Dartmouth College
Office of Planning, Design & Construction

DARTMOUTH

Building, Floor and Room Identification Standards

Fall 2013
Updated: spring 2014
Updated: fall 2014
Updated: winter 2015
Updated and Approved winter: 2019

Table of Contents

Introduction

The standards developed in this document are to inform Dartmouth staff and consultants about how space at Dartmouth College is being identified. These standards are provided for use by Architects and other consultants for projects involving new construction. Existing College buildings will also be evaluated when remodels take place.

This document provides standards for the following areas:

- Floor Numbering Standards
- Space Classifications for Rooms
- Base Drawing CAD Layering
- Maintenance of Base Drawings
- Product Submittal

These standards will allow floor and room numbering and way-finding procedures to be applied consistently to all College owned buildings. The Postsecondary Education Facilities Inventory and Classification Manual (FICM) 2006 Edition published by the National Center for Educational Statistics is the basis for our standards. Because room numbers affect emergency responders, as well as multiple campus databases systems room numbers should not be changed without a formal review process by the Office of Planning, Design and Construction.

For the design of our base plans we have adopted U.S. National CAD Standard (NCS) and expect that the drawings will be submitted in the form outlined in this document.

We understand that not all vendors use the same CAD system as Dartmouth College. However, we do expect that every vendor will include an accurate base drawing in error-free latest DWG format.

Questions may be forwarded to the Space Administrator in the office of Planning, Design & Construction:

Office of Planning, Design & Construction (OPDC)
4 Currier Place, Suite 306
Hanover, New Hampshire 03755
space.management@dartmouth.edu

1. Building and Floor Numbering Standards[1]

1.1 Buildings

Definition: A *building* is defined as a roofed structure for permanent or temporary shelter of persons, animals, plants, materials or equipment. A building may encompass many different types of structures including research vessels, aquarium structures and trailers that are not on wheels and are used for offices, residences and storage.

The buildings that are inventoried are by Dartmouth College are

- All buildings owned by the Board of Trustees of Dartmouth College
- All Buildings Leased by Dartmouth College

Minor structures are considered buildings and include those attached to a foundation, with a roof, and serviced by a utility (such as telephone) other than lighting and require maintenance and repair. Example of a minor structure is an information booth.

Dartmouth College also tracks parking structures and field structures that do not meet all the above criteria.

Buildings to be excluded:

- Hospitals not owned by the institution, except for any space in the hospital used, leased, or controlled by the institution
- Public schools not owned by the institution but used for practice teaching
- Federal contract research centers identified by the Office of Management and Budget.

1.1.1 Identification

It is of critical importance to have unique identification for all the buildings identified by Dartmouth College. The Office of Planning, Design & Construction identifies each building with 3 attributes:

Building Reference Number
The *building reference number* is a unique 4-digit code that will be indefinitely related to a building, also when the building seizes to exist. The Office of Planning & Design can assign the 4-digit code.

Building Code:
The *building code* is a unique code that will be related to each building entry. One building may have various entries in the Space Management system but only one in the As-Built portfolio. For example; after a major renovation, Dartmouth may have the need to keep the old floor plans in a *Historic Portfolio*. In that case, the renovated building will get a new *building code* assigned but the *building reference number* will not change.
The *building code* is a maximal 6-digit code reflecting the official building name. Codes are derived from every first letter of the 9-1-1 street address followed by the number. An example is: 18 Drake Lane = DL18. The Space Administrator should never change the *building code*. In the event of multiple

[1] Dartmouth College room numbers standards have been adapted from Stanford University

buildings at a single address, precede the building code with a numerically ordered number. For example, if there are multiple buildings at 200 Lebanon Street, the main building would be assigned 1LS200, then 2LS200 for the next building.

The Communications Division of the Town of Hanover holds the system of record for 9-1-1 addresses for 23 towns surrounding Hanover.[2] The space system follows their addresses. In case the location of a 9-1-1 address falls outside of the 23 towns, the State of the where the property is located will hold the system of record.

