

AEC BENTLEY CONNECT EDITION WORKSPACE

Supplementation Guide

WorkSpace V 4.0

A guide to supplementing the AEC Bentley CAD BIM Workspace

Date Last Revised: 27 Sept 2023

CAD/BIM CoP

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i.- Introduction

The intent of this document is to provide instructions on how to supplement the AEC Bentley Connect WorkSpace (hereafter referred to as the WorkSpace). This document was created for the CAD/BIM CoP through a contract with Bentley Systems, Inc. managed by the CAD/BIM Center and HNC.

This documentation covers version 4.0.xx. Specific WorkSpace software version requirements are as follows:

MicroStation (MS) Connect Edition	10.17.02.61	or higher
OpenRoads Designer (ORD) Connect Edition	10.12.01.59	ONLY
OpenBuildings Designer (OBD) Connect Edition	10.09.02.36	ONLY
ProStructures (PS) Connect Edition	10.07.01.59	ONLY

The folder structure screen captures in this document are from a local install of the AEC WorkSpace environment. A similar folder structure is assumed in a managed ProjectWise environment.

This document will be revised as information is updated and recorded in the revision table found in Section ii - "Table of Revisions".

Please note sections where it is advised to not append or modify files in particular directories. Should files in these directories be modified, it makes it difficult to troubleshoot problems that might result.

ii.- Table of Revisions:

Date	Document Version	Description of revision	Author
09/27/2023	1	Final Submittal	Bentley Systems, Inc.

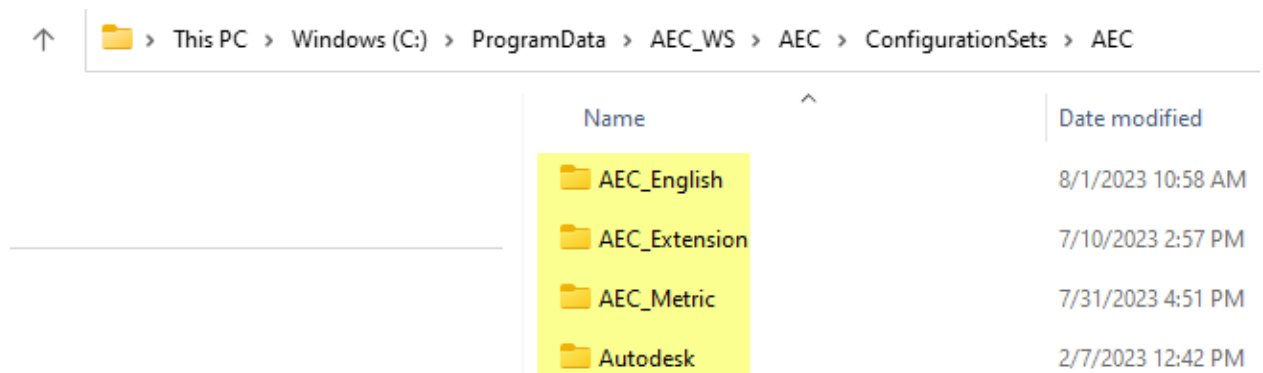
1.- Folder Hierarchy

There are three primary folder structures within the AEC WorkSpace environment. These folder structures will be referred to as:

- Configuration Sets
- WorkSpaces
- WorkSets

Configuration Sets

The “*ConfigurationSets*” folder structure is typically used to supplement the ACE standards adding **District-Specific** standards. The ConfigurationSets folder structure is broken down into four specific main folders as shown:



Name	Date modified
AEC_English	8/1/2023 10:58 AM
AEC_Extension	7/10/2023 2:57 PM
AEC_Metric	7/31/2023 4:51 PM
Autodesk	2/7/2023 12:42 PM

AEC_English

This is the main AEC set of English (Imperial) standards and should not be modified. This folder structure will be set to **read-only** in the AEC ProjectWise Managed Environment.

