BIM4Design comparative analysis and usage of drawing naming order in accordance with BS EN ISO 19650-2:2018

1. 2. 3. 4. 5. 6. 7.

PPP-OOO-ZZ-ZZ-DR-A-XXXXXX

Document prepared by Ronald Lammerts van Bueren
on behalf of the BIM4Design forum.

BIM 4 DESIGN

Introduction

BIM4Design

The ABDforum was established in 2014 by a group of digital resource professionals who implemented, led and supported BIM and digital design tools within architectural design practices.

In 2016, under the UK BIM Alliance, the ABDforum became known as the BIM4 group and was later renamed BIM4Design.

The forum includes representation from a range of sectors directly related to interoperable design processes: architects, landscape architects, BIM consultancies and design software developers.

Our mission statement

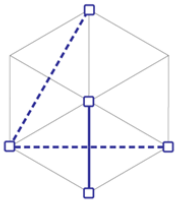
"BIM4DESIGN is an impartial discussion forum which exchanges and shares Building Information Modelling (BIM) solutions, ideas and best practice relating to building design.

The forum currently shares experiences of all types of design software, BIM workflows, technical issues and related technology, providing impartial feedback and guidance on BIM design procedures.

The group is driven by the combined and shared experience individuals bring to the forum. All members currently implement, lead and support BIM and digital design tools within their practices and represent small, medium and large national and international firms.

Building design teams are frequently the initiators of BIM. For any BIM procedure to excel and be a major asset throughout all the design phases of a building project, it is crucial to set BIM parameters early. It is also essential that future development of BIM is focused on enabling better design as well as facilitating a more effective delivery.

As BIM has become more ingrained in our design practices, the technology has evolved, our knowledge has expanded and the forum has been able to widen its focus. The members now also include BIM professionals representing a range of sectors directly related to the interoperable design processes: architects, landscape architects, and design software developers."



BIM4Design members and contributors to this project are:

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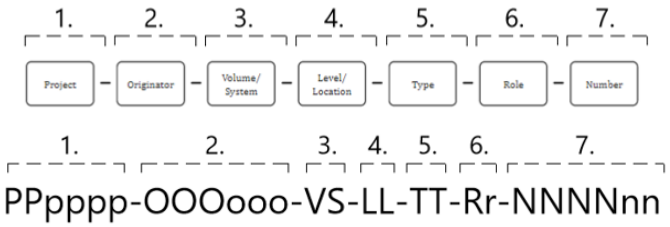
Project objective

As a group we have analysed the BS EN ISO 19650-2:2018 information container identification nomenclature that we apply to our design drawing documentation.

We have compared how members from our forum apply the naming conventions to accommodate their requirements, such as drawing order. On comparison we found that we all applied a similar method.

The objective of this document and its content is to make the wider BIM community aware of the practical use of the drawing naming conventions and how it impacts on us on a daily basis. We do recognise that these solutions are biased towards architecture and we welcome feedback from other groups.



The definition as per National Annex BS EN ISO 19650-2:2018

To define this we need to understand the structure of the nomenclature.

1. Project

A single common project identifier should be defined at the initiation of the project. It should be independent and recognizably distinct from any individual organization's internal job number and be fixed within the project information standard. It is recommended that the code for the project field be between two and six characters in length.
NOTE 1 There are no standard codes for the project field.
NOTE 2 A project can be divided into sub-projects.
NOTE 3 Where a project involves several elements or one element with several phases, each element or phase can be assigned an identifier.

Members found that subdivision of the larger projects using the same project Identifier, into zones or phases needs to be clarified, Note 2/3, can this be added as a separate string?

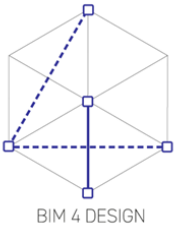
2. Originator

A unique identifier should be defined for each organization on joining the project, to identify the organization responsible for producing the information within the container, and fixed within the project information standard. It is recommended that the code for the originator field be between three and six characters in length.
NOTE Where a project involves several elements or one element with several phases, each element or phase can be assigned an identifier.

3. Volume/System

A unique identifier should be defined for each volume/system and fixed within the project information standard. It is recommended that the code for the volume/system field be two characters in length. The following standard codes should apply.
ZZ all volumes/systems
XX no volume/system applicable
NOTE This list can be expanded with project-specific codes.

Instead of using a sub-project code, this field often gets populated for the Zoning/Phasing



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4. Level/Location

A unique identifier should be defined for each level/location and fixed within the project information standard. It is recommended that the code for level/location field be two characters in length. The following standard codes should apply.

