CITY UTILITIES
DESIGN STANDARDS MANUAL

Book 6
CADD Standards (CADD)
CADD1 Acronyms and Definitions

June 2015

CADD1.01 Purpose

The purpose of this Chapter is to define acronyms and terms used throughout the CADD Book of the Design Standards Manual. This Chapter covers the intent and meaning of the referenced acronyms and terms.

CADD1.02 Acronyms

Acronyms should be kept to a minimum. However, when used, they shall follow and not conflict those established in the NCS v.5, Module 5.0.

In a situation where an acronym is not listed and is intended to be used more than once, the complete term to be abbreviated shall be completely spelled out with the acronym enclosed in parentheses immediately after the term (ex. Computer Aided Design and Drafting (CADD)).

ACAD	Autodesk AutoCAD
A/E/C	Architecture, Engineering, and Construction
CAD	Computer-Aided Design (or Drawing)
CADD	Computer Aided Design and Drafting
CTB	Color-Dependent Plot Style
CTC	Conformed to Contract
CUE	City Utilities Engineering
DD	Discipline Designator
DND	Do Not Disturb
DOC	Microsoft Word
DST	Sheet Set File
DWF	Design Web Format
DWG	AutoCAD Drawing
DWS	AutoCAD Drawing Standards File
DWT	AutoCAD/Civil 3D AutoCAD Drawing Template
GIS	Geographic Information System
GR	General Requirements
IN83-EF	Indiana State Plane, East Zone, US (Survey) Foot
JPG	Joint Photographic Experts Group Format
NAD83	North American Datum of 1983
NAVD88	North American Vertical Datum of 1988
NCS	National CAD Standard v.5.0
PDF	Adobe Acrobat Portable Document File Format
PNG	Portable Network Graphic Format

P&P	Plan and Profile
PSA	Professional Services Agreement
OSN	Order Sequence Number
RGB	Red, Green, and Blue
SSN	Subset Sheet Number
STB	Named Plot Style
TD	Sheet Type Designator
TXT	Text
UDS	Uniform Drawing System
XLS	Microsoft Excel
XML	Extensible Markup Language

CADD1.03 Definitions

ACAD Model Space: In Autodesk AutoCAD, Model space everything is drawn at a scale of one to one and may also be positioned on a specific coordinate system, such as a national mapping grid, in order to integrate accurately with other drawings.

ACAD Paper Space: The sheet file layout. A typical Paper Space layout will consist of a standardized title block containing information about the drawing; drawing number, date completed etc. This title block will be drawn to accurately fit on a standardized sheet of paper.

Bylayer: An object that will get its property from the value assigned for that property to the layer.

CADD Deliverables: The quantifiable goods or services that will be provided upon the completion of a project.

CADD Electronic Data: Any original and any non-identical copies (whether non-identical because of notes made on copies or attached comments, annotations, marks, transmission notations, or highlighting of any kind), of mechanical, facsimile, electronic, magnetic, digital or other programs (whether private, commercial, or work-in-progress), programming notes or instructions, activity listings of electronic mail receipts or transmittals, output resulting from the use of any software program, including word processing documents, spreadsheets, database files, charts, graphs and outlines, electronic mail or "e-mail," personal digital assistant ("PDA") messages, instant messenger messages, operating systems, source code of all types, programming languages, linkers and compilers, peripheral drives, PDF files, PRF files, batch files, ASCII files, crosswalks, code keys, pull down tables, logs, file layouts and any and all miscellaneous files or file fragments, regardless of the media on which they reside and regardless of whether said

electronic data consists of an active file, deleted file or file fragment as it pertains to Computer Aided Design and Drafting.

CADD Electronic Drawings: The use of computer systems to assist in the creation, modification, analysis, or optimization of a design. The digital equivalent of a drawing, figure or schematic created using a CAD system.

CADD File: An electronic computer file, containing CADD data entities, which can be changed and manipulated by a CADD software program.

Conformed to Contract: Construction Drawings and Documents modified to incorporate changes made via Addendum during the bidding process. CTC documents are created after bids are accepted, but prior to issuing the Contractor's Notice to Proceed.

Construction Drawings: Referred to as working drawings. Architectural drawings with keyed notes detailing the work required and types of materials to be used in constructing the improvements.

Discipline Designator: An alphanumeric character identifying the sheet as part of a discipline subset.

Drawing: Graphic and pictorial portions of the documents showing the design, location, and dimensions of the project, generally including plans, elevations, sections, details, schedules, and diagrams.

Drawing Area: The drawing area contains all graphics, notes, text, schedules etc. It is divided into modules with alphanumeric and numeric coordinates to aid in placing details and objects within sheets.

Drawing File Organization: A standardized method which establishes guidelines for consistency in the creation and compilation of electronic files.

Drawing Set Organization: A standardized method for organizing information that is presented graphically.

Drawing Sheet Organization: A standardized method which establishes guidelines for consistency in the systematic presentation of drawings organized on sheets.

Dynamic Model: A data model where parts of the model have a "live" link to other parts. When a change is made in one part, it propagates to other linked part(s). For example, if a manhole from a dynamic pipe network model is moved horizontally in plan view, the attached pipes will change angles, location and direction to remain attached to the manhole. The location will also be updated horizontally in any profile view which shows that same manhole.

