	111,600		23.04		
B2 FINISHES					747,200		154.28	8.8
B21 Floor Finishes	1.000	4,843 m2	61.74	299,000		61.74		
B22 Ceiling Finishes	1.000	4,843 m2	63.74	308,700		63.74		
B23 Wall Finishes	0.792	3,834 m2	36.38	139,500		28.80		
B3 FITTINGS & EQUIPMENT					340,600		70.33	4.0
B31 Fittings & Fixtures	1.000	4,843 m2	37.29	180,600		37.29		
B32 Equipment	1.000	4,843 m2	15.49	75,000		15.49		
B33 Elevators	0.000	1 No.	85,000.00	85,000		17.55		
B34 Escalators	0.000	0 No.	0.00	0		0.00		
C SERVICES		4,843 m2			4,103,200		847.24	48.6
C1 MECHANICAL					2,507,300		517.72	29.7
C11 Plumbing & Drainage	1.000	4,843 m2	81.02	392,400		81.02		
C12 Fire Protection	1.000	4,843 m2	47.33	229,200		47.33		
C13 HVAC	1.000	4,843 m2	337.37	1,633,900		337.37		
C14 Controls	1.000	4,843 m2	51.99	251,800		51.99		
C2 ELECTRICAL					1,595,900		329.53	18.9
C21 Service & Distribution	1.000	4,843 m2	55.32	267,900		55.32		
C22 Lighting, Devices & Heating	1.000	4,843 m2	168.00	813,600		168.00		
C23 Systems & Ancillaries	1.000	4,843 m2	106.22	514,400		106.22		
NET BUILDING COST - EXCLUDING SITE					6,706,300		1,384.74	79.4
D SITE & ANCILLARY WORK					1,030,000		212.68	12.2
D1 SITE WORK					21,800		4.50	0.3
D11 Site Development	0.000	1 Sum	21,800	21,800		4.50		
D12 Mechanical Site Services	0.000	1 Sum	0	0		0.00		
D13 Electrical Site Services	0.000	1 Sum	0	0		0.00		
D2 ANCILLARY WORK					1,008,200		208.18	11.9
D21 Demolition	1.000	4,843 m2	106.19	514,300		106.19		
D22 Alterations	1.000	4,843 m2	101.98	493,900		101.98		
NET BUILDING COST - INCLUDING SITE					7,736,300		1,597.42	91.6
Z GENERAL REQ'S & ALLOWANCES					1,783,600		368.28	8.4
Z1 GENERAL REQUIREMENTS & FEE					707,100		146.00	8.4
Z11 General Requirements	7.0%			541,500		111.81		
Z12 Fee	2.0%			165,600		34.19		
TOTAL CONSTRUCTION ESTIMATE - EXCLUDING CONTINGENCIES					8,443,400		1,743.42	100.0
Z2 ALLOWANCES					1,076,500		222.28	
Z21 Design Allowance	10.0%			844,300		174.33		
Z22 Escalation Allowance	2.5%			232,200		47.95		
Z24 Infection Control	0.0%			0		0.00		
TOTAL CONSTRUCTION ESTIMATE - INCLUDING CONTINGENCIES					9,519,900		1,965.70	
Harmonized Sales Tax (HST)	0.0%				0		0.00	
TOTAL CONSTRUCTION ESTIMATE					9,519,900		1,965.70	

FEASIBILITY STUDY

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Option #1, Base		A - 2	
A23 Roof Construction	43 m2	537.21	\$23,100
1 Allowance for roof structure to stair expansion	43 m2	350.00	\$15,100
2 Allowance for stair c/w guard rails	1 Flight	8,000.00	\$8,000
A32 Walls Above Grade	907 m2	509.48	\$462,100
1 Allowance for walls above grade to stair expansion	132 m2	500.00	\$66,000
2 Allowance for repointing existing brick work (assume 30% requires work)	1,999 m2	30.00	\$60,000
3 Allowance to replace all exterior glazing c/w misc. alterations (Per Alumicor)	517 m2	650.00	\$336,100
4 NE Stair - Allowance to replace all exterior glazing c/w misc. alterations (Per Alumicor)	1 Nil	0.00	\$0
A33 Entrances	5 No.	5,480.00	\$27,400
1 Allowance for doors, single leaf	1 Lvs	2,000.00	\$2,000
1 Allowance for doors, single leaf, glazed	2 Lvs	3,000.00	\$6,000
2 Allowance for doors, double leaf, glazed	2 Pair	6,500.00	\$13,000
3 Allowance for automatic door opener	2 No.	3,200.00	\$6,400
A34 Roof Covering	2,378 m2	231.67	\$550,900
1 Allowance for modified bitumen roof coverings to stair expansion	43 m2	200.00	\$8,600
2 Allowance for new roof coverings to entire existing roof	2,335 m2	225.00	\$525,400
3 Allowance for concrete roof pavers	339 No.	50.00	\$16,900
A35 Projections	1 Sum	8,300.00	\$8,300
1 Allowance for parapet	33 m	250.00	\$8,300
2 Allowance for skylight (carried in Option #2)	1 Nil	0.00	\$0

Option #1, Base

A - 3

B11 Partitions	1,197 m2	277.28	\$331,900
1 Drywall Partitions	1,140 m2	100.00	\$114,000
2 Extra over for glazed partitions	5% 57 m2	450.00	\$25,700
3 Gypsum board to one side of metal studs @ columns	506 m2	60.00	\$30,300
4 Allowance for demountable walls	258 m	550.00	\$141,900
5 Allowance for decorative guard rail (carried in Option #2)	0 m	1,200.00	\$0
6 Allowance to upgrade existing partitions (security)	1 Sum	20,000.00	\$20,000
B12 Doors	62 Lvs	1,800.00	\$111,600
1 Allowance for interior door, single	54 Lvs	1,800.00	\$97,200
2 Allowance for interior door, double	4 Pair	3,600.00	\$14,400
B21 Floor Finishes	4,843 m2	61.74	\$299,000
1 Carpet Tile	3,944 m2	55.00	\$216,900
2 Porcelain tile @ washrooms & entrances	242 m2	140.00	\$33,900
3 Area to remain (allow for misc. modifications)	657 m2	20.00	\$13,100
4 Allowance for base trim	1,536 m	15.00	\$23,000
5 Allowance for specialty finishes	4,843 m2	2.50	\$12,100
B22 Ceiling Finishes	4,843 m2	63.74	\$308,700
1 Allowance for acoustic tile ceiling	4,601 m2	50.00	\$230,100
2 Allowance for painted drywall ceiling	242 m2	110.00	\$26,600
3 Allowance for perimeter drywall bulkhead	232 m2	120.00	\$27,800
4 Allowance for specialty finishes	4,843 m2	5.00	\$24,200
B23 Wall Finishes	3,834 m2	36.38	\$139,500
1 Allowance for paint to walls	3,834 m2	10.00	\$38,300
2 Extra over for porcelain tile @ washrooms	702 m2	140.00	\$98,300
3 Extra over for specialty finishes	3% 115 m2	25.00	\$2,900
B31 Fittings & Fixtures	4,843 m2	37.29	\$180,600
1 Allowance for washroom accessories	10 No.	1,000.00	\$10,000
2 Allowance for washroom accessories, BF	4 No.	1,200.00	\$4,800
3 Allowance for toilet partitions	10 No.	800.00	\$8,000
4 Allowance for millwork			
Allowance for kitchenette millwork	12 m	1,400.00	\$16,800
5 Allowance for misc.millwork	4,843 m2	5.00	\$24,200
6 Allowance for rough carpentry	4,843 m2	3.50	\$17,000
7 Allowance for miscellaneous specialties	4,843 m2	5.00	\$24,200
8 Allowance for miscellaneous metals	4,843 m2	4.00	\$19,400
9 Allowance for signage	4,843 m2	2.00	\$9,700
10 Allowance for window coverings	517 m2	90.00	\$46,500
11 Allowance for systems furniture (EXCLUDED)	1 Nil	0.00	\$0

Option #1, Base		A - 4	
B32 Equipment	4,843 m2	15.49	\$75,000
1 Allowance for high density storage unit	1 Sum	75,000.00	\$75,000
B33 Elevators	1 No.	85,000.00	\$85,000
1 New 2-stop hydraulic elevator	1 No.	85,000.00	\$85,000
C11 Plumbing & Drainage	4,843 m2	81.02	\$392,400
1 Plumbing fixtures & rough-in - add/ replace	4,843 m2	20.00	\$96,900
2 Domestic water			
- Existing incoming main & DHW heater	1 Nil	0.00	\$0
- Allow for DHW recirc. Pump and piping to fixtures	1 Sum	75,000.00	\$75,000
3 Sanitary drainage & vent - Allow	1 Sum	90,000.00	\$90,000
4 Storm drainage - New roof drains replace RWL	4,843 m2	10.00	\$48,400
5 Natural gas - Extend existing	1 Sum	24,000.00	\$24,000
6 Demolition, allow	4,843 m2	7.00	\$33,900
7 Miscellaneous	4,843 m2	5.00	\$24,200
C12 Fire Protection	4,843 m2	47.33	\$229,200
1 Fire stand pipe - N/A	1 Nil	0.00	\$0
2 Sprinkler system, allow for new sprinkler system	4,843 m2	36.00	\$174,300
3 Sprinkler system, to basement	450 m2	36.00	\$16,200
4 Fire pump - Assume not required	1 Nil	0.00	\$0
5 Special fire protection system allow	1 Sum	30,000.00	\$30,000
6 Fire extinguishers	4,843 m2	1.80	\$8,700
C13 HVAC	4,843 m2	337.37	\$1,633,900
1 Heat generation - New gas fired condensing boiler plant, allow total 2,400MBH	1 Sum	94,000.00	\$94,000
2 Refrigeration - Via VRF system	1 Nil	0.00	\$0
3 Liquid heat transfer - perimeter & entrance heaters, all new	4,843 m2	61.00	\$295,400
4 Liquid heat transfer - AHU heating, N/A, gas heating units	1 Nil	0.00	\$0
5 VRF system - Total 120 ton c/w about 60 indoor units & outdoor unit c/w ref.. Piping	1 Sum	600,000.00	\$600,000
6 Air distribution equipment			
- 4,000CFM MAU c/w DX cooling, gas heating c/w HRV	2 No.	50,000.00	\$100,000
- Humidifiers, gas fired	2 No.	12,000.00	\$24,000
- ERV environment Canada lab	1 Sum	10,000.00	\$10,000
7 Air distribution ductwork & devices	4,843 m2	68.00	\$329,300
8 Exhaust & ventilation	4,843 m2	10.00	\$48,400
9 24/ 7 cooling, allow	1 Sum	40,000.00	\$40,000
10 Testing, adjusting & balancing	1 Sum	25,000.00	\$25,000
11 Demolition, allow	4,843 m2	9.00	\$43,600
12 Miscellaneous	4,843 m2	5.00	\$24,200
C14 Controls	4,843 m2	51.99	\$251,800
1 Controls, new DDC system incl. CO2 sensors	4,843 m2	52.00	\$251,800

Option #1, Base

A - 5

C21 Service & Distribution	4,843 m2	55.32	\$267,900
1 Incoming power and main switchboard - Existing to remain	1 Nil	0.00	\$0
2 225kVA transformer - replace	1 No.	18,000.00	\$18,000
3 New 400A 600V dist. Panel for mech. Loads	1 No.	15,000.00	\$15,000
4 New 300A 600V dist. Panel for mech. Loads	1 No.	10,000.00	\$10,000
4 1200A 120/208V panel	1 No.	24,000.00	\$24,000
5 Branch panels	15 No.	4,000.00	\$60,000
6 Feeders	4,843 m2	20.00	\$96,900
7 Grounding, coordination , short cct, arc flahs study etc.	1 Sum	24,000.00	\$24,000
8 Demolition, allow	1 Sum	20,000.00	\$20,000
9 Emergency power - Not provided	1 Nil	0.00	\$0
C22 Lighting,Devices & Heating	4,843 m2	168.00	\$813,600
1 New LED lightiing	4,843 m2	90.00	\$435,900
2 Lighting control c/w occupancy sensors	4,843 m2	18.00	\$87,200
3 Eixt & emerg. Lighting - modify to suit	4,843 ,m2	8.00	\$38,700
4 Power outlets, devices and connections	4,843 m2	32.00	\$155,000
5 Mechanical power connections	4,843 m2	15.00	\$72,600
6 Demolition	4,843 m2	5.00	\$24,200
C23 Systems & Ancillaries	4,843 m2	106.22	\$514,400
1 Fire alarm system - Existing main panel to remain, modify existing to suit c/w new devices	4,843 m2	20.00	\$96,900
2 Communication empty conduit system	4,843 m2	20.00	\$96,900
3 Communication horizontal cabling	4,843 m2	38.00	\$184,000
4 Communication backbone cabling	4,843 m2	2.00	\$9,700
5 Communicationn active equip., swithces, phones etc - by others	1 Nil	0.00	\$0
6 Sound maskng system	4,843 m2	10.00	\$48,400
7 Security & CCTV system - No works required	1 Nil	0.00	\$0
8 A/V empty conduit system only for meeting rooms etc.	1 Sum	30,000.00	\$30,000
9 Demolition	4,843 m2	4.00	\$19,400
10 Miscellaneous systems	4,843 m2	6.00	\$29,100

Option #1, Base

A - 6

D12 Site Development	1 Sum	21,800.00	\$21,800
1 Allowance for concrete walkway	182 m2	65.00	\$11,800
2 Allowance for minimal demolition and site reinstatement	1 Sum	10,000.00	\$10,000
D21 Demolition	4,843 m2	106.19	\$514,300
<u>Interior Demolitions</u>			
1 Remove existing partitions	4,672 m2	30.00	\$140,200
2 Remove existing door and frame	130 Lvs	100.00	\$13,000
3 Remove existing floor and ceiling finishes, prepare for new	4,843 m2	45.00	\$217,900
4 Allowance for misc. removals and demolitions	4,843 m2	25.00	\$121,100
5 NE Stair - Remove existing stair, complete	1 Nil	0.00	\$0
6 Removal of existing systems furniture (by owner)	1 Nil	0.00	\$0
<u>Exterior Demolitions</u>			
7 Remove roof structure to allow for skylight (Option #2)	1 Nil	0.00	\$0
8 Remove existing roof structure to allow for stair expansion	18 m2	200.00	\$3,600
9 Remove existing floor structure, allow for opening (Option #2)	1 Nil	0.00	\$0
10 NE Stair - Remove existing door, complete	1 Nil	0.00	\$0
11 NE Stair - Break opening to allow for new window	1 Nil	0.00	\$0
12 Remove existing windows, complete	74 No.	250.00	\$18,500
D22 Alterations	1 Sum	493,900.00	\$493,900
1 Allowance for structural modifications to allow for skylight - Carried in Option #2	1 Nil	0.00	\$0
2 Allowance for structural modifications to allow for RTU			
- C200x21	567 kg	4.50	\$2,600
- W250x39	1,482 kg	4.50	\$6,700
- 2-C250x45	6,660 kg	4.50	\$30,000
- 2-C250x30	4,620 kg	4.50	\$20,800
- Allowance for connections	1,333 kg	4.50	\$6,000
- Allowance for misc. modifications	1 Sum	7,500.00	\$7,500
3 Allowance for structural modifications to allow for expansion	43 m2	250.00	\$10,800
4 Allowance for structural modifications to allow for opening	80 m2	150.00	\$12,000
5 Allowance for new elevator pit	1 Sum	20,000.00	\$20,000
6 NE Stair - Allowance to infill existing removed stair	1 Nil	0.00	\$0
7 NE Stair - Allowance to infill existing door opening	1 Nil	0.00	\$0
8 NE Stair - Allowance for misc. modifications to brick work	1 Nil	0.00	\$0
9 Allowance to re-furbish existing stairs to remain (new guards	3 No.	2,500.00	\$7,500
10 Allowance for roof penetrations @ M&E works	1 Sum	10,000.00	\$10,000
12 Allowance for asbestos abatement (Type 1 removal)	4,800 m2	75.00	\$360,000

**APPENDIX B
Option #2, Skylight**

Project : GoCB WINDSOR
 Project : BUILDING CONDITION REPORT &
 Location : WINDSOR, ONTARIO
 Owner : GoCB WINDSOR
 Consultant : Dialog

Plan Date : September 16, 2015

ELEMENTAL COST SUMMARY
Option #2, Skylight

Const Type : Reno
 Area : 4,843 m2

ELEMENT	Ratio to GFA	Element Cost		Element Amount		Rate per m2 of GFA		
		Quantity	Unit Rate	Sub-total	Total	Sub-total	Total	
A SHELL		4,843 m2			1,204,400		248.69	13.7
A1 SUBSTRUCTURE					0		0.00	0.0
A11 Foundations	0.000	0 m2	0.00	0		0.00		
A12 Basement Excavation	0.000	0 m3	0.00	0		0.00		
A13 Special Conditions	0.000	0 m2	0.00	0		0.00		
A2 STRUCTURE					23,100		4.77	0.3
A21 Lowest Floor Construction	0.000	0 m2	0.00	0		0.00		
A22 Upper Floor Construction	0.000	0 m2	0.00	0		0.00		
A23 Roof Construction	0.009	43 m2	537.21	23,100		4.77		
A3 EXTERIOR ENCLOSURE					1,181,300		243.92	13.5
A31 Walls Below Grade	0.000	0 m2	0.00	0		0.00		
A32 Walls Above Grade	0.187	907 m2	510.14	462,700		95.54		
A33 Entrances	0.001	5 No.	5,480.00	27,400		5.66		
A34 Roof Covering	0.491	2,378 m2	231.67	550,900		113.75		
A35 Projections	0.000	1 Sum	140,300.00	140,300		28.97		
B INTERIORS		4,843 m2			1,575,600		325.34	17.9
B1 PARTITIONS & DOORS					490,300		101.24	5.6
B11 Partitions	0.247	1,197 m2	316.37	378,700		78.20		
B12 Doors	0.013	62 No.	1,800.00	111,600		23.04		
B2 FINISHES					747,200		154.28	8.5
B21 Floor Finishes	1.000	4,843 m2	61.74	299,000		61.74		
B22 Ceiling Finishes	1.000	4,843 m2	63.74	308,700		63.74		
B23 Wall Finishes	0.792	3,834 m2	36.38	139,500		28.80		
B3 FITTINGS & EQUIPMENT					338,100		69.81	3.9
B31 Fittings & Fixtures	1.000	4,843 m2	36.77	178,100		36.77		
B32 Equipment	1.000	4,843 m2	15.49	75,000		15.49		
B33 Elevators	0.000	1 No.	85,000.00	85,000		17.55		
B34 Escalators	0.000	0 No.	0.00	0		0.00		
C SERVICES		4,843 m2			4,103,200		847.24	46.7
C1 MECHANICAL					2,507,300		517.72	28.6
C11 Plumbing & Drainage	1.000	4,843 m2	81.02	392,400		81.02		
C12 Fire Protection	1.000	4,843 m2	47.33	229,200		47.33		
C13 HVAC	1.000	4,843 m2	337.37	1,633,900		337.37		
C14 Controls	1.000	4,843 m2	51.99	251,800		51.99		
C2 ELECTRICAL					1,595,900		329.53	18.2
C21 Service & Distribution	1.000	4,843 m2	55.32	267,900		55.32		
C22 Lighting, Devices & Heating	1.000	4,843 m2	168.00	813,600		168.00		
C23 Systems & Ancillaries	1.000	4,843 m2	106.22	514,400		106.22		
NET BUILDING COST - EXCLUDING SITE					6,883,200		1,421.27	78.4
D SITE & ANCILLARY WORK					1,162,300		240.00	13.2
D1 SITE WORK					21,800		4.50	0.2
D11 Site Development	0.000	1 Sum	21,800	21,800		4.50		
D12 Mechanical Site Services	0.000	1 Sum	0	0		0.00		
D13 Electrical Site Services	0.000	1 Sum	0	0		0.00		
D2 ANCILLARY WORK					1,140,500		235.49	13.0
D21 Demolition	1.000	4,843 m2	115.96	561,600		115.96		
D22 Alterations	1.000	4,843 m2	119.53	578,900		119.53		
NET BUILDING COST - INCLUDING SITE					8,045,500		1,661.26	91.6
Z GENERAL REQ'S & ALLOWANCES					1,855,000		383.03	8.4
Z1 GENERAL REQUIREMENTS & FEE					735,400		151.85	8.4
Z11 General Requirements	7.0%			563,200		116.29		
Z12 Fee	2.0%			172,200		35.56		
TOTAL CONSTRUCTION ESTIMATE - EXCLUDING CONTINGENCIES					8,780,900		1,813.11	100.0
Z2 ALLOWANCES					1,119,600		231.18	
Z21 Design Allowance	10.0%			878,100		181.31		
Z22 Escalation Allowance	2.5%			241,500		49.87		
Z24 Infection Control	0.0%			0		0.00		
TOTAL CONSTRUCTION ESTIMATE - INCLUDING CONTINGENCIES					9,900,500		2,044.29	
Harmonized Sales Tax (HST)	0.0%				0		0.00	
TOTAL CONSTRUCTION ESTIMATE					9,900,500		2,044.29	

FEASIBILITY STUDY

Hanscomb

Option #2, Skylight

B - 2

A23 Roof Construction	43 m2	537.21	\$23,100
1 Allowance for roof structure to stair expansion	43 m2	350.00	\$15,100
2 Allowance for stair c/w guard rails	1 Flight	8,000.00	\$8,000
A32 Walls Above Grade	907 m2	510.14	\$462,700
1 Allowance for walls above grade to stair expansion	132 m2	500.00	\$66,000
2 Allowance for repointing existing brick work (assume 30% requires work)	1,999 m2	30.00	\$60,000
3 Allowance to replace all exterior glazing c/w misc. alterations (Per Alumicor)	489 m2	650.00	\$317,500
4 NE Stair - Allowance to replace all exterior glazing c/w misc. alterations (Per Alumicor)	30 m2	650.00	\$19,200
A33 Entrances	5 No.	5,480.00	\$27,400
1 Allowance for doors, single leaf	1 Lvs	2,000.00	\$2,000
1 Allowance for doors, single leaf, glazed	2 Lvs	3,000.00	\$6,000
2 Allowance for doors, double leaf, glazed	2 Pair	6,500.00	\$13,000
3 Allowance for automatic door opener	2 No.	3,200.00	\$6,400
A34 Roof Covering	2,378 m2	231.67	\$550,900
1 Allowance for modified bitumen roof coverings to stair expansion	43 m2	200.00	\$8,600
2 Allowance for new roof coverings to entire existing roof	2,335 m2	225.00	\$525,400
3 Allowance for concrete roof pavers	339 No.	50.00	\$16,900
A35 Projections	1 Sum	140,300.00	\$140,300
1 Allowance for parapet	33 m	250.00	\$8,300
2 Allowance for skylight	88 m2	1,500.00	\$132,000

Option #2, Skylight

B - 3

B11 Partitions		1,197 m2	316.37	\$378,700
1 Drywall Partitions		1,140 m2	100.00	\$114,000
2 Extra over for glazed partitions	5%	57 m2	450.00	\$25,700
3 Gypsum board to one side of metal studs @ columns		506 m2	60.00	\$30,300
4 Allowance for demountable walls		258 m	550.00	\$141,900
5 Allowance for decorative guard rail		39 m	1,200.00	\$46,800
6 Allowance to upgrade existing partitions (security)		1 Sum	20,000.00	\$20,000
B12 Doors		62 Lvs	1,800.00	\$111,600
1 Allowance for interior door, single		54 Lvs	1,800.00	\$97,200
2 Allowance for interior door, double		4 Pair	3,600.00	\$14,400
B21 Floor Finishes		4,843 m2	61.74	\$299,000
1 Carpet Tile		3,944 m2	55.00	\$216,900
2 Porcelain tile @ washrooms & entrances		242 m2	140.00	\$33,900
3 Area to remain (allow for misc. modifications)		657 m2	20.00	\$13,100
4 Allowance for base trim		1,536 m	15.00	\$23,000
5 Allowance for specialty finishes		4,843 m2	2.50	\$12,100
B22 Ceiling Finishes		4,843 m2	63.74	\$308,700
1 Allowance for acoustic tile ceiling		4,601 m2	50.00	\$230,100
2 Allowance for painted drywall ceiling		242 m2	110.00	\$26,600
3 Allowance for perimeter drywall bulkhead		232 m2	120.00	\$27,800
4 Allowance for specialty finishes		4,843 m2	5.00	\$24,200
B23 Wall Finishes		3,834 m2	36.38	\$139,500
1 Allowance for paint to walls		3,834 m2	10.00	\$38,300
2 Extra over for porcelain tile @ washrooms		702 m2	140.00	\$98,300
3 Extra over for specialty finishes	3%	115 m2	25.00	\$2,900
B31 Fittings & Fixtures		4,843 m2	36.77	\$178,100
1 Allowance for washroom accessories		10 No.	1,000.00	\$10,000
2 Allowance for washroom accessories, BF		4 No.	1,200.00	\$4,800
3 Allowance for toilet partitions		10 No.	800.00	\$8,000
4 Allowance for millwork				
Allowance for kitchenette millwork		12 m	1,400.00	\$16,800
5 Allowance for misc.millwork		4,843 m2	5.00	\$24,200
6 Allowance for rough carpentry		4,843 m2	3.50	\$17,000
7 Allowance for miscellaneous specialties		4,843 m2	5.00	\$24,200
8 Allowance for miscellaneous metals		4,843 m2	4.00	\$19,400
9 Allowance for signage		4,843 m2	2.00	\$9,700
10 Allowance for window coverings		489 m2	90.00	\$44,000
11 Allowance for systems furniture (EXCLUDED)		1 Nil	0.00	\$0

Option #2, Skylight

B - 4

B32 Equipment	4,843 m2	15.49	\$75,000
1 Allowance for high density storage unit	1 Sum	75,000.00	\$75,000
B33 Elevators	1 No.	85,000.00	\$85,000
1 New 2-stop hydraulic elevator	1 No.	85,000.00	\$85,000
C11 Plumbing & Drainage	4,843 m2	81.02	\$392,400
1 Plumbing fixtures & rough-in - add/ replace	4,843 m2	20.00	\$96,900
2 Domestic water			
- Existing incoming main & DHW heater	1 Nil	0.00	\$0
- Allow for DHW recirc. Pump and piping to fixtures	1 Sum	75,000.00	\$75,000
3 Sanitary drainage & vent - Allow	1 Sum	90,000.00	\$90,000
4 Storm drainage - New roof drains replace RWL	4,843 m2	10.00	\$48,400
5 Natural gas - Extend existing	1 Sum	24,000.00	\$24,000
6 Demolition, allow	4,843 m2	7.00	\$33,900
7 Miscellaneous	4,843 m2	5.00	\$24,200
C12 Fire Protection	4,843 m2	47.33	\$229,200
1 Fire stand pipe - N/A	1 Nil	0.00	\$0
2 Sprinkler system, allow for new sprinkler system	4,843 m2	36.00	\$174,300
3 Sprinkler system, to basement	450 m2	36.00	\$16,200
4 Fire pump - Assume not required	1 Nil	0.00	\$0
5 Special fire protection system allow	1 Sum	30,000.00	\$30,000
6 Fire extinguishers	4,843 m2	1.80	\$8,700
C13 HVAC	4,843 m2	337.37	\$1,633,900
1 Heat generation - New gas fired condensing boiler plant, allow total 2,400MBH	1 Sum	94,000.00	\$94,000
2 Refrigeration - Via VRF system	1 Nil	0.00	\$0
3 Liquid heat transfer - perimeter & entrance heaters, all new	4,843 m2	61.00	\$295,400
4 Liquid heat transfer - AHU heating, N/A, gas heating units	1 Nil	0.00	\$0
5 VRF system - Total 120 ton c/w about 60 indoor units & outdoor unit c/w ref.. Piping	1 Sum	600,000.00	\$600,000
6 Air distribution equipment			
- 4,000CFM MAU c/w DX cooling, gas heating c/w HRV	2 No.	50,000.00	\$100,000
- Humidifiers, gas fired	2 No.	12,000.00	\$24,000
- ERV environment Canada lab	1 Sum	10,000.00	\$10,000
7 Air distribution ductwork & devices	4,843 m2	68.00	\$329,300
8 Exhaust & ventilation	4,843 m2	10.00	\$48,400
9 24/ 7 cooling, allow	1 Sum	40,000.00	\$40,000
10 Testing, adjusting & balancing	1 Sum	25,000.00	\$25,000
11 Demolition, allow	4,843 m2	9.00	\$43,600
12 Miscellaneous	4,843 m2	5.00	\$24,200
C14 Controls	4,843 m2	51.99	\$251,800
1 Controls, new DDC system incl. CO2 sensors	4,843 m2	52.00	\$251,800

Option #2, Skylight

B - 5

C21 Service & Distribution	4,843 m2	55.32	\$267,900
1 Incoming power and main switchboard - Existing to remain	1 Nil	0.00	\$0
2 225kVA transformer - replace	1 No.	18,000.00	\$18,000
3 New 400A 600V dist. Panel for mech. Loads	1 No.	15,000.00	\$15,000
4 New 300A 600V dist. Panel for mech. Loads	1 No.	10,000.00	\$10,000
4 1200A 120/208V panel	1 No.	24,000.00	\$24,000
5 Branch panels	15 No.	4,000.00	\$60,000
6 Feeders	4,843 m2	20.00	\$96,900
7 Grounding, coordination , short cct, arc flahs study etc.	1 Sum	24,000.00	\$24,000
8 Demolition, allow	1 Sum	20,000.00	\$20,000
9 Emergency power - Not provided	1 Nil	0.00	\$0
C22 Lighting,Devices & Heating	4,843 m2	168.00	\$813,600
1 New LED lightiing	4,843 m2	90.00	\$435,900
2 Lighting control c/w occupancy sensors	4,843 m2	18.00	\$87,200
3 Eixt & emerg. Lighting - modify to suit	4,843 ,m2	8.00	\$38,700
4 Power outlets, devices and connections	4,843 m2	32.00	\$155,000
5 Mechanical power connections	4,843 m2	15.00	\$72,600
6 Demolition	4,843 m2	5.00	\$24,200
C23 Systems & Ancillaries	4,843 m2	106.22	\$514,400
1 Fire alarm system - Existing main panel to remain, modify existing to suit c/w new devices	4,843 m2	20.00	\$96,900
2 Communication empty conduit system	4,843 m2	20.00	\$96,900
3 Communication horizontal cabling	4,843 m2	38.00	\$184,000
4 Communication backbone cabling	4,843 m2	2.00	\$9,700
5 Communicationn active equip., swithces, phones etc - by others	1 Nil	0.00	\$0
6 Sound maskng system	4,843 m2	10.00	\$48,400
7 Security & CCTV system - No works required	1 Nil	0.00	\$0
8 A/V empty conduit system only for meeting rooms etc.	1 Sum	30,000.00	\$30,000
9 Demolition	4,843 m2	4.00	\$19,400
10 Miscellaneous systems	4,843 m2	6.00	\$29,100

Option #2, Skylight

B - 6

D12 Site Development	1 Sum	21,800.00	\$21,800
1 Allowance for concrete walkway	182 m2	65.00	\$11,800
2 Allowance for minimal demolition and site reinstatement	1 Sum	10,000.00	\$10,000
D21 Demolition	4,843 m2	115.96	\$561,600
<u>Interior Demolitions</u>			
1 Remove existing partitions	4,672 m2	30.00	\$140,200
2 Remove existing door and frame	130 Lvs	100.00	\$13,000
3 Remove existing floor and ceiling finishes, prepare for new	4,843 m2	45.00	\$217,900
4 Allowance for misc. removals and demolitions	4,843 m2	25.00	\$121,100
5 NE Stair - Remove existing stair, complete	1 No.	5,000.00	\$5,000
6 Removal of existing systems furniture (by owner)	1 Nil	0.00	\$0
<u>Exterior Demolitions</u>			
7 Remove existing roof structure to allow for skylight	88 m2	200.00	\$17,600
8 Remove existing roof structure to allow for stair expansion	18 m2	200.00	\$3,600
9 Remove existing floor structure to allow for opening	80 m2	250.00	\$20,000
10 NE Stair - Remove existing door, complete	1 No.	250.00	\$300
11 NE Stair - Break opening to allow for new window	30 m2	150.00	\$4,400
12 Remove existing windows, complete	74 No.	250.00	\$18,500
D22 Alterations	1 Sum	578,900.00	\$578,900
1 Allowance for structural modifications to allow for skylight			
- W250x39	1,521 kg	4.50	\$6,800
- HSS203x152x8	2,470 kg	4.50	\$11,100
- 2-C250x45	4,230 kg	4.50	\$19,000
- 2-C250x30	4,260 kg	4.50	\$19,200
- Allowance for connections	1,248 kg	4.50	\$5,600
- Allowance for misc. modifications	1 Sum	5,000.00	\$5,000
2 Allowance for structural modifications to allow for RTU			
- C200x21	567 kg	4.50	\$2,600
- W250x39	1,482 kg	4.50	\$6,700
- 2-C250x45	6,660 kg	4.50	\$30,000
- 2-C250x30	4,620 kg	4.50	\$20,800
- Allowance for connections	1,333 kg	4.50	\$6,000
- Allowance for misc. modifications	1 Sum	7,500.00	\$7,500
3 Allowance for structural modifications to allow for expansion	43 m2	250.00	\$10,800
4 Allowance for structural modifications to allow for opening	80 m2	150.00	\$12,000
5 Allowance for new elevator pit	1 Sum	20,000.00	\$20,000
6 NE Stair - Allowance to infill existing removed stair	36 m2	350.00	\$12,600
7 NE Stair - Allowance to infill existing door opening	7 m2	450.00	\$3,200
8 NE Stair - Allowance for misc. modifications to brick work	1 Sum	2,500.00	\$2,500
9 Allowance to re-furbish existing stairs to remain (new guards	3 No.	2,500.00	\$7,500
10 Allowance for roof penetrations @ M&E works	1 Sum	10,000.00	\$10,000
12 Allowance for asbestos abatement (Type 1 removal)	4,800 m2	75.00	\$360,000

**APPENDIX C
Option #3, North Wall Addition**

Project : GoCB WINDSOR
 Project : BUILDING CONDITION REPORT &
 Location : WINDSOR, ONTARIO
 Owner : GoCB WINDSOR
 Consultant : Dialog

