



# CADD Manual

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Revision 4.0


REVIEW AND APPROVAL RECORD

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- APPENDIX B: METRA DISTRICT CODES
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## 1. INTRODUCTION

### 1.1 GENERAL

This manual outlines Computer Aided Design Drafting (CADD) requirements for the preparation of all drawings to be used in the planning, design, construction, and maintenance of Metra facilities and infrastructure. User Departments and Third Party Contractors (UDTPC), as well as any other parties involved in the design, construction or oversight of Metra projects, shall follow the guidelines in this manual. UDTPC shall ensure that all sub-consultants and sub-contractors they retain to work on Metra projects adhere to the standards set forth in this manual. The goal is uniformity and compatibility among all drawings prepared for Metra projects.

### 1.2 SOFTWARE

Metra Capital Delivery, Engineering, and Facilities currently use Bentley OpenRoads / OpenRail Designer. Other CADD software may be accepted with the written approval of the Metra project manager. UDTPC are expected to submit all drawings in the approved native CADD format for each design milestone. Deliverables in Open Roads / OpenRail format are expected once the project meets the 90% deliverable. Any subsequent submittals or revisions should also be delivered in both the native format and Open Roads / OpenRail Designer. See Section 1.5.

### 1.3 DOCUMENT MANAGEMENT

To centralize document management, Metra uses a web-based project management information system to manage documents. It is the consultant’s responsibility to ensure they have PMIS connectivity for each project. .

### 1.4 SUBMITTALS

For all project design submittals, the UDTPC is responsible to submit all electronic files (CADD, PDF, Images, Excel, Word, etc.) to the Project Manager using Metra’s web-based project management information system (PMIS). Refer to “Section 8 – Project Deliverables” for further details.

### 1.5 CADD GUIDANCE

Refer to Appendix D for CADD guidance. This information can also be found on the Metra Capital Delivery and Engineering website or the Metra ProjectWise at  
`\\Documents\Standards\METRA\Workspace\Documentation\CADD_Guidance\`

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**2. DRAWING FORMAT**

**2.1 DRAWING SIZE**

Unless otherwise directed, all issued for bid and issued for permit plans shall be plotted on American National Standard Institute (ANSI) D (22"x34") size sheets. The following table provides other sizes that may be used by the UDTPC only on agreement with the Metra Project Manager. Metra may request any of the drawing sizes shown in Table 2-1, as conditions dictate.

**TABLE 2-1: DRAWING SIZE**

SIZE	DIMENSIONS (INCHES)
ANSI A	8.5 x 11
ANSI B	11 x 17
ANSI C	17 x 22
ARCH C	18 x 24
ANSI D	22 x 34
ARCH D	24 x 36
ARCH E	36 x 48

**2.2 DRAWING TYPES - DIMENSIONAL**

Dimensional drawings depict objects to scale and accurately portray the spatial relationships between them. Examples may include track routing and layout plans, plans and profiles of storm sewers, structural steel details, architectural plans, and elevations, etc. These drawings shall be prepared using the MicroStation seed files provided.

**2.3 COORDINATE SYSTEM**

MicroStation files showing proposed and/or existing track alignments, buildings, roadways, parking areas, signals, and/or other facilities shall position the features with reference to the coordinate systems referenced in the Design Manual section 6.3.

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### 3. GENERAL

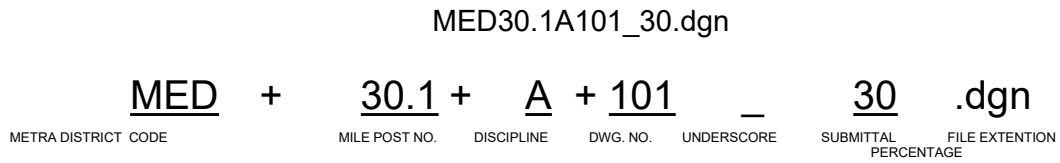
#### 3.1 DRAWING NUMBER

Drawing numbers shall start with the appropriate Metra District Code. Refer to Appendix B for District Codes. The mile post number follows the District Code; contact the Metra Project Manager for the appropriate mile post number. The appropriate discipline code follows the mile post number. Refer to Appendix A for discipline codes. The drawing number following the discipline code may range from 001 to 999. Design milestone submittal percentage follows the drawing number (e.g., 30%, 60%, 90%, 100%, IFB, etc.).

#### 3.2 CADD SHEET FILE NAMING CONVENTION

CADD sheet file names must follow the format presented in Figure 3.1 CADD Sheet File Names

**FIGURE 3-1: CADD SHEET FILE NAMES**



- MED - Metra District Code. Two to six characters. Refer to Appendix B
- 30.1 - Mile Post number. Refer to Metra Project Manager
- A - Discipline Code. Refer to Appendix A
- 101 - Drawing Number
- \_ - Underscore separator
- 30 - Design Milestone Submittal Percentage
- .dgn - Default MicroStation file extension

#### 3.3 CADD BASE AND CONTAINER FILE NAMING CONVENTION

Naming guidance for Base and Container files is found in Guidance. See Section 1.5.

