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## Chapter 3 Project Manager

### Introduction

The GEOPAK Project Manager is a tool which associates the COGO job number, users, project files, working directories, and various user preferences (such as whether to use Metric or English units) with a specific project. Within the project, Project Manager keeps track of all the numerous bits of information for each working alignment (whether one alignment or several) that GEOPAK needs to "fill in" the dialog boxes for all its various procedures. This includes things such as: dgn file name and directory path where the pattern lines and superelevation shapes are drawn; level symbology for the pattern lines and shapes; existing and design profile names, dgn file name, directory path, grid origin, and scale for the profiles; etc. Project Manager "remembers" all this information and automatically shares it among the various GEOPAK procedures as needed, thus eliminating the need for the designer to retype the same information into several GEOPAK dialog boxes.

Project Manager also provides the user with an easy to follow on-screen flowchart diagram showing the GEOPAK workflow. All of the various GEOPAK procedures (e.g., cutting existing ground cross-sections, laying out the design profile, drawing pattern lines, etc.) can be accessed by clicking on the buttons in the Project Manger flowchart, shown later in this chapter. In addition to the storage of information based on the overall project and working alignments,

Project Manger also allows for the storage of information related to each process (e.g., creating superelevation autoshapes or processing proposed cross sections) for a working alignment in a GEOPAK "run". For example, the information needed to process proposed cross sections along the mainline could be stored in a run called MAINLINE. Information specific to the run such as cross section file, shapes, typical section, re-definable variables, etc. is stored within the run. Changes made to the chain, proposed profile, pavement width, etc., causing the need to re-run proposed cross sections will now be a painless process. By selecting the run MAINLINE and selecting Files>run, new cross sections will be generated without having to re-enter any of the defined information.

The use of Project Manager is required to create proposed cross sections through the Typical Section Generator. A/E contractors working on CFLHD projects in MicroStation and GEOPAK V8i will be required to use the Project Manager.

### Project Manager Dialog

The Project Manager dialog enables a user to create a new project (**.prj**) file, or navigate to, select or edit an existing project manager file. At the top of the dialog, the current directory is displayed. The user may modify this directory setting by traversing up and down the directory structure in the Directories list box. Additionally, a user can select Directory>Current Working Directory to navigate more easily to the current working directory.

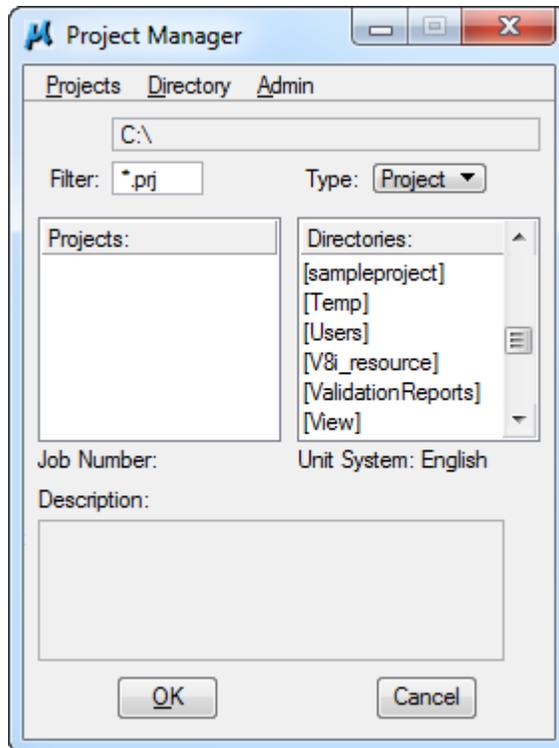


Figure 3-1: Project Manager Dialog



A user must use the **Projects>Edit** command to change the COGO or Feature Preferences that are stored in a project. The preferences stored in the **(.prj)** file supersede those set under User Preferences.