ZZ	multiple levels/locations		
XX	no level/location applicable	M1	mezzanine above level 01
00	base level	M2	mezzanine above level 02, etc.
01	level 01	B1	Basement Level 1
02	level 02, etc.	B2	Basement Level 2

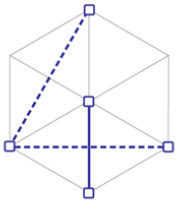
NOTE 1 This list can be expanded with project-specific codes.
NOTE 2 The location codes for assets other than buildings are likely to require project-specific codes.

This does not allow for buildings over 99 levels or 9 basements. Also Mezzanine floors are not ordered with their associated floor levels.

5. Type

A unique identifier should be defined for each type of information, to identify the type of information held within the information container, and fixed within the project information standard. It is recommended that the code for the type field be two characters in length. The following standard codes should apply.

AF	animation file (of a model)
BQ	bill of quantities
CA	calculations
CM	combined model (combined multidiscipline model)
CO	correspondence
CP	cost plan
CR	clash rendition
DB	database
DR	drawing rendition
FN	file note
HS	health and safety
IE	information exchange file
M2	2D model
M3	3D model
MI	minutes / action notes
MR	model rendition for other renditions, e.g. thermal analysis, etc.
MS	method statement
PP	presentation
PR	programme
RD	room data sheet
RI	request for information
RP	report
SA	schedule of accommodation
SN	snagging list
SP	specification
SU	survey



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6. Role

A unique identifier should be defined for each role on the project that an organization is assigned and fixed within the project information standard. It is recommended that the code for the role field be one or two characters in length. The following standard codes should apply.

A architect
B building surveyor
C civil engineer
D drainage, highways engineer
E electrical engineer
F facilities manager
G geographical and land surveyor
H heating and ventilation designer (deprecated)
I interior designer
K client
L landscape architect
M mechanical engineer
P public health engineer
Q quantity surveyor
S structural engineer
T town and country planner
W contractor
X subcontractor
Y specialist designer
Z general (non-disciplinary)

NOTE This list can be expanded with two character project-specific codes.

7. Number

A sequential number should be assigned to each information container when it is one of a series, not distinguished by any other of the fields. The numbering for standard coding should be fixed within the project information standard and it is recommended that it be between four and six integer numeric digits in length.

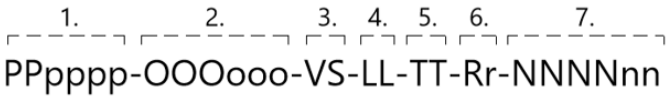
NOTE Leading zeros should be used and care should be taken not to embody information that is present in other fields

This tends to order the drawings in a drawing set. A more detailed explanation and reason is provided in this document.

How does the current nomenclature affect the drawing order?

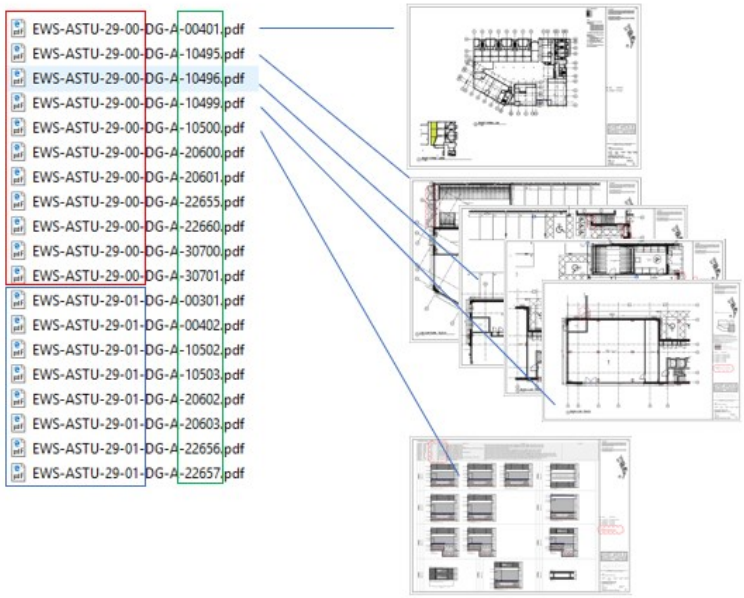
When using the “ISO” nomenclature, the drawings are grouped firstly by project, originator, volume/system then by floor level etc.

In a digital world this may be sufficient as meta data can be used to filter particular categories.



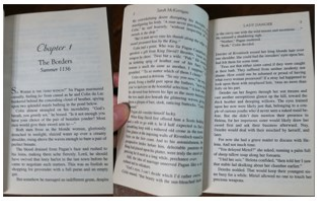
Order of grouped category sequence.

However, in practical terms, hard copy format documentation and digital document format such as pdf still rely on the file naming for ordering these documents.



An example of the order the documents appear in the explorer view. It shows drawings ordered by zone then floor categories. We do not have control over the order of the drawings.

