

**Structural FAC
Meeting Minutes
Sacramento, CA
11 August 2000**

1. Participants:

Lori Taylor (MVP)
Tom Tufts (SPK)
Clare VanDyke (SPK)
Humphrey "Van" VanKempen
John Connor (NWK)
Jeff Qunell (NWS)

2. Introductions were made by team members with each discussing the type of projects they're involved in, problems encountered, etc.

- a. John Connor, Kansas City District: Kansas City District has both a civil works and military mission. The Structures section in the district consists of approximately 8 engineers and one CADD technician. The engineers do their own CADD work. John is a structural engineer, and primarily works on military buildings.
- b. Jeff Qunell, Seattle District: Seattle District is both a civil works and military district, with the majority of their work being military. Jeff is fairly new to his district, transferring from Portland District several months ago. Lack of training funds is a big problem for Seattle District. They have a program where drawing title block information is generated from a database. CALS files are automatically generated every night from iparms.
- c. Sacramento District: Sacramento District is both a civil works and military district. The military sections use AutoCAD and the civil works sections use MicroStation. The district has an active Design Branch User's Group (DBUG).
 - (1) Clare VanDyke is a technician for military structures. He is interested in developing conversion tables for translating between MicroStation and AutoCAD.
 - (2) Tom Tufts is a technician for military structures. He does a lot of LISP programming (AutoCAD).
 - (3) Van VanKempen is the AutoCAD Administrator for the district.
- d. Lori Taylor, St. Paul District: St. Paul District is a civil works district. The Structures Section consists of 7 structural engineers and one technician. Lori serves as the technician. St. Paul District has a CADD committee comprised of the CADD administrator and one representative from each discipline within Design Branch. The committee hosts monthly user's group meetings designed to train users and address problems they encounter. One of the primary problems St. Paul District has encountered in trying to implement the CADD Standards is with regard to the level tables. Structural levels currently established only work for buildings.

In general, all districts represented are having problems getting people to follow standards. The team needs to focus on ways to make the standards attractive and easy to use.

3. Minutes: No changes were made to the minutes of the 18 July conference call.

4. FAC Team Members: Lori reported that the FAC team now has at least one member from each Corps division. Clare indicated that Ghassem may not continue to serve due to workload. The following is a list of the entire Structural FAC team as of the meeting date:

John Connor	Kansas City District
Don Cook	Jacksonville District
John Dunford	Baltimore District
Ghassem Khosrownia	Sacramento District
Peter Lam	Alaska District
Mark McVay	Tulsa District
Jeff Qunell	Seattle District
Cyndi Riley	Little Rock District
Lori Taylor (Chair)	St. Paul District
Tom Tufts	Sacramento District
Clare VanDyke	Sacramento District
Diane Willis	Chicago District

5. District Point of Contacts (POCs): Lori is currently in the process of identifying a POC for each district. POCs are asked to provide input to the FAC and disseminate information. Structural FAC members will serve as the POC for their district. A draft list was distributed at the meeting with confirmed POCs listed in bold. When finalized, the list will be distributed to all POCs and published on the web. It is hoped that publishing a this list will help open up communication.

6. Level Tables: The A/E/C CADD Standard structural level/layer tables were discussed in great detail.

- a. Sacramento District is required to use the ISO Format for level/layer naming for all military work (ISO 9000 compliance). These level/layer names are more cryptic than the AIA Format. Toby Wilson at the CADD Center was contacted regarding this matter. He indicated that the element field (characters 3-8) can be changed. Clare will change this field to make it easier to decipher. The field will be abbreviated from the AIA Format by taking three characters from each the major and minor groups rather than four characters from the major and two from the minor. Clare will furnish revised ISO level/layer names to Lori by August 21.
- b. A new level/layer table was developed for Non-building structures.
- c. Current structural level/layer tables were revised to make them more consistent, delete unnecessary levels, add additional levels, and change symbology to improve usability.

Lori will forward all proposed level changes to Steve Spangler at the CADD Center by 24 August 2000.