Plan Date : September 16, 2015

ELEMENTAL COST SUMMARY
Option #3, North Wall Addition

Const Type : Reno
 Area : 4,843 m2

ELEMENT	Ratio to GFA	Element Cost		Element Amount		Rate per m2 of GFA		
		Quantity	Unit Rate	Sub-total	Total	Sub-total	Total	
A SHELL		4,843 m2			1,425,900		294.42	15.6
A1 SUBSTRUCTURE					0		0.00	0.0
A11 Foundations	0.000	0 m2	0.00	0		0.00		
A12 Basement Excavation	0.000	0 m3	0.00	0		0.00		
A13 Special Conditions	0.000	0 m2	0.00	0		0.00		
A2 STRUCTURE					23,100		4.77	0.3
A21 Lowest Floor Construction	0.000	0 m2	0.00	0		0.00		
A22 Upper Floor Construction	0.000	0 m2	0.00	0		0.00		
A23 Roof Construction	0.009	43 m2	537.21	23,100		4.77		
A3 EXTERIOR ENCLOSURE					1,402,800		289.66	15.4
A31 Walls Below Grade	0.000	0 m2	0.00	0		0.00		
A32 Walls Above Grade	0.187	907 m2	746.86	677,400		139.87		
A33 Entrances	0.001	5 No.	5,480.00	27,400		5.66		
A34 Roof Covering	0.491	2,378 m2	231.67	550,900		113.75		
A35 Projections	0.000	1 Sum	147,100.00	147,100		30.37		
B INTERIORS		4,843 m2			1,575,600		325.34	17.3
B1 PARTITIONS & DOORS					490,300		101.24	5.4
B11 Partitions	0.247	1,197 m2	316.37	378,700		78.20		
B12 Doors	0.013	62 No.	1,800.00	111,600		23.04		
B2 FINISHES					747,200		154.28	8.2
B21 Floor Finishes	1.000	4,843 m2	61.74	299,000		61.74		
B22 Ceiling Finishes	1.000	4,843 m2	63.74	308,700		63.74		
B23 Wall Finishes	0.792	3,834 m2	36.38	139,500		28.80		
B3 FITTINGS & EQUIPMENT					338,100		69.81	3.7
B31 Fittings & Fixtures	1.000	4,843 m2	36.77	178,100		36.77		
B32 Equipment	1.000	4,843 m2	15.49	75,000		15.49		
B33 Elevators	0.000	1 No.	85,000.00	85,000		17.55		
B34 Escalators	0.000	0 No.	0.00	0		0.00		
C SERVICES		4,843 m2			4,103,200		847.24	45.0
C1 MECHANICAL					2,507,300		517.72	27.5
C11 Plumbing & Drainage	1.000	4,843 m2	81.02	392,400		81.02		
C12 Fire Protection	1.000	4,843 m2	47.33	229,200		47.33		
C13 HVAC	1.000	4,843 m2	337.37	1,633,900		337.37		
C14 Controls	1.000	4,843 m2	51.99	251,800		51.99		
C2 ELECTRICAL					1,595,900		329.53	17.5
C21 Service & Distribution	1.000	4,843 m2	55.32	267,900		55.32		
C22 Lighting, Devices & Heating	1.000	4,843 m2	168.00	813,600		168.00		
C23 Systems & Ancillaries	1.000	4,843 m2	106.22	514,400		106.22		
NET BUILDING COST - EXCLUDING SITE					7,104,700		1,467.00	77.8
D SITE & ANCILLARY WORK					1,257,300		259.61	13.8
D1 SITE WORK					21,800		4.50	0.2
D11 Site Development	0.000	1 Sum	21,800	21,800		4.50		
D12 Mechanical Site Services	0.000	1 Sum	0	0		0.00		
D13 Electrical Site Services	0.000	1 Sum	0	0		0.00		
D2 ANCILLARY WORK					1,235,500		255.11	13.5
D21 Demolition	1.000	4,843 m2	125.25	606,600		125.25		
D22 Alterations	1.000	4,843 m2	129.86	628,900		129.86		
NET BUILDING COST - INCLUDING SITE					8,362,000		1,726.62	91.6
Z GENERAL REQ'S & ALLOWANCES					1,927,800		398.06	8.4
Z1 GENERAL REQUIREMENTS & FEE					764,200		157.79	8.4
Z11 General Requirements	7.0%			585,300		120.85		
Z12 Fee	2.0%			178,900		36.94		
TOTAL CONSTRUCTION ESTIMATE - EXCLUDING CONTINGENCIES					9,126,200		1,884.41	100.0
Z2 ALLOWANCES					1,163,600		240.26	
Z21 Design Allowance	10.0%			912,600		188.44		
Z22 Escalation Allowance	2.5%			251,000		51.83		
Z24 Infection Control	0.0%			0		0.00		
TOTAL CONSTRUCTION ESTIMATE - INCLUDING CONTINGENCIES					10,289,800		2,124.67	
Harmonized Sales Tax (HST)	0.0%				0		0.00	
TOTAL CONSTRUCTION ESTIMATE					10,289,800		2,124.67	

FEASIBILITY STUDY

Hanscomb

Option #3, North Wall Addition

C - 2

A23 Roof Construction	43 m2	537.21	\$23,100
1 Allowance for roof structure to stair expansion	43 m2	350.00	\$15,100
2 Allowance for stair c/w guard rails	1 Flight	8,000.00	\$8,000
A32 Walls Above Grade	907 m2	746.86	\$677,400
1 Allowance for walls above grade to stair expansion	132 m2	500.00	\$66,000
2 Allowance for repointing existing brick work (assume 30% requires work)	1,999 m2	30.00	\$60,000
3 Allowance to replace all exterior glazing c/w misc. alterations (Per Alumicor)	489 m2	650.00	\$317,500
4 NE Stair - Allowance to replace all exterior glazing c/w misc. alterations (Per Alumicor)	30 m2	650.00	\$19,200
4 North wall - Brick cladding c/w back up	37 m2	450.00	\$16,700
5 North wall - Aluminum framed glazed curtain wall	220 m2	900.00	\$198,000
A33 Entrances	5 No.	5,480.00	\$27,400
1 Allowance for doors, single leaf	1 Lvs	2,000.00	\$2,000
1 Allowance for doors, single leaf, glazed	2 Lvs	3,000.00	\$6,000
2 Allowance for doors, double leaf, glazed	2 Pair	6,500.00	\$13,000
3 Allowance for automatic door opener	2 No.	3,200.00	\$6,400
A34 Roof Covering	2,378 m2	231.67	\$550,900
1 Allowance for modified bitumen roof coverings to stair expansion	43 m2	200.00	\$8,600
2 Allowance for new roof coverings to entire existing roof	2,335 m2	225.00	\$525,400
3 Allowance for concrete roof pavers	339 No.	50.00	\$16,900
A35 Projections	1 Sum	147,100.00	\$147,100
1 Allowance for parapet	33 m	250.00	\$8,300
2 North wall - Allowance for parapet	27 m	250.00	\$6,800
2 Allowance for skylight	88 m2	1,500.00	\$132,000

Option #3, North Wall Addition

C - 3

B11 Partitions		1,197 m2	316.37	\$378,700
1 Drywall Partitions		1,140 m2	100.00	\$114,000
2 Extra over for glazed partitions	5%	57 m2	450.00	\$25,700
3 Gypsum board to one side of metal studs @ columns		506 m2	60.00	\$30,300
4 Allowance for demountable walls		258 m	550.00	\$141,900
5 Allowance for decorative guard rail		39 m	1,200.00	\$46,800
6 Allowance to upgrade existing partitions (security)		1 Sum	20,000.00	\$20,000
B12 Doors		62 Lvs	1,800.00	\$111,600
1 Allowance for interior door, single		54 Lvs	1,800.00	\$97,200
2 Allowance for interior door, double		4 Pair	3,600.00	\$14,400
B21 Floor Finishes		4,843 m2	61.74	\$299,000
1 Carpet Tile		3,944 m2	55.00	\$216,900
2 Porcelain tile @ washrooms & entrances		242 m2	140.00	\$33,900
3 Area to remain (allow for misc. modifications)		657 m2	20.00	\$13,100
4 Allowance for base trim		1,536 m	15.00	\$23,000
5 Allowance for specialty finishes		4,843 m2	2.50	\$12,100
B22 Ceiling Finishes		4,843 m2	63.74	\$308,700
1 Allowance for acoustic tile ceiling		4,601 m2	50.00	\$230,100
2 Allowance for painted drywall ceiling		242 m2	110.00	\$26,600
3 Allowance for perimeter drywall bulkhead		232 m2	120.00	\$27,800
4 Allowance for specialty finishes		4,843 m2	5.00	\$24,200
B23 Wall Finishes		3,834 m2	36.38	\$139,500
1 Allowance for paint to walls		3,834 m2	10.00	\$38,300
2 Extra over for porcelain tile @ washrooms		702 m2	140.00	\$98,300
3 Extra over for specialty finishes	3%	115 m2	25.00	\$2,900
B31 Fittings & Fixtures		4,843 m2	36.77	\$178,100
1 Allowance for washroom accessories		10 No.	1,000.00	\$10,000
2 Allowance for washroom accessories, BF		4 No.	1,200.00	\$4,800
3 Allowance for toilet partitions		10 No.	800.00	\$8,000
4 Allowance for millwork				
Allowance for kitchenette millwork		12 m	1,400.00	\$16,800
5 Allowance for misc.millwork		4,843 m2	5.00	\$24,200
6 Allowance for rough carpentry		4,843 m2	3.50	\$17,000
7 Allowance for miscellaneous specialties		4,843 m2	5.00	\$24,200
8 Allowance for miscellaneous metals		4,843 m2	4.00	\$19,400
9 Allowance for signage		4,843 m2	2.00	\$9,700
10 Allowance for window coverings		489 m2	90.00	\$44,000
11 Allowance for systems furniture (EXCLUDED)		1 Nil	0.00	\$0

Option #3, North Wall Addition

C - 4

B32 Equipment	4,843 m2	15.49	\$75,000
1 Allowance for high density storage unit	1 Sum	75,000.00	\$75,000
B33 Elevators	1 No.	85,000.00	\$85,000
1 New 2-stop hydraulic elevator	1 No.	85,000.00	\$85,000
C11 Plumbing & Drainage	4,843 m2	81.02	\$392,400
1 Plumbing fixtures & rough-in - add/ replace	4,843 m2	20.00	\$96,900
2 Domestic water			
- Existing incoming main & DHW heater	1 Nil	0.00	\$0
- Allow for DHW recirc. Pump and piping to fixtures	1 Sum	75,000.00	\$75,000
3 Sanitary drainage & vent - Allow	1 Sum	90,000.00	\$90,000
4 Storm drainage - New roof drains replace RWL	4,843 m2	10.00	\$48,400
5 Natural gas - Extend existing	1 Sum	24,000.00	\$24,000
6 Demolition, allow	4,843 m2	7.00	\$33,900
7 Miscellaneous	4,843 m2	5.00	\$24,200
C12 Fire Protection	4,843 m2	47.33	\$229,200
1 Fire stand pipe - N/A	1 Nil	0.00	\$0
2 Sprinkler system, allow for new sprinkler system	4,843 m2	36.00	\$174,300
3 Sprinkler system, to basement	450 m2	36.00	\$16,200
4 Fire pump - Assume not required	1 Nil	0.00	\$0
5 Special fire protection system allow	1 Sum	30,000.00	\$30,000
6 Fire extinguishers	4,843 m2	1.80	\$8,700
C13 HVAC	4,843 m2	337.37	\$1,633,900
1 Heat generation - New gas fired condensing boiler plant, allow total 2,400MBH	1 Sum	94,000.00	\$94,000
2 Refrigeration - Via VRF system	1 Nil	0.00	\$0
3 Liquid heat transfer - perimeter & entrance heaters, all new	4,843 m2	61.00	\$295,400
4 Liquid heat transfer - AHU heating, N/A, gas heating units	1 Nil	0.00	\$0
5 VRF system - Total 120 ton c/w about 60 indoor units & outdoor unit c/w ref.. Piping	1 Sum	600,000.00	\$600,000
6 Air distribution equipment			
- 4,000CFM MAU c/w DX cooling, gas heating c/w HRV	2 No.	50,000.00	\$100,000
- Humidifiers, gas fired	2 No.	12,000.00	\$24,000
- ERV environment Canada lab	1 Sum	10,000.00	\$10,000
7 Air distribution ductwork & devices	4,843 m2	68.00	\$329,300
8 Exhaust & ventilation	4,843 m2	10.00	\$48,400
9 24/ 7 cooling, allow	1 Sum	40,000.00	\$40,000
10 Testing, adjusting & balancing	1 Sum	25,000.00	\$25,000
11 Demolition, allow	4,843 m2	9.00	\$43,600
12 Miscellaneous	4,843 m2	5.00	\$24,200
C14 Controls	4,843 m2	51.99	\$251,800
1 Controls, new DDC system incl. CO2 sensors	4,843 m2	52.00	\$251,800

Option #3, North Wall Addition

C - 5

C21 Service & Distribution	4,843 m2	55.32	\$267,900
1 Incoming power and main switchboard - Existing to remain	1 Nil	0.00	\$0
2 225kVA transformer - replace	1 No.	18,000.00	\$18,000
3 New 400A 600V dist. Panel for mech. Loads	1 No.	15,000.00	\$15,000
4 New 300A 600V dist. Panel for mech. Loads	1 No.	10,000.00	\$10,000
4 1200A 120/208V panel	1 No.	24,000.00	\$24,000
5 Branch panels	15 No.	4,000.00	\$60,000
6 Feeders	4,843 m2	20.00	\$96,900
7 Grounding, coordination , short cct, arc flahs study etc.	1 Sum	24,000.00	\$24,000
8 Demolition, allow	1 Sum	20,000.00	\$20,000
9 Emergency power - Not provided	1 Nil	0.00	\$0
C22 Lighting,Devices & Heating	4,843 m2	168.00	\$813,600
1 New LED lightiing	4,843 m2	90.00	\$435,900
2 Lighting control c/w occupancy sensors	4,843 m2	18.00	\$87,200
3 Eixt & emerg. Lighting - modify to suit	4,843 ,m2	8.00	\$38,700
4 Power outlets, devices and connections	4,843 m2	32.00	\$155,000
5 Mechanical power connections	4,843 m2	15.00	\$72,600
6 Demolition	4,843 m2	5.00	\$24,200
C23 Systems & Ancillaries	4,843 m2	106.22	\$514,400
1 Fire alarm system - Existing main panel to remain, modify existing to suit c/w new devices	4,843 m2	20.00	\$96,900
2 Communication empty conduit system	4,843 m2	20.00	\$96,900
3 Communication horizontal cabling	4,843 m2	38.00	\$184,000
4 Communication backbone cabling	4,843 m2	2.00	\$9,700
5 Communicationn active equip., swithces, phones etc - by others	1 Nil	0.00	\$0
6 Sound maskng system	4,843 m2	10.00	\$48,400
7 Security & CCTV system - No works required	1 Nil	0.00	\$0
8 A/V empty conduit system only for meeting rooms etc.	1 Sum	30,000.00	\$30,000
9 Demolition	4,843 m2	4.00	\$19,400
10 Miscellaneous systems	4,843 m2	6.00	\$29,100

Option #3, North Wall Addition

C - 6

D12 Site Development	1 Sum	21,800.00	\$21,800
1 Allowance for concrete walkway	182 m2	65.00	\$11,800
2 Allowance for minimal demolition and site reinstatement	1 Sum	10,000.00	\$10,000
D21 Demolition	4,843 m2	125.25	\$606,600
<u>Interior Demolitions</u>			
1 Remove existing partitions	4,672 m2	30.00	\$140,200
2 Remove existing door and frame	130 Lvs	100.00	\$13,000
3 Remove existing floor and ceiling finishes, prepare for new	4,843 m2	45.00	\$217,900
4 Allowance for misc. removals and demolitions	4,843 m2	25.00	\$121,100
5 NE Stair - Remove existing stair, complete	1 No.	5,000.00	\$5,000
6 Removal of existing systems furniture (by owner)	1 Nil	0.00	\$0
<u>Exterior Demolitions</u>			
7 Remove existing roof structure to allow for skylight	88 m2	200.00	\$17,600
8 Remove existing roof structure to allow for stair expansion	18 m2	200.00	\$3,600
9 Remove existing floor structure to allow for opening	80 m2	250.00	\$20,000
10 NE Stair - Remove existing door, complete	1 No.	250.00	\$300
11 NE Stair - Break opening to allow for new window	30 m2	150.00	\$4,400
12 Remove existing windows, complete	74 No.	250.00	\$18,500
13 North wall - Remove existing north wall, complete	257 m2	175.00	\$45,000
D22 Alterations	1 Sum	628,900.00	\$628,900
1 Allowance for structural modifications to allow for skylight			
- W250x39	1,521 kg	4.50	\$6,800
- HSS203x152x8	2,470 kg	4.50	\$11,100
- 2-C250x45	4,230 kg	4.50	\$19,000
- 2-C250x30	4,260 kg	4.50	\$19,200
- Allowance for connections	1,248 kg	4.50	\$5,600
- Allowance for misc. modifications	1 Sum	5,000.00	\$5,000
2 Allowance for structural modifications to allow for RTU			
- C200x21	567 kg	4.50	\$2,600
- W250x39	1,482 kg	4.50	\$6,700
- 2-C250x45	6,660 kg	4.50	\$30,000
- 2-C250x30	4,620 kg	4.50	\$20,800
- Allowance for connections	1,333 kg	4.50	\$6,000
- Allowance for misc. modifications	1 Sum	7,500.00	\$7,500
3 Allowance for structural modifications to allow for expansion	43 m2	250.00	\$10,800
4 Allowance for structural modifications to allow for opening	80 m2	150.00	\$12,000
5 Allowance for new elevator pit	1 Sum	20,000.00	\$20,000
6 NE Stair - Allowance to infill existing removed stair	36 m2	350.00	\$12,600
7 NE Stair - Allowance to infill existing door opening	7 m2	450.00	\$3,200
8 NE Stair - Allowance for misc. modifications to brick work	1 Sum	2,500.00	\$2,500
9 Allowance to re-furbish existing stairs to remain (new guards	3 No.	2,500.00	\$7,500
10 Allowance for roof penetrations @ M&E works	1 Sum	10,000.00	\$10,000
11 North wall - allowance for shoring/structural modifications	1 Sum	50,000.00	\$50,000
12 Allowance for asbestos abatement (Type 1 removal)	4,800 m2	75.00	\$360,000

Workplace2.0: Fit-up Standards Space Requirements Floor 1

Do not insert information into the grey cells

Quantity	Space m ² u	Totals
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Section 1: Office and Workstation Space

[View National Fit-up Standards](#)

Description

Description	Quantity	Space m ² u	Totals
Ministerial only	Minister (48 m ² u max) + (9m m ² u washroom)		0.00
	Deputy Minister (37 m ² u max) + (9m m ² u washroom)		0.00
	Associate Deputy Minister (37 m ² u max)		0.00
	Offices for Ministerial Exempt Staff (10 m ² u max)		0.00
General Office, Quasi-Judicial, Ministerial and Public Contact	Leadership EX 4 - EX 5 (18.5 m ² u max)		0.00
	Leadership EX 2 - EX 3 (14 m ² u max)		0.00
	Leadership EX 1 - 3 levels below the DM (14 m ² u max)		0.00
	Leadership EX 1 - 10 or more direct funded reports (10 m ² u max)	3	30.00
	Leadership EX 1 - less than 10 funded reports (4.5 m ² u max)	6	27.00
	Governor in Council Appointees (14 m ² u max)		0.00
	Fixed (4.5 m ² u max)	98	441.00
	Flex (3.0 m ² u max)	35	105.00
	Free Address (1.5 m ² u max)		0.00
	SPS FTE (0m ² u)		0.00
Total Office and Workstation Space m²u	8.50	603.00	603.00
Total Population			142.00

Section 2: Support Space

[View National Fit-up Standards](#)

Description

Description	Quantity	Space m ² u	Totals
Ministerial Only	Deputy Head Kitchenettes (10-20 m ² u per suite)		
	Deputy Head Medium Meeting Room @ 30 m ² u - seats 12		
Quasi Judicial Only	Employee Washrooms		
	Reception and Waiting Areas		
	Waiting/Detention Rooms		
	Council Rooms/Interview Rooms (max 14m ² u)		
	Small Work Room @ 14 m ² u - seats 6		
General Office, Quasi-Judicial, Ministerial and Public Contact (office only)	Medium Work Room @ 30 m ² u - seats 12		
	Large Work Room @ 60 m ² u - seats 20+		
	1 Quiet/Touchdown Room for every 45 FTE at 5 m ² u	4	20.00
	Small Meeting Room @ 14 m ² u - seats 6	2	28.00
	Medium Meeting Room @ 30 m ² u - seats 12	2	60.00
	Large Meeting Room @ 60 m ² u - seats 20+	1	60.00
	Kitchenette	1	50.00
	Shared Equipment Area	2	40.00
Telecommunications Room	1	8.40	
Total Standard Support Space m²u			266.40

Section 3: Undesignated Support Space

[View National Fit-up Standards](#)

Description

Undesignated Hard Walled Support Space 10m ² u	3	30.00	
Total Undesignated Support Space m²u			30.00

Section 4: Open Area Support Space

[View National Fit-up Standards](#)

Description

Printer Stations (1.3 m ² u) one for every 20-30 FTE's	4	5.20	
Visitor Coat Storage (1.5 m ² u) accommodates 15	0	0.00	
Secondary Reception Waiting Areas (7.4 m ² u) optionally one per floor	0	0.00	
Open Collaborative/Teaming Areas (minimum 5% - 10% of total space requirements)	10%	195.38	
Total Open Area Support Space m²u			200.58

Section 5: Circulation and Design Contingency

Description

Standard Circulation (fixed amount based on SAS)	35%	506.53	
Design Contingency (0% to 10%)	5%	97.69	
Total Circulation and Design Space m²u			604.22

Section 6: Totals

Description

Section 1: Office and Workstation Space		603.00	
Section 2: Designated Support Space		266.40	
Section 3: Undesignated Support Space		30.00	
Section 4: Open Area Support		200.58	
Section 5: Circulation and Design Contingency		604.22	
Total Fit-up Standards Space Requirements		1953.75	
Space Utilization Rate m² usable per FTE /non-FTE		13.76	
Total Remainder for Additional Open Area Support allocated in Step 3 Non-compliance within the SAS		249.56	Meets Standards

Floor 2

Skip to Summary

Non-Compliance space within the SAS

Workplace2.0: Fit-up Standards Space Requirements Floor 2

Do not insert information into the grey cells

Quantity	Space m ² u	Totals
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Section 1: Office and Workstation Space

[View National Fit-up Standards](#)

Description

Minister (48 m2u max) + (9m m2u washroom)		0.00	0.00%
Deputy Minister (37 m2u max) + (9m m2u washroom)		0.00	
Associate Deputy Minister (37 m ² u max)		0.00	
Offices for Ministerial Exempt Staff (10 m2u max)		0.00	
Leadership EX 4- EX 5 (18.5 m ² u max)		0.00	5.66%
Leadership EX 2 - EX 3 (14 m ² u max)		0.00	
Leadership EX 1 - 3 levels below the DM (14 m ² u max)	1	14.00	
Leadership EX 1 - 10 or more direct funded reports (10 m ² u max)	2	20.00	
Leadership EX 1 - less than 10 funded reports (4.5 m ² u max)	6	27.00	
Governor in Council Appointees (14 m ² u max)		0.00	94.34%
Fixed (4.5 m ² u max)	120	540.00	
Flex (3.0 m ² u max)	30	90.00	
Free Address (1.5 m ² u max)		0.00	
SPS FTE (0m2u)		0.00	
Total Office and Workstation Space m²u	-9	691.00	
Total Population			159.00

Section 2: Support Space

[View National Fit-up Standards](#)

Description

Ministerial Only	Deputy Head Kitchenettes (20 m2u per suite)			
	Deputy Head Medium Meeting Room @ 30 m2u - seats 12			
Quasi Judicial Only	Employee Washrooms			
	Reception and Waiting Areas			
	Waiting/Detention Rooms			
	Council Rooms/Interview Rooms (max 14m ² u)			
	Small Work Room @ 14 m ² u - seats 6			
General Office, Quasi-Judicial and Ministerial	Medium Work Room @ 30 m ² u - seats 12			
	Large Work Room @ 60 m ² u - seats 20+			
	1 Quiet/Touchdown Room for every 45 FTE at 5 m ² u	4	20.00	
	Small Meeting Room @ 14 m ² u - seats 6	2	28.00	
	Medium Meeting Room @ 30 m ² u - seats 12	2	60.00	
	Large Meeting Room @ 60 m ² u - seats 20+	1	60.00	
	Kitchenette	1	60.00	
	Shared Equipment Area	3	30.00	
Telecommunications Room	2	18.30		
Total Standard Support Space m²u			276.30	

Section 3: Undesignated Support Space

[View National Fit-up Standards](#)

Description

Undesignated Hard Walled Support Space 10m ² u	3	30.00	
Total Undesignated Support Space m²u			30.00

Section 4: Open Area Support Space

[View National Fit-up Standards](#)

Description

Printer Stations (1.3 m ² u) one for every 20-30 FTE's	5	6.50	
Visitor Coat Storage (1.5 m ² u) accommodates 15	0	0.00	
Secondary Reception Waiting Areas (7.4 m ² u) optionally one per floor	0	0.00	
Open Collaborative/Teaming Areas (minimum 5% - 10% of total space requirements)	10%	195.38	
Total Open Area Support Space m²u			201.88

Section 5: Circulation and Design Contingency

Description

Standard Circulation (fixed amount based on SAS)	35%	506.53	
Design Contingency (0% to 10%)	5%	97.69	
Total Circulation and Design Space m²u			604.22

Section 6: Totals

Description

Section 1: Office and Workstation Space	691.00	
Section 2: Designated Support Space	276.30	
Section 4: Undesignated Support Space	30.00	
Section 5: Open Area Support	201.88	
Section 6: Circulation and Design Contingency	604.22	
Total Fit-up Standards Space Requirements	1953.75	
Space Utilization Rate m ² usable per FTE /non-FTE	12.29	
Total Remainder for Additional Open Area Support allocated in Step 3 Non-compliance within the SAS	150.36	Meets Standards

Floor 3

Skip to Summary

Non-Compliance space within the SAS

Workplace2.0: Fit-up Standards Space Requirements Summary

Do not insert information into the grey cells

Quantity	Space m ² u	Totals
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Section 1: Office and Workstation Space

[View National Fit-up Standards](#)

Description

Minister (48 m2u max) + (9m m2u washroom)	0	0	
Deputy Minister (37 m2u max) + (9m m2u washroom)	0	0	
Associate Deputy Minister (37 m ² u max)	0	0	
Offices for Ministerial Exempt Staff (10 m2u max)	0	0	
Leadership EX 4 - EX 5 (18.5 m ² u max)	0	0	
Leadership EX 2 - EX 3 (14 m ² u max)	0	0	
Leadership EX 1 - 3 levels below the DM (14 m ² u max)	1	14	
Leadership EX 1 - 10 or more funded reports (10 m ² u max)	5	50	
Leadership EX 1 - less than 10 funded reports (4.5 m ² u)	12	54	
Governor in Council Appointees (14 m ² u max)	0	0	
Fixed (4.5 m ² u max)	218	981	
Flex (3.0 m ² u max)	65	195	
Free Address (1.5 m ² u max)	0	0	
SPS FTE (0m2u)	0	0	
Total Office and Workstation Space m²u	0	1294.00	Error Messages:
Total Population		301.00	Population is equal to Step 1
			Population is within Support Space tables

Section 2: Designated Support Space

[View National Fit-up Standards](#)

Description

Ministerial Only	Deputy Head Kitchenettes (20 m ² u per suite)	0	0
	Deputy Head Medium Meeting Room @ 30 m ² u - seats 12	0	0
Quasi Judicial Only	Employee Washrooms	0	0
	Reception and Waiting Areas	0	0
	Waiting/Detention Rooms	0	0
	Council Rooms/Interview Rooms (max 14m ² u)	0	0
	Small Work Room @ 14 m ² u - seats 6	0	0
	Medium Work Room @ 30 m ² u - seats 12	0	0
	Large Work Room @ 60 m ² u - seats 20+	0	0
	1 Quiet/Touchdown Room for every 45 FTE at 5 m ² u	8	40
	Small Meeting Room @ 14 m ² u - seats 6	4	56
	Medium Meeting Room @ 30 m ² u - seats 12	4	120
	Large Meeting Room @ 60 m ² u - seats 20+	2	120
	Kitchenette	2	110
	Shared Equipment Area	5	70
Telecommunications Room	3	26.7	
Total Standard Support Space m²u		542.70	

Section 3: Undesignated Support Space

[View National Fit-up Standards](#)

Description

Undesignated Hard Walled Support Space 10m ² u	6	60.00	
Total Undesignated Support Space m²u		60.00	

Section 4: Open Area Support Space

Description

Printer Stations (1.3 m ² u) one for every 20-30 FTE's	9	11.70	
Visitor Coat Storage (1.5 m ² u) accommodates 15	0	0.00	
Secondary Reception Waiting Areas (7.4 m ² u) optionally one per floor	0	0.00	
Open Collaborative/Teaming Areas (minimum 10% of total space requirements)	10%	390.75	
Total Open Area Support Space m²u		402.45	

Section 5: Circulation and Design Contingency

Description

Standard Circulation (fixed amount based on SAS)	35%	1013.06	
Design Contingency (0% to 10%)	10%	195.38	
Total Circulation and Design Space m²u		1208.43	

Totals

Description

Section 1: Office and Workstation Space	1294.00	
Section 2: Designated Support Space	542.70	
Section 3: Undesignated Support Space	60.00	
Section 4: Open Area Support	402.45	
Section 5: Circulation and Design Contingency	1208.43	
Total Fit-up Standards Space Requirements	3907.51	
Space Utilization Rate m² usable per FTE /non-FTE	12.98	
Total Remainder for Additional Open Area Support allocated in Step 3 non-compliance within the FUS	399.92	Meets Standards

Step 3 - Non-Compliance space outside of the SAS

Space Requirements Summary

Must Meet Space Allocation Standards
Meets Standards
12.98
m ² usable / FTE/non-FTE

Total Office and Workstation Space	1294.00
Total Designated Support Space	542.70
Total Call Center/Public Contact Support Space	0.00
Total Undesignated Support Space	60.00
Total Open Area Support	402.45
Total Non-Compliance within the SAS	0.00
Total Remaining Space	399.92
Total Circulation and Design Contingency	1208.43

Should not exceed 16.4 m ² rentable per FTE/non-FTE
Current Ratio
14.67
m ² rentable / FTE/non-FTE

+

Total ADM Approved Non-Compliance	0.00
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Must be supported by a Business Case provided by client department
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Total Special Purpose Space	0.00
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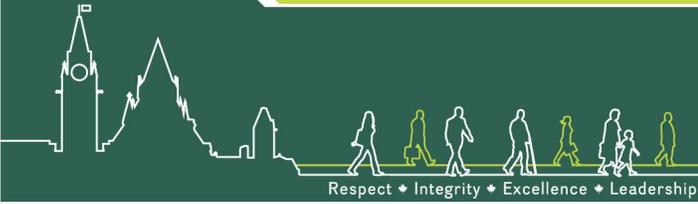
Total m ² usable requirements	3907.51
Total m ² rentable requirements (13% conversion)	4415.48



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workplace 2.0
FIT-UP STANDARDS



APRIL 2012



Section A:

General-purpose Office Space



A3. Standards

Changes Since the Last Update

A3.1 Overview

- Description of the benefits of Workplace 2.0 spaces.

A3.2 Funding Accountabilities of PWGSC and Client Departments

- Introduction of new tables for PWGSC and client department funding accountabilities and mechanisms for obtaining funding.

A3.3 Fit-up Components and Funding Accountabilities

- Change to the size and composition of large meeting rooms i.e. large meeting rooms to be divided by a retractable or folding partition wall to increase flexibility (PWGSC cost).
- Clarification to the use of carpet inserts for way finding and durability in major circulation paths.
- Clarification that raised floor systems and ramps etc. (client cost) are not subject to the non-compliance approval process.
- Clarification that base building and core area plumbing services do not include hard plumbed water coolers.
- Clarification to the funding of sound masking systems.
- Additional information on the definition of exterior window coverings.
- Removal of overhead shelving systems and addition of storage towers as part of integrated and mobile furnishings.
- Change to the funding of plants, planters and related ongoing maintenance.

A3.4 Office and Support Space Allocations

- Definitions and workstation/office sizes provided for worker profile types (leadership, fixed, flex and free).
- Workstation sizes changed to maximum 4.5 m².
- Enclosed office space allowances for senior managers changed to a maximum of 18.5 m² and a revised allocation chart provided.
- Clarification on the use of the undesignated support space allocation for Law (LA) and Informal Conflict Management System (ICMS) employees.
- Revision to meeting room allowances.
- Clarification to large meeting room definition and size (as per A3.4).
- Revision to undesignated support space size, allowance and usage.
- Description of collaborative spaces and the planning ratio to be used.
- Revision to the planning ratio for printer stations.

A3.5 Standards for Furniture Panels/Screens

- Revision to the maximum height for panels/screens and modification to panel/screen finishes.
- Revision to the use of glass panels on screens.

A3.1 Overview

A3.2 to A3.5 describe in detail the standards for space allocation, construction components and finishes that form the basis of a fit-up project. More specifically:

- A3.2 provides the funding accountabilities of PWGSC and client departments in terms of mechanisms for obtaining funding;
- A3.3 identifies the funding accountabilities for each typical project component and underlines the importance of correctly identifying and recording project costs;
- A3.4 provides detailed information on office assignment criteria and support space and related millwork provisions for various population ranges;
- A3.5 identifies the attributes of workstation panels (screens) that are specific to the *Workplace 2.0 Fit-up Standards*.

The Standards respond to government programs and priorities, and are compliant with all relevant codes, life safety and accessibility standards.

By emphasizing a consistent and sustainable approach to construction and finishing, providing smaller individual workstations and more open collaborative areas, and by limiting the number of enclosed offices and support spaces, the Standards will help the government use space more efficiently. This approach will also facilitate relocations and the reuse of space by other departments/agencies, as well as provide innovative workplaces to meet the needs of a diverse workforce.

Base Building Standards

The starting point for any fit-up project is determined by the base building conditions. Whether the facility is Crown-owned or leased, base building conditions will always vary depending on the location, age, size, classification and other characteristics of the site. In leased space, the extent of the landlord's responsibility with respect to those conditions is as outlined in the PWGSC Generic Lease Documentation Package and finalized through lease negotiations. No modifications may be made to the base building components other than those itemized in the lease agreements or otherwise taken into account in making the original investment decision.

