

WSU CADD STANDARD

The Weber State University (WSU) Supplement to Department of Facilities and Construction Management (DFCM) CADD CRITERIA and the United States National CAD Standard

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WSU CADD STANDARDS

These standards are based on the National CAD Standard (NCS) and provide further clarification of WSU CADD specific requirements.

1. Introduction

The Weber State University (WSU) Supplement to Department of Facilities and Construction Management (DFCM) CADD CRITERIA and the United States National CAD Standard

WSU's CADD Standards are modeled after DFCM CADD CRITERIA http://dfcm.utah.gov/standard_docs.php. Data Submittals must comply with all standards outlined in DFCM CADD CRITERIA unless an exception is made in following document.

Questions/Suggestions/Exceptions

Questions about, suggestions, or requests for permission to make exceptions to this standard should be directed by email to CADD Data Manager, JWAHLEN@weber.edu. A list of any approved exceptions, reasons for those exceptions, and the date of approval for those exceptions must be provided with all data submittals.

1.2 Basic CAD Software

The current designated CAD software for the University is Autodesk's AutoCAD 2007. All CAD drawings are required to be delivered in AutoCAD's .dwg file format.

CAD Application Software

CAD application software packages operate on top of, or in conjunction with, the basic CAD software to extend its capabilities. The extensions enhance design, drafting and modeling productivity and link non-graphic attribute data to the graphic entities. Currently, WSU Facilities Management does not use/support any CAD application software packages.

Software and software licenses

The University strongly prefers that the delivered CAD files be usable without any additional software licenses or installation. If additional software (CADD Application Software, menus, symbol libraries, etc.) will be required, it must be approved by the WSU Facilities Management CADD Data Manager prior to its use. If the CAD files cannot be viewed or edited without additional licensed software, the consultant must provide the University with valid licenses for that software on acceptable delivery media and provide training to WSU Facilities Management in the use of the additional software.

1.3 Requesting CAD Data from the University

Consultants may request copies of existing CAD data for University facilities. CAD data is provided for the convenience of the recipient only. This data has been gathered from a variety of sources, and it may or may not conform to University CAD standards. The data may be incomplete, or may not accurately reflect current facility conditions. The University makes no representation as to the data's completeness or accuracy. Consultants also should acknowledge that CAD data appears to be extremely accurate because it has been generated with a computer, and that the accurate appearance of drawings does not guarantee that they truly represent existing conditions. **CAD data submitted by consultants to the University must be accurate and must conform to the current CAD standards, even if reference data provided by the University was inaccurate or did not conform to the standards.**

2 Deliverables

2.1 Record Drawings

The University needs CAD data that reflects the actual condition of its facilities. **CAD record drawings submitted by consultants must show "as built" conditions of any facilities affected by a project.** Record drawings include design and detail changes that may have taken place after the initial issue of construction documents, as well as changes made to the actual facility during construction. **Record drawings will be delivered in two formats: 1 - Hard copy drawing set; 2 – Electronic (AutoCAD dwg) format (on CD).** When digital media are provided, they will be clearly labeled with, at minimum, the following information: Project name, project number, architectural/engineering firm name, date issued, drawing phase (bid, construction, or record), and sequence # (for multiple discs). Hard copy drawing sets should be architectural sizes 24” x 36” or 30” x 42”.

2.2 eTransmittal Policy

Data submittals should be prepared using Create eTransmittal Dialogue Box. All referenced files should be included. In the Modify Transmittal Setup Dialogue Box the Zip option should be selected for Transmittal package type. The project folder should be designated, and “Use organized folder structure Source root folder” should be selected.

2.3 Folder Organization

Every sheet of a project will be a separate file. Each discipline will have its own folder. All files and folders for a project will be located in one project folder, named with project name and number. There will be separate “Referenced Drawings” and “Referenced Images” folders in each discipline folder, containing all referenced files for the drawings in that folder.