Why is drawing order so important to us?

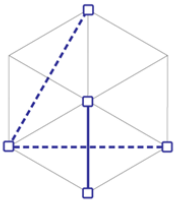


You would not read the pages of a book in the wrong order. Similarly, a set of drawings would not be read out of order.

A set of design drawings needs to be read in a particular order. It can be compared to reading a story. Our story describes how a building could be put together.

Our drawings are normally broken down into categories: cover legends, drawing lists, location, site, general arrangement drawings, detail drawings and schedules.

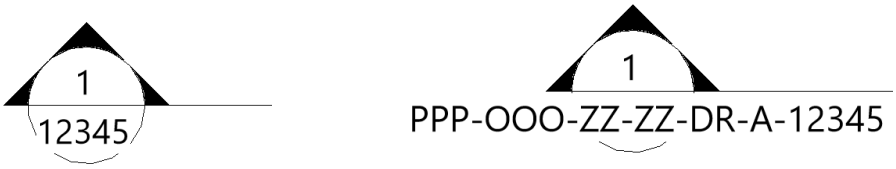
They all interact with each other through call outs.



An example of a set of drawing categories and drawing order within these sets.

The drawing order is normally defined by the drawing number. These drawing numbers should be unique, and we do not want to repeat a sequence number in the set. We use this order to be able to communicate easily between teams and to select groups of drawings for various tender packages for example. By having a unique drawing number it mitigates the risk of parties looking at different information, without relying on the whole drawing naming string.

To navigate between these drawings, we use callouts. These callouts only display the drawings' sequence numbers, as the use of the whole string would confuse, clutter and take up too much space on our drawings.



An example of callouts.

How design drawings are used on site.

In practice, when communicating on site only the sequence code is used. The use of the whole documentation string can cause confusion, i.e. instead of using: "PPP-OOO-ZZ-ZZ-DR-A-12345" often only the sequence number is used i.e. "12345".

Imagine being on the phone to a contractor discussing 10 different drawings, reading out 10 documentation strings, then finding these drawings in a hard copy drawing set.

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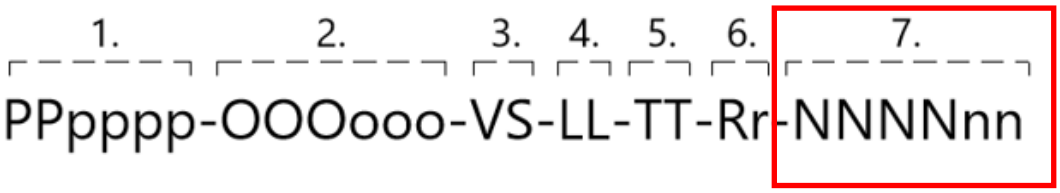
How could we create drawing order to the drawing documentation using ISO 19650-2 nomenclature?

If we focus on the 7th field and look at the definition provided by ISO 19650-2. This can be a four to six digit number.



For clarity, we have used a six digit number. This could be between four to six.

ISO 19560-2 Definition

NA.2.2 Information containers

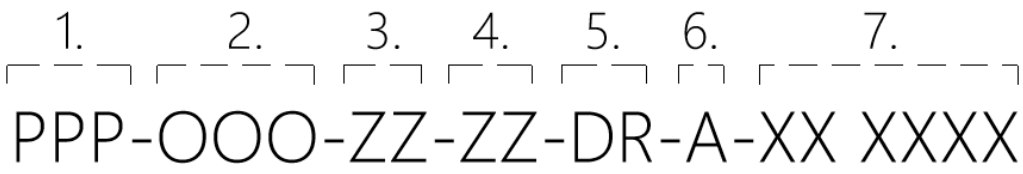
In the UK, the unique ID for information containers within a common data environment should be defined using the following fields, separated by a delimiter, in accordance with the following convention.

NA.3.8 Number

A sequential number should be assigned to each information container when it is one of a series, not distinguished by any other of the fields.

The numbering for standard coding should be fixed within the project information standard and it is recommended that it be between four and six integer numeric digits in length.

NOTE Leading zeros should be used and care should be taken not to embody information that is present in other fields.



The 7th field can be used to create order within a set of drawings. This code can then be broken up into 2 parts. A category code and a sequence.

By keeping categories 3 to 6 with the same for each drawing, the order will follow using string 7. This will require agreement and buy in of all the relevant parties.

If agreement can not be reached, then by separating the sequence code from the rest of the string, a similar result may be achieved through the use of 3rd party software solutions. These could be collaboration software such as 4P, Asite, Newforma or others which can break down the string into groups.

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Putting intelligence into the sequence code

The study group examined how forum team members use the sequence code. Some examples follow:

5 number sequence code.

