5 Standard Symbology

Introduction

A “cell” in MicroStation and a “block” in AutoCAD are groups of graphical elements that can be manipulated as a single entity. Examples of typical cells/blocks are windows, doors, graphic scale keys, furniture, steel sections, etc. The use of such symbology enhances CADD productivity and provides an excellent opportunity for CADD standardization.

Electronic Version of the Symbology/Elements

Deliverables

Within the electronic deliverables available as part of the A/E/C CADD Standard, the following symbology is provided (Figure 31):

- MicroStation cells contained in cell libraries (.cel) and custom line styles contained in resource files (.rsc).
- AutoCAD blocks, each in an individual drawing (.dwg) file, patterns in a pattern library file (.pat), multilines in a multiline library file (.mln), and custom line styles in a line type library file (.lin).

Line styles

Line style definitions determine the particular dash-dot sequence and relative length of dashes, blank spaces, and the characteristics of any included text or shapes. Working with line styles provides a means of distinguishing the purpose of one line from another.

AutoCAD and MicroStation both provide a set of standard line styles, as well as allowing the user to define custom line styles. In AutoCAD these custom line styles are defined in a line type library file (.lin) and a multiline library file (.mln). In MicroStation, custom line styles are contained in resource files (.rsc) (see Chapter 3 “Line Types/Styles” for more information.

Note: *Custom line styles do not readily translate between systems; therefore users should anticipate that translated custom line styles may revert into their primitive graphics.*

Tabulated Version of the Symbology/Elements

Graphical presentations of the entire symbology library are shown in Appendix E “A/E/C CADD Symbology.”

The symbology library contains four types of elements: Lines, Patterns, Symbols, and Objects. Lines are defined as a graphical representation of linear drawing features (e.g., utility lines, fence lines, contours, etc.). Patterns are defined as repeated drawing elements (e.g., lines, dots, circles, etc.) within a defined area. Symbols are defined as MicroStation cells or AutoCAD