The base building standards, currently undergoing final approvals, will form the basis for facilities occupied by the federal government and will be the primary reference for all technical and life safety standards related to plumbing, HVAC, fire protection, electrical and telecommunication systems.

Note: All fit-up projects must be in accordance with the appropriate municipal and provincial codes and consideration must be given to the potential impact of densification on base building systems.

A3.2 Funding Accountabilities of PWGSC and Client Departments

Funding accountabilities for fit-up projects are shared between PWGSC and the client departments. The following tables describe PWGSC and client department funding accountabilities in terms of the nature of the occupancy instrument, whether for non-reimbursing, reimbursing or expansion space; as well as mechanisms for obtaining funding, and apply whether a project is implemented in a Crown-owned or leased facility.

Non-reimbursing Occupancy Instruments (OIs)						
Inventory Impact		Project Description	Fit-up Components (see Fit-up Standards A3.3)	Funding Department	Mechanism for Obtaining Funding*	
Existing OI	During Term of Occupancy	Tenant Services: Alterations to Existing Accommodation	Base Building	Client	SSA	
			Standard Fit-up			
			Other			
		Cyclical Maintenance: Repair or Replacement	Base Building	PWGSC	FAH (BMP/WPM) ^{1,2}	
			Standard Fit-up			
			Other	Client	SSA	
New OI	Same Location: OI Renewal or OI & Lease Renewal (with or without a space reduction)	Tenant Services: Alterations to Existing Accommodation	Base Building	Client	SSA	
			Standard Fit-up			
			Other			
		Cyclical Maintenance: Repair or Replacement	Base Building	PWGSC	FAH (BMP/WPM) ^{1,2}	
			Standard Fit-up			
			Other	Client	SSA	
	New Location: Expansion or Replacement	Fit-up for Initial Occupancy or Fit-up of Existing Space for Reuse	Base Building	PWGSC	FAH (BMP/WPM) ²	
			Standard Fit-up			
			Other	Client	SSA	
	Major Renovations by PWGSC	Fit-up of Swing Space for Initial Occupancy or for Reuse	Base Building	PWGSC	FAH (BMP/WPM) ²	
			Standard Fit-up			
			Other			
		Fit-up of Long Term Space for Reuse (i.e. move back to original location)	Base Building	PWGSC	FAH (BMP/WPM) ²	
			Standard Fit-up			
			Other	Client	SSA	
	Major Renovations by PWGSC & Client Department	Fit-up of Swing Space for Initial Occupancy or for Reuse	Base Building	PWGSC	FAH (BMP/WPM) ²	
			Standard Fit-up	PWGSC/Client		FAH (BMP/WPM) or SSA ³
			Other			
		Fit-up of Long Term Space for Reuse (i.e. move back to original location)	Base Building	PWGSC	FAH (BMP/WPM) ²	
			Standard Fit-up	PWGSC/Client	FAH (BMP/WPM) or SSA ³	
			Other	Client	SSA	

Non-reimbursing Occupancy Instruments (OIs)				
Inventory Impact	Project Description	Fit-up Components (see Fit-up Standards A3.3)	Funding Department	Mechanism for Obtaining Funding*
Space Optimization	Space Expansion Avoidance: Alterations to Existing Accommodation to Increase FTEs	Base Building	PWGSC	FAH (BMP/WPM) with Space Envelope Reduction ^{2,4}
		Standard Fit-up		
		Other	Client	SSA
	Densification: Alterations to Existing Accommodation to Reduce m ² /FTE	Base Building	PWGSC/Client	FAH (BMP/WPM) with Space Envelope Reduction or SSA ^{2,3}
		Standard Fit-up		
		Other	Client	SSA
Forced Move by PWGSC	Fit-up for Initial Occupancy or Fit-up of Existing Space for Reuse	Base Building	PWGSC	FAH (BMP/WPM) ^{2,5}
		Standard Fit-up		
		Other		

¹ PWGSC assumes the costs for moving of screens and standard furniture, as required to implement cyclical maintenance (e.g. for carpet replacement). Client department pays for dismantling, moving and reassembling of computers, telecommunications and other specialized equipment and furnishings, as required and when provided with sufficient notification to program the required funds.

² For leased facilities, base building components are funded by the landlord as negotiated in the lease contract.

³ Funding accountabilities are determined on a case by case basis in agreement with client department.

⁴ Payback period of total project cost must justify the investment.

⁵ PWGSC will replace like-for-like conditional on compliance with Fit-up Standards.

* Refer to R1 Glossary for definitions.

Reimbursing and Expansion Control Framework (ECF) Occupancy Instruments (OIs)					
Inventory Impact		Project Description	Fit-up Components (see Fit-up Standards A3.3)	Funding Department	Mechanism for Obtaining Funding*
Existing OI	During Term of Occupancy	Tenant Services: Alterations to Existing Accommodation	Base Building	Client	SSA
			Standard Fit-up		
			Other		
		Cyclical Maintenance: Repair or Replacement	Base Building	PWGSC	FAH (BMP/WPM) ^{1,2}
			Standard Fit-up	Client	SSA
			Other		
New OI	Same Location: OI Renewal or OI & Lease Renewal (with or without a space reduction)	Tenant Services: Alterations to Existing Accommodation	Base Building	Client	SSA
			Standard Fit-up		
			Other		
		Cyclical Maintenance: Repair or Replacement	Base Building	PWGSC	FAH (BMP/WPM) ^{1,2}
			Standard Fit-up	Client	SSA
			Other		
	New Location: Expansion or Replacement	Fit-up for Initial Occupancy or Fit-up of Existing Space for Reuse	Base Building	PWGSC	FAH (BMP/WPM) ²
			Standard Fit-up	Client	SSA
			Other		
	Major Renovations by PWGSC	Fit-up of Swing Space for Initial Occupancy or for Reuse	Base Building	PWGSC	FAH (BMP/WPM) ²
			Standard Fit-up		
			Other		
		Fit-up of Long Term Space for Reuse (i.e. move back to original location)	Base Building	PWGSC	FAH (BMP/WPM) ²
			Standard Fit-up	Client	SSA
			Other		
	Major Renovations by PWGSC & Client Department	Fit-up of Swing Space for Initial Occupancy or for Reuse	Base Building	PWGSC	FAH (BMP/WPM) ²
			Standard Fit-up	PWGSC/Client	FAH (BMP/WPM) or SSA ³
			Other		
		Fit-up of Long Term Space for Reuse (i.e. move back to original location)	Base Building	PWGSC	FAH (BMP/WPM) ²
			Standard Fit-up	Client	SSA
			Other		
	Space Optimization	Space Expansion Avoidance: Alterations to Existing Accommodation to Increase FTEs	Base Building	Client	SSA
			Standard Fit-up		
			Other		
Densification: Alterations to Existing Accommodation to Reduce m ² /FTE		Base Building	Client	SSA	
		Standard Fit-up			
		Other			
Forced Move by PWGSC	Fit-up for Initial Occupancy or Fit-up of Existing Space for Reuse	Base Building	PWGSC	FAH (BMP/WPM) ^{2,4}	
		Standard Fit-up			
		Other			

¹ PWGSC assumes the costs for moving of screens and standard furniture, as required to implement cyclical maintenance (e.g. for carpet replacement). Client department pays for dismantling, moving and reassembling of computers, telecommunications and other specialized equipment and furnishings, as required and when provided with sufficient notification to program the required funds.

² For leased facilities, base building components are funded by the landlord as negotiated in the lease contract.

³ Funding accountabilities are determined on a case by case basis in agreement with client department.

⁴ PWGSC will replace like-for-like conditional on compliance with Fit-up Standards.

* Refer to R1 Glossary for definitions.

A3.3 Fit-up Components and Funding Accountabilities

The following chart identifies components that may be part of a fit-up project. Funding accountabilities for the components are as follows:

- Base building components are funded by PWGSC;
- *Workplace 2.0 Fit-up Standards* components for non-reimbursing clients are funded by PWGSC;
- *Workplace 2.0 Fit-up Standards* components for reimbursing clients and Expansion Control Framework are funded by the client department or agency;
- Other components, including security requirements, are funded by the client department or agency, including all related commissioning, testing and ongoing maintenance.

Alterations to existing accommodation carried out during the term of an occupancy (i.e., tenant services), are funded by the client department.

Note: If a client department continues to occupy the same space after renewal of an occupancy instrument or lease, fit-up activities would not be undertaken. Any alterations required at that time to meet changes to the client's operational requirements would be provided as a tenant service. However, standard finishes (e.g., carpet, screen fabric, painted surfaces) may be replaced, repaired or refreshed at PWGSC cost if required as a result of normal wear and tear – generally after a period of 10 to 12 years.

Components		Base Building	Fit-up Standards	Other
A	Building Site Work			
	(a) Site preparation, site improvements, utility tunnels, site utilities (including communication media access).	Yes		
	(b) Primary identification signage (building), flagpole and base.	Yes		
	Additional site work and site improvements increased utility requirements, etc.			Yes ¹
B	Substructure			
	1. Foundations and basements including slab on grade	Yes		
	Alteration to suit client requirements (e.g., addition of window wells).			Yes ¹
C	Shell			
	1. Suspended floor slabs and roof structure	Yes		
	Alteration to suit client requirements (e.g., to increase loading capacity, add stairs).			Yes ¹
	2. Exterior closure, including walls, windows, doors and roofing	Yes		
	Alteration to suit client requirements.			Yes ¹

Components		Base Building	Fit-up Standards	Other
D	Interior Construction			
	1. Walls			
	(a) Building core, shear and shaft walls (stairwells, utility spaces).	Yes		
	(b) Demising walls, multiple-tenant floors and crossover floors – constructed to meet current Building Code requirements.	Yes		
	Additional demising wall treatments to meet client security requirements (e.g., wire mesh, security grills in ductwork) and related ongoing maintenance.			Yes ²
	(c) Partition walls – in addition to traditional metal or wood frame construction, reusable partition systems (e.g., movable, demountable) are acceptable within the Workplace 2.0 Fit-up Standards and, as such, can be used to provide enclosed office and support space. These systems need to be reusable and flexible (e.g., capacity to modify one element with minimal disruption to the rest of the wall system). Such systems shall be considered as an option for partitions when they can meet client program requirements and provide the best environmental and economic value to the Crown. (See part F for furniture screens/panels)			
	(i) Closed offices <ul style="list-style-type: none"> Director, DG and ADM level – slab to underside of ceiling with insulation and plenum barriers (enhanced speech privacy, approximates STC 45³). 		Yes	
	<ul style="list-style-type: none"> All other closed offices, e.g., senior departmental representative in regional offices – slab to underside of ceiling with insulation and plenum barriers (enhanced privacy, approximates STC 45). 		Yes	
	<ul style="list-style-type: none"> ADM offices requiring secure speech privacy, as determined by a Threat and Risk Assessment (TRA) – slab-to-slab construction with insulation, (approximates STC 52). 			Yes ²
	(ii) Support spaces <ul style="list-style-type: none"> Storage rooms, shared equipment areas, kitchenettes and similar functions – slab to underside of ceiling with insulation (standard speech privacy approximates STC 35). 		Yes	
	<ul style="list-style-type: none"> Meeting, training, quiet rooms and similar functions – slab to underside of ceiling with insulation and plenum barriers (enhanced speech privacy, approximates STC 45). 		Yes	
	<ul style="list-style-type: none"> Telecommunications rooms – slab to underside of ceiling with insulation and plenum barriers (see A4.1). 	Yes		
	<ul style="list-style-type: none"> Retractable or folding partition walls to create two medium meeting rooms from one large meeting room (see A6.2). 		Yes	
	<ul style="list-style-type: none"> Other retractable or folding partition walls Note: The project team technical experts should ensure due diligence with regards to product selection and advise the client accordingly of the pros and cons to consider. 			Yes ²
	(iii) Glazing treatments <ul style="list-style-type: none"> Treated sidelights and clerestory glazing (single pane) with optional film as illustrated in A6.3. 		Yes	
	<ul style="list-style-type: none"> Glazing in reusable partition systems where there is no additional cost. Note: Glazing treatments are not recommended when speech privacy is a priority. 		Yes	

Components	Base Building	Fit-up Standards	Other
Additional partition walls to create separate secure zones or additional partition wall treatments (e.g., wire mesh, security grills in ductwork) to meet client security requirements, and related ongoing maintenance. Note: This does not include the creation of additional individual closed offices or support spaces.			Yes ²
Other additional partition walls or special construction and related maintenance, e.g., slab-to-slab construction for meeting rooms equipped with video conference systems.			Yes ¹
2. Doors and frames			
<i>(a) Demising wall doors (e.g., suite entry/egress door) – partially glazed to facilitate orientation and safe movement.</i>	Yes		
<i>(b) Partition wall doors</i> (i) Flush solid core wood doors – standard height and width (6'-8" or 7'-0" x 3'-0") wood veneer or paint finish. (Transfer grills are provided on telecommunication room doors if required.)		Yes	
(ii) Wood or steel frames – natural (stain) or paint finish. Note: Where security is a factor, pressed steel frames are recommended, e.g., telecommunications rooms		Yes	
(iii) "Vision ports" or glazing inserts in doors.		Yes	
(iv) Fire-rated doors and frames as required by code.		Yes	
(v) Sliding doors – may be acceptable where there is no additional cost. Sliding doors must meet National Building Code requirements to ensure safe egress from enclosed spaces without restricting access to exits.		Yes	
(vi) Dutch doors – to address special requirements for service counters, cashier's offices, etc. The height of the separation between the upper and lower doors must be between 730 mm – 860 mm to meet accessibility requirements.			Yes ²
Additional door and frame types or treatments to meet client security requirements.			Yes ²
Other door and frame sizes or types or additional treatments to suit client requirements.			Yes ¹
3. Door hardware			
<i>(a) Mortise (keyed) lock set (with two sets of reproducible keys) and lever trim (handle) on suite entry doors.</i>		Yes	
<i>(b) Cylinder latch or keyed lock set (with two sets of reproducible keys) and lever trim (handle) on all other room doors.</i>		Yes	
<i>(c) Dummy levers on closet doors.</i>		Yes	
<i>(d) Door closers as required by building code.</i>		Yes	
<i>(e) Additional hardware, as required, for durability in high traffic areas, e.g., push/pull and kick plates.</i>		Yes	
<i>(f) Accessibility hardware on base building doors to meet CAN/CSA B651 04 (or latest version) Technical Standard.</i>	Yes		
Additional accessibility (Duty to Accommodate) or security hardware and related ongoing maintenance.			Yes ²
Additional door hardware and related ongoing maintenance.			Yes ¹

Components	Base Building	Fit-up Standards	Other
4. Interior specialties			
(a) <i>Washrooms</i> (i) Core washroom fixtures, compartments, counters and dispensing accessories to meet base building standards.	Yes		
(b) <i>Cabinetry and millwork</i> (i) Counters and/or storage cabinets in kitchenettes and shared equipment areas as allocated in A3.4 and illustrated in A6.2 – custom grade construction or modular units (at comparable cost). Finishes to suit application and respect criteria outlined in A7.1.		Yes	
(ii) Service counters and carrels in public contact spaces only (construction and finishing as above).			Yes ²
(iii) Kiosks for public contact spaces.			Yes ²
(iv) Primary reception counter.			Yes ²
(v) Coat closet – rods and shelves as allocated in A3.4.		Yes	
(vi) Storage shelving, etc., (including high-density mobile systems).			Yes ²
Additional interior specialties and related ongoing maintenance (e.g., additional millwork, modifications to base building washrooms).			Yes ¹
5. Interior finishes (see A7)			
(a) <i>Building core areas</i> (i) Wall, floor, ceiling and base treatments to core areas, main entrance, lobbies and other base building support areas.	Yes		
(b) <i>Office and support areas</i> (i) Ceiling finishes • Base building standard (typically acoustic tile).	Yes		
• Bulkheads as required to suit mechanical design or other site constraints.	Yes	Yes	
(ii) Floor finishes • Typically carpet (rolled goods or carpet tile), resilient sheet or tile, ceramic tile or “unfinished” (sealed concrete) to suit function of space.	Yes		
• Modifications to base building floor finishes to enhance way finding and durability in major circulation paths (carpet inserts) maximum 10% of floor area unless using carpet tile.		Yes	
• Antistatic floor treatments in LAN rooms.			Yes ²
• Raised floor systems and ramps, epoxy or other special treatments to suit client requirements.			Yes ²
(iii) Wall/base finishes • Exterior perimeter walls and columns (to meet base building standard).	Yes		
• Partitions (paint or unfinished to suit performance requirements and substrate, limited use of wall coverings as required in high traffic areas only).		Yes	
• Wall base treatment to suit flooring.	Yes	Yes	
• Tackable/acoustical wall treatment on interior of meeting rooms.			Yes ²
Additional finishes and related ongoing maintenance.			Yes ¹

Components		Base Building	Fit-up Standards	Other
E	Services			
	1. Conveying systems			
	(a) Vertical transportation, finished elevators and escalators (if existing in building).	Yes		
	(b) Keyed access, additional doors, private elevators.			Yes ¹
	Additional systems or modifications and related ongoing maintenance.			Yes ¹
	2. Plumbing systems			
	(a) Basic building and core area services, including regular and accessible plumbing fixtures, drinking fountains, domestic water, sanitary waste and rainwater systems (does not include hard plumbed water coolers).	Yes		
	(b) Stainless steel sink(s) in kitchenettes complete with hot and cold water, insulation, drain and vent piping.		Yes	
	(c) Washrooms (in addition to base building washrooms) for the exclusive use of the client, including all related fixtures and services.			Yes ¹
	(d) Washrooms/showers required as part of TBS approved departmental program requirement only – fixtures to match base building quality.			Yes ²
	(e) Common shower facilities (TB Workplace Fitness Policy applies).			Yes ²
	(f) Relocate/add drinking fountains to suit planning requirements.		Yes	
	Additional systems and related ongoing maintenance.			Yes ¹
	3. Heating, ventilation and air-conditioning systems			
	(a) Basic building and core area systems, including fuel supply, heat generation, rejection, distribution and transfer systems, controls, testing and balancing.	Yes		
	(b) Main trunk ductwork, branch ductwork, base building terminal units, controls and base building distribution.	Yes		
	(c) Relocate and/or add, ductwork, terminal units (VAV boxes, fan coil units, etc.), diffusers, controls, including systems testing and balancing (to meet latest ASHRAE standards 55 and 62) (see A.6 for thermostat control).		Yes	
	(d) Meeting/training rooms, public service area, kitchenette and shared equipment area ventilation – add/relocate terminal units (VAV boxes, fan coil units) recirculating fans or A/C units including associated controls (see A.6).		Yes	
	(e) Separate continuous 24/7 cooling in telecommunications rooms and equipment room to meet environmental conditions specified in TIA-569-B (for new major retrofit or new construction or new major lease buildings) (see A.4).	Yes		
	(f) Controls and monitoring – relocate and/or add thermostats, valves, sensors, terminal unit controller (VAV boxes, fan coil units control) control points, etc.		Yes	
	Additional systems and related ongoing maintenance (e.g., additional or separate air conditioning for server or UPS rooms).			Yes ¹
	4. Fire protection systems			
	(a) Sprinkler, standpipe and hose systems (all areas), fire extinguishers.	Yes		
	(b) Relocate/add sprinkler heads and hose systems to suit layout.		Yes	
	(c) Heat detectors, smoke detectors as required by code.		Yes	

Components	Base Building	Fit-up Standards	Other
<i>(d) Additional fire extinguishers as required by code.</i>		Yes	
Additional fire protection systems and related ongoing <i>maintenance</i> (e.g. <i>electronic card swipe entry systems</i>).			Yes ¹
5. Electrical systems			
<i>(a) Power</i>			
<i>(i) Service, distribution and emergency (life safety) building power</i> (including main and floor level electrical rooms).	Yes		
<i>(ii) Relocate/add power circuits</i> (typically one-circuit/two workstations) receptacles, conduits and raceways to suit function and layout (to meet the standards outlined in the "Design Guideline – Powering General Office Spaces").		Yes	
<i>(iii) Dedicated circuits and other specific requirements</i> in support spaces as illustrated in A6.2.		Yes	
<i>(iv) UPS, "clean" power and other dedicated circuits</i> for client operational requirements.			Yes ²
<i>(v) Generator</i> for client's operational requirements.			Yes ²
<i>(vi) Enhanced accessibility measures</i> (e.g., visual alarm systems, etc.) – Duty to Accommodate.			Yes ²
<i>(b) Lighting</i>			
<i>(i) Lighting and power distribution</i> to core and open office areas.	Yes		
<i>(ii) Modifications to base building fixtures.</i>			Yes ¹
<i>(iii) Relocate/add base building lighting</i> to suit function and layout.		Yes	
<i>(iv) Lighting modifications</i> to suit meeting room functions as illustrated in A6.2.		Yes	
<i>(v) Task lighting.</i>			Yes ²
<i>(vi) Additional lighting and power</i> for special client needs including video conference services, etc.			Yes ¹
<i>(c) Controls and monitoring</i>	Yes		
<i>(i) Controls and instrumentation</i> (e.g., computerized switching, energy monitoring and control systems).			
<i>(ii) Modify controls and/or instrumentation</i> to suit layout or monitoring requirements (e.g., separate switching of closed offices, meeting rooms etc. or monitoring the energy consumption of a particular function or group). The use of motion sensor lighting controls is required.		Yes	
<i>(iii) Critical level and advanced controls</i> for special client requirements (e.g., specialized control systems for computer room).			Yes ²
<i>(d) Fire alarm systems</i>			
<i>(i) Fire alarm with detectors, bells, pull stations, voice communication and annunciators.</i>	Yes		
<i>(ii) Relocate/add fire alarm points</i> to suit office layout.		Yes	
<i>(e) Sound masking systems</i>			
<i>(i) Sound masking system</i> to suit office layout.		Yes	
Additional electrical systems, infrastructures and related ongoing maintenance.			Yes ¹

Components	Base Building	Fit-up Standards	Other
6. Telecommunications Systems (see A4.1)			
(a) <i>Spaces and pathways</i>			
(i) Shared Entrance Room, Common Equipment Room, Equipment Room and Telecom Rooms.	Yes		
(ii) In leased buildings also housing non-GC occupants, Common Telecommunications Rooms as required.	Yes		
(iii) Dedicated Equipment Room or Telecom Room.			Yes ¹
(iv) Generic backbone (also called "vertical" or "riser"), pathways (such as conduit, cable tray and sleeves) connecting Telecom Room(s) on each floor to the Equipment Room and connecting the Equipment Room to the Entrance Room and/or Common Equipment Room.	Yes		
(v) Dedicated backbone pathways requested by the client.			Yes ¹
(vi) Generic horizontal raceways (such as cable tray or conduit) from Telecom Room(s) on each floor. "J-hooks" may be used when the Crown has only a short-term interest in the space.	Yes		
(vii) Service poles for workstations and conduit in partitions for image, voice and data outlets. Note: Separate poles may be required for voice and data.		Yes	
(viii) Additional telecommunications infrastructure.			Yes ¹
(b) <i>Cabling</i>			
(i) Generic backbone cabling (vertical and to connect multiple telecommunications rooms on the same floor).	Yes		
(ii) Horizontal cabling and jacks for voice, data, image.			Yes ²
Telecommunication equipment such as rooftop dishes, satellite or microwave and antennas.			Yes ²
Additional telecommunications systems and infrastructures.			Yes ¹
7. Security			
(a) <i>Base building security (lockable exterior entrances, perimeter and vehicle controls if applicable, main level entry control).</i>	Yes		
Additional security systems including infrastructure and related ongoing maintenance.			Yes ²
F Furnishings and Equipment			
(a) <i>Window coverings</i>			
(i) Exterior window coverings (to base building specification).	Yes		
(ii) Security film to exterior windows.			Yes ²
(iii) Additional treatments to exterior windows.			Yes ¹
(iv) Treatments to interior glazing (e.g., blinds and drapes) other than as illustrated in drawing examples (film) and noted in part D1C (iii).			Yes ¹
(b) <i>Furniture and equipment</i>			
(i) Panels or screens complete with service poles (midrange quality component system, non-acoustic class with power or data capability) (see A3.5).		Yes	
(ii) Integrated and mobile furnishings including horizontal components (work surfaces, tables, cabinets, storage pedestals), personal storage towers dividers, chairs, task lights, etc.			Yes ²

Components		Base Building	Fit-up Standards	Other
	(iii) Telephone equipment, computers, photocopiers, fax machines, etc.			Yes ²
	(iv) Visual aid boards including white boards, bulletin boards etc. (including installation).			Yes ²
(c)	<i>Signage and accessories</i>	Yes		
	(i) Common use signs including the main (lobby area) directory, fire exiting routes, etc.			
	(ii) Operational signage based on the operational requirements of the client including directional and location signs, name plates, informational signs, etc.			Yes ²
	(iii) Plants, planters and related ongoing maintenance.			Yes ²
	(iv) Artwork.			Yes ²

¹ Client cost – subject to the non-compliance approval process (see A2).

² Client cost – NOT subject to the non-compliance approval process. Security requirements must be based on a Threat and Risk Assessment (TRA), Security Design Brief or Security Site Brief, signed off by the Departmental Security Office (DSO) and properly documented on the project file.

³ The Sound Transmission Class (STC) rating is a single-number rating of an assembly’s ability to resist airborne sound transfer. STC ratings are based on a laboratory test that does not take into consideration weak points or penetrations. Site conditions may make it difficult to achieve the complete rating.

A3.4 Office and Support Space Allocations

The following notes and tables summarize allocations for standard office and support spaces.

Office Space

Workplace 2.0 principles are based on the functional requirements of workers and allocate space based on the amount of time spent in the workplace. Studies have shown that employees only utilize their dedicated space from 40-60% of the time, leaving nearly half of their real estate vacant at any one time. Based on research of the amount of time employees spend at their workstations, four worker profiles have been established.

Leadership: 10 m² – maximum of 18.5 m².

Leadership workers can be allocated an enclosed office but it is not mandatory and it is an allowance not an entitlement. Examples: Director, Director General or higher.

Fixed: maximum of 4.5 m².

Employees who are at their desk more than 60% of the day. Examples: Policy Analyst, Administrative Assistant, Call/Contact Centre operator, translator.

Flexible: maximum of 3.0 m².

Employees who are at their desk approximately 40% of the day. Examples: Account executive, Auditor, part-time teleworker, inspector.

Free Address: maximum of 1.5 m².

The nature of the employees' work does not require them to have an individual dedicated workstation in the office. They will generally only drop in for short amounts of time on a periodic basis to meet with colleagues, catch up on projects or simply make social connections. Examples: Consultants, remote workers, regional employees, full-time teleworkers. It should be noted that the free address workstations are not assigned to any specific employee.

Open Workstations

Open workstations, adaptable to team or individual configurations, are assigned to all personnel in an open-plan office environment (except free address personnel).

Workstations may vary in size up to a **maximum** of 4.5 m². The actual dimensions and configuration will depend upon specific site conditions, functional requirements of the users and availability of space. The reduced amount of space used for individual workstations provides clients with the flexibility to create collaborative, teaming and open meeting spaces.

The size and number of panels/screens used to define a workstation will vary. See A3.5 Standards for Furniture Panels/Screens for information on panel/screen standards, and A5.1 for planning applications.

See A6.1 Workstations, Collaborative and Enclosed Spaces for drawings that illustrate the typical sizes and configurations of workstations, including descriptions of standard finishes and mechanical and electrical provisions.

Enclosed Offices

The following table summarizes provisions for enclosed offices for various positions.

Note: These office sizes are **maximum allowances, not entitlements**. The assignment and size of enclosed offices must be considered within the context of the total project, functional requirements of the users and the *Space Allocation Standards* of the *Framework for Office Accommodation and Accommodation Services*. Consideration must always be given to the potential to meet requirements in less space.

Function	Maximum Area (m ²)
EX-5 and EX-4 positions and equivalents ¹ (e.g., ADMs, members of boards, commissions and councils)	18.5
EX-3, and EX-2 positions and equivalents ¹ (e.g., directors general) EX-1 positions and equivalents ¹ no more than 3 levels below the DM or Associate DM (e.g., directors)	14.0
Other EX-1 positions and equivalents with 10 or more funded reports (where space allows) Senior departmental representatives (the most senior position at small regional offices or remote locations), lawyers, ICMS ²	10.0

¹ EX equivalents are defined in the Treasury Board Secretariat's Values and Ethics Code for the Public Service listing (2004-01-27) <http://www.tbs-sct.gc.ca/gui/intcd04-eng.asp>.

² Positions within the Law (LA) Occupational Group engaged in the practice of law as well as Informal Conflict Management System (ICMS) employees providing conflict management service. Departments are encouraged to use their Undesignated Support Space allocation, whenever possible, for LA and ICMS employees. If the requirement cannot be met within the provisions of the *Workplace 2.0 Fit-up Standards* support space allocations, departments may elect to provide an additional enclosed office for this employee and note the requirement in the project file.

* **Note:** For the LA and ICMS positions, client departments fund the difference between the cost of a workstation and an enclosed office, including fit-up, rent and related ongoing maintenance.

The minimum enclosed office size is 10 m² (10' x 10') or as dictated by the building module.

Note: For offices of this size, furniture may need to be located along the wall to provide the necessary turning radius to ensure accessibility, if required. See A6.1 Workstations, Collaborative and Enclosed Spaces for sample layouts.

See R2 for examples of possible office assignments.

Offices are to be located on the interior unless building conditions do not allow. Requests to locate offices for EX-3 positions and below along the perimeter would generally be considered non-compliant. Locating offices for ADMs on the interior is also strongly encouraged, however, placing them along a window would not be considered non-compliant.

See A6.1 Workstations, Collaborative and Enclosed Spaces for drawings that illustrate typical sizes and configurations of enclosed offices including descriptions of standard finishes and mechanical and electrical provisions.

Support Spaces

Keeping in mind the general principles of consistency (common look and feel) and flexibility, the allocation of all support space functions should relate to the population of each floor (i.e., making each floor as “generic” as possible so the spaces can endure multiple tenants with minimum modifications). It is expected the size of spaces and the quantity of millwork identified for support spaces could vary by up to 15% (larger or smaller than the sizes shown) to suit the specific site conditions and program requirements.

Hard Walled Support Spaces

Meeting Rooms

Meeting rooms provide enclosed spaces for meetings, presentations and collaborative work. The following table summarizes provisions for meeting rooms for various population ranges on a floor.

# of FTEs per floor	Size of Meeting Room			Total
	Small 14 m ² seats 6	Medium 30 m ² seats 12	Large 60.0 m ² seats 20+	
5 – 9	1	–	–	1
10 – 25	–	1	–	1
26 – 50	1	1	–	2
51 – 70	2	1	–	3
71 – 100	2	2	–	4
101 – 137	1	2	1*	4
138 – 175	2	2	1*	5
176 – 225	4	2	1*	7
226 – 250+	4	3	1*	8

* The large meeting room consists of 2 medium sized meeting rooms divided by a retractable wall to maximize flexibility.

A larger meeting room may be “substituted” in place of multiple smaller meeting spaces (e.g., 1 medium in place of 2 small or 1 large in place of 1 medium and 2 small). However, if required, the larger area must be easily convertible back to the smaller rooms at minimal cost and with no additional impact on the space. Decisions of this kind should be considered as part of the initial project identification phases and documented accordingly in the project files. See A6.2 Support Spaces for drawings that illustrate typical sizes and configurations of meeting rooms, including descriptions of standard finishes, lighting modifications, and mechanical and electrical provisions.

Quiet Rooms

These are spaces intended for the shared use of personnel who normally occupy open workstations. They provide an enhanced acoustical environment for a private telephone call, to support work requiring a high level of concentration, or similar functions. The following table summarizes provisions for quiet rooms for various population ranges:

# of FTEs per floor	# of 5 m ² spaces
10 – 45	1
46 – 91	2
92 – 137	3
138 – 183	4
184 – 229	5
230 – 250+	6

See A6.2 Support Spaces for a drawing that illustrates the typical provisions for quiet rooms including descriptions of standard finishes and mechanical and electrical provisions.

Kitchenettes

The sample plans in A5 illustrate some typical configurations of these spaces sized, in each case, to suit the population they serve. Larger kitchenette areas shall be designed to accommodate multiple functions and shall be usable as informal meeting, work or resource areas as well as coffee/lunch facilities and recycling centres. Similarly, where populations warrant multiple provisions, it may be appropriate to have one main and one secondary facility (e.g., one 50 m² kitchenette or multiple function area and one 10 m² “coffee station”).

Kitchenette areas may be open or semi-enclosed but entrance doors are not provided.

The following summarizes provisions for kitchenettes for various population ranges:

# of FTEs per floor	# and size of areas	lin. mm of counter and upper/lower storage in each area
2 – 4	one 3 m ²	1,500 (5')
5 – 25	one 10 – 20 m ²	2,400 (8')
26 – 50	one 20 – 30 m ²	3,000 (10')
51 – 100	one 30 – 40 m ²	3,600 (12')
101 – 137	one 40 – 50 m ²	4,200 (14')
138 – 175	one 50 – 60 m ²	4,800 (16')
176 – 225	one 60 – 70 m ²	5,400 (18')
226 – 250+	one 70 – 80 m ²	6,000 (20')

See A6.2 Support Spaces for a drawing that illustrates the typical provisions for a kitchenette including descriptions of standard finishes and mechanical and electrical provisions.

Shared Equipment Areas

Shared equipment areas may be open or semi-enclosed but entrance doors are not provided. The following summarizes provisions for shared equipment areas for various population ranges:

# of FTEs per floor	# and size of areas	lin. mm of counter and upper/lower storage in each area
1 – 4	one 5 m ²	1,800 (6')
5 – 25	one 5 – 10 m ²	1,800 (6')
26 – 50	one 10 – 14 m ²	2,400 (8')
51 – 75	one 14 – 20 m ²	3,000 (10')
76 – 100	two 10 – 14 m ²	2,400 (8')
101 – 150	two 14 – 20 m ²	3,000 (10')
151 – 175	three 10 – 14 m ²	2,400 (8')
176 – 225	four 10 – 14 m ²	2,400 (8')
226 – 250+	three 14 – 20 m ²	3,000 (10')

See A6.2 Support Spaces for a drawing that illustrates the typical provisions for a shared equipment area including descriptions of standard finishes and mechanical and electrical provisions.