6 number sequence code.

Sheets Number (First 2 digits only, digits 3 -5 are sequential sheet number as required)	
Package Code	**Description of Content**
00	Project Information, Symbols, Abbreviations and Notes
01	Site and General Setting Out
02	General Arrangement Plans
03	General Arrangement Reflected Ceiling Plans
04	General Arrangement Elevations
05	General Arrangement Sections
06	Detail Arrangement Room Layouts
07	Cladding, External Wall Systems
08	Walls and Partitions
09	Floor
10	Ceiling
11	Stair, Ramp and Walkway
12	Roof
13	Door
14	Window
15	Toilet, Kitchen and Utility
16	Metalwork and Joinery
17	Furniture and Equipment
18	Room Finish Schedule
19	Lighting
20	Electrical
21	Mechanical (HVAC)
22	Plumbing
23	Temporary Structures
24	External Works
Other numbers may be used for specific project work packages	

List of Architectural packages Table

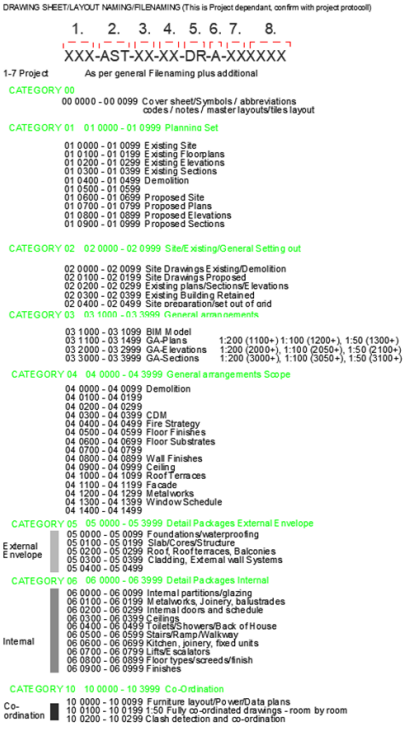
Series Code	Series Description
00	General
01	Site
10	Floor Plans (GA)
20	Building Elevations (GA)
25	Building Sections (GA)
30	Enlarged Plans
35	Enlarged Sections
40	Reflected Ceiling Plans
50	Building Enclosure
60	Interior Elevations
70	Details
80	Schedules
90	3D Views

CATEGORY

00 ****	Project Information, Symbols, Abbreviations, Drawing list and notes
01 ****	Planning Drawing set
02 ****	Site and General Setting Out
03 ****	General Arrangements/BIM Model
04 ****	Scope Drawings
05 ****	Detail Drawings External Envelope
06 ****	Detail Drawings Internal Fitout
07 ****	Co-Ordination

Other Categories can be added

10****	Furniture, Fully Co-Ordinated Power/Data plans
15****	Landscape
20****	Structural
25****	MEP



Architectural Examples

The different approaches shown here are based on defining a category number against a package/series codes. These can be defined in-house, based on a typical drawing storyboard.

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5 number sequence code.

6 number sequence code.

Building systems [422]
(0-) Building systems [422]

Substructure [789]
(11) Ground works [315]
(13) Floor beds, ground floors, basements [413]
(16) Foundations, retaining walls [101]
(17) Pile foundations [61]

Structure [7922]
(2-) Structure [613]
(21) External walls [1006]
(22) Internal walls, partitions [974]
(23) Floors, including beams [819]
(24) Stairs [388]
(27) Roofs, including beams [754]
(28) Building frames [274]
(29) Patent glazing [92]
(31) External & entrance doors/screens [377]
(31.4) Windows [1586]
(31.49) Windows: parts, acessories [451]
(31.5) Doors: industrial [435]
(31.5) Doors: general [1928]
(31.59) Doors: parts, accessories [924]
(31.9) Lintels, sills, weatherbars, other window/door parts [353]
(32) Room dividers, internal grilles etc. [285]
(33) Access floors [240]
(34) Balustrades [586]
(35) Suspended ceilings [430]
(37) Rooflights [527]

Finishes [6946]
(4-) Finishes [1040]
(41) Wall finishes: external [1627]
(42) Wall finishes: internal [1462]
(43)P Floor finishes: jointless [560]
(43)S Floor finishes: rigid tiles, slabs, mosaic [429]
(43)T Floor finishes: flexible sheets, including rubber, plastics [615]
(43)T Floor finishes: carpets [437]
(43)X Floor finishes: wood systems [477]
(43)Y Floor finishes: finishes, accessories [829]
(44) Stair finishes [192]
(45) Ceiling finishes [435]
(47) Roof finishes [2053]