*Users should create only one (.prj) project file per project and only one .gpk file per (.prj) file unless special circumstances exist. CFLHD places both files in the Roadway/GEOPAK directory.*

## Workflow 1: New Project Creation

To access this workflow, follow this link:

[http://flh.fhwa.dot.gov/resources/cadd/cfl/documents/Workflow\\_3.1\\_v8i.pdf](http://flh.fhwa.dot.gov/resources/cadd/cfl/documents/Workflow_3.1_v8i.pdf)



Once you are finished, users must be created within each project. At least one user must be created for each project. See workflow 3 for user creation.

## Workflow 2: Selecting an Existing Project

To access this workflow, follow this link:

[http://flh.fhwa.dot.gov/resources/cadd/cfl/documents/Workflow\\_3.2\\_v8i.pdf](http://flh.fhwa.dot.gov/resources/cadd/cfl/documents/Workflow_3.2_v8i.pdf)

### Project Users Dialog

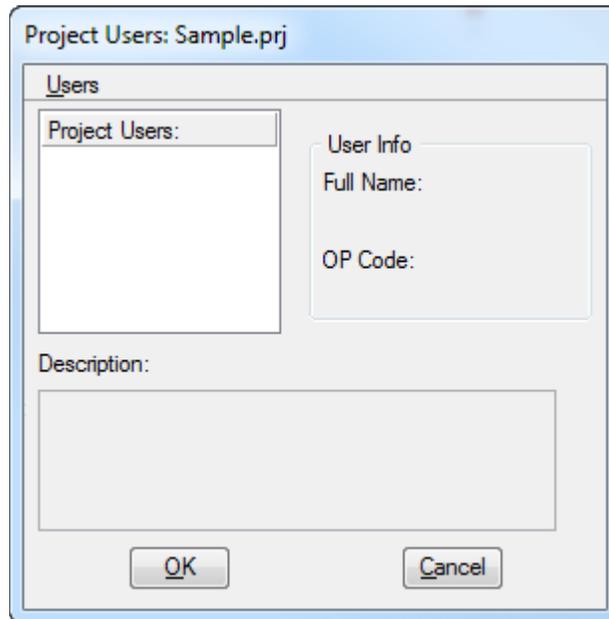


Figure 3-2: Project Users Dialog

Once a project is selected and the OK is clicked, the Project Users dialog is opened. This dialog is utilized to set up users that can work on the project, their Operator Codes and Descriptions.

User names and/or descriptions should be short, but clearly identifies who the user is. CFLHD does not use or recommend setting passwords for users.

When the first user is created, GEOPAK automatically creates a new subfolder called projdbs and places it in the working directory, or job directory if specified. Additionally, a folder with the user's name is created. Each user has individual "run" files and properties that are stored in this folder. These files can be very important to share "runs" with other users, or when trouble-shooting problems. Ultimately, these files are needed at final project delivery.

## Workflow 3: New User Creation

To access this workflow, follow this link:

[http://flh.fhwa.dot.gov/resources/cadd/cfl/documents/Workflow\\_3.3\\_v8i.pdf](http://flh.fhwa.dot.gov/resources/cadd/cfl/documents/Workflow_3.3_v8i.pdf)

