

City Utilities Design Standards Manual

CADD Standards

Chapter CADD 6

Layers

Discipline: Civil
Model File Layers/Levels

Level/Layer Naming		Graphic Defaults				User-Defined Data Fields	Model File Types					
		Line Style	Line Width (mm)	AutoCAD Color #	MicroStation Color #		Site Plan	Grading Plan	Utilities Plan	Profiles	X-Sections	Details
AIA Format	Level/Layer Description											
General Information												
C-ANNO-DIMS	Witness/extension lines, dimension terminators, dimension text	Continuous	0.35	7	0		X	X	X	X	X	
C-ANNO-KEYN	Reference keynotes with associated leaders	Continuous	Varies	Varies	Varies		X	X	X	X	X	
C-ANNO-LEGN	Legends and symbol keys	Continuous	Varies	Varies	Varies		X	X	X	X	X	
C-ANNO-MASK	Text/shape mask for use with photo backgrounds	Continuous	0.25	255	24		X	X	X			
C-ANNO-MATC	Match lines	Continuous	0.70	7	0		X	X	X			
C-ANNO-NOTE	General notes and general remarks	Continuous	0.35	4	7		X	X	X	X	X	
C-ANNO-NPLT	Non-plotting graphic information	Continuous	0.18	5	1		X	X	X	X	X	
C-ANNO-PATT	Patterning, poche, shading, and hatching	Varies	0.18	8	9		X	X	X	X	X	
C-ANNO-RDME	Read-me information	Continuous	0.35	5	1		X	X	X	X	X	
C-ANNO-REDL	Redlines	Continuous	0.35	1	3		X	X	X	X	X	
C-ANNO-REFR	Reference files and raster attachments	Continuous	0.18	5	1		X	X	X	X	X	
C-ANNO-REVS	Revision indicators and text	Continuous	0.35	4	2		X	X	X	X	X	
C-ANNO-SCHD-MAJR	Schedule Major Lines	Continuous	0.35	6	5		X	X	X	X	X	
C-ANNO-SCHD-MINR	Schedule Minor Lines	Continuous	0.25	7	0		X	X	X			
C-ANNO-SYMB	Miscellaneous symbols	Varies	0.25	6	5		X	X	X	X	X	
C-ANNO-TEXT	Miscellaneous text and callouts with associated leaders	Continuous	0.35	4	7		X	X	X	X	X	
Alignments												
C-ALGN-DATA	Alignment coordinates and curve data	Continuous	0.35	6	5		X	X	X	X		
C-ALGN-LINE	Alignments	Continuous	0.50	6	5		X	X	X	X		
C-ALGN-IDEN	Alignment text, annotation with associated leaders	Continuous	0.35	6	5		X	X	X	X		
Borings												
C-BORE-HOLE	Boring locations	Continuous	0.35	6	5		X	X	X			
C-BORE-DISC	Boring pit Stockpile - Discharge	Continuous	0.35	6	5		X	X	X			
C-BORE-OTLN	Boring Pit Outlines	Continuous	0.35	6	5		X	X	X			
C-BORE-IDEN	Boring Annotation	Continuous	0.35	4	7		X	X	X			
Corridors												
C-CORR-ASSM	Corridor Assembly	Continuous	0.35	6	5	X		X		X		
C-CORR-DYLT	Corridor Daylight Feature Lines	Continuous	0.35	6	5	X		X		X		
C-CORR-DYLT-FILL	Corridor Daylight Fill Feature Lines	Continuous	0.35	4	2	X		X		X		
C-CORR-DYLT-MCUT	Corridor Daylight Cut Feature Lines	Continuous	0.35	1	3	X		X		X		
C-CORR-LINE	Corridor Misc Feature Lines	Continuous	0.35	6	5	X		X		X		
C-CORR-LINK	Corridor Links	Continuous	0.20	9	14	X		X		X		
C-CORR-NODE	Corridor Point Markers	Continuous	0.20	6	5	X		X		X		
C-CORR-NPLT	Corridor No Plot Items	Continuous	0.25	5	1	X		X		X		
C-CORR-PATT	Corridor Hatching and Patterning	Continuous	0.20	8	9	X		X		X		
Ditches												
C-DTCH-BOTM	Bottom of ditch or wash	DIVIDE2	0.35	5	1		X		X			
C-DTCH-CNTR	Centerline of ditch	DITCH	0.25	5	1		X		X			
C-DTCH-EWAT	Edge of water	Continuous	0.25	4	7		X		X			
C-DTCH-IDEN	Ditches and washes annotation	Continuous	0.35	3	2		X		X			
C-DTCH-TOP~	Top of ditch or wash	Continuous	0.25	3	2		X		X			