Reception Waiting Areas

Primary, hard walled reception areas are only provided on one floor of a large multiple floor occupancy. Secondary reception areas take the form of a workstation on each floor equipped with a surface to receive and distribute mail and a small waiting area to accommodate some seating. This area may also accommodate coat storage and some display related to the business of the particular group(s) at that location.

Other Undesignated Support Space

All other support functions requiring enclosed spaces must be accommodated within 10 m² areas; sized, built and serviced (power and telecommunications) to accommodate office, meeting or other functions either initially or in the future. For higher populations, the space allowances may be combined to create larger areas, as required, (20 m², 40 m², etc.) as long as the larger room could be easily converted back to the smaller rooms at minimal cost and with no additional impact on the space if required in the future. The amount of Undesignated Support Space can be planned based on total occupancy but allocated by FTE per floor to ensure consistency and flexibility for future occupancies.

Undesignated Support Space must first be used to satisfy the requirements of true non-compliant support spaces (e.g. storage, file room, etc.) before being allocated to any proposed enclosed offices.

The allowances for other undesignated hard walled support spaces are as follows:

# of FTEs per floor	# of 10 m ² spaces
3 - 50	1
51 - 110	2
111 - 175	3
176 - 250+	4

Other support functions include but are not limited to:

- ◆ storage and file rooms;
- ◆ resource rooms and libraries;
- ◆ server/LAN rooms (special mechanical provisions, if required, are client responsibility);
- ◆ breakout rooms; and
- ◆ additional quiet rooms (two per undesignated support space allowance).

Open Area Support Spaces

Collaborative Spaces

With the changing nature of work and the continued importance of team-based activities and projects, the inclusion of collaborative spaces in the *Workplace 2.0 Fit-up Standards* is a very important element to encourage teamwork and idea sharing. Collaborative spaces provide a place to go for quick informal or team meetings, brainstorming and problem solving sessions without having to book a meeting room, thereby saving time and increasing productivity. Collaborative spaces can also provide touch down spots for clients and teleworkers or just an area for employees to socialize. Collaborative spaces can include flexible furniture that can be arranged in any required configuration and more than one team can use the space at the same time.

The planning ratio for the collaborative areas is to be calculated based on a minimum of 5-10% of the floor area.

In addition to the collaborative spaces, clients may choose to incorporate other shared support spaces into open areas as long as the *Space Allocation Standards* of the *Framework for Office Accommodation and Accommodation Services* is not exceeded. Open area support spaces could include supplementary equipment areas, file areas, layout spaces, resource areas, etc. The regular workstation configurations are substituted by the appropriate furnishings to support the desired function.

Careful consideration should be given to the amount of space allocated for general filing. Off-site storage and/or electronic filing systems are preferred for records storage.

Printer Stations

In addition to the centrally located, shared equipment areas, stations can be provided throughout the office for access to network printers if required. With the advent of large multi-function printer units the full allocation may not be necessary.

Power and data services are provided to each location. There is no millwork allowance for these spaces and the client is responsible for the provision of furniture and equipment.

Planning ratio: maximum of one printer station for every 20 – 30 FTEs.

Coat Storage

Coat closets may be provided for visitors and are to be conveniently located. Approximately 100 mm of hanging space is required for each coat/person or one 1.5 m (5'-0") closet for every 15 visitors.

First Aid Room or Station

A first-aid room is not required where a health unit or a similar emergency treatment facility is conveniently available to provide first-aid services. As a result, first aid rooms are seldom justifiable and have been removed from many locations. Refer to Treasury Board Policy [Operational Health and Safety Directive, Section 18.6, First-aid Rooms](#). If required, the planning ratio is as follows:

Planning ratio: 1 per 200 or more FTEs.

A3.5 Standards for Furniture Panels/Screens

Panels may be used to provide visual privacy in open-plan office environments. Panels shall meet the requirements of CAN/CGSB-44.229 and the *Purchase Description for Interconnecting Panels and Supported Components* published by the Acquisitions Branch. The following additional restrictions apply to panel height, classification and finish options as well as power/voice/data receptacles. See A5.1 for planning and Workplace 2.0 design principles.

Height

The maximum height for panels is 1.37 m (54"). Lower panels allow for increased light distribution and airflow and provide seated privacy. Panels that exceed 1.37 m (54") are considered non-compliant.

Classification

Panels shall be non-acoustic class. High performance acoustical panels do **NOT** comply with the Standards.

Finish

Panel finish can be fabric upholstered, perforated metal, veneers (wood and plastic laminate) as long as there is no cost differential. All materials shall be manufactured from recycled or other environmentally appropriate materials that respect the selection criteria identified in A7, unless reusing or matching existing panels. Glass panels with a maximum height of 38 cm (15") are allowed but the overall maximum screen height cannot be exceeded. Fully glazed panels and sliding panels do **NOT** comply with the standards.

Clients may also purchase accessory items such as mobile whiteboards or add-on translucent or mesh dividers/toppers to create visual privacy with lower screen heights (the maximum screen height cannot be exceeded).

Power/Voice/Data Receptacles

Each workstation is provided with three duplex power outlets (6 receptacles) and one voice/data outlet. Refer to typical workstation layouts in A6 for additional information.

Note: The *Purchase Description for Interconnecting Panels and Supported Components* specifies the minimum components and capabilities of the electrical system. Federal employees occupy many buildings where these standard electrical system capabilities (power/voice/data) cannot be fully realized due to the limitations of the base building systems. This does NOT imply that the base building infrastructure should be renovated to accommodate the furniture system capabilities. Therefore, the final electrical design shall not exceed the capacity of the base building infrastructure.

A4. Special Technical Standards

A4.1 Telecommunications Infrastructure

Overview

The telecommunications infrastructure in an office building is described and specified in *“Commercial Building Standard for Telecommunications Pathways and Spaces,”* TIA-569-B. The *Workplace 2.0 Fit-up Standards* apply this standard.

Figure 1 below illustrates the telecommunications infrastructure of spaces and backbone pathways in a typical Crown-owned building, or one where all the space is leased by the Crown. It follows a “holistic” approach to the telecommunications infrastructure design by looking at the building as a single entity, regardless of whether it is occupied by one or several departments, similar to how other utilities are distributed.

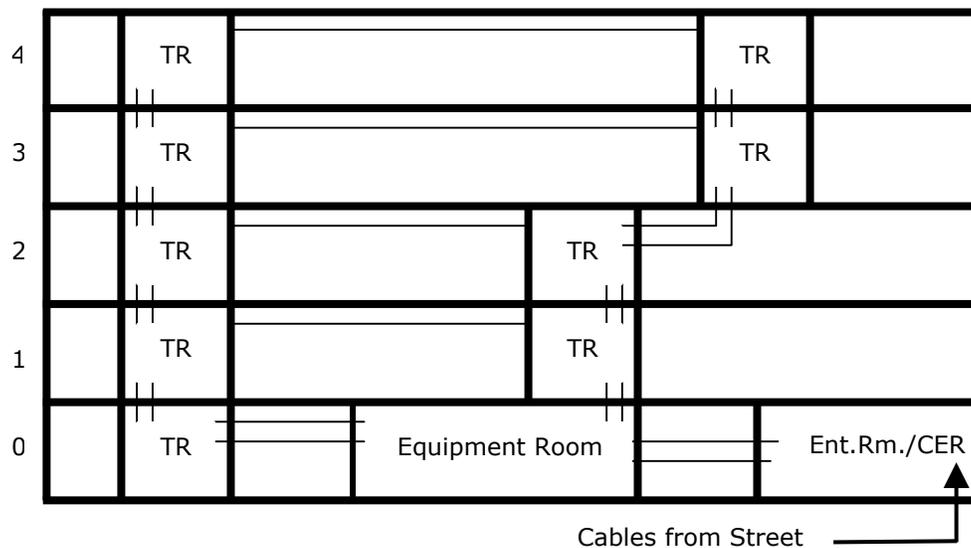


Figure 1: Telecommunications Spaces and Pathways in Crown-owned Building

Ent. Rm: Entrance Room

CER: Common Equipment Room

TR: Telecommunications Room

The infrastructure provided by PWGSC is intended to suit the requirements of both the initial department occupying the space, as well as the requirements of any subsequent occupant. This holistic approach facilitates accommodating changes in space. In buildings with more than one department (multi-department buildings), the telecommunications infrastructure will be shared by these departments and each one will have equal access to the infrastructure serving it.

Telecommunications cables of the various telecommunication carriers such as Bell, Telus, Rogers, etc. enter the building from the street and are routed to an Entrance Room where they terminate. The Entrance Room is usually combined with a Common Equipment Room that houses electronic equipment owned by the telecommunications carriers to deliver services to the occupants. The point of demarcation (similar to a "border") between the facilities owned by the carriers and those owned by the occupants is usually located in this room.

Backbone pathways (e.g. conduit, cable tray) carry cables from the Entrance Room/Common Equipment Room to the Equipment Room. The Equipment Room is the central point for the distribution of telecommunications services within the building. Cables terminate in each of these rooms.

Backbone pathways also carry cables from the Equipment Room to each of the various Telecommunications Rooms located on each floor. The Telecommunications Room is the distribution point of these networks to work areas located in the vicinity. Cables are also terminated in each Telecommunications Room. A backbone pathway and cables link multiple telecommunications rooms on each floor.

Horizontal pathways (not illustrated) typically carry cables from each Telecommunications Room to the vicinity of the work areas being served.

Figure 2 below illustrates the telecommunications infrastructure of spaces and backbone pathways in a typical building where the Crown has leased only some of the available office space. In this example, Government of Canada (GC) space is on floors 3 to 7 inclusive and thick lines are used to separate space occupied by the GC from both space leased to others, as well as the landlord's common spaces.

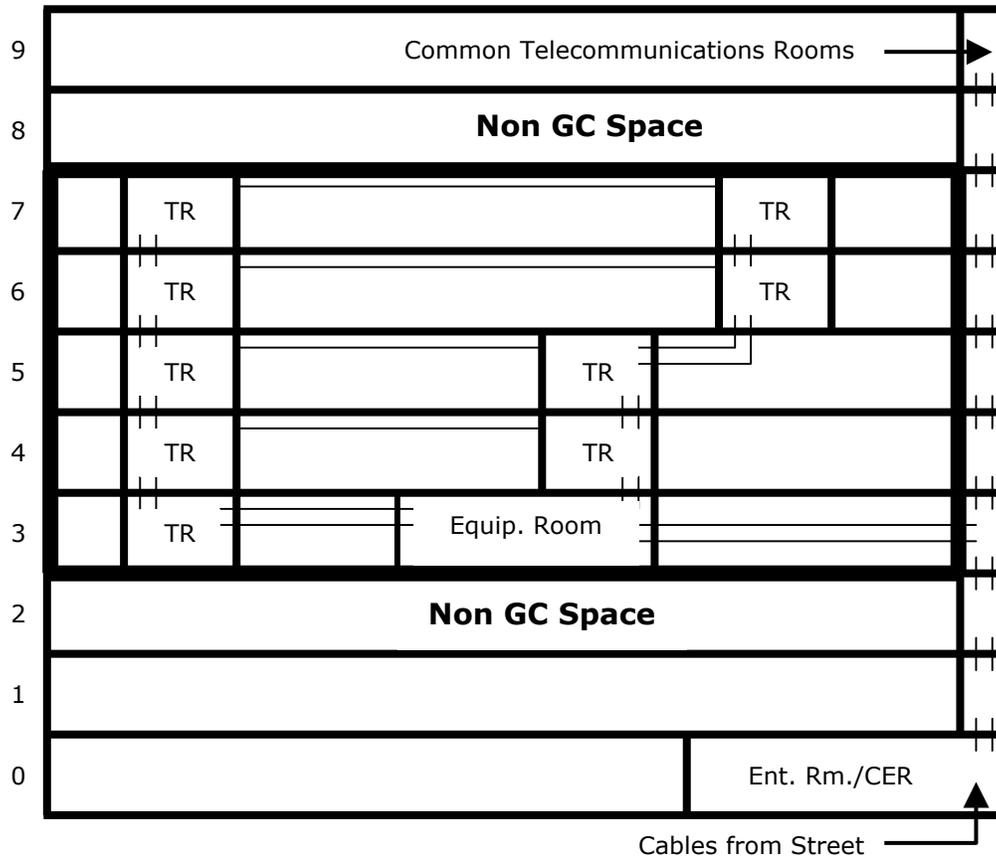


Figure 2: Telecommunications Spaces and Backbone Pathways in Leased Space

Ent. Rm: Entrance Room

CER: Common Equipment Room

TR: Telecommunications Room

As in the typical Crown-owned building (Figure 1: Telecommunications Spaces and Pathways in Crown-owned Building), cables owned by the telecommunications carriers enter from the street and end in an Entrance Room which may also serve as a Common Equipment Room housing electronic equipment owned by the carriers and required by them to deliver their services. Signals of the telecommunications carriers are distributed to the space occupied by each tenant by cables routed through a series of vertically stacked Common Telecommunications Rooms. Note that these rooms are not within the GC leased space.

The construction of telecommunications spaces and backbone pathways within space leased by the GC follows the holistic approach also as shown in Figure 1: Telecommunications Spaces and Pathways in Crown-owned Building. The GC is considered as a single tenant.

Shared Holistic Infrastructure

The holistic (shared) infrastructure of telecommunications spaces and pathways is provided by PWGSC as base-building components. However, this infrastructure is often constructed as part of the fit-up process.

In buildings housing more than one department, the holistic telecommunications infrastructure will be shared by these departments and each one will have equal access to the infrastructure serving it. This access cannot be controlled or hindered by another client department. Although only one department may initially occupy a space, additional departments may occupy it in the future, which requires sharing the infrastructure.

PWGSC considers infrastructure that a department is unwilling to share equally as dedicated to and funded by that department, following approval through the non-compliance process (outlined in A2.3 Process for Approval of Non-compliance).

Telecommunications Rooms

The horizontal and backbone cables end in the Telecommunications Rooms (TR). They also house electronic equipment such as LAN switches required to provide the building's telecommunications networks. While TRs do not normally house LAN servers¹, it may be possible to accommodate a few servers in this space.

Each Telecommunications Room (TR) is to be located as close as possible to the centre of the area being served and preferably in the core area. TRs complying with the requirements of standard TIA-569-B should be sized as follows:

Area Served	Room Size
1,000 m ²	3.3 m x 3 m (11' x 10')
800 m ²	2.8 m x 3 m (9' x 10')
500 m ²	2.2 m x 3 m (7' x 10')

As well, TIA-569-B states that no telecommunications room should serve more than 1,000 m² of floor space.

¹ LAN switches and servers are not the same. A LAN server is a computer that stores and processes information, whereas a LAN switch directs the telecommunications traffic that flows through it.

The use of the non-mandatory word “should” permits some *reasonable* latitude to the knowledgeable designer and is discussed below under some of the sample scenarios. For example, it is most likely that when strategically located, a single Telecommunications Room could serve 1,100 square metres, or possibly somewhat more. As well, the Telecommunications Room may have slightly different dimensions or occupy a floor area that varies somewhat from that specified above.

Equipment Room

The Equipment Room is the central point of telecommunications within the building. Backbone cables terminate here. When sized according to standard TIA-569-B, this room is quite large (0.7% of the floor area served) and should provide ample space to house the servers owned by the client department(s), in addition to the electronic equipment for department’s(s’) internal telecommunications networks. This electronic equipment could include LAN switches, routers, or a telephone switch (PBX).

The RCMP’s Guide G1-031, [Physical Protection of Computer Servers](#), supports the shared holistic approach described above and explicitly permits rooms housing servers storing sensitive information (protected or classified) to be shared by different departments. While servers are typically housed in the Equipment Room, it applies to Telecommunications Rooms and any other rooms only if they house servers storing sensitive information.

Note that this Guide G1-031 considers only physical safeguards. Information technology safeguards (such as passwords or encryption) may replace or augment some of these physical safeguards.

Accordingly, no separate server room should be required in situations where the building contains an Equipment Room of adequate size. If the Equipment Room is too small and a server room must be constructed, it will be shared by the departments occupying the space.

Scenarios

Few buildings now contain a standards-compliant infrastructure of telecommunications spaces (e.g. rooms) and pathways (e.g. conduit or cable tray), as specified in Standard TIA-569-B. In Crown-owned buildings as well as in buildings where the Crown has leased all the office space, base-building deficiencies will usually not be corrected until a major re-fit, such as at half-life. In some cases where the Crown has a long-term interest in a substantial portion of the building, it may also be practical to provide this holistic standards-compliant infrastructure during re-fit.

Some reasonable compromises with the Standard TIA-569-B are likely justified in shorter term leases. Accordingly, under this circumstance, the approach to the telecommunications system implementation will vary to suit the particular occupancy where meeting actual current requirements is more important than future-proofing. In general, the degree of compromise will be proportional to the size of the space leased and the occupancy length.

Some examples of possible scenarios and solutions are provided below for clarification. Many other scenarios and solutions are possible. Design decisions must be made by experts in telecommunications infrastructure design.

Scenario 1 – Modernized Crown-owned building or new major lease, multi-department occupancy

This is an example of a shared telecommunications infrastructure (including separate 24/7 air conditioning in the Equipment Room and Telecommunications Rooms²) that serves the building as a whole (similar to other utilities) as illustrated in Figure 1: Telecommunications Spaces and Pathways in Crown-owned Building. The construction complies with the mandatory requirements of the TIA standards. Small deviations from the non-mandatory requirements may have been implemented by the knowledgeable telecommunications designer to reflect actual conditions and common sense.

Located on one of the lower levels, the Equipment Room is sized for the Servers which are centralized.

Holistic shared backbone conduits connect the Telecommunications Rooms to the Equipment Room and also connect Telecommunications Rooms located on the same floor, where required. Zone conduits or cable trays are used for the backbone pathways connecting the Equipment Room to the combined Entrance Room/Common Equipment Room. These are also used as horizontal pathways to serve each zone on each floor. Generic backbone cabling is also provided.

Scenario 2 – Four floor occupancy, long term lease, "clean" space

This example provides the same telecommunications infrastructure under Scenario 1 above, but is limited to the four floors of the building leased by PWGSC – see Figure 2: Telecommunications Spaces and Backbone Pathways in Leased Spaces. The Common Equipment Room, Entrance Room, and Common Telecommunications Rooms are located outside of the leased space.

Scenario 3 – Four floor occupancy, long term lease, previously occupied space

This example incorporates the existing infrastructure to the extent that it does not deviate unacceptably from the TIA-569-B requirements.

Each floor is 2,400 m² and is served by two Telecommunications Rooms, one on each side of a central core. One Telecommunications Room on each floor is 8 m² and is determined to be

² Under all scenarios, if the clients require this air-conditioning system to be connected to standby power, it will be done at their expense; however, it will not be necessary to follow the non-compliance procedures.

acceptable. The other Telecommunications Room on each floor is only 4 m² and is enlarged to 10 m². The backbone pathways are found to be acceptable.

The Equipment Room is much too small when tested against Standard TIA-569-B and it is not practical to enlarge it. It has also been functioning as a Common Equipment Room and houses a small amount of Bell Canada-owned equipment. The landlord refuses to enlarge the existing Entrance Room so that it can function as a Common Equipment Room and also house Bell's equipment.

As rearranging backbone pathways would be costly, the existing Equipment Room is kept as a room housing the LAN switches and other Crown-owned electronic equipment required for the internal departmental networks. Part of this room is caged off to provide a separate space for Bell's equipment but Bell will not be able to access the remainder of the room. Another larger shared Equipment Room is built elsewhere in the space to house LAN servers of the departments occupying the space.

Generic backbone cabling is also provided.

Scenario 4 – Small (500 m² or less) long-term lease, previously occupied space

In this example, the space is all on the same floor. There is a single room that fulfills all telecommunications functions, but it is too small and is shared with equipment used for the distribution of electrical power. There are no backbones or horizontal pathways.

An existing room is found that is suitable for use as a combined Telecommunications Room and Equipment Room. Backbone pathways are installed connecting this room to a Common Telecommunications Room located outside of the leased space (see Figure 2: Telecommunications Spaces and Backbone Pathways in Leased Spaces). Given the small size of the space, J-hooks are used to support horizontal cable distribution. (Conduit or cable tray could also be used, if warranted by the characteristics of the space.)

Scenario 5 – Short-term lease (6 – 24 months), previously occupied large space

The Telecommunications Rooms are sized to meet the actual requirements of the client and make use of existing conditions wherever possible (i.e. common sense and best value for Canadians). In some cases, existing electrical room(s) may be used. An Equipment Room is sized as required to house network equipment and any departmental servers.

Given the short-term length of the lease, the client decides that separate 24/7 air conditioning is not required in either the Equipment Room or the Telecommunications Rooms. They agree to accept only exhaust fans and door vents in these rooms. They will activate the building's main air conditioning system on those days when the temperature in these rooms becomes excessively high. They agree that this approach reflects common sense and best value for Canadians. J-hooks are used to support horizontal cable distribution.

A4.2 Special Fire Protection Standards for Client-funded Requirements/SPS

In addition to provincial or territorial code requirements, there are some standards and policies that must be followed when developing office space for Government of Canada occupants. The most common ones are listed below. You may find the specific requirements of each at the accompanying Web site locations.

1. [TB Fire Protection Standard](#)
2. [Fire Commissioner of Canada – FC 311 \(M\) – Standard for Record Storage](#)
3. [Operations Program Directives No. 922-1-IPG-044 – Door Release Hardware – Electromagnetic Locks](#)
4. [Mobile Shelving – Fire Protection Design Requirements](#)

It is imperative that these standards and policies are considered early in the concept design stage, and as part of the review and approvals process throughout the development of the project.

A5. Planning

Changes Since the Last Update

A5.1 Planning and Workplace 2.0 Design Principles

- Additional information on the overall Workplace 2.0 concept and general physical workplace planning principles.
- Division of “Design Principles” section into subheadings with additional planning details in each section.

A5.2 Deletion of “Integrated Workplace Solutions” section

A5.2 Sample Plans

- New PL1 and PL2 floor plans, planning notes and legends applying Workplace 2.0 standards with a planning ratio of 60% fixed, 30% flex and 10% free workers.
- New PL3 and PL4 floor plans, planning notes and legends applying Workplace 2.0 standards with a planning ratio of 75% fixed, 20% flex and 5% free workers.

A5.1 Planning and Workplace 2.0 Design Principles

Although the *Workplace 2.0 Fit-up Standards* focus on the physical workplace, it is useful to understand the overall concept of Workplace 2.0 when implementing projects. Not all elements of Workplace 2.0 are within the control of the project team, only those involving the physical workplace. But understanding the importance of an integrated process for successful workplace renewal is key.

Workplace 2.0 is a whole-of-government approach, emphasizing a fully integrated and renewed workplace that supports the way we work today and includes:

- Modern, flexible work environments;
- Technological infrastructure to support the “anywhere, anytime, and any device” concept;
- Streamlined and modern policies;
- Updated back office systems to support delivery of programs to Canadians;
- Tools that support collaboration; and
- Cost savings in line with fiscal restraint.

Within the physical workplace, there are some general Workplace 2.0 planning principles to be considered in the overall project process, which include:

- Flexible office designs that integrate technology and business processes;

- Mobility and the flexibility to work from a variety of work spaces through the use of wireless and other mobile technologies (e.g. telephony, videoconferencing, etc.);
- Space based on worker profiles and time spent at the workplace;
- Limited hard-walled spaces and increased open collaborative areas;
- Accessibility in new workplace designs and new buildings;
- Strategically located buildings (e.g. transit routes); and
- Amenities that meet employee needs such as daycare, fitness and religious observance facilities.

Note: Successful integration of all the physical workplace elements of Workplace 2.0 requires an enriched front end process involving all members of the project team, including but not limited to real property, information management and technology, building services, acquisitions and the client, to ensure that Workplace 2.0 goals for the project are set and achieved.

Design Principles

The *Workplace 2.0 Fit-up Standards* allows for a design approach that maximizes long-term flexibility in the planning of office spaces. The approach incorporates innovative and sustainable design principles, and meets or exceeds all code, life safety and accessibility requirements.

The following planning and design principles support social, economic and environmental sustainability, and are to be applied to the greatest extent possible:

Sustainability

- The fit-up of Government of Canada office space is guided by the principles of energy efficiency, minimal environmental impact, occupant health and comfort and functional performance.
- The Government of Canada encourages the use of sustainability design tools such as Leadership in Energy and Environmental Design (LEED) and Green Globes. For interior fit-ups in existing buildings, materials selection and designing for good access to daylight are key factors in a sustainable design approach. PWGSC has reviewed the *Workplace 2.0 Fit-up Standards* to ensure that they do not inhibit achieving the criteria for LEED Commercial Interiors (CI) certification. Further information on LEED is available from the Canada Green Building Council. Information on Green Globes criteria is available from the Green Globes Web site.

Workstations

- Open workstations are assigned to the majority of the workers.
- The size of the workstations is based on the amount of time workers spend in the office.

- Smaller individual workstations offer the opportunity to introduce collaborative, group and other open support areas to increase interaction and facilitate the exchange of ideas.
- The number, orientation and height of screens (maximum 1.37 m (54")), varies to suit the functional requirements of occupants. Screens may not be required at all depending on the functions of the workers and the amount of time spent in the office.

Note: Workstations should be removed slightly from the windows where possible for better air circulation and to further increase the transfer of daylight.

Hard Walled Offices and Support Spaces

- Hard walled offices and support spaces are located adjacent to the core in order to maximize natural light on the floor, and the spaces are provided with glazing (for reusable partition systems) or sidelights or clerestory glazing, where appropriate.
- The "fixed" or permanent elements of the fit-up are limited and universally appropriate for the use of any occupant, minimizing construction and the need for future demolition. Construction is implemented to enable ease of disassembly and reuse to the greatest extent possible.
- Reusable partition systems (moveable, demountable) can be used to provide enclosed office and support space to increase flexibility. Such systems are an option when they can meet client program requirements and provide the best environmental and economic value to the Crown.
- Enclosed spaces are provided with individual lighting controls and sensors to conserve energy.
- Functions requiring enhanced or secure speech privacy are located near the core where acoustic control is not adversely affected by perimeter conditions. (Reference: *Speech Security: A Best Practice Guide*)
- Support spaces such as shared equipment areas, meeting rooms and kitchenettes should be located to concentrate noisier activities away from the workstation area, and minimize disruption for occupants. Banks of centralized filing can also be used to separate and buffer these types of spaces from the surrounding workstations.
- Kitchenettes accommodate recycling facilities and also serve as resource areas and informal meeting or work spaces and should be located adjacent to a collaborative area to maximize flexibility.
- Locating meeting rooms in a central location also provides convenience for visitors. Meeting rooms are located adjacent to each other, wherever possible, to provide convenience for visitors and to allow greater flexibility in the current and future use of the space (e.g. smaller meeting rooms may be combined to create a larger meeting room). While retractable or folding partition walls are provided as part of standard fit-up to divide a large meeting room, they may also be funded by the client to subdivide other meeting rooms to provide for greater versatility in the use of the space.

Note: The project team technical experts should ensure due diligence with regards to product selection and advise the client accordingly of the pros and cons to consider.

- Finishes are chosen for their durability (low maintenance or life cycle cost), recyclability, low embodied energy (locally available if possible) and low toxicity. See A7 for further information on finishes.

Security

- Security requirements must be fully integrated into the planning and design of government accommodation.
- Security requirements identified by a Threat and Risk Assessment can usually be met using a combination of one or more design features including zoning of restricted access areas, entry barriers, security systems and equipment.
- Client departments are responsible for informing PWGSC of their security requirements for tenant fit-up. The necessary security specifications must be included in all plans, funding requirements, requests for proposals and tender documentation for fit-up projects. Client departments should refer to the [Government Security Policy](#) and the [Operational Security Standard on Physical Security](#) when planning security requirements.

The exact size, configuration and placement of spaces will vary to suit each building's particular characteristics. The sample floor plans in A5.3 generally demonstrate the principles as outlined.

The national average for general office accommodation is 14.0 m² per FTE. For all projects, consideration must be given to the potential impact of densification on the building and building services. All applicable codes and standards must be adhered to.

A6. Sample Detail Drawings

Changes Since the Last Update

- A6.1 Workstations, Collaborative and Enclosed Spaces
- Modification to examples of workstation and enclosed office layouts.
 - Clarification and description of collaborative spaces and new examples of collaborative space layouts.
- A6.2 Support Spaces
- Additional data/electrical outlets in medium and large meeting rooms, mandatory retractable wall in large meeting room and revision to examples of meeting room layouts.
 - Addition of barrier free wording for quiet rooms and optional layout examples provided.
 - Optional freestanding manufactured solution for upper and lower cabinets in kitchenettes and shared equipment areas.
 - Addition of ceramic tile backsplash in kitchenettes and update to drawings.
- A6.3 Doors and Glazing
- Addition of glazed doors (with frames) as part of a demountable/moveable wall system.

A6.1 Workstations, Collaborative and Enclosed Spaces

Open Workstations

Summary

Workstations vary in size depending on function (see A3.4) and accommodate average requirements for work surfaces, storage and filing. Filing cabinets may be centralized as an alternative layout. The use of freestanding, height adjustable and mobile furniture components is encouraged for increased flexibility.

Note: Furniture layouts are provided for example and may vary.

The height of filing cabinets may vary to suit workstation locations (e.g., window locations – maximum two drawers high to allow transfer of natural light).

