



National
Defence

Défense
nationale



ASSISTANT DEPUTY MINISTER (INFRASTRUCTURE AND ENVIRONMENT)

Director General Engineering Services

DND BIM Template and Content User Guide for Revit

June 2021

Document History

Date	Description	Contact
2021-07-16	For Release	PL
2021-07-29	For Release on CAFNET	AM

Contents

- 1. Introduction 1
 - 1.1 New and Changed Features 1
- 2. Acronyms..... 1
- 3. Adding the DND Toolkit to Revit 2
 - 3.1 Downloading the DND CAD/BIM 2.3 Revit Template & Content..... 2
 - 3.2 Setting up the Revit Template and Content Folder 2
 - 3.3 Adding the Template to Revit 4
 - 3.4 Creating a new Project with the DND RTE 2020 6
- 4. Using the Revit Family Container Library 7
 - 4.1 Families 7
 - 4.1.1 Families Folders Structure..... 7
 - 4.1.2 Loading Families into Project 8
 - 4.1.3 Content Included in Revit Family Container 8
 - 4.1.4 Export DWG/DXF from Revit..... 9
 - 4.2 Placing Generic Annotations & Tags 11
 - 4.2.1 Using Generic Annotations 11
 - 4.2.2 Tagging Families 11
 - 4.3 Creating Sheets with the Titleblock 12

1. Introduction

This document provides step by step instructions to facilitate the setup and general use of customized DND Template and Content Library for Revit 2020. The template and support content were developed to enable the creation of Revit projects and data in accordance with the DND CAD/BIM Standard 2.3. They are intended to be used by internal stakeholders and consultants working on DND projects.

This guide assumes the user is already familiar with basic Revit functionality and features.

1.1 New and Changed Features

Major updates and changes from previous DND Revit templates include:

- Lineweights, Linestyles, and Object styles from the 2.3 CAD/BIM Standards have been added.
- Families use Object Style Subcategories as per Annex A Layers of the 2.3 CAD/BIM Standards.
- Generic Annotations and Tags are as per Annex B Symbols of the 2.3 CAD/BIM Standards.
- DWG Export settings have been updated.
- Titleblock and Cover Sheet ISO B1 have been added.

2. Acronyms

AEC	Architectural, Engineering and Construction
BIM	Building Information Modelling
CAD	Computer-Aided Design
DAES	Directorate of Architecture and Engineering Services
DND	Department of National Defence

3. Adding the DND Toolkit to Revit

3.1 Downloading the DND CAD/BIM 2.3 Revit Template & Content

The DND CAD/BIM Standard 2.3 Revit Template and Content are available as individual downloadable “read-only” zipped folders:

- DND Revit Template 2020 (**Required Download**)
- Revit Family Container 2020
- Architectural General Annotations and Tags (**Required Download**)
- Civil Annotations and Tags
- Fire Annotations and Tags
- Hazardous Materials Annotations and Tags
- ISO Annotations and Tags
- Mechanical Annotations and Tags
- Planimetry Annotations and Tags
- Siting Annotations and Tags
- Structural Annotations and Tags
- Telecommunications Annotations and Tags

To install the most current DND BIM Toolkit into Revit, download the latest version from either of the following locations:

- **DND Digital Built Resource Centre** (Public website hosted by DCC. User registration required):
https://cafnet.dcc-cdc.gc.ca/cad_bim_gis/access-eng.htm
- **Digital Built DND** (DND internal users only):
<https://collaboration-admie.forces.mil.ca/sites/RPSCO/DB-DND/SiteAssets/DocumentLibrary.aspx>