3. System Setup

3.1 External References

Xrefs must be inserted using the Relative Path option available in the External Reference Dialog Box. Referenced files must be kept in a folder named “Referenced Drawings”, located within the folder of the host drawing.

3.2 Raster Images

Raster Images must be inserted using the Relative Path option available in the Raster Image Dialog Box. Referenced files must be kept in a folder named “Referenced Images”, located within the folder of the host drawing.

4 Naming Convention

4.1 Drawing Files – General

Electronic sheet files will be named according to the following format:

LL-00000-AA-T00

LL (Building 2 Letter Abbreviation)
- (hyphen separator)
00000 (WSU Project #)
– (hyphen separator)
AA (Discipline Designator)
– (hyphen separator)
0 (Sheet Type Designator number)
00 (Sheet Sequence Number)

Example: BC-07105-AE-101

(**Browning Center**-project #**07105**-**A**rchitectural **E**lements discipline-**P**lans (**1**) sheet type sheet #**01**)

See Addendum A (page 6) at the end of this document for ‘Discipline Designators (DD)’ taken from US National CAD Standards 3.1.

See Addendum B (page 9) at the end of this document for ‘Sheet Type Designators (TD)’ taken from US National CAD Standards 3.1.

It is acceptable to combine different types of drawings on the same sheet for simplicity. For instance:

- Place profile drawings on sanitary sewer or road plan sheets
- Place same scale sections on the same sheet as large-scale plans of stairs or escalators

- Place schedules on a plan sheet when the information is closely associated
- Different types of drawings may be combined on the same sheet on small projects

When the type of drawings on a sheet is mixed, clearly identify all of the drawings contained on the sheet in the sheet title block.

5. Entities

5.1 Text/Fonts General Policy

Custom Fonts may not be used in data submittals. All text used in data submittals must be standard AutoCAD supported Fonts.

5.2 Block Policy

Any object that is used repeatedly in a drawing should be made into a block. Blocks should be given a name that describes their content. The intended use of the block should be explained in the block description. Layers used in the block should be listed and reasons for the use of these layers should be explained in the block description. Any active parameters should be listed and the intent behind the use of these parameters should be explained in the block description. Any blocks used in a block should be listed in the block description.

5.3 CTB and STB Policy

CTB and STB files used must be included with all data submittals.

Addendum A

Discipline Designators (DD)

- taken from US National CAD Standards 3.1.

DD	Description	Content
G	General	
GI	General Information	List of sheets and symbols, code summary, symbol legend, orientation maps
GC	General Contractual	Phasing, schedules, staging, fencing, temporary and special requirements
GR	General Resource	Photographs, soil borings
H		
HA	Asbestos	Asbestos abatement, identification or containment
HC	Chemicals	Toxic chemicals handling, removal or storage
HL	Lead	Lead piping or paint removal
HP	PCB	PCB containment and removal
HR	Refrigerants	Ozone-depleting refrigerants
C		
CD	Civil Demolition	Structure removal and site clearing
CS	Civil Survey (Site)	Plats, topographic, dimension control
CG	Civil Grading	Excavation, grading, drainage, retention ponds
CP	Civil Paving	Roads, flagstone, exterior tile, furnishings
CI	Civil Improvements	Pavers, flagstone, exterior tile, furnishings, retaining walls, and water features
CT	Civil Transportation	Waterway construction, wharves, docks, trams, railway systems, and people movers
CU	Civil Utilities	Water, sanitary sewer, storm sewer, power and communications
L		
LD	Landscape Demolition	Protection and removal of existing landscaping
LI	Landscape Irrigation	
LP	Landscape Planting	
S		
SD	Structural Demolition	Protection and removal
SS	Structural Site	
SB	Structural Substructure	Protection and removal
SF	Structural Framing	Floors and roofs
A		
AS	Architectural Site	
AD	Architectural Demolition	Protection and removal
AE	Architectural Elements	General architectural
AI	Architectural Interiors	
AF	Architectural Finishes	
AG	Architectural Graphics	
I		

