

## 9. BUILDING CONFIGURATION AND SPACE TYPES

In order to identify the space and configuration types appropriate for University use, a series of interviews with members of the Universities were conducted. The existing space types were reviewed and the Postsecondary Education Facilities Inventory and Classification Manual (P.E.F.I. & CM) space codes were reviewed.

Series 'A' and Series 'B' categories were identified. Series 'A' categories are intended for use with the building shell systems matrix and are configuration specific. There is no equivalent space type in the P.E.F.I. & CM codes. Series 'B' categories are intended for use with the interiors matrix and are based on the P.E.F.I. & CM space codes, expanded to account for space use types not included in those codes. A comparison of P.E.F.I. & CM and the C.C.C. and P.F.E. codes is included at the end of this chapter.

Preliminary recommendations for categories included in the Guidelines were considered by the Steering Committee. Throughout the process the theme has been to develop a list of categories which will address the majority of structures contemplated by all of the institutions. There are facilities which are so highly specialized that cost guidelines would not be useful. A one-of-a-kind facility such as a state-of-the-art astronomical telescope enclosure is an example.

The categories in the following list were adopted and are included in the Construction Cost Guidelines:

### STRUCTURAL CATEGORIES - BUILDING CONFIGURATION SPECIFIC

The basis for each structural category is a structure of concrete including all columns, beams, floor and roof systems. The basic shape or "foot print" of the structure is rectangular with an approximate ratio of one width to two length. Special or separate consideration should be given to any structure that is known not to be within these parameters.

- A-1 - Institutional, 1 Story, Classrooms/Offices.
- A-1a - Institutional, 1 Story, Classrooms/Offices, 16'-0" minimum floor to structure above.
- A-2 - Institutional, 1 Story, High Bay/Long Span, Field Houses/Gymnasiums.
- A-2a - Institutional, 1 Story, High Bay/Long Span, Open Area Instructional and Laboratory
- A-3 - Institutional, 2 Story, Classrooms/Offices.
- A-3a - Institutional, 2 Story, Classrooms/Offices, 16'-0" minimum finished floor to finished floor.
- A-4 - Institutional, Multi-story, 3 Thru 5 Stories, Classrooms/Offices.
- A-4a - Institutional, Multi-story, 3 Thru 5 Stories, Lab.
- A-4b - Institutional, Multi-story, 3 Thru 5 Stories, Classrooms/Offices, 16'-0" minimum finished floor to finished floor.
- A-5 - Institutional, Multi-story, 6 Thru 10 Stories, Classrooms/Offices.
- A-5a - Institutional, Multi-story, 3 Thru 5 Stories, Theater Complex.
- A-5b - Institutional, Multi-story, 6 Thru 10 Stories, Lab.
- A-6 - Institutional, 1 or 2 Stories, Below Grade, Classrooms/Offices (Bldg. Above).
- A-6a - Institutional, 1 or 2 Stories, Below Grade, Lab (Bldg. Above).
- A-6b - Institutional, 1 or 2 Stories, Entirely Below Grade, Classrooms/Offices (No Bldg. Above).
- A-7 - Residential, 1 or 2 Stories.
- A-7a - Residential, 1 or 2 Stories, Wood Frame.
- A-8 - Residential, 3 Thru 5 Stories.
- A-9 - Residential, 6 Thru 10 Stories.
- A-10 - Parking Structures, (to 3 Levels).
- A-11 - Parking Structures, (to 4 and 5 Levels).
- A-12 - Parking Structures, 1 or 2 Stories, Below Grade.

- A-13 - Pre-engineered Building/Greenhouse (550-1132 SF).
- A-14 - Pre-engineered Building/Greenhouse (1132-2264 SF).
- A-15 - Pre-engineered Building/Warehouse, 1 Story.