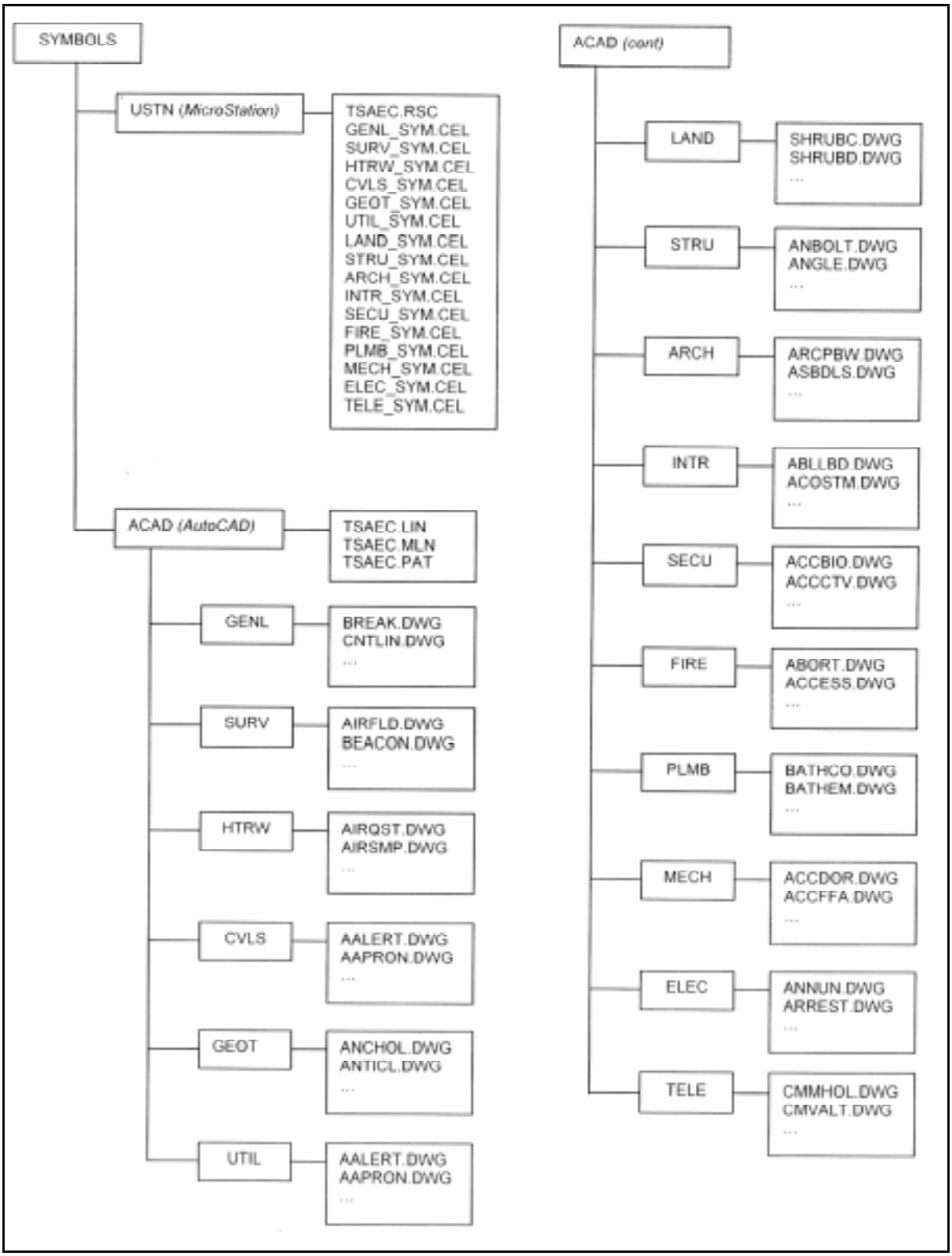

Figure 31. Symbology directory structure

blocks that represent objects that are not required to be scaled based upon their actual size (e.g., electrical outlets, smoke detectors, etc.). Objects are defined as MicroStation cells or AutoCAD blocks that represent objects that are required to be scaled based upon their actual size (e.g., 30- by 50-in. desk, scale bars, etc.).

Examples of the four element types are shown in Figures 32-35 and include the following information:

- **Name** - The name of the line type, pattern, symbol, or object. This is the name used when accessing the element with AutoCAD or MicroStation.
- **Element type** - The type of element that the symbology represents (i.e., line, pattern, symbol, or object).
- **Description** - A brief explanation of what the symbol represents.

GIS-Related Symbols

Many disciplines, such as Civil/Site, Survey and Mapping, and Utilities, have symbols that may be used by A/E/C disciplines but are not shown in Appendix E. These "missing" symbols, due to their more frequent use in GIS-related work, can be found in the "Tri-Service Spatial Data Standards" (TSSDS) (TSTC 1998a). These standards can be obtained from the Tri-Service CADD/GIS Technology Center by e-mailing *carpenb@wes.army.mil* or by visiting the TSTC's Web site at *http://tsc.wes.army.mil*.

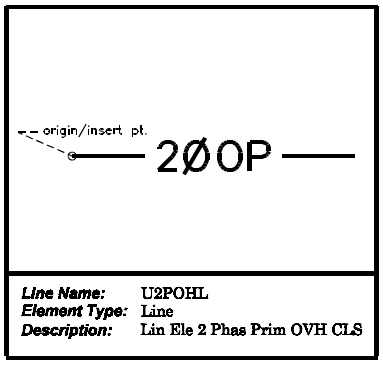

Figure 32. Line element

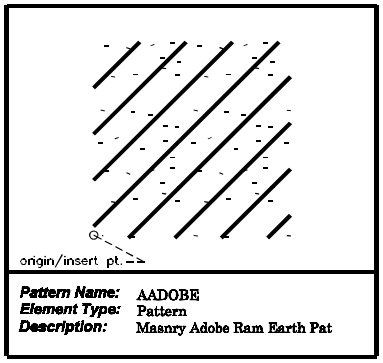

Figure 33. Pattern element

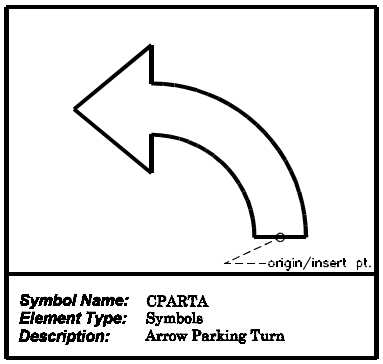

Figure 34. Symbol element

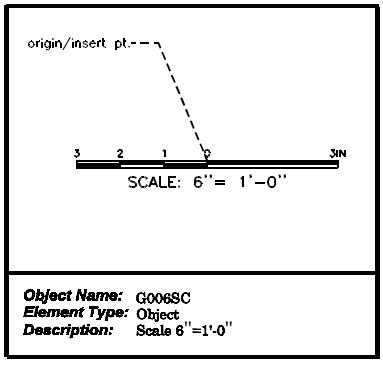

Figure 35. Object element