Standard Finishes

Floor – base building standard carpet (carpet tile or rolled goods)

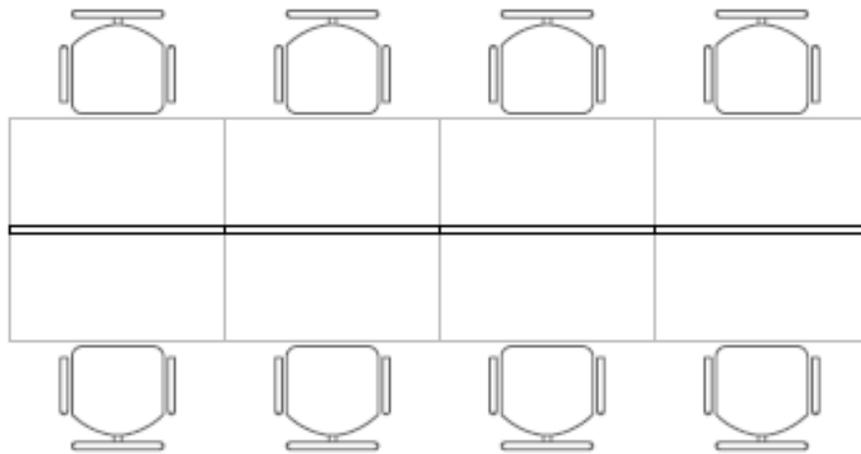
Standard Electrical Requirements

- 3 standard electrical duplex receptacles (1 circuit per 2 workstations)
- 1 image/voice/data/outlet
(**Note:** client to provide actual connectors and jacks, typically RJ45 with multiple jacks)
- Base building lighting

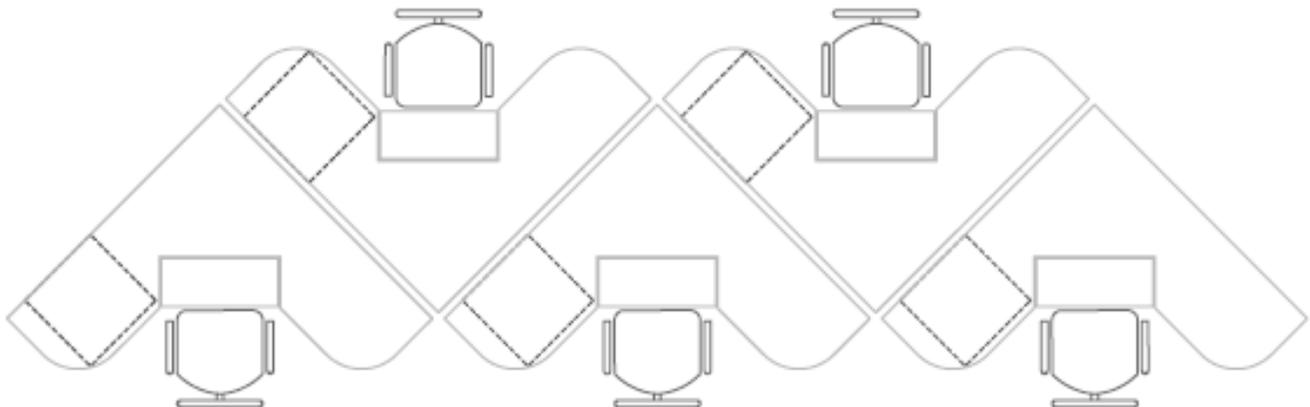
Free Worker

Examples of Workstation Layouts (cluster)

1.5 m² (16 ft²)



Cluster Layout (1.5 m²)

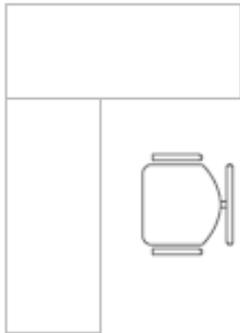


Alternate Cluster Layout (1.5 m²)

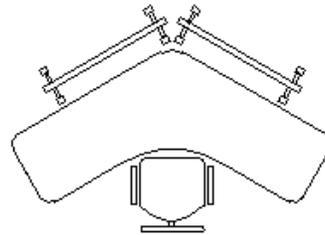
Flexible Worker

Example of Workstation Layouts (individual)

3.0 m² (32 ft²)



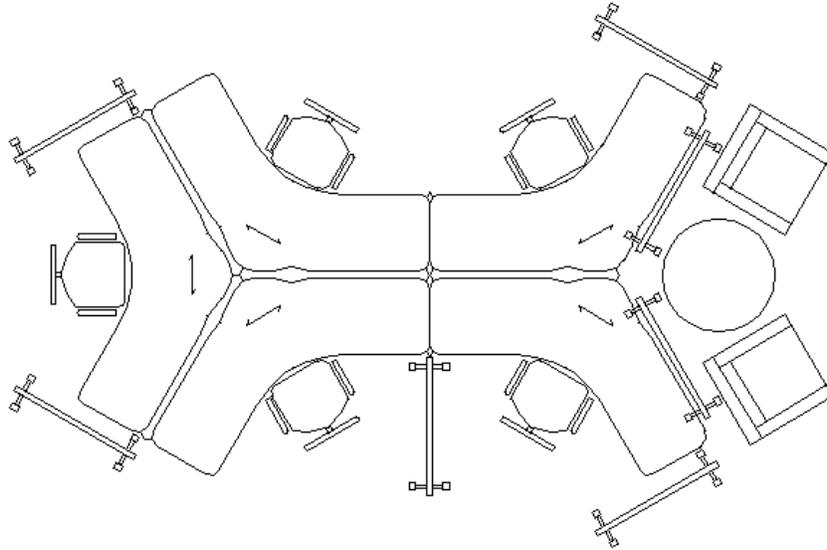
Layout (3.0 m²)



Alternate Layout (3.0 m²)

Example of Workstation Layouts (cluster)

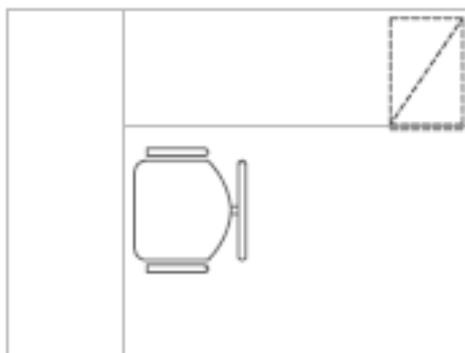
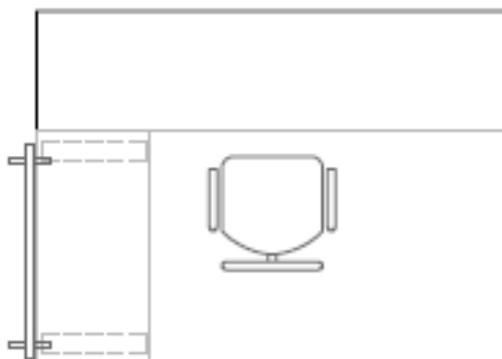
3.0 m² (32 ft²)



Cluster Layout (3.0 m²)

Fixed Worker

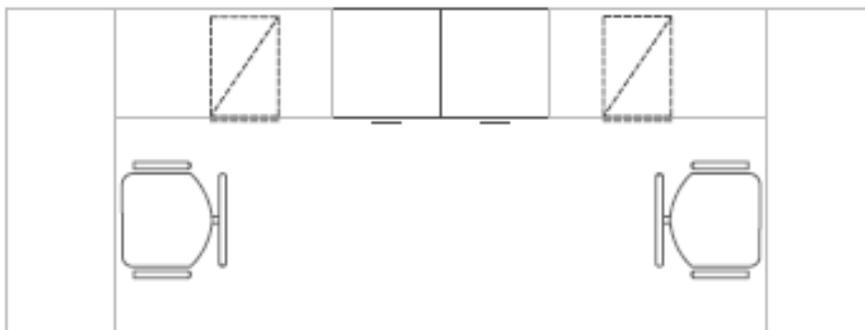
Examples of Workstation Layouts (individual)

4.5 m² (48 ft²)Layout (4.5 m²)Alternate Layout (4.5 m²)

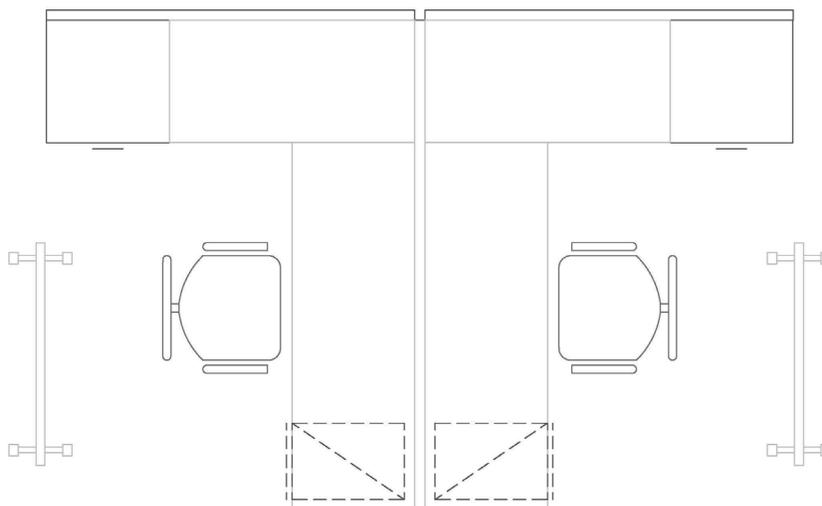
Fixed Worker

Examples of Workstation Layouts (cluster)

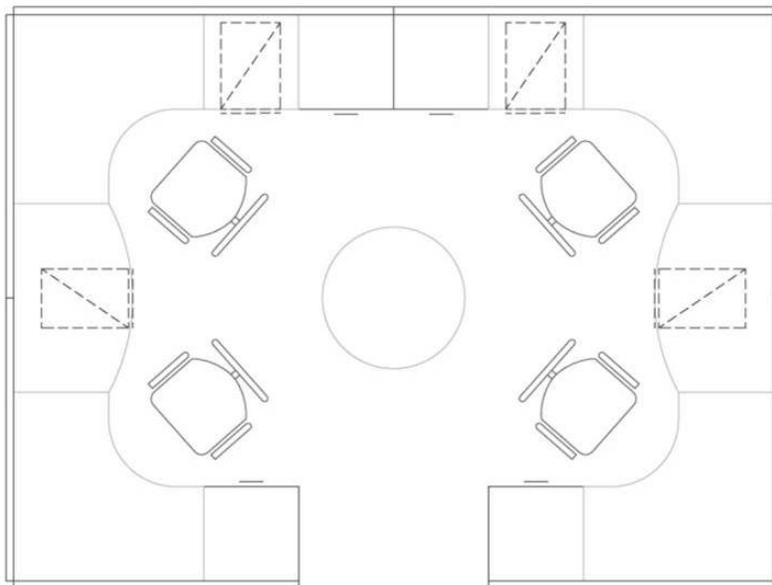
4.5 m² (48 ft²)



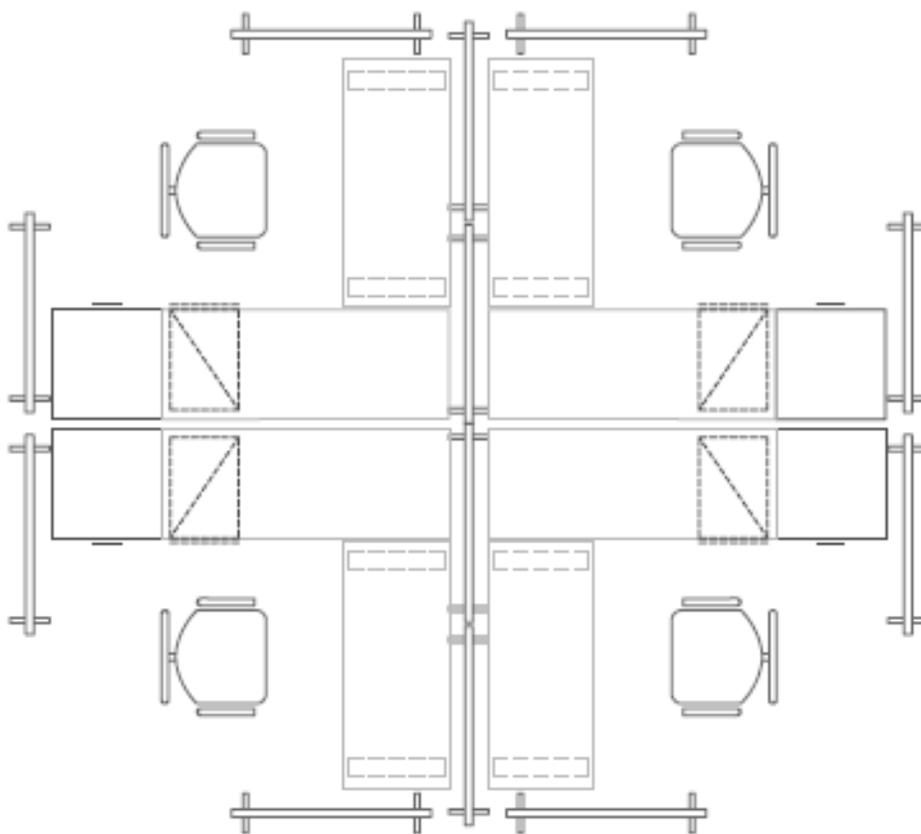
Cluster Layout – 2 (4.5 m²)



Alternate Cluster Layout – 2 (4.5 m²)



Cluster Layout - 4 (4.5 m²)



Alternate Cluster Layout - 4 (4.5 m²)

Collaborative Spaces

Summary

Collaborative spaces vary in size and quantity depending on the floor layout, function and space available (see A3.4). Collaborative spaces create environments to help people connect and communicate freely, and encourage teamwork and idea sharing.

A variety of furniture can be provided (client funded) to suit the function of the collaborative space such as tablet chairs, soft seating, mobile tables and other flexible furniture that can be arranged in various configurations. White boards and other display options should also be included.

Note: Furniture layouts are provided for example and may vary.

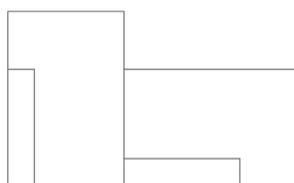
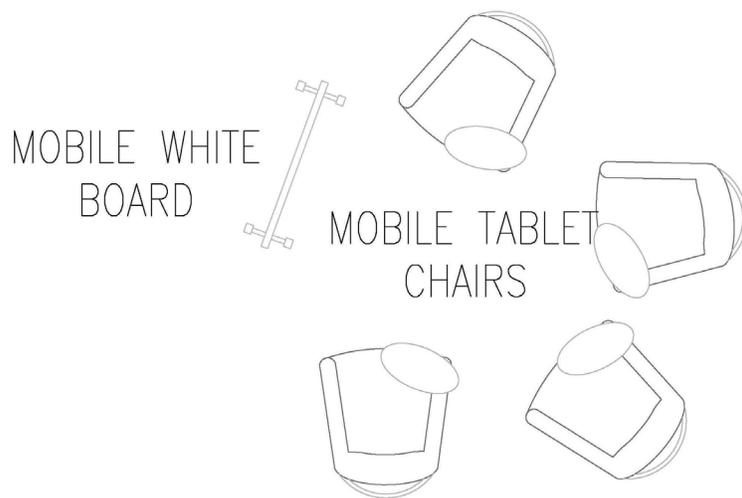
Standard Finishes

Floor – base building standard carpet (carpet tile or rolled goods)

Standard Electrical Requirements

- 3 standard electrical duplex receptacles (floor or wall mounted on 2 circuits) per 15 m² of space
- 2 image/voice/data/outlet per 15 m² of space
(**Note:** client to provide actual connectors and jacks, typically RJ45 with multiple jacks.)
- Base building lighting

Examples of Collaborative Space Layouts



Enclosed Offices

Summary

Offices accommodate average requirements for work surfaces, shelving, storage and filing. Furniture can be freestanding or hung from reusable partition systems.

Note: Furniture layouts are provided for example and may vary.

Finishes

- Floor – base building standard carpet (carpet tile or rolled goods)
- Walls – paint or unfinished
(**Note:** partitions may be traditional construction or reusable partition systems, see A3.3 Fit-up Components and Funding Accountabilities.)

Standard Electrical Requirements

- 3 standard electrical duplex receptacles (2 circuits)
- 2 image/voice/data outlets
(**Note:** client to provide actual connectors and jacks, typically RJ45 with multiple jacks.)
- Base building lighting (may be relocated) with 1 separate switch/light control

Standard Mechanical Requirements

Interior zone:

- Individual thermostat control c/w dedicated terminal unit (VAV box, fan coil unit)
- Supply and return air diffuser(s)/grille(s)
- Transfer return air fan c/w on/off switch for full height partitions

Perimeter zone (where required):

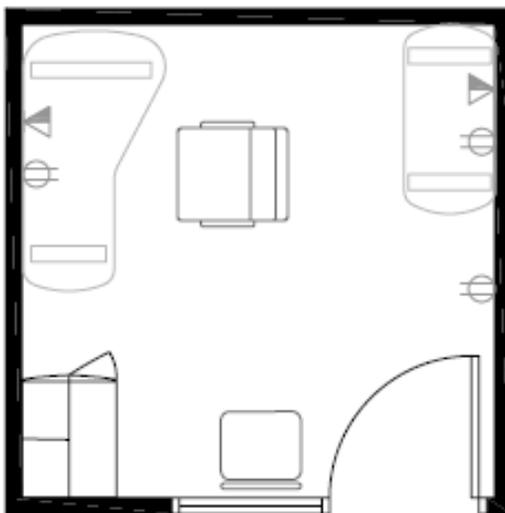
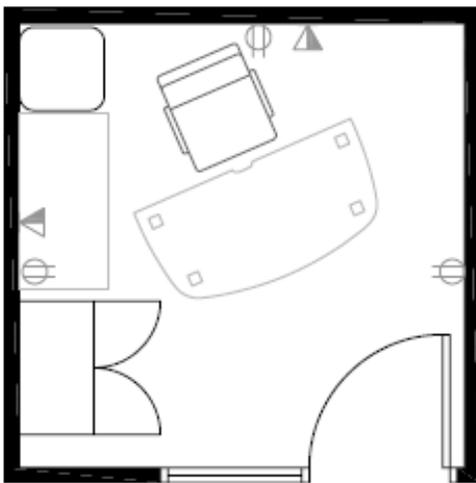
- Individual thermostat control for terminal units and perimeter system (convactor(s), fan coil unit(s))
- Transfer return air fan c/w on/off switch for full height partitions
- Supply and return air diffuser(s)/grille(s)
- Noise abatement as required

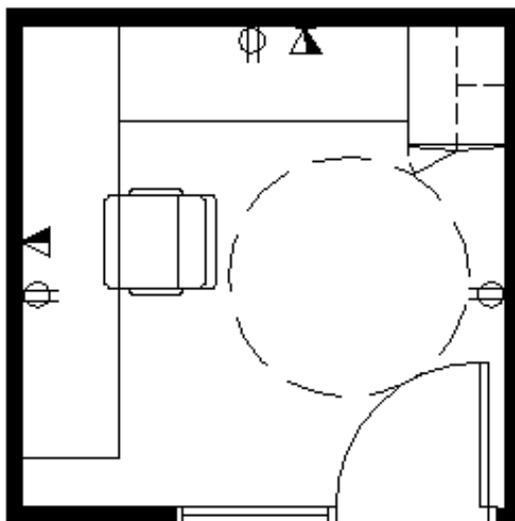
Leadership Worker

Examples of Enclosed Office Layouts

10 m² (100 ft²)

Note: Maximum allowance for EX-1 positions with 10 or more funded reports, senior departmental representatives at regional offices or remote locations, lawyers and ICMS employees. See A3.4 for further details.





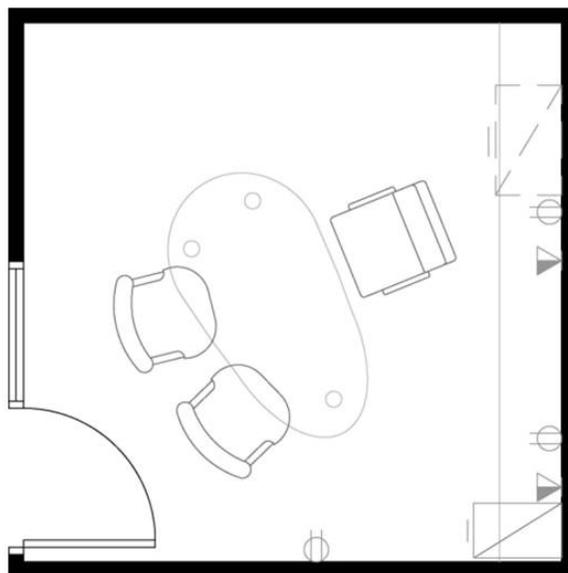
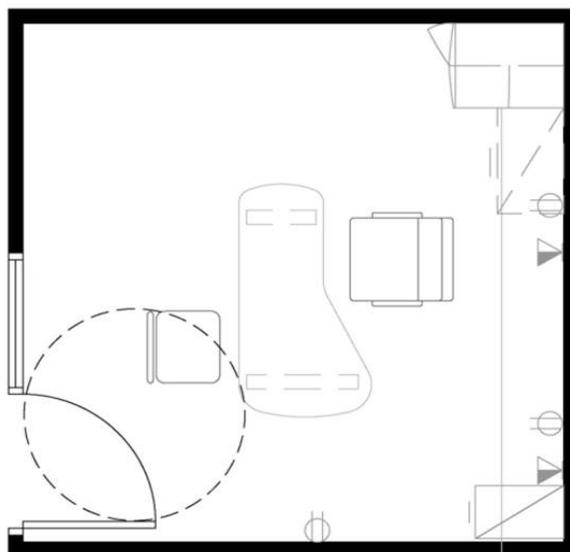
Note: This example provides for fully accessible office.

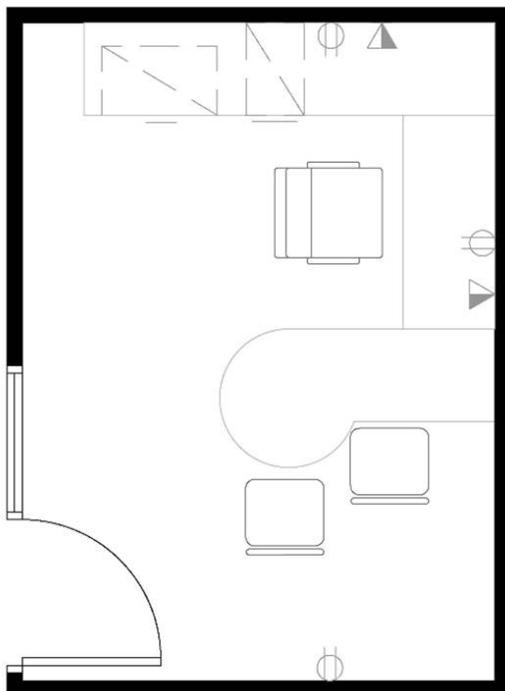
Leadership Worker

Examples of Enclosed Office Layouts

14 m² (150 ft²)

Note: Maximum allowance for EX-3, EX-2 and EX-1 positions and equivalents, no more than 3 levels below the DM or Associate DM. See A3.4 for further details.



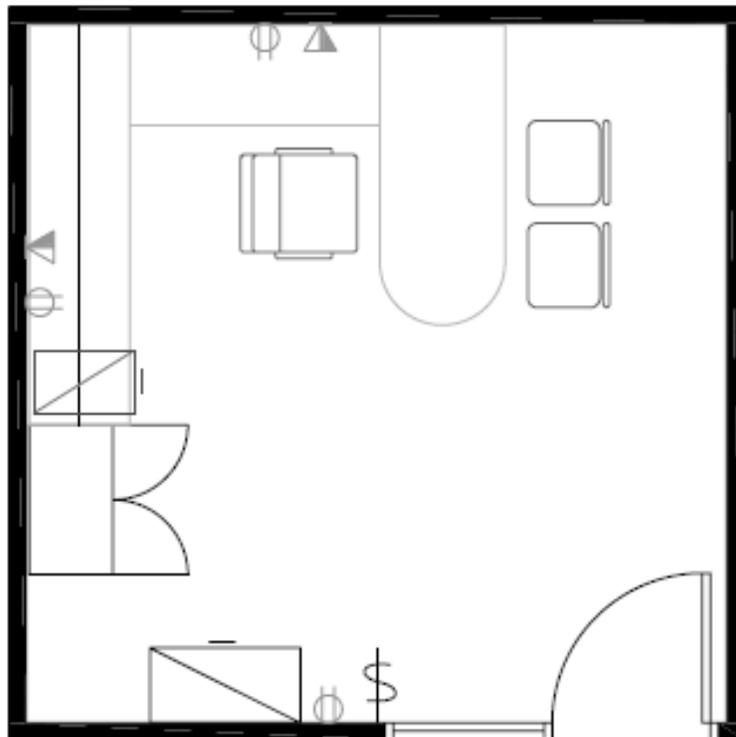
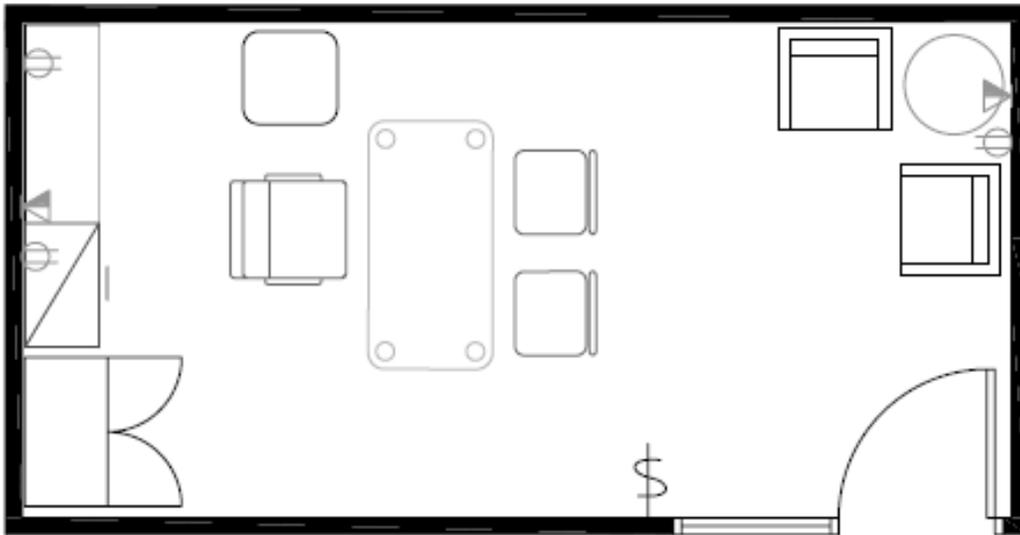


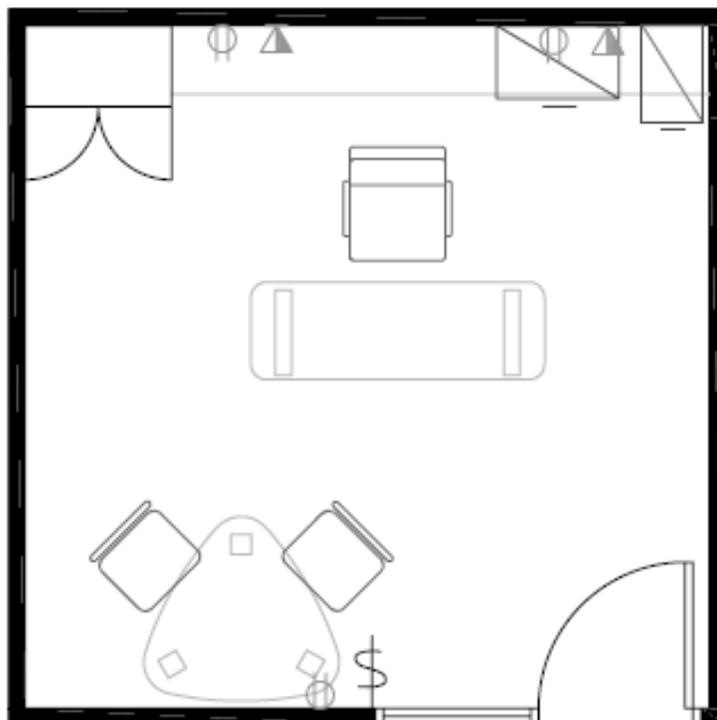
Leadership Worker

Examples of Enclosed Office

18.5 m² (200 ft²)

Note: Maximum allowance for EX-5 and EX-4 positions and equivalents (e.g., ADMs, members of boards, commissions and councils).





A6.2 Support Spaces

Small Meeting Room

14 m² (150 ft²)

Summary

Small meeting rooms can accommodate a meeting table, chairs for 6 people and an audiovisual board. The room size should allow for comfortable circulation space and room for a presenter to function comfortably at one end. The meeting room table can also be comprised of smaller modular tables put together to maximize functionality.

Other layouts incorporating soft seating and casual tables for less formal meetings are also possible.

Standard Finishes

- Floor – base building standard carpet (carpet tile or rolled goods)
- Walls – paint or unfinished to suit substrate
(**Note:** partitions may be traditional construction or reusable system partitions (e.g. movable, demountable; see A3.3).)

Standard Electrical Requirements

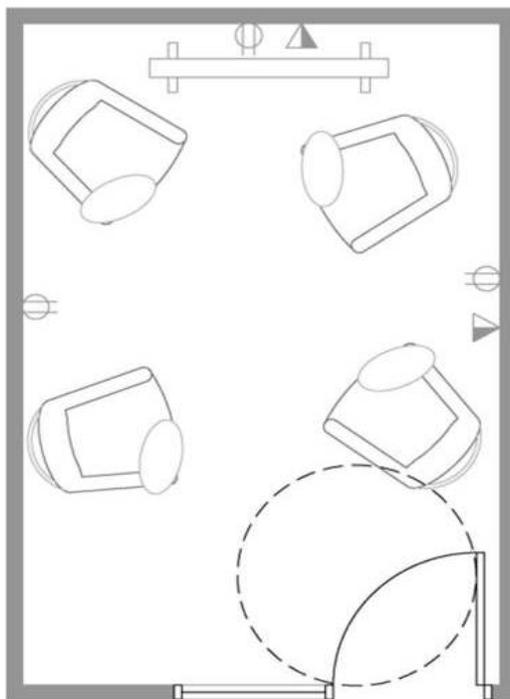
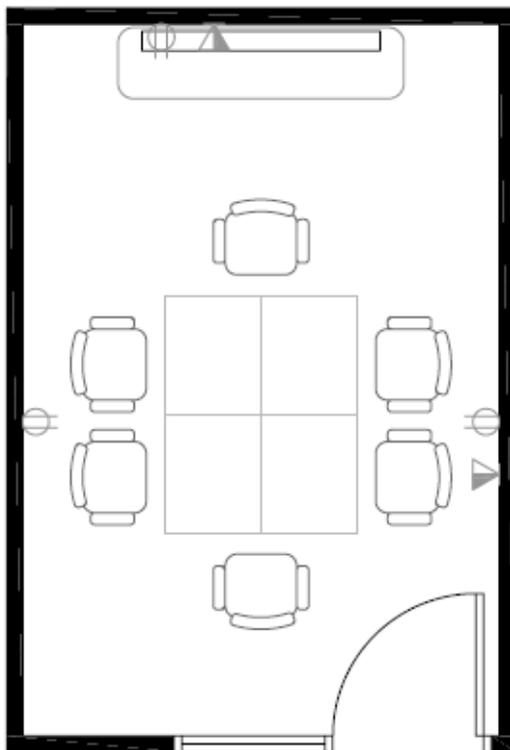
- 3 standard electrical duplex receptacles (2 circuits)
- 2 image/voice/data outlets
(**Note:** client to provide actual connectors and jacks, typically RJ45 with multiple jacks.)
- Base building lighting (may be relocated) with separate switch/light control and motion sensor
- Direct/indirect suspended luminaire(s) to suit meeting (table) function on a separate switch/light control and motion sensor
- Dimmable perimeter/accent lighting to support presentation function on a separate switch/light control and motion sensor

Standard Mechanical Requirements

- Dedicated thermostat control c/w dedicated terminal unit
- Supply and return air diffuser(s)/grille(s)
- Return air transfer fan c/w on/off switch for full height partitions increased ventilation

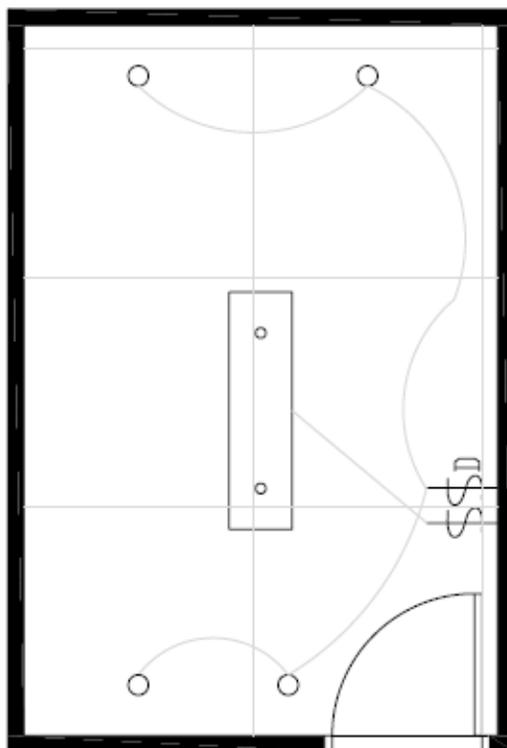
Example of Small Meeting Room Layouts

14 m² (150 ft²)



Small Meeting Room (reflected ceiling)

14 m² (150 ft²)



Medium Meeting Room

30 m² (325 ft²)

Summary

Medium meeting rooms accommodate a meeting table, chairs for 12 people and an audiovisual board. The room size should allow for comfortable circulation space and room for a presenter to function comfortably at one end. The meeting room table should be mobile and comprised of smaller modular tables put together to maximize functionality.

Standard Finishes

- Floor – base building standard carpet (carpet tile or rolled goods)
- Walls – paint or unfinished to suit substrate

Standard Electrical Requirements

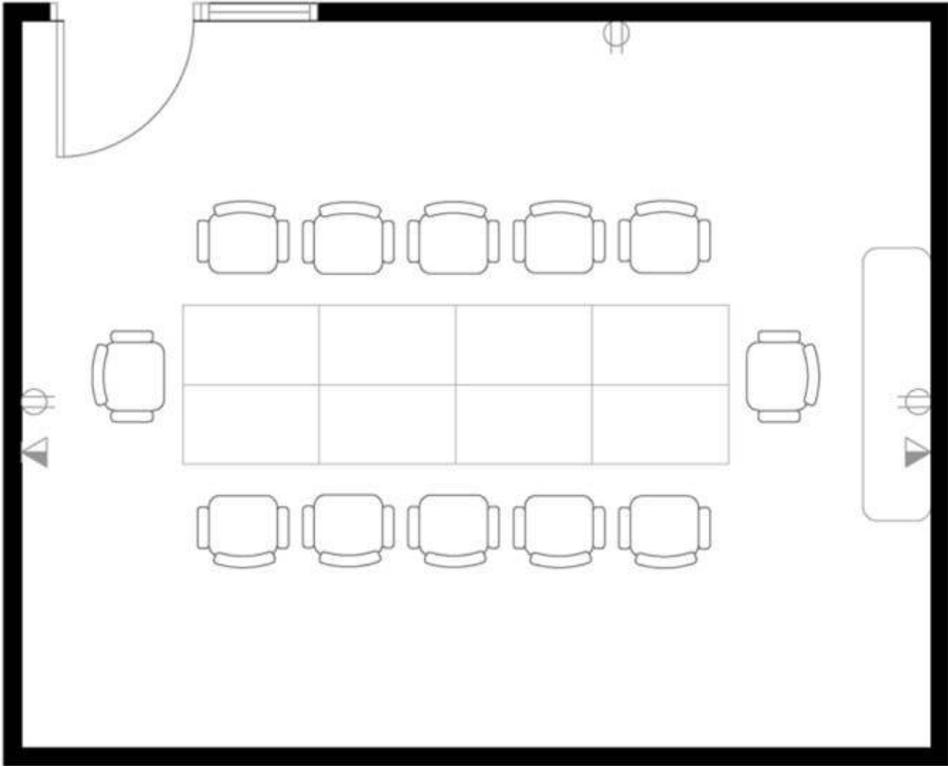
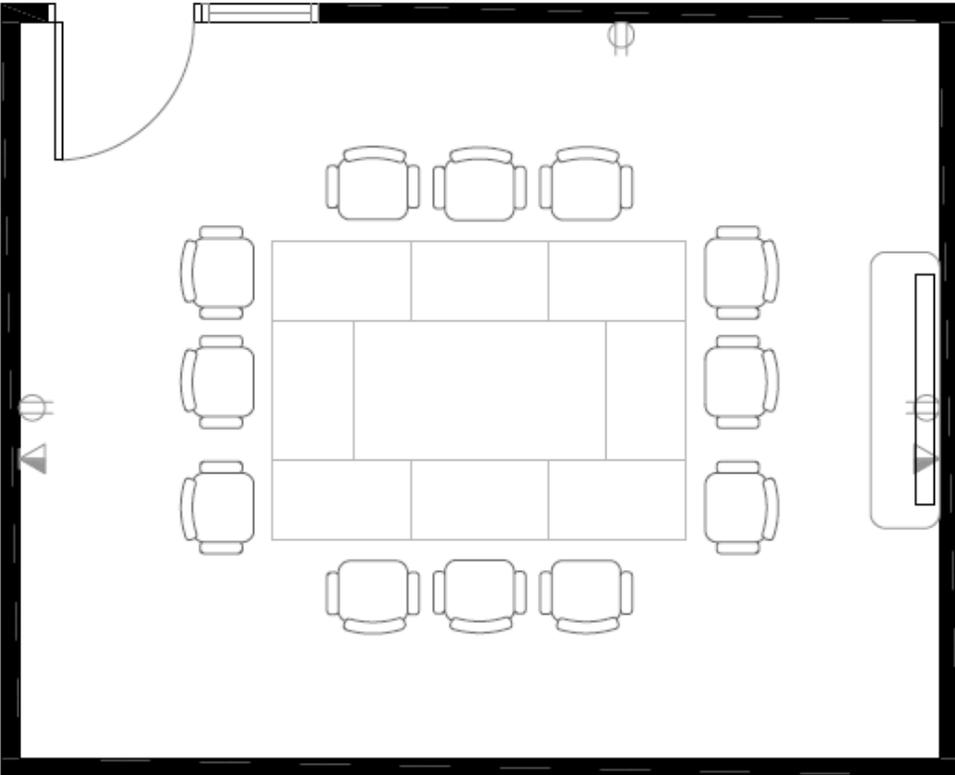
- 4 standard electrical duplex receptacles (2 circuits); 1 only floor mounted
- 3 image/voice/data outlets; 1 only floor mounted
(**Note:** client to provide actual connectors and jacks, typically RJ45 with multiple jacks.)
- Base building lighting with motion sensor
- Direct/indirect suspended luminaire(s) to suit meeting (table) function on a separate switch/light control and motion sensor
- Dimmable perimeter/accent lighting to support presentation function on a separate switch/light control and motion sensor

Standard Mechanical Requirements

- Dedicated thermostat control c/w dedicated terminal unit
- Supply and return air diffuser(s)/grille(s)
- Return air transfer fan c/w on/off switch for full height partitions
- Extra cooling unit, if required
- Extra ventilation to meet ventilation demand c/w controls and CO₂ monitoring, if applicable
- Noise control to maintain required noise rating

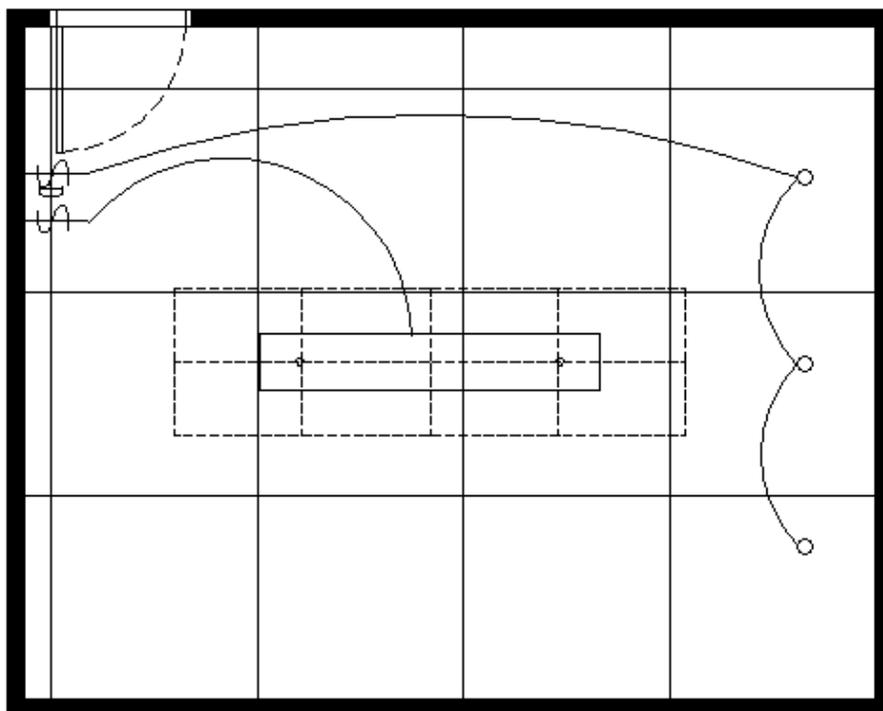
Examples of Medium Meeting Room Layouts

30 m² (325 ft²)



Medium Meeting Room (reflected ceiling)

30 m² (325 ft²)



Large Meeting Room (Dividable)

60 m² (645 ft²)

Summary

The large meeting room consists of 2 medium sized meeting rooms divided by a retractable wall to maximize flexibility. When the wall is retracted, the room accommodates a meeting table, chairs for 20 people and presenter's equipment and materials. The room size should allow for comfortable circulation space and room for a presenter to function comfortably at one end. The meeting room table should be mobile and comprised of smaller modular tables put together to maximize functionality.