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**4. DRAWING BORDER, COVER SHEET, AND INDEX**

**4.1 DRAWING BORDER**

Standard ANSI D size (22" x 34") sheets shall be used for all drawings created as part of a Metra design project. Border seed files provided in PW or on the [Metra Capital Delivery and Engineering](#) website shall be used to create all design drawings. Sheet files are developed in accordance with this section and guidance found on PW. See Section 1.5.

**4.2 DRAWING TITLE BOX AND PROJECT LOCATION DESCRIPTION**

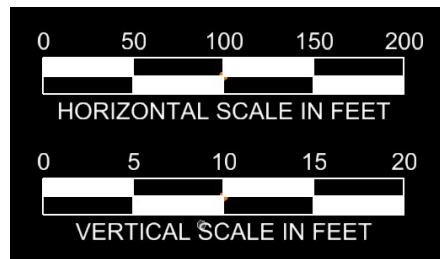
The style, size, and placement of the title box text shall be in accordance with the general guidance shown in Figures D-1 and D-2 later in this document. Specific guidance is provided as a symbology reference file attached to the standard border CADD file. The first box is the Project Title that contains the project name. The second box is the Sheet Title that contains up to two lines maximum. The third box is the Address/Location box that contains the address of the project, or the facility/location name.

**4.3 DRAWING SCALE BOX**

If a single scale is used in the drawing, it shall be shown in the drawing scale box (e.g., 1"=100', ¼"=1', etc.). If more than one scale is used on a sheet, or if some of the information shown is not drawn to scale, the drawing scale box entry shall be shown "AS NOTED" and individual scales applied to drawing elements. If a drawing is not created as a scaled dimensional drawing, the entry shall be shown as "NTS".

In addition to the drawing scale provided in the scale box, a graphic scale or scales as shown below shall be applied. The preferred graphic scale should be located in the upper right-hand corner of the sheet. Figure 4-1, Example in Units of Feet shown below is an example in units of feet.

**FIGURE 4-1: EXAMPLE IN UNITS OF FEET**



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#### 4.4 MILEPOST BOX

A specific milepost shall be entered here. The milepost shall refer to the location of a commuter station, grade crossing, crossover, control point, or other key feature in the drawing, as appropriate. The mile post location should be obtained from the Project Manager.

#### 4.5 PROJECT NUMBER BOX

The Metra Project Number / Metra Project Package Number (PPN) shall be entered here. Please contact the Project Manager to obtain the Metra Project Number / Metra PPN.

#### 4.6 DRAWING SHEET NUMBER BOX

When a drawing set is issued, each of its sheets shall be assigned a drawing number. The sheets shall be numbered consecutively starting with the discipline code, followed by the index of drawing sheets. The index shall start at 001 for each discipline.

#### 4.7 DISTRICT CODES

Refer to Appendix B for Metra District Codes.

#### 4.8 BOOK NUMBER BOX

This box shall note the book number of the drawing set.

#### 4.9 PAGE NUMBER BOX

This box shall make note of the page number to show the order of progression throughout the drawing set.

#### 4.10 CONSULTANT BOX

The company logo of the prime consultant responsible for the design shall be placed in this box.

#### 4.11 SUB CONSULTANT BOX

The company logo of the sub consultant responsible for each individual sheet shall appear in this box. "N/A" should appear in the sub consultant box if no subconsultants are involved in the drawing creation.

#### 4.12 PROFESSIONAL SEAL AND SIGNATURE BOX

Design professionals issuing the original drawing shall sign, seal, and date the drawing. Electronic seals and signatures are acceptable. When a professional's wet seal and signature are required, the

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engineer or architect responsible for the design shall seal the drawing. They shall then sign and date the drawing and indicate their license expiration date. Figures D-1 and D-2 show where the sheets are to be signed and sealed. The name and seal shall be clearly legible.

For modifications to an already sealed drawing, the Signature and Seal shall be provided again, as reference above.

#### 4.13 DESIGNED, DRAWN, CHECKED, METRA P.M. AND DATE BOX

Excepting date box, all boxes shall contain the first initial and last name of the Individuals described below:

**Designed** – The name of the person who did the majority of the design work.

**Drawn** – The name of the person who did the majority of the drafting.

**Checked** – The name of the person who is responsible for checking/approving the plan.

**Metra Project Manager** – The name of the Project Manager.

**Date** – Enter the date that the drawing was last revised.

#### 4.14 REVISION BLOCKS

Revision information shall be entered in the center of the Metra border. Refer to Figure D-2 for information.

REV (Revision) Column

Drawing revision levels shall be entered in this column. Refer to Tables 4-1, 4-2, and 4-3 for details.

DATE Column

The date on which a given revision of a drawing set is submitted shall be entered into this column.

BY, APP(roved) columns

The initials of the designer who made the revision shall be entered into the “BY” column. The initials of the person who has the authority to approve the revision shall be entered into the “APP” column.