Street directions such as North, South, East, West will be abbreviated with a capital letter and completed with a period. Types of streets will be spelled out completely, such as Street, Way, Road, etc. An example is **11 W. Wheelock Street**.

Official Building Name:
The *official building name* is the primary name of the building as defined in Dartmouth's space management system. (Example: Baker Library)

1.2 Floors

Definition: A floor is defined as a structure consisting of a space or set of spaces on a single level along a vertical scale. If there is a significant change in elevation across the floor with stairs, elevators and ramps, it is left to the discretion of the OPDC to identify the area as the same floor or if it should be identified separately.

Floors are numbered using a 1-digit standard starting with '1' for the first floor and continue up for every floor above (e.g., 2=second floor, 3=third floor). In case a building has 10 floors or more, 2-digit numbers can be used.

The main entry of a building indicates the first floor. (1st Floor)

Polylines for floors will follow the standards set forth by the FICM code (https://nces.ed.gov/pubs2006/2006160.pdf Page 21 figure 3-2)

1.3 Basements and Sub-Basements

Floors below the first floor shall be designated as basement or subbasement. The floor below the first floor will be identified as Basement and have a floor code of '0'. Sub-basements or floors below the basement will be numbered starting at -1 and continuing down (e.g., -2, -* etc.).

1.4 Mezzanines

Mezzanines are assigned a two-character floor code with a preceding MEZ followed by the number of the floor below (e.g., "MEZ2" where '2' is the floor below). A mezzanine is defined as a partial floor located between structural floors.

1.5 Attics

Attics are assigned a two-character standard floor code value of AT. An attic area is defined as the accessible floor area above the top floor which is greater than 3' in height.

[2] For more information: http://www.hanovernh.org/Pages/HanoverNH_Police/commdocs/comm?textPage=1

1.6 Roofs

Roofs are assigned a two-character standard code value of RF. A roof is defined as the exterior surface on the top of a building.

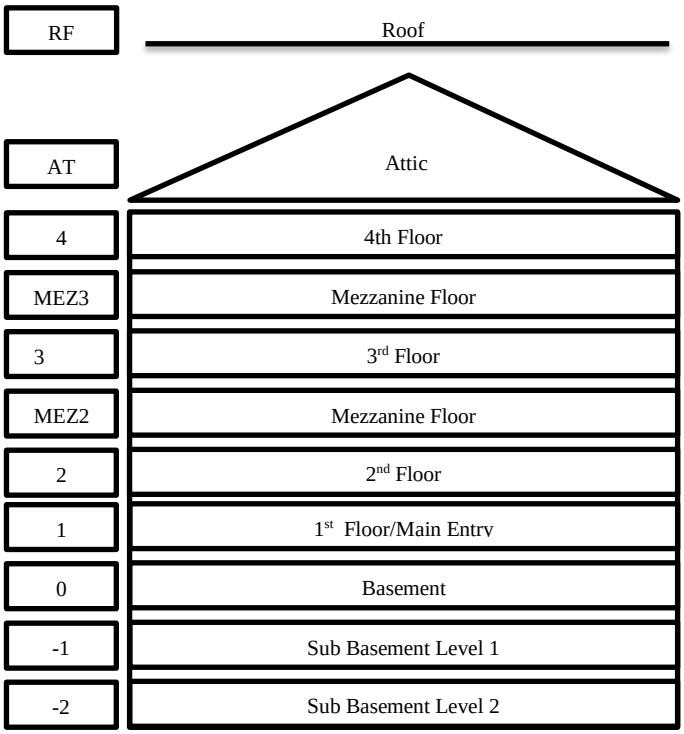

Figure 1

2 Space Numbering Standards

2.1 Rooms

Rooms are generally numbered using a standard three-digit numbering scheme (e.g., 102, 137, 246). Four-digit room numbers can be used in buildings that are more than 9 floors (e.g., 1001, 1002, 1033). Room numbers in basements start with B and sub- basements with SB (e.g. B002, SB102, SB204A) Common areas will be specified before the space number (M101, MB001, MSB001, CB001, RB001)

Space polylines will be delineated by the interior of the wall. Closets in dorm rooms and single occupant offices will be polylined as part of the room.