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AIA Format	Level/Layer Description											
Driveways												
C-DRIV-ASPH	Driveways - Asphalt Surface	Continuous	0.35	6	5		X			X	X	
C-DRIV-CONC	Driveways - Concrete Surface	Continuous	0.35	6	5		X			X	X	
C-DRIV-GRVL	Driveways - Gravel or Stone Surface	Continuous	0.35	6	5		X			X	X	
Erosion and Sediment Control (Temporary/Construction)												
C-EROS-CIPR	Culvert inlet protection	Continuous	0.50	6	5		X	X				
C-EROS-CNTE	Construction entrance	Continuous	0.50	6	5		X	X				
C-EROS-DDIV	Drainage divides	Continuous	0.50	6	5		X	X				
C-EROS-DVDK	Diversion dike	Continuous	0.50	6	5		X	X				
C-EROS-IDEN	Erosion and sediment control annotation	Continuous	0.50	6	5		X	X				
C-EROS-INPR	Inlet protection	Continuous	0.50	6	5		X	X				
C-EROS-SILT	Silt fence	SILT	0.50	6	5		X	X				
C-EROS-SILT-CHCK	Silt check	Continuous	0.50	6	5	X	X	X				
C-EROS-SILT-TRAP	Silt trap	Continuous	0.50	6	5	X	X	X				
C-EROS-SSLT	Super silt fence	SSLT	0.50	6	5		X	X				
Flood Hazard Area												
C-FLHA-025Y	25 year mark	DIVIDE2	0.35	6	5		X					
C-FLHA-050Y	50 year mark	Dashed	0.35	4	7		X					
C-FLHA-100Y	100 year mark	Continuous	0.35	6	5		X					
C-FLHA-200Y	200 year mark	Hidden	0.35	4	7		X					
C-FLHA-500Y	500 year mark	CENTER	0.35	6	5		X					
C-FLHA-IDEN	Flood hazard area annotation	Continuous	0.35	4	7		X					
C-FLHA-FDPL	Flood Plain Line	Continuous	0.35	6	5							
Grade Linework												
C-GRAD-FLOW	Flow direction arrows	CMP12	0.35	6	5	X			X	X	X	
C-GRAD-FNSH	Finished grade	Continuous	0.50	6	5	X	X			X	X	
C-GRAD-FNSH-IDEN	Finished Grade annotation for cross sections and profiles	Continuous	0.35	6	5	X	X			X	X	
Grid Lines												
C-GRID-FRAM	Frame	Continuous	0.40	4	2	X				X	X	
C-GRID-MAJR	Major grid lines	Continuous	0.35	4	2					X	X	
C-GRID-MINR	Minor grid lines	Continuous	0.13	8	9					X	X	
C-GRID-TEXT	Border text, annotation	Continuous	Varies	4	2					X	X	
Hydrology												
C-HYDR-CTCH	Catchments	Continuous	0.35	4	2		X					
C-HYDR-CTCH-BNDY	Catchment Boundary	Continuous	0.35	5	1		X					
C-HYDR-CTCH-DSPT	Catchment Discharge Point	Continuous	0.35	6	5		X					
C-HYDR-CTCH-FPTH	Catchment Flow Path	DITCH	0.35	4	7		X					
C-HYDR-CTCH-FSPT	Catchment Flow Path Segment Point	Continuous	0.35	6	5		X					
C-HYDR-CTCH-HDPT	Catchment Hydraulically Most Distant Point	Continuous	0.35	6	5		X					
C-HYDR-CTCH-IDEN	Catchment Annotation	Continuous	0.35	1	3		X					
C-HYDR-FPTH	Hydraulic Flow Path	DITCH	0.35	4	2		X					
C-HYDR-FTPH-IDEN	Catchment Flow Path Annotator	Continuous	0.35	1	3		X					
C-HYDR-IDEN	Hydraulic Annotation	Continuous	0.35	1	3		X					

