



PSPC National CADD Standard

Annex C: Toolkit for AutoCAD

Version: 2024

PSPC National CADD Standard - Annex C: Toolkit for AutoCAD

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1. Introduction

The purpose of this document is to provide information and specialised tool with the goal of facilitating the adoption and use of the PSPC National CADD Standard on projects.

The tools listed in this document is intended to be used by internal employees and external consultants working on PSPC projects.

The Toolkit for AutoCAD contains 3 tools:

- The PSPC Quality Assurance Check
- The PSPC Tool Palettes provide users with the full extents of the PSPC Symbols and Graphics library and more. It is organised by disciplines and accessible either directly from a drawing or through the convenience of the AutoCAD Tool Palettes.
- The PSPC CADD Toolkit plugin for AutoCAD provides users with custom built tools to create on-the-fly layers and to check the compliance of drawing(s) against the PSPC National CADD Standard.

1.1 Inquiries

For questions or further information pertaining to this document, please contact the Geomatic Services National Centre of Expertise by email at CADD-CDAO@pwgsc-tpsgc.gc.ca.

For any questions pertaining to the use of the National CADD Standard on a project, please email the regional contact listed in Table 1-1.

Table 1-1 - Regional contact list

Regions	Contact
Atlantic	PWGSC.AtlanticCADD-CDAOAtlantique.TPSGC@pwgsc-tpsgc.gc.ca
Québec	TPSGC.rqcdao-qrcadd.PWGSC@tpsgc-pwgsc.gc.ca
National Capital Area	TPSGC.CDAO-CADD.PWGSC@tpsgc-pwgsc.gc.ca
Ontario	PWGSC.OntCADD-CDAO.TPSGC@pwgsc-tpsgc.gc.ca
Western	PWGSC.WRSIM-ROGIS.TPSGC@pwgsc-tpsgc.gc.ca
Pacific	Walter.Casol@tpsgc-pwgsc.gc.ca

2. PSPC Quality Assurance Check


The PSPC Quality Assurance Check is a web-based app for the automated verification of CADD drawings for compliance with PSPC's National CADD Standard.

2.1 Accessing the PSPC Quality Assurance Check

1. Go to the [PSPC Quality Assurance Check](#) web app.

2.2 Running the Quality Assurance Check

On the PSPC Quality Assurance Check web app:

1. Click the  (Upload File) button, browse and select 1 or more CADD drawing (DWG or DXF).
2. Select the version of the standard.
3. Select the language of the excel report.
4. Click OK.
5. Once completed, the Quality Assurance Check report will automatically download as an excel (XLSX) file that can be accessed directly from the download area of your web browser or by navigating to your Downloads folder.

2.3 Visualizing the Quality Assurance Check Report

2.3.1 The summary report

The summary report gives an overview of the compliance of each drawing and for each type of requirements. For each type of requirements, a pass/fail status will indicate if the drawing is in compliance with the standard.

PSPC National CADD Standard - Quality Assurance Check							
Summary Report						Version:	2024 & English Layers
						Date:	May 22 2024
						Project:	123456
Drawing Name	Standard Layer Names	Entities on Correct Layers	Text Style Standard	Dimension Style Standard	External Reference Standard	Titleblock Standard	Metric Requirement
123456789-A-101-Basement Plan	PASS	PASS	FAIL	FAIL	FAIL	PASS	PASS
123456789-A-102-Ground Floor Plan	PASS	FAIL	FAIL	FAIL	FAIL	PASS	PASS
123456789-A-104-Third Floor Plan	PASS	PASS	FAIL	FAIL	FAIL	PASS	PASS

Navigation tabs: summary | standard_layer_names | entities_on_correct_layers | text_style_standard | dimension_style_standard | external_reference_standard | titleblock_standard | metric_requirement

2.3.2 Detailed Report: Layer Naming Convention

This report verifies that the layer names used in the drawing conforms with the standard. The pass or fail status is based on a rate of compliance of 90%.