Standard Finishes

- Floor – base building standard carpet (carpet tile or rolled goods)
- Walls – paint or unfinished to suit substrate

Standard Electrical Requirements

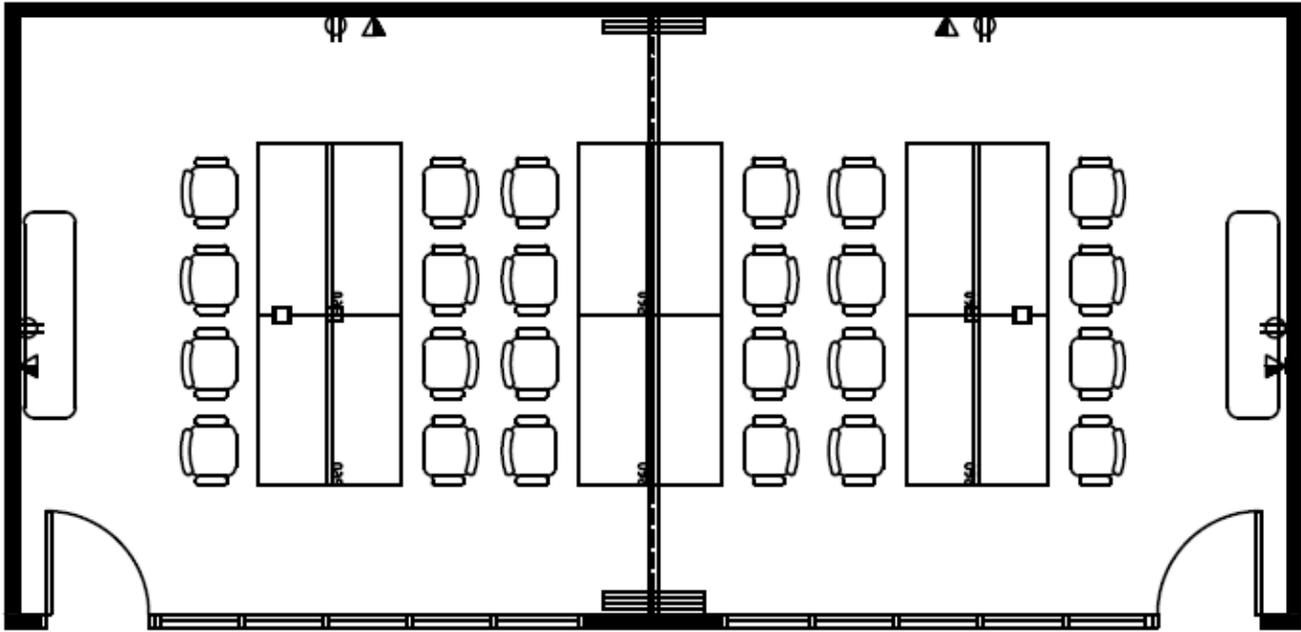
- 4 standard electrical duplex receptacles (two circuits); 2 floor mounted (one per room)
- 4 image/voice/data outlets; 2 floor mounted (one per room)
(**Note:** client to provide actual connectors and jacks, typically RJ45 with multiple jacks.)
- Base building lighting with motion sensor
- Direct/indirect suspended luminaire(s) to suit meeting (table) function on a separate switch/light control with motion sensor
- Dimmable perimeter/accent lighting to support presentation with motion sensor

Standard Mechanical Requirements

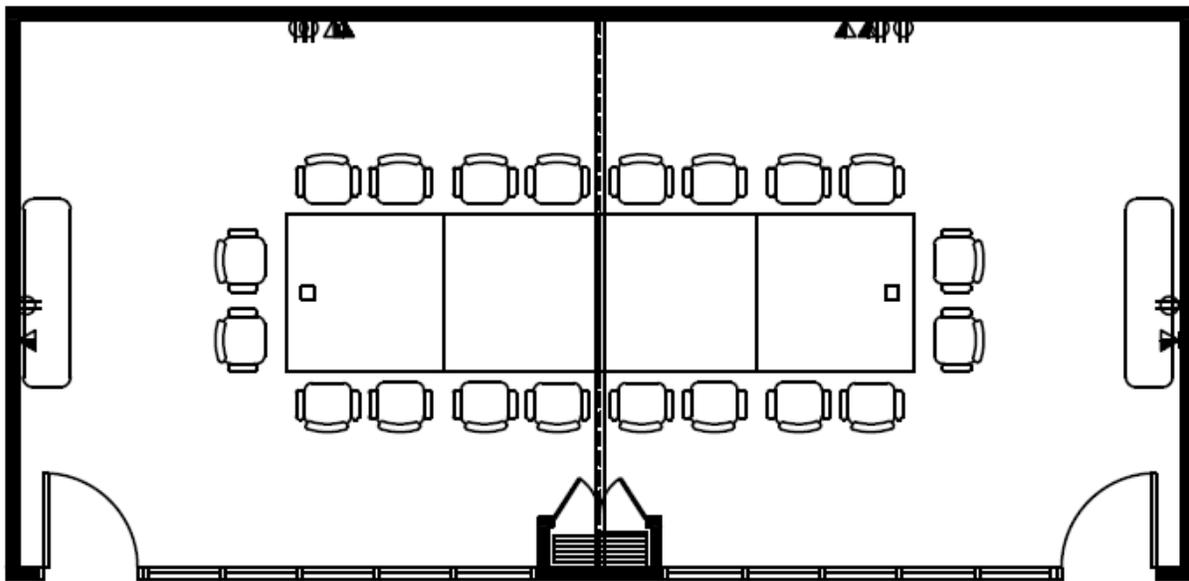
- Dedicated thermostat control c/w dedicated terminal unit
- Supply and return air diffuser(s)/grille(s)
- Return air transfer fan c/w on/off switch for full height partitions
- Extra cooling unit, if required
- Extra ventilation to meet ventilation demand c/w controls and CO₂ monitoring, if applicable
- Noise control to maintain required noise rating

Examples of Large Meeting Room Layout

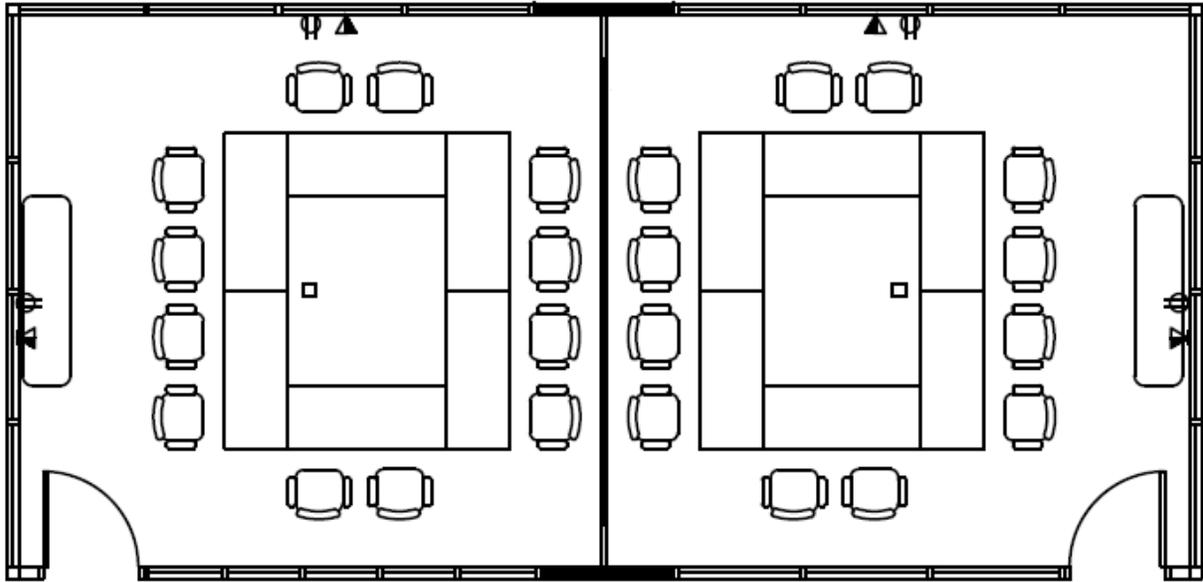
60 m² (645 ft²)



Note: □ Power and data recessed floor monument



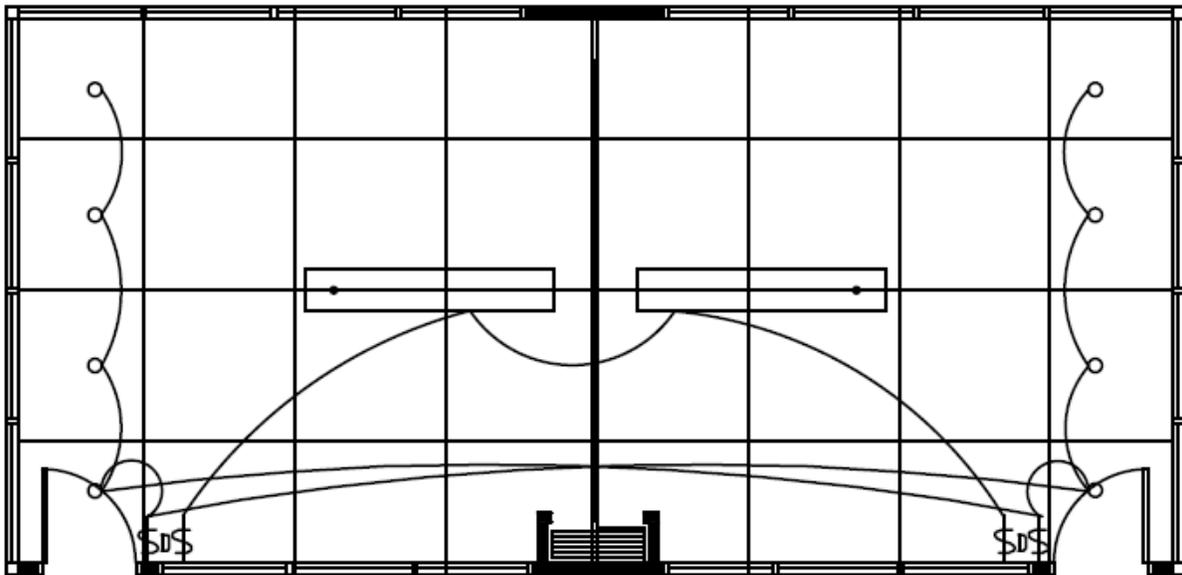
Note: □ Power and data recessed floor monument



Note: □ Power and data recessed floor monument

Example of Reflected Ceiling Plan

60 m² (645 ft²)



Quiet Room

5 m² (54 ft²)

Summary

Quiet rooms accommodate freestanding work surfaces suitable for a computer and telephone and should be barrier free.

Standard Finishes

- Floor – base building standard carpet (carpet tile or rolled goods)
- Walls – paint or unfinished to suit substrate

Standard Electrical Requirements

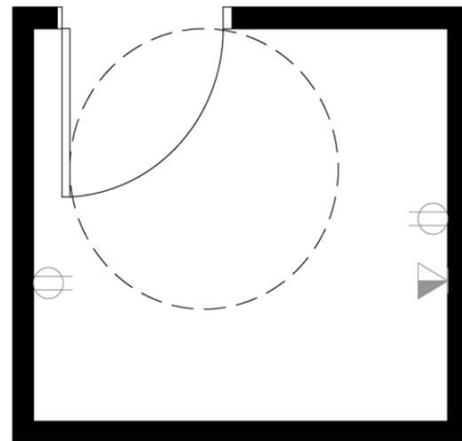
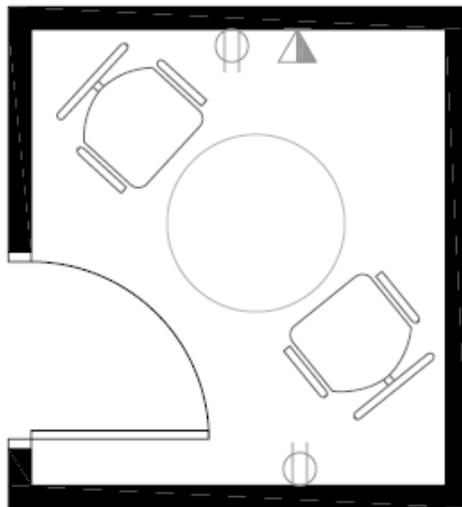
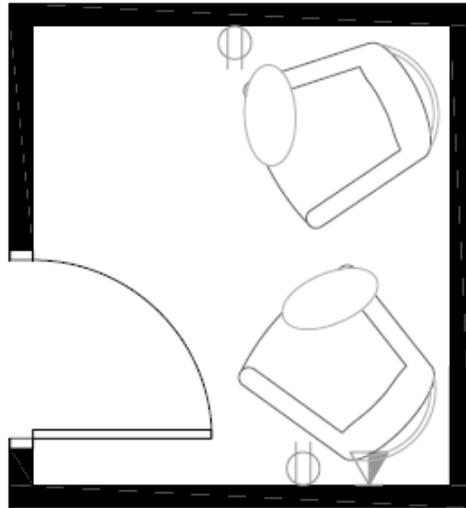
- 2 standard electrical duplex receptacles (1 circuit)
- 1 image/voice/data outlet
(**Note:** client to provide actual connectors and jacks, typically RJ45 with multiple jacks.)
- Base building lighting (may be relocated) with 1 separate switch/light control (task lighting recommended) and motion sensor

Standard Mechanical Requirements

- Supply and return air diffuser(s)/grille(s)

Examples of Quiet Room Layout

5 m² (54 ft²)



Kitchenette

Summary

The kitchenette accommodates average storage requirements, recycling centre and trash as well as a full size fridge and countertop appliances (appliances not included). Design allows for barrier-free access to sink. Millwork for upper and lower cabinets is provided and can be a freestanding manufactured solution if there is no cost differential. See A3.3 Fit-up Components and Funding Accountabilities for further details.

Standard Finishes

- Floor – resilient sheet or tile
- Walls – paint or unfinished to suit substrate
- Ceramic tile backsplash behind sink
- Millwork – See A7.1 Finishes

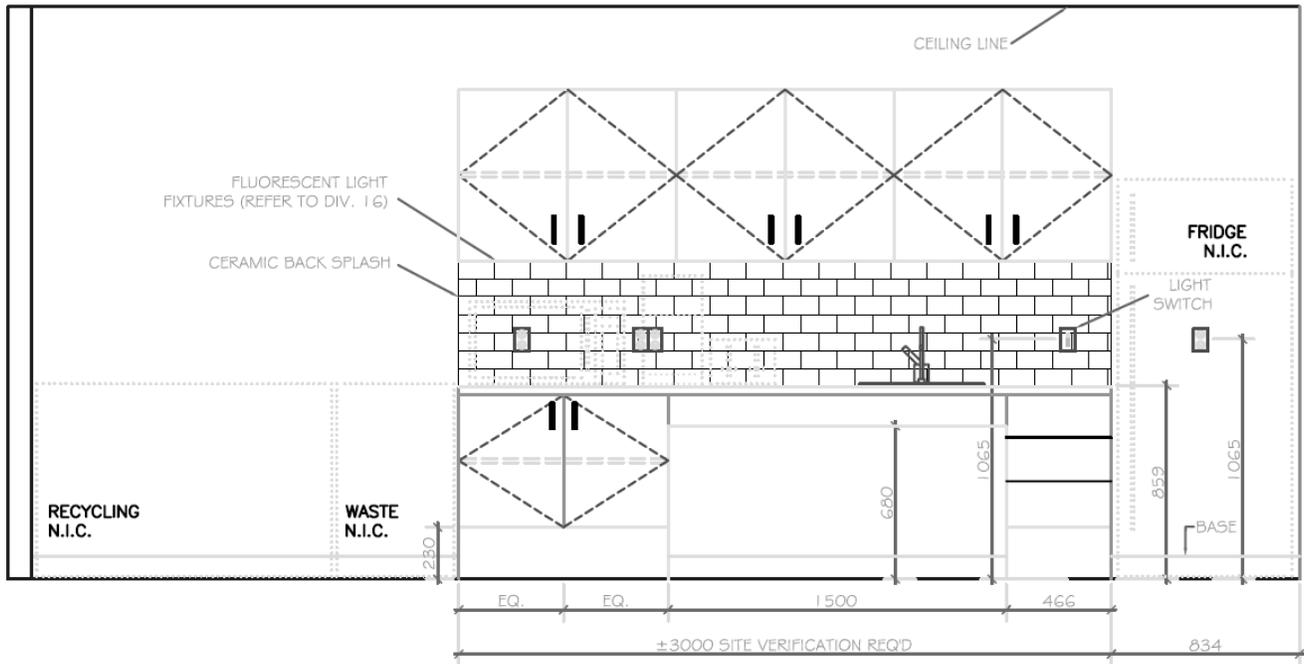
Standard Electrical Requirements

- 2 standard dedicated circuit duplex receptacles (microwave and fridge)
- 2 standard split circuit duplex receptacles for other countertop appliances (additional receptacle may be provided if required)
- Base building lighting with motion sensor
- 1 separate switch/light control for under cabinet lighting

Standard Mechanical Requirements

- Hot water, cold water, drain and vent piping for kitchen sink
- Kitchen exhaust fan c/w on/off switch (exhaust to exterior if economical and feasible)
- Supply air diffuser(s) and grilles(s)
- No return air to base building system

Example of Kitchenette Elevation



Shared Equipment Area

Summary

Area accommodates average requirements for storage, photocopier, printer and fax. Millwork for upper and lower cabinets is provided and can be a freestanding manufactured solution if there is no cost differential. See A3.3 Fit-up Components and Funding Accountabilities for further details. (Storage cabinet and equipment not included).

Standard Finishes

- Floor – resilient sheet or tile or base building standard carpet
- Walls – paint or unfinished to suit substrate
- Millwork – See A7.1 Finishes

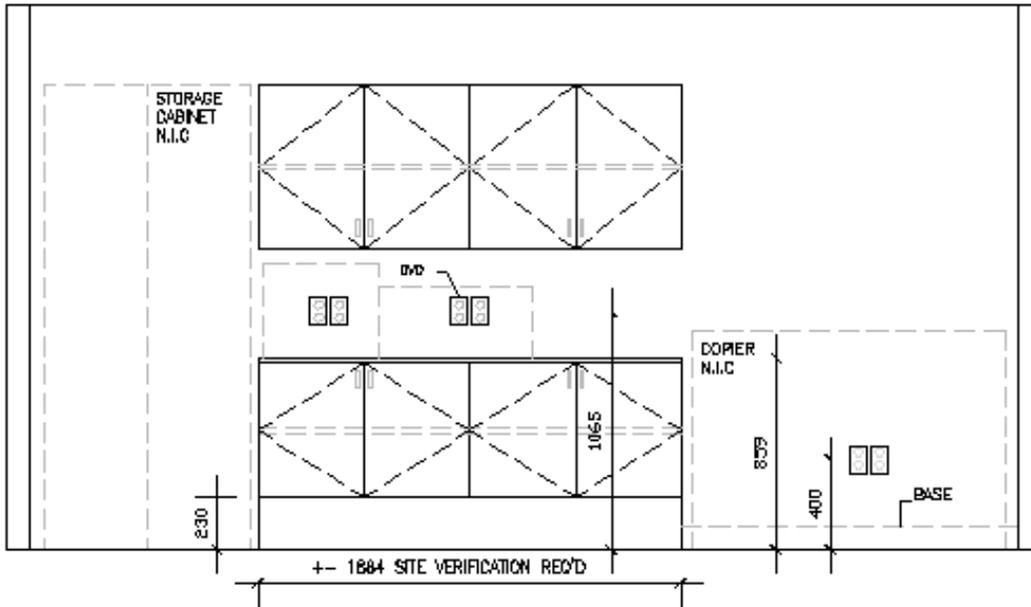
Standard Electrical Requirements

- 3 electrical duplex receptacles to meet specific equipment needs
- 3 image/voice/data outlets
(**Note:** client to provide actual connectors and jacks, typically RJ45 with multiple jacks.)

Standard Mechanical Requirements

- Exhaust for photocopier to exterior
- Supply air diffuser(s) and grilles(s)

Example of Shared Equipment Area Elevation



A7. Finishes

Changes Since the Last Update

A7.1 Finishes

- ➔ Clarification that carpet tiles, rather than rolled goods are recommended.

A7.1 Finishes

The typical range of finish materials used in an office environment will achieve a variety of design concepts. Standard materials are of a midrange quality and are selected to attain sustainable design goals and provide best value for money based on a ten-year life-cycle costing analysis.

Selection Criteria

Finishes are chosen that meet the following sustainability criteria:

Durability and Recyclability: Durable materials will reduce maintenance costs and the amount of materials being sent to landfill. A high recycled content, durability and ease of recyclability should be considered when selecting materials. The use of salvaged materials should also be considered.

Low Embodied Energy: The energy required to produce and ship materials is the embodied energy of the product. Locally produced materials, with low embodied energy are preferable.

Low Toxicity: Many new materials have known toxicities, which off-gas into indoor environments. Material Safety Data Sheets from manufacturers provide information on the toxicity of products used. Alternative finishing products, made from renewable resources should be selected where possible.

Products should be certified by recognized third parties for environmental and quality management practices. The sustainability rating of a material must reflect a balance between each of the four sustainability principles, as the selection criteria can be contradictory. For example, steel takes considerable energy to produce, uses non-renewable resources and generates significant pollution, however it is very durable and in high demand for recycling. Sound research and judgment are required in making finish selections.

As the overall reduction of materials is of primary importance, consideration should be given to leaving substrate surfaces “unfinished” wherever suitable (e.g. concrete columns, storage room floors, wood beams).

Colour

Paint with low levels of volatile organic compounds (VOCs) should be utilized. A mix of lighter colours to reflect light, and accent colours to create interest and contrast may be used.

Carpet

Although floor finishes are generally a base building component, they are commonly selected and installed as part of a fit-up or refinishing project.

The use of both carpet tile and conventional roll goods (broadloom) is permitted, however, carpet tile is recommended as it is sustainable, reduces waste and eases maintenance as soiled or worn areas can be changed easily. While the initial cost for carpet tile may be greater, the life-cycle cost is far cheaper than rolled goods. Specifications for carpet selection are available from Architecture and Interior Design, Technical and Professional Services, PWGSC.

Millwork

Standard plastic laminate is normally selected for countertops because of its durability. Alternatives such as engineered wood products and local wood millwork products may be considered for vertical surfaces or as substrates for plastic laminate, if available at a comparable cost. Local wood millwork products include but are not limited to: stain or paint grade solid wood, No Added Urea Formaldehyde Medium Density Fiberboard (MDF), No Added Urea Formaldehyde particleboard, composite wood and wood veneer.

To ensure environmental sustainability, sourcing wood from sustainably managed forests such as those certified under the Forest Stewardship Council International (FSC International) or the Program for the Endorsement of Forest Certification Schemes (PEFC International) should be considered where available.

Further information about forest certification systems is available on the [Sustainable Forest Management in Canada Web site](#).

Annex E (normative)

Elevator requirements for persons with physical disabilities

Notes:

- (1)** This Annex is a mandatory part of this Standard.
- (2)** Except for minor editorial changes, the following text is a reproduction of Appendix E of ASME A17.1/CSA B44.

Definitions

Destination-oriented elevator system — an elevator system that provides lobby controls to select destination floors, lobby indicators designating which elevator to board, and a car indicator designating the floors at which the car will stop.

Physical disability — a disability resulting in a mobility or sensory impairment.

E.1 Scope

This Annex contains requirements intended to make passenger elevators usable by persons with physical disabilities. These requirements are in addition to, or modifications of, certain requirements specified elsewhere in this Standard.

E.2 Operation and levelling

Elevator operation shall be automatic. Each car shall be equipped with a self-levelling feature that will automatically bring and maintain the car at floor landings within a tolerance of 13 mm under rated loading to zero loading conditions.

E.3 Door operation

Power-operated horizontally sliding car and landing doors opened and closed by automatic means shall be provided.

E.4 Door size

The clear width of elevator doors shall comply with [Table E.1](#).

Table E.1
Minimum dimensions of elevator cars in millimetres
(See [Clauses E.4](#) and [E.7](#).)

Door location	Door clear width, mm	Inside car, side to side, mm	Inside car, back wall to front return, mm	Inside car, back wall to inside face of door, mm
Centred	1065	2030	1295	1370
Side (off-centre)	915*	1725	1295	1370
Any	915*	1370	2030	2030
Any	915*	1525	1525	1525
Minimum diameter of LU/LA (limited use/limited application) elevators				
Any	815	1065	1370	Not specified

*A tolerance of minus 16 mm shall be permitted.

Note: [Table E.1](#) is based on Table 407.2.8 in ICC/ANSI A117.1 (metric values only).

E.5 Door protective and reopening device

E.5.1

Doors shall be provided with a door-reopening device that will function to stop and reopen a car door and an adjacent landing door to at least 910 mm, in case the car door is obstructed while closing. This reopening device shall also be capable of sensing an object or person in the path of a closing door at a nominal 125 ± 25 mm and 735 ± 25 mm above the floor without requiring contact for activation, although contact may occur before the door reverses.

E.5.2

Door-reopening devices shall remain effective for a period of not less than 20 s.

E.6 Door timing for hall and car calls

From the time the doors start to open, a minimum period of 5 s shall elapse before the doors start to close if it is a hall call, and 3 s if it is a car call. There may be a reduction of this time after operation of the door close button.

E.7 Inside dimensions of elevator cars

The inside dimensions of elevator cars shall comply with [Table E.1](#).

E.8 Car controls

E.8.1 Feature

Car controls shall have the features as specified in [Clauses E.8.2](#) to [E.8.5](#) and as shown in [Figure E.1](#).

E.8.2 Clear floor space

A clear floor space of 760×1220 mm minimum shall be provided at controls.

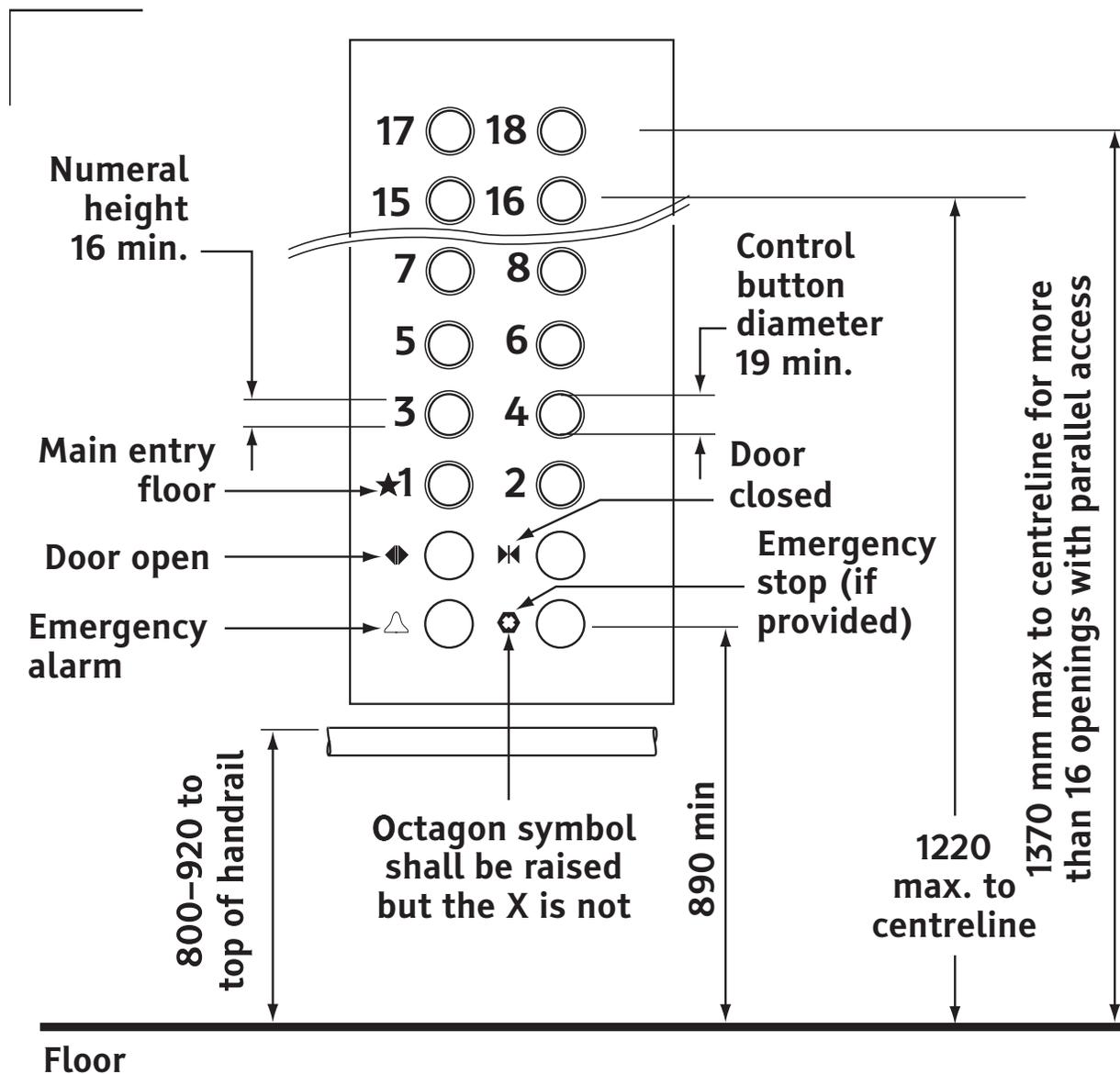


Figure E.1
Car controls
 (See [Clauses E.8.1](#), [E.8.3](#), and [E.8.4.1.](#))

E.8.3 Height

Buttons with floor designations shall be located a maximum of 1220 mm above the floor or ground measured to the centreline of buttons, except that when the elevator serves more than 16 openings

and parallel approach is provided, the location of buttons with floor designations may be a maximum of 1370 mm above the floor. Emergency controls, including the emergency alarm, shall be grouped at the bottom of the panel. Emergency control buttons shall have their centrelines 890 mm minimum above the floor or ground. See [Figure E.1](#).

E.8.4 Buttons

E.8.4.1 Button dimensions

Buttons shall be 19 mm minimum in their smallest dimension (see [Figure E.1](#)). Buttons or surrounding button collar shall be raised a minimum of 1.5 mm.

E.8.4.2 Button arrangement

Except where provided in a standard telephone keypad arrangement, buttons shall be arranged with numbers in ascending order. When two or more columns of buttons are provided, they shall read from left to right.

E.8.4.3 Button designations

Except where provided in a standard telephone keypad arrangement, control buttons shall be identified by tactile character and visual characters complying with [Clause E.19](#). Tactile characters and Braille shall be placed immediately to the left of the button to which they apply.

E.8.4.4 Control button

The control button for the main entry floor, and control buttons other than remaining buttons with floor designations, shall be identified with tactile and visual symbols as shown in Table 2.26.12.1 of ASME A17.1/CSA B44.

EXCEPTION: The location and size of Braille, where required, shall comply with Table 2.26.12.1 of ASME A17.1/CSA B44 (English shown for reference only).

E.8.4.5 Visible indicators

Buttons with floor designations shall be provided with visible indicators to show that a call has been registered. The visible indication shall extinguish when the car arrives at the designated floor.

E.8.5 Telephone-style keypads

Telephone-style keypads shall be in a standard telephone keypad arrangement. Call buttons shall be 19 mm minimum in their smallest dimension. Buttons shall be raised a minimum of 1.5 mm. Braille shall not be required. Characters shall be 13 mm minimum in height and otherwise conform to [Clause E.19.4](#). The number five key shall have a single raised dot. The dot shall be 3.00 to 3.05 mm base diameter and in other aspects conform to [Table E.2](#). Characters shall be centred on the corresponding keypad button. A display shall be provided in the car with visible indicators to show registered car destinations. The visible indication shall extinguish when the call has been answered. A standard five-pointed star shall be used to indicate the main entry floor.