AEC_Extension

This is the folder structure designated for adding **District-Specific** standards. These standards would be post-pended to the AEC main set of standards.

AEC_Metric

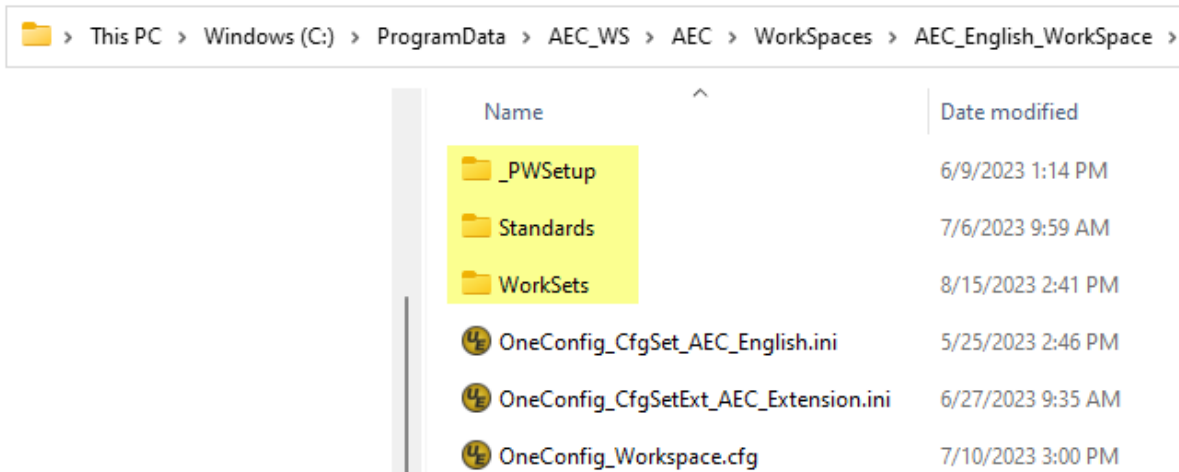
This is the main AEC set of Metric standards and should not be modified. This folder structure will be set to **read-only** in the AEC ProjectWise Managed Environment.

Autodesk

This is the main AEC set of standards relating to Autodesk and should not be modified. This folder structure will be set to **read-only** in the AEC ProjectWise Managed Environment.

WorkSpaces

The “*WorkSpaces*” folder structure is typically used to supplement the AEC standards adding **Client-Specific** standards to the “*Standards*” sub-folder structure. There are three main folders within the WorkSpace folder structure:



The screenshot shows a Windows File Explorer window with the address bar path: This PC > Windows (C:) > ProgramData > AEC_WS > AEC > WorkSpaces > AEC_English_WorkSpace >. The main pane displays a list of files and folders. Three folders are highlighted in yellow: _PWSetup, Standards, and WorkSets. Below them are three files with icons: OneConfig_CfgSet_AEC_English.ini, OneConfig_CfgSetExt_AEC_Extension.ini, and OneConfig_Workspace.cfg.

Name	Date modified
_PWSetup	6/9/2023 1:14 PM
Standards	7/6/2023 9:59 AM
WorkSets	8/15/2023 2:41 PM
OneConfig_CfgSet_AEC_English.ini	5/25/2023 2:46 PM
OneConfig_CfgSetExt_AEC_Extension.ini	6/27/2023 9:35 AM
OneConfig_Workspace.cfg	7/10/2023 3:00 PM

_PWSetup

This **read-only** folder structure is used for ProjectWise configuration and should not be modified.

