SECTION GS10100 - GENERAL CADD PRACTICES AND METHODS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings, general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, and other related sections apply to work in this section.

1.2 SUMMARY

A. This section includes the following:

1. Computer Aided Drawing standards for construction (CADD)

2. All required documentation for CADD

3. Required submittal media and format

1.3 SECTION INTENT

A. Texas Tech University is pursuing a program of automated construction related documents and Facilities Management. In general terms, this section describes the requirements for CADD related drawings, the required accompanying documentation, and the form and format of the electronic database.

B. This standards has two main goals; one, to not jeopardize the efficiency of the consultant's internal drawings development methods by imposing overly ambitious CADD standards and two, to provide a set of documents that are consistent with the needs of the university facilities management and future construction.

PART 2 - FORMAT

2.1 DIGITAL FORMAT

A. All drawings shall be submitted in AutoCAD (Autodesk Inc.) .DWG format at the current highest release level or level that is 100% compatible to the current highest release level. Texas Tech University shall not accept any drawings in the Drawing Interchange Format (DXF). If any drawing translators such as DXF or IGES (Initial Graphics Exchange Standard) are used prior to submittal the results of such translations shall be 100% complete. It is the responsibility of the Consultant to cross-check translated drawings for errors and omissions.

B. All required documentation as described below shall be submitted in both printed and digital versions. All documentation databases shall be in standard ASCII format (non-extended) with no non-printable control code characters (such as End-of-Page markers) except for End-of-Record markers. Columnar files such as schedules shall be comma delimited.

C. All documentation database files shall be accompanied by field descriptions as to size, data type, headings, etc.

2.2 MEDIA

A. All electronic database and drawing files shall be submitted on either 3-1/2"

floppy diskettes, 1.44m high density format, or CD-ROM. If in the event that a file is larger than the capacity of one diskette, WinZip or compatible compression software shall be used to reduce file size.

B. All submitted diskettes shall be clearly labeled with the FP&C/PPES job number, project title, consultant name, date of submittal, and list of data files. All files contained within a compressed file must be listed individually on the label. Labels shall be firmly attached to the diskette.

C. Naming extensions used shall be as follows:

 1. .DWG, AutoCAD drawing file - Drawing file names shall contain the project number followed by the sheet number they represent, i.e. FPC98-27-A3-1.DWG.

 2. .DOC, MS Word document - Documentation files providing general descriptions such as layering listings etc.

 3. .TXT, .CSV etc. - Drawing schedules and other coma delimited files.

D. Record drawing sheets shall be plotted onto reproducible media, either vellum or mylar. These will become part of the Texas Tech University Physical Plant Engineering Services archives.

PART 3 -CONSTRUCTION DOCUMENTATION REQUIREMENTS

3.1 GENERAL DESCRIPTION

A. Texas Tech University Physical Plant Engineering Services will be using the construction documents on CADD for three major purposes:

 1. Long term document archival.

 2. Reference.

 3. Provide architectural backgrounds for future work.

B. The intent of this part is to establish minimal standards for CADD development and specific requirements for drawing documentation.

3.2 DRAWING ORGANIZATION

A. All drawing documents shall be 100% complete on CADD and CADD files shall be submitted when Record Drawings ("as-builts") are submitted. Manual corrections on the as-built reproducibles not reflected in the CADD database are not acceptable.

B. The consultant shall adhere as closely as possible to the AIA/NIBS National CADD Standard for layering purposes.

C. Before submitting CADD files to the Texas Tech University Physical Plant/Engineering Services CADD/GIS Department:

 1. Any external references (xref) must be bound and all appropriate script files shall be run so that when the CADD file is opened, it shows a true visual representation of its corresponding hard copy.

 2. The "PURGE ALL" command shall be performed prior to submittal to remove unused elements and reduce drawing size.

D. The font files used in submitted CADD documentation shall be restricted to any of the following unmodified AutoCAD files: bold.shx, bold2.shx, complex.shx, romans.shx, romant.shx and simplex.shx,

E. All entities drawn in CADD must be at a scale factor of 1" = 1".

F. Each CADD file shall contain only one drawing sheet at final as-built submittal.

3.3 DRAWING DOCUMENTATION

A. All required drawing documentation shall be submitted in both printed and digital versions. Digital documentation shall be placed on the same diskette as the drawing file the documentation refers to.

B. LAYERS - The consultant shall submit a complete list of all layers used on a drawing file with the following information:

    1. The layer name as it appears on the drawing file.

    2. Expanded description of layer name.

    3. The default color and line type of layer.

Consultant shall describe any wildcard commands that may be used with the layer name convention.

C. PEN SETTINGS - Consultant shall submit a complete pen setting file (.pc2) as well as the necessary documentation, in hard copy and digital format, to describe the pen-layering relationships. Weighted polylines are not an acceptable means for achieving plotted line weight.

END OF SECTION GS10100