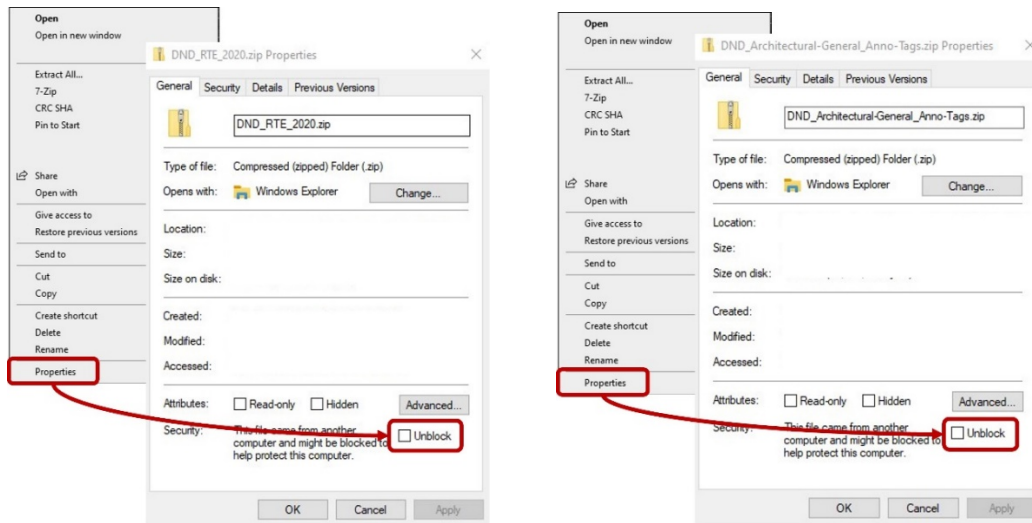
Once downloaded, the zip files containing the **DND Revit Template 2020**, **Architectural General Annotations and Tags**, and any others you have chosen will appear in your **Downloads** folder or on the desktop depending on your download options.

3.2 Setting up the Revit Template and Content Folder

After downloading both the **DND Revit Template 2020** and **Architectural General Annotations and Tags** files, extract the contents and set up the environment.

1. Create a folder in the C:\ Drive called **DND_BIM_Toolkit**.
2. Locate the **DND_RTE_2020.zip** and **DND_Architectural-General_Anno-Tags.zip** files.
3. Right-click each file and select **Properties** from the drop-down menu.

- Under the **General** tab on the Properties dialog, select **Unblock**



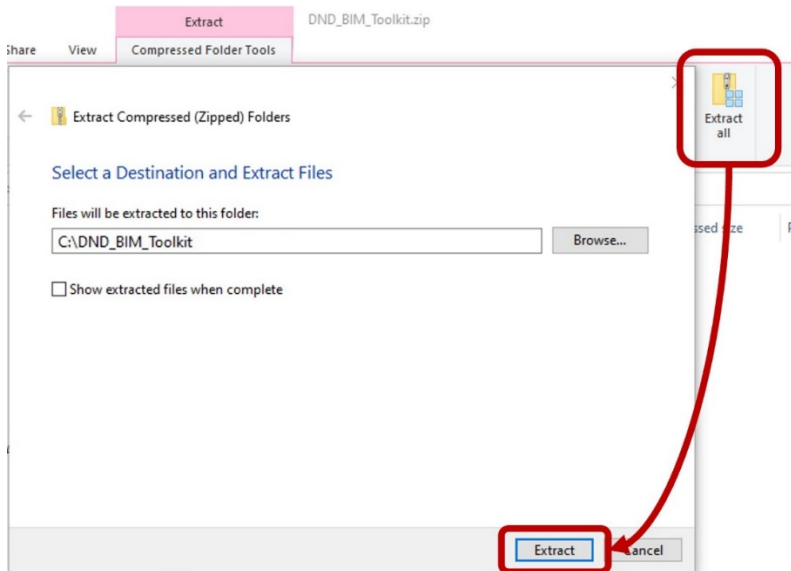
This action ensures all files contained in the .zip file are unblocked.

Note: The **Unblock** option may not be available depending on the security settings for your workstation.

- Click **OK**
- First installation** Extract the files and folders from the **DND_RTE_2020.zip** and **DND_Architectural-General_Anno-Tags.zip** files to the **C:\DND_BIM_Toolkit** Folder.

OR

To update the toolkit first delete previous version on your C:\ Drive to avoid duplicate files.

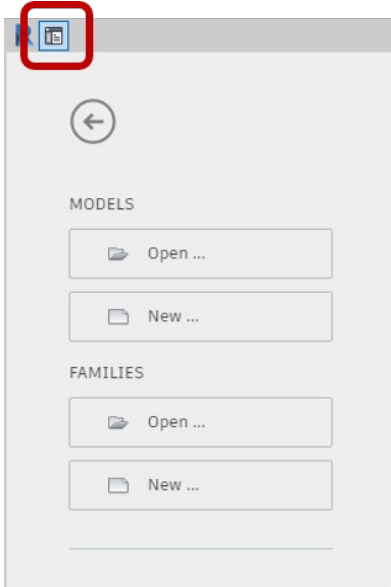


- Click **Extract**.
- Repeat the steps above for all other content downloaded as required.