Standards

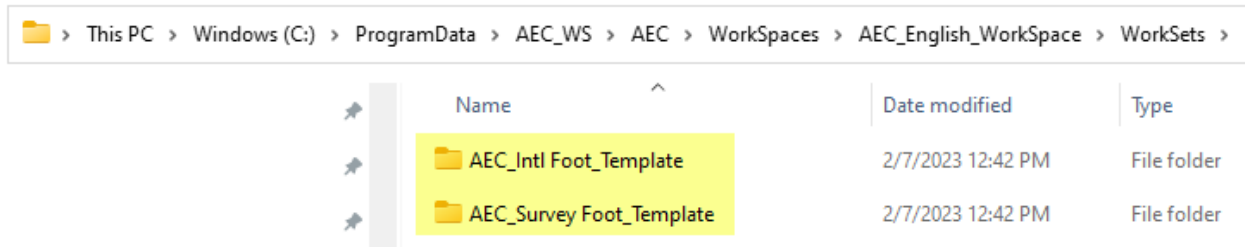
This folder structure contains predefined/configured sub-folder structures for supplementing the AEC WorkSpace at the “*WorkSpace*” level. This is where **Client-Specific** standards may be added. These standards would be post-pended to the AEC main set of standards.

WorkSets

This folder structure contains predefined/configured sub-folder structures for supplementing the AEC WorkSpace at the “*WorkSet*” level. This is where **Project-Specific** standards may be added. These standards would be post-pended to the AEC main set of standards.

WorkSets

The WorkSets sub-folder structure contains project data along with optional project specific standards. This folder structure will usually be created by an Administrator for each project. The screen capture below depicts the default WorkSets included in a fresh install of the AEC WorkSpace environment.



AEC_Intl_Foot_Template

This template folder structure is used to create an **International Foot WorkSet** (Project) folder structure. Once copied to a project folder structure, this folder structure will contain both *Project-Data* and optional *Project-Specific Supplemental Standards*.

AEC_Survey_Foot_Template

This template folder structure is used to create a **Survey Foot WorkSet** (Project) folder structure. Once copied to an actual project folder structure, this folder structure will contain both *Project-Data* and optional *Project-Specific Supplemental Standards*.

2.- MicroStation Supplementation

The following MicroStation Supplemental Standards are covered in this document:

- [Levels](#)
- [Element Templates](#)
- [Custom Line Styles](#)
- [Text Styles](#)
- [Text Favorites](#)
- [Dimension Styles](#)
- [Cells](#)
- [Item Types](#)
- [Materials](#)

Levels

MicroStation Level libraries having any file name with the letters “**Levels**” in the filename and a “.dgnlib” extension can be added to the AEC WorkSpace Environment at the following locations:

AEC_Extension (District Standards)

C:\ProgramData\AEC_WS\AEC\ConfigurationSets\AEC\AEC_Extension\Dgnlib

WorkSpace (Client Standards)

C:\ProgramData\AEC_WS\AEC\WorkSpaces\AEC_English_WorkSpace\Standards\Dgnlib

WorkSet (Project Standards)

*C:\ProgramData\AEC_WS\AEC\WorkSpaces\AEC_English_WorkSpace\WorkSets\AEC_Survey
Foot_Template\Plan Sets\06_Standards\dgnlib*

Note: A sample file name might be “*District **Levels**.dgnlib*”

Element Templates

MicroStation Element Template libraries having any file name with the letters “**ElemTemp**” in the filename and a “.dgnlib” extension can be added to the AEC WorkSpace Environment at the following locations:

AEC_Extension (District Standards)

C:\ProgramData\AEC_WS\AEC\ConfigurationSets\AEC\AEC_Extension\Dgnlib

WorkSpace (Client Standards)

C:\ProgramData\AEC_WS\AEC\WorkSpaces\AEC_English_WorkSpace\Standards\Dgnlib

WorkSet (Project Standards)

*C:\ProgramData\AEC_WS\AEC\WorkSpaces\AEC_English_WorkSpace\WorkSets\AEC_Survey
Foot_Template\Plan Sets\06_Standards\dgnlib*

Note: A sample file name might be “*District **ElemTemp**.dgnlib*”

Custom Line Styles

MicroStation Custom Linestyle Resource files having any file name with a “.rsc” extension can be added to the AEC WorkSpace Environment at the following locations:

AEC_Extension (District Standards)

