CADD Standards and Procedures Manual



SECTION 6 - LAYERS

6.1 Industry CADD Standards for Layering

The City standards are loosely based off the National CADD Standard (NCS). While complying with industry standards as close as possible, the City may make slight variances from these industry standards to meet the City's needs.

6.2 City of Waco Civil Layering Standards

This standard is setup primarily for Civil Engineering Drawings. These Standards are to be used for Engineering, Civil, Survey, Public Works, and all Other Drawings not associated with Building Architecture at the City. These standards are taken based on the NCS and a review of past drawings issued to the City. Drawings that will follow this may include, but not limited to, the following Civil features:

- Site Layouts
- Survey
- Site Utilities
- Stormwater
- Sanitary Sewer
- Water
- Bridges
- Topography and Surface Features
- Environmental Work
- Railroad
- Road Construction
- Traffic Striping
- Various Sections and Details

6.3 Civil Drawings Layering Organization

There can be up	to five (5) define	d layer nam	e data fields:		
Field 1	Field 2	Field 3	Field 4	Field 5	_
Discipline Designat	or - Major group -	Minor group	– Minor group / Status	s – Minor group / Stat	ius
The Discipline Designator, Major group, and the first Minor group are mandatory. The Mino group/Status fields are optional. With the layer names organized as a hierarchy, you can have options for naming layers according the level of detail required.					
			the category of subj or Civil Engineering		d on the
Example: C		Civil			

Field 2: The Major Group is a two-to-five-character field that identifies a major system.

Examples: C-**ALGN** Civil–Alignment

C-ROAD Civil-Road

C-**TOPO**C-**WATER**Civil—Topography
Civil—Water

C-STRM Civil—Stormwater

Field 3: The <u>Minor Group</u> is a mandatory, two-to-five-character field used to further define the Major Groups.

Examples: C-ALIGN-ANNO Civil—Alignment—Annotation

C-ROAD-CNTR Civil—Road—Center

C-TOPO-EXIST Civil—Topographic—Existing

C-WATER-**PIPE** Civil–Water–Pipe

C-STRM-**ANNO** Civil—Stormwater—Annotation

Field 4: The first <u>Minor group / Status</u> is an optional field used to further define the Major Groups or to distinguish the status of the work or construction phase.

Examples: C-ALIGN-ANNO Civil—Alignment—Annotation

C-ROAD-CNTR-**PROP**C-TOPO-EXIST-**MJR**Civil—Road—Center—Proposed
Civil—Topographic—Existing - Major

C-WATER-PIPE-**DEMO** Civil–Water–Pipe–Demolition

C-STRM-ANNO-**PLAN** Civil—Stormwater—Annotation—Plan view

Field 5: The second <u>Minor group / Status</u> is an optional field used to further define the Major Groups or to distinguish the status of the work or construction phase.

Examples: C-ALIGN-ANNO Civil—Alignment—Annotation

C-ROAD-CNTR-PROP Civil—Road—Center—Proposed
C-TOPO-EXIST-MJR Civil—Topographic—Existing—Major
C-WATER-PIPE-DEMO Civil—Water—Pipes—Demolition
C-STRM-ANNO-PLAN-PROP Civil—Stormwater—Annotation—Plan—

Proposed

6.4 Discipline Designations for Civil Drawings

The following is the computer-aided drafting layer naming convention used for Civil, Survey, Environmental, Topography and Utilities at the City. Drawings that consultants submit to the City must use and conform to these current CADD layering standards. If submittals do not conform to the City's layering standards, the City can reject the submittals from the consultant. The consultant will be responsible for making necessary revisions to the materials to make them conform to the City's layering standards.

Discipline

C Civil V Survey T Traffic

Z & X Reference layers

Major/Minor Groups (not an all inclusive list)

ALGN Alignment ANNO Annotation BRDG Bridge features BOC Back of curb CL Center line CNTR Center ELEC Electric FEAT Feature

GAS Gas utility line

GEN General
GTR Gutter line
MOUN Monuments
PIPE Pipe networks
PLAN Plan views
PROF Profile views

PTS Points

RAIL Railroad and trolley

ROAD Road features – i.e. back of curb, edge of road, gutter flow line

ROW Right-of-Way

SSWR Sanitary sewer utilities

STRC Structures (manholes, water valves, etc.)

STRM Stormwater utilities

SWLK Sidewalk TELE Telephone

TOPO Topographic (surfaces, contour lines, etc.)
UTIL Franchise utilities (gas, electric, cable, etc.)

WATER Water utilities

<u>Status</u>

DEMO Demolition EXIST Existing PROP Proposed

The consultant is to use his/her best judgment while also following these standards in naming layers to help identify and sort layers according to discipline and data provided.