2.2 Lobby

The main lobby/entrance can be numbered C100 if on the first floor. Offices should be numbered starting with 101 to the left of the main lobby and continuing clockwise.

2.3 Single Corridor Buildings

In a building with only one dividing corridor, room numbers should flow in ascending order from one end of the building to the other starting from the main entrance with even numbers on the left and odd numbers on the right. See Figure 2.

In case there are many more doors on one side of the building, the room number will be assigned the next number no matter if the door is left or right.

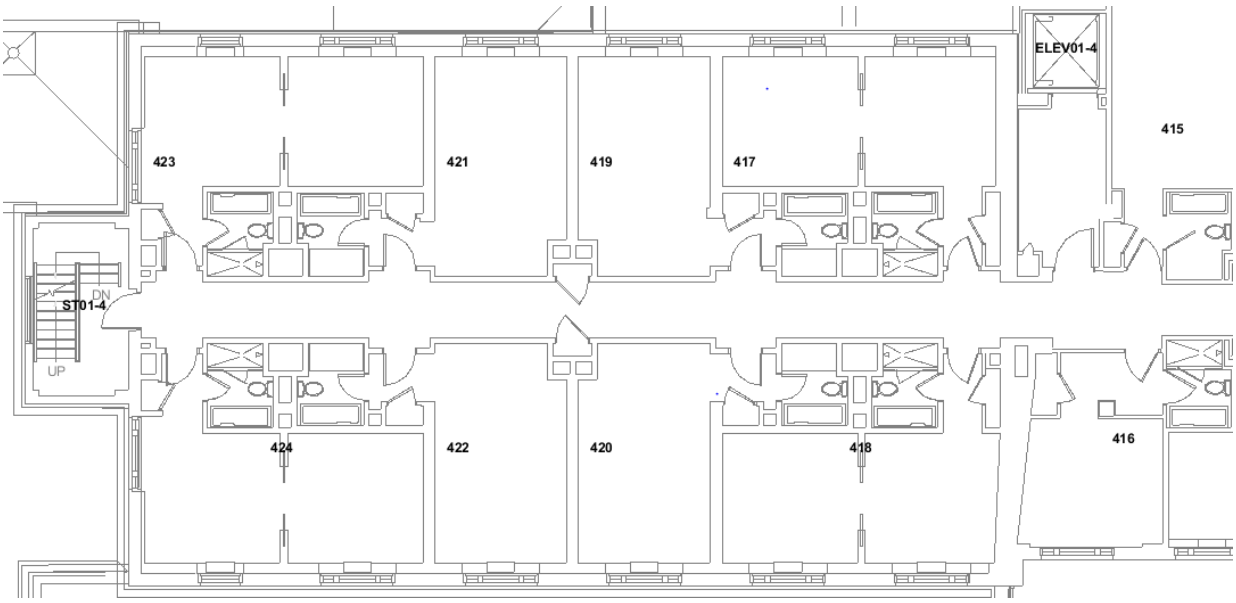

Figure 2

2.4 Complex Corridor System

In a building with a more complex corridor system, numbers should follow in ascending order with a default in the clockwise direction from the main entrance ensuring standard is easy to follow for way-finding.

2.5 Positioning of Numbers

To the greatest extent possible, rooms with the same digit in the last two positions should be located in the same position in the building (e.g., rooms 110, 210 and 310 should all occur in the same vertical stack).

