

## GRADE STABILIZATION CATTLE PANEL DESIGN USERS GUIDE

### Introduction

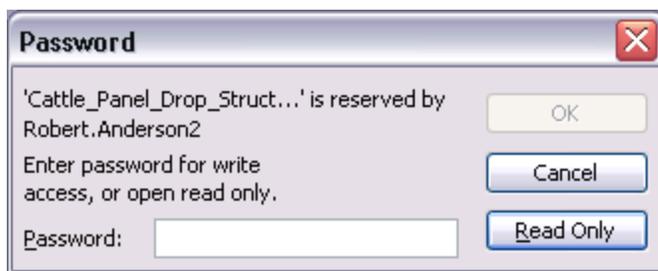
Cattle Panel Drop Structure Ver. 1.7 is a Microsoft Excel® workbook and has components to design rectangular and trapezoidal cattle wire panel grade stabilization structures; print Construction Specifications; print Drawings; and an Operation and Maintenance Plan for the system.

### Workbook Purpose and Description

The spreadsheet is intended to aid in the design and documentation of simple 4-foot drop cattle wire panel rock riprap grade stabilization structures. It aids the designer in evaluating different design scenarios for multiple conditions. The spreadsheet requires a basic knowledge of Microsoft Excel®.

### Using the Spreadsheet

To save the spreadsheet to desktop, right click on email attachment and select “Save”, then save to desktop for quick access. To open the spreadsheet double click on desktop icon or start MS Excel®, and open the file <Cattle\_Panel\_Drop\_Structure\_v1 7-Feb\_2012.xls> wherever it has been saved. Enable the Macros at the screen prompt. A screen appears asking for a password. The spreadsheet is password protected and the user should click on <Read Only>.



Click on Read Only

When the spreadsheet is opened, go to “Tools”, then “Add-ins” and check “Analysis Tool”. The cells in the workbook are color coded using the colors: yellow and white. The yellow cells are input cells either through data entry or via a drop-down menu. The white cells are calculated cells and require no input.

The following instructions explain how to use the spreadsheet to design these types of grade stabilization structures.

1. Enter general information on the “**Start**” page (cooperator, location, and designer, etc.).
2. Click on “**Input Sheet**” Go To button on “**Start**” page or click on “**Input Sheet**” tab at bottom of “**Start**” page. The “**Input Sheet**” has 5 steps to complete.

Step 1) Enter the Drainage Area

- Step 2) Select the Storm Event. 2 choices of either a 10 year or 25 year storm are available. If designing for 25 year event, then no auxiliary spillway is required.
- Step 3) Enter the calculated CFS from EFH2.
- Step 4) Check the requirement of applicable permits.
- Step 5) Enter the net drop of the structure.
- Step 6) Input the survey data.
3. Click on “**Design Sheet**” Go To button on “**Start**” page or click on “**Design Sheet**” tab at bottom of “**Start**” page. The “**Design Sheet**” has 2 more steps to complete.
- Step 7) Select the type of Cattle Panel Weir or Notch Opening for the design by clicking on "Rectangular" or the "Trapezoidal" buttons. Both cannot be selected.
- Step 8) Select the appropriate weir or notch length from the pull down menu. If no “CFS” was entered in Step 3, no lengths are available “NA”. If “CFS” is recalculated in Step 3, then new weir length will need to be selected.
- Step 9) Enter the additional design information. The information is used to populate the table at the bottom of the “Design Sheet”. The elevations and lengths are used to populate drawings in the spreadsheet. Quantities are also calculated.
4. Click on the “**Specs**” sheet tab or the “**Construction Specifications**” Go To button on the “**Start**” page. Pan over to Vegetative Establishment section on the 2<sup>nd</sup> page of the Construction Specification drawings and fill in the yellow shaded areas of the table. You will want to select the ‘Seeding Type’ options for vegetation of the structure. You can select up to 3 options. The rest of the table is auto populated with the rate, planting date, and fertilizer requirements based on the vegetation desired. The same holds true when temporary seeding and mulch are required. All of this information is based on the TN NRCS Critical Area Planting conservation practice standard.
5. Develop “**Cost Estimate**” by filling in yellow cells on “**Cost Estimate**” tab or Go To button on “**Start**” tab.
6. Click on “**O&M**” tab or Go To button on “**Start**” tab. An embedded acrobat file may be double clicked on to open up O&M document. Also available from eFOTG.
7. Click on the “**Cover Page**” tab and adjust yellow cell areas as necessary with sheets included in design and installation package.
8. The “**Rectangular Notch**” or “**Trapezoidal Notch**” tabs are auto populated and only require printing out once the design is complete.