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AIA Format		Level/Layer Description										
Parking Lots												
C-PRKG-CARS	Graphic illustration of cars	Continuous	0.35	1	3		X					
C-PRKG-CNTR	Parking lot centerlines	Center	0.30	1	3		X					
C-PRKG-CNTR-IDEN	Parking lot centerline annotation	Continuous	0.35	1	3		X					
C-PRKG-CURB	Curbs and gutters	Continuous	0.35	1	3		X					
C-PRKG-DRAIN	Drainage slope indications	Continuous	0.35	1	3		X					
C-PRKG-FIXT	Parking lot fixtures (e.g., wheel stops, parking meters)	Continuous	0.35	1	3		X					
C-PRKG-FLNE	Fire lanes	Continuous	0.35	1	3		X					
C-PRKG-IDEN	Parking lot annotation	Continuous	0.35	6	5		X			X	X	
C-PRKG-MRKG	Parking Lot markings	Continuous	0.35	1	3		X					
C-PRKG-OTLN	Parking lot outlines	Continuous	0.35	1	3		X			X	X	
C-PRKG-SIGN	Signs	Continuous	0.35	1	3		X					
Profiles												
C-PROF-VIEW	Alignment Profile View	Continuous	Varies	7	0	X				X		
Property												
C-PROP-PERM-ESMT	Property Permanent Easements	ESMT	0.50	1	3		X				X	
C-PROP-TEMP-ESMT	Property Temporary Easements	TESMT	0.50	7	0		X				X	
C-PROP-IDEN	Property annotation	Continuous	0.35	6	5		X				X	
C-PROP-LINE	Property lines	PROPL	0.35	6	5		X				X	
C-PROP-LOCN	Construction limits/controls, staging area	CONLMT	0.70	7	0		X				X	
C-PROP-RWAY	Right of ways	Continuous	0.50	13	35		X				X	
C-PROP-SECT	Section lines	Continuous	0.50	6	5		X				X	
C-PROP-SECT-IDEN	Section lines annotation	Continuous	0.35	6	5		X				X	
C-PROP-TSHP	Township/range lines	DASHDOT	0.50	6	5		X					
C-PROP-TSHP-IDEN	Township/range lines annotation	Continuous	0.35	6	5		X					
Pavements												
C-PVMT-ASPH	Miscellaneous - asphalt pavement	Continuous	0.35	6	5		X					
C-PVMT-CONC	Miscellaneous - concrete pavement	Continuous	0.35	6	5		X					
C-PVMT-GRVL	Miscellaneous - gravel pavement	Continuous	0.35	6	5		X					
C-PVMT-IDEN	Miscellaneous pavement annotation	Continuous	0.35	4	7		X			X	X	
C-PVMT-MRKG	Miscellaneous Pavement Markings	Continuous	0.35	4	7		X					
Roads, Streets, and Highways												
C-ROAD-ASPH	Roadway - asphalt surface	Continuous	0.30	1	3		X			X	X	
C-ROAD-BARR	Road Barrier Walls, K-Rails, Jersey Barriers, etc.	Continuous	0.35	6	5		X					
C-ROAD-CNTR	Roadway centerlines	Continuous	0.25	7	0		X				X	
C-ROAD-CNTR-IDEN	Roadway centerline annotator	Continuous	0.35	4	2		X			X	X	
C-ROAD-CONC	Roadway - concrete surface	Continuous	0.30	1	3		X			X	X	
C-ROAD-CURB	Curbs and gutters	Continuous	0.35	6	5		X			X	X	
C-ROAD-GRAL	Guard rails	Continuous	0.35	6	5		X			X	X	
C-ROAD-GRVL	Roadway - gravel surface	Continuous	0.35	1	3		X			X	X	
C-ROAD-IDEN	Roadway, street, highway annotator	Continuous	0.35	6	5		X			X	X	
C-ROAD-JNTS	Roadway Pavement markings	Continuous	0.25	4	2		X					
C-ROAD-MRKG	Roadway Pavement markings	Continuous	0.35	4	2		X					
C-ROAD-SHLD	Roadway shoulder	Continuous	0.35	6	5	X	X					
C-ROAD-SIGN	Signs	Continuous	0.25	1	3		X					X
C-ROAD-UPVD	Roadway - unpaved surface	Continuous	0.35	6	5		X			X	X	