Services [5777]
(52) Refuse disposal [202]
(52) Drainage [931]
(53) Hot and cold water [834]
(54) Gas, air and steam [179]
(55) Space cooling, refrigeration [63]
(56) Space heating [868]
(57) Air conditioning, ventilation [969]
(59) Flues, fuel storage, etc. [123]
(61) Electrical mains and standby supply [109]
(62) Electrical power circuits and accessories [280]
(63) Lighting [806]
(64) Communications [460]
(66) Transport: lifts, escalators, conveyors etc. [386]
(68) Security [635]
(68.5) Fire protection [290]
(68.6) Protection services [146]
(68.7) Controls for services, energy recovery [345]

Fittings [4857]
UNKNOWN [14]
(71) Circulation fittings, signs, etc. [791]
(72) Furniture and accessories [322]
(72.1) Bedroom furniture & fittings [261]
(72.3) Office & boardroom furniture [540]
(72.6) Seating, chairs, tables, tableware [503]
(73) Catering services and kitchen units [417]
(73.2) Culinary washing and waste disposal [150]
(73.4) Culinary processing: cooking and ventilation [196]
(73.5) Culinary hot and cold storage [109]
(73.8) Culinary and other vending machines [89]
(74) Sanitary and bathroom fittings [1263]
(75) Cleaning and laundry fittings [112]
(76) Storage, cloakroom fittings [570]
(76.7) Blinds and curtain tracks [389]
(77) Special fittings [1308]
(78) Soft furnishings and upholstery [235]
(78.6) Arts, craft, framing etc [192]

External works [3297]
(90.2) Minor buildings: garages etc. [518]
(90.3) Enclosures: fencing, gates etc. [767]
(90.4) Landscaping, hard surfaces, pools [1564]
(90.6) External lighting [251]
(90.7) Outdoor fittings [896]

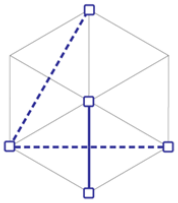
Package Code	Drawing Number	E
PL - Planning Drawings	001 - Technical Sheets	.F
00 - Title Sheet Technical Sheet Site Plan Demolition Plan Groundworks	010 - Site Plans 098 - Basement 2 099 - Basement 1 100 - Ground Floor Plan	
10 - General Arrangement	101 - First Floor Plan 102 - Second Floor Plan	
20 - Core	201 - Section 1	
21 - External Walls 22 - Internal Walls 23 - Floors 24 - Stairs & Ramps 25 - Ceilings 27 - Roofs	202 - Section 2 301 - North Elevation 302 - South Elevation 303 - East Elevation 304 - West Elevation	
31 - Windows 32 - Doors 34 - Balustrades	400 - Layout details (larger scale - but not details)	
60 - Lifts 67 - Fire Strategy	500 - Layout details (larger scale - but not details)	
71- Signage 72 - Furniture 73 - Kitchens 74 - Bathrooms	600 - Layout details (larger scale - but not details)	
90 - External Works	700 - Details 800 - Details 900 - Details	

Architectural Examples

The approaches shown here are based on defining a category number which uses a known standard numbering system, such as CI/SFB, Uniclass, Uniclass 2015, or other similar systems.

The drawback to this is that because the number of digits is restricted to a maximum of six, the numbering can only use the main categories headings.

Due to there not being a general and general arrangements category, which is crucial in a set of design drawings, those categories need to be created.



12345

5 number sequence code.