Any revisions done to the drawings submitted for review outside of the established submittal milestones, shall be bubbled with the corresponding revision number. With a new issuance Issued for Bid documents, revision blocks shall be cleared with the initial issuance of IFB drawings.

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In addition, all revisions issued shall be consistent with Section 3.0 - Design Control of Metra's current Third Party Contracts Quality Management Plan.

**TABLE 4-1: REVISIONS DURING DESIGN**

REV	DATE	BY	APP	DESCRIPTION
1	mm-dd-yyyy	CM	CP	30% SUBMITTAL
2	mm-dd-yyyy	CM	CP	60% SUBMITTAL
3	mm-dd-yyyy	CM	CP	90% SUBMITTAL
4	mm-dd-yyyy	CM	CP	100% SUBMITTAL

**TABLE 4-2: REVISIONS DURING BIDDING**

REV	DATE	BY	APP	DESCRIPTION
A	mm-dd-yyyy	CM	CP	ISSUED FOR BID
A1	mm-dd-yyyy	CM	CP	ADDENDUM NO. 1
A	mm-dd-yyyy	CM	CP	ADDENDUM NO. 2

**TABLE 4-3: REVISIONS DURING CONSTRUCTION**

REV	DATE	BY	APP	DESCRIPTION
B	mm-dd-yyyy	CM	CP	BULLETIN FOR RFI #1
B1	mm-dd-yyyy	CM	CP	BULLETIN FOR RFI #2
B2	mm-dd-yyyy	CM	CP	BULLETIN FOR ROCC #3

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#### 4.15 DATE STAMP

All hard copy submittals shall have a plot date of creation. See figures D-1 and D-2 for the stamp configuration and placement. Stamping plots in this way prevents any confusion as to which plans are the most current and allows the source file to be found easily.

#### 4.16 COVER AND INDEX SHEET

Each drawing set shall have a Cover and an Index of Drawings Sheet. All disciplines shall use the Cover Sheet shown in Figure D-1. All disciplines may create an Index of Drawings Sheet using the Metra standard border shown in Figure D-2.

The Cover Sheet shall show the Metra system map, project location, Metra logo, project title, subtitles, and Metra Project Number / Metra PPN, as shown in Figure D-1. Certifications and Seals shall be shown on the cover sheet.

- For projects that do not require an ADA statement of compliance, remove the box from the lower left corner.
- Call out where on the system map the project is located.
- The project location shall be a map that showcases the surrounding area of the project location.
- The Metra Project Number / Metra PPN and project phase are required during the design phase; all projects that are IFB shall be noted as such.
- Certifications and Seals are only required on IFB sets and shall be edited to showcase the seals that will be found on the plans. Remove boxes that do not apply to plan sets.

The Seed Cover Sheet and standard border are available on the [Metra Capital Delivery and Engineering](#) web page and located on ProjectWise

`\Documents\Standards\METRA\Workspace\Bentley\seed\`

**FIGURE 4-2: Projectwise Location- Cover & Border sheet**



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## 5. DRAFTING REQUIREMENTS

### 5.1 GENERAL REQUIREMENTS

Drafting rules and all other information Metra supplies to implement the following standards shall be used without modification. Drawings shall be revised electronically. Diagrams, contract modifications, requests for information, etc., included as part of drawing submittals must be submitted separately of drawing sets. As the project progresses, each project CADD file and its associated plots shall include all changes and reflect the current design configuration. All revisions to project CADD files shall be made in the approved version of MicroStation. Revised sheets must match the size of the original drawing.

### 5.2 DRAWING ORIENTATION

#### 5.2.1 GENERAL

All plans depicting the same project work area shall have the same scale, orientation, and match lines. Drawings shall be oriented with baseline stationing progressing from left to right across the sheet. Where possible, all drawings will be oriented with north in the up direction, though the requirement for stationing progressing left to right shall govern sheet orientation.

#### 5.2.2 NORTH ARROW

A properly oriented north arrow shall appear in all plan views.

#### 5.2.3 DETAILS

All objects depicted as details shall be oriented as they are shown in the plans and/or elevations from which they originate. A title and scale callout shall be associated with all details and a scale provided with all insets.

#### 5.2.4 CROSS SECTIONS

Cross sections of track or roadway alignments shall be shown such that they are viewed looking ahead along the alignment, in the direction of increasing stationing. When more than one cross section is shown on a sheet, the cross sections shall be arranged so that the section stations increase from left to right, and from top to bottom.

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### 5.3 SCALE, UNITS OF MEASURE, DIMENSIONING

#### 5.3.1 SCALE

The basic scale used in each drawing shall be noted in the border scale box and a graphic scale applied to each sheet, as applicable. The preferred graphic scale location is in the upper right sheet corner below the north arrow, as shown in the border symbology file. See Section 4.4.

#### 5.3.2 UNITS OF MEASURE

Unless directed otherwise by Metra, United States Customary Units shall be used in drawings. Angles and bearings shall be expressed in degrees, minutes, and seconds.

