

# PIM & CAD STANDARDS VERSION 2.0 UPDATES

## 09/18/2023 Updates (PIM & CAD v2.0 Updates)

Migrating the standards to new versions of the software, Autodesk Civil 3D 2024.1.1, Revit 2024.1.1, and Open Roads Designer 2022 Release 3 Version 10.12.02.04, the following updates were made to the PTC PIM & CAD Standards:

### **PTC Project Execution Plan Template v2.0**

- Table 4.4: Revised example in table for clarity.
- Section 4.2.2.2: Deleted entire section, including table 4.5.
- Table 4.9: Revised abstracted model names to reflect removal of originator from file naming conventions.
- Table 5.1: Revised abstracted model names to reflect removal of originator from file naming conventions.

### **Project Information Modeling & CAD Standards v2.0**

- Section 3.4.1: Updated clash avoidance section
- Section 3.4.2. Construction Phase – Clash Detection: Removed Section
- Section 5.5.1.2: Added Section Model and Annotated Views
- Section 8.1.1: Added project number abbreviation examples.
- Section 8.1.2: Originator section removed, subsequent section labels in 8.1 updated.
- Table 8-2: Revised to reflect removal of originator, revised associated examples in table, updated contract numbers.
- Section 8.2.1: Revised content to reflect removal of originator, revised example file names.
- Section 8.2.2.1: Updated contract number.
- Table 8-4: Revised to reflect removal of originator, revised associated examples in table, updated contract numbers.
- Table 8-5: Revised to reflect removal of originator, updated contract numbers, updated example.
- Table 8-6: Updated contract numbers, revised associated examples in table.
- Table 8-8: Revised to reflect removal of originator, updated contract numbers.
- Table 8-23: Revised to reflect removal of firm designator, revised associated examples in table.
- Section 8.5.3: Removed reference to firm designator.
- Table 8-24: Revised to reflect removal of firm designator, revised associated example in table.
- Section 8.5.4: Revised text to reflect removal of firm designator.
- Table 8-26: Revised to reflect removal of firm designator, revised associated example in table.
- Section 10.1: General Coordination Standards updated language and requirements
- Section 10.1.1: Removed Owner Review
- Removed mention of checklist in PTC Project Information Modeling & CAD Standards Review Report, changed name of section (11.3.1.3)
- Renamed PIM Quality Review report to PTC Project Information Modeling & CAD Standards Review Report (11.3.1, 11.3.1.1, 11.3.1.2)
- Renamed Quality Compliance Checklist to Quality Compliance Criteria, Revised content to remove reference to Checklist (11.2.3.1)
- Changed all references to Civil3D or AutoCAD 2021 to 2024, all CAD Standards.
- Updated Civil Layers table (15.5.1)
- Updated Structural Layers table (15.5.2)
- Updated Traffic Layers table (15.5.3)
- Updated Survey Layers table (15.5.4)



- Updated Civil Symbols table (15.7.1.2)
- Updated Survey Symbols table (15.7.1.2)
- Updated Utility Symbols table (15.7.1.3)
- Updating linetypes tables (15.6.1)
- Deleted the following 'under development' sections as a revision only. Revisions will be approved when we get closer to the submittal date so the outline numbers used here remain accurate to document and renumbered sections throughout the document.
  - 3.2.1.4 RECORD MODELS
  - 3.2.2 CONSTRUCTION INTENT
    - 3.2.2.1 USE
    - 3.2.2.2 DELIVERABLE
    - 3.2.2.3 AS-BUILTS
  - 3.3.1.3 RECORD DRAWINGS
  - 3.4 2D NON-GRAPHICAL INFORMATION
    - 3.4.1 GIS REQUIREMENTS
    - 3.4.2 ASSET INFORMATION REQUIREMENT (AIR)
  - 5.5 SPACE/PARCEL MANAGEMENT
  - 5.6.1.4 RECORD MODEL
  - 5.6.1.5 AS-BUILT MODELING STANDARDS
  - 5.7 ASSET INFORMATION MODELS (AIM)
  - 5.9.4 REVIT ARCHITECTURE MODELING STANDARDS
    - 5.9.4.1 ARCHITECTURAL MODELING STANDARDS
  - 7.2.4 ELECTRONIC FILES IDENTIFIED AS PLAN SHEET(S)
  - 7.4.3 FOR SHEET REVISIONS
  - 7.4.5 REVISION WORKFLOW
  - 8.3 MATERIAL NAMING
  - 9. INFORMATION STANDARDS
    - 9.1 GEOGRAPHIC INFORMATION SYSTEM (GIS) STANDARDS
    - 9.2 ASSET INFORMATION STANDARDS
    - 9.3 INFORMATION EXCHANGE STANDARDS
  - 11.3 CONSTRUCTION COORDINATION
    - 11.3.1 INTERFERENCE CHECK / CLASH DETECTION
    - 11.3.2 CONSTRUCTION MODEL COORDINATION
  - 14.1 DESIGN SUBMITTAL PROCESS
  - 15.1.2 OPENROADS DESIGNER EXAMPLE PLANS
  - 15.14 PROJECT INFORMATION MODELING & CAD STANDARDS QUALITY REVIEW REPORT
  - 15.15 AUTODESK MODEL CHECKER
  - 15.16 MODEL REVIEW CHECKLISTS