E.9 Car position indicators

E.9.1 General

In elevator cars, both audible and visible car floor location indicators shall be provided to identify the floor location of the car.

E.9.2 Visible

Indicators shall be located above the car control panel or above the door. Numerals shall be 16 mm minimum in height.

E.9.3 Audible

The audible signal shall be 10 dBA minimum above ambient, but shall not exceed 80 dBA maximum, measured at the annunciator. The signal shall be an automatic verbal announcement that announces the floor at which the car has stopped, except that for

elevators that have a rated speed of 1 m/s or less, there may be an audible signal with a frequency of 1500 Hz maximum that sounds as the car passes or stops at a floor served by the elevator.

E.10 Emergency communications

E.10.1 General

Emergency two-way communication systems between the elevator car and a point outside the hoistway shall comply with Clause 2.27.1 of ASME A17.1/CSA B44. The highest operable part of a two-way communication system shall be located a maximum of 1220 mm from the floor. If the device is located in a closed compartment, the compartment door hardware shall be operable with one hand and shall not require tight grasping, pinching, or twisting of the wrist. The force required to activate operable parts shall be 22.2 N maximum.

E.10.2 Telephones

The device shall be identified by symbol. The identification shall be a phone located adjacent to the device or located on the compartment door if the device is located in a closed compartment. If the system uses a handset, the cord from the panel to the handset shall have a minimum length of 900 mm.

Telephones, where provided, shall be equipped with a receiver that generates a magnetic field in the area of the receiver cap, and the telephone shall have a volume control and shall comply with CAN/CSA-T515.

E.10.3 Emergency signalling device

The car emergency signalling device shall not be limited to voice communication. If instructions for use are provided, essential information shall be presented in both tactile and visual form.

E.11 Floor surfaces

Floor surfaces in elevator cars shall have a firm, stable, and skid-resistant surface that permits easy movement of wheelchairs. Carpet pile height shall be 13 mm maximum.

E.12 Handrails

Handrails shall be provided on all non-access walls. The top of the gripping surfaces of the handrails shall be at a height of 800 to 920 mm, with a space of 35 to 45 mm between the handrails and wall.

E.13 Illumination levels

The level of illumination at the car controls, platform, car threshold, and landing sill shall be 100 lx minimum.

E.14 Hall buttons

E.14.1

Hall buttons in elevator lobbies and halls shall be located vertically between 890 and 1220 mm above the floor, measured to the centreline of the respective button.

E.14.2

A clear floor space of 760 × 1220 mm minimum shall be provided at hall buttons.

E.14.3

Hall buttons shall be 19 mm minimum in the smallest dimension.

E.14.4

Hall buttons shall have visual signals to indicate when each call is registered and when each call is answered.

E.14.5

The hall button that designates the UP direction shall be located above the button that designates the DOWN direction. Buttons or surrounding button collar shall be raised a minimum of 1.5 mm. Objects located beneath hall buttons shall protrude 25 mm maximum.

E.15 Hall or in-car signals

E.15.1 General

A visible and audible signal shall be provided at each hoistway entrance to indicate which car is answering a call and its direction of travel, except that there may be signals in cars, visible from the floor area adjacent to the hall call buttons and complying with the requirements of [Clause E.15](#).

E.15.2 Audible signals

Audible signals shall sound once for the UP direction and twice for the DOWN direction, or shall have verbal annunciators that state the word UP or DOWN. Audible signals shall have a frequency of 1500 Hz maximum. The audible signal or verbal annunciator shall be 10 dBA minimum above ambient, but shall not exceed 80 dBA maximum, measured at the hall call button.

E.15.3 Visible signals

E.15.3.1 Height

Hall signal fixtures shall be 1830 mm minimum above the floor or ground, measured to the centreline of the fixture.

E.15.3.2 Size

The visible signal elements shall be 60 mm minimum in the smallest dimension.

E.15.3.3 Visibility

Signals shall be visible from the floor area adjacent to the hall button.

E.16 Floor/car designations

Raised character and Braille floor designations shall be provided on both jambs of elevator hoistway entrances and shall be centred at 1525 mm above the floor, measured from the baseline of the characters. A raised star placed immediately to the left of the floor

designation shall also be provided on both jambs at the main entry level. Such characters shall be 50 mm high and shall comply with [Clause E.19.2](#).

E.17 Destination-oriented elevators

E.17.1 General

Destination-oriented elevators shall comply with [Clauses E.2 to E.7](#), [E.10](#), [E.11](#), [E.13](#), [E.16](#), and [E.17](#).

E.17.2 Call buttons

Call buttons shall be 890 mm minimum and 1220 mm maximum above the floor or ground, measured to the centreline of the buttons. A clear floor or ground space of 760 × 1220 mm shall be provided. Call buttons shall be 19 mm minimum in their smallest dimension. Buttons shall be raised a minimum of 1.5 mm. Objects beneath hall call buttons shall protrude 25 mm maximum into the clear floor or ground space.

Destination-oriented elevator systems shall have a keypad or other means for the entry of destination information. Keypads, if provided, shall be in a standard telephone keypad arrangement, and buttons shall be identified by characters complying with [Clause E.19.4](#). Characters shall be centred × on the corresponding keypad button. The number five key shall have a single raised dot. The dot shall be 3.00 to 3.05 mm base diameter, and in other aspects comply with [Table E.2](#).

Destination-oriented elevator systems shall be provided with visual and audible signals that indicate which elevator car to enter. The audible signal shall be activated by pressing the function button. The function button shall be identified by the International symbol for access (see [Figure E.2](#)). The symbol shall be 16 mm in height. The function button shall be located immediately below the keypad arrangement or floor buttons. A display shall be provided in the car with visible indicators to show registered car destinations.

E.17.3 Hall signals

E.17.3.1 General

A visible and audible signal shall be provided to indicate a car destination in accordance with [Clause E.17.2](#). The audible tone and verbal announcement shall be the same as those given at the call button or call button keypad, if provided. Each elevator in a bank shall have audible and visible means for differentiation.

E.17.3.2 Visible signals

E.17.3.2.1 Height

Hall signal fixtures shall be 1830 mm minimum above the floor or ground, measured to the centreline of the fixture.

E.17.3.2.2 Size

The visible signal elements shall be 60 mm minimum in their smallest dimension.

E.17.3.2.3 Visibility

Signals shall be visible from the floor area adjacent to the hoistway entrance.

E.17.4 Car controls

Emergency controls, including the emergency alarm, shall have centrelines that are 890 mm minimum and 1220 mm maximum above the floor or ground. Buttons shall be 19 mm minimum in their smallest dimension. Buttons shall be raised a minimum of 1.5 mm. A clear floor space of 760 × 1220 mm minimum shall be provided at controls.

E.17.5 Car position indicators

E.17.5.1 General

In elevator cars, audible and visible car location indicators shall be provided.

E.17.5.2 Visible indicators

Indicators shall be above the car control panel or above the door. Numerals shall be 16 mm high minimum. As the car passes or stops at a floor served by the elevator, the corresponding character shall illuminate. The visible indicators shall extinguish when the car arrives at the designated floor.

E.17.5.3 Audible indicators

An automatic verbal announcement that announces the floor at which the car has stopped shall be provided. The announcement shall be 10 dBA minimum above ambient and 80 dBA maximum, measured at the annunciator.

E.17.6 Elevator car identification

In addition to the tactile signs required by [Clause E.16](#), a tactile elevator car identification shall be placed immediately below the hoistway entrance floor designation. The characters shall be 50 mm high and shall comply with [Clause E.19.2](#).

E.18 Limited-use/limited-application elevators

Limited-use/limited-application elevators shall comply with [Clauses E.1 to E.17](#).

E.19 Signs

E.19.1 General

Signs required to be tactile, visual, or both shall comply with [Clauses E.19.2 to E.19.7](#).

E.19.2 Characters that are both tactile and visual

E.19.2.1 General

Characters required to be tactile shall comply with [Clauses E.19.2.2 to E.19.2.6](#). Tactile characters shall be duplicated in Braille in accordance with [Clause E.19.5](#), except for tactile characters complying with [Clause E.19.3](#), where separate visual characters with duplicate information complying with [Clause E.19.4](#) are provided.

E.19.2.2 Finish and contrast

Characters and their background shall have a non-glare finish. Characters shall contrast with their background: either light characters shall appear on a dark background or dark characters shall appear on a light background.

E.19.2.3 Tactile character depth

Tactile characters shall be raised a minimum of 0.8 mm above their background.

E.19.2.4 Character forms

E.19.2.4.1

Fonts shall have characters complying with [Clauses E.19.2.4.2 to E.19.2.4.7](#).

E.19.2.4.2 Case

Characters shall be upper case.

E.19.2.4.3 Style

Characters shall be sans serif. Characters shall not be italic, oblique, script, highly decorative, or of other unusual form.

E.19.2.4.4 Width

Character width shall be 55% minimum and 110% maximum of the height of the character, with the width based on the upper case letter “O” and the height based on the upper case letter “L”.

E.19.2.4.5 Stroke thickness

Characters with rectangular cross-sections shall have a stroke thickness that is 10% minimum and 15% maximum of the height of the character, based on the upper case letter “L”. Characters with other cross-sections shall have a stroke thickness at the base of the cross-sections that is 10% minimum and 30% maximum of the height of the character, and a stroke thickness at the top of the cross-sections that is 15% maximum of the height of the character, based on the upper case letter “L”.

E.19.2.4.6 Spacing

Where characters have rectangular cross-sections, spacing between individual characters shall be 3 mm minimum to 10 mm maximum.

Where characters have other cross-sections, spacing between individual characters shall be 2 mm minimum to 10 mm maximum at the base of the cross-sections and 3 mm minimum to 10 mm maximum at the top of the cross-sections. Spacing shall be measured between the baselines of separate lines of characters and shall be 135% minimum to 170% maximum of the character height.

E.19.2.4.7 Height

Character height, measured vertically from the baseline of the character, shall be 16 mm minimum and 51 mm maximum, based on the upper case letter “L”.

E.19.2.5 Mounting height

Characters shall be located 1220 mm minimum and 1525 mm maximum above the adjacent floor or ground surface, measured from the baseline of the characters, except for elevator car controls.

E.19.2.6 Mounting location

Where a sign containing tactile characters is provided at a door, the sign shall be located alongside the door on the latch side. Where a tactile sign is provided at double doors, the sign shall be located to the right of the right-hand door. Where there is no wall space on the latch side of a single door, or to the right side of double doors, signs shall be located on the nearest adjacent wall. Signs containing tactile characters shall be located so that a clear floor space of 455 × 455 mm minimum, centred on the sign, is provided beyond the arc of any door swing between the closed position and 45° open position.

EXCEPTION: Signs may be on the push side of doors with closers and without hold-open devices.

E.19.3 Tactile characters

E.19.3.1 General

Where tactile characters are required, and separate tactile and visual characters with duplicate information are provided, tactile characters shall comply with [Clauses E.19.3.2 to E.19.3.5](#), and visual characters shall comply with [Clause E.19.4](#). Tactile characters shall be duplicated in Braille in accordance with [Clause E.19.5](#).

E.19.3.2 Tactile character depth

Tactile characters shall be raised a minimum of 0.8 mm above their background.

E.19.3.3 Character forms

E.19.3.3.1 Fonts

Fonts shall have characters complying with [Clauses E.19.3.3.2 to E.19.3.3.7](#).

E.19.3.3.2 Case

Characters shall be upper case.

E.19.3.3.3 Style

Characters shall be sans serif. Characters shall not be italic, oblique, script, highly decorative, or of other unusual form.

E.19.3.3.4 Width

Character width shall be 55% minimum and 110% maximum of the height of the character, with the width based on the upper case letter “O” and the height based on the upper case letter “L”.

E.19.3.3.5 Stroke thickness

Characters shall have a stroke thickness that is 15% maximum of the height of the character, based on the upper case letter “L”.

E.19.3.3.6 Spacing

Spacing between individual characters shall be 3 mm minimum to 6 mm maximum. Spacing shall be calculated by measuring the two closest points between each adjacent character within a message, excluding spaces between words. Spacing between the baseline of separate lines of characters within a message shall be 135% minimum and 170% maximum of the character height.

E.19.3.3.7 Height

Character height, measured vertically from the baseline of the character, shall be 13 mm minimum and 19 mm maximum, based on the upper case letter “L”.

E.19.3.4 Mounting height

Characters shall be located 1220 mm minimum and 1525 mm maximum above the adjacent floor or ground surface, measured from the baseline of the characters, except for elevator car controls.

E.19.3.5 Mounting location

Where a tactile sign is provided at a door, the sign shall be located alongside the door on the latch side. Where a tactile sign is provided at double doors, the sign shall be located to the right of the right-hand door. Where there is no wall space on the latch side of a single door, or to the right side of double doors, signs shall be located on the nearest adjacent wall. Signs containing tactile characters shall be located so that a clear floor space of 455 × 455 mm, centred on the sign, is provided beyond the arc of any door swing between the closed position and 45° open position.

EXCEPTION: Door-mounted signs may be on the push side of doors with closers and without hold-open devices.

E.19.4 Visual characters

E.19.4.1 General

Visual characters required to be accessible shall comply with [Clauses E.19.4.2 to E.19.4.3](#).

E.19.4.2 Finish and contrast

Characters and their background shall have a non-glare finish. Characters shall contrast with their background: either light characters shall appear on a dark background or dark characters shall appear on a light background.

E.19.4.3 Character forms

E.19.4.3.1 General

Fonts shall have characters complying with [Clauses E.19.4.3.2 to E.19.4.3.7](#).

E.19.4.3.2 Case

Characters shall be upper case and/or lower case.

E.19.4.3.3 Style

Characters shall be conventional in form. Characters shall not be italic, oblique, script, highly decorative, or of other unusual form.

E.19.4.3.4 Width

Character width shall be 55% minimum and 110% maximum of the height of the character, with the width based on the upper case letter “O”, and the height based on the upper case letter “L”.

E.19.4.3.5 Stroke thickness

Characters shall have a stroke thickness that is 10% minimum and 30% maximum of the height of the character, based on the upper case letter “L”.

E.19.4.3.6 Spacing

Spacing between individual characters shall be 10% minimum and 35% maximum of character height. Spacing shall be calculated by measuring the two closest points between each adjacent character within a message, excluding spaces between words. Spacing between the baseline of separate lines of characters within a message shall be 135% minimum and 170% maximum of the character height.

E.19.4.3.7 Height

Minimum character height, measured from the baseline of the character, shall comply with [Clause E.8.4](#), based on the height of the characters above the finish floor of the viewing location and the minimum viewing distance. Character height shall be based on the upper case letter “L”. Minimum viewing distance shall be the horizontal distance where an obstruction prevents further approach toward the sign.

E.19.5 Braille

E.19.5.1 General

Tactile characters shall be accompanied by Grade II Braille complying with [Clauses E.19.5.2](#) to [E.19.5.4](#) and [Table E.2](#). Braille dots shall have a domed or rounded shape.

Table E.2
Measurement range for standard sign Braille
(See [Clauses E.8.5](#), [E.17.2](#), and [E.19.5.1](#).)

Measurement range for	Minimum, mm	Maximum, mm
Dot base diameter	1.5	1.5
Distance between any two dots in same cell, centre to centre	2.3	2.5
Distance between corresponding dots in adjacent cells, centre to centre	6.1	7.6
Dot height	0.6	0.8
Distance between corresponding dots from one cell to the cell directly below, centre to centre	10.0	10.1

E.19.5.2 Location

Braille shall be located below the corresponding text. If text is multi-lined, Braille shall be placed below the entire text. Braille shall be separated 10 mm minimum from any other tactile characters. Braille shall be separated 5 mm minimum either directly below or adjacent to the corresponding raised characters or symbols.

E.19.5.3 Height

Braille shall be located a minimum of 1015 mm, and a maximum of 1525 mm, above the finish floor, measured from the baseline of the Braille cells, except for elevator car controls.

E.19.5.4 Braille standard

Braille shall be in accordance with literary Braille, except the indication of an upper case letter or letters shall only be used before the first word of sentences, proper nouns and names, individual letters of the alphabet, initials, or acronyms.

E.19.6 Identifying pictograms

E.19.6.1 General

Where pictograms are required to be accessible, they shall comply with [Clauses E.19.6.2 to E.19.6.4](#).

E.19.6.2 Pictogram field

Pictograms shall have a field with a height of 150 mm minimum. Characters and/or Braille shall not be located in the pictogram field.

E.19.6.3 Finish and contrast

Pictograms and their fields shall have a non-reflective finish. Pictograms shall contrast with their fields: either a light pictogram shall appear on a dark field or a dark pictogram shall appear on a light field.

E.19.6.4 Text descriptors

Where text descriptors for pictograms are required, they shall be located directly below or adjacent to the pictogram and shall comply with [Clause E.19.2](#).

E.19.7 Symbols of accessibility

E.19.7.1 Finish and contrast

Symbols of accessibility and their backgrounds shall have a non-glare finish. Symbols of accessibility shall contrast with their backgrounds: either a light symbol shall appear on a dark background or a dark symbol shall appear on a light background.

E.19.7.2 Symbols

E.19.7.2.1 International symbol of accessibility

Where the international symbol of accessibility is required, it shall be proportioned as shown in [Figure E.2](#).

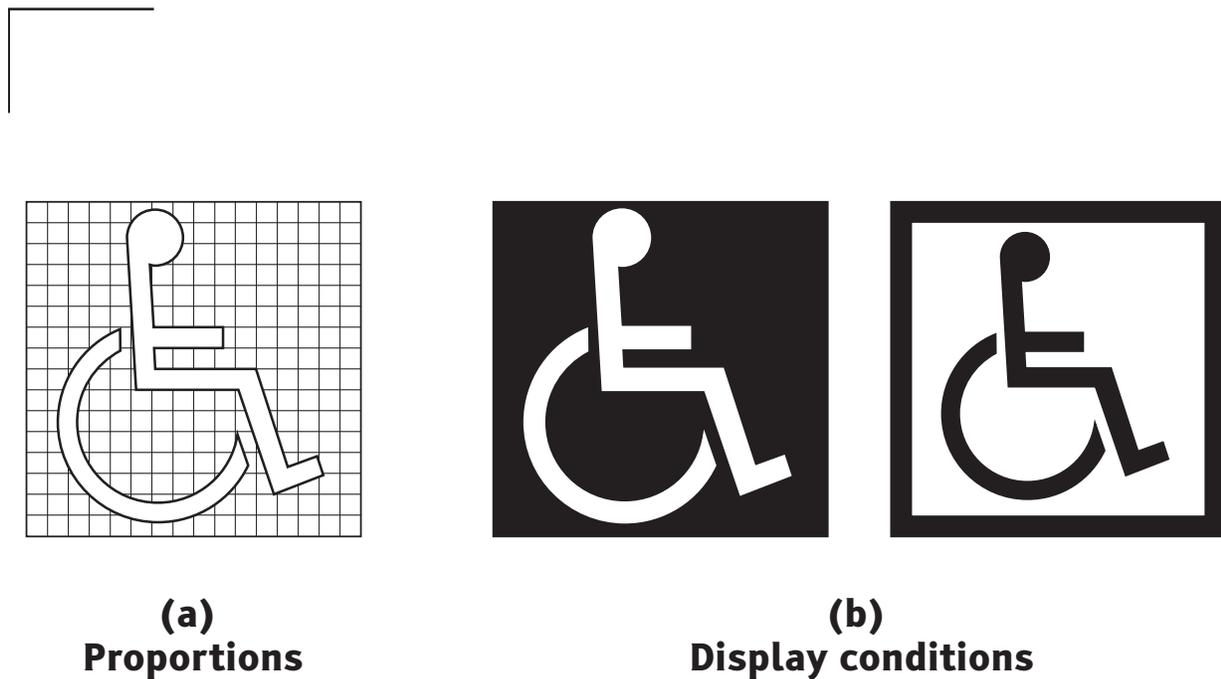


Figure E.2
International symbol of access
(See [Clauses E.17.2](#) and [E.19.7.2.1](#).)

E.19.7.2.2 International symbol of a text telephone (TTY)

Where the international symbol of text telephones (TTY) is required, it shall be proportioned as shown in [Figure E.3](#).

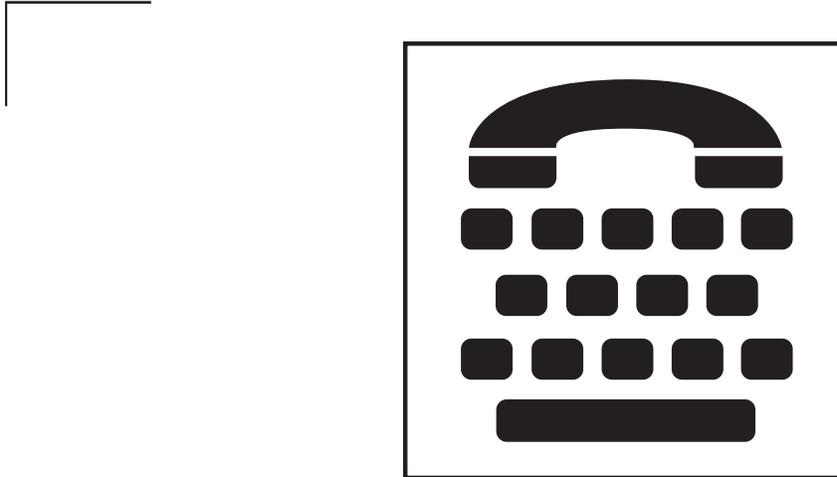


Figure E.3
International TTY symbol
(See [Clause E.19.7.2.2](#).)

E.19.7.2.3 Assistive listening systems

Where assistive listening systems are required to be identified by the international symbol of access for hearing loss, it shall be proportioned as shown in [Figure E.4](#).



Figure E.4
International symbol of access for hearing loss
(See [Clause E.19.7.2.3](#).)

E.19.7.2.4 Volume-controlled telephones

Where telephones with volume controls are required to be identified, the identification symbol shall be a telephone handset with radiating sound waves, such as shown in [Figure E.5](#).



Figure E.5
Volume-controlled telephone symbol
(See [Clause E.19.7.2.4](#).)



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G1-028 Security Use of Mobile Shelving

Physical Security Guide Lead Agency Publication G1-028

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1. Introduction

The purpose of this guide is to provide information on the use of mobile shelving units for the storage of sensitive information.

It is imperative that Departmental Security and Real Property personnel be involved at all stages. This will ensure that all aspects of procuring and installing the mobile shelving units are in compliance with codes and regulations concerning security, fire safety and architectural/structural issues.

It is further recommended that all personnel involved in the procurement, installation and modification of mobile shelving read and understand this guide.

The procurement and installation of mobile shelving should not, under any circumstance, be delegated to a procurement agent without support and coordination from both Security and Real Property personnel.

1.1 Determination of Needs

The originator (end user) or the Departmental Security Officer (DSO) must determine the requirements and provide the following information in order to properly apply the provisions of this document:

- the nature of the material to be stored in the mobile shelving;
- the security zoning of the area where the units will be placed; and
- whether or not RCMP approved security containers will be used in conjunction with the mobile shelving.

In most cases, the security zone designation for the area where the mobile shelving will be installed is known to the end user. The DSO should be contacted if the zone is not known or if the provisions outlined in this document require a more secure zone than is available. Where the requirements outlined in this guide require a more secure zone a full re-assessment of requirements and options will be necessary.

1.2 Coordination with Federal Fire Authority: Fire Protection Design Requirements

Currently, there are no off-the-shelf mobile shelving units that conform to the provisions of the Federal Fire Authority (FFA). Fire Protection Design Requirements require modifications as outlined in that document. Contact the Federal Fire Authority for guidance.

This document should be read in conjunction with *Fire Protection Design Requirements*. References are made in this document to specific provisions of the Federal Fire Authority document where they impact upon the security requirements. While every effort has been made to ensure that this document complements the Federal Fire Authority requirements, officials from the Federal Fire Authority are the final authority for interpretation and application of the Fire

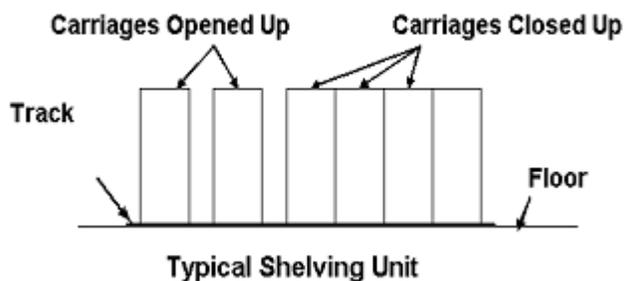
Protection Design Requirements. In all cases, fire safety requirements have precedence over security requirements outlined herein.

2. General

The use of mobile shelving is common in government offices and is increasing as space demands continue to rise.

2.1 Description

Mobile shelving is made up of "carriages" which are independent sections secured on a track. These sections can be closed up to reduce space and opened up to access the shelving of a particular carriage. Typically, each carriage is configured with shelving for the open storage of documents. However, these units can also be used to hold security containers (filing cabinets and safes).



2.2 Use with Approved Security Containers

It is permissible to place approved security containers¹ in mobile shelving units subject to weight and size considerations. The mobile shelving vendor and facilities engineering staff should be contacted for guidance when considering this option. Security containers retain their original security classification when placed in a mobile shelving unit as long as the shelving unit is in the appropriate zone specified for that container.

2.3 Required Information

The following information must be provided by the end user or departmental security staff in order to apply this guide:

- the zone in which the shelving unit will be located;
- the classification of information to be stored; and
- whether or not approved security containers will be used.



Figure 1

3. Security Requirements

3.1 Commercial off the Shelf (COTS) Usage

If used as typically supplied, with a commercial lock that engages when the units are fully closed together, mobile shelving will satisfy "Lock Up" criteria and is approved for the storage of Protected A and Protected B information. See *"Lock up Requirements for Protected A and Protected B Information"*.

However, the Federal Fire Authority Fire Protection Design Requirements calls for units to have a 100 mm clearance between carriages when closed. As a result of clearance, the unit is effectively open shelf storage. Open shelf storage of sensitive information (other than Protected A and Protected B information, which can be secured in a locked room as per *"Lock up Requirements for Protected A and Protected B Information"*) is not acceptable unless the unit is located within a secure room, and therefore effectively within an approved security container. In all cases where mobile shelving has been modified to meet Federal Fire Authority requirements, the use of mobile shelving to store sensitive documents is subject to the modifications/conditions that follow. Contact the end user or DSO for guidance on security containers and security zones and to know the security zone of the area where the mobile shelving will be located.

3.2 Modifying Procedures for Storage of Protected A, Protected B and Confidential Information

Where a mobile shelving unit that has been modified to meet Federal Fire Authority requirements is not located in a locked room, the mobile shelving unit is approved for the storage of unclassified information only, and must be further modified by the addition of security screens or bars called astragals to close the gaps between carriages. The side astragals should be solid steel

or aluminum, while the top astragals must be perforated to allow water to penetrate (see Figure 2).

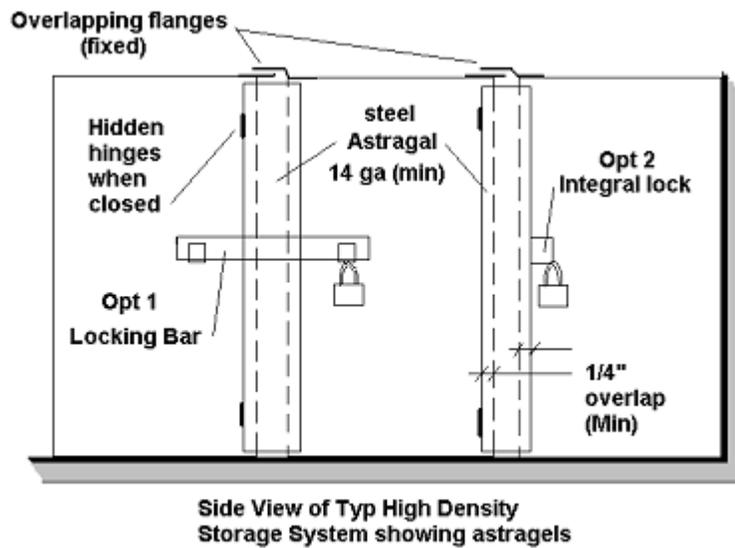


Figure 2

Because solidly fixed metal astragals could create a pinching hazard while the carriages are being closed, it is recommended that the side astragals be attached on a spring-retained hinge that is normally kept rotated flush against the carriage body by the spring. This must be manually rotated to cover the gap and attach the lock (see Figure 3). The hasp can be either integral to the astragal (Figure 2 - option 1) or separate (figure 2 - option 2).

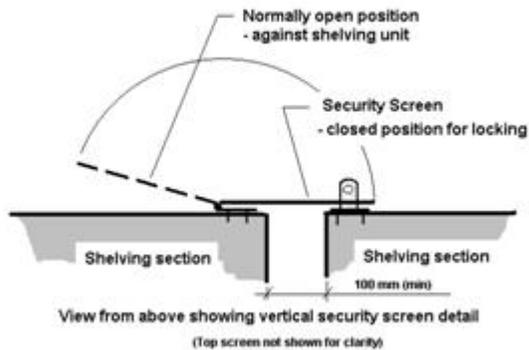
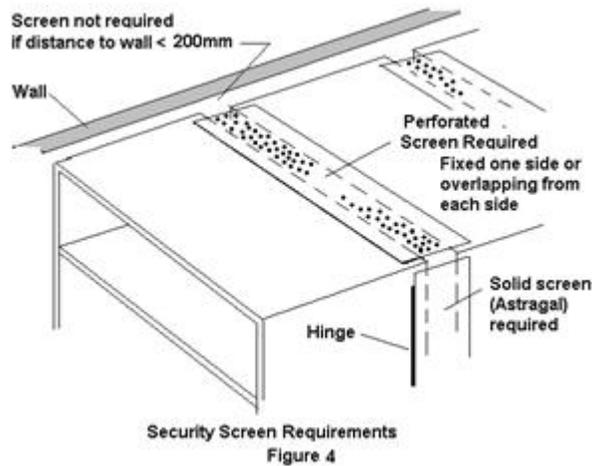


Figure 3



The Federal Fire Authority requirements allow a perforated screen across the top, provided that the holes measure at least 6.4 mm in the least dimension, and the amount of openings constitutes a minimum of 70% of the area of the material.

When mobile shelving is modified to incorporate astragals/screens in accordance with the requirements as outlined above, and an approved combination lock is used, the mobile shelving is then approved for the storage of Protected A, Protected B and Confidential information.

4. Mobile Shelving and Security Containers

4.1 Using Approved Security Containers with Mobile Shelving

As mentioned in the General section, approved security containers can be placed in mobile shelving units and retain their original security classification as long as the mobile shelving unit is in the appropriate security zone (or better) specified for the security container.

5. Summary of Modification Requirements for Security

Cabinet (carriage) - the entire perimeter (all sides except inside shelf face) of the carriage must be constructed so that no part may easily be removed without damaging the container or leaving evidence of entry. Steel rivets are preferred when fasteners must be exposed to the exterior of the cabinet. Screws, if used, must have the heads drilled to prevent removal.

Hasp - An Abloy PL200 is recommended. It should be attached with steel rivets or screws with the heads drilled to prevent removal.

Lock - S&G series 8077 combination padlock required for the storage of Classified information. Any commercial key or combination lock is acceptable for the storage of Protected A information and Protected B information (subject to a TRA).

Side Astragals - minimum 14-gauge steel plates. Preferably on spring-retained hinges.

Top Screen - minimum 14-gauge steel plates with perforations that measure at least 6.4 mm in the least dimension and the amount of openings constitutes a minimum of 70% of the material.

6. Security Application Table (Baseline Threats Only)²

Zone	Unmodified (COTS)	Modified to Fire Design Requirements (100 mm gap when closed) (open shelving)	Further modified to security requirements (astragals and locks)
Operations	Protected A and Protected B ("Locked Up")	Unclassified only	Confidential, Protected A and Protected B
Security		Protected A	
High Security		Protected B (subject to TRA)	
within secure rooms³			
SR-1 (Sec Room C)	Protected B and Confidential		Security modifications not required
SR-2 (Sec Room B)	To Top Secret and Protected C (subject to TRA)		

7. Conclusion

Many purchasers treat mobile shelving units as they would office furniture. In fact, they require the expert input of security, fire safety and engineering personnel. Facility departments should coordinate the procurement and installation to ensure floor loading and utility connections meet code requirements, and that the units are appropriately modified to meet both security and the Federal Fire Authority requirements. The Facilities department should be involved from the beginning.

7.1 New Purchases

For new purchases, the procurement documents should include a specification for required modifications as part of the original procurement, ideally written in NMS (National Master Specification) format. Facilities personnel are generally conversant with this format and are familiar with associated issues relating to mobile shelving installation (e.g., floor loading, sprinkler modifications, etc) which should be addressed in the specification. Alternately, the

manufacturer may be requested to quote on the provision of a product conforming to the requirements in this document. This option is only recommended if the procurement agent is fully familiar with security requirements and associated technical details, in order to be able to determine if the manufacturer's proposal fully meets the requirements. The procurement contract should contain a clause indicating that the manufacturer must provide a warranty that the shelving unit meets Federal Fire Authority and RCMP fire and security requirements and that any necessary alterations after delivery/setup will be at manufacturer cost.

7.2 Retrofits and Warranties

For retrofits to existing units, a small work order through the Real Property division should be the simplest route, and is recommended – again, to ensure compliance with all related fire and structural requirements.

Consideration should always be given to warranty issues before any modifications are made. Contact the manufacturer for warranty information and advice before initiating any modifications.

8. Additional Information/Contacts

- For assistance regarding these security recommendations for mobile shelving units – contact the RCMP Technical Security Branch (Sec-Equip@rcmp-grc.gc.ca)
- For questions regarding fire protection requirements and interpretation of *Fire Protection Design Requirements*, – contact the HRSDC / Federal Fire Authority
- For procurement advice and information on the National Master Specification (NMS) – contact PWGSC. See also: <http://www.tpsgc-pwgsc.gc.ca/biens-property/ddn-nms/questions-eng.html>.