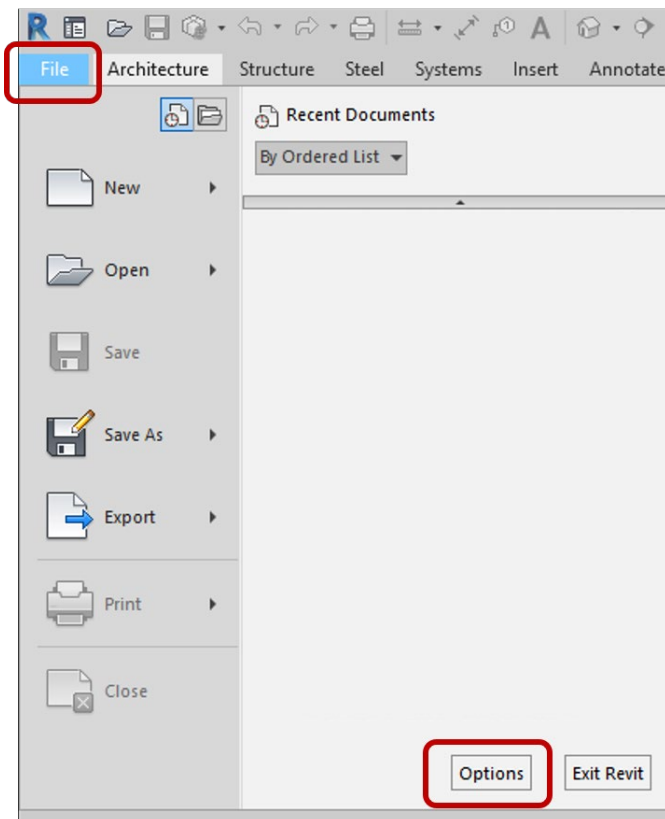
Note: See section [4.1.1 Families Folders Structures](#) of guide for folder structure.

3.3 Adding the Template to Revit

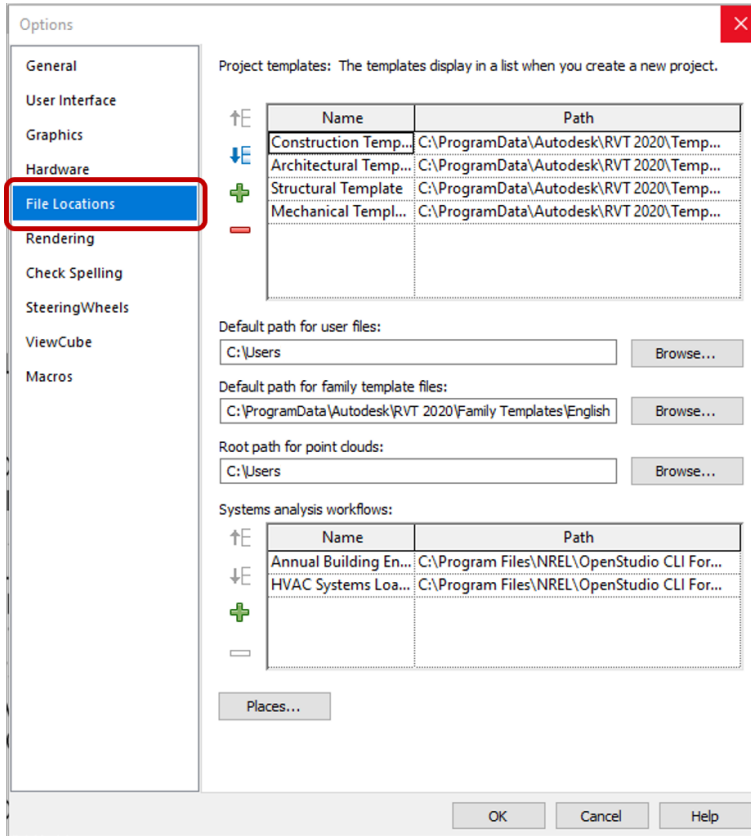
1. Open Revit 2020.
2. Click the Home button on the starting screen.