#### 5.3.3 DIMENSIONING UNITS

Designers shall employ a dimensioning system as follows:

- Civil and utility plans shall use decimal feet.
- Sections, details, etc., within civil and utility drawings may be dimensioned in decimal feet and/or feet and inches.
- Structural, bridge, architectural, mechanical, track work, and electrical drawings, and their associated sections and details, shall be dimensioned using feet and inches.

#### 5.3.4 TEXT AND DIMENSIONS STYLES

Text and Dimension styles are included as part of the MicroStation workspace to aid in placement of notes and dimensions. Linestyles and text styles are provided for use with linestyle and annotation scaling. Users should follow guidance provided on ProjectWise to develop drawings that utilize linestyle and text scaling.

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## 6. CADD RESOURCES

Within the PW environment, MicroStation provides resources as part of a comprehensive Workspace. Among those resources are a discipline-based level structure with linestyles, an extensive cell library, and automated settings.









### 6.1 DESIGN, BORDER, AND TITLE SHEET SEED FILES

To facilitate MicroStation design file creation, Seed files are provided to be used when creating a new drawing. It is the UDTPC responsibility to obtain and use these Seed files. Two seed files are provided, using the same coordinate system, differing in the units readout. One seed file has unit readout set to decimal feet, the other feet-inches.

The workspace also provides Border Seed files. Each is scaled 1"=1'-0". For production use these should be utilized as reference files and scaled to achieve the correct drawing size/scale combination.

Seed files are provided on the Metra Engineering web page and in PW at **\Documents\Standards\METRA\Workspace\Bentley\seed\**

**FIGURE 6-1: Projectwise Location- Seed files**

 METRA_Seed_2D_decimal_sf_units.dgn	METRA DGN Seed decimal survey seet readout
 METRA_Seed_2D_sf-si_units.dgn	METRA DGN Seed 2D survey feet - inches readout
 METRA_Seed_34x22_Border_Grid.dgn	METRA Seed 34x22 Border, Full Grid
 METRA_Seed_34x22_Border_Plan.dgn	METRA Seed 34x22 Border, Plan
 METRA_Seed_34x22_Border_PP.dgn	METRA Seed 34x22 Border, Plan & Profile
 sigbseed.dgn	sigbseed.dgn
 Title_seed_Gen_Eng.dgn	Engineering Title Seed
 Title_seed_Sta & park.dgn	Station and Parking Title Seed

### 6.2 LEVEL STRUCTURE

Provided for multi-discipline use, the Metra level structure generally follows the National CADD Standards format. Levels are organized by major discipline, subdiscipline, design element, and design element modifier. For example, level C-RAIL-TRAK-PROP designates Civil Rail Track, Proposed. C-RAIL-TRAK-EXST-SCRN designates Civil Rail Trak, Existing, Screened for existing track that will plot in grayscale.

#### 6.2.1 CADD LEVELS

MicroStation levels are provided as part of the workspace associated with the Metra PW environment. Each graphic entity contained in the project CADD files shall be placed on the

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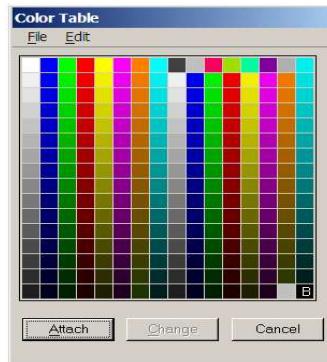
appropriate level. ByLevel placement for graphic properties shall be used in development of Base reference files. In files viewing Base files, Overrides may be used sparingly to alter the appearance of design elements. Contact the Metra CADD manager for override and other Level requests.

General level categories are provided for use across disciplines for details, sections, and the like. For example, G-DETL-LINE-HEVY designates a heavy weight detail line and G-DETL-DIMS is used for detail dimensioning. These general levels are used by all disciplines to develop their details. Similar general categories are provided for sections, sketches, sheet annotation, and other level groupings that are not discipline-specific. **For proposed design work, level names should describe the content the linework is detailing (e.g S-Grider-W12x26, C-Topo-Manhole Cover, A-Stair-Stringer).**

### 6.3 LINE COLOR

A Color Table is provided as part of the workspace associated with the Metra PW environment as shown in Figure 6-2. This color table should be used in all drawings. ByLevel settings provide colors related to levels. Color 4 (yellow) is not used for plottable production elements. Color 9 is a dark grey tone; Color 96 is the grayscale screening color.

**FIGURE 6-2: COLOR TABLE**



The METRA color table is available on the Metra Engineering web page and in PW at `\Documents\Standards\METRA\Workspace\Bentley\symb\`

### 6.4 LINE WORK

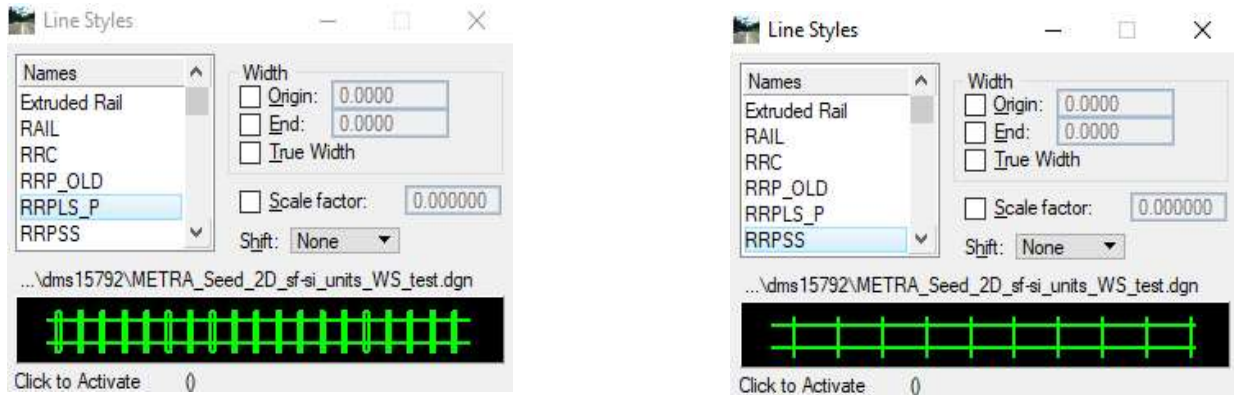
#### 6.4.1 LINE STYLES

ByLevel settings are provided to determine Line Styles as shown in Figure 6-3. MicroStation line style 0 is used for general drawing development. In general, Line Style “HIDDENx” (where “x” is numeric) shall be used for dashed lines, Line Style “CENTERx” shall be used for centerlines, and Line Style “DIVIDE” shall be used for Right-of-Way lines.

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Line Style “RRPLS\_P” shall be used to show proposed tracks in full tone. Line Style “RRPSS” shall be used to show existing track and may be full tone or screened, as required by the design.

**FIGURE 6-3: LINE STYLES**



#### 6.4.2 LINE WEIGHT

In general, MicroStation line weights 0 through 2 should be used in drawing development. Heavier line weights are used when emphasis is required.

### 6.5 TEXT AND DIMENSIONS

#### 6.5.1 TEXT

Metra uses Arial font as standard text for all drawings. Arial Black shall be used for bold characters. All text sizes provided refer to the standard ANSI D (22”x34”) size sheet. Text size 3/32” (0.0938” printed) should be used for all general notations. Text size 1/8” (0.1250” printed) should be used for titles. Text size 3/16” (0.1875” printed) should be used for sheet numbers. Standard text orientation is shown in Figure 6-4 later in this document. All text should have a minimum size of 3/32” when plotted at full size. When text is placed as a text node containing multiple text strings, line spacing between text strings shall be ½ the text size.

Text should be scaled accordingly to fit the sheets when plotted at full scale. Refer to Table 6-1 for proper scale factors.

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### 6.5.2 DIMENSIONS

Dimension arrows and dimension ticks shall be 3/16" (0.1875" plotted, ½ Text Size) in length and will be adjusted according to the scale of the drawing. Dimension text shall plot 3/32" (0.0938"). Arrow heads shall be closed and filled.

### 6.5.3 DIMENSIONS AND STYLES

Text and Dimension styles are provided to assist users in placement. This information can also be found on the Metra Engineering web page and in PW at `\Documents\Standards\METRA\Workspace\Documentation\CADD_Guidance\`.

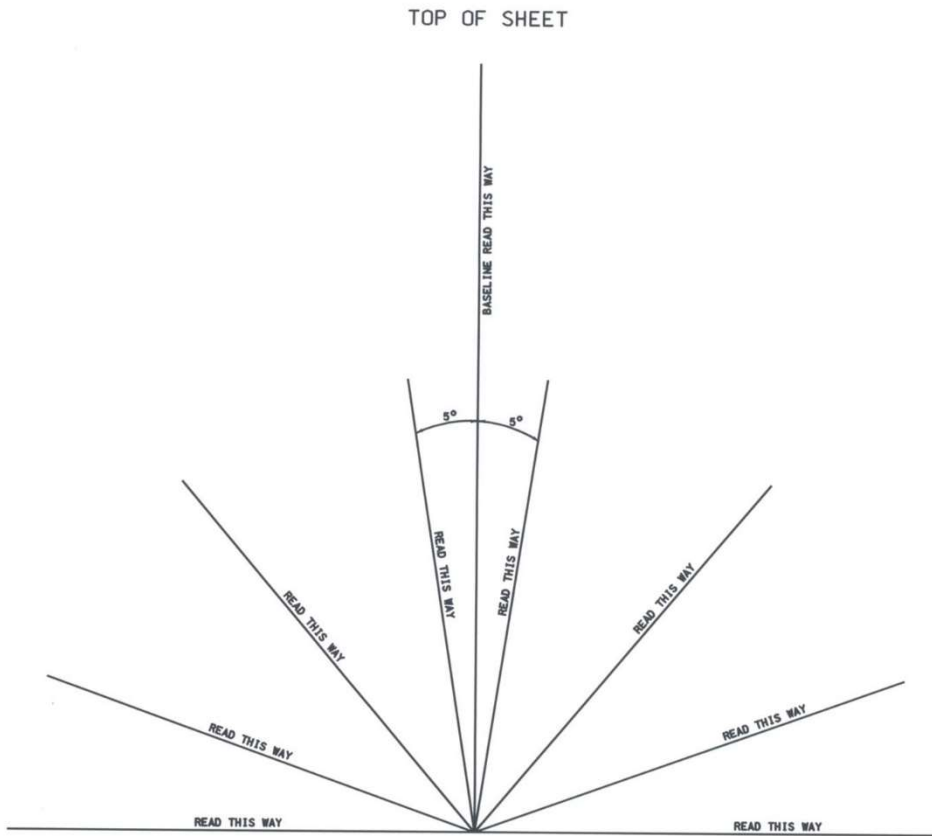
**TABLE 6-1: SELECTED SCALES, SCALE FACTORS, AND TEXT SIZES**

Desired size of Text on full size plots		0.0938" (3/32")	0.1250" (1/8")	0.1875" (3/16")
Scale of view	Scale factor to apply	Text size in the full scale Drawing	Text size in the full scale Drawing	Text size in the full scale Drawing
1"=10'	120	0:11.250	1:3.000	1:10.5
1"=20'	240	1:10.00	2:6.000	3:9.000
1"=30'	360	2:9.75	3:9.000	5:7.500
1"=40'	480	3:9.000	5:0.000	7:6.000
1"=50'	600	4:8.25	6:3.000	9:4.500
1"=60'	720	5:7.500	7:6.000	11:3.000
1"=100'	1200	9:4.500	12:6.000	18:9.000
1"=200'	2400	18:9.000	25:0.000	37:6.000
1"=400'	4800	37:6.000	50:0.000	75:0.000
1/16"=1'	192	1:6.000	2:0.000	3:0.000
3/32"=1'	128	1:0.000	1:4	1:10.50
1/8"=1'	96	0:9.000	1:0.000	1:6.000
3/16"=1'	64	0:6.000	0:8.000	1:0.000
1/4"=1'	48	0:4.5000	0:6.000	0:9.000
3/8"=1'	32	0:3.000	0:4.000	0:6.000
1/2"=1'	24	0:2.250	0:3.000	0:4.500
3/4"=1'	16	0:1.500	0:2.000	0:3.000
1"=1'	12	0:1.125	0:1.5000	0:2.250
1 1/2"=1'	8	0:0.750	0:1.000	0:1.500
3"=1'	4	0:0.375	0:0.500	0:0.750

For any other standards related to drawing presentation that may not be covered by this manual, the UDTPC should reference and follow IDOT's detailed CADD Standard.

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FIGURE 6-4: TEXT ORIENTATION



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## 7. DRAWING DEVELOPMENT AND REVISIONS AND GUIDELINES

### 7.1 GENERAL

This section outlines the process by which drawings for Metra projects are developed. The Metra workspace furnished Seed files shall be used for developing all project drawings.

Designers create, develop, and revise drawings during several project phases as discussed below. During these phases, project drawings are periodically submitted at milestones for review.

### 7.2 DRAWING DEVELOPMENT MILESTONES

#### 7.2.1 DESIGN PHASE

Work during this phase results in final design drawings, which illustrate the goals of a project and the work that is to be done. As a design is developed, it usually goes through several revisions. When a design milestone is reached, drawings are submitted for review and comment. These submittals are known as review submittals, sometimes termed 30%, 60% etc.

#### 7.2.2 CONSTRUCTION CONTRACTOR PROCUREMENT PHASE

During the Construction Contractor Procurement phase, approved design drawings are issued to contractors so they can bid on the construction work. During the bid period, additional design work is sometimes needed. The resulting revisions during this phase are called Addenda.

#### 7.2.3 CONSTRUCTION PHASE

During this phase, Metra awards contracts to successful bidders. Contract document packages include drawings approved for use in construction. These drawings incorporate the addenda made during the Construction Contractor Procurement sub-phase. Design changes made to drawings during construction are labeled in the revision box (e.g., "Bulletin for RFI #1", "Bulletin for ROCC #5", etc.).

The certification and seal of each page is to be performed with the submittal of final approved design drawings.

#### 7.2.4 CONSTRUCTION CLOSEOUT PHASE

When the construction of a project is complete, the Designer of Record shall prepare a Final Project Record set, also known as an "As-Built" set, for the project. Preparation of the Final Project Record Set shall be based on information provided by the Construction Manager. The CM shall review the record drawings and affix their seal to acknowledge that the drawings are in annotated to show where and how the project was constructed and all deviations from the original design. The Project

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Record Set shall be provided to Metra in both sealed pdf and in the native file format per this manual.

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## 8. PROJECT DELIVERABLES

### 8.1 GENERAL

Project Deliverables are identified in the request for project specific services, the applicable quality management plan, and other contractual documents. As drawings for a project are developed, designers shall periodically submit drawing sets such as 30%, 60%, 90% and 100% design stages of completion for review and comment. All contract drawing submittals to Metra shall consist of electronic and possibly hardcopy formats, which shall conform to the requirements of this document. Drawings submitted for permit and subsequent submittals shall bear design professional signatures and seals.

The project scope of services, the applicable quality management plan, and other contractual documents provide a complete, governing list of required deliverables for each phase of the project.

### 8.2 ELECTRONIC SUBMITTALS

Electronic submittal of deliverables shall be made via the contract specified web-based project management information site. TPC shall assure they have connection to Metra’s PMIS, and required accounts created by contacting Metra support staff.

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**APPENDIX A: DISCIPLINE DESIGNATIONS CODES**

NO.	DISCIPLINE
1.	G - General
2.	C – Civil
3.	CT – Civil Track
4.	L – Landscape
5.	A – Architectural
6.	S – Structural
7.	Q – Equipment
8.	M – Mechanical
9.	P – Plumbing
10.	F – Fire protection
11.	FA – Fire alarm
12.	E – Electrical
13.	SS – SubStation
14.	T – Communications
15.	X – Other

Generally, plan organization is expected to follow the sequence listed above. For additional guidance, refer to the Illinois Department of Transportation Bureau of Design and Environment Manual, Chapter 63 or consult the Project Manager.

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**APPENDIX B: METRA DISTRICT CODES**

ABBREVIATION	DESCRIPTION
BNSF-	BNSF RAILWAY
NICTD -	NORTHERN INDIANA COMMUTER TRANSPORTATION DISTRICT
HC -	HERITAGE CORRIDOR
MDW -	MILWAUKEE DISTRICT WEST
MDN -	MILWAUKEE DISTRICT NORTH
MED -	METRA ELECTRIC DISTRICT
MED-BI -	METRA ELECTRIC DISTRICT, BLUE ISLAND BRANCH
MED-SC -	METRA ELECTRIC DISTRICT, SOUTH CHICAGO BRANCH
NCS -	NORTH CENTRAL SERVICE
RID -	ROCK ISLAND DISTRICT
RID-BEV -	ROCK ISLAND DISTRICT, BEVERLY BRANCH
SWS -	SOUTHWEST SERVICE
UPN -	UNION PACIFIC NORTH
UPNW -	UNION PACIFIC NORTHWEST
UPW -	UNION PACIFIC WEST
SYS -	SYSTEM RELATED PROJECTS

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**APPENDIX C: PROJECT PERCENTAGE COMPLETION**

COMPLETION STATUS	DESCRIPTION
30%	THIRTY PERCENT
60%	SIXTY PERCENT
90%	NINETY PERCENT
100%	100 PERCENT
IFB	ISSUED FOR BID
IFP	ISSUED FOR PERMIT
AB	RECORD DRAWINGS
	<p>* OR ALTERNATE PERCENTAGE SUBMITTALS, PER THE CONTRACT OR RFSS.</p>