## Road Project Dialog

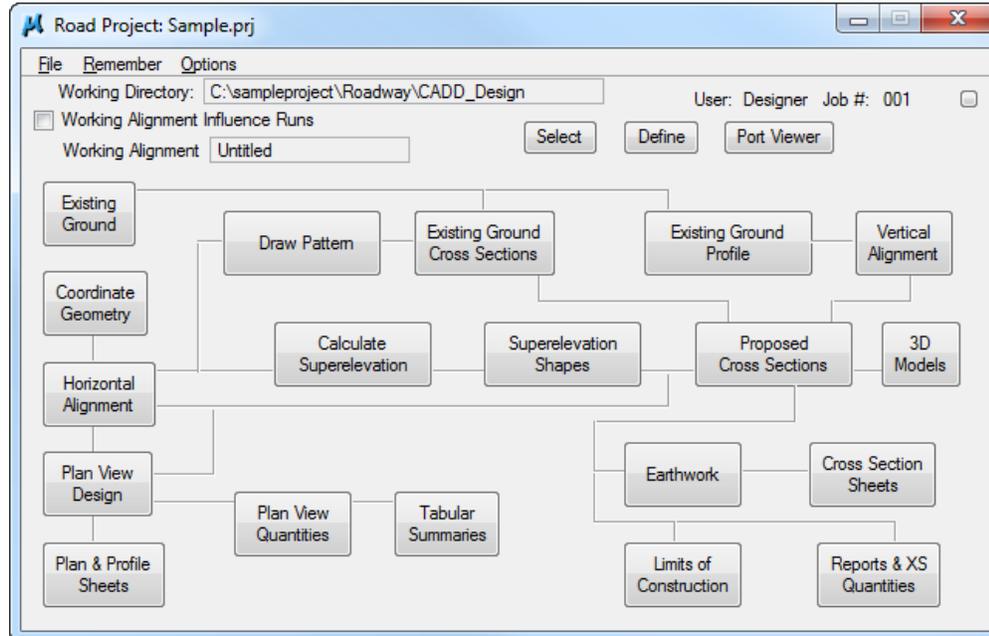


Figure 3-3: Road Project Dialog

The bottom section of the Road Project dialog is commonly referred to as the flowchart. It will take you to the tools you have already been using. We will get into these tools in more depth in future chapters.

The title bar of the roadway design Road Project dialog displays the name of the project. In the workflow examples, the name of the project is **FHWA.prj**. The following section has three pull-down menus; File, Remember, and Options. For details of these menus, see the GEOPAK help documentation. (Remember is shown below, as it can be a time saver that many users do not use.)

**Remember:** There are two options under the Remember menu: Project and User. Checking any or both of these options will allow Project Manager to skip certain steps. For example, checking Project will take the user directly to the Project Users dialog immediately upon accessing Project Manager the next time, remembering the current project. If a user works on only one project for the majority of the time this will save time. Likewise checking User will remember these settings as well. If there is typically only one user working on the project it is beneficial to skip the Project Users dialog box, remembering this user each time. (As stated earlier, there should be only one (.prj) file per project located on the network therefore this setting is machine independent),



It is advisable to check both of these options on. It is very easy to check them off when a switch to another project is necessary. Checking both on will take the user directly to the main Road Project dialog when Project Manager is accessed.



The next row down on the Road Project dialog shows the working directory on the left with the user and job number on the right. This is for information only.

Next is the section on working alignment and runs. Below is a definition of each of these new concepts.

### Working Alignment

A working alignment is a user-defined group of the basic design components (e.g. horizontal alignment, design profile, roadway template, cross-sections, etc.) that make up a single roadway design. The purpose of a working alignment is to allow Project Manager to “remember” and automatically fill in these components in the dialog boxes for the various GEOPAK procedures. Creating working alignments allows the user to organize data specific to the project or to specific alignments within the project.

Many projects will have only one working alignment, while others may have many, depending on the complexity of the job. Project details such as the level and color of the existing ground, the location and attributes of the pattern lines and superelevation shapes, and the location of the plan view file and the chain name, are associated with the working alignment. Defining this information within a working alignment greatly reduces time by not having to re-enter this information each time a different GEOPAK tool is accessed. For example: If all the information about the cross-sections is defined, the user will not have to input the attributes associated with existing and proposed ground when creating proposed cross sections.