- The compliant layer names column indicates the amount of layers with a standard layer name.
- The non-compliant layer names column indicates the amount of layers with a non-standard layer name.
- The list of non-compliant layer names column enumerates the failed layer names for each drawing.

2.3.3 Detailed Report: Layering Standard

This report verifies that certain elements of the drawing are placed on the correct layers. The pass or fail status is based on a 100% compliance rate with the requirements listed below:

- Entities detected on layer 0 column indicates the amount of entities found on layer 0.
- Entities detected on layer Defpoints column indicates the amount of entities found on layer Defpoints.
- Dimensions detected on incorrect layers column indicates the amount of dimensions on layers that does not contain the DIM field.
- Hatching detected on incorrect layers indicates the amount of hatching objects on layers that does not contain the HAT or HAC field.

2.3.4 Detailed Report: Text Style Standard

This report verifies that the text styles used in the drawing conforms to the standard. The pass or fail status is based on a 100% compliance rate with the requirements listed below:

- Compliant text styles column indicates the amount of text styles with a complaint name and font.
- Non-compliant text styles column indicates the amount of text styles with non-compliant name and font.

2.3.5 Detailed Report: Dimension Style Standard

This report verifies that the name of the dimension styles conforms with the standard. The pass or fail status is based on a 100% compliance rate with the requirements listed below:

-
- Compliant dimension style names column indicates the amount of dimension styles with compliant names.
 - Non-Compliant dimension style names column indicates the amount of dimension styles with non-compliant names.

2.3.6 Detailed Report: External References Standard

This report verifies that the drawing does not contain any external referenced drawings. The pass or fail status is based on a 100% compliance rate of the requirements listed below:

- External references found column indicates the amount of external references, excluding images, found in each drawing.

2.3.7 Detailed Report: Title block Standard

This report verifies that the drawing contains a PWGSC title block in paper space with locked viewports and a graphic scale. The pass or fail rate status is based on a 100% compliance rate of the requirements listed below:

- Layouts with unlocked viewports column indicates the amount of unlocked viewports.
- Model space title blocks column indicates the amount of PWGSC title block placed in the model space.
- PWGSC title block found column indicates that a PWGSC title block was found on a layout.
- Graphic scale detected column indicates whether a graphic scale block is found in the drawing, either in the paper or model space with the exception of cover sheets. This check does not affect the compliance rate.
- Unused paper space layout column indicates the amount of layouts that do not contain a PWGSC title block. This check does not affect the compliance rate.

2.3.8 Detailed Report: System of Measurement Standard

This report verifies that the drawing is configured with the metric measurement system. The pass or fail status is based on a 100% compliance rate of the requirement listed below:

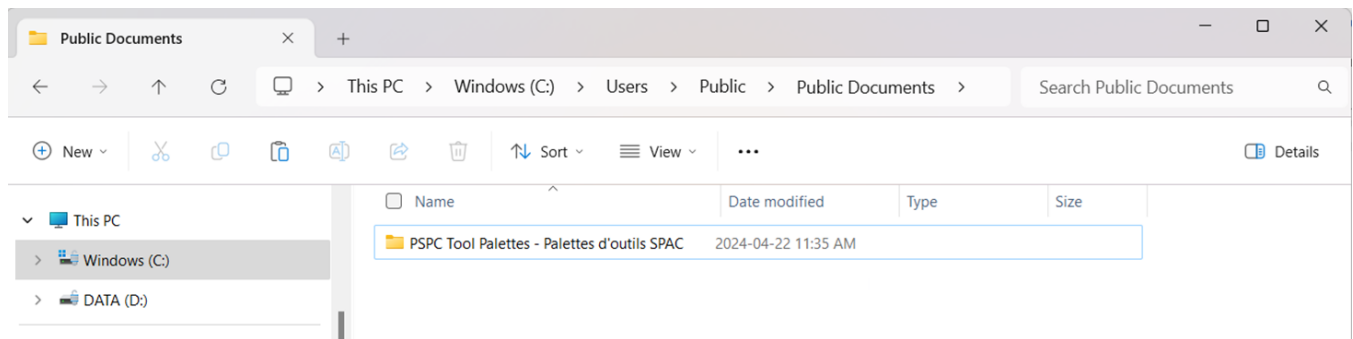
- Current linear units column indicates that the drawing is configured to use a length type of decimal.
 - Current scaling units column indicates that the drawing is configured to use an insertion scale of millimetres or metres.
-