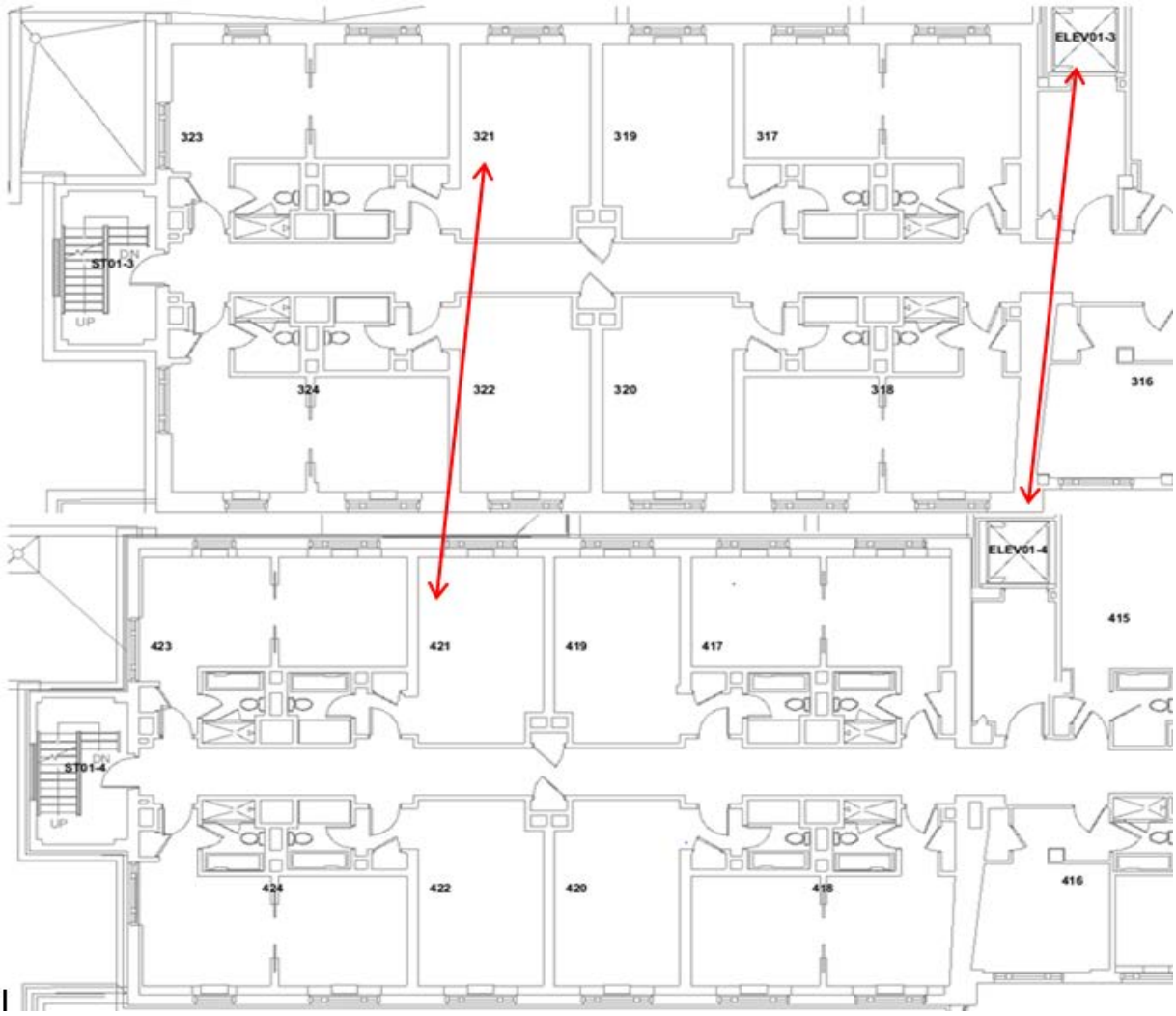

Figure 3

2.6 Suites and Sub-Rooms within Suites

Suites are identified as having one entrance and are generally numbered using the 3-digit standard (i.e., STE-100 or APT-100). Depending on the area layout, rooms inside of a large suite-like room that has more than one entrance may or may not be numbered using the sub-room standard.

