

# CAD Standards

## **As-built AutoCAD drawings from Consultants/Contractors**

1. As-built Softcopy submitted to NTU to be in AutoCAD DWG format (AutoCAD version 2017 or a previous version) & in PDF format.
2. As-built AutoCAD drawings to comply with Singapore Cad Layering Standards (SS CP83).
3. Bind all External References(x-refs) to the as-built CAD drawings and blocks created to be exploded. X-refs layers created to be renamed to comply with CP 83.
4. A set of drawing list for the as-built CAD drawings.
5. One drawing unit = one millimeter
6. Use fonts and line type files supplied with standard installation of AutoCAD
7. Plot style table to be supplied.
8. Files shall be purged.
9. There shall be one AutoCAD file per completed drawing
10. Multiple drawings shall not be contained in one AutoCAD file.
11. Drawing entities shall be in model space.
12. Ensure a drawing transmittal is provided, outlining each CAD file number, drawing sheet number and drawing description.
13. The documentation submitted MUST include:
  - a. Marked with "AS BUILT" on each title sheet of the drawing.
  - b. Marked with correct DATE on each title sheet of the drawing.
  - c. Marked with correct REVISION Numbers on each title sheet of the drawing.

## **As-built Hardcopy drawings from Consultants**

1. As-built hardcopy drawings submitted to NTU to be in standard sheet sizes. Sheet sizes are based on the ISO standard sizes. The ISO standard sizes are A0 to A4. The sizes are proportional, leading to simple reduction and enlargements. The bigger size sheets may be easily folded for filing and dispatch to that of A4 size. The sizes of sheets in landscape format are as follows:

A0	1189 x 841
A1	841 x 594
A2	594 x 420
A3	420 x 297
A4	297 x 210

2. Hardcopy drawings to be plotted in standard plot scales. Standard plot scales used in construction industry:

Detail Drawings	1:1
Assembly	1:2
Drawings	1:5
	1:10
	1:20
	1:25
Schematics	1:50
Sketch	1:100
Designs	1:200
	1:500
Submission Drawings	1:100
General Building	1:200
Drawings	
Site Plans	1:200
Large scale Projects	1:250
	1:500
	1:750
	1:1000
	1:2000
Key Plans	1:10000
Location	1:20000
Plans	

3. A set of drawing list for the as-built hardcopy drawings.

### **BIM Submission Requirements**

#### **As-Built BIM**

1. File format in Autodesk Revit (.rvt) to be submitted in CD-ROM
2. Room area boundary to be measured from center of walls
3. NTU room address naming convention in the following format  
Building/Block no. – Level (section) – Unit no.  
Eg. 1 : ADM-B1-01  
Eg. 2 : N2-B1A-02

#### **Authorities Approved BIM**

1. File format in Autodesk Revit (.rvt) to be submitted in CD-ROM
2. URA
3. Other regulatory agencies, if any i.e.BCA, CBPU, FSSD, LTA, PUB etc.
4. Structure
5. M&E