CATEGORIES - SERIES "B"

INTERIORS MATRIX - BUILDING USE SPECIFIC

SERIES 100 - CLASSROOM FACILITIES

- B-110 Classroom, Seminar (to 25)
- B-111 Classroom, Seminar (to 40)
- B-112 Lecture Classroom (to 75)
- B-113 Lecture Classroom with ITFS (to 75)
- B-114 Lecture Classroom (200) Type A
- B-115 Lecture Classroom (200) Type B
- B-116 Studio Classroom
- B-117 Exhibit Space
- B-118 Music Room, Large Group
- B-119 Music Room, Practice, Small Group
- B-120 Highly Mediated, Lecture Classroom (to 400)
- B-121 Highly Mediated, Classroom (to 45)
- B-122 Highly Mediated, Classroom (to 250)
- B-123 Multi-Media, Classroom (to 250)
- B-124 Interactive TV, Lecture Classroom (to 90)
- B-125 Interactive TV, Classroom, Flexible Arrangement (to 40)
- B-126 Interactive TV, Classroom, Fixed Arrangement (to 40)

SERIES 200 - LABORATORY FACILITIES

- B-210 Class Lab (to 30), Type A
- B-220 Class Lab (to 30), Type B
- B-221 Class Lab (to 30), Type C
- B-225 Hazardous Material Storage
- B-230 Indiv. Study Lab (to 30), Type A
- B-235 Indiv. Study Lab (to 30), Type B
- B-236 Indiv. Study/Research Lab, Small, Type A
- B-237 Indiv. Study/Research Lab, Small, Type B
- B-238 Research, Large Area, Type A
- B-239 Research, Large Area, Type B
- \* B-240 Research, Medical (924 sf per 6 personnel lab.)

SERIES 300 - OFFICE FACILITIES

- B-310 Office (100-150 s.f.)
- B-311 Office (150+ s.f.)
- B-350 Conference Room (to 25)
- B-351 Conference Room (Advanced T.V.)
- B-360 Open Office Area w/Modular Work Stations (100 s.f. per station)

\* Added April 29, 2002

### SERIES 400 - STUDY FACILITIES

B-410	Reading/Study Room
B-410a	Computer Commons
B-420	Stacks
B-430	Open Stack Reading Room
B-440	Library Work room
B-450	Individual Study Room
* B-460A	Archive/Artifacts Storage, 4000 s.f.
* B-460B	Archive/Artifacts Exhibition, 2000 s.f.

### SERIES 500 - SPECIAL USE (ATHLETIC)

B-520	Athletic/Physical Education/Recreation (Locker, Shower)
B-521	Athletic/Physical Education/Recreation (Large Gym)
B-522	Athletic/Physical Education/Recreation (Small Gym)
B-523	Athletic/Physical Education/Recreation (Special Courts)
B-524	Athletic/Physical Education/Recreation (Spectator Seating)

### SERIES 500 - SPECIAL USE (NON-ATHLETIC)

B-530	Studio-Audio/Visual T.V.
B-540	Clinic Exam Room, Non-Health
B-570	Animal Quarters (Research Medical and Biological)
B-571	Animal Quarters (Research Agricultural)
B-580	Greenhouse (Propagation)
B-581	Greenhouse (Testing)
* B-590	Clean Room (Class 100), 2700 s.f.
* B-591	Clean Room (Class 1000), 2700 s.f.

### SERIES 600 - GENERAL USE FACILITIES

B-610	Theater (House Side)
B-611	Theater (Stage and Back, Performing)
B-612	Theater (Stage and Back, Music Concert)
B-620	Specialized Museum Space
B-630	Food Facility - Prep/Serving
B-631	Food Facility - Dining
B-632	Concessionaire - Fast Food
B-650	Lounge, Lobby, Waiting
B-660	Book Store, Shops
B-680	Large Meeting, Conference, Ball Room

### SERIES 700 - SUPPORT FACILITIES

B-710	Data Processing (Computer Room)
B-720	Shop, maintenance (Facilities and Vehicles)
B-730	Warehouse
B-740	Vehicle Storage (Enclosed) NAU Only

\* Added April 29, 2002

SERIES 800 - HEALTH CARE (INFIRMARY)

B-810 Patient Room and Bath  
B-830 Nurse Station  
B-840 Emergency Room  
B-850 Treatment  
B-860 Medical Laboratory  
B-880 Waiting  
B-890 X-Ray Radiology