### Civil 3D Template Support Files

- Update Civil 3D Deployment for Survey Linework
- Codes for Fiber Optic overhead and underground were added including:
  - New fiber optic layers
  - New fiber optic codes added to the Description Key Set
  - New fiber optic codes add to the Figure Prefix Database
  - New fiber optic survey figure styles added to the template
- Survey electric overhead and underground were both using the same layer. A new layer was added and these types have been separated individually.
- CTOW code was added to support Cell towers including:
  - Code was added to the description key set

- Code was added to figure prefix database
- New Survey Figure Styles were added for fiber and new layers were created to support those styles
- Several previously developed utility blocks were added to the template from UMA development content
- PET code was added to support Petroleum content
- New Petroleum layers
- New Petroleum codes added to the Description Key Set
- New Petroleum codes add to the Figure Prefix Database
- New Petroleum survey figure styles added to the template
- Storm Drain layer linetype has been changed to Continuous. Will be called out with a leader or note.
- Default Lineweight has been changed to Bylayer.
- Codes THW & BHW have been added to support Survey Headwalls including:
  - New Petroleum codes added to the Description Key Set

### Bentley ORD Support Files

- Removed duplicate feature and symbol definitions
- Moved cell origins for Guiderail insertion point
- Added Level "C-ROAD-ATEN" for attenuator objects
- Added Element Templates, Symbol Definitions, & Feature Definitions for Point objects for the following object definitions:
  - 3D PTS-142 SFCB\_52
  - 3D PTS-142 SFCB\_TSLT
  - 3D PTS-142 SFCB\_TSRT
  - 3D PTS-144 SFCB BURIED END
  - 3D PTS-145 ATP I
  - 3D PTS-145 ATP II
  - 3D PTS-145 ATP III
  - 3D PTS-146 SFCB TO THR IE
  - 3D PTS-147 PTP
  - 3D PTS-148 MCTP
  - 3D RC-50M THR IE-BEAM APPROACH TRANSITION
  - 3D RC-58M SFCB END TRANS RT
  - 3D RC-58M SFCB END TRANS LT
- Updated 3D RC-50M THR IE-BEAM APPROACH TRANSITION cell to clean up and remove annotation
- Removed duplicate cell library from Standards folder structure
- Updated all references from "Guardrail" to "Guiderail"
- Relinked all cell references to Guiderail cells
- Updated section to describe default settings of seed files per specific workspaces (5.6.4.2)
- Updated Table 5-5 Customized DGN Libraries(5.6.4.3)
- Updated all the sheet DGNLIBs
- Updated the Annotation Groups
- Reviewed and updated all the Feature Definitions, text favorites,
- Updated linestyles and linestyle RSC files
- Added drainage cells to cell library
- Combined all SUE cells into one cell library
- Update the Sheet Border to add pen table functionality
- Created New Workspaces and Worksets
- Updated the sheet seed files to include single project PDF length sheets
- Combined all sheet seed DGNLIBs into one DGNLIB
- Added border to sheet seed DGNLIBs



- Updated attachment method of sheet seed DGNLIBs

### Revit Template Files

- Upgraded Revit Template files to 2024.1.1.