Exploding/Editing Dimensions/Texts: To create components that can be edited individually from a compound dimension.

File Naming: The naming of a file with these five components: project work order number designator, discipline designator, model type designator, data

object designator, sequence number and the file extension preceded by a period.

Fonts: The typographic style property of text. Fonts may be drafting style (one line thickness) or typographic such as that being used in this document. Fonts are commonly managed by the operating system, not the CAD program and can be difficult to translate from one computer to another or one CAD program to another.

Full Scale: The 1:1 ratio of the linetype scale of the plot style corresponding to the linetype scale of the drawing (or model). Generally used when plotting a CADD drawing on the same paper size corresponding to the CADD layout size to which the drawing was created.

Guidelines: Required. Part of the United States National CAD Standard.

Half Scale: The 1:2 ratio of the linetype scale of the plot style corresponding to the linetype scale of the drawing (or model). Generally used when plotting a CADD drawing on a smaller paper size corresponding to the CADD layout size to which the drawing was created to allow for the linetypes and lineweights of the drawing to be presented correctly.

Hatching: Area fills. They can be made up of a solid color, a gradient (in later versions of AutoCAD) or more usually a specific pattern.

Identity Symbols: Indicate individual objects and are generally used in mechanical and electrical drawings.

Layer: A property of any drawing object. Usually objects are organized onto different layers for organizational purposes and ease of drawing, viewing and editing. Layers often can be named and can have default colors or other properties associated with them.

Level 1 Discipline Designator: One (1) alphanumeric character identifying the sheet as part of a discipline subset.

Library File: Files used as sources of information for more than one project. Examples are catalogs of detail, schedule, text, symbol, border and title block files.

Line Symbols: Indicate continuous objects and are either single or double lines. These symbols are scale independent.

Material Symbols: Graphically indicate certain materials and are used to help the reader differentiate one material from another. These symbols may be in elevation, vertical, or horizontal section and should be used as necessary but not overdone and used where a material begins and ends or changes direction.

Model File: Electronic DWG file that contains a whole or partial full-scale digital model and graphics of a building, site or work area.

Nested: Electronic data (such as survey drawing, surface model, or pipe network) that are referenced into another file before being referenced into the construction drawing.

North arrow: Used to indicate the direction to the north.

Object Symbols: Resemble the actual objects being symbolized. These symbols are scale dependent.

Optional: Left to individual choice.

Order Number: A number to define the Sheet Type

Plot File: An electronic CTB computer file containing information necessary to print one drawing sheet formatted for output to a printing or plotting device no longer stored in its native CADD file format.

Plotting: Final touch on a drawing in preparation for on-screen display or hard copy printing from scale, layout and dimension, weight and color.

Production Data Area: The location where the sheet file saved path and name, including the file (DWG) extension. Print, date, title, and time shall be located on the lower left and upper left margin reading vertically.

Project Folder Structure Template: A pre-formatted folder that serves as the standard for the arrangement of files within the project folder.

Publishing: Prepares a sequential set of multiple drawings for hard copy or electronic plotting of the set.

Real-world: Referring to the scale to which the model is to be drawn. The dimensions of the model shall be the same as the actual dimensions as it was measured in the "Real-Time".

Recommended: Not required, suggested method only.

Reference Symbols: Refer the reader to information in another area of the set of drawings or give basic information regarding the drawing or data on the drawing. These symbols are scale independent.

Required: Imposed as a condition or necessary for a specific purpose.

Route: A course, way, or road for passage or travel that needs improvement.

Shape Files: A shape file is a digital vector storage format for storing geometric location and associated attribute information. Shape files store the primitive geometric data types of points, lines, and polygons.

Sheet File: A "ready-to-plot, DWG electronic file comprised of multiple referenced model files viewed in whole or part within a border and title block sheet. It may generally also include sheet-specific text, graphics and symbols within model or paper space.

Sheet Identification: The naming of a CAD drawing file that represents a certain sheet in the drawing set, although there are certain variations.

Sheet Order: The order of sheets shall follow NCS Guidelines. The first sheet shall be the Cover or Title Sheet and other sheets shall follow within their respective (discipline) subset.

Sheet Type Designator: One alphanumeric character identifying the type of information on the sheet.

Styles: Combination of properties that bring your drawing to give visual appeal.

Subset Sheet Number: Two numerical characters, starting with 01, designating the sheet number within the discipline subset. Sheets of the same discipline/design content shall be numbered sequentially with the characters 01, 02, etc. including as many drawings as required.

Supporting Data Files: Any computer file that holds data containing information relating to the project.

Templates: A pre-formatted file that serves as the standard for the arrangement of information within the file. A template may contain text styles, notes, dimension styles and other pre-formatted annotative objects specific to a standard outlined by the project owner.

Text Symbols: Graphically indicate a word or words that may be used in notations on drawings.

True North: Is the direction along the earth's surface towards the geographic north pole. True north is marked with a line terminating in a five-pointed star. The east and west edges of the USGS topographic quadrangle maps of the United States are meridians of longitude, thus indicating true north (so they're not exactly parallel).

Uniform Drawing Systems (UDS):   Interrelated modules consisting of standards, guidelines, and other tools for the organization and presentation of drawing information used for the planning, design, construction, and operation of facilities.

Unverified Data: Structures or other features depicted that have not been surveyed, confirmed, substantiated, or proven to be true.