SERIES 900 - RESIDENTIAL

B-910 Residence Hall Rooms (with Common Bath)  
B-919 Residence Hall Rooms (with Private Bath)  
B-920 Residence Hall Rooms (2 Rooms with Common Bath)  
B-950 Apt. With Cooking Facilities

NON-ASSIGNABLE AREAS

B-WWW Circulation  
B-XXX Custodial  
B-YYY Mechanical/Electrical  
B-ZZZ Public Toilet Room

**COMPARISON OF CODES**

<b>P.E.F.I. &amp; C.M.</b>	<b>C.C.C. &amp; P.F.G.</b>
<b>100 Classroom Facilities</b>	<b>100 Classroom Facilities</b>
115 Classroom Service	Adjacent service facility priced the same as the areas being served.
110 Classroom	B-110 Classroom, Seminar (to 25)
	B-111 Classroom, Seminar (to 40)
	B-112 Lecture Classroom (to 75)
	B-113 Lecture Classroom with ITFS (to 75)
	B-114 Lecture Classroom (200) Type A
	B-115 Lecture Classroom (200) Type B
	B-116 Studio Classroom
	B-117 Exhibit Space
	B-118 Music Room, Large Group
	B-119 Music Room, Practice, Small Group
	B-120 Highly Mediated, Lecture Classroom (to 400)
	B-121 Highly Mediated, Classroom (to 45)
	B-122 Highly Mediated, Classroom (to 70)
	B-123 Multi-Media, Classroom (to 250)
	B-124 Interactive TV, Lecture Classroom (to 90)
	B-125 Interactive TV, Classroom, Flexible Arrangement (to 40)
	B-126 Interactive TV, Classroom, Fixed Arrangement (to 40)
<b>200 Laboratory Facilities</b>	<b>200 Laboratory Facilities</b>
215 Class Laboratory Service	Adjacent service facility priced the same as the laboratory.
255 Research/Nonclass Laboratory Service	
210 Class Laboratory	B-210 Class Laboratory (to 30) Type A
	B-220 Class Laboratory (to 30) Type B
	B-221 Class Laboratory (to 30) Type C
225 Open Laboratory Service	B-225 Hazardous Material Storage
220 Open Laboratory	B-230 Individual Study Laboratory (to 30) Type A
	B-235 Individual Study Laboratory (to 30) Type B

<b>P.E.F.I. &amp; C.M.</b>	<b>C.C.C. &amp; P.F.G.</b>
250 Research/Nonclass Laboratory	B-236 Individual Study/Research Laboratory Small, Type A
	B-237 Individual Study/Research Laboratory Small, Type B
	B-238 Research, Large Area, Type A
	B-239 Research, Large Area, Type B
<b>300 Office Facilities</b>	<b>300 Office Facilities</b>
310 Office	B-310 Office (100-150 SF)
	B-311 Office (150 + SF)
315 Office Service	
350 Conference Room	B-350 Conference Room (to 25)
	B-351 Conference Room (Advanced TV)
355 Conference Room Service	
	B-360 Open Office Area w/modular work stations (100 SF per station)
<b>400 Study Facilities</b>	<b>400 Study Facilities</b>
410 Study Room	B-410 Reading/Study Room
	B-410a Computer Commons
420 Stack	B-420 Stacks
430 Open-Stack Study Room	B-430 Open-Stack Reading Room
440 Processing Room	B-440 Library Work Room
	B-450 Individual Study Room
455 Study Service	
<b>500 Special Use Facilities</b>	<b>500 Special Use Facilities (Athletic)</b>
510 Armory	
515 Armory Service	
520 Athletic or Physical Education	B-521 Athletic/Physical Education/Recreation (Large Gym)
	B-522 Athletic/Physical Education/Recreation (Small Gym)
	B-523 Athletic/Physical Education/Recreation (Special Courts)
523 Athletic Facilities Spectator Seating	B-524 Athletic/Physical Education/Recreation (Spectator Seating)
525 Athletic or Physical Education Service	B-520 Athletic/Physical Education/Recreation (Locker, Shower)

