

Annex 3 - BIM-AM Deliverable Checklist

BIM-AM Deliverable Checklist

Project title:

Submitted by:

Name:

Company:

Designation:

Date:

Notes:

- Checklist shall be completed by Contractor
- Refer to **H/O Guide sections** for details on deliverable
- Contractor shall indicate in the comments/remark section the following:
 - Date deliverable was completed
 - Any exceptions/ deviations to standard (eg. A&A work where asset relationship is not applicable)
- All fields shall be filled up, “Not Applicable” to be indicated wherever applicable

Deliverables	H/O Guide Section	Items		Comments/Remarks
Stage I Deliverables Preparation				
Deliverables To prepare the following deliverables for import into AIMP in Stage II	2.4.1	All BIM models (e.g. rvt) together with completed checklists shall be submitted and approved by EMSD	☐	
	2.4.3	Asset relationship (.xlsx)	☐	
	2.4.2	Completed asset templates for those assets not shown in BIM models (.xlsx)	☐	

Deliverables	H/O Guide Section	Items		Comments/Remarks
	2.4.5	As-built documents (.zip) - Folder Structure per Appendix I of BIM-AM SG - Master Information Index (MII) (.xlsx) included in .zip file	☐	
	2.4.6	Site installation of RFID tags and QR codes, including RFID/QR list (.xlsx) and location plan (.pdf)	☐	
	2.4.7	BMS point definition files and BMS point mapping files for BMS/iBMS/DCS/IoT sensor interface per Appendix J of the BIM-AM SG (.xlsx)	☐	
Model Checklists To ensure model is ready for import to avoid rework	4.1.1	Revit schedules per equipment type as specified in Appendix G in BIM-AM SG	☐	
	4.1.2	Completed BIM-AM model deliverable Checklist model quality check.	☐	
RFID/QR tagging	2.4.6	RFID/QR list matching Asset /Zone Code to RFID/QR tag. (.xlsx)	☐	
	2.4.6	RFID asset codes and zone codes are inputted to models	☐	
	2.4.6	Floor plans showing location of tags for the joint site inspection with O&M Team (.pdf)	☐	

Deliverables	H/O Guide Section	Items		Comments/Remarks
Stage II Uploading Asset Data				
AIMP Uploads	2.5.2	BIM model: - Correct settings in default 3D view prior to BIM models upload - E&M models are broken down into individual Level 1 E&M systems per floor - Other discipline (e.g. architectural and structural) model broken down per floor	☐	
	2.5.3	BIM Model Conversion - Asset Data: - COBieLite files exported using EMSD JSON configuration files containing asset information from each E&M model	☐	
	2.5.4	Uploaded all other deliverables (from Stage I) into AIMP	☐	
	2.5.5	AIMP Post Processing, complete the follow information: - Asset Relationship - O&M document Path - Creation of Level 1 System which cannot be drawn in models	☐	

Deliverables	H/O Guide Section	Items		Comments/Remarks
AIMP Data Vetting	4.2.1	Total number of assets imported into AIMP is correct	☐	
	4.2.1	All assets' documents and system topologies information are complete	☐	
	4.2.1	Verify asset attributes AIMP are completed	☐	
	4.2.2	Verify asset relationship against as-built schematic drawings	☐	
	4.2.2	Verify asset is mapped to correct asset documents	☐	
Site Vetting	4.3	RFID/QR tags located on site per PDF floor plan	☐	
	4.3	RFID/QR tags are installed in an area that are unobstructed and readable via RFID machine.	☐	
	4.3	RFID/QR tags are affixed to its corresponding asset/zone	☐	
Stage III Setting Up BIM-enabled Database for Data Upkeep				
CCS Templates	2.6.1	Export the CCS templates from AIMP for each asset category and submit them to O&M team via PT for approval	☐	
COBieLite Files	2.6.2	Export COBieLite (GUID) files from AIMP and submit them to O&M team via PT for approval	☐	
Asset list	3.3.2	Asset list showing the added, removed, relocated or modified asset for A&A work only.	☐	

BIM-AM Model Deliverable Checklist

Project title: _____

Submitted by: _____

Name: _____

Company: _____

Designation: _____

Date: _____

Notes:

- Checklist shall be completed by Contractor.
- Refer to **BIM-AM SG** for details on each checklist item.
- Item under “General” section are not EMSD specific requirements but is General industry standard (e.g. CIC).
- Contractor shall indicate in the comments/remark section any exceptions/ deviations to standard (e.g. A&A work where asset relationship is not applicable).
- All fields shall be filled up, “Not Applicable” to be indicated wherever applicable.