3. The PSPC Tool Palettes

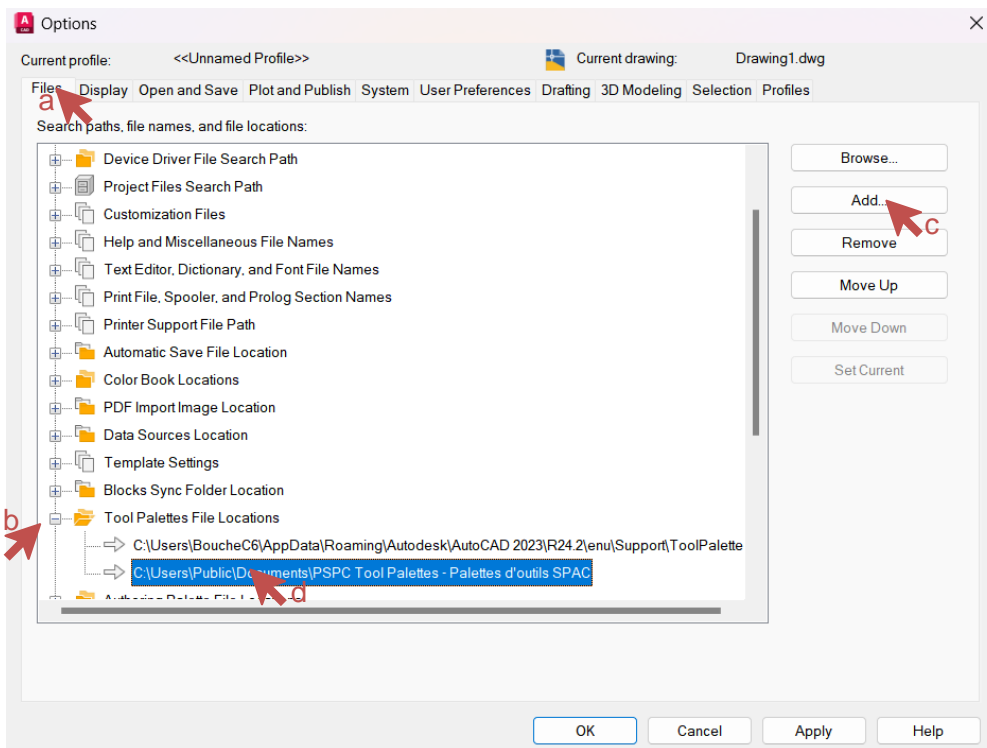
The PSPC Symbols and Graphics library has been integrated into an AutoCAD Tool Palettes to provide users with an on-the-fly access the PSPC National CADD Standard directly in AutoCAD.