[C:\ProgramData\AEC_WS\AEC\ConfigurationSets\AEC\AEC_Extension\Symb\](#)

Workspace (Client Standards)

[C:\ProgramData\AEC_WS\AEC\WorkSpaces\AEC_English_WorkSpace\Standards\Symb\](#)

WorkSet (Project Standards)

[C:\ProgramData\AEC_WS\AEC\WorkSpaces\AEC_English_WorkSpace\WorkSets\AEC_Survey
Foot_Template\Plan Sets\06_Standards\symb\](#)

Note: A sample file name might be *“District Line Styles.rsc”*

Text Styles

MicroStation Text Style libraries having any file name with the letters **“TextDim”** in the filename and a *“.dgnlib”* extension can be added to the AEC WorkSpace Environment at the following locations:

AEC_Extension (District Standards)

[C:\ProgramData\AEC_WS\AEC\ConfigurationSets\AEC\AEC_Extension\Dgnlib\](#)

Workspace (Client Standards)

[C:\ProgramData\AEC_WS\AEC\WorkSpaces\AEC_English_WorkSpace\Standards\Dgnlib\](#)

WorkSet (Project Standards)

[C:\ProgramData\AEC_WS\AEC\WorkSpaces\AEC_English_WorkSpace\WorkSets\AEC_Survey
Foot_Template\Plan Sets\06_Standards\dgnlib\](#)

Note: A sample file name might be *“District **TextDim**.dgnlib”*

Text Favorites

MicroStation Text Favorites libraries having any file name with the letters **“TextFavorites”** in the filename and a *“.dgnlib”* extension can be added to the AEC WorkSpace Environment at the following locations:

AEC_Extension (District Standards)

[C:\ProgramData\AEC_WS\AEC\ConfigurationSets\AEC\AEC_Extension\Dgnlib\](#)

Workspace (Client Standards)

C:\ProgramData\AEC_WS\AEC\WorkSpaces\AEC_English_WorkSpace\Standards\Dgnlib

WorkSet (Project Standards)

*C:\ProgramData\AEC_WS\AEC\WorkSpaces\AEC_English_WorkSpace\WorkSets\AEC_Survey
Foot_Template\Plan Sets\06_Standards\dgnlib*

Note: A sample file name might be “*District **TextFavorites.dgnlib***”

Dimension Styles

MicroStation Dimension Styles libraries having any file name with the letters “**TextDim**” in the filename and a “.dgnlib” extension can be added to the AEC WorkSpace Environment at the following locations:

AEC_Extension (District Standards)

C:\ProgramData\AEC_WS\AEC\ConfigurationSets\AEC\AEC_Extension\Dgnlib

Workspace (Client Standards)

C:\ProgramData\AEC_WS\AEC\WorkSpaces\AEC_English_WorkSpace\Standards\Dgnlib

WorkSet (Project Standards)

*C:\ProgramData\AEC_WS\AEC\WorkSpaces\AEC_English_WorkSpace\WorkSets\AEC_Survey
Foot_Template\Plan Sets\06_Standards\dgnlib*

Note: A sample file name might be “*District **TextDim.dgnlib***”

Cells

MicroStation cell libraries having any file name with a “.cel” extension can be added to the AEC WorkSpace Environment at the following locations:

AEC_Extension (District Standards)

C:\ProgramData\AEC_WS\AEC\ConfigurationSets\AEC\AEC_Extension\Cell

Workspace (Client Standards)

C:\ProgramData\AEC_WS\AEC\WorkSpaces\AEC_English_WorkSpace\Standards\Cell

WorkSet (Project Standards)

*C:\ProgramData\AEC_WS\AEC\WorkSpaces\AEC_English_WorkSpace\WorkSets\AEC_Survey
Foot_Template\Plan Sets\06_Standards\cell*

Item Types

MicroStation Item Types libraries having any file name with the letters “**ItemTypes**” in the filename and a “.dgnlib” extension can be added to the AEC WorkSpace Environment at the following locations:

AEC_Extension (District Standards)