Rooms within a suite (sub-rooms) are numbered with the entrance room number plus a letter suffix (100A, 100B, 100C) beginning with the room closest to the main entrance of the suite and proceeding in a clockwise direction.

spaces inside sub-rooms are numbered with an additional letter. Example, 100AA would be assigned to a room within sub-room. Example 2, A closet within an office(100A) located in a suite (STE-100) would be 100AA.

Suite & apartment polylines will use the BOMA standards. Suite & apartment polylines should never overlap.

2.7 Open Offices

Each row of open offices should have their distinct room number. Each open office within the space is designated using this room number followed with a letter. Letters are in double digit alphanumeric order from the main corridor. If there is no dividing wall, keep on following alphabetically room numbering.

Figure 4

2.8 Space Naming

Special space numbers are given to building common areas. Below are the current standards for building common areas.

Elevators:	ELEV01-1, ELEV02-1
Stairs:	ST01-1, ST02-1
Shafts:	SHFT01-1, SHFT02-1
Bathrooms/Showers/Restrooms:	R101
Mechanical/Telecom/Custodial:	M101
Corridors/Hallways/Vestibules/Lobbies:	C101

NOTE: The floor level of all vertical penetrations (stairs, shafts, etc.) will be indicated after the '-'. Example: The stair number ST01-2 means stair on – level 2.

2.9 Parking Spaces in Garages

Garages will be polylined as one large room including the circulation area for the vehicles and individual parking spaces. To preserve individual parking spaces, they can be polylined and brought in via the “0” Layer so they don’t affect reporting.

2.10 Exceptions to FICM guidelines

Dartmouth College has exceptions to the FICM standards:

2.10.1 Greek and Affinity houses are treated as residence halls at the Space Level. This allows Dartmouth to identity the type of rooms and therefore the efficiency of those houses. This is as an exception to FICM code 970

2.10.2 We keep track of privately-owned Greek and Affinity houses if we control the network services and/or ORL room assignments.

2.10.3 Janitor Closets, (FICM code X01 Custodial Supplies), *within ORL residence halls* have been assigned to business sub unit: Residential Ops. FICM classifies these as unassignable spaces; however, they have been assigned to Residential Ops as ORL employs the custodial staff. **This will change by July 2015.**

3 Base Drawing Standards

In order to maintain floor plan consistency, OPDC has developed standards for base drawings[3].

3.1 Naming Convention

Floor plans will be delivered with the following naming convention:

A-XXXXXX-XX
A-baker-00

A= architectural
XXXXXX = Max. 6-character Building code assigned by OPDC
XX = indicates which floor level

3.2 General Layer List

Dartmouth has adopted the latest U.S. National CAD Standard (NCS) and requires the drawings to be delivered as follows:

[3] A Base Drawing is a drawing which is used as basic information for further use of possible projects reflecting the current situation of the architectural structures

General layer list of base drawings:

General Layer List			
Layer Name	**Color**	**Linetype**	**Description**
0	White	Continuous	
A-Anno-Ttlb	111	Continuous	Title block
A-Cols	110	Continuous	Columns
A-Comm	150	Continuous	Tele/Data
A-Door	150	Continuous	Door
A-Eqpm	90	Continuous	Equipment
A-Flor-Case	10	Continuous	Built-ins
A-Flor-Evtr	232	Continuous	Elevator
A-Flor-Pfix	140	Continuous	Plumbing Fixtures
A-Flor-Strs	12	Continuous	Stairs
A-Flor-Tptn	181	Continuous	Toilet Partitions
A-Furn	10	Continuous	Furniture
A-Glaz	92	Continuous	Windows
A-Grid	173	Center2	Column Grid Lines
A-Grid-Iden	171	Continuous	Column Grid Numbers
A-Roof	20	Continuous	Roof
A-Wall	50	Continuous	Wall
A-Wall-Abov	32	HIDDEN2	Wall Above
A-Wall-Blow	30	Continuous	Wall Below
A-Wall-Chas	32	Continuous	Chase
Defpoints	White	Continuous	
RA-Area	173	Continuous	Interior Area Polygon
RA-Area-Extr	White	Continuous	Exterior Area Polygon
RA-Area-Iden-Name	211	Continuous	Room Name
RA-Area-Iden-Numb	131	Continuous	Room Number
Ra-Area-Zone-Iden-Name	red	Continuous	Apartment or Suite Number
Ra-Area-Zone-Iden-Numb	red	Continuous	Apartment or Suite Name
RA-Area-Zone	red	Continuous	Apartment or Suite Area Polygon
VP	8	Continuous	View Ports
Camera	yellow	Continuous	Camera
Cat6	blue	Continuous	CAT6 Jacks
Telephone	green	Continuous	Telephone
Wireless	magenta	Continuous	Wireless
F-Prot-Eqpm	10	Continuous	Fire Protection Equipment

RA-Area-Extr is the exterior area polygon and should be poly-lined by measuring the outer face of the exterior walls, excluding major vertical penetration areas (e.g. atriums), low height spaces (under 3 Feet), unexcavated basements and other significant voids.
RA-Area is the net usable area of a building. It is the interior area of a space and should be polylined by measuring the inner face of the walls. It is the sum of the assignable and assignable areas.[4]

3.3 Other

- Each drawing will have to be delivered clean and purged.
- Do not use X-refs in drawings.
- Basepoints must be consistent from floor to floor in real world GIS coordinates.
- Use D-Text type for room numbers
- The Insertion Point and Text need to be within the P-line boundary.

[4] See Chapter 3 of the Postsecondary Education Facilities Inventory and Classification Manual (FICM): 2006 Edition

4 How to maintain Base Drawings

The OPDC Space administrator is responsible for the maintenance of the base drawings. Once the Space administrator has confirmed the reception of the base drawings the following has to be done in CenterStone:

- Add a new floor plan,
- Replace an updated floor plan or
- Integrate the new partial floor plan into an existing floor plan

4.1 Floor plans

Floor plans are stored in CenterStone. Any structural drawing layer will be maintained in AutoCAD. This includes: All Building Geometry (Architectural) layers and Polylines. After updating the floor plans they will be imported back into CenterStone. All other space related attributes have to be maintained in CenterStone.

5 Floor plan delivery workflow

5.1 How do we get the information?

Close out of projects with new floor plans can be done in potentially 3 places:

1. The Space administrator must accept the project as the first part of the E-Builder Workflow
    a. A project will only be accepted for closeout if drawings of architectural changes have been provided to the Space Admin in a CAD format
    b. E-builder and the capital program controls coordinator are responsible for E-builders workflow, a project will
2. If the project is under $50,000 a Check-list that John keeps track of will be used.
    a. The checklist will provide the Space Admin with the Project Manager name as well as how far along the project is. This will allow the Space Admin to request updated CAD drawings, if they are not provided.
3. Floor plans created outside OPDC (EG REP Purchases)
    a. REO sends transaction memos to the Space Admin for all property purchases and sales
    b. It is the responsibility of the Space Admin to find out if drawings exist and to track them down once a transaction memo is received.
    c. If no drawing exists for a property, the Space team will create one.

No one should be able to close out a project without sending an updated floor plan to the Space software administrator. Space administrator confirms that the CAD files are received in the right standard.