<b>P.E.F.I. &amp; C.M.</b>	<b>C.C.C. &amp; P.F.G.</b>
	<b>500 Special Use (non-Athletic)</b>
530 Media Production	B-530 Studio-Audio/Visual TV
535 Media Production Service	
540 Clinic	B-540 Clinic, Exam Room, Non-Health
545 Clinic Service	
550 Demonstration	
560 Field Building	
570 Animal Quarters	B-570 Animal Quarters (research Medical or Biological)
	B-571 Animal Quarters (research Agriculture)
575 Animal Quarters Service	
580 Greenhouse	B-580 Greenhouse (Propagation)
	B-581 Greenhouse (Testing)
585 Greenhouse Service	
<b>600 General Use Facilities</b>	<b>600 General Use Facilities</b>
610 Assembly	B-610 Theater (House Side)
615 Assembly Service	B-611 Theater (Stage & Back, Performing)
	B-612 Theater (Stage & Back, Music Concert)
620 Exhibition	B-620 Specialized Museum Space
625 Exhibition Service	
630 Food Facility	B-631 Food Facility-Dining
	B-632 Concessionaire - Fast Food
635 Food Facility Service	B-630 Food Facility-Prep/Serving
640 Day Care	
645 Day Care Service	
650 Lounge	B-650 Lounge, Lobby, Waiting
655 Lounge Service	
660 Merchandising	B-660 Book Store, Shops
665 Merchandising Service	
670 Recreation	B-680 Large Meeting, Conference, Ball Room

P.E.F.I. & C.M.	C.C.C. & P.F.G.
675 Recreation service	
680 Meeting Room	B-680 Large Meeting, Conference, Ball Room
685 Meeting Room Service	
<b>700 Support Facilities</b>	<b>700 Support Facilities</b>
710 Central Computer or Telecommunications	B-710 Data Processing (Computer Room)
715 Central Computer or Telecommunications Service	
720 Shop	B-720 Shop, Maintenance (Facilities and Vehicles)
725 Shop Service	
730 Central Storage	B-730 Warehouse
735 Central Storage Service	
740 Vehicle Storage	B-740 Vehicle Storage (Enclosed) NAU ONLY
750 Central Service	
755 Central Service Support	
760 Hazardous Materials	
765 Hazardous Materials Service	
<b>800 Health Care Facilities</b>	<b>800 Health Care Facilities</b>
810 Patient Bedroom	B-810 Patient Room and Bath
815 Patient Bedroom Service	
820 Patient Bath	B-810 Patient Room and Bath
830 Nurse Station	B-830 Nurse Station
835 Nurse Station Service	
	B-840 Emergency Room
840 Surgery	
845 Surgery Service	

<b>P.E.F.I. &amp; C.M.</b>	<b>C.C.C. &amp; P.F.G.</b>
850 Treatment/Examination	B-850 Treatment
	B-890 X-Ray Radiology
855 Treatment/Examination Service	
860 Diagnostic Service Laboratory	B-860 Medical Laboratory
865 Diagnostic Service Laboratory Support	
870 Central Supplies	
880 Public Waiting	B-880 Waiting
890 Staff On Call Facility	
895 Staff On Call Facility Service	
<b>900 Residential Facilities</b>	<b>900 Residential Facilities</b>
910 Sleep/Study Without Toilet or Bath	B-910 Residence Hall Room (with Common Bath)
919 Toilet or Bath	
920 Sleep/Study With Toilet or Bath	B-919 Residence Hall Room (with Private Bath)
	B-920 Residence Rooms (2 Rooms with Common Bath)
935 Sleep/Study Service	
950 Apartment	B-950 Apartment with Cooking Facility
955 Apartment Service	
970 House	
<b>Non Assignable Area</b>	<b>Non Assignable Areas</b>
WWW Circulation Area	B-WWW Circulation Area
XXX Building Service Area	B-XXX Custodial
YYY Mechanical Area	B-YYY Mechanical/Electrical
	B-ZZZ Public Toilet Room