

**Purpose.** To announce the availability of NRCS Structural Design software on the Web.

**Expiration Date.** September 30, 2005

**Background.** NRCS developed and published a series of software in the 1970s that provided quick designs of several common, reinforced concrete, water resource structures. This software suite, published as TR42, TR45, TR50, TR54, and TR63, generated structural designs for single-cell conduits, twin-cell conduits, rectangular channels, SAF basins, and drop spillways, respectively. The original software was written in Fortran and executed on mainframe computers. The software was subsequently recompiled into DOS format to run on personal computers. These DOS versions are now obsolete and are not executable on Common Computer Environment (CCE) machines.

**Explanation.** The structural analysis methods and the concrete design criteria contained in the original software are dated but still very adequate to produce acceptable structural designs. To maintain the utility of these tools, NRCS has worked with the U.S. Department of Agriculture, Agricultural Research Service at Stillwater, Oklahoma, Kansas State University, and the NRCS National Information Technology Center, Fort Collins, Colorado, to migrate this software into Web-based applications. This approach was selected to make the software readily available to the entire profession, enable easy version control, avoid certification and dissemination workload, and provide metadata on usage to justify any future enhancements. The first portion of this software has recently been successfully implemented into the USDA Webfarm.

The software can be accessed through a Web page hosted at the NRCS National Design Construction and Soil Mechanics Center (NDCSMC) at <http://www.ndcsmc.nrcs.usda.gov/technical/Software.html>. This Web page provides some background, credits, caveats and links to the software applications, documentation, and associated tools. Only two of the five programs are currently operational: SINGCELL and TWINCELL. Others will be linked as they become available in the near future. The old TR documents are being updated and will be published as part of the National Engineering Handbook in the near future.

Computer security is a concern for these applications since users will upload input data into agency servers. The user will need to login with an eAuthentication Level 2 identity to execute the programs.

**DIST:** S, R, L, and National Center Directors

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**Contact.** Please contact the Design Engineer, NDCSMC, Fort Worth, Texas, by telephone at (817) 509-3775, should you have any questions.

/s/ Ronald L. Marlow for

LAWRENCE E. CLARK  
Deputy Chief  
Science and Technology