Appendices

Facilities Inventory and Classification Codes and Descriptions

Dartmouth FICM Codes			
Assignable Area			
000	Unclassified		
		050	Inactive Area
		060	Alteration Area
		070	Unfinished Area
100	Classroom Facility		
		110	Classroom
		115	Classroom Service
200	Lab Facilities		
		210	Class Laboratory
		215	Class Laboratory Service
		220	Open Laboratory
		225	Open Laboratory Service
		250	Non-Class Laboratory
		255	Non-Class Laboratory Service
300	Office Facilities		
		310	Office
		315	Office Service
		350	Conference Room
		355	Conference Room Service
400	Study Facilities		
		410	Study Room
		420	Stack
		430	Open-Stack
		440	Processing Room
		455	Study Service
500	Special Use Facilities		
		520	Athletics/Physical Education
		523	Spectator Seats
		525	Athletics/Physical Education Service
		530	Media Production
		535	Media Production Service
		540	Clinic
		545	Clinic Service
		550	Demonstration

		555	Demonstration Service
		560	Field Building
		570	Animal Facilities
		575	Animal Facilities Service
		580	Greenhouse
		585	Greenhouse Service
		590	Other Special
600	General Use Facilities		
		610	Assembly
		615	Assembly Service
		620	Exhibition
		625	Exhibition Service
		630	Food Facility
		635	Food Facility Service
		640	Day Care
		645	Day Care Service
		650	Lounge
		655	Lounge Service
		660	Merchandising
		665	Merchandising Service
		670	Recreation
		675	Recreation Service
		680	Meeting Room
		685	Meeting Room Service
700	Supporting Facilities		
		710	Central Computer- Telecommunications
		715	Central Computer - Telecom Service
		720	Shop
		725	Shop Service
		730	Central Storage
		735	Central Storage Service
		740	Vehicle Storage
		745	Vehicle Storage Service
		750	Central Service
		755	Central Service Support
		760	Hazardous Materials Storage
		765	Hazardous Waste Storage
		770	Hazardous Waste Storage

		775	Hazardous Waste Service
800	Health Care Facilities		
		810	Patient Bedroom
		815	Patient Bedroom Service
		820	Patient Bath
		830	Nurse Station
		835	Nurse Station Service
		840	Surgery
		845	Surgery Service
		850	Treatment/Examination Clinic
		855	Treatment/Examination Clinic Service
		860	Diagnostic Service Laboratory
		865	Diagnostic Service Lab Support
		870	Central Supplies
		880	Public Waiting
		890	Staff On-Call Facility
		895	Staff On-Call Facility Service
900	Residential Facilities		
		910	Sleep/Study Without Toilet or Bath
		919	Toilet or Bath
		920	Sleep/Study With Toilet or Bath
		935	Sleep/Study Service
		950	Apartment
		951	One Bedroom
		952	Two Bedroom
		953	Three Bedroom
		954	Four Bedroom
		955	Apartment Service
		970	House
Nonassignable Area			
WWW	Circulation Area		
		W01	Bridge/Tunnel
		W02	Elevator
		W04	Loading Dock
		W05	Lobby
		W06	Public Corridor
		W07	Stairway
XXX	Building Service Area		

		X01	Custodial Supplies
		X02	Janitor Room
		X03	Unisex Restroom
		X20	Womens Restroom
		X21	Mens Restroom
		X22	Shower
YYY	Mechanical Area		
		Y03	Shaft
		Y04	Utility Mechanical Space
		Y20	Basement
		Y21	Roof
		Y22	Electrical
Infrastructure			
AAA	Athletics - Outdoor		
		AAA01	Arenas - Open Air
		AAA02	Baseball Fields
		AAA03	Basketball Courts
		AAA04	Bleachers
		AAA05	Circuit Training Courses
		AAA06	Climbing Walls
		AAA07	Dugouts
		AAA08	Field Light Poles
		AAA09	Grass Playing Fields
		AAA10	Hard Playing Surfaces
		AAA11	Press Boxes
		AAA12	Rope Course Elements
		AAA13	Running Tracks
		AAA14	Scoreboards
		AAA15	Shooting Ranges
		AAA16	Ski Lifts
		AAA17	Softball Fields
		AAA18	Stadiums
		AAA19	Swimming Pools - Open Air
		AAA20	Synthetic Fields
		AAA21	Tennis Courts
		AAA22	Volleyball Courts
		AAA23	Other Athletic - Outdoor
EEE	Equipment		
		EEE01	Attachments