Model Checked (List file names, provide list as attachment if required):

Deliverables	BIM-AM SG	Items	Comments / Remarks
BIM Model			
BIM Project Model	Model Management		
	2.1	(a) Models are authored using the agreed software.	☐
	2.5 Appendix G	(b) Models are separated by disciplines and systems.	☐
	2.7	(c) Each model file size is below 500Mb.	☐
	2.5 Appendix F	(d) Federation strategy follows standard requirements.	☐

Deliverables	BIM-AM SG	Items		Comments / Remarks
	Appendix I	(e) The file structure of handover is followed.	☐	
	General	(f) Central models (instead of local models) are submitted.	☐	
	Naming Convention			
	2.4 Appendix F	(a) Model naming convention is aligned.	☐	
	3.1	(b) Object naming convention is aligned.	☐	
	Model Setup			
	General	(a) BIM project files in native formats are editable.	☐	
	4.1.1	(b) Units and symbols adhere to principles are followed.	☐	
	4.1.2	(c) Location and Geo-Coordination adhere to principles are followed.	☐	
	General	(d) Detach Central model and maintain worksets for switching off construction details.	☐	
	4.4.3	(e) “Default 3D view” is set with following setting for handover. – • Fine view; • Consistent colour; and • Default 3D view with colour filter.	☐	

Deliverables	BIM-AM SG	Items		Comments / Remarks
	4.3.1 Appendix G	(f) Equipment schedules are created for all the E&M equipment by equipment type as specified in Appendix G prior to handover.	☐	
	E&M System			
	2	(a) Systems are modelled to standards.	☐	
	General	(b) “Panel Schedules” area created for all electrical distribution boards (optional).	☐	
	Architectural & Structural Model			
	General	(a) Architectural model contains reflected ceiling plans and access panels.	☐	
	General	(b) Space is created in architectural model for zone tagging.	☐	
	General	(c) Structural BIM Modelling is in accordance with CIC standard.	☐	
	Presentation Style			
	4.4.3	(a) System colouring adheres to principles is followed.	☐	
	4.4.3	(b) Object texture or surface colour adhere to principles is followed.	☐	

Deliverables	BIM-AM SG	Items		Comments / Remarks
	Maintainability			
	Appendix E	(a) Clearance spacing adheres to principles has been followed.	☐	
	General	(b) BIM object files in native formats are editable.	☐	
	Object Parameter Setup			
	6.5 Appendix B	(a) Common parameters as shown in Appendix B for each E&M equipment are created under project parameters.	☐	
	6.5 Appendix B	(b) Specific parameters as shown in Appendix B for each E&M equipment are created under object parameters.	☐	
	6.5 Appendix G	(c) Equipment with (*) as shown in Appendix G with object parameters as shown in Table 6.2.	☐	
	BIM Object Category			
BIM viewing software for multidisciplinary coordination	4.2.3	(a) Generic models are avoided as far as practicable.	☐	
	4.2.3	(b) BIM object categories have been followed.	☐	

Deliverables	BIM-AM SG	Items		Comments / Remarks
(Note 1)	General	(c) Provide clash checking reports, if applicable	☐	
BIM Model Information	Asset Information in BIM Model			
	6.5 Appendix B	(a) Asset data input per Asset Information Requirement as specified in Appendix B for EMSD Level 1 and 2.	☐	
	6.5 Appendix G	(b) Asset data input as specified in Table 6-2 for the E&M equipment with (*) as shown in Appendix G.	☐	

Note:

1. The submission, such as Navisworks, is applicable to EMSD's A&A projects.