3. Click the **File Menu** and select **Options** to open the **Options** menu.

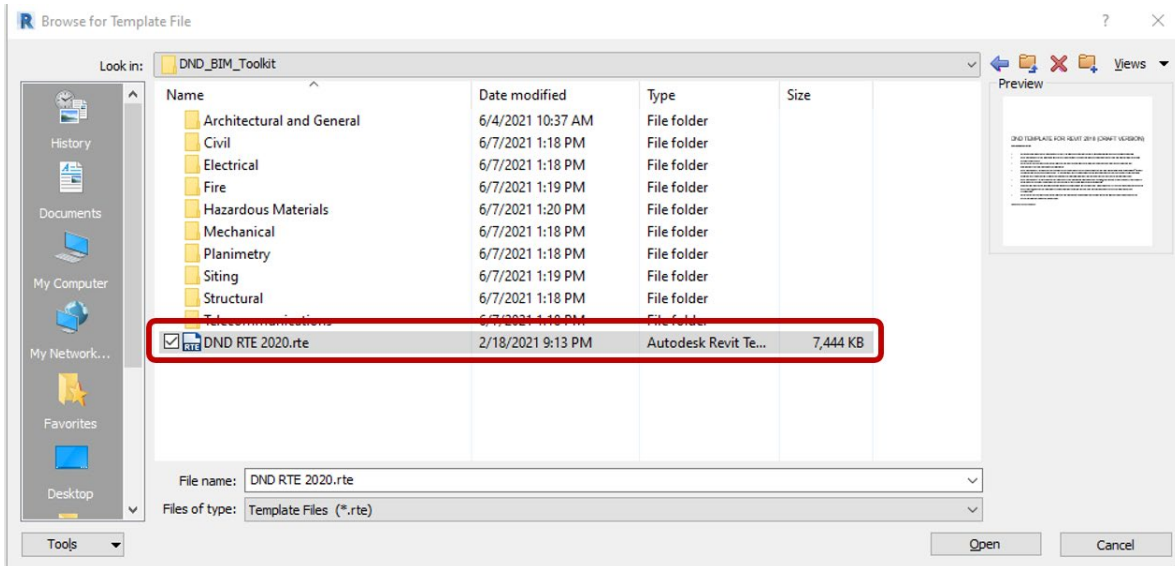


4. Navigate to File Locations



5. Click the Add Value [+] icon and navigate to the folder where the DND Toolkit was unzipped.

6. Select the **DND RTE 2020.rte** template file.

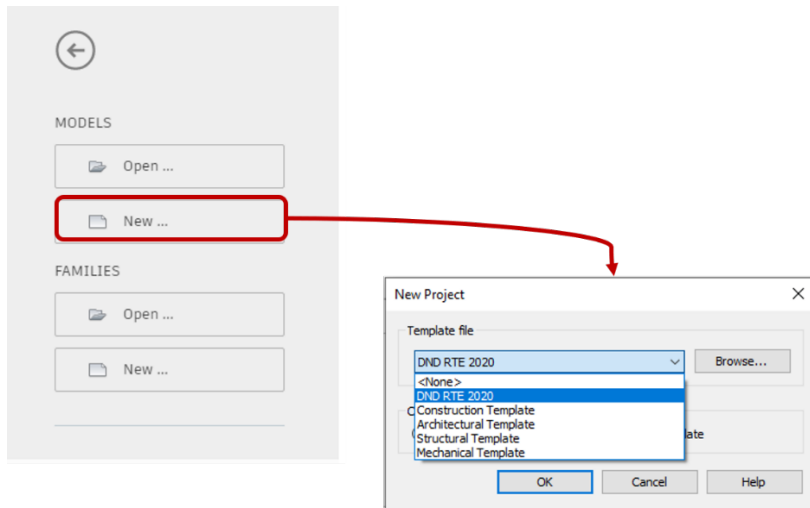


7. Select **Open**.

8. Select **OK**.

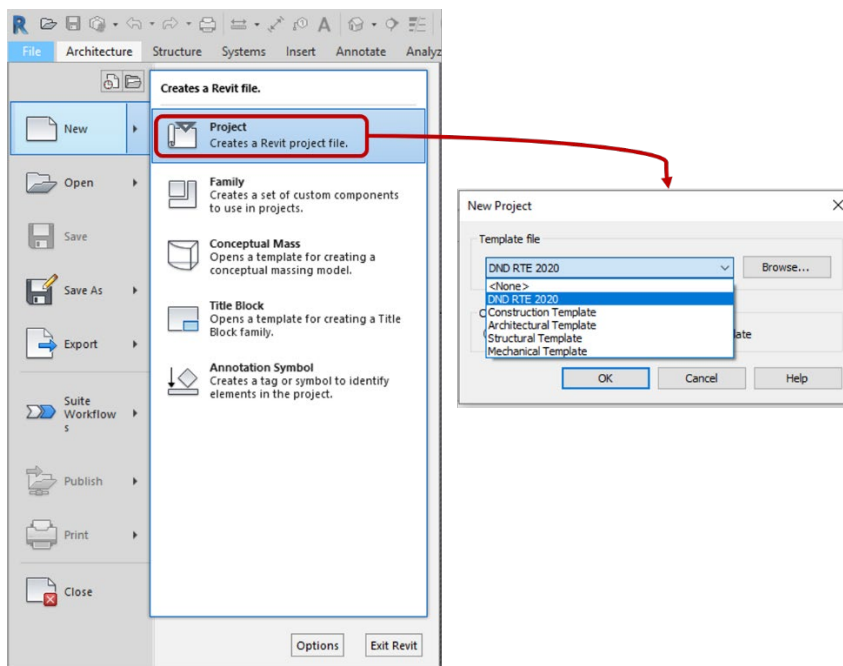
3.4 Creating a new Project with the DND RTE 2020

1. On the starting screen, under **Models**, select **New** and then select the **DND RTE 2020** template file in the dropdown list.



OR

On the home screen, select **File > New > Project** and then select the **DND RTE 2020** template in the dropdown list.



2. Click **OK**
3. **Save As** a new project.

4. Using the Revit Family Container Library

4.1 Families

4.1.1 Families Folders Structure

The Revit family container library folder included in the toolkit folder contains Generic Annotations and Tags organized by discipline as outlined in the DND CAB/BIM 2.3 Standards. The following outline shows the structure of the DND BIM toolkit folders:

```
C:\DND_BIM_Toolkit
  \ Architectural and General
    \ Generic Annotations
    \ Tags
    \ Supporting Files
  \ Electrical
    \ Electrical _ General
      \ Generic Annotations
      \ Tags
    \ Electrical _ Security & Special Systems
      \ Generic Annotations
      \ Tags
    \ Electrical _ Schematic
      \ Generic Annotations
      \ Tags
  \ Mechanical
    \ Mechanical _ HVAC & HTCW
      \ Generic Annotations
      \ Tags
    \ Mechanical _ Piping & Eqpt
      \ Generic Annotations
      \ Tags
    \ Mechanical _ Riser Diagram
      \ Generic Annotations
      \ Tags
  \ Structural
    \ Generic Annotations
    \ Tags
  \ Telecommunications
    \ Generic Annotations
    \ Tags
  \ Fire
    \ Generic Annotations
    \ Tags
  \ Structural
    \ Generic Annotations
    \ Tags
  \ Siting
    \ Generic Annotations
    \ Tags
  \ Planimetry
    \ Generic Annotations
    \ Tags
  \ Hazardous Materials
  \ Civil
    \ Generic Annotations
    \ Tags
  \ DND_RTE_2020.RTE
  \ DND_BIM_Family_Container_2020.RVT
```