ID	Interior Demolition	
IN	Interior Design	
IF	Interior Furnishings	
IG	Interior Graphics	Murals and visuals
Q		
QA	Athletic Equipment	Gymnasium, exercise, aquatic and recreational
QB	Bank Equipment	Vaults, teller units, ATMs, drive-through
QC	Dry Cleaning Equipment	Washers, dryers, ironing and dry cleaning
QD	Detention Equipment	Prisons and jails
QE	Educational Equipment	Chalkboards, library
QF	Food Service Equipment	Kitchen, bar, service, storage and processing
QH	Hospital Equipment	Medical, exam and treatment
QL	Laboratory Equipment	Science labs, planetariums, observatories
QM	Maintenance Equipment	Housekeeping, window washing and vehicle servicing
QP	Parking Lot Equipment	Gates, ticket and card access
QR	Retail Equipment	Display, vending and cash register
QS	Site Equipment	Bicycle racks, benches, playgrounds
QT	Theatrical Equipment	Stage, movie, rigging systems
QV	Video/Photographic Equip.	Television, darkroom and studio
QY	Security Equipment	Access control and monitoring, surveillance
F		
FA	Fire Detection & Alarm	
FX	Fire Suppression	Fire extinguishing systems and equipment
P		
PS	Plumbing Site	Extension and connections to civil utilities
PD	Process/Plumbing Demo	Protection, termination and removal
PP	Process Piping	Piping, valves, insulation, tanks, pumps
PQ	Process Systems	Systems & equip. for thermal, electrical, materials handling, assembly & manufacturing, nuclear, power generation, chemical, refrigeration and industrial processes
PE	Process Electrical	Electrical exclusively associated w/ a process and not the facility
PI	Process Instrumentation	Instrumentation, measurement, recorders, devices and controllers (electrical and mechanical)
PL	Plumbing	Domestic water, sanitary & storm drainage, fixtures
M		
MS	Mechanical Site	Utility tunnels and piping between facilities
MD	Mechanical Demolition	Protection, termination and removal
MH	Mechanical HVAC	Ductwork, air devices and equipment
MP	Mechanical Piping	Chilled and heating water, steam
MI	Mechanical Instrumentation	Instrumentation and controls
E		

ES	Electrical Site	Utility tunnels, site lighting
ED	Electrical Demolition	Protection, termination and removal
EP	Electrical Power	
EL	Electrical Lighting	
EI	Electrical Instrumentation	Controls, relays, instrumentation and measurement devices
ET	Electrical Telecommunications	Telephone, network, voice and data cables
EY	Electrical Auxiliary	Alarms, nurse call, security, CCTV, PA, music, clock and program
T		
TA	Audio Visual	Cable, music and CCTV systems
TC	Clock and Program	Time generators and bell program systems
TI	Intercom	Intercom and public address systems
TM	Monitoring	Monitoring and alarm systems
TN	Data Networks	Network cabling and equipment
TT	Telephone	Telephone systems, wiring, and equipment
TY	Security	Access control and alarm systems
R		
RC	Resource Civil	Surveyor's information and existing civil drawings
RS	Resource Structural	Existing facility structural drawings
RA	Resource Architectural	Existing facility architectural drawings
RM	Resource Mechanical	Existing facility mechanical drawings
RE	Resource Electrical	Existing facility electrical drawings

Addendum B

Sheet Type Designators (TD)

- taken from US National CAD Standards 3.1.

<u>TD</u>	<u>Description</u>
0	General (symbols legend, notes, etc.)
1	Plans (horizontal views)
2	Elevations (vertical views)
3	Sections (sectional views, wall sections)
4	Large-Scale Views (plans, elevations, stair sections or sections that aren't details)
5	Details
6	Schedules and Diagrams
7	User Defined (types that do not fall in other categories, including typ. detail sheets)
8	User Defined (another group for types that do not fall in other categories)
9	3D Representatons (isometrics, perspectives, photographs)