M – VW XYZ

If Document Type is a Drawing

If Document Type is NOT a Drawing

Role	Number (VW)		Equivalent Uniclass Classification Code
	##	- System Type	
P PUBLIC HEALTH	10	Disposal Systems	Ss_50_00_00_00
	11	Rainwater Drainage	Ss_50_30_02_00
	12	Above Ground Waste Water Drainage	Ss_50_30_04_00
	13	Below Ground Gravity Drainage	Ss_50_30_08_00
	20	Piped Supply	Ss_55_00_00_00
	30	Gas Distribution and Supply	Ss_55_20_00_00
	40	Water Fire Extinguishing Systems	Ss_55_30_96_00
	41	Deluge	Ss_55_30_96_21
	42	Dry Riser	Ss_55_30_96_25
	43	Sprinkler	Ss_55_30_96_85
	44	Wet Riser	Ss_55_30_96_97
	50	Water Distribution and Supply	Ss_55_70_00_00
	51	Hot and Cold Water Supply	Ss_55_70_38_00
	52	Irrigation	Ss_55_70_42_00
	53	Water Reclamation	Ss_55_70_97_00
	54	Grey Water Reclamation	Ss_55_70_97_35
	55	Rainwater Reclamation	Ss_55_70_97_70
	60	Swimming Pool Water Treatment	Ss_55_70_98_85
M COMBINED MECHANICAL	00	Heating, Cooling and Refrigeration	Ss_60_00_00_00
	10	Space Heating and Cooling	Ss_60_40_00_00
	11	Cooling	Ss_60_40_17_00
	12	Chilled Water	Ss_60_40_17_12
	13	Refrigerant Cooling	Ss_60_40_17_71
	14	Heating	Ss_60_40_37_00
	15	Low Temperature Hot Water Heating	Ss_60_40_37_48
	16	Medium Temperature Hot Water Heating	Ss_60_40_37_51
	17	Solar Heating	Ss_60_40_37_81
	20	Ventilation	Ss_65_40_00_00
	21	Smoke Extract and Control	Ss_65_40_80_00
	22	Vehicular Space Ventilation	Ss_65_40_94_00
E ELECTRICAL	00	Electrical	Ss_70_00_00_00
	10	Electricity Power Generation	Ss_70_10_00_00
	20	Earthing and Bonding	Ss_70_30_25_25
	21	High Voltage Distribution	Ss_70_30_35_35
	22	Low Voltage Distribution	Ss_70_30_45_45
	23	Small Power	Ss_70_30_80_00
	30	Lighting	Ss_70_80_00_00
	31	External Lighting	Ss_70_80_25_00
	32	General Space Lighting	Ss_70_80_33_00
	33	Central Battery Supplied Emergency Lighting	Ss_70_80_33_12
	40	Communications, Security, Safety, Control and Protection	Ss_75_00_00_00
	50	Communication	Ss_75_10_00_00
	51	Data Distribution and Telecommunications	Ss_75_10_21_00
	52	Public Communication	Ss_75_10_68_00
	53	Radio and Television Distribution	Ss_75_10_70_00
	60	Security	Ss_75_40_00_00
	61	Access Control	Ss_75_40_02_00
	62	Surveillance Systems	Ss_75_40_53_86
	63	Intruder Detection & Alarm	Ss_75_40_75_40
	70	Call and Alarm	Ss_75_50_11_00
	71	Fire Detection and Alarm	Ss_75_50_28_00
	72	Lightning Protection	Ss_75_50_45_45
	80	Metering, Monitoring and Management	Ss_75_70_54_00
	90	Transport	Ss_80_00_00_00
J GENERAL / COORDINATION	00	Testing & Commissioning, A64, etc.	PM_70
	10	Earthworks, Remediation and Temporary Systems	Ss_15_00_00_00
	20	Builders Work in Connection	PM_40_40_10
	30	Multiple/Combined Services	PM_40_40_15
	40	Services Distribution Products	PR_65_00_00_00
	41	Pipe, Tube and Fitting Products	PR_65_52_00_00
	42	Ductwork Products	PR_65_65_00_00
	43	Low Voltage Cables	PR_65_70_48_00
	44	Cable Management and Accessories	PR_65_70_11_00
	45	Access and Inspection Chambers and Gullies	PR_65_52_01_00
	50	Design Philosophy/Strategy Statement	PM_40_30_23
	51	Energy Strategy	PM_40_30_26
	52	Concept Design Submission	Ac_05_20_25
	53	Definition (Detailed) Design Submission	Ac_05_30_28
	54	Technical Design Submission	Ac_05_40_91
	55	Utilities and Services Survey Information	PM_30_10_93
	56	Planning Preparation (Reports, etc.)	Ac_05_30_64
Y ACOUSTICS	10	Acoustic Strategy	N/A
	11	In-Situ Acoustic Performance	N/A
	12	Building Element Build-ups	N/A
	13	Building Element Details	N/A
	14	Acoustic Absorption	N/A
Y SUSTAINABILITY	20	General	N/A
	21	BREEAM Pre-Assessment & Scoresheet	N/A
	22	BREEAM Planning & Stage Report	N/A
	23	Sustainability Strategy	N/A
	24	BREEAM & Sustainability Guidance Documents	N/A
	25	BREEAM Prelim and Employers Requirements Specifications	N/A
	26	Life Cycle Carbon Report	N/A
	27	Health & Wellbeing Pre-Assessment & Scoresheet	N/A
	28	Health & Wellbeing Report	N/A
	29		
Y SOFT LANDINGS	30	General	N/A
	31	Soft Landings/Aftercare Report	N/A
	32	Soft Landings Guidance Documents	N/A
	33	Soft Landings Prelim and Employers Requirements	N/A
	34	Soft Landings Schedule	N/A
	35	Building User Guide	N/A
	36	Building Performance Requirements	N/A
	37	Energy Performance Schedule	N/A
	38		
	39		
Y PASSIVHAUS	50	PHPP Calculation	N/A
	51	PHPP Supporting Information	N/A
	52	Thermal Bridging Calculation Report	N/A
	53	Report (Design Stage/Other)	N/A
	54	Specification	N/A
	55	Sketch/Drawing markup	N/A
	56	Site Inspection Report	N/A