4.1.2 Loading Families into Project

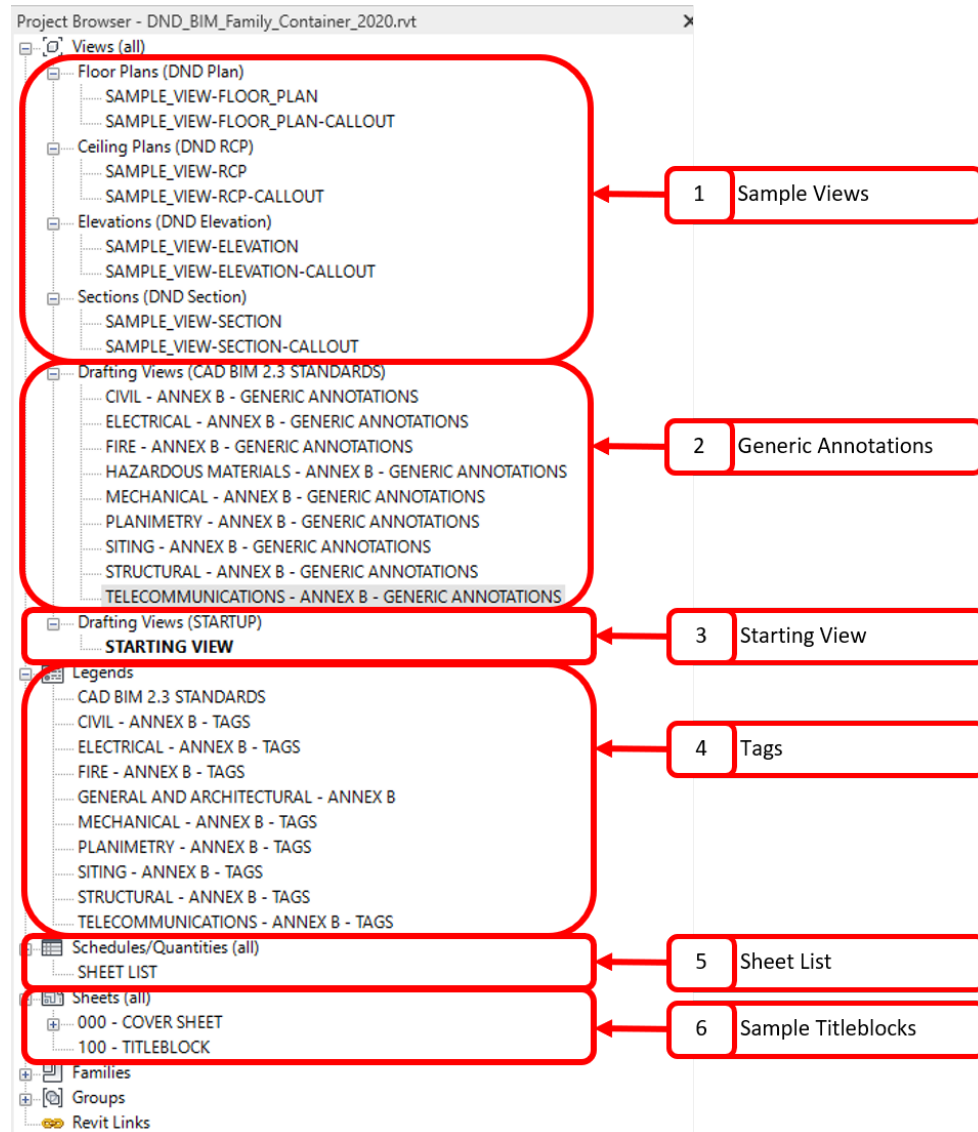
Families can be loaded into projects by:

- a) Copying and pasting from the Revit Family Container using the clipboard.
- b) Clicking and dragging from the provided content folders in File Explorer.
- c) Using the **Load Family** button on the **Insert** tab, open from the provided content folder.

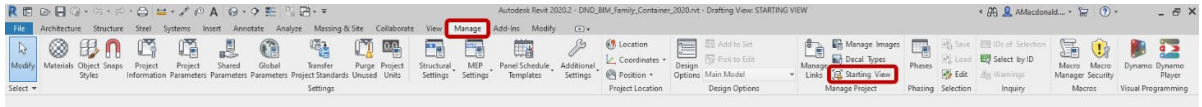
4.1.3 Content Included in Revit Family Container

Families included in the toolkit cover all DND CAD/BIM 2.3 Standards using Generic Annotations and Tags for Elements. They are organized by the disciplines of architecture, engineering and construction as outlined in DND CAD/BIM 2.3 Standards. Lineweights, Linestyles and Line types specified by the 2.3 CAD/BIM Standards are included.

Below is an image of the Project Browser layout of the **DND_Revit_Family_Container_2020.rvt**



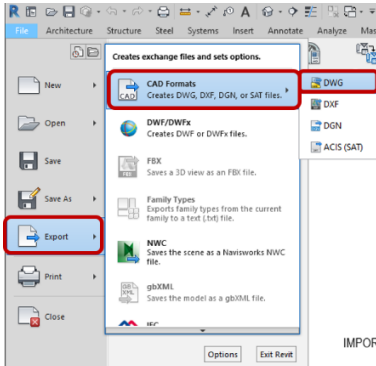
- 1) **Sample Views** These contain views as samples that contain; Grids, Levels, Section Tags, Elevations, Callouts and Dimensions for use in drafting, as per DND CAD/BIM 2.3 Standards.
- 2) **Generic Annotations** These drafting views contain the Symbols from Annex B as Generic Annotation Families.
- 3) **Starting View** This is the Starting View required for all DND Projects using Revit. It is already set in both the Template and Container File. Can be set using the starting view command under the manage tab.




