City of Madison CAD Site Plan Submittal Instructions

CAD data submitted through site plan submittals provides critical data that informs a variety of city processes including infrastructure mapping and analysis, stormwater billing, and watershed modeling. It is important to have this data submitted in the correct, below format in order for this data to be integrated with the City's GIS mapping databases.

Submit, prior to plan sign-off, a single digital CADD file to the Public Works Development Manager (Kate Kane kkane@cityofmadison.com for West, Gretchen Aviles Pineiro GAvilesPineiro@cityofmadison.com for Central and Brenda Stanley bstanley@cityofmadison.com for East). The digital CADD file shall be to scale and represent final construction in the CAD template available for download at: https://www.cityofmadison.com/engineering/developers- contractors/developers/digital-file-submittals

The digital CAD file shall meet the City of Madison CAD template specifications below that are predefined in the template drawing. Drawing must be submitted in the below coordinate system.

WISCRS – Dane NAD 83 (1991) – USF, Projection: LM1SP Datum: Harn/WI.
Vertical Datum shall be referenced to NAVD 88 (91 adjustment)

Drafting Requirements and Clarifications

1. Differentiate impervious roads, sidewalks and parking and map per their appropriate layer in the CAD layer definition.
2. Building Outline
    a. Do not include the architectural drawing as a block, cell, or bound attachment in the drawing.
    b. Include the building foundation outline only. Do not include eaves, canopies, or roof overhang.
    c. Include only one polygon that captures all impervious surfaces associated with the building. This polygon is the outline of the building foundation and the building's foundation components as seen from above, with no differentiation between levels, roof vs wall, interior walls, etc.
3. Parking Lots
    a. Map entire parking lot and drive, including back of curb only the back of curb is needed. The three lines are not. The pavement transition from EOP to Curb FLG is not needed as noted in (b.) below, nor the 2d representation of the curb face. These all should be on C-ROAD-PARKING or C-ROAD-PARKING-PERVIOUS (depending on material).
    b. Do not differentiate between curb and asphalt. Do not differentiate between concrete and pavement (unless pervious vs impervious pavement).
4. Roads
    a. Map initial entry into parking lot as C-ROAD or C-ROAD-PERVIOUS (depending on material). Do not differentiate between concrete and/or asphalt (unless pervious vs impervious pavement).
    b. Map drive aprons outside of parcel boundary to street curb.
5. Pipes
    a. Only one line or polyline per pipe, do not include offset lines used for graphics.
    b. All pipe and structure labels should be included.
    c. Remove all abandoned/removed pipes from the submittal and include existing private pipes/structures that will remain.

d. Exclude all polygons from pipes layers (can have polygons on structure layers)

6. Ponds
    a. Include both top and bottom of pond.
    b. Each pond type shall be placed on correct pond type layer.
7. Property Line
    a. This linework is for locational purposes only. You do not need to label the property line. Property line at ROW can go on either the property line layer or the ROW layer.
8. Mechanical Pads, Patios, Bike Stalls and other Miscellaneous Impervious Items
    a. These can go on either the sidewalk layer, or miscellaneous impervious layers. Pads, patios and bike stalls that are connected to sidewalk should be submitted on the sidewalk layer.
    b. If patios and mechanical pads are enclosed by a structure with walls (a fenced dumpster enclosure with roof) then only draft the outline of the structure and place on the A-BLDG-FTPR layer.
    c. Area wells/vents should be mapped on the layer C-IMPERV-MISC
9. General
    a. Where survey is not present, aerial photography can be used to define building, parking, roads, etc.
10. Elements to exclude:
    a. Parking stalls or pavement striping.
    b. Do not include easements.
    c. Do not include water service.
    d. Do not include retaining walls.

CAD Data Requirements

The City of Madison has developed an automated tool to review site plan submittals to ensure they are submitted in the correct format necessary for citywide mapping. The following drawing specifications are reviewed in the data validation checker and will result in a rejected file.

1. Insert the site in Dane County Coordinates, as provided in the attached template.
2. Remove ALL BLOCKS except blocks for storm and sanitary structures.
3. **NOTE: THAT ANY GEOMETRY INCLUDED THAT DOESN'T MEET THE REQUIREMENTS OF THE CAD LAYER DEFINITIONS AND REQUIREMENTS WILL RESULT IN AN AUTOMATIC REJECTION WITH THE DATA VALIDATION CHECKER.**
4. Remove any layers not in the original CAD template. Additional "empty" layers will be accepted.
5. Convert Civil 3D feature lines to 2D polylines
    i. (command: EXPLODE) to 3d polygons (command: FLATTEN & command: CONVERT3DPOLYS) 2d polygons and polylines.
    ii. Or Output tab > Export Civil 3D Drawing > Export Settings > Export Feature Lines as 2D.
6. Remove all hatching.
7. Join all polyline segments.

8. Remove an unused layers (command: PURGE).
9. Remove all blocks and nested blocks, except for blocks associated with storm and sanitary structures.

AutoCAD Civil 3D Conversion Tips

There are many ways to ensure your drawings meets the City of Madison CAD standards. Below are some simple steps and options to make sure that the data you provide is accepted.

1. Download the City of Madison Site Plan Submittal Template and City of Madison Site Plan standards file.

2. Copy your data into the City of Madison Site Plan Template
    a. If your data is not in AutoCAD, export your data to a .dxf or .dwg file.
    b. Rotate and scale the data to make sure it's spatially located in the correct location, the template includes city tax parcels in the Dane County Coordinate System WISCRS – Dane NAD 83 (1991) – USF, Projection: LM1SP Datum: Harn/WI.
    c. LAYFRZ layers you don't want to copy

3. Copy any pipe text that is in paper space into the model space of your drawing before adding it to the template (command: CHSPACE).

4. Select the copied data, and change to the correct layer in the template.

Note: Some may prefer to do this with layer translator, a template file for layer translator is provided.