Number (XYZ)

X - Drawing Type	YZ - Tile (if required, sequential if not)
0 Site Layout	00 All
1 Layout	01 Tile 1
2 Schematic	02 Tile 2
3 Detail	... etc
4 Section	
5 Elevation	
6 Strategy	
7 3D Views	
8	
9	

Number (XYZ)

XYZ - Sequential Numbering
000
001
002
003
... etc

MEP Building Services Examples

BIM 4 DESIGN

Conclusion

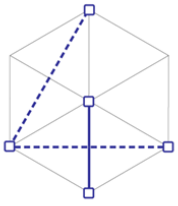
As long as there is a requirement to provide a set of design drawings, using the BIM model as a base, then the ISO 19650-2 nomenclature drawing order will remain a problem outside of the CDE.

Unless software providers, such as Microsoft and Apple can provide and allow us to break up the file naming string and individually order each group of the string, this problem will persist.

For the future, if the BIM model becomes a deliverable rather than a design/contract drawing set, then these issues will be resolved. This is what the BIM models' intention is. However, until this happens we will continue to have to accommodate to this hybrid approach.

BIM4Design has created a proposal that by making minimal changes to the current nomenclature we may be able to address this document order. This proposal has been described in:

"BIM4Design Proposal for making changes to BS EN ISO 19650-2:2018 National Annex drawing nomenclature"



BIM4Design Proposal for making changes to BS EN ISO 19650-2:2018 National Annex drawing nomenclature

EXISTING

1. 2. 3. 4. 5. 6. 7.

PPP-OOO-ZZ-LL-TT-R-XXXXXX

PROPOSED

1. 2. 3. 4. 5. 6. 7. 8.

PPP-SPp-OOO-VSs-LLl-TT-R-NNNnn

Document prepared by Stephen Holmes/Ronald Lammerts van Bueren

BIM 4 DESIGN

Introduction

BIM4Design

The ABDforum was established in 2014 by a group of digital resource professionals who implemented, led and supported BIM and digital design tools within architectural design practices.

In 2016, under the UK BIM Alliance, the ABDforum became known as the BIM4 group and was later renamed BIM4Design.

The forum includes representation from a range of sectors directly related to interoperable design processes: architects, landscape architects, BIM consultancies and design software developers.

Our mission statement

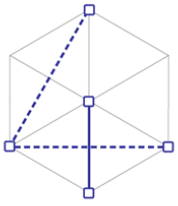
"BIM4DESIGN is an impartial discussion forum which exchanges and shares Building Information Modelling (BIM) solutions, ideas and best practice relating to building design.

The forum currently shares experiences of all types of design software, BIM workflows, technical issues and related technology, providing impartial feedback and guidance on BIM design procedures.

The group is driven by the combined and shared experience individuals bring to the forum. All members currently implement, lead and support BIM and digital design tools within their practices and represent small, medium and large national and international firms.

Building design teams are frequently the initiators of BIM. For any BIM procedure to excel and be a major asset throughout all the design phases of a building project, it is crucial to set BIM parameters early. It is also essential that future development of BIM is focused on enabling better design as well as facilitating a more effective delivery.

As BIM has become more ingrained in our design practices, the technology has evolved, our knowledge has expanded and the forum has been able to widen its focus. The members now also include BIM professionals representing a range of sectors directly related to the interoperable design processes: architects, landscape architects, and design software developers."



Project objective

As a group we have analysed the BS EN ISO 19650-2:2018 information container identification nomenclature that we apply to our design drawing documentation.

The document "BIM4Design comparative analysis of drawing naming order in accordance with BS EN ISO 19650-2:2018" describes how BIM4Design members have applied and implemented a way of working using the nomenclature code

The objective of this following document is to see how we could provide feedback and provide a workable solution and approach to the nomenclature code.

Contributors

Desired outcomes

The desire is to be able to apply the nomenclature code across all design documents/ files in a consistent format that makes it human readable inside and outside of a CDE.

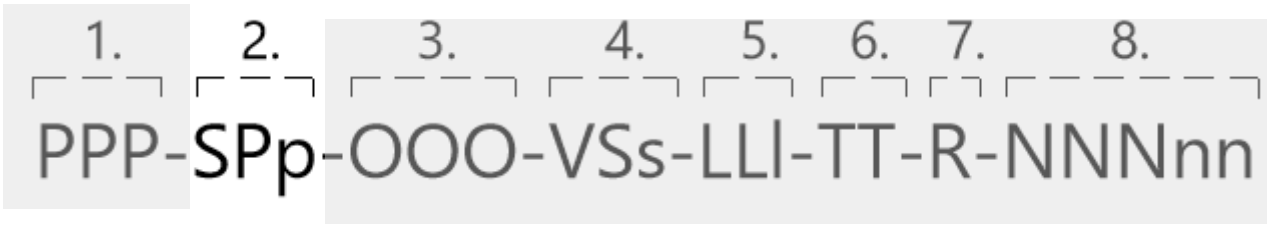
To be able to keep drawings and models in a hierarchical structure when outside of a CDE.

