# Workflow MP 6 - Shaded Color and Grayscale Printing

This document guides you through the set-up and printing process for shaded and grayscale Sheet Files. This workflow may be used any time the user wants to highlight specific areas for things such as phasing plans, public meetings, ROW exhibits, etc. Please note that the use of raster images (jpg, bmp, tif, etc.) will dramatically increase the processing time during printing

## **Reference File Management**

Adjustments must be made to some of the reference file settings in order to achieve the desired print quality. The settings that may need changing are the **Slot Numbers** and **Update Sequence**. **Slot Numbers** are unique identifiers assigned to reference files and can be called out individually or in groups within a pen table for special processing during printing. **Update Sequence** determines the order in which files are refreshed on the screen and printed on paper.

#### **Reference File Slot Number Categories:**

0= Sheet File (black) - this is the active dgn file

1-99 = Proposed Primary Discipline (Black)

100-199= Existing Topo (light gray)

200-299= Proposed Other Discipline (dark gray)

300-399= Color Shaded Areas

*Note:* All data placed in the Sheet File will be printed black. Items to be printed in color should be contained in their own file. Create a new file using the standard CDOT seed file and reference design elements to create color areas. If printing to a black and white printer all colors will be printed grayscale. Files can still be printed using the default printer drivers and pen tables, however shaded areas will lose their transparency and may print black depending on their level.

# **Assigning Slot Numbers**

 Open the Reference Files dialog by selecting File > Reference or <D> the Reference icon on the Primary toolbar.

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| R   | F |              | <u>S</u> ave     |                  |                  |               |                   |                    |                     |                |              | Ctrl+S      |
|     | F |              | Save <u>As</u>   | i                |                  |               |                   |                    |                     |                |              |             |
| R   |   |              | Compr            | ess              |                  |               |                   |                    |                     |                |              | +           |
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2. *Highlight* the desired reference file that you want to apply shaded color, grayscale or a combination of both to for printing purposes.

| 🗈 References (6 of 6 unique          | e, 6 displayed)                  |              |         |            |                        |              |              | X    |
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3. Once a reference file is highlighted, *<D>* in the **Slot Number** field.

4. **Key-in** the desired number and press the **Enter** key. Refer to the Reference File Slot Number Categories on Page 1. In this example, **200** is entered, which will result in reference file information be plotted Dark Gray, indicating Other Discipline. The reference files will be re-ordered in the window based on their slot numbers after you have updated the Slot Numbers for all reference files.

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| 3               | 15697ROW           | _Model-Color.dg       | n           |        | CDOT             | Default | t Globa     | l Origi | in aligne.         |       | / /    | 1        |  |
| 4               | 15697ROW           | OwnershipColor        | .dgn        |        | CDOT             | Default | t Globa     | l Origi | n aligne.          |       | / /    | ~        |  |
| 5               | 15697SURV          | _SectionCorners       | 100Scale    | 01.dgn | CDOT             | Default | t Globa     | l Origi | n aligne.          |       | 1 1    | 1        |  |
| 6               | 15697SURV          | _Topo20scale0         | 1.dgn       |        | CDOT             | Default | t Globa     | l Origi | n aligne.          |       | / /    | ~        |  |
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5. Repeat this process for each of the reference file attached. The illustration below shows a group of files with updated slot numbers.

| 🗈 Refer         | ences (6 of 6 uni   | que, 6 displayed)       | )          |          |                  |         |             |        |                     |              |              | X            |
|-----------------|---------------------|-------------------------|------------|----------|------------------|---------|-------------|--------|---------------------|--------------|--------------|--------------|
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| Slot F          | File Name           |                         |            | Mode     | el               |         | Description |        | •                   | 1 2          | ł            | A            |
| 1               | 15697ROW            | Model.dgn               |            | (        | DOT D            | )efault | Global      | Origin | n aligne            | $\checkmark$ | $\checkmark$ | ~            |
| 2               | 15697SURV           | _SectionCorners         | 100Scale(  | 01.dgn ( | DOT              | )efault |             |        | n aligne            |              | $\checkmark$ | ~            |
| 100             | 15697SURV           | _Topo20scale01          | .dgn       | 0        | DOT D            | )efault | Global      | Origin | n aligne            | $\checkmark$ | $\checkmark$ | $\checkmark$ |
| 200             | 15697DES_           | Model.dgn               |            | (        | DOT [            | )efault | Global      | Origin | n aligne            | $\checkmark$ | $\checkmark$ | $\checkmark$ |
| 300             | 15697ROW            | _Model-Color.dgn        | 1          | 0        | DOT [            | )efault | Global      | Origin | n aligne            | $\checkmark$ | $\checkmark$ | ~            |
| 301             | 15697ROW            | _OwnershipColor.        | dgn        | 0        | DOT [            | )efault | Global      | Origin | n aligne            | $\checkmark$ | $\checkmark$ | $\checkmark$ |
| Scale           | 1.000000            | : 1.00000               | 0          | E        | <u>R</u> otation | 00°0    | 0'00''      |        |                     |              |              |              |
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|                 |                     |                         |            |          |                  |         |             |        |                     |              |              |              |