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AIA Format	Level/Layer Description											
Riprap and Other Permanent Erosion Control Items												
C-RRAP-GABN	Gabions	Continuous	0.35	1	3	X	X				X	
C-RRAP-MATS	Articulated concrete mats	Continuous	0.35	3	2	X	X				X	
C-RRAP-RVMT	Revetments	Continuous	0.35	1	3	X	X				X	
C-RRAP-WEIR	Weirs	Continuous	0.35	3	2		X				X	
Sanitary Sewer												
C-SSWR-FLOW	Flow direction arrows	Continuous	0.50	6	5				X	X	X	
C-SSWR-LATL-PIPE	Sanitary Sewer Lateral Pipes	Continuous	0.50	6	5		X		X	X	X	
C-SSWR-MAIN-PIPE	Sanitary sewer piping	Continuous	0.50	6	5		X		X	X	X	
C-SSWR-NPLT	Sanitary Sewer No Plot	Continuous	0.13	5	1							
C-SSWR-PIPE-IDEN	Sanitary Sewer Pipe Annotation	Continuous	0.35	6	5		X		X	X	X	
C-SSWR-PIPE-PROF	Sanitary Sewer Pipes in Profile	Continuous	0.50	6	5					X		
C-SSWR-PLNT	Treatment plants	Continuous	0.50	6	5				X	X	X	
C-SSWR-SECT	Sanitary Sewer in Section	Continuous	0.50	6	5						X	
C-SSWR-STNS-PUMP	Booster pump stations	Continuous	0.50	6	5	X			X	X	X	
C-SSWR-STRC	Sanitary Sewer Structures	Continuous	0.50	6	5		X		X	X	X	
C-SSWR-STRC-IDEN	Sanitary Sewer Structures Annotation	Continuous	0.35	6	5		X		X	X	X	
C-SSWR-STRC-PROF	Sanitary Sewer Structures in Profile	Continuous	0.50	6	5		X		X	X	X	
C-SSWR-TANK	Septic tanks	Continuous	0.50	6	5		X		X	X	X	
Sections												
C-SECT-IDEN	Component identification numbers	Continuous	0.35	6	5						X	
C-SECT-MBND	Material beyond section cut	Continuous	0.18	4	2						X	
C-SECT-MCUT	Cuts through road surfaces, buildings, structures, fence lines, etc.	Varies	Varies	Varies	Varies						X	
C-SECT-PATT	Patterning, poche, shading, and hatching	Continuous	0.18	8	9						X	
C-SECT-SAMP	Section Sample Line Marker and Label	Continuous	0.18	4	2	X					X	
C-SECT-VIEW	Cross Section View	Continuous	Varies	4	2						X	
Sidewalks												
C-SWLK-ASPH	Sidewalks - Asphalt Surface	Continuous	0.35	6	5		X			X	X	
C-SWLK-CONC	Sidewalks - Concrete Surface	Continuous	0.35	6	5		X			X	X	
Storm Sewer												
C-STRM-CHUT	Chutes and concrete erosion control structures	Continuous	0.50	6	5	X			X	X	X	
C-STRM-FLOW	Flow direction arrows	Continuous	0.50	6	5		X		X	X	X	
C-STRM-LATL-PIPE	Storm sewer lateral service piping	Continuous	0.50	6	5							
C-STRM-MAIN-PIPE	Storm Sewer Main Pipes	Continuous	0.50	6	5		X		X	X	X	
C-STRM-NPLT	Storm Sewer No Plot	Continuous	0.13	5	1							
C-STRM-PATT	Storm Hatching	Continuous	0.18	8	9		X		X	X	X	
C-STRM-PIPE-IDEN	Storm Sewer Pipe Annotation	Continuous	0.35	6	5		X		X	X	X	
C-STRM-PIPE-PROF	Storm Sewer Pipes in Profile	Continuous	0.50	6	5					X		
C-STRM-POND	Retention ponds, lagoons, watersheds, and basins	Continuous	0.50	6	5				X	X	X	
C-STRM-SECT	Storm Sewer in Section	Continuous	0.50	6	5						X	
C-STRM-STNS-PUMP	Pump stations	Continuous	0.50	6	5	X	X		X	X	X	
C-STRM-STRC	Storm Sewer Structures	Continuous	0.50	6	5		X		X	X	X	
C-STRM-STRC-IDEN	Storm Sewer Structure Annotation	Continuous	0.35	6	5		X		X	X	X	
C-STRM-STRC-PROF	Storm Sewer Structures in Profile	Continuous	0.50	6	5					X		
C-STRM-SUBS-PIPE	Subsurface drain piping	Continuous	0.50	6	5				X	X	X	

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AIA Format	Level/Layer Description											
Topography												
C-TOPO-BNDY-EXTR	Surface exterior boundary	Continuous	0.18	5	1		X	X				
C-TOPO-BNDY-INTR	Surface interior boundary	Continuous	0.18	5	1		X	X				
C-TOPO-BRKL	Breaklines	DASHDOT	0.50	7	0		X	X				
C-TOPO-FEAT	Surface Feature Line	Continuous	0.35	3	2	X		X		X		
C-TOPO-FEAT-NPLT	No Plot Surface Feature Line	Continuous	0.35	5	1	X		X		X		
C-TOPO-MAJR	Major contours	Continuous	0.35	1	3		X	X				
C-TOPO-MAJR-IDEN	Major contours - annotation	Continuous	0.35	1	3		X	X				
C-TOPO-MINR	Minor contours	Continuous	0.25	3	2		X	X				
C-TOPO-MINR-IDEN	Minor contours - annotation	Continuous	0.25	3	2		X	X				
C-TOPO-SLOP-IDEN	Cut/fill slope, top/toe slope annotation	Continuous	0.35	6	5	X	X	X				
C-TOPO-SLOP-TOPT	Top/toe slopes	Continuous	0.35	6	5	X	X	X				
C-TOPO-SPOT	Spot elevations	Continuous	0.35	4	7		X	X				
C-TOPO-SURF	Surface	Continuous	0.25	7	0		X	X				
C-TOPO-SURF-PERI	Surface perimeter	Continuous	0.18	5	1		X	X				
C-TOPO-WATR	Water level reference (LWRP, after-grading LWRP, SWL, etc.)	DASHED	0.50	7	0		X					
C-TOPO-WATR-DROP	Surface Water Drop	Continuous	0.35	4	2			X				
Traffic												
C-TRAF-SIGN	Traffic Control Items (Signs, barrels, barricades, etc...)	Continuous	0.50	6	5	X	X					
Water												
C-WATR-FTTG	Caps, cleanouts, reducers, crosses, and tees	Continuous	0.50	6	5		X		X	X	X	
C-WATR-HYDT	Hydrants	Continuous	0.50	6	5		X		X	X	X	
C-WATR-PIPE-IDEN	Water Pipes Annotation	Continuous	0.35	6	5		X		X	X	X	
C-WATR-LATL-LINE	Water lateral Single Line	Continuous	0.50	6	5		X		X	X	X	
C-WATR-LATL-PIPE	Water lateral piping	Continuous	0.50	6	5		X		X	X	X	
C-WATR-MAIN-LINE	Water Main Single Line	Continuous	0.50	6	5		X		X	X	X	
C-WATR-MAIN-PIPE	Water Main Pipes	Continuous	0.50	6	5		X		X	X	X	
C-WATR-METR	Water Meters	Continuous	0.50	6	5	X	X		X	X	X	
C-WATR-LATL-PIPE	Water Lateral Pipes	Continuous	0.50	6	5		X		X	X	X	
C-WATR-TANK	Water storage tanks	Continuous	0.50	6	5		X		X	X	X	
C-WATR-PIPE-PROF	Water Pipes in Profile	Continuous	0.50	6	5					X		
C-WATR-MISC-STRC	Miscellaneous Water Structures	Continuous	0.50	6	5		X		X	X	X	
C-WATR-SECT	Water Items in Section	Continuous	0.50	6	5						X	
C-WATR-STRC-IDEN	Water Structure Annotation	Continuous	0.35	6	5		X		X	X	X	
C-WATR-STRC-PROF	Water Structures in Profile	Continuous	0.50	6	5					X		
C-WATR-VALV	Water Valves	Continuous	0.50	6	5		X		X	X	X	
C-WATR-WELL	Water Wells	Continuous	0.50	6	5		X		X	X	X	