To be able to sequence information in a hierarchical structure from large to small= Project>Building>System>Level/Location

To be able to put System before Level/Location (currently practices are utilising the Number Sequence first 2 digital for "systems" to group drawing packages together sequentially and XX for Level/Location to create a order within the set.

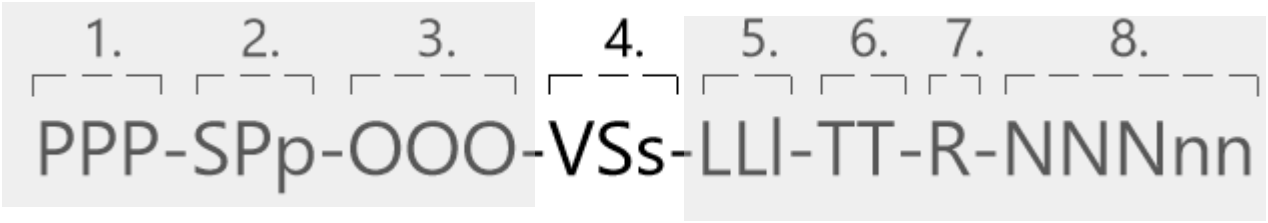
Proposed Change

Our proposed change below would extend the naming standard without causing alteration to existing implementations.



Separate the reference to a building on a project (2) with multiple buildings to facilitate using Volume/System as a System code consistently whether a single building project or multi-building project so it is applicable for small and large companies.

This would then allow us to sequence information in a hierarchical structure from large to small= Project(1)>Building(2)>Originator(3)>System(4)>Location(6)

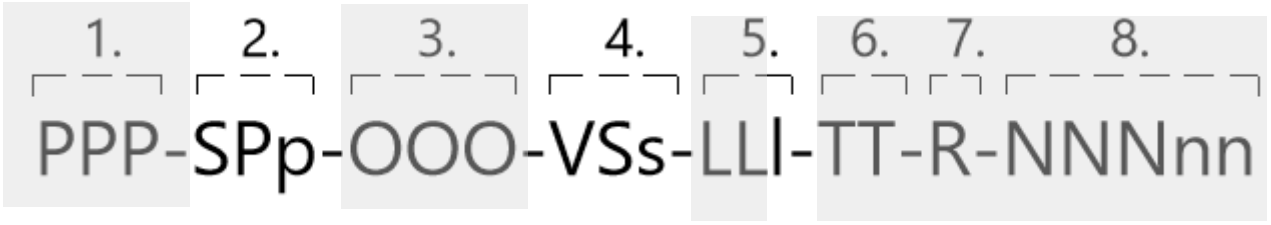


This also allows us to put System (4) before Level/Location (5) and would allow the use of Level without compromising sequencing of drawing sets for packages

We considered just putting Sub-Project concatenated with the project number (AC123B1 in this example) but felt we would get kick back from clients over having multiple project numbers on a multi-building site as in this example.

The Sub-Project could go either side of the Originator field and still work in sequencing, but was generally felt it sits better between Project Number and Originator code, this would then allow sub projects to be split off to other companies more easily through tender allocation and contract award if required

We would also like to extend the number of characters available for Volume/System and Level/Location to accommodate larger more complex projects.



Therefore we would like to propose these extension/amendments:

Changes Requested

1. Introduction of an **Optional** field **Sub Project** between Project Number and Originator 2-3 digits.

2. Change the Volume/System to **2-3 digits** for allow for complex projects with more than 99 system types and to allow industry sectors to standardise on coding for systems within their sector

3. Change the Level/Location to **2-3 digits** to accommodate tall buildings and linear projects e.g. 12th floor mezzanine (12M) – possibly this needs to expand further for infrastructure projects (2-6 digits)

Change for mezzanine to a suffix (**01M or 1M**) to keep levels sequential in file naming order.

Example Name:

Project Number		**Sub Project**		Originator		Volume/ System		Level/ Location		Type		Role		Number Sequence	Extension
AC123	-	**B1**	-	CDV	-	24	-	XX	-	DR	-	A	-	0001	.pdf
Project ID AC123		Optional (In this example B1 for Building 1 on a multi building project site)		Cadventure Ltd		Used as System Walls/Partitions(24)		XX for typical details or floor locations e.g.01 for rest.		Always This for title block Drawing Sheets		Architect		the sheet sequence in the series	

BIM 4 DESIGN