C:\ProgramData\AEC_WS\AEC\ConfigurationSets\AEC\AEC_Extension\Dgnlib

WorkSpace (Client Standards)

C:\ProgramData\AEC_WS\AEC\WorkSpaces\AEC_English_WorkSpace\Standards\Dgnlib

WorkSet (Project Standards)

*C:\ProgramData\AEC_WS\AEC\WorkSpaces\AEC_English_WorkSpace\WorkSets\AEC_Survey
Foot_Template\Plan Sets\06_Standards\dgnlib*

Note: A sample file name might be “*District **ItemTypes.dgnlib***”

Materials

MicroStation Material DGN Libraries (*.dgnlib), Bumps (Image Files), and Patterns (Image Files) having any file name can be added to the AEC WorkSpace Environment at the following locations:

AEC_Extension (District Standards – Materials DGNLib)

C:\ProgramData\AEC_WS\AEC\ConfigurationSets\AEC\AEC_Extension\Materials

AEC_Extension (District Standards – Bumps)

C:\ProgramData\AEC_WS\AEC\ConfigurationSets\AEC\AEC_Extension\Materials\Bump

AEC_Extension (District Standards – Patterns)

C:\ProgramData\AEC_WS\AEC\ConfigurationSets\AEC\AEC_Extension\Materials\Pattern

WorkSpace (Client Standards – Materials DGNLib)

C:\ProgramData\AEC_WS\AEC\WorkSpaces\AEC_English_WorkSpace\Standards\Materials

Workspace (Client Standards – Bumps)

C:\ProgramData\AEC_WS\AEC\WorkSpaces\AEC_English_WorkSpace\Standards\Materials\Bump

Workspace (Client Standards – Patterns)

C:\ProgramData\AEC_WS\AEC\WorkSpaces\AEC_English_WorkSpace\Standards\Materials\Pattern

WorkSet (Project Standards – Materials DGNLib)

C:\ProgramData\AEC_WS\AEC\WorkSpaces\AEC_English_WorkSpace\WorkSets\AEC_Survey_Foot_Template\Plan Sets\06_Standards\materials

WorkSet (Project Standards – Bumps)

C:\ProgramData\AEC_WS\AEC\WorkSpaces\AEC_English_WorkSpace\WorkSets\AEC_Survey_Foot_Template\Plan Sets\06_Standards\materials\bump

WorkSet (Project Standards – Patterns)

C:\ProgramData\AEC_WS\AEC\WorkSpaces\AEC_English_WorkSpace\WorkSets\AEC_Survey_Foot_Template\Plan Sets\06_Standards\materials\pattern

3.- OpenRoads Designer Supplementation

The following OpenRoads Designer (ORD) Supplemental Standards are covered in this document:

[Adding Feature Definitions / Element Templates](#)

[Adding Text Favorites and Civil Labeler Definitions](#)

[Adding Custom Reports](#)

Adding Feature Definitions / Element Templates

ORD Features / Element Templates can be added to a required preconfigured filename and location at the Workspace or WorkSet levels. This filename has been created in advance for the user. The naming of the file is directly tied to the configuration variables that process this file. It is acceptable to rename the prefix of the file name. The portion of the file name “**AEC_EXT_STDS_Features_Survey_Annotations_Levels_Elem Temp.dgnlib**” shown in black boldface type however should not be changed.

AEC_Extension (District Standards)

C:\ProgramData\AEC_WS\AEC\ConfigurationSets\AEC\AEC_Extension\Civil\Dgnlib\Feature Definitions\AEC_EXT_STDS_Features_Survey_Annotations_Levels_Elem Temp.dgnlib

Note: The file for the AEC_EXT location is not delivered with the AEC WorkSpace Environment currently. Simply copy one of the blank files listed below and rename.

