



Newsletter 11

CivilCAD 2006 V2

Empowered by 3D ACT

The year ended Dec. 2006 was a very successful year for the **CivilCAD 2006** software; with a growth of 70% in the sales volume, we have exceeded 3200 users, and 1000 customers. Our participation in InterGeo (Munich, Germany) and InterGeo east (Sofia, Bulgaria) has opened new markets, while the existing markets has continue to grow.

Three months ago (February 2007), we have finally released the new version of **CivilCAD 2006, Version 2**. The "maturity" period has ended and it's now recommended to download and install the upgrade to empower your system's capability and performance (available on our web-site at: <http://www.sivandesign.com/Downloads.asp>. Please refer to the **Upgrade** and **not** to the Beta version).

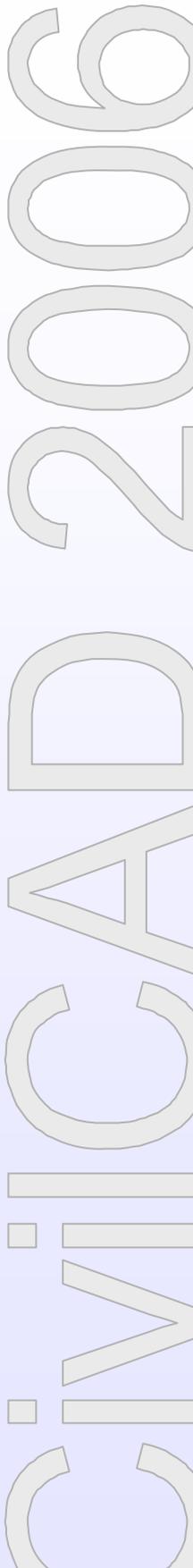
In this Newsletter you will find important information on the latest improvements in the software. The new exciting version includes many new features, as well as dramatic improvements in the performance level. This version also works with the latest AutoCAD® and Bricscad® available today in the market.

What's next?

At Nov. 2007 we will release the new **CivilCAD 2008**. The software is currently at work and includes many new features and concepts to enhance the daily work. The **3D ACT** module is also under massive development to create new standards in 3D simulation at a click (read more at <http://www.sivandesign.com/CivilCAD.asp?plD=83>). You are also invited to learn more about our new products family, **GeoERP**, a true GIS-ERP pioneer solution for Lands & Property management, Roads and Underground Infrastructures management.

As always, we are committed to quality and will continue to bring Innovation to the Civil Engineering CAD community.

Faithfully yours,
Shlomi Sivan, CEO
Sivan Design D.S Ltd
April, 2007





The new CivilCAD 2006 V2 is available for download from our web-site at: <http://www.sivandesign.com/Downloads.asp>. Please refer to the CivilCAD 2006 Version 2.0 Upgrade section to download the relevant file. You can also download the beta version from the CivilCAD 2006 Beta Upgrade section for latest features yet to be properly checked and approved. In the process of installation it is strongly advised to follow the installation instructions and go through the entire 'Setup completion wizard' steps to fit the software to your own working method.

This document presents the major changes been done in the software. The document does not include list of bugs been fixed or minor improvements. The changes are serially listed, and divided into the following subjects:

- **PREFORMANCE & GENERAL.**
- **ROADS/ DITCHES.**
- **PIPELINES.**
- **EARTHWORKS.**

Note: Some of the paragraphs that have been included under a certain subject ("ROADS" for example) can be useful for other users of the software (Surveyors for example). It is advised to go through the entire paragraphs included in the document, either if they are not directly refers to your specific field of interest.

PREFORMANCE & GENERAL

1. Height differences

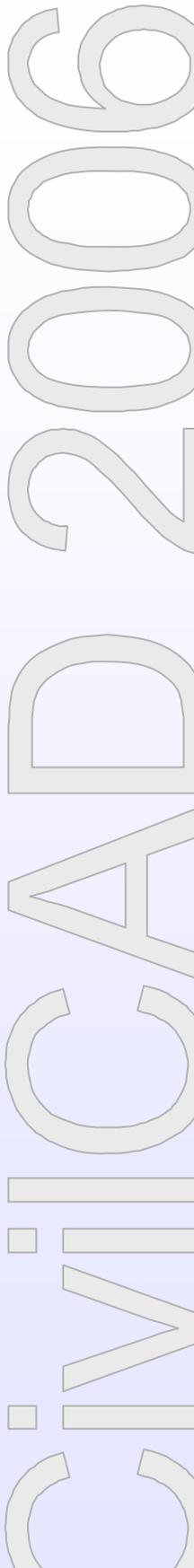
In the new version of the software we have overcome the limitation of 520M height difference in one project. This new version can handle any kind of height difference in a single project with no limitations at all.

2. Improvement in the software's performance

Working faster is a wish for every software user that affects both the user's working experience and the speed of work, saving time and money. One of the major changes in the new software's version is an average improvement of 400% (!) in the software performance that applies on different aspects of the software as follows:

#	Module/Function	% of speed improvement *
1	Exit from Cross Sections	500%
2	Exit from Vertical Alignment (with a change)	130%
3	Change between roads in the Vertical Alignment	200%
4	Create roads Layout	200%
5	Interpolate empty sections (Cross Sections)	450%
6	Get All (Get all existing G.L into Cross Sections)	750%
7	Clear All (Clear all data from Cross Section)	500%
8	Super-Elevations	700%
9	'Apply' button in Cross Sections	200%
9	Exit Walls Dimensions (with a change)	350%
10	Exit Walls Vertical Alignment	350%
11	Change between Pipelines in Pipelines Layout	700%
12	Change between Pipelines in Pipelines Sections	100%

* The speed improvement has been testes on several projects, different in size and type. The percentage figures are according to average results from these tests and therefore may change from one project to another.





3. Translation of the software into Spanish

The new version of the software includes a whole new interface in Spanish. All windows, screens, modules, reports, plots and printouts have been translated. To change into the Spanish Interface go to the 'File' -> 'Configuration' window and select 'Spanish' in the 'Language' Combo-Box (Note: Make sure that your Operation System supports Spanish).

4. Support at AutoCAD 2007 © & Bricscad V7 ©

CivilCAD 2006 V2 supports the latest products from Autodesk and Bricscad – AutoCAD 2007 and Bricscad V7. To run the software with these applications choose the relevant application at the 'Auto Launch' Combo-box in the 'File' -> 'Configuration' window. Note that choosing 'Bricscad' supports both Bricscad V6 & V7.

Note: While writing this document, Autodesk is about to release its new AutoCAD 2008. As soon as the new AutoCAD will be available in the market we will configure CivilCAD 2006 to work with it. The upgrade will be available as a Beta version until the release of CivilCAD 2008 (Estimated Nov. 2007).

5. Real size drawings in Paper Space

All Paper Space drawings been created by the software can now be presented in two main methods:

- a. Scale 1:1 – The drawing is customized to the actual paper size (Plot scale – 'Paper units' : 'Drawing units' ratio is 1:1).
- b. Custom scale – The drawing fits to the defined printout scale (Plot scale – 'Paper units' : 'Drawing units' ratio is according to the defined scale at the creation – 1:100, 1:200 etc).