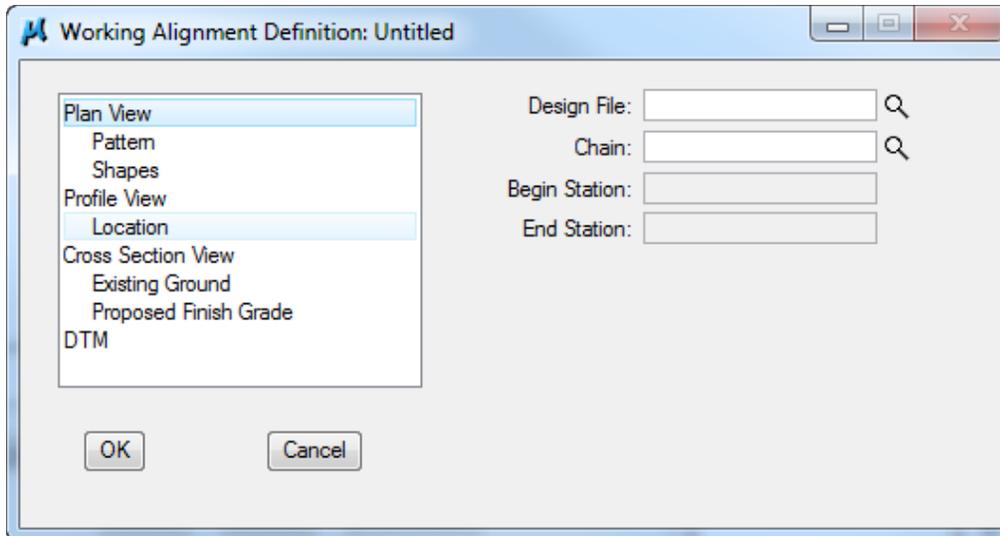
**Working Alignment Influence Runs:** With this toggle activated, the project manager will remember what information was defined in the working alignment. Project Manager will then automatically use this information when creating and defining cross section runs. It can be a great time saver and is recommended for typical projects at CFLHD.

**Run:** Each time a tool is selected the user will create a **run** or select an existing run. The data associated with the use of a tool, for a particular purpose will be saved in the run. This allows the user to redo work without re-inputting information. For example: Creating an existing ground profile requires inputting profile name, chain, beginning and ending station, how to cut, and the tin file name. With all of this information stored in a run, no inputting of information will be required for each additional time the profile may need to be re-cut.

There are three buttons to the right of the working alignment information; Select, Define, and Port Viewer. These are discussed below.

**Select:** Allows the user to select or create a working alignment.

**Define:** The Define button allows the user to define information specific to the working alignment.



**Figure 3-4: Working Alignment Definitions**

For each selection on the left, the dialog changes on the right to accommodate the selection. For example: For Plan View, Profile View, and Cross Section View, GEOPAK is looking for a file name, and a chain or profile name. For Pattern and Shapes, GEOPAK needs a file name and attributes of these elements.

It is ideal to complete as much of these definitions initially as the working alignment is created. However, certain definitions are not known initially and are set as the design progresses.

## Workflow 4: Creating a Working Alignment

To access this workflow, follow this link:

[http://flh.fhwa.dot.gov/resources/cadd/cfl/documents/Workflow\\_3.4\\_v8i.pdf](http://flh.fhwa.dot.gov/resources/cadd/cfl/documents/Workflow_3.4_v8i.pdf)

### Creating Runs

In larger, more complex design projects, the Project Manager functions as an excellent data repository and file management tool. In order to accomplish this, each process is assigned a name during the Run creation, prior to invoking the GEOPAK dialog. This unique name identifies the specific information for the processing, so the designer can quickly and easily review what data was utilized for a specific processing. In addition, minor changes can be quickly made by accessing the run, modifying the value or key-in that has changed and rerun the process. The changes can be saved within the Project Manager, so if the alternate did not produce the desired results, it can be discarded.

Runs are created as the dialog is automatically invoked tools are selected on the Road Project dialog.

Workflows on creating and processing runs are located in the Cross Sections chapter of this manual.



## Port Viewer

The Port Viewer is a handy tool for simultaneously viewing and editing each of the three main elements of a road design: plan, profile, and cross-section. Before invoking the Port Viewer, the user must have the plan view, profile view, and cross-section view, defined in the working alignment definitions, as detailed above.

Once these files have been defined, the Port Viewer will open three additional MicroStation view windows containing the three files listed above.

## Workflow 5: Port Viewer

To access this workflow, follow this link:

[http://flh.fhwa.dot.gov/resources/cadd/cfl/documents/Workflow\\_3.5\\_v8i.pdf](http://flh.fhwa.dot.gov/resources/cadd/cfl/documents/Workflow_3.5_v8i.pdf)

The Port Viewer can be a powerful timesaving tool, as opposed to switching back and forth from the different drawings, during the design process. For more information on the Port Viewer, access the GEOPAK help from the GEOPAK pull down menu.