3.1 Download, installation, and configuration

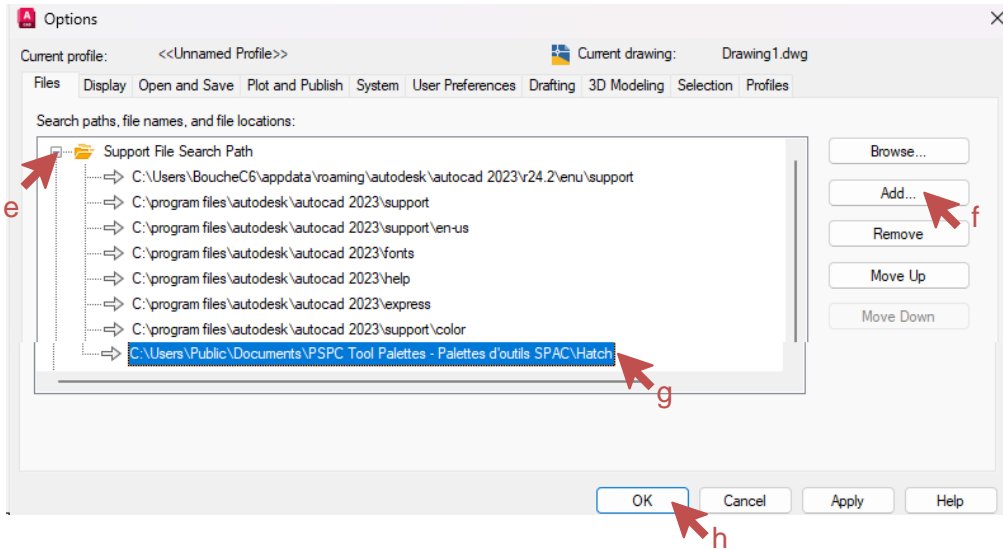
1. Follow this link [PSPC Tool Palettes - Palettes d'outils SPAC](#) and download the folder **PSPC Tool Palettes - Palettes d'outils SPAC.zip**.
2. Unzip the **PSPC Tool Palettes - Palettes d'outils SPAC.zip**:
 - a. Double click to open the compressed folder **PSPC Tool Palettes - Palettes d'outils SPAC.zip**.
 - b. Double click to open the compressed folder **PSPC Tool Palettes – Palettes d’outils SPAC.zip**.
 - c. Drag and drop or copy the un-compressed folder **PSPC Tool Palettes – Palettes d’outils SPAC** to : This PC > C: > Users > Public > Public Documents (Ce PC > C: > Utilisateurs > Public > Documents publics)



3. Open AutoCAD with a new or existing drawing.
4. At the command line, enter `_OPTIONS` and in the dialog box:
 - a. Select the Files tab.
 - b. Expand Tool Palettes File Locations
 - c. Select Add...
 - d. Browse to: This PC > C: > Users > Public > Public Documents > PSPC Tool Palettes – Palettes d’outils SPAC (Ce PC > C: > Utilisateurs > Public > Documents publics > PSPC Tool Palettes – Palettes d’outils SPAC).



- e. Expand Support File Search Path.
- f. Select Add...
- g. Browse to: This PC > C: > Users > Public > Public Documents > PSPC Tool Palettes – Palettes d'outils SPAC > Hatch (Ce PC > C: > Utilisateurs > Public > Documents publics > PSPC Tool Palettes – Palettes d'outils SPAC > Hatch)
- h. Click OK to save and dismiss the Options dialogue box.