- 4) **Tags** The Legends contain the Symbols from Annex B as Tags and/or System Families.
- 5) **Sheet List** Contains a sample sheet list for use with the Cover Page.
- 6) **Sample Title Block** Contains a Cover Sheet and Titleblock, ISO B1.

4.1.4 Export DWG/DXF from Revit

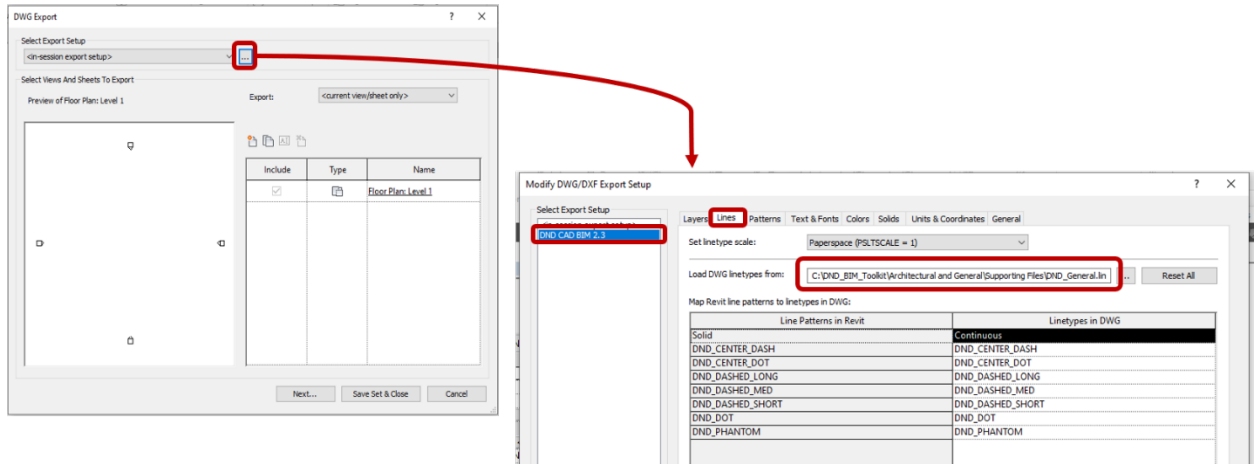
1. When exporting DWG/DXF from Revit, select **File**
2. Navigate to **Export** and select **CAD Formats** from the list
3. Select the appropriate CAD file format for the project.



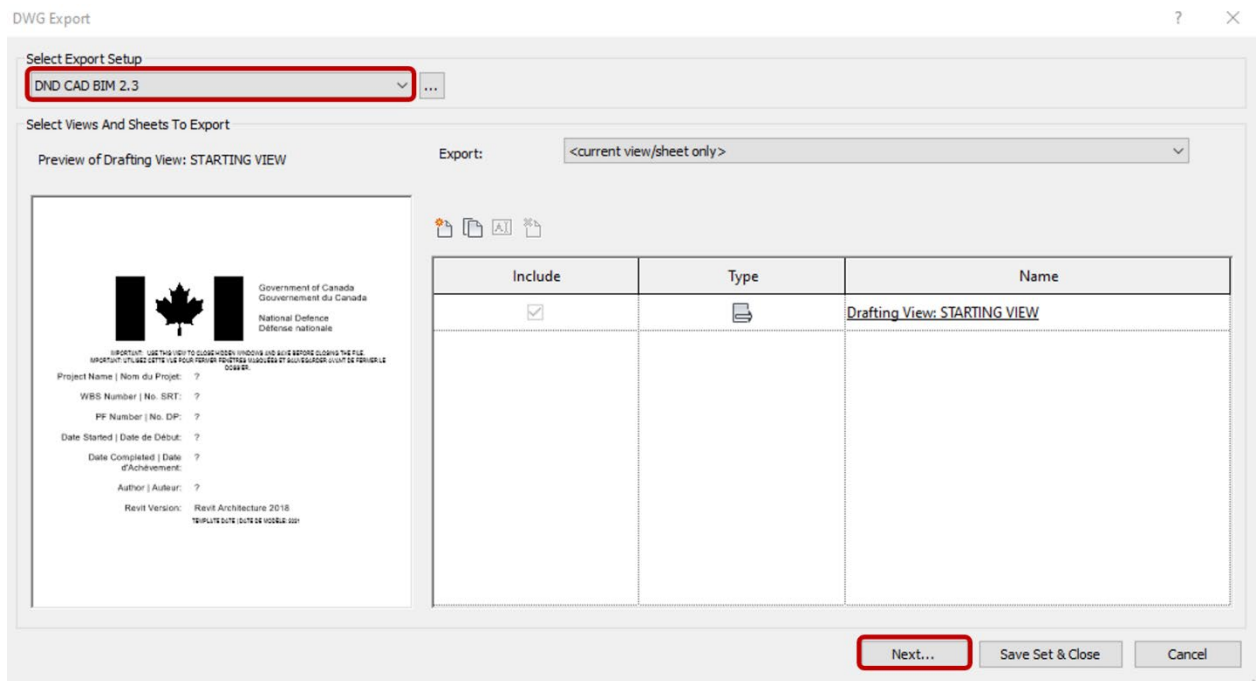
The Export pane for the selected file format option opens.