		EEE02	Hand-held/Worn
		EEE03	Mobile Carts - Drivable
		EEE04	Riding
		EEE05	Walk Behind
		EEE06	Other Misc & Not Defined Equipment
GGG	Grounds		
		GGG01	Arboretums
		GGG02	Fairways
		GGG03	Flower Beds
		GGG04	Hedges
		GGG05	Putting Greens
		GGG06	Shrub Beds
		GGG07	Trees - General
		GGG08	Trees - Forest Preserve
		GGG09	Turf - General
		GGG10	Woody Shrubs
		GGG11	Other Misc and Not Defined Grounds
LLL	Land and Land Elements		
		LLL01	Pastures
		LLL02	Preserve Areas
		LLL03	Undeveloped Property
		LLL04	Water Bodies (ponds and lakes)
		LLL05	Other Misc and Not Defined Land
MMM	Miscellaneous Structur		
		MMM01	Amphitheaters
		MMM02	Bridges - Pedestrian
		MMM03	Bridges - Vehicular
		MMM06	Flagpoles
		MMM07	Haz Waste Collection/Storage Sheds
		MMM08	Memorial/Donated Structures
		MMM09	Retaining Walls
		MMM10	Solid Waste Transfer Stations
		MMM11	Statues
		MMM12	Tanks - Fuel
		MMM13	Tanks - Water
		MMM14	Tower-Free Standing & Guy Support
		MMM15	Waterfront Piers/Docks
		MMM16	Other Misc & Not Defined Structure

		MMMO4	Bus Shelter
		MMMO5	Fences & Gates
RRR	Retired Demolished Inf		
		RRR01	Name of 1st element retired
		RRR02	Name of 2nd element retired, etc.
SSS	Site Furnishings		
		SSS01	Ash Receptacles
		SSS02	Benches
		SSS03	Bike Racks
		SSS04	Bollards
		SSS05	Cemeteries
		SSS06	Drinking Fountains
		SSS07	Grills - Outdoor
		SSS08	Hardscape - Walkways
		SSS09	Parking Lots
		SSS10	Parking Meters
		SSS11	Picnic Tables
		SSS12	Plaques & Monuments
		SSS13	Ramps
		SSS14	Recycling Receptacles
		SSS15	Hardscape - Roadways
		SSS16	Signage - Exterior
		SSS17	Trash Receptacles
		SSS18	Other Misc and Not Defined
UUU	Utilities Distribution		
		UUU01	Cable TV
		UUU02	Data
		UUU03	Electric - High Voltage
		UUU04	Electric - Low Voltage
		UUU05	Electric - Secondary
		UUU06	Energy Management
		UUU07	Fire Alarm
		UUU08	Fuel Distribution
		UUU09	Fuel Storage
		UUU10	Lighting Pedestrian
		UUU11	Lighting Streets
		UUU12	Natural Gas
		UUU13	Sanitary Sewer

		UUU14	Security
		UUU15	Steam
		UUU16	Storm Water
		UUU17	Telephone - Campus
		UUU18	Telephone Emergency
		UUU19	Telephone - Public
		UUU20	Water - Chilled
		UUU21	Water - Fire Protection
		UUU22	Water - Heating
		UUU23	Water - Irrigation
		UUU24	Water - Potable
		UUU25	Other Defined Utility Dist System
VVV	Vehicles		
		VVV01	Athletics Department
		VVV02	Campus General Use
		VVV03	Central Services-mail/ship/receive
		VVV04	Physical Plant/Facilities Dept
		VVV05	Other Misc & Not Defined Vehicles