5. At the AutoCAD command line, enter: `_CUSTOMIZE`

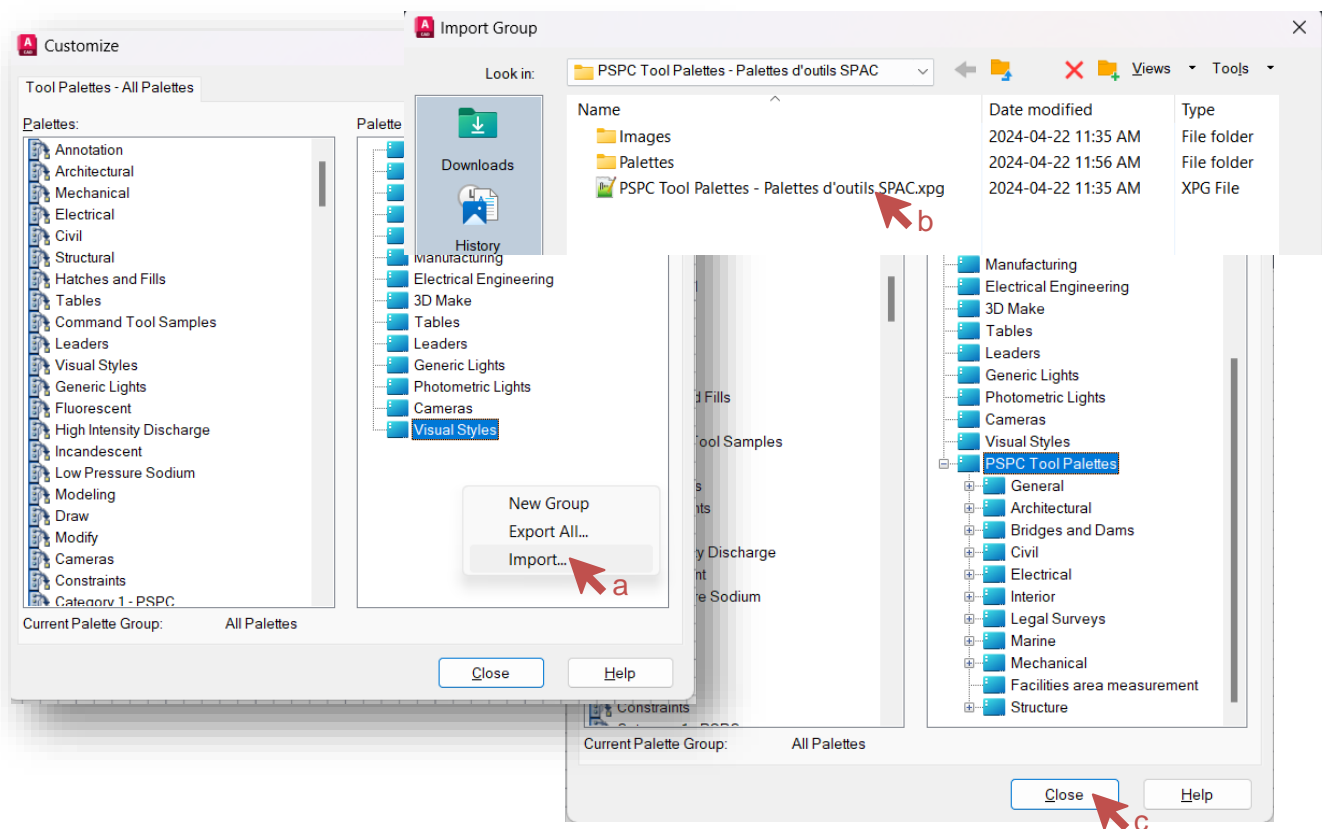
6. In the Customize dialog box:

a. Right click in the Palette Groups pane and select Import...

b. Browse and select: This PC > C : > Users > Public > Public Documents > PSPC Tool Palettes – Palettes d’outils SPAC > PSPC Tool Palettes – Palettes d’outils SPAC.xpg (Ce PC > C : > Utilisateurs > Public > Documents publics > PSPC Tool Palettes – Palettes d’outils SPAC > PSPC Tool Palettes – Palettes d’outils SPAC.xpg).


c. Close the Customize dialog box.

The PSPC Tool Palettes are now ready to be used.