4. On the DWG Export pane, select the ellipses [] next to **Select Export Setup** to open the **Modify DWG/DXF Export Setup** pane.
5. Ensure the provided **DND CAD BIM 2.3** export settings are selected in the **Select Export Setup** Pane.

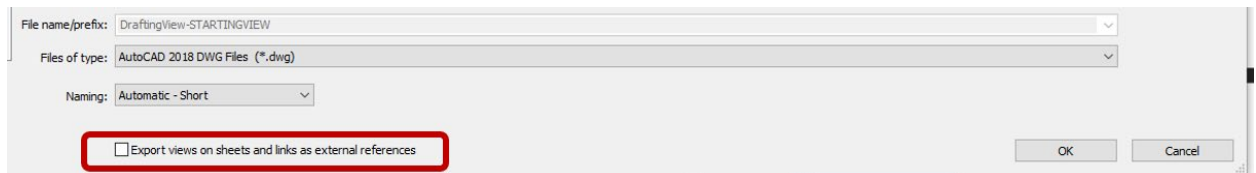
- On the Lines tab, ensure the linetype **DND_General.lin** is entered correctly in the **Load DWG Linetypes from** path.



- Click **OK** to return to the DWG/DXF Export pane.
- Select the sheets to export.
- Click **Next**



- When saving the selected sheets, ensure that **Export views on sheets and links as external references** is cleared.

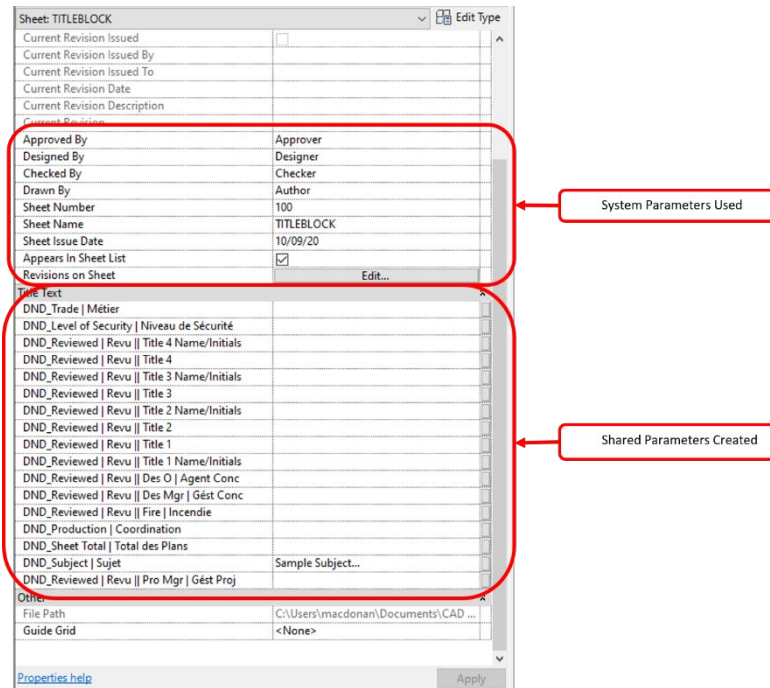


- Click **OK**

4.3 Creating Sheets with the Titleblock

A Titleblock and Cover Sheet ISO B1 are provided in the template and container files. Both have shared parameters incorporated into the sheets and are pre-mapped in both the template and container. Parameters can be modified by either selecting the field directly on the sheet or inputting the data into the appropriate field in the properties window. A combination of shared parameters and project information parameters are used as shown below:

Properties Menu:



Project Info Menu:

