

STATE OF ALASKA



**DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES
NORTHERN REGION**

CADD Data Standards

Design Documentation

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SECTION 1 - INTRODUCTION

The scope of this document is to standardize the Alaska Department of Transportation & Public Facilities Northern Region's (DOT-NR) Computer Aided Drafting and Design (CADD) file specifications. The establishment of CADD data standards ensures consistency in:

- Drawing standards & symbol usage
- Layer naming & properties
- Drawing naming & sequencing
- Electronic deliverables

The creation of design drawings is merely the initial process in the design's life span. These drawings will be shared and referenced by many users and must adhere to a well-defined standard to alleviate potential confusion and maximize efficiency.

To simplify the standards process and streamline the exchange of design and construction data, DOT-NR has adopted the U.S. National CAD Standards (NCS). By adopting a "common language" of data classification and organization, the need for DOT-NR and consultants to maintain multiple plot style files, train staff on various proprietary CAD standards, and maintain numerous layering guides to decipher layer codes is reduced.

The standards outlined in this document substantially conform to the 2006 NCS Version 3.1. However, DOT-NR has its own guidelines for naming and organizing CAD files/sheets.

Please direct any questions or comments about this document to:

*Northern Region Design
Paul Eckman
451-5343
Email: paul.eckman@alaska.gov*

*Northern Region Design
Thomas Hughes
451-5378
Email: thomas.hughes@alaska.gov*

*Northern Region Design
Jacob Rahlfs
451-2285
Email: jacob.rahlfs@alaska.gov*

SECTION 2 – ELECTRONIC DELIVERABLES

Computer Aided Drafting & Design (CADD) File Type

Civil CADD files will be created using **Autodesk Civil 3D™** using DOT-NR's current template file “_Alaska DOT 20XX C3D{date}-NR.dwt”

The current version of the following templates will be used to create Civil 3D plan, profile, or cross section sheets:

- _C3D Sheets-NR{date}.dwt
- _C3D XS Sheets{date}-NR.dwt
- _C3D AVI_Sheets{date}-NR.dwt
- _C3D AVI_ALP_Sheets{date}-NR.dwt
- _C3D XS Sheets_AVI{date}-NR.dwt

DOT-NR reserves the right to specify explicit versions of the Civil 3D software to use. The file specifications are based on DOT-NR's need to have complete file compatibility across different functional areas as they use CADD files. This facilitates use of automated software, consistent archival/retrieval procedures, and organized practices to maximize efficiency within the agency.

Electronic Drawing Submittals

Use “eTransmit” to submit electronic CADD files. This will create a complete package of drawing files and related dependent files such as xrefs, font files, linetypes, CTB files, images, data source files and hatch patterns. The data will be organized as follows:

1. Source Drawings folder containing all source drawings with Civil 3D objects such as alignments, profiles, surfaces, and corridors. Any unused Civil 3D objects will be removed from the source drawings.
2. Plan Set folder containing the plan set drawings and a sub folder containing the project's external reference drawings.
 - a. All plan set drawings will follow the naming convention laid out in this document.
 - b. All plan set drawings will be in substantial compliance with the NCS as laid out in this document.

SECTION 3 – PLAN SET ORGANIZATION & FILE NAMING

PLAN SET SERIES ORGANIZATION

Arrange highway project plan sets in the order shown below.

Plan sheet numbering will be alphanumeric. For example, plan and profile sheets will be numbered from F1 to F##. Exception: Plan sets with 25 or fewer sheets will be numbered sequentially.

The total number of sheets on each plan sheet, except the title sheet, will be the total number of sheets in each series. For example, SHEET NO. - F1, TOTAL SHEETS - F20. The actual total number of sheets will be given on the title sheet only.

| Series Letter | Sheet Category |
|----------------------|--|
| A | Title, Legend/Symbols, Sheet Layout Schematic and Centerline Control (In many cases it will be more appropriate for the <u>Sheet Layout Schematic</u> to be the first sheet of the F Sheets. <u>Centerline Control</u> should be as few sheets as possible. This can be as simple as a note to tie the project to a Control Drawing made available to bidders.) |
| B | Typical Sections |
| C | Estimate of Quantities/ Table of Estimating Factors / General Notes |
| D | Summary Tables (standalone w/associated notes) |
| E | Miscellaneous Details (w/associated summaries and notes) |
| F | Plan & Profile Sheets |
| G | Approaches & Grading (Intersections & Driveways – Details and Summary) |
| H | Traffic Sheets (Signing, Striping, Illumination & Signalization) |
| J | Unassigned |
| K | Automated Traffic Recorder (ATR) |
| L | Landscaping |
| M | Retaining Walls |
| N | Bridge Structures |
| P | Unassigned |
| Q | Erosion Sediment Control Plan |
| R | Right of Way Maps (NR does not typically include these in the plans) |
| S | Construction Phasing |
| T | Traffic Control Plans |
| U | Utilities |
| V | Unassigned |
| W | Unassigned |
| X | Unassigned |
| Y | Unassigned |
| Z | Unassigned |

Note: Do not use the letters "I" or "O"

DRAWING NAMING CONVENTION

Engineering Drawings

Use the following naming convention:

- (State Project # - five numeric characters only) _ (Suffix - Discipline or Drawing Type)_(Brief Description, if needed)
- Examples:
00207_C.dwg
00207_CM.dwg
00207_CM_O1.dwg

Suffixes include:

| | |
|------|-----------------------|
| C | Civil |
| CM | Corridor Model |
| GIS | GIS enabled |
| ROS | Record of Survey |
| RWBM | Right of Way Base Map |
| RW | Right of Way plans |
| SV | Survey |
| TR | Traffic and Safety |
| GEO | Geotechnical |

Plan and Profile and Cross-Section sheets have the following suffixes; the default naming convention is set in the Civil 3D template:

| | |
|-----|------------------|
| P&P | Plan and Profile |
| XS | Cross-Sections |

Plan Set Drawings

Use the following naming convention:

- (State Project # - five numeric characters only) _ (Series Letter) _ (Brief Description)
- Examples:
00207_B_Typ.dwg
00207_H_SignStripe.dwg
00207_H_Signal.dwg

It is important to keep file names as short as possible. Thus keep descriptions short or do not use them unless necessary.

SECTION 4 - DRAWING SETUP

BASIC ELEMENT INFORMATION

CADD files are considered models or real maps. Files shall not be broken into sheets but drawn as contiguous layouts, maps, models, etc. DOT-NR uses reference filing across the functional areas. Each area creates file information with specific levels and symbols allowing files to be added to or “stacked” as reference files to compile full engineering maps and models.

CADD files are considered working engineering drawings with the appropriate accuracy.

POLICY ON MODEL SPACE AND PAPER SPACE

Drawing models shall be drawn full scale in model space. Additional items that define the model or add model data such as details, dimensions, elevations, names, descriptive text, or sections should be drawn in model space.

Secondary drawing elements will be created in Paper Space. Title blocks, sheet borders, notes, schedules, titles and legends are considered secondary drawing elements.

Note: Survey information referenced in design drawings shall not be moved or rotated from the original coordinates used in the survey drawing. When copying model space information between drawings, verify the UCS coordinates in both drawings are set to “World” prior to executing the copy-paste commands.

DRAWING TEMPLATE

- All civil base drawings shall be setup using the Northern Region Civil 3D template file “_Alaska DOT 20XX C3D{date}-NR.dwt”. Additional template files are used for Plan and Profile sheet production, Title Sheets and General Detail Sheets. See “*SHEET TEMPLATES*” later in this section for additional information.

SCALE AND UNITS

- CADD drawing models shall be drafted at full scale in engineering units such that one drawing unit equals one foot.

DIMENSION SETTINGS

- All dimension text shall print at 0.125” height when plotted full-size.
- All dimensions shall remain associative. Do not explode dimensions.

LINETYPES AND LINEWEIGHTS

- All linetypes and lineweights shall be set to “by layer”.
- Plotted lineweights are controlled by color and the NCS CTB file.
- “Halftoning” of lines (or any entity) is not allowed.

EXTERNAL REFERENCE FILES and DATA SOURCES

- All externally referenced source drawings (XREF’s) shall be inserted on layer C-ANNO-REFR, and this layer shall remain locked to avoid moving the reference drawing from its original coordinates.
- All data source objects shall be provided. These include SHP, SPF, Raster and database information files.

FONT & TEXT STYLES

- Only two fonts are approved for use: Romans and Romand.
- There are two text styles used in all drawings: RS and RD.
- Do not use oblique text or a width factor.

TEXT

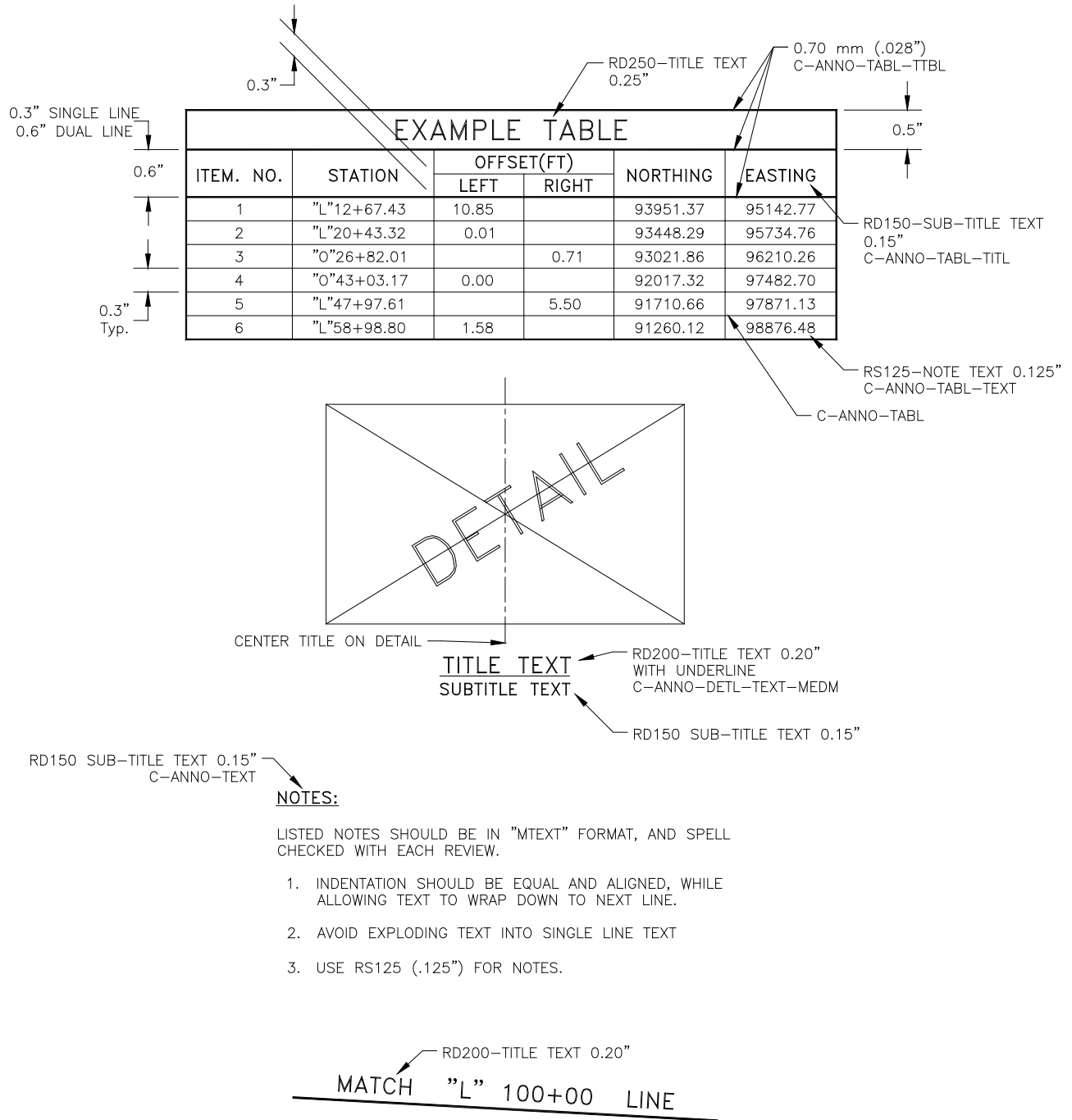
- All text shall be UPPERCASE.
- Dimensions, labels, notes and drawing titles shall be set as follows:

| Style | Title | Font | Plot Size (1:1) | Remarks |
|--------------|--------------|-------------|------------------------|---|
| RD300 | Title Text | Romand | 0.30” | Sheet Titles |
| RD250 | Title Text | Romand | 0.25” | Table Titles |
| RD200 | Title Text | Romand | 0.20” | Detail Titles, Match Lines |
| RD150 | Sub-Title | Romand | 0.15” | Table Column Headings, Detail Subtitles, Note Titles |
| RS125 | Note Text | Romans | 0.125” | All General Text, Dimensions & Table Text |
| RS100 | Note Text | Romans | 0.100” | ROW plans only when necessary, Parcel Text & Dimensions |

*The number shown after RS or RD is used to denote text height (this is optional). Example: RD250 has a text height of 0.25”.

TABLES, TITLES, NOTES AND MATCH LINES

- Tables, Titles, Notes and Match Lines shall conform to the following format:



Layering exception for AutoCAD tables: Since all entities are placed on a single layer, assign colors to produce proper lineweights/penweights as follows: 174 - table & title borders, 1 - row & column lines, 4 - text.

BLOCKS

- All entities within a block shall be created on layer 0.
- Do not nest blocks.

SHEET TEMPLATES

- All sheets shall be designed in Paper Space at 1" = 1" scale for the title block/border.
- There is a Sheet Set template AK DOT C3D.dst.
- The following sheet templates are for **Highway** projects:

1. _C3D Sheets{date}-NR.dwt

- This is a Civil 3D production template. Use for sheets that have a plan and/or profile view.

Note: The **profile grid** can be generated using Civil 3D or it is available in Paper Space on layer C-ANNO-GRID (thaw in VP). It is important to use the specific dot spacing of the grid for each scale. At this time it is necessary to use the Paper Space grid for profile splits. There are profile view styles specifically for use with the Paper Space grid. For 1"=20' profile sheets the default is the Paper Space grid for the dots of the grid pattern to be spaced properly.

2. _C3D XS Sheets{date}-NR

- Use to create Civil 3D cross-section sheets.

3. _ACAD HwyTitle{date}-NR.dwt

- Use for Title sheet only.

4. _ACAD HwyGen{date}-NR.dwt

- This is the general AutoCAD template for plan sheets that are not Civil 3D sheets.

Note: This template contains the **Page Setup Overrides** to be used for plotting/printing on the Northern Region campus and for PDFs. There are also AutoCAD **Table Styles** in this template, e.g., DOT Standard, Estimate of Quantities, Superelevation and Storm Drain System Summaries.

5. _ACAD_Hwy_Legend{date}-NR.dwt

- Contains the main highway legend along with other misc. legends and keys. The miscellaneous legends and keys are placed on the appropriate sheets.

6. _ACAD_SignSum{date}- NR.dwt

- Use to create Signing Summary.

- The following sheet templates are for **Aviation** projects:
 1. `_C3D AVI_Sheets{date}-NR.dwt`
 - This is a Civil 3D production template. Use for sheets that have a plan and/or profile view.
 2. `_C3D XS Sheets_AVI{date}-NR`
 - Use to create Civil 3D cross-section sheets.
 3. `_C3D AVI_ALP_Sheets{date}-NR.dwt`
 - Use to create the Civil 3D sheets required for Airport Layout Plans. These include the ALP Plan and Profile and Part 77 Plan and Profile.
 4. `_ACAD_AVI_Title{date}-NR.dwt`
 - Use for Title sheet only.
 5. `_ACAD_AVI_Title_Combined{date}-NR`
 - Use for Title sheet with combined projects.
 6. `_ACAD_AVI_Gen{date}-NR.dwt`
 - This is the general AutoCAD template for all plan sheets that are not Civil 3D.
 7. `_ACAD_AVI_ALP{date}-NR.dwt`
 - This template includes the ALP Cover sheet and Data sheet layouts.

- The following sheet templates are for **Right of Way** drawings:
 1. `_C3D_ROW_Layouts{date}-NR.dwt`
 - This template contains the layouts for Right of Way drawings.
 2. `_C3D_ROW_Legend{date}-NR`
 - Use to create the Right of Way legend sheet.

SECTION 5 - LAYERING

NCS LAYER NAME FORMATTING

As recommended by the *NCS Layer Guidelines*, layer names may be as short as six characters (discipline code + major group). Here are four examples of acceptable formula variations, with explanations of formula variables found below:

- # 1 C -ROAD = discipline code + major group
- # 2 C -ROAD-CURB = discipline code + major group + minor group
- # 3 C -ROAD-CURB-TEXT= discipline code + major group + minor group + minor
- # 4 C -ROAD-CURB-E = discipline code + major group + minor group + status

Discipline Code:

The discipline code is a two-character field with the second character being either a hyphen or a NCS-defined modifier. The predefined discipline codes are the same for both layer names and file names. For a complete list of discipline codes, see the *NCS Layer Guidelines*.

Major Group:

The major group designation is a four-character field that identifies the system, such as roads, right-of-way, buildings, etc. Although most major groups are logically associated with specific discipline codes, it is possible to combine major group codes with any of the discipline codes. For example, C-ROAD or V-ROAD.

Minor Group:

This is an optional, four-character field for further differentiation of major groups. For example, paved roads (C-ROAD-ASPH) might be differentiated from unpaved roads (C-ROAD-UPVD).

If necessary, the minor group field may also be defined by the user, allowing additional layers to be added to accommodate special project requirements. However, this should only be done after checking *NCS Layer Guidelines* to see if any of the predefined layer names in that list would meet the special project requirements.

Status Field:

The status field is an optional single-character designator that distinguishes the data contained on the layer according to the status of the work or construction phase. It is only needed when phases of work must be differentiated such as C-ROAD-N or C-ROAD-E. In either case, the status field is always the last single-digit character of the layer name. **In the DOT layer standards, all survey layers are assumed to show existing work to remain and all civil layers are assumed to show new work.** Where these assumptions are true, status fields are not necessary.

Defined values for the status field as defined by the NCS are as follows:

| | |
|-----|----------------------|
| N | New Work |
| E | Existing to Remain |
| D | Existing to Demolish |
| F | Future Work |
| T | Temporary Work |
| M | Items to be Moved |
| X | Not In Contract |
| 1-9 | Phase Numbers (1-9) |

Layer uses are generally implied by the layer name. However, the following explanation of certain layer use rules should be noted.

Status Field / Dominant Phase Rule:

Layers representing the dominant phase of a project can be represented without a status field. For example, in a small remodeling project, -N would indicate new construction, while layers without status fields would indicate parts of the existing building to remain. Conversely, a remodeling project consisting of mostly new construction might use -E to indicate “existing to remain” building systems while all layers without a status field designator would represent new construction.

Annotation and Title Blocks:

Annotation refers to text, dimensions, title block and sheet borders, detail references and other elements on CAD drawings that do not represent physical aspects of the model drawing. Annotation is designated by the major group ANNO, which can be combined with any discipline code. Types of annotation are designated below (asterisk represents any discipline code):

- *-ANNO-DIMS dimensions
- *-ANNO-KEYN keynotes
- *-ANNO-LEGN legends and schedules
- *-ANNO-NOTE notes
- *-ANNO-NPLT construction lines, non-plotting information, viewports
- *-ANNO-REDL redlines
- *-ANNO-REVS revisions
- *-ANNO-SYMB symbols
- *-ANNO-TEXT text
- *-ANNO-TTLB title blocks and sheet borders

Annotation can be placed in both model space and paper space (see *Policy on Model Space and Paper Space*). The same layer names would be used in either case.

NCS LAYER NAME FIELD CODES

The NCS major and minor group names for the survey and civil disciplines (excluding structural) are listed below with each of their descriptions. Other disciplines and layering combinations exist. See the NCS for additional information.

| Layer Name Field Codes | | | |
|---|------------------------------|---|---------------------------------|
| Discipline Designator | Description | | |
| V | Survey | | |
| C | Civil | | |
| Major Group (Civil & Survey) | Description | Minor Group (Civil & Survey) | Description |
| AFLD | Airfield | ABUT | Abutment |
| BLDG | Building | ACCS | Access |
| BLIN | Faseline | ANNO | Notes, Callouts, Specifications |
| BORE | Test Borings | ASPH | Asphalt Surface |
| BRDG | Bridge | BACK | Back |
| CATV | Cable TV | BMRK | Benchmarks |
| CEME | Cemetery | BNDY | Boundary |
| CHAN | Navigable Channels | BOLD | Bold Lines or Text |
| COMM | Communications | BORE | Test Borings |
| CTRL | Control Points | BOTD | Bottom of Ditch |
| DFLD | Drain Fields | BOTM | Bottom |
| DRIV | Driveways | BWTR | Breakwater |
| DTCH | Ditches or Washes | CARS | Cars and Other Vehicles |
| EROS | Erosion and Sediment Control | CATV | Cable Television |
| ESMT | Easements | CIPR | Culver Inlet Protection |
| FENC | Fences | CMTL | Corrugated Metal |
| FIRE | Fire Protection System | CNTE | Construction Entrance |
| FLHA | Flood Hazard Area | CNTJ | Construction Joint |
| FUEL | Fuel gas | CNTR | Centerline |
| LOCN | Limits of Construction | CONC | Concrete Surface |
| NGAS | Natural Gas | CONS | Conservation |
| PERC | Perc Testing | CSTG | Construction / Grading |
| PRKG | Parking Lots | CTLJ | Control Joints |
| POND | Ponds | CURB | Curb |
| POWR | Power | DDIV | Drainage Divides |
| PROP | Property | DECK | Outdoor Decks |
| PVMT | Pavement | DEPR | Depression |
| RAIL | Railroad | DIAG | Diagram |
| RIVR | River | DIMS | Dimensions |

SECTION 5 – LAYERING

| Major Group | Description | Minor Group | Description |
|------------------------------|--------------------------------|-------------|--------------------------------------|
| ROAD | Roadways | DOCK | Docks, Floats, Piers |
| RRAP | Riprap | DRAN | Drainage Slope |
| SGHT | Sight Distance | DVDK | Diversion Dike |
| SOIL | Soils | EDGE | Edge |
| SSWR | Sanitary Sewer | ELEC | Electrical |
| STEM | Steam System | EQPM | Equipment |
| STRM | Storm Sewer | EWAT | Edge of Water |
| SWLK | Sidewalks | EXPJ | Expansion Joint |
| TINN | Triangulated Irregular Network | FACE | Face |
| TOPO | Topography | FALT | Fault / Break Line |
| TRAL | Trails or Paths | FDPL | Flood Plain |
| WALL | Walls | FENC | Fence |
| WATR | Water Supply Systems | FINE | Light Lines or Text |
| WETL | Wetlands | FIXT | Fixtures |
| Major Group (Survey Only) | Description | FLNE | Fire Lane |
| BNDY | Political Boundary | FLYS | Fly Station |
| BRKL | Breakline | FORC | Force Main |
| BRLN | Building Restriction Zone | GRAL | Guard Rail |
| BZNA | Buffer Zone Area | GRID | Grid Lines |
| NODE | Node | GRVL | Gravel Surface |
| RWAY | Right of Way | HCPT | Horizontal Control Points |
| SITE | Site Features | HDLN | Hidden Line |
| SURV | Survey | HIDD | Objects or Lines Hidden from View |
| UNID | Unidentified Site Objects | HOLE | Test Holes |
| | | HVPT | Horizontal / Vertical Control Points |
| | | HWAL | Headwall |
| | | HYDR | Hydrants and Connections |
| | | INEG | Ingress / Egress |
| | | INPR | Inlet Protection |
| | | INST | Instrumentation |
| | | LATL | Lateral Line |
| | | LINE | Line |
| | | LSCP | Landscape |
| | | MAJR | Major |

SECTION 5 – LAYERING

| Minor Group | Description |
|-------------|----------------------------------|
| MEDM | Medium Lines or Text |
| MHOL | Manhole |
| MINR | Minor |
| MISC | Miscellaneous |
| MRKG | Pavement Marking |
| NAID | Navigation Aids |
| NGAS | Natural Gas |
| NSBR | Noise Barrier |
| OBJT | Objects |
| OTLN | Outline |
| OVHD | Overhead |
| PATT | Hatch patterns and Textures |
| PERM | Permanent |
| PHON | Telephone Line |
| PIPE | Piping |
| PNPT | Panel Points |
| POLE | Pole |
| POST | Posts |
| PRCH | Porch |
| PRIM | Primary |
| PROF | Profile |
| RBAR | Reinforcing Bar |
| RCON | Reinforced Concrete |
| RDME | Read-me layer (not plotted) |
| ROAD | Roadway |
| RTWL | Retaining Wall |
| RWAY | Right of Way |
| SBCK | Setback |
| SECD | Secondary |
| SGHT | Sight Distance |
| SHEA | Structural Bearing or Shear Wall |
| SIGN | Signs |
| SILT | Silt Fence |
| SPOT | Spot Elevation |

SECTION 5 – LAYERING

| Minor Group | Description |
|------------------------------|---|
| SSLT | Super Silt Fence |
| SSWR | Sanitary Sewer |
| STAN | Stationing |
| STEL | Steel |
| STRC | Structures |
| STRM | Storm Sewer |
| STRP | Striping |
| SWAY | Spillway |
| SWMT | Storm Water Management |
| SYMB | Symbol |
| TANK | Storage Tank |
| TEMP | Temporary |
| TEXT | Text |
| TICK | Tick Marks |
| TOPB | Top of Bank |
| TOPD | Top of Ditch |
| TPIT | Test Pit |
| TRAK | Track |
| TRAV | Traverse |
| UNDR | Underground |
| UPVD | Unpaved Surface |
| UTIL | Utilities |
| VCPT | Vertical Control Points |
| VIEW | View |
| WATR | Water Supply |
| WELL | Well |
| WHIT | White Paint |
| WOOD | Wood |
| YELO | Yellow Paint |
| Minor Group (Survey Only) | Description |
| ACTL | Aerial Horizontal & Vertical Control Points |
| BENT | Top of Bent |
| BLIN | Baseline |
| BORO | Borough |

SECTION 5 – LAYERING

| Minor Group | Description |
|-------------|---|
| BROW | Brush row |
| BRSH | Brush |
| CABL | Cable |
| CITY | City |
| CNTL | Centerline |
| CNTY | County |
| CORP | Corporation |
| CTLA | Controlled Access |
| DASP | Description Attributes for Survey Points |
| DATA | Data |
| DRIV | Driveway |
| EASP | Elevation Attributes for Survey Points |
| FLOW | Flowline |
| GRND | Ground |
| LMTA | Limited Access |
| MRKR | Marker |
| NATL | National |
| PASP | Point Number Attributes for Survey Points |
| POLI | Political Boundary |
| POND | Pond |
| PROV | Province |
| QTRS | Quarter Section |
| ROCK | Rocks & Rock Outcroppings |
| RSRV | Reserve |
| SECT | Section boundary |
| SOUN | Soundings |
| STAT | State |
| SUBD | Subdivision |
| SXTS | Sixteenth Section |
| TREE | Tree |
| TROW | Tree row |
| TSHP | Township or Town |
| VEGE | Vegetation (trees, shrubs) |
| ZONE | Zoning |

DOT-NR LAYERING GUIDE

| LAYERING GUIDE | | | | |
|--|------------------------------|------------------------------------|-------|------------|
| Northern Region (Rev. 07/12/19) | | | | |
| FOR SYMBOLS, ADD MINOR GROUP "SYMB" TO END LAYER NAME (Exception - do not add "SYMB" to V-NODE layers) | | | | |
| FOR TEXT, ADD MINOR GROUP "TEXT" TO END OF LAYER NAME | | | | |
| LABELS CREATED BY CIVIL 3D ARE ON LAYERS WITH A MINOR GROUP OF "LABL". DO NOT EXPLODE THESE LABELS | | | | |
| DESCRIPTION | | LAYER NAME | COLOR | LINETYPE |
| AIRPORTS | | | | |
| AREA | RWY OBJECT-FREE AREA | C-AFLD-BNDY-ROFA | 5 | DASHED2 |
| | RWY SAFETY AREA | C-AFLD-BNDY-RSA | 5 | CONTINUOUS |
| | TWY OBJECT-FREE AREA | C-AFLD-BNDY-TOFA | 3 | CONTINUOUS |
| | ULTIMATE RWY SAFETY AREA | C-AFLD-BNDY-URSA | 5 | HIDDEN2 |
| CENTERLINE | | C-AFLD-CNTR | 6 | CONTINUOUS |
| EDGE | PAVEMENT | C-AFLD-ASPH | 3 | CONTINUOUS |
| | UNPAVED | C-AFLD-UPVD | 4 | CONTINUOUS |
| MARKING | | C-AFLD-MRKG | 12 | CONTINUOUS |
| | WHITE | C-AFLD-MRKG-WHIT | 4 | CONTINUOUS |
| | YELLOW | C-AFLD-MRKG-YELO | 52 | CONTINUOUS |
| SIGN | | C-AFLD-SIGN | 4 | CONTINUOUS |
| ZONE | RWY OBJECT-FREE ZONE | C-AFLD-BNDY-ROFZ | 5 | DASHED2 |
| | RWY PROTECTION ZONE | C-AFLD-BNDY-RPZ | 5 | DASHDOT2 |
| ROADWAY | | | | |
| CENTERLINE | EXISTING CENTERLINE (Splits) | V-ROAD-CNTR | 5 | DASHED |
| | OBJECT LAYER | C-ALGN-(Align. Name, e.g., L or O) | | CONTINUOUS |
| | CONST. CL DISPLAY LAYER | C-ROAD-CNTR | 6 | CONTINUOUS |
| | MISC. CL DISPLAY LAYER | C-ROAD-MISC | 4 | CONTINUOUS |
| | CURVE LABELS | C-ROAD-STAN-LABL | 3 | CONTINUOUS |
| | SUPERELEVATION LABELS | C-ROAD-STAN-SUPR | 3 | CONTINUOUS |
| | STATION LABELS | C-ROAD-STAN-MAJR | 3 | CONTINUOUS |
| | STATION POINTS | C-ROAD-STAN-(MAJR or MINR) | 3 | CONTINUOUS |
| DAYLIGHT | CUT (Civil 3D layer) | C-ROAD-CORR-DYLT-CUT | 13 | CSLP |
| | CUT (POLYLINE) | C-ROAD-DYLT-CUT-(Align. Name) | 13 | CSLP |
| | | C-ROAD-CORR-DYLT | 40 | CONTINUOUS |
| | FILL (Civil 3D layer) | C-ROAD-CORR-DYLT-FILL | 74 | FSLP |
| | FILL (POLYLINE) | C-ROAD-DYLT-FILL-(Align. Name) | 74 | FSLP |
| EDGE | EXISTING PAVEMENT | V-ROAD-ASPH | 110 | XSH |
| | PAVEMENT | C-ROAD-ASPH | 113 | CONTINUOUS |
| | SHOULDER | V-ROAD-SHLR | 130 | XSH |
| | EXISTING SIDEWALK | V-SWLK | 110 | XSH |
| | SIDEWALK | C-SWLK | 3 | CONTINUOUS |
| MARKING | CENTER OF MRKG GROUP | C-ROAD-MRKG | 212 | CONTINUOUS |
| | QUANTITIES | C-ROAD-MRKG-NOTE | 242 | CONTINUOUS |
| | WHITE | C-ROAD-MRKG-WHIT | 132 | CONTINUOUS |
| | YELLOW | C-ROAD-MRKG-YELO | 52 | CONTINUOUS |

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| Northern Region (Rev. 07/12/19) | | | | |
| FOR SYMBOLS, ADD MINOR GROUP "SYMB" TO END LAYER NAME (Exception - do not add "SYMB" to V-NODE layers) | | | | |
| FOR TEXT, ADD MINOR GROUP "TEXT" TO END OF LAYER NAME | | | | |
| LABELS CREATED BY CIVIL 3D ARE ON LAYERS WITH A MINOR GROUP OF "LABL". DO NOT EXPLODE THESE LABELS | | | | |
| DESCRIPTION | | LAYER NAME | COLOR | LINETYPE |
| IMPROVEMENTS | | | | |
| DRAINAGE | EXISTING CULVERT (2D) | V-DTCH-PIPE | 130 | TOPO |
| | EXISTING CULVERT (3D) | C-DTCH-PIPE-E | 130 | TOPO |
| | CULVERT | C-DTCH-PIPE | 132 | CONTINUOUS |
| | EXISTING STRUCTURE | V-DTCH-STRC | 130 | TOPO |
| | STRUCTURE | C-DTCH-STRC | 132 | CONTINUOUS |
| | CENTERLINE | C-DTCH-CNTR | 132 | CENTER2 |
| DRIVEWAYS | EXISTING CENTERLINE | V-DRIV-CNTR | 170 | DASHED |
| | CENTERLINE | C-DRIV-CNTR | 172 | CONTINUOUS |
| | PAVED | C-DRIV-ASPH | 152 | CONTINUOUS |
| | UNPAVED | C-DRIV-UPVD | 72 | CONTINUOUS |
| ORNAMENTAL | | C-SITE-VEGE-ORNM | 3 | CONTINUOUS |
| GUARDRAIL | EXISTING | V-ROAD-GRAL | 110 | GUARDRAIL-EL or -ER |
| | | C-ROAD-GRAL | 3 | GUARDRAIL-PL or -PR |
| RIPRAP | | C-RRAP | 3 | CONTINUOUS |
| STRUCTURE | EXISTING CURB | V-ROAD-CURB | 110 | TOPO |
| | CURB | C-ROAD-CURB | 112 | CONTINUOUS |
| | EXISTING BRIDGE | V-BRDG | 130 | TOPO |
| | BRIDGE | C-BRDG | 132 | CONTINUOUS |
| | EXISTING BUILDING | V-BLDG | 110 | TOPO |
| | BUILDING | C-BLDG | 112 | CONTINUOUS |
| | EXISTING FENCE | V-FENC | 130 | FENCE-E |
| | FENCE | C-FENC | 132 | FENCE-P |
| | EXISTING MAILBOX | V-NODE-STRC-MB | 110 | TOPO |
| | EXISTING POST | V-NODE-STRC-POST | 110 | TOPO |
| | POST | C-SITE-POLE | 3 | CONTINUOUS |
| | EXISTING RAILROAD | V-RAIL | 110 | TOPO |
| | EXISTING SIGN | V-NODE-SIGN | 110 | CONTINUOUS |
| | SIGN | C-ROAD-SIGN | 112 | CONTINUOUS |
| TRAIL | EXISTING | V-TRAL | 90 | TOPO |
| | | C-TRAL | 92 | CONTINUOUS |
| WALL | | V-WALL | 90 | TOPO |
| | | C-WALL | 3 | CONTINUOUS |
| | NOISE BARRIER | C-WALL-NSBR | 112 | CONTINUOUS |
| | RETAINING WALL | C-WALL-RTWL | 3 | CONTINUOUS |

| LAYERING GUIDE | | | | |
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| Northern Region (Rev. 07/12/19) | | | | |
| FOR SYMBOLS, ADD MINOR GROUP "SYMB" TO END LAYER NAME (Exception - do not add "SYMB" to V-NODE layers) | | | | |
| FOR TEXT, ADD MINOR GROUP "TEXT" TO END OF LAYER NAME | | | | |
| LABELS CREATED BY CIVIL 3D ARE ON LAYERS WITH A MINOR GROUP OF "LABL". DO NOT EXPLODE THESE LABELS | | | | |
| DESCRIPTION | | LAYER NAME | COLOR | LINETYPE |
| RIGHT OF WAY | | | | |
| AIRPORTS | TRACTS | V-RWAY-AFLD | 5 | CONTINUOUS |
| | | V-RWAY-AFLD-LBL | 3 | CONTINUOUS |
| ACCESS CONTROL | | V-RWAY-CTLA | 12 | CA |
| CENTERLINE | | V-RWAY-CNTR | 95 | CONTINUOUS |
| EASEMENT | EXISTING | V-RWAY-ESMT-E | 52 | EASEMENT-E |
| | | V-RWAY-ESMT-N | 52 | EASEMENT-P |
| HATCHING | | V-RWAY-PATT | 11 | CONTINUOUS |
| MONUMENTS | EXISTING HORZ. CONTROL | V-NODE-HCPT | 110 | CONTINUOUS |
| | EXISTING VERT. CONTROL | V-NODE-VCPT | 110 | CONTINUOUS |
| | EXISTING H&V CONTROL | V-NODE-HVPT | 110 | CONTINUOUS |
| | PROPOSED | V-RWAY-MNMT-SYMB | 3 | CONTINUOUS |
| PROPERTY LINE | | V-RWAY-PROP | 4 | CONTINUOUS |
| SECTION LINES | SECTION | V-RWAY-SECT | 72 | CONTINUOUS |
| | 1/4 LINE | V-RWAY-SECT-QTRS | 72 | DASHED |
| | 1/16 LINE | V-RWAY-SECT-SXTS | 72 | DASHED2 |
| TCE | | V-RWAY-TCE | 6 | CONTINUOUS |
| TCP | | V-RWAY-TCP | 6 | CONTINUOUS |
| TEXT | EASEMENTS | V-RWAY-LABL-ESMT | 52 | CONTINUOUS |
| | PROPERTY | V-RWAY-LABL-PROP | 3 | CONTINUOUS |
| | EXISTING ROW | V-RWAY-LABL-RWAY-E | 12 | CONTINUOUS |
| | PROPOSED | V-RWAY-LABL-RWAY-N | 52 | CONTINUOUS |
| | TCE | V-RWAY-LABL-TCE | 52 | CONTINUOUS |
| | TCP | V-RWAY-LABL-TCP | 52 | CONTINUOUS |
| SURVEY CONTROL | | V-CTRL-LINE | 72 | DASH DOT |
| | | V-RWAY-CTRL-SYMB | 72 | CONTINUOUS |
| RWAY LIMITS | EXISTING | V-RWAY-RWAY-E | 134 | CONTINUOUS |
| | NEW | V-RWAY-RWAY-N | 6 | CONTINUOUS |
| | PROPOSED BY DESIGN | C-RWAY-N | 6 | CONTINUOUS |
| WORKING | | V-RWAY-WORK | 7 | CONTINUOUS |

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| Northern Region (Rev. 07/12/19) | | | | |
| FOR SYMBOLS, ADD MINOR GROUP "SYMB" TO END LAYER NAME (Exception - do not add "SYMB" to V-NODE layers) | | | | |
| FOR TEXT, ADD MINOR GROUP "TEXT" TO END OF LAYER NAME | | | | |
| LABELS CREATED BY CIVIL 3D ARE ON LAYERS WITH A MINOR GROUP OF "LABL". DO NOT EXPLODE THESE LABELS | | | | |
| DESCRIPTION | | LAYER NAME | COLOR | LINETYPE |
| TOPOGRAPHY | | | | |
| TIN/DTM | | V-TINN-VIEW | 1 | CONTINUOUS |
| BOUNDARY | | V-TINN-BNDY | 44 | CONTINUOUS |
| BREAK | | V-TOPO-BRKL | 3 | CONTINUOUS |
| CONTOURS | | V-TINN-MAJR | 1 | DOTSMALL |
| | | V-TINN-MINR | 50 | DOTSMALL |
| VEGETATION | EXISTING EDGE | V-TOPO-VEGE | 110 | VEGETATION-L or -R |
| | EXISTING TREE | V-NODE-VEGE | 110 | CONTINUOUS |
| WATER | EXISTING EDGE | V-TOPO-EWAT | 110 | PHANTOM2 |
| | EXISTING CENTERLINE | V-CHAN-FLOW | 150 | CENTER |
| | EXISTING MEANDER | V-CHAN-OHWM | 150 | BORDER2 |
| UTILITIES | | | | |
| STORM DRAIN | EXISTING PIPING (2D) | V-STRM-PIPE | 130 | STORM_DRAIN-EL or -ER |
| | EXISTING PIPING (3D) | C-STRM-PIPE-E | 130 | TOPO |
| | PIPING | C-STRM-PIPE | 132 | CONTINUOUS |
| | EXISTING STRUCTURES | V-NODE-STRM | 130 | TOPO2 |
| | STRUCTURES | C-STRM-STRC | 132 | CONTINUOUS |
| ELECTRICAL | EXISTING ELECTRIC | V-NODE-POWR | 10 | TOPO |
| | ELECTRIC | C-POWR-SYMB | 12 | CONTINUOUS |
| | EXISTING ELEC. LINE OVHD | V-POWR-LINE | 10 | TOPO |
| | ELECTRIC LINE OVHD | C-POWR-LINE | 12 | CONTINUOUS |
| | EXISTING UNDERGRND LINE | V-POWR-LINE-UNDR | 10 | ELEC_ND-EL or -ER |
| | UNDERGROUND LINE | C-POWR-LINE-UNDR | 12 | ELEC_ND-PL or -PR |
| | EXISTING LIGHTING | V-NODE-LITE | 10 | TOPO |
| | LIGHTING | C-ROAD-LITE-SYMB | 12 | CONTINUOUS |
| | EXISTING SIGNAL SYSTEM | V-NODE-SIGL | 10 | TOPO |
| | SIGNAL SYSTEM | C-ROAD-SIGL-SYMB | 12 | CONTINUOUS |
| | EXISTING RMC | V-ROAD-(LITE or SIGL)-CNDT | 10 | RMC_EXST |
| RIGID METAL CONDUIT | C-ROAD-(LITE or SIGL)-CNDT | 14 | RMC_PROP | |
| FUEL | EXISTING | V-NODE-STRC | 130 | TOPO |
| | | C-FUEL-SYMB | 52 | CONTINUOUS |
| | EXISTING FUEL LINE | V-FUEL-LINE | 50 | OIL-E or -EB |
| | FUEL LINE | C-FUEL-LINE | 52 | OIL-P or -PB |
| GAS | EXISTING | V-NODE-NGAS | 50 | TOPO |
| | | C-NGAS-SYMB | 52 | CONTINUOUS |
| | EXISTING GAS LINE | V-NGAS-LINE | 50 | GAS-EL or -ER |
| | GAS LINE | C-NGAS-LINE | 52 | GAS-PL or -PR |
| SANITARY SEWER | EXISTING STRUCTURES | V-NODE-SSWR | 110 | TOPO |
| | STRUCTURES | C-SSWR-STRC | 112 | CONTINUOUS |
| | EXISTING SEWER LINE | V-SSWR-LINE | 110 | SAN_SEWER-E or -EB |
| | SEWER LINE | C-SSWR-LINE | 112 | SAN_SEWER-P or -PB |
| | PIPING | C-SSWR-PIPE | 112 | CONTINUOUS |

| LAYERING GUIDE | | | | |
|--|--------------------------|-----------------------|-------|-------------------|
| Northern Region (Rev. 07/12/19) | | | | |
| FOR SYMBOLS, ADD MINOR GROUP "SYMB" TO END LAYER NAME (Exception - do not add "SYMB" to V-NODE layers) | | | | |
| FOR TEXT, ADD MINOR GROUP "TEXT" TO END OF LAYER NAME | | | | |
| LABELS CREATED BY CIVIL 3D ARE ON LAYERS WITH A MINOR GROUP OF "LABL". DO NOT EXPLODE THESE LABELS | | | | |
| DESCRIPTION | | LAYER NAME | COLOR | LINETYPE |
| TELEPHONE | EXISTING | V-NODE-PHON | 30 | TOPO |
| | | C-COMM-PHON-SYMB | 32 | CONTINUOUS |
| | EXIST. PHONE LINE BURIED | V-COMM-PHON-LINE-UNDR | 30 | TELE_ND-EL or -ER |
| | EXISTING PHONE LINE OVHD | V-COMM-PHON-LINE | 30 | TOPO |
| | TELEPHONE LINE BURIED | C-COMM-PHON-LINE-UNDR | 32 | TELE_ND-PL or -PR |
| | TELEPHONE LINE OVHD | C-COMM-PHON-LINE | 32 | CONTINUOUS |
| WATER | EXISTING | V-NODE-WATR | 170 | TOPO |
| | | C-WATR-SYMB | 172 | CONTINUOUS |
| | EXISTING WATER-LINE | V-WATR-LINE | 170 | WATER_EL or _ER |
| | WATER-LINE | C-WATR-LINE | 172 | WATER_PL or _PR |
| MISCELLANEOUS | | | | |
| NORTH ARROW | | C-ANNO-SYMB-E | 4 | CONTINUOUS |
| DIMENSIONS | | C-ANNO-DIMS | 32 | CONTINUOUS |
| HATCHING | | C-ANNO-PATT | 250 | CONTINUOUS |
| LABELING | NOTE TEXT | C-ANNO-TEXT | 4 | CONTINUOUS |
| | TITLE TEXT | C-ANNO-TITL | 4 | CONTINUOUS |
| NO PLOT/REFERENCE | | C-ANNO-RDME | 15 | CONTINUOUS |
| SCALE | | C-ANNO-SYMB-E | 4 | CONTINUOUS |
| PE/LS SEAL | | C-ANNO-SEAL | 3 | CONTINUOUS |
| TITLEBLOCK | LINES | C-ANNO-TTLB | 4 | CONTINUOUS |
| | TEXT - FINE | C-ANNO-TTLB-TEXT-FINE | 130 | CONTINUOUS |
| | TEXT - MEDIUM | C-ANNO-TTLB-TEXT-MEDM | 4 | CONTINUOUS |
| TABLES | TABLE | C-ANNO-TABL | 1 | CONTINUOUS |
| | TEXT | C-ANNO-TABL-TEXT | 4 | CONTINUOUS |
| | TITLE | C-ANNO-TABL-TITL | 4 | CONTINUOUS |
| | BORDER | C-ANNO-TABL-TTBL | 174 | CONTINUOUS |
| VIEWPORTS | | C-ANNO-VFRM | 135 | CONTINUOUS |
| IMAGES | | C-ANNO-IMGS | 152 | CONTINUOUS |
| X-REFS | | C-ANNO-REFR | 152 | CONTINUOUS |
| DETAILS | | | | |
| LINES | FINE | C-DETL-FINE | 30 | CONTINUOUS |
| | FINE-HIDDEN | C-DETL-HDLN-FINE | 30 | HIDDEN |
| | MEDIUM | C-DETL-MEDM | 4 | CONTINUOUS |
| | MEDIUM-HIDDEN | C-DETL-HDLN-MEDM | 4 | HIDDEN |
| | BOLD | C-DETL-BOLD | 5 | CONTINUOUS |
| | BOLD-HIDDEN | C-DETL-HDLN-BOLD | 5 | HIDDEN |
| TEXT | FINE | C-DETL-TEXT-FINE | 30 | CONTINUOUS |
| | MEDIUM | C-DETL-TEXT-MEDM | 4 | CONTINUOUS |
| | BOLD | C-DETL-TEXT-BOLD | 5 | CONTINUOUS |

SECTION 6 – CTB FILE INFORMATION (HALFSIZE-National_Standard.ctb)

Below is information for the HALFSIZE-National_Standard.ctb file.

| HALFSIZE-National_Standard.ctb | | | | | | | |
|--------------------------------|---------------|-----------|------------|--------------|---------------|-----------|------------|
| ACAD Color # | Plot Pen (mm) | Screening | Plot Color | ACAD Color # | Plot Pen (mm) | Screening | Plot Color |
| 1 RED | 0.09 | 100% | Black | 50 | 0.09 | 100% | Black |
| 2 YELLOW | 0.13 | 100% | Black | 51 | 0.13 | 100% | Black |
| 3 GREEN | 0.18 | 100% | Black | 52 | 0.18 | 100% | Black |
| 4 CYAN | 0.18 | 100% | Black | 53 | 0.25 | 100% | Black |
| 5 BLUE | 0.25 | 100% | Black | 54 | 0.35 | 100% | Black |
| 6 MAGENTA | 0.50 | 100% | Black | 55 | 0.50 | 100% | Black |
| 7 BLACK | 0.70 | 100% | Black | 56 | 0.70 | 100% | Black |
| 8 DK GRAY | 0.18 | 50% | Black | 57 | 0.35 | 50% | Black |
| 9 LT GRAY | 1.00 | 100% | Black | 58 | 0.18 | 50% | Black |
| 10 | 0.09 | 100% | Black | 59 | 1.00 | 100% | Black |
| 11 | 0.13 | 100% | Black | 60 | 0.09 | 100% | Olive |
| 12 | 0.18 | 100% | Black | 61 | 0.13 | 100% | Olive |
| 13 | 0.25 | 100% | Black | 62 | 0.18 | 100% | Olive |
| 14 | 0.35 | 100% | Black | 63 | 0.25 | 100% | Olive |
| 15 | 0.50 | 100% | Black | 64 | 0.35 | 100% | Olive |
| 16 | 0.70 | 100% | Black | 65 | 0.50 | 100% | Olive |
| 17 | 0.35 | 50% | Black | 66 | 0.70 | 100% | Olive |
| 18 | 0.18 | 50% | Black | 67 | 0.35 | 100% | Olive |
| 19 | 1.00 | 100% | Black | 68 | 0.18 | 100% | Olive |
| 20 | 0.09 | 100% | Rust | 69 | 1.00 | 100% | Olive |
| 21 | 0.13 | 100% | Rust | 70 | 0.09 | 100% | Black |
| 22 | 0.18 | 100% | Rust | 71 | 0.13 | 100% | Black |
| 23 | 0.25 | 100% | Rust | 72 | 0.18 | 100% | Black |
| 24 | 0.35 | 100% | Rust | 73 | 0.25 | 100% | Black |
| 25 | 0.50 | 100% | Rust | 74 | 0.35 | 100% | Black |
| 26 | 0.70 | 100% | Rust | 75 | 0.50 | 100% | Black |
| 27 | 0.35 | 100% | Rust | 76 | 0.70 | 100% | Black |
| 28 | 0.18 | 100% | Rust | 77 | 0.35 | 50% | Black |
| 29 | 1.00 | 100% | Rust | 78 | 0.18 | 50% | Black |
| 30 | 0.09 | 100% | Black | 79 | 1.00 | 100% | Black |
| 31 | 0.13 | 100% | Black | 80 | 0.09 | 100% | Green |
| 32 | 0.18 | 100% | Black | 81 | 0.13 | 100% | Green |
| 33 | 0.25 | 100% | Black | 82 | 0.18 | 100% | Green |
| 34 | 0.35 | 100% | Black | 83 | 0.25 | 100% | Green |
| 35 | 0.50 | 100% | Black | 84 | 0.35 | 100% | Green |
| 36 | 0.70 | 100% | Black | 85 | 0.50 | 100% | Green |
| 37 | 0.35 | 50% | Black | 86 | 0.70 | 100% | Green |
| 38 | 0.18 | 50% | Black | 87 | 0.35 | 100% | Green |
| 39 | 1.00 | 100% | Black | 88 | 0.18 | 100% | Green |
| 40 | 0.09 | 100% | Gold | 89 | 1.00 | 100% | Green |
| 41 | 0.13 | 100% | Gold | 90 | 0.09 | 100% | Black |
| 42 | 0.18 | 100% | Gold | 91 | 0.13 | 100% | Black |
| 43 | 0.25 | 100% | Gold | 92 | 0.18 | 100% | Black |
| 44 | 0.35 | 100% | Gold | 93 | 0.25 | 100% | Black |
| 45 | 0.50 | 100% | Gold | 94 | 0.35 | 100% | Black |
| 46 | 0.70 | 100% | Gold | 95 | 0.50 | 100% | Black |
| 47 | 0.35 | 100% | Gold | 96 | 0.70 | 100% | Black |
| 48 | 0.18 | 100% | Gold | 97 | 0.35 | 50% | Black |
| 49 | 1.00 | 100% | Gold | 98 | 0.18 | 50% | Black |
| | | | | 99 | 1.00 | 100% | Black |

SECTION 6 – CTB FILE INFORMATION

| ACAD Color # | Plot Pen (mm) | Screening | Plot Color |
|--------------|---------------|-----------|--------------|
| 100 | 0.09 | 100% | Forest Green |
| 101 | 0.13 | 100% | Forest Green |
| 102 | 0.18 | 100% | Forest Green |
| 103 | 0.25 | 100% | Forest Green |
| 104 | 0.35 | 100% | Forest Green |
| 105 | 0.50 | 100% | Forest Green |
| 106 | 0.70 | 100% | Forest Green |
| 107 | 0.35 | 100% | Forest Green |
| 108 | 0.18 | 100% | Forest Green |
| 109 | 1.00 | 100% | Forest Green |
| 110 | 0.09 | 100% | Black |
| 111 | 0.13 | 100% | Black |
| 112 | 0.18 | 100% | Black |
| 113 | 0.25 | 100% | Black |
| 114 | 0.35 | 100% | Black |
| 115 | 0.50 | 100% | Black |
| 116 | 0.70 | 100% | Black |
| 117 | 0.35 | 50% | Black |
| 118 | 0.18 | 50% | Black |
| 119 | 1.00 | 100% | Black |
| 120 | 0.09 | 100% | Teal |
| 121 | 0.13 | 100% | Teal |
| 122 | 0.18 | 100% | Teal |
| 123 | 0.25 | 100% | Teal |
| 124 | 0.35 | 100% | Teal |
| 125 | 0.50 | 100% | Teal |
| 126 | 0.70 | 100% | Teal |
| 127 | 0.35 | 100% | Teal |
| 128 | 0.18 | 100% | Teal |
| 129 | 1.00 | 100% | Teal |
| 130 | 0.09 | 100% | Black |
| 131 | 0.13 | 100% | Black |
| 132 | 0.18 | 100% | Black |
| 133 | 0.25 | 100% | Black |
| 134 | 0.35 | 100% | Black |
| 135 | 0.50 | 100% | Black |
| 136 | 0.70 | 100% | Black |
| 137 | 0.35 | 50% | Black |
| 138 | 0.18 | 50% | Black |
| 139 | 1.00 | 100% | Black |
| 140 | 0.09 | 100% | Cyan |
| 141 | 0.13 | 100% | Cyan |
| 142 | 0.18 | 100% | Cyan |
| 143 | 0.25 | 100% | Cyan |
| 144 | 0.35 | 100% | Cyan |
| 145 | 0.50 | 100% | Cyan |
| 146 | 0.70 | 100% | Cyan |
| 147 | 0.35 | 100% | Cyan |
| 148 | 0.18 | 100% | Cyan |
| 149 | 1.00 | 100% | Cyan |

| ACAD Color # | Plot Pen (mm) | Screening | Plot Color |
|--------------|---------------|-----------|------------|
| 150 | 0.09 | 100% | Black |
| 151 | 0.13 | 100% | Black |
| 152 | 0.18 | 100% | Black |
| 153 | 0.25 | 100% | Black |
| 154 | 0.35 | 100% | Black |
| 155 | 0.50 | 100% | Black |
| 156 | 0.70 | 100% | Black |
| 157 | 0.35 | 50% | Black |
| 158 | 0.18 | 50% | Black |
| 159 | 1.00 | 100% | Black |
| 160 | 0.09 | 100% | Blue |
| 161 | 0.13 | 100% | Blue |
| 162 | 0.18 | 100% | Blue |
| 163 | 0.25 | 100% | Blue |
| 164 | 0.35 | 100% | Blue |
| 165 | 0.50 | 100% | Blue |
| 166 | 0.70 | 100% | Blue |
| 167 | 0.35 | 100% | Blue |
| 168 | 0.18 | 100% | Blue |
| 169 | 1.00 | 100% | Blue |
| 170 | 0.09 | 100% | Black |
| 171 | 0.13 | 100% | Black |
| 172 | 0.18 | 100% | Black |
| 173 | 0.25 | 100% | Black |
| 174 | 0.35 | 100% | Black |
| 175 | 0.50 | 100% | Black |
| 176 | 0.70 | 100% | Black |
| 177 | 0.35 | 50% | Black |
| 178 | 0.18 | 50% | Black |
| 179 | 1.00 | 100% | Black |
| 180 | 0.09 | 100% | Navy |
| 181 | 0.13 | 100% | Navy |
| 182 | 0.18 | 100% | Navy |
| 183 | 0.25 | 100% | Navy |
| 184 | 0.35 | 100% | Navy |
| 185 | 0.50 | 100% | Navy |
| 186 | 0.70 | 100% | Navy |
| 187 | 0.35 | 100% | Navy |
| 188 | 0.18 | 100% | Navy |
| 189 | 1.00 | 100% | Navy |
| 190 | 0.05 | 100% | Black |
| 191 | 0.09 | 100% | Black |
| 192 | 0.18 | 100% | Black |
| 193 | 0.25 | 100% | Black |
| 194 | 0.35 | 100% | Black |
| 195 | 0.50 | 100% | Black |
| 196 | 0.70 | 100% | Black |
| 197 | 0.35 | 50% | Black |
| 198 | 0.18 | 50% | Black |
| 199 | 1.00 | 100% | Black |

SECTION 6 – CTB FILE INFORMATION

| ACAD Color # | Plot Pen (mm) | Screening | Plot Color |
|--------------|---------------|-----------|------------|
| 200 | 0.09 | 100% | Purple |
| 201 | 0.13 | 100% | Purple |
| 202 | 0.18 | 100% | Purple |
| 203 | 0.25 | 100% | Purple |
| 204 | 0.35 | 100% | Purple |
| 205 | 0.50 | 100% | Purple |
| 206 | 0.70 | 100% | Purple |
| 207 | 0.35 | 100% | Purple |
| 208 | 0.18 | 100% | Purple |
| 209 | 1.00 | 100% | Purple |
| 210 | 0.09 | 100% | Black |
| 211 | 0.13 | 100% | Black |
| 212 | 0.18 | 100% | Black |
| 213 | 0.25 | 100% | Black |
| 214 | 0.35 | 100% | Black |
| 215 | 0.50 | 100% | Black |
| 216 | 0.70 | 100% | Black |
| 217 | 0.35 | 50% | Black |
| 218 | 0.18 | 50% | Black |
| 219 | 1.00 | 100% | Black |
| 220 | 0.09 | 100% | Magenta |
| 221 | 0.13 | 100% | Magenta |
| 222 | 0.18 | 100% | Magenta |
| 223 | 0.25 | 100% | Magenta |
| 224 | 0.35 | 100% | Magenta |
| 225 | 0.50 | 100% | Magenta |
| 226 | 0.70 | 100% | Magenta |
| 227 | 0.35 | 100% | Magenta |
| 228 | 0.18 | 100% | Magenta |
| 229 | 1.00 | 100% | Magenta |
| 230 | 0.09 | 100% | Black |
| 231 | 0.13 | 100% | Black |
| 232 | 0.18 | 100% | Black |
| 233 | 0.25 | 100% | Black |
| 234 | 0.35 | 100% | Black |
| 235 | 0.50 | 100% | Black |
| 236 | 0.70 | 100% | Black |
| 237 | 0.35 | 50% | Black |
| 238 | 0.18 | 50% | Black |
| 239 | 1.00 | 100% | Black |
| 240 | 0.09 | 100% | Red |
| 241 | 0.13 | 100% | Red |
| 242 | 0.18 | 100% | Red |
| 243 | 0.25 | 100% | Red |
| 244 | 0.35 | 100% | Red |
| 245 | 0.50 | 100% | Red |
| 246 | 0.70 | 100% | Red |
| 247 | 0.35 | 100% | Red |
| 248 | 0.18 | 100% | Red |
| 249 | 1.00 | 100% | Red |

| ACAD Color # | Plot Pen (mm) | Screening | Plot Color |
|--------------|---------------|-----------|------------|
| 250 | 0.09 | 30% | Black |
| 251 | 0.09 | 50% | Black |
| 252 | 0.13 | 50% | Black |
| 253 | 0.25 | 50% | Black |
| 254 | 0.35 | 50% | Black |
| 255 | 0.25 | 1% | Black |