DEWICK & ASSOCIATES

TECHNICAL NOTE:
DEFENCE: HOTO AND O&M MANUALS

The Australian Government Department of Defence (Defence) sets out stringent building lifecycle documentation requirements as per the Defence Estate Quality Management Systems (DEQMS), which is managed through the HOTO (Handover / Takeover) process.

Inline with Australian Standards, Defence Policies and legislation, the HOTO process gathers documentation from the project outset to the end of the Defect Liability Period (DLP) to ensure that the building / asset is designed, constructed and can be maintained so that it is fit for purpose and suitable for occupancy through its life.

Handover / Takeover Definition

Department of Defence projects move through various project stages, with the specific definition of Handover / Takeover very important.

Handover: the provision of operation and maintenance manuals, as-constructed drawings and warranties alongwith the provision of system specific training to enable the efficient operation and maintenance of the new facility as intended. This takes place after the commissioning stage of a project.

Takeover is internal to Defence, the stage where the responsibility for maintenance and operation of the facility is moved to the Defence facilities team, taking place after handover.

HOTO Plan and Checklist

Working through the project lifecycle, the Handover / Takeover (HOTO) Plan and Checklist enables the gathering of key and critical documentation to ensure compliance with design standards and the Defence Estate Quality Management Systems (DEQMS). The HOTO checklist details the evidence type required for each stage of the project and nominates the responsible party / parties. Detailed management of this list is essential to demonstrate that the project works and activities are complete, accurately recorded at handover and thus suitable for use and occupancy by Defence.

Operating and Maintenance Manuals

Operating & Maintenance Manuals (O&M Manuals), also known as Builders' Manuals and Handover Manuals, provide a building owner / occupier with details of each building element for efficient operation, effective maintenance to ensure longevity, decommissioning and final demolition of a building or structure.

Defence O&M manuals are documented in accordance with the Defence Estate Quality Management Systems (DEQMS) format and template, so that they are consistent across all buildings and bases nationwide and can be stored and accessed on Defence Estate Information Systems (DEIS).

O&M Manuals are required for all Defence Building, facilities and infrastructure systems including new builds and refurbishments / modifications to ensure that all assets are recorded accurately and system information is current. Inline with the Work Health and Safety Act 2011 and associated WHS Legislation, Defence O&M manuals also include Work Health and Safety (WHS) information.

Defence format O&M Manuals are provided in specific Word Document format with supporting information provided in a .zip folder format. All documentation is provided inline with the specific Defence naming convention requirements.

The content of each manual will adhere to the stringent in depth Defence guidelines varying depending on the discipline / project works, in general separate sections shall be provided for the following:

- Architectural
- Landscape
- Civil / Structural
- Security
- Hydraulic
- Mechanical
- Electrical
- Communications
- Fire Safety
- Roads and Transport
- Maritime
- Airfields

Where a project comprises multiple buildings, each building shall be provided with a seperate manual.

As Constructed (As Installed / As Built) Drawings

As Constructed Drawings accurately record and identify the final layout and configuration of a construction project and provide a representation and foundation on which future works can depend, including

- The actual makes, models and type of equipment installed
- Unique identifiers for each piece of equipment installed
- A legend for all abbreviations and icons utilised
- Accurate locations of the equipment and fittings installed
- Identification of obstructions and voids
- Identification of penetrations
- An indicative and unique drawing number, version number and issue date
- Identification of the scale used, commensurate with the scale used on the project's original Design Drawings

All As Constructed Drawings are produced using AutoCAD and provided with titles and numbers following the requirements of the Spatial Data Management Plan (SDMP), which is developed by the Estate and Infrastructure Group (E & IG)

Spaces Plans

Spaces Plans Datasets are simple, to scale diagrams, recording each level of a Defence owned building. The Spaces Plans enable building management to allocate rooms, manage IT systems and assets, coordinate cleaning and keep records of the changes to buildings.

Provided for each level of a building, Spaces Plans detail the size, shape, layout and identification number of spaces and rooms and detailing the locations of door openings, staircases and fittings. These are a seperate set of documents to the As Installed Architectural drawings for a project.

Created inline with the Spatial Data Management Plans (SDMP) and Defence Estate Quality Management Systems (DEQMS), Spaces Plans are delivered in AutoCAD format (compatible with Release 2013) to specific technical guidelines and CAD standards, each provided with a metadata file.

Metadata

Metadata is essentially data about data, enabling the Department of Defence to categorise documents based on their content, relevant discipline and information provision.

The Department of Defence requires metadata to be provided for all O&M Manuals and As Constructed Drawings which is uploaded to the National Spatial Information Management System (NSIMS) for future access to support the delivery of future capital instructure works and operation and maintenance of Defence facilities. Metadata is managed inline with the international metadata standard ISO 19115 Geographic information — Metadata

The metadata specifically includes creation date, creator/author, update info and other key information. The Department of Defence Metadata Entry Tool (MET) is used to upload this information, resulting in a unique metadata name for each drawing/document.

GEMS and GDL

The Garrison and Estate Management System (GEMS) system records all building assets, including new, refurbished, leased or disposed of assets. The GEMS Data Loading (GDL) tool is used to create and manage all assets which pass through the Defence key design / construction stages of Record Shell, Populate and Bring into Service. All assets are allocated a unique identifier at creation, data on the asset are captured such as location, manufacturer, warranty period and also maintenance schedule requirements. Allocated attributes and associated maintenance tasks and operational information so that the building / asset is maintainable and operable by the Department of Defence.