7. New Proposed MicroStation Colors: The colors were changed to be in compliance with the National CAD Standards. The new AutoCAD colors are fine, but the MicroStation colors are not. MicroStation colors are ordered so that the default colors correspond to the AutoCAD screen colors. This poses a problem for the MicroStation user who plots by color rather than weight. New pen tables have to be established when the colors are changed. Users are accustomed to assigning weight based on the color number rather than the color appearing on the screen. Many users tend to modify their screen colors due to color blindness and/or personal preference. A color table could be easily attached to a drawing if it is necessary for that drawing to appear AutoCAD screen colors. This problem was discussed with Toby Wilson, and he suggested that they may be able to get this changed in the National CAD Standards. The National CAD Standards want to get away from regulating colors, but they will not do so until AutoCAD 2000 is

the predominant version of AutoCAD used. The FAC will propose having the MicroStation colors numbers match to AutoCAD color numbers and establish a color table for MicroStation that matches the screen colors in AutoCAD. Since AutoCAD does not have a color 0, it could be user defined or assigned a weight of 0.18. Lori Taylor will email Steve Spangler regarding this matter.

8. Structural Web Page: John Connor will continue to develop the web page. He will contact WES to determine how much funding they will require in FY01 to establish the page. It was assumed at the time of project submittal that their cost would be approximately \$6000. John will plan on doing a web presentation for the next CADD/GIS Symposium.

9. Structural Details Library: Once the list is finalized, each district will be asked to submit a minimum of 10 standard/typical structural details. These details will then be compiled by type. When further funding becomes available, engineers from the FAC will review the details and try to consolidate them whenever possible. It is anticipated that these details will be submitted in various formats and may not be in compliance with the CADD Standards. When funding becomes available, technicians from the FAC will review the details for compliance and make any changes necessary. We anticipate that adding to the structural details library will be an on-going process. The group also felt that it is necessary, when publicizing the details, to state that they are a starting point established to save time detailing, not required designs. John has a number of steel details he will be able to submit.

10. Detail/Section Bubbles: The format to be used for detail/section bubbles was discussed. The standard bubble is based on the Uniform Drawing System (UDS). Districts seem to be using all different formats. Toby Wilson from the CADD Center was contacted to clarify procedures to be used when the text does not fit in the lower half of the bubble. He stated that the lower half of the bubble circle can be eliminated if necessary. Splitting the lower half of the bubble is also acceptable. This information should be included in the standards; Lori will contact Steve Spangler. Van believes that ANSI 14.2 also establishes a standard section/detail bubble. He will check it and have Tom draw it up and email the rest of the FAC with the information.

11. MathCAD 2000 Applications: Jeff is currently working with MathCAD 2000. It has the capability to produce a "Smart Sketch." Smart Sketch is a 2D Bentley drawing application which is compatible with MicroStation. Jeff is currently developing templates for connection details. Templates developed by Jeff and other districts will be made available on the Structural FAC web site when established. MathCAD also has an intranet site called a "Collaboratory." Jeff will check this site to see if it contains other templates/information which might be useful. Jeff is willing to do a MathCAD demonstration for the CADD/GIS Symposium and is willing to head any FAC efforts pertaining to this software.

12. AutoCAD/MicroStation Translation Tables: Clare will head efforts in this area. Jeff will contact Seattle's CADD support person who handles file translation and put him in touch with Clare. Lori will try to obtain funding for this effort next FY.

13. AutoCAD Customization Tools: Tom demonstrated a welding program, steel program, and detail bubble program he developed for AutoCAD. The welding and detail bubble programs need further development to make them more user-friendly (adding graphics). Tom will contact John Dunford of Baltimore District to see what their district has available.

14. Workspace for AutoCAD: The AutoCAD workspace was discussed with Toby Wilson. An "alpha" version is available for testing. The workspace is based on one developed by the Coast Guard. The Coast Guard stopped development when the CADD Center took over the project. The "alpha" version can be obtained by contacting Dave Johnson of the CADD Center at 601-634-3509. The Coast Guard's original version can be obtained by doing a CE-CADD web search. Sacramento District will obtain and test the "alpha" version of the workspace for AutoCAD.

15. Title Block Text Linking: Jeff will furnish further information to the team regarding Seattle's method for automatically generating title block information and drawing index from a database.

16. Rebar Generating Programs: The need for a program to automate rebar detailing was discussed. John submitted a project via the CADD Center web page approximately a year ago. However, he is unaware of the project status. The proposed project did not show up in the FY01 project book, so it is assumed that it was included in the FY00 project book and not approved. Lori is currently testing GeoPAK's rebar detailing program. If the program works as marketed, it could be a very useful tool. The program is \$4000/seat and requires a hardware lock. Lori will report on the software as soon as she has used it for a project.

17. The Next Meeting will be a conference call to be held on 13 September at 1:00 p.m. CDT. Lori will make arrangements and email FAC members with details.