

BIM-MEP^{AUS}



Guideline

Disciplines and roles

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About

BIM-MEP^{AUS} is an industry initiative lead by the AMCA to support the use of best practice building services BIM for digital project delivery and life cycle asset management.

Contact

Contact us via www.bimmepaus.com.au

Document formatting convention

The following text formats are used in BIM-MEP^{AUS} documents:

Text type		Used for
Italicised text	BIM Execution Plan	The generic title for a type of document
Bold italicized text	BIM-MEP^{AUS} specification	The name of a referenced document
Red bold text	LOD	First reference to a term or abbreviation that is defined in the BIM-MEP ^{AUS} website glossary
Blue text	www.bimmepaus.com.au	Hyperlink / web link
Blue italicized text	<i>Explanatory notes</i>	Explanatory or reference notes

Further Development

Contributions to the ongoing development of this guideline are welcome.

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1 INTRODUCTION

1.1 Scope

The development of a unified system of disciplines and roles is important to defining project team structures, responsibilities and workflows.

This guideline provides an overview of the discipline and role definitions, naming and nomenclature used by BIM-MEP^{AUS} to create a common data environment (CDE) for project delivery and asset management.

1.2 References

In developing the BIM-MEP^{AUS} naming conventions, we have considered in general order of precedence:

- Terminology used in the latest editions of ISO and Australian Standards
- Australian industry practice
- Professional association practice guidelines
- Data standards and guidelines
- BIM standards & guidelines
- Autodesk® Revit® Definitions.

Project design and construction documentation packages have also been reviewed with the aim of aligning disciplines with industry practice and to assure that the naming conventions developed can meet industry requirements for scope and clarity

The following key points are noted:

- The use of client or design firm generated naming conventions is ultimately problematic for many stakeholders and there are significant benefits to be obtained at a project and property portfolio level in adopting a national standard.
- Current industry alignment with respect to naming conventions is reasonably consistent, however there is no single point of truth in terms of naming conventions limiting the ability to implement reliable and efficient digital design and construction workflows and digital asset management analytics at an industry or property portfolio management level.
- Revit® MEP presents self-evident challenges when attempting to align with established industry terminology and practices. BIM-MEP^{AUS} has taken as its overriding priority to develop a unified framework of definitions and naming conventions that are consistent across all disciplines – where conflicts arise between industry practice and Autodesk® Revit® such as the meaning of Discipline these have been defined within this guideline with the purpose of providing disambiguation

2 ROLES

Roles are used to classify responsibilities within the AEC Sector as they are useful for defining responsibilities and are used extensively in contracts, project management plans, collaboration platforms and workflow documentation.

Table 2.1 Project & AM/FM Roles

Role	Abbreviation	Role	Abbreviation
Asset Manager	AM	Lead Consultant	LC
Authority	AU	Maintenance Service Contractor	MSC
BIM Manager	BM	Managing Contractor	MC
Certifier	CT	Principal	PR
Consultant	CN	Project Manager	PM
Design Manager	DM	Superintendent	SI
Facility Manager	FM	Sub-consultant	SCN
Head Contractor	HC	Sub-Contractor	SC
Lead Services Coordinator	LSC	Tenant	TN

The following points are noted in relation to above definitions:

- The above role definitions provide flexibility to define roles, responsibilities and workflows for most project delivery models including Design-Bid-Build, Design and Construct and Managing Contractor.
- "Project Owner", "Employer", "Principal" and "Client" have similar meanings, BIM-MEP^{AUS} has adopted the term used in Australian Standards General Conditions of Contracts such as AS 4300 which is "Principal" .

3 DISCIPLINES

3.1 Overview

BIM-MEP^{AUS} Disciplines are based on established industry practices rather than Autodesk® Revit® Discipline definitions. In order to reduce confusion, BIM-MEP^{AUS} defines Discipline and Revit Disciplines to have specific meanings:

- Discipline** – is the industry established convention of disciplines related to design, construction and maintenance skill sets and work packages and includes Mechanical, Electrical, Fire and Hydraulics disciplines.
- Revit Disciplines** – are built into Revit® and define type of systems and their associated DataTypes and includes HVAC, Piping, etc.

Discipline Codes are used within BIM-MEP^{AUS} and various collaboration platforms particularly for workflow mapping and assignment of responsibilities including authoring, reviews and approvals.

3.2 Disciplines

Disciplines have been classified as one of two types:

- Disciplines typically associated with division of project delivery design and construction packages and asset maintenance work packages
- Disciplines typically associated project, asset and facility management as well as specialist expertise.

Table 3.2.1 Disciplines associated with design and work packages

Discipline	Code	Discipline	Code
Architecture	AR	Hydraulics	HY
Building Logistic Systems	BLS	Landscape	LS
Building Management and Control	BMC	Maintenance Access Systems	MAS
Civil	CVL	Mechanical	ME
Commercial Refrigeration	CR	Medical & Laboratory Equipment	MLE
Communications	CO	Medical & Laboratory Services	MLS
Electrical Lighting	EL	Passive Fire Protection	PFP
Electrical Power	EP	Pre-cast	PC
Facade	FA	Security	SE
Fire Detection	FD	Structure	ST
Fire Protection	FP	Structural Steel	SS
Furniture, Fittings & Equipment	FFE	Vehicle Infrastructure	VI
Food Services	FS	Vertical Transportation	VT

The above disciplines/packages may be combined with common examples being combining Lighting, Power, Communications and Security within the Electrical Package/Model.

The following table provides the complete listing of AEC and AM/FM design and trade package disciplines and specialist advisory services.

Table 3.2.2 Disciplines

Disciplines	Code	Disciplines	Code
Acoustics	AC	Hydraulics	HY
Accessibility	ACC	Interior Design	INT
Asset Management	AM	Programming	PRG
Architecture	AR	Laboratory Design	LD
Audio-Visual	AV	Landscape	LS
Building Certification	BC	Legal	LG
Building Information Modelling	BIM	Maintenance Access Systems	MAS
Building Logistics Systems	BLS	Mechanical	ME
Building Management and Control	BMC	Medical & Laboratory Equipment	MLE
Civil	CVL	Medical & Laboratory Services	MLS
Commercial Refrigeration	CR	Passive Fire Protection	PFP
Commissioning	CM	Pre-cast	PC
Communications	CO	Quantity Surveying & Cost Planning	QS
Data Science	DSC	Security	SE
Electrical Power	EP	Structure	ST
Electrical Lighting	EL	Structural Steel	SS
EMR	EMR	Reliability, Availability and Maintainability	RAM
Environment and Sustainability	ESD	Risk Engineering	RE
Facade	FA	Safety in Design	SID
Facility Management	FM	Security	SE
Fire Engineering	FE	Surveying	SU
Fire Detection	FD	Traffic Engineering	TE
Fire Protection	FP	Town Planning	TP
Food Service	FS	Urban Planning	UP
Furniture, Fittings & Equipment	FFE	Vehicle Infrastructure	VI
Geotechnical Engineering	GT	Vertical Transport	VT
Health & Safety	HS	Way Finding & Signage	WF
Heritage	HR	Wind Engineering	WE

3.3 Revit Disciplines

Revit® MEP Disciplines are as follows:

- HVAC - Heating/Loading Calculations, Air Distribution Systems, Ductwork
- Piping - Fluid Distribution Systems, Piping Systems
- Electrical - Power and Lighting
- Energy - Energy Modelling

In addition, to the above Revit MEP Disciplines is the Revit 'Common' Discipline.

END