9. References

- Operational Security Standard on Physical Security (OSSPS)
http://publiservice.tbs-sct.gc.ca/pubs_pol/gospubs/TBM_12A/osps-nosm_e.asp
 - Mobile Shelving - Fire Protection Design Requirements
http://www.hrsdc.gc.ca/eng/labour/fire_protection/index.shtml
 - Government Security Policy
http://publiservice.tbs-sct.gc.ca/pubs_pol/gospubs/tbm_12a/gsp-psg_e.asp
 - “Lock up” requirements for Protected A and Protected B information (under STORAGE section)
http://www.rcmp-grc.gc.ca/tsb-genet/seg/html/home_e.htm
-

Endnotes

¹ Approved security containers are safes, filing cabinets and other containers that have been tested and approved for the storage of sensitive information to the level specified in the security rating when located in the specified security zone or better.

² Baseline threats are defined in the *Operational Standard on Physical Security* as the mandatory provisions of the Government security policy and its associated operational standards and technical documentation. The baseline threats are those common to all government departments. For all special cases, a TRA must be conducted. Contact the Departmental Security Officer (DSO) for guidance.

³ A Secure Room SR-2 (formerly Secure Room "B") is approved for the open shelf storage of all classified material (to Top Secret) and for Protected "C" material – subject to a TRA and suitable access controls. A Secure Room SR-1 (formerly Secure Room "C") is approved for the open shelf storage of material classified to Confidential, as well as Protected A and Protected B. Construction of a Secure Room must conform to the RCMP Specifications for Secure Rooms. See: <http://www.rcmp-grc.gc.ca/physec-secmat/pubs/phys-sec/index-eng.htm> for links to specifications (Guide).

To read Adobe Acrobat (PDF) files, you may need to [download](#) and install the free Adobe Reader available from Adobe Systems Incorporated.

Date Modified: 2009-06-02

Mobile Shelving - Fire Protection Design Requirements

1. General

1.1 Purpose

The purpose of this document is to prescribe the fire protection requirements for mobile shelving when used for records storage in Government of Canada property. (See [Appendix](#)).

1.2 Scope

These requirements apply to new and existing mobile shelving with a height of 2.5 m or less. (See [Appendix](#))

1.3 Definitions

Mobile Shelving Carriage

means one or more sets of shelves fastened together to form a single movable section. (See [Figure](#))

Mobile Shelving Unit

means a group of mobile shelving carriages connected by tracks, rails or other similar means. (See [Figure](#))

Mobile Shelving System

means a system of records storage (also known as compact shelving, track files, compaction files, high density file storage or movable files) in which sections or rows of shelves are manually or electrically moved on tracks to provide access aisles. Mobile shelving is usually a type of open-shelf file equipment. (See [Appendix](#))

Fire Park Mode

means a setting that automatically operates the motor drives on all shelving carriages to create the required clearance between the mobile shelving carriages upon the activation of the fire alarm system in the fire compartment containing the mobile shelving system.

2. General Requirements for Sprinklered and Unsprinklered Buildings

2.1 Mobile shelving units shall be separated from each other by either

- a. fixed aisles with a minimum width of 1,100 mm, or
- b. steel firestops in each unit. (See [Appendix](#))

2.2 The steel firestops described in 2.1 and 4.4 shall be of similar material as the mobile shelving.

2.3 If the building is equipped with a fire alarm system, smoke detectors connected to the fire alarm system shall be provided above the mobile shelving system.

2.4 Mobile shelving unit shall be:

- a. provided with a fixed clearance of not less than 100 mm between the mobile shelving carriages, or;
- b. equipped with a fire park mode to provide the minimum clearance of 100 mm between mobile shelving carriages. (See [Appendix](#))

2.5 Seismic restraints, if necessary, shall be provided for mobile shelving systems and installed to prevent over-turning and excessive horizontal movement by the expected movement induced by the building during an earthquake. (See [Appendix](#))

3. Mobile Shelving located in Unsprinklered Buildings

3.1 Where the record storage is located in an unsprinklered building, mobile shelving system is permitted provided

- a. it is located in a fire separation having a fire-resistance rating of at least $\frac{3}{4}$ h, and the aggregate size or area of the mobile shelving system does not exceed 25 m², or
- b. the aggregate size or area of the mobile shelving system does not exceed 4 m² within an open office area or in a floor.

4. Mobile Shelving located in Sprinklered Buildings

4.1 Except as permitted in 4.2, the portion of the sprinkler system protecting the mobile shelving system shall be hydraulically designed as an Ordinary Hazard Group 2 occupancy classification. (See [Appendix](#))

4.2 Where the records storage utilizing a mobile shelving system is subsidiary to a floor area protected by a Light Hazard Occupancy sprinkler system, the sprinkler system may be deemed acceptable where the aggregate area of the mobile shelving system is not more than 70 m²

- a. on one floor, or
- b. in a 1 h fire compartment.

4.3 The sprinkler occupancy classification described in 4.1 for the protection of the mobile shelving system shall be extended to

- a. the entire fire compartment, or
- b. at least 4.6 m beyond the area associated with the mobile shelving.

4.4 In existing installations, as an alternative to the requirement of the 100 mm clearance between mobile shelving carriages protected by an Ordinary Hazard Group 2 occupancy classification sprinkler system, steel firestops conforming to 2.2 may be provided to divide the mobile shelving units into areas not greater than 70 m². (See [Appendix](#))

4.5 Except as required in 4.7, a minimum of 460 mm clearance shall be maintained between the sprinkler deflectors and the top of the mobile shelving, and between the smoke detectors and the top of the mobile shelving.

4.6 If security measures are required to prevent unauthorized access through the 100 mm clearance between mobile shelving carriages, a metal screen or lath may be provided to cover the space. Each opening of the metal screen or lath shall be at least 6.4 mm in the least dimension and the amount of openings of the metal screen or lath shall constitute a minimum of 70 % of the area of the material.

4.7 If security screen is utilized at or near the top of the mobile shelving units, a minimum of 610 mm clearance shall be maintained between the sprinkler deflectors and the top of the mobile shelving.

Appendix

A-1.1 These requirements are based solely on the fire loading of paper records; they do not address the overall fire protection design requirements for archival records centres. These requirements do not address other factors such as the importance of records, or the storage of other combustible materials on such shelving; the protection requirements of these records are prescribed in other fire protection standards such as the Standard for Record Storage. Small amount of other incidental materials, up to a maximum of 5 % in volume and distributed sparingly, such as vinyl covered binders and books or other similar materials are acceptable to be stored in mobile shelving without affecting the effectiveness of the sprinkler system.

It is necessary that the structural adequacy of the floor and the building be evaluated before the design and installation of a mobile shelving system.

A-1.2 For existing mobile shelving system installations, a risk analysis should be carried out and judgment should be exercised to determine the extent of the application of these requirements (See 4.4).

A-1.3 Mobile shelving systems can be divided into manually (manual and mechanical) and electrically (electrical and computerized) operated carriages, and may consist of one or more mobile shelving units moved on tracks, rails or other similar means.

For motorized mobile shelving systems utilizing fire park mode, the activation of a detector or a sprinkler within the compartment containing the mobile shelving system should activate the fire park mode.

A-2.1 Stationary end carriages of a mobile shelving unit bounded on the outside by continuous metal panels will form effective firestops as described in 4.4.

A-2.4 Spacers or bumpers installed to provide the required spacing should be provided at levels not to introduce tripping hazard. Note the spacing is measured between the edges of the facing shelves or the facing edges of the records stored, whichever is less.

For motorized mobile shelving systems utilizing fire park mode to maintain the minimum clearance of 100 mm between carriages, clearances less than 100 mm

are permitted in the normal operating mode. However, when an aisle is locked in an open position for mobile shelving units utilizing fire park mode, the minimum aisle width required by an occupant shall not be reduced.

A-2.5 Seismic restraint is usually applied at or near the top of the mobile shelving systems to prevent over-turning, and at or near the base of the units to prevent excessive horizontal movement.

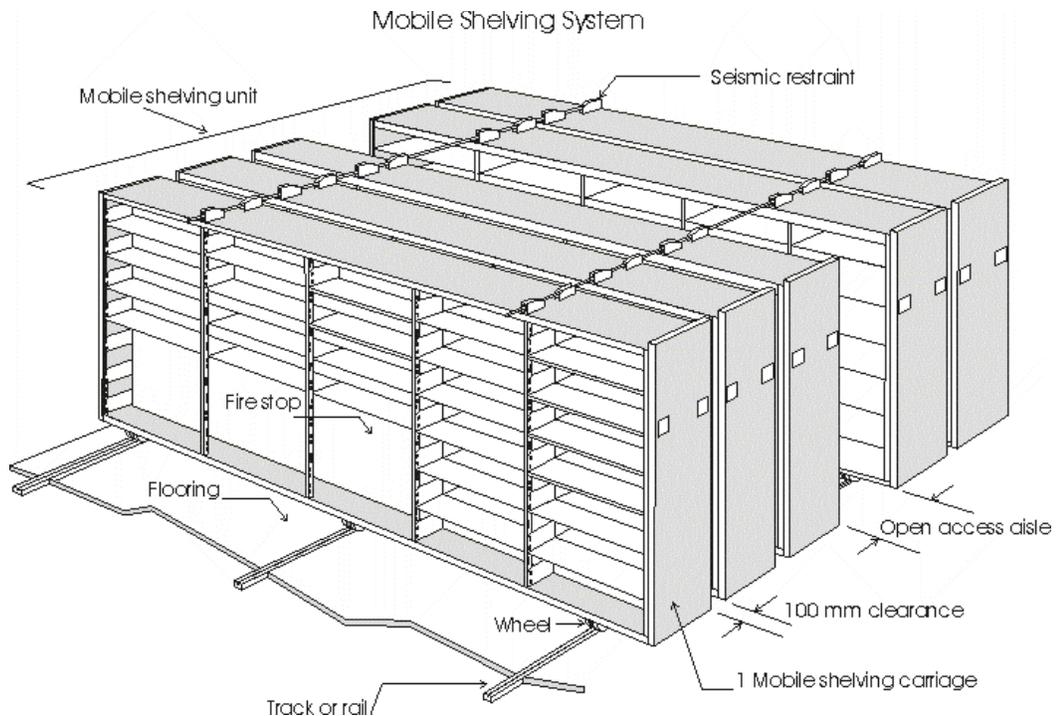
A-4 For record storage centres or warehouses, a higher sprinkler design density may be required to protect the commodity and the facility.

A-4.1 Where practicable, quick-response sprinklers are recommended in a sprinkler system protecting mobile shelving. However, quick-response sprinklers should not normally be installed in the same fire compartment with standard response sprinklers.

The sprinkler system may be hydraulically designed with a density of 8.1 mm/min, using a sprinkler design area of 140 m² and a maximum area of coverage of 12 m² per sprinkler as one of the design parameters for meeting the requirements for the Ordinary Hazard Group 2 occupancy classification sprinkler system.

A-4.4 Firestops are the least effective alternatives, but may be the most practical to apply to existing installations.

Figure



The figure illustrates a Mobile Shelving System. The system is made up of mobile shelving carriages in which sections or rows of shelves are manually or electrically

moved on tracks to provide access aisles. The illustration points out the shelving unit, shelving carriage, track or rail, wheels, fire stop, seismic restraint and the open access aisle.

For further information or assistance, contact your nearest [regional or district office](#).



Directive 3-1-6 PHYSICAL SECURITY

Part 1 Program Management
VOLUME 3 Administrative Directives

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TITLE

The Directive on Enforcement Branch Physical Security is for all Environment Canada, Enforcement Branch zones and facilities.

SUBJECT

This Directive provides baseline physical security requirements to counter possible threats to Enforcement Branch (EB) employees, assets and service delivery, as well as providing consistent safeguarding for the Government of Canada.

PURPOSE AND SCOPE

The purpose of this directive is to protect EB controlled assets and outline physical security of EB offices.

POLICY STATEMENT

It is the policy of Environment Canada (EC), Enforcement Branch (EB) to maintain security of its offices in order to protect law enforcement assets and sensitive information.

EB will limit access to its facilities in accordance with the Treasury Board Secretariat (TBS) standards specified in this directive.

This directive will comply with the Information Management and Information Technology (IM&IT) Security Policy, the *Firearms Act*, the National Canadian Police Information Centre (CPIC) Memorandum of Understanding (MOU) with the Royal Canadian Mounted Police (RCMP) and the Treasury Board Secretariat (TBS) Policy on Government Security.

It is not the intention of this directive to duplicate existing departmental policies and procedures however, it is necessary to inform officers of the additional requirements involved with the enforcement program.

POLICY REQUIREMENTS / GUIDELINES

GENERAL

1. Access to all EB zones and facilities will be strictly controlled and secure at all times.
2. EB zones and facilities shall be classified as security zones as defined by the RCMP Guide on Physical Security Zones.
3. EB has three (3) types of zones:
 - a. **"Operations Zone"** (with limited access to the building & floors): an area to which access is limited to personnel who work there and to properly-escorted visitors; it must be indicated by a recognizable perimeter and monitored;
 - b. **"Security Zone"** (limited access to a restricted area of the floor): an area to which access is limited to authorized personnel and to authorized and properly-escorted visitors. It must be indicated by a recognizable perimeter and monitored continuously, i.e., 24 hours a day and seven (7) days a week by security staff, other personnel and/or by electronic means. Example: an area where secret information is processed or stored;
 - c. **"High Security Zone"** (strict limited access to an area within the security zone): an area to which access is limited to authorized, appropriately-screened personnel and authorized and properly-escorted visitors; it must be indicated by a perimeter built to the specifications recommended in the Threat and Risk Assessment (TRA), monitored continuously, i.e., 24 hours a day and seven (7) days a week and be an area to which details of access are recorded and audited. Example: an area where high-value assets are handled by selected personnel.
4. All EB facility entry points should have:
 - a. electronic card readers;
 - b. door entry points must be monitored by camera;
 - c. monitored alarm systems or guarded building as per TBS Policy on Government Security.
5. Security zones may include:
 - a. evidence storage room;
 - b. officer locker room;
 - c. Use of Force equipment storage room;
 - d. firearms storage and clearing room;
 - e. interview room;

- f. CPIC terminal room;
 - g. EB storage cabinets containing protected documents (A, B & C);
 - h. secure compound for vehicles/equipment;
 - i. EB laboratory or examination space.
6. Some security zones or high security zones may be built to RCMP Secure Room 1 or 2 standards (SR-1 or SR-2) depending on the applicable TRA. Please refer to the *RCMP Physical Security Guide G1-029, Secure Rooms*.



ENFORCEMENT
BRANCH

DIRECTION GÉNÉRALE DE
L'APPLICATION DE LA LOI

Directive 3-1-7

SPECIAL PURPOSE SPACE

Part 1
VOLUME 3

Program Management
Administrative Directives

Directive 3-1-7

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TITLE

The Directive on Special Purpose Space for Environment Canada Enforcement Branch Facilities.

SUBJECT

The Enforcement Branch (EB) recognizes that special space is required for various purposes such as protecting government equipment and information.

Special purpose space must be identified so that the enforcement program integrity and operational efficiency (continuity of evidence, firearms security, safe areas for interview and statement taking, security of equipment) can be assured while meeting current security and safety requirements.

PURPOSE AND SCOPE

The purpose of this directive is to outline the standards and to identify the use and needs of special space requirements to support the enforcement program on a national basis.

This directive applies to all EB employees.

POLICY STATEMENT

It is the policy of Environment Canada's (EC's) Enforcement Branch (EB) to maintain security of its offices/facilities.

The EB will identify the needs for special purpose space in order to support its operational needs and requirements.

POLICY REQUIREMENTS / GUIDELINES

GENERAL

1. Information on EB facilities can be found in the *Physical Security* directive, Vol. 3, Part 1.
2. Special purpose space is categorized as specific areas that are essential to the Branch's integrity, security and operational efficiency.
3. Special purpose space, within secured EB facilities, shall be accessed by way of secondary and where necessary, tertiary access points, by restricted EB enforcement personnel that have, at a minimum, secret security clearance.
4. Special purpose space may be accessed by other authorized EC staff or authorized visitors when accompanied by EB enforcement personnel.
5. All special purpose space shall remain secured as much as possible. Doors will not be propped or held open at any time.
6. A list of special purpose space with basic description requirements, justification and specifications can be found in annex 3-1-7(1):
 - a. Canadian Police Information Centre (CPIC) terminal room;
 - b. evidence storage room (documents);
 - c. evidence storage room (samples and biologicals, including live room);
 - d. officer locker / change room;
 - e. firearms storage and cleaning room;
 - f. wet lab;
 - g. interview room;
 - h. secure meeting room;
 - i. equipment storage area;
 - j. secure vehicle compound;
 - k. secure specialized vehicle storage;
 - l. electronics room / charging area;
 - m. case room;
 - n. lavatory / showers.

ROLES AND RESPONSIBILITIES

Officers

7. Officers are responsible for providing information on special purpose space needs as required by management in order to support operational requirements.

Operations Managers

8. The Operations Manager is responsible for the proper maintenance of special purpose space and for reporting all malfunctioning devices.

Regional Directors / Directors General

9. The Regional Directors and Directors General are responsible for performing a needs analysis/gap assessment and developing an appropriate strategy.
10. The Regional Directors and Directors General should ensure that maintenance have appropriate access to this secure area.

Chief Enforcement Officer

11. The Chief Enforcement Officer is responsible for providing special purpose space accommodation, as applicable to the situation.

Management Services Division (Headquarters)

12. The Management Services Division is responsible for:
 - a. providing advice to management and staff on accommodation purposes;
 - b. liaising with the Corporate Services Branch in accommodation situations (e.g. specifications, floor/room plans, logistics, etc);
 - c. informing management of accommodation developments;
 - d. maintaining records/decisions on accommodations.

ANNEX

- 3-1-7(1)E: Special Purpose Space Requirements Table



3-1-7(1)E Special Purpose Space Requirements Table

This annex identifies the Special Purpose Space that may exist for Enforcement Branch (EB) offices. It is categorized as specific areas that are essential to the Branch's integrity, security and operational efficiency.

It is recognized that there may be differences in office size ranging from 2 to 3 officer locales to some locales where 50 officers may be located. It is also recognized that the needs of a Regional versus headquarters (HQ) will be different and that there are differences in the nature of evidence collected by the EB.

There are situations where offices are integrated with the storage aspects (while a large proportion of offices have the storage facilities in different areas of the community (many in industrial parks).

In more confined offices, special purpose spaces for similar function requirements may be combined where possible.

The current annex includes the following:

- Special Purpose Space Name, Basic Description and Rationale/Justification;
- Specific needs for the Wildlife Enforcement Directorate (WED), the Environmental Enforcement Directorate (EED) and Intelligence Programs;
- An estimation of the space requirement recognizing that number of officers/staff will influence this factor.

SPECIAL PURPOSE SPACE	BASIC DESCRIPTION	RATIONALE/JUSTIFICATION	EED SPECIFIC NEEDS WITHIN THE SPACE	WED SPECIFIC NEEDS WITHIN THE SPACE	INTELLIGENCE SPECIFIC NEEDS WITHIN THE SPACE	RECOMMENDED ROOM SPECIFICATIONS
CPIC Terminal Room	Enclosed secure room with a computer work station, printer, and shredder for the purpose of accessing CPIC (Canadian Police Information Centre) information and records. The computer/terminal must be stand alone within the secure room (i.e. limited access to officers authorized to access CPIC).	CPIC access is used when preparing search warrants, gathering intelligence on known or suspected violators, and is integral to investigative and inspection processes. Access to CPIC is restricted via MOU and officers normally must be specifically trained. <i>This room is required until implementation of Web-based CPIC is accessible.</i>	No program specific needs.	No program specific needs.	CPIC room when practical should be located close to the Intelligence unit as they are one of the heavier users.	5 to 10 m ² Room must meet construction requirements of a Secure Room 1 as per RCMP <u>Guideline G1-029 - Secure Rooms</u> and pass an RCMP physical security assessment.
Evidence Storage Room (Documents)	Enclosed secure room that is used to store documents that have been obtained via search warrant or other legal means so that the documents are considered as evidence. Typically banker boxes are used and a means must exist so that boxes from the same file or officer are accessible and identifiable. Options include large heavy duty shelving to individually assigned large storage cabinets or case specific cabinets.	Documentary evidence must be stored in a secure dry area to ensure document preservation and continuity of evidence. Evidence cannot be stored with general supplies and officers need to be able to keep evidence secure in a restricted access area. Evidence rooms have a sign-in/out ledger so that access can be verified and justified in court.	EED as a generalization tends to have higher volumes of documentary evidence.	WED documentary evidence is generally lower though some special investigations do result in higher volumes.	Intelligence may upon occasion have evidence files. Consideration must be given to ensuring secure storage for any documents associated with Intelligence probes, or case development files. These would generally be Protected B and C documents.	10 M ² minimum for a 5 officers office. Adjust 2 M ² for each additional officer. Construction specifications must be based on RCMP physical security requirements related to the construction of Secure Rooms.



SPECIAL PURPOSE SPACE	BASIC DESCRIPTION	RATIONALE/JUSTIFICATION	EED SPECIFIC NEEDS WITHIN THE SPACE	WED SPECIFIC NEEDS WITHIN THE SPACE	INTELLIGENCE SPECIFIC NEEDS WITHIN THE SPACE	RECOMMENDED ROOM SPECIFICATIONS
Evidence Storage Room (samples and biologicals, including live room)	<p>Evidence collected can include effluent samples, chemical products, dangerous goods samples, fish or biological samples from fish kills, seized waterfowl (dead), live animals, plant or animal products.</p> <p>In some instances samples must be held for a day or two until they can be transported to a laboratory for analysis. In other instances sample may require to be frozen in secure rooms.</p> <p>With some live evidence it may be necessary to provide short term animal care and husbandry until a long term home is found for a live animal(s).</p> <p>Temperature control is critical as live animals and plants may need to be kept at warm temperatures; effluent samples at 4°C and frozen samples at -10°C to -20°C.</p>	<p>Continuity of evidence must be maintained for all biological material that is collected as evidence.</p> <p>Seized material may need to be held for 90 days prior to forfeiture.</p> <p>Live animals cannot be exposed to toxic substances and must be stored separately (may be a separate area within a larger evidence storage room).</p> <p>Potentially toxic substances must be kept secure to ensure they do not pose a risk to anyone.</p> <p>Evidence rooms have a sign-in/out ledger so that access can be verified and justified in court.</p> <p>Refrigerators or freezers may be needed. In some cases a walk-in cooler/freezer may be needed.</p>	<p>Short term secure storage of effluent samples prior to transport to the laboratory.</p> <p>Long term storage of dead fish or other biologicals.</p> <p>Storage of containers containing chemicals such as ODS and other dangerous goods. (Dangerous goods should be stored at an evidence room in a warehouse that is not usually inhabited).</p> <p>Storage of</p>	<p>Oil or other samples</p> <p>Frozen waterfowl carcasses</p> <p>Live animals</p> <p>Dry seizures (Traditional Asian Medicines, skins/pelts, taxidermy items)</p> <p>Mounted trophies due to preservatives and potential pathogens should be stored in areas not inhabited.</p>	N/A	<p>Minimum size-20 m² for a 5 officers office. Adjust by 2 m² for each additional officer.</p> <p>Construction specifications must be based on RCMP physical security requirements related to the construction of Secure Rooms.</p>

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SPECIAL PURPOSE SPACE	BASIC DESCRIPTION	RATIONAL JUSTIFICATION	EED SPECIFIC NEEDS WITHIN THE SPACE	WED SPECIFIC NEEDS WITHIN THE SPACE	INTELLIGENCE SPECIFIC NEEDS WITHIN THE SPACE	RECOMMENDED ROOM SPECIFICATIONS
	<p>In some cases off-site temporary secure storage may be required (e.g.: 20,000 lbs or 8,000 kg container of frozen conch meat).</p>		<p>evidence such as small engines, or other tangible goods seized during investigations.</p>			
Officer Locker / Change Room	<p>In very large offices and if numbers of officers warrants it, then separate Male and Female locker/change rooms may be considered.</p> <p>This is a security zone accessible to officers where each officer would have a large locker for the storage of uniform and enforcement protective equipment such as their duty belt, accessories and other specialized equipment such as binoculars, spotting scopes, etc. which must be kept secure when off duty.</p> <p>Locker/change rooms should be a sex specific room. There should be a minimum of one private change room where an officer may change from civilian to uniform attire where separate locker</p>	<p>Uniforms need to be kept at the work locale for wear while on duty and space needs to be set aside for the storage of uniforms and for the changing to and from uniform at start and finish of work periods.</p> <p>Officers are issued uniform clothing and protective equipment for 4 seasons and some of the items such as parkas, insulated coveralls, wind-pants, soft body armour, winter boots etc. require significant locker space.</p>		<p>Proximity to the firearms storage room is advantageous.</p>	<p>Intelligence personnel who are designated officers should have locker space.</p>	<p>Minimum size is 10 square metres for a 5 officers. Adjust by 1 to 2 square meters for each additional officer.</p>



SPECIAL PURPOSE SPACE	BASIC DESCRIPTION	RATIONALE/JUSTIFICATION	EED SPECIFIC NEEDS WITHIN THE SPACE	WED SPECIFIC NEEDS WITHIN THE SPACE	INTELLIGENCE SPECIFIC NEEDS WITHIN THE SPACE	RECOMMENDED ROOM SPECIFICATIONS
<p>Firearms Storage and Cleaning Room</p> <p>(Firearms Act terms "Agency" and "Protected" are used.</p> <p>Agency equates to Departmental)</p>	<p>rooms are not available.</p> <p>A secure room based on RCMP construction specifications for Secure Rooms is needed for the storage of Agency/Departmental firearms that are issued to officers and for "Protected" Firearms that are seized.</p> <p>Agency Firearms are stored in separate safe from Protected firearms. Storage options may include individual safes to racks of individual strong boxes/gun lockers stored within a designated High Security Zone.</p> <p>A secure container is also required to store ammunition seized ammunition.</p> <p>Bullet trap/loading station for safety.</p> <p>Firearms cleaning - firearms room should have a stainless steel workbench and exhaust system so that officers may clean their duty</p>	<p>The storage of all firearms and ammunition must meet the provisions of the <i>Firearms Act</i> to ensure that storage is safe, controlled and that all inventory and registration is carried out.</p> <p>Protected firearms are considered as evidence and must meet a continuity of evidence test as well.</p>	<p>EED requirements for firearms storage is limited to those offices where a long gun has been issued for predator protection.</p>	<p>WED is the primary user of any firearms storage and cleaning room.</p> <p>The number of officers may dictate whether firearms storage is done via a separate secure room or the use of large heavy duty gun safes (800 lbs OR 300 kg) in other secure storage space.</p> <p>Should have a bullet trap/loading station so that WED officers can load/unload their duty firearm in privacy. This is an Occupational Health and</p>	<p>Designated WED Intelligence staff with full powers may also be issued a duty sidearm and would require access.</p>	<p>7m²</p> <p>The size can vary depending on the number of officers and proportion of firearms normally seized.</p> <p>Construction specifications must be based on RCMP physical security requirements related to the construction of Secure Rooms.</p> <p>A secure room with exhaust fans is needed irrespective of size of area.</p>

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SPECIAL PURPOSE SPACE	BASIC DESCRIPTION	RATIONALE/JUSTIFICATION	EED SPECIFIC NEEDS WITHIN THE SPACE	WED SPECIFIC NEEDS WITHIN THE SPACE	INTELLIGENCE SPECIFIC NEEDS WITHIN THE SPACE	RECOMMENDED ROOM SPECIFICATIONS
	firearms and cleaning solvent vapours are removed.			Safety issue for the officer and adjoining building tenants. WED routinely seeks forfeiture of firearms and ammunition used in the commission of an offence so evidence storage must be adequate to hold several firearms for potential destruction.		
Wet Lab	A wet lab is a security zone that has a large lab sink and bench as well as a fume hood. The space is used for calibrating instruments, preparing sample preservatives and dissecting samples (fish, waterfowl). Field testing equipment that is commonly shared amongst officers can be stored in the room as long as the instruments are	A secure work area is needed to ensure that field instruments are calibrated and that evidence may be processed (examples include dissecting fish, extracting pellets from waterfowl). A large lab grade sink and plumbing are required as is an externally vented fume hood that is used when working with acid/base or organic solvents. Officers are required to testify	Primarily instrument calibration, sample processing, sample dissection, preparing quality assurance / quality control samples and preparing and storing	Sample dissection (waterfowl or migratory birds).	N/A	Minimum size – 10 m ² .

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	<p>stored away from the wet area.</p> <p>This can also be a work area in a secure storage space such as a garage.</p>	<p>that equipment was calibrated and tested prior to field use.</p> <p>Certified sample containers are also stored in the wet lab area for immediate use.</p>	<p>sample preservation chemicals.</p> <p>Certified sample container storage.</p>			
Interview Room	<p>All officers require access to a secure walled area where suspect / witness interviews can be undertaken. The interview room should have a minimum of one video camera with external control and sufficient space for 2 to 3 officers, the interviewee and their counsel.</p>	<p>Suspect/witness interviews and statement taking should be done in a private and secure area to ensure privacy, and integrity of statements.</p> <p>Note that this is not a holding facility but interview room only.</p>	No program specific needs	No program specific needs	No program specific needs	<p>10-12 m²</p> <p>Construction specifications must be based on RCMP physical security requirements related to the construction of Secure Rooms</p> <p>This room needs:</p> <ul style="list-style-type: none"> • a door with a window to observe suspects while offering officer safety. • to be equipped with a wall mounted

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Secure Meeting Room	<p>Room to be located within a security zone (i.e. common building quiet rooms are not appropriate).</p> <p>Portable camera may be used as needed when used for interview purposes.</p> <p>This smaller room may serve a secondary "interview room" as there may be a requirement to interview multiple suspects or witnesses.</p> <p>This room may also serve</p>	<p>Conversations regarding investigations, court proceedings, media interviews, discussions with the Crown or Defence must be held in private for confidentiality purposes.</p> <p>Within enforcement there is the need to speak to clients, informants, or witnesses on the phone.</p> <p>Any situation of annual appraisals, discipline or other supervisor-subordinate or HR issues must take place in</p>	No program specific needs.	No program specific needs.	No program specific needs.	<p>telephone for suspects to discuss privately with legal counsel.</p> <ul style="list-style-type: none"> • A "Room in Use" light or sign. • Proper air circulation (i.e. manually controllable air ventilation / exhaust air grille system).

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	for sensitive teleconferences, or phone conversations, supervisor-subordinate meetings, or sensitive face to face meetings.	private. Access is usually through a reservation process.				
Equipment Storage Area	To store equipment that is not normally stored in a personal locker in a locker/change room such as hip/chest waders, flotation suits/equipment, TYVEK suits, oars for boats, survival equipment, rubber boots. This storage area is for the 'dirty field gear' as opposed to the cameras, GPS', or other electronics that are considered 'clean storage items'.	Equipment is often stored in close proximity to the vehicle storage area. The area needs to be secure so that officers can have equipment ready for immediate access.	No program specific needs.	No program specific needs.	No program specific needs.	Minimum size for a 5 officer office is 10 m ² .
Secure Vehicle Compound	Dedicated space in a parking garage, or an external compound. Consideration must be given to the height and length of enforcement vehicles and that the vehicles are marked and may contain all manner of equipment. External compounds should have access to electrical outlets for block heater or	Protection of vehicle assets and their contents. Vehicles are often marked and have light bars and contain enforcement equipment. There is also a need to ensure the security of seized vehicles taken from alleged violators. Continuity must be maintained as must the general condition of the item until the court determines its fate (return or	No program specific needs.	No program specific needs.	No program specific needs.	Depends on the locale, number and size of assets.

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	battery charging in cold climate situations in locations where needed.	forfeiture). Fuels (outboard motor gas cans, gerry cans) oils and lubricants should be stored in an outside locked gas storage container within a fenced compound and not inside a warehouse.				
Secure Specialized Vehicle Storage	Officers have access to ATV, snowmobiles and boats that should be kept in secure storage.	ATVs and snowmobiles are generally valued around \$7K-\$15K and need to be kept in a secure enclosed storage area. Large RHIB boats are valued at \$180K-\$350K and require a large garage with an appropriate door. The electronics and emergency equipment are expensive and the rubber bladders deteriorate more quickly if left exposed to the elements.	No program specific needs.	No program specific needs.	No program specific needs.	Depends on the locale, number and size of assets.
Electronics Room / Charging Area	A security zone is needed so that rechargeable devices can be charged and made ready for field use. Many multi-meters, radios, search beams, flash lights, cameras, etc operate on rechargeable batteries so an area is needed with both cabinets and a work bench with multiple power outlets	Items are needed on a regular basis requiring ongoing overnight charging and others requiring to be charged the day before planned use. <i>This can be part of other storage space - does not absolutely require a separate room.</i>	No program specific needs.	No program specific needs.	The intelligence program would have sensitive electronic equipment and would need access as well. Separate storage locker within the Intel space may be	5m ² for a 5 officer office. Shelving for instrument storage may be included.

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	<p>for charging equipment.</p> <p>Such an area could be part of an equipment room or off the wet lab area as long as there is adequate separation between the wet area and any electronics. It should be located near the locker area when possible.</p>				warranted for more specialized equipment.	
Case Room	<p>This is a secure windowless room where documents, charts, etc can be laid out as a case, search warrant or probe is developed and worked on. It is essentially a secure board room with computer access.</p> <p>Walls usually have ample white board and flip chart holders. This is where officers would take several boxes of evidence to be sorted and analyzed as part of an investigation.</p>	<p>There are requirements when developing a case where it is necessary to "fill the walls" with charts, notes, evidence links and suspect names/associates as officers develop a case or prosecution.</p> <p>The room must be secure so that material can be left overnight so that continuity is maintained (Protected B and C documents) and restricted to "need to know" personnel. A case room may be assigned to a file for a few days or a few weeks.</p> <p><i>This space could also be used for other security and/or operational purposes (i.e. additional "secure meeting room").</i></p>	No program specific needs.	No program specific needs.	No program specific needs.	<p>Minimum Size – 10 m²</p> <p>Room must meet the specs of a Secure Room 2 as per the RCMP Standard G1-029 – Secure Rooms.</p>

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Lavatory / Showers	Access to eye wash stations, emergency showers or cleaning area where there occurs the handling of hazardous substances (samples, calibration and preservation chemicals) is a requirement.	Showers are not necessarily provided during Public Works and Government Services Canada (PWGSC) fit ups. Having lavatories and showers within EB space is not essential as long as some are offered as per Treasury Board Secretariat (TBS) and PWGSC standard for lavatories based on numbers of tenants.	No program specific needs.	No program specific needs.	No program specific needs.	