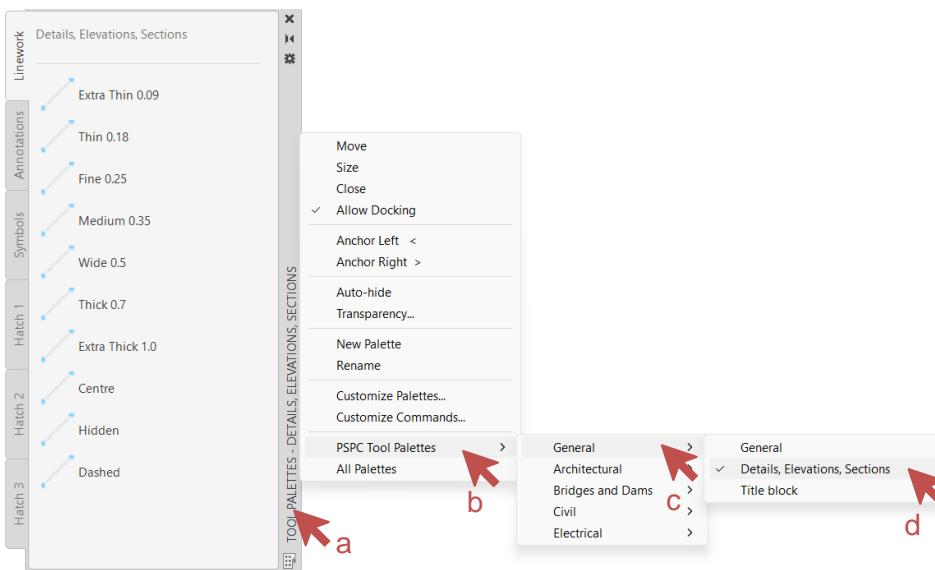
3.2 Working with the PSPC Tool Palettes

3.2.1 Accessing the PSPC Tool Palettes

Open the Tool Palettes from the AutoCAD ribbon: View (ribbon) > Palettes (panel) >  Tool Palettes. Alternatively, you can use the command `_TOOLPALETTES` or the keyboard shortcut (CTRL+3).

3.2.2 Select the Discipline and Group

- Right-click on the Tool Palettes header to open the shortcut menu.
- Highlight PSPC Tool Palettes – Palettes d'outils SPAC to reveal the list of available disciplines.
- Highlight a specific discipline to reveal the list of available groups.
- Select a group to access palettes and tools.



3.2.3 Using the Palettes

Table 3-1 explains the different types of palettes.

Table 3-1: Type of palettes








Palettes/Name	Description
Line work	Tools for drawing lines and polylines.
Annotations	Tools for drawing annotative dimensions, texts and multileaders.

Symbols	Tools for inserting blocks that are scaled according to the view scale.
Graphics	Tools for inserting blocks that are to scale geometrically and inserted with a scale of 1.
Hatch	Tools for inserting hatch patterns.

3.2.4 Using the Tools

Table 3-2 explains the different types of tools and their symbology.

Table 3-2 : Types of tools found in the Tool Palettes

Icon	Object Type	Description
	Line	The line tool creates new lines with automatically assigned layers and properties.
	Polyline	The polyline tool creates new polylines with automatically assigned layer and properties.
	Text	The text tool creates new annotative multiline texts with automatically assigned layer, style height, and properties.
	Multileader	The multileader tool creates new annotative multileaders with automatically assigned layer, style and properties.
	Dimension	The dimension tool creates new annotative linear dimensions with automatically assigned layer, style and properties.
	Block	The block tool inserts new blocks into the drawing with automatically assigned layers and properties.
	Layout	The layout tool inserts new layouts complete with page setup, title blocks and viewports.

4. PSPC CADD Toolkit plugin for AutoCAD

The PSPC CADD Toolkit is an AutoCAD plugin that enables PSPC and its consultants to produce PSPC National CADD Standard compliant drawings effectively. It includes the following tools:

- Standards Layer Creation Tool
- CADD Standard Check

4.1 Option 1: Download and installation from the Autodesk App Store

This option requires elevated privileges or administrative rights.

1. Follow this link to access the PSPC CADD Toolkit via the Autodesk App Store: [PSPC CAD TOOLKIT | AutoCAD | Autodesk App Store](#).
2. Use the Download button (sign in required) to download the app.
3. Open the downloaded folder and start the installation.

4.2 Option 2: Download and installation of the bundle folder

This option does not require elevated privileges or administrative rights.

1. Follow this link and download the folder [PWGSCpublic.bundle.zip](#).
2. Unzip the folder PWGSCpublic.bundle.zip.zip :
 - a. Double-click to open the compressed folder PWGSCpublic.bundle.zip.zip.
 - b. Double click to open the compressed folder PWGSCpublic.bundle.zip.
 - c. Drag and drop or copy the uncompressed folder PWGSCpublic.bundle to: This PC > Users > *username > AppData > Roaming > Autodesk > AutodeskPlugins (Ce PC > Utilisateurs > *nomutilisateur > AppData > Roaming > Autodesk > AutodeskPlugin).

Note 1: replace *username with the current username.

Note 2: the AppData folder is a hidden folder by default.

Once the bundle folder is copied in the AutodeskPlugins folder, the app will automatically load in AutoCAD.