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APPENDIX D: CADD GUIDANCE

FIGURE D-1: COVER SHEET

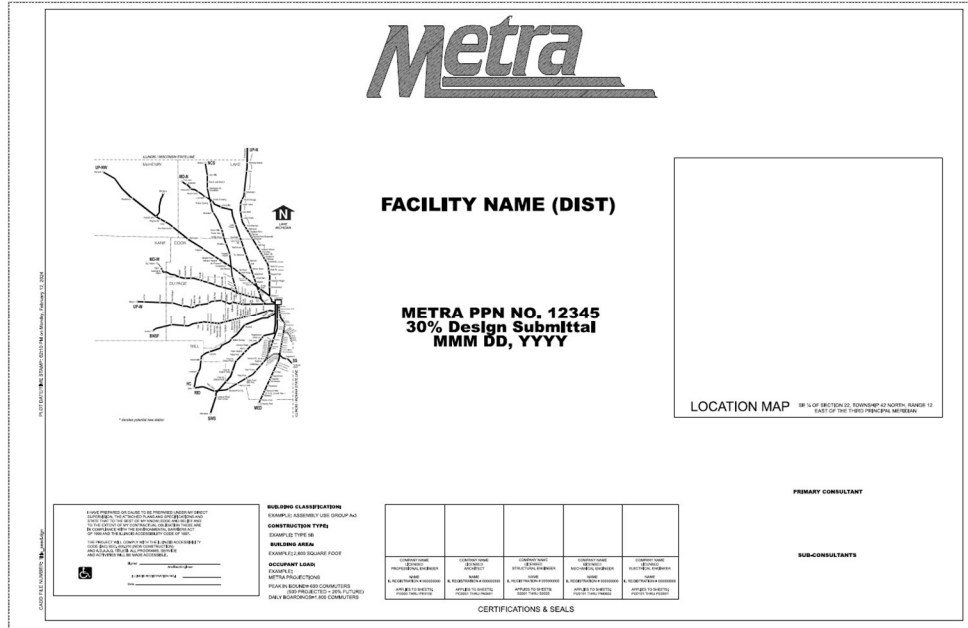
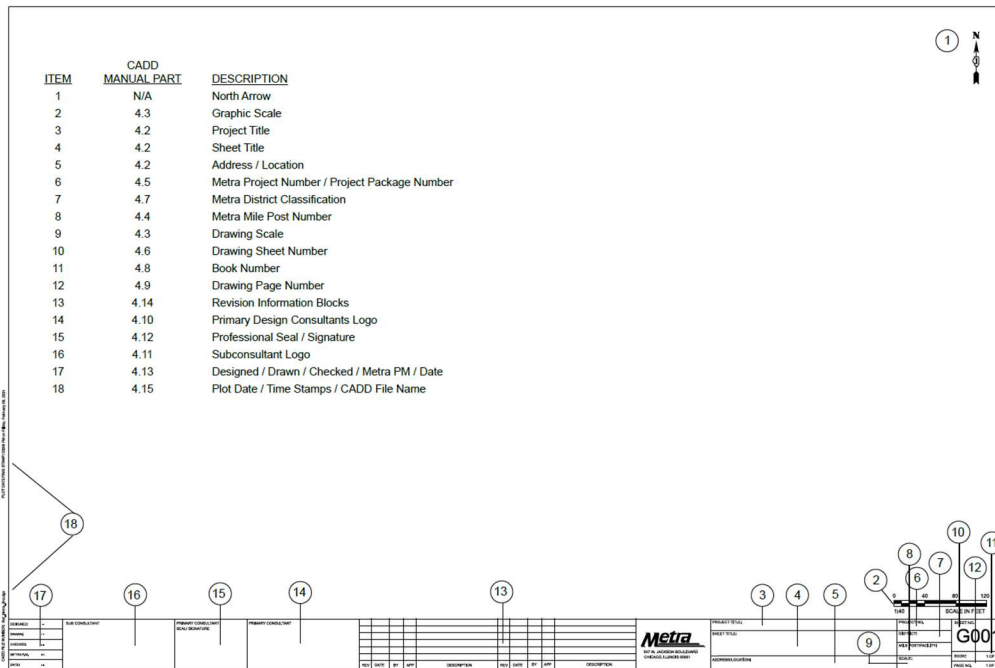


FIGURE D-2: BORDER FILE



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**APPENDIX E: REVISION HISTORY**

REVISION DATE	SECTION NO.	PAGE NUMBER	REVISION DESCRIPTION
June 2014	N/A		CADD Standard Development
Feb., 2015	Varies, see next column.		Added Acronyms to list. Deleted Section 3.3, Reference File Names.
Mar. 2016	2.2		Made changes to Seed files.
Aug. 2018	2.2 & Table 4.2&4.3		Changed Web address  Link & Rev. numbers.
MAY, 2024	Title  Sht.		Implementation  of revised standards, ProjectWise, and METRA workspace
MAY, 2024		5	software- Bentley OpenRoads/ OpenRail Designer
MAY, 2024		5	Document Management- section added
MAY, 2024		5	Submittals- submitting by Metra's web-based PMIS
MAY, 2024		5	CADD Guidance- section added
MAY, 2024		6	Drawing Format- Drawing Size- new (22"x34") size sheet
MAY, 2024		6	Drawing Format- Drawing Size Table can be used by UDTPC only by an agreement with the Metra PM
MAY, 2024		6	Drawing Format- Drawing Size Table- Arch E size added
MAY, 2024		7	New name: CADD Base and Container File Naming Convention

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MAY, 2024		8	Drawing Border- sheet size ANSI D (22"x34") changed with other details
MAY, 2024		8	Drawing Title Box & Project Location Description- changed
MAY, 2024		8	Drawing Scale Box- figure and location of graphic scale changed
MAY, 2024		9	Book Number Box- section added
MAY, 2024		9	Page Number Box- section added
MAY, 2024		12	Cover and Index Sheet- cover sheet is same for all disciplines
MAY, 2024		12	Cover and Index Sheet- additional details added
MAY, 2024		13	General Requirements- detail modification
MAY, 2024		13	Drawing Orientation- Details- detail added on title and scale collout
MAY, 2024		14	Scale, Units of Measure, Dimensioning- Scale- graphic scale location changed
MAY, 2024		14	Text and Dimension Style- section new name & details modified
MAY, 2024		16	Extra details provided
MAY, 2024		17	Extra details provided
MAY, 2024		17	Extra details provided
MAY, 2024		17	Text- sheet size ANSI D (22"x34") changed
MAY, 2024		17	Text- text node note added
MAY, 2024		20	Construction Contractor Procurement- new name
MAY, 2024		20	Construction Phase- new name

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MAY, 2024		22	Electronic Submittal- section modified
MAY, 2024		23	Appendix A- 2 discipline added
MAY, 2024		15-16	CAD Resources- Design, Border, and Title Sheet Seed Files- Level Structure- CAD Levels- sections added
MAY, 2024		16-17	Extra details provided
MAY, 2024		20-21	Construction Closeout Phase- new name and modified

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