WorkSpace (Client Standards)

C:\ProgramData\AEC_WS\AEC\WorkSpaces\AEC_English_WorkSpace\Standards\Civil\Dgnlib\Feature Definitions\AEC_WSP_STDS_Features_Survey_Annotations_Levels_ElemTemp.dgnlib

WorkSet (Project Standards)

C:\ProgramData\AEC_WS\AEC\WorkSpaces\AEC_English_WorkSpace\WorkSets\AEC_Intl_Foot_Template\Plan Sets\06_Standards\Civil\Dgnlib\Feature Definitions\AEC_WST_STDS_Features_Survey_Annotations_Levels_ElemTemp.dgnlib

Supplementing Feature Definitions / Element Templates for the AEC WorkSpace Environment is best explained by an instructional video. This video is located on the USACE/Bentley Resource Center at the following location:

[USACE WS 4+ Adding Features or Element Templates](#)

Adding Text Favorites / Civil Labeler Definitions

ORD Text Favorites / Civil Labeler Definitions can be added to a required file name and location at the Extension, WorkSpace or WorkSet folder structure. This 3D dgnlib file must be created by the user from a USACE 3D horizontal seed file. The naming of the file is directly tied to the configuration variables that process this file. It is acceptable to rename the prefix of the file name. The file name “**AEC_EXT_STDS_Label Features_Text Favorites_Annotations.dgnlib**” shown in black boldface type however should not be changed when creating this 3D file. The prefix can be modified as shown below in the different locations.

AEC_Extension (District Standards)

C:\ProgramData\AEC_WS\AEC\ConfigurationSets\AEC\AEC_Extension\Civil\Dgnlib\Feature Definitions\AEC_EXT_STDS_Label Features_Text Favorites_Annotations.dgnlib

WorkSpace (Client Standards)

C:\ProgramData\AEC_WS\AEC\WorkSpaces\AEC_English_WorkSpace\Standards\Civil\Dgnlib\Feature Definitions\AEC_WSP_STDS_Label Features_Text Favorites_Annotations.dgnlib

WorkSet (Project Standards)

*C:\ProgramData\AEC_WS\AEC\WorkSpaces\AEC_English_WorkSpace\WorkSets\AEC_Intl
Foot_Template\Plan Sets\06_Standards\Civil\Dgnlib\Feature Definitions\
AEC_WST_STDS_Label Features_Text Favorites_Annotations.dgnlib*

Supplementing ORD Text Favorites / Civil Labeler Definitions for the AEC WorkSpace Environment is best explained by an instructional video. This video is located on the USACE/Bentley Resource Center at the following location:

[USACE WS 4+ Adding Text Favorites and Label Definitions](#)

Adding Custom Reports

ORD Custom Reports can be added to a required preconfigured folder location at the AEC_Extension, WorkSpace or WorkSet levels. The folders have been created in advance for the user. The naming of the folder is directly tied to the configuration variables that process these files. The folder name should not be renamed with one important exception noted below.

AEC_Extension (District Standards)

C:\ProgramData\AEC_WS\AEC\ConfigurationSets\AEC\AEC_Extension\Civil\Reports\USACE_Custom

Important: In WorkSpace 4.0.40, there is a typo in this folder name. There should be an underscore between *USACE* and *Custom* as follows: ...***USACE_Custom***. Please add the underscore to this folder name if it is not present as shown.

WorkSpace (Client Standards)

C:\ProgramData\AEC_WS\AEC\WorkSpaces\AEC_English_WorkSpace\Standards\Civil\Reports\USACE_Custom

WorkSet (Project Standards)

*C:\ProgramData\AEC_WS\AEC\WorkSpaces\AEC_English_WorkSpace\WorkSets\AEC_Intl
Foot_Template\Plan Sets\06_Standards\Civil\Reports\USACE_Custom*

Supplementing Custom Reports for the AEC WorkSpace Environment is best explained by an instructional video. This video is located on the USACE/Bentley Resource Center at the following location:

[USACE WS 4+ Adding Custom Reports to WorkSpace](#)

Important: The file name extension of the XSL Style Sheet Reports must be lower case “.xsl”