*Note:* Reference files whose slot numbers are not changed will print black because they will be in the 1-99 range.

# **Re-Ordering Sequence**

1. Select Settings > Update Sequence. This displays the Update Sequence dialog box.

| 🗈 Refere         | References (6 of 6 unique, 6 displayed) |  |                              |             |  |  |  |  |  |  |  |
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| Tools            | <u>S</u> ettings                        |  |                              |             |  |  |  |  |  |  |  |
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| Slot 1           | Update Sequence                         |  | Model                        | Description | 🖸 🎝 👌 🤷                                |  |  |  |  |  |  |
| 1 2              | Adjust <u>C</u> olors<br>Reprojection   | P  | CDOT Default<br>CDOT Default |             |  |  |  |  |  |  |  |
| 100              |   | lgn  | CDOT Default                 |             | $\checkmark$ $\checkmark$ $\checkmark$ |  |  |  |  |  |  |
| 200<br>300       | Auto Arrange Icons                      | h  | CDOT Default<br>CDOT Default |             |  |  |  |  |  |  |  |
| 301              | Level Manager                           |  | CDOT Default                 |             | $\checkmark$ $\checkmark$ $\checkmark$ |  |  |  |  |  |  |
| S <u>c</u> ale   | Level Display<br>Presentation           | 0000                                       | <u>R</u> otation 00°         | 00'00''     |  |  |  |  |  |  |  |
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- 2. If a reference file in the list contains shaded areas, move it directly below **Raster References**. If there are no raster references, move it to the top.
- Move the Active Design File to the bottom of the list. When updating the sequence of reference files, highlight the desired file then <D> the Move Up or Move Down icon until it is in its desired location. The Move Up icon is outlined below.

| Slot       | File Name   | Model  | Logical Name       |
|------------|---|--|--------------------|
| 300<br>200 | 12345ROW_OwnershipColor.dgn<br>12345DES_Model.dgn<br>12345SUBV_Terce20Scal=01.den | CDOT Default<br>CDOT Default                 |                    |
| 301        | 12345ROW_Model-Color.dgn  | CDOT Default                                 |                    |
| 2          | 12345HoW_Nooe.ogn<br>12345SURV_SectionComers100Sca<br>12345HOW_Plan505.dgn        | CDOT Default<br>CDOT Default<br>CDOT Default | Active Design File |

- Any file containing Area Patterns should be moved under the files containing shaded areas. Highlight the desired file then <D> the Move Up icon until it is in its desired location. <D> OK to proceed with plotting.
  - **Note:** If area patterns are to be printed in color they should reside in the file containing shaded areas to be printed in color, or in their own file.

5. Select File > Save Settings from the MicroStation main menu after reordering slot numbers so these changes will remain each time this file is plotted.

### Selecting the Pen Table

1. Select **PenTable > Attach** from the **Print** dialog pull-down menu.

| Print Xerox Phaser 8560N PS (CDOT-DefaultPrinter_V8i.pltcfg)                 | x    |
|--|------|
| <u>File</u> <u>Settings</u> <u>P</u> enTable                                 |      |
|  |      |
| General Settings Attach  |      |
| Area: Fence Edit Rasterized  |      |
| View: View 1 Detach  |      |
| Color: True Color  Copies: 1   |      |
| Pen table: CDOT-Pen Table.tbl  | Will |
| Printer and Paper Size   |      |
| Windows driver   |      |
| Paper: 17x11   |      |
| Total area: 17 x 11 in.  |      |
| Landscape ▼     Send to printer ▼       ✓     Show <u>d</u> esign in preview | •    |
| Print Scale and Position   |      |
| Scale: 100.000 Q 1 in. (paper) to 100.000 ' (design)                         |      |
| Size: 17.000 11.000 in. +++ Maximize Rotation: None                          | •    |
| <u>O</u> rigin: 0.000 0.000 in.  |      |
|  | _    |

2. From the Select Pen Table File dialog, select the *CDOT-Shading\_GrayscalePenTable.tbl* then <D> OK.

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| <u>~</u>   | CDOT-AC  | AD.tbl                       | 9/30/2      | 2010 11:48 AM | TBL File |      |
| ent Places | CDOT-Co  | lorPenTable.tbl              | 9/30/2      | 2010 11:49 AM | TBL File |      |
|            | CDOT-Co  | lorPenTablewithYellowtoBlack | .tbl 9/30/2 | 2010 11:49 AM | TBL File |      |
| ·          | CDOT-Per | nTable.tbl                   | 12/13/      | /2010 3:04 PM | TBL File |      |
| )esktop    | CDOT-RO  | W-PenTable.tbl               | 9/30/2      | 2010 11:49 AM | TBL File |      |
| ibraries   | CDOT-Sha | ading_GrayscalePenTable.tbl  | 9/30/2      | 2010 11:49 AM | TBL File |      |
|            |          |                              |             |               |          |      |
| omputer    |          |                              |             |               |          |      |
|            |          |                              |             |               |          |      |
| letwork    |          |                              |             |               |          |      |
|            |          | CDOT-ColorPenTable.tbl       |             |               |          | Open |
| omputer    |          |                              |             |               |          |      |

- 3. Select File > Save Settings from the MicroStation main menu before exiting the file.
- 4. The remainder of the printing process does not change. For additional information refer to the workflow document *CDOT Workflow MicroStation Printing*.

#### **Creating A PDF File**

To create a PDF file of the shaded print follow the steps above, then continue by completing the steps below.

| Print (CDOT-PDFHighQuality_V8i.pltcfg)   |
|--|
| <u>File</u> <u>S</u> ettings <u>P</u> enTable  |
|  |
| General Settings   |
| Area: Fence Rasterized   |
| View: View 1  Print to 3D  |
| Color: True Color  Copies: 1   |
| Pen table: CDOT-Pen Table.tbl  |
| Printer and Paper Size   |
| Bentley driver   |
| Paper: 17x11 Select Printer Driver Configuration File  |
| Usable area: 17x 11 in.  |
| Landscape ▼     Create plot file ▼       ✓     Show design in preview  |
| Print Scale and Position   |
| Scale: 100.000 Q 1 in. (paper) to 100.000 ' (design)   |
| Size:         17.000         11.000         in.         + ++         Maximize         Rotation:         None |
| <u>O</u> rigin: 0.000 0.000 in.  |
|  |

1. **<D>** the **Select Print Driver** icon from the **Print** dialog.

- 2. From the *Select Printer Driver File* dialog, select the correct Printer Driver file. <D> OK to accept the change and dismiss the window.
- 3. **<D>** the **Print** icon in the **Print** dialog box. The **Save Print As** dialog box will be displayed.
- 4. Set the desired directory path for the file in the *Directories* area.
- 5. Key in the desired name for your file in the **Files** filed and **<D> Save**.

*Note:* A default name (the DGN file name with the pdf extension) is supplied by the computer.

6. **<D> OK** to accept the changes and create the PDF file.

| 📕 Save Print As | C:\Projects\1234 | 5\Plot_Sets\AD\          |                    | ×           |
|-----------------|------------------|--------------------------|--------------------|-------------|
| Save in:        | \mu AD           | •                        | G 🤌 📂 🛄 -          | 8 🗎         |
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| Desktop         |                  |                          |                    |             |
| Libraries       |                  |                          |                    |             |
|                 |                  |                          |                    |             |
| Computer        |                  |                          |                    |             |
| Network         | •                | III                      |                    | 4           |
|                 | File name:       | 12345ROW_Plan505.pdf     | •                  | Save        |
|                 | Save as type:    | Print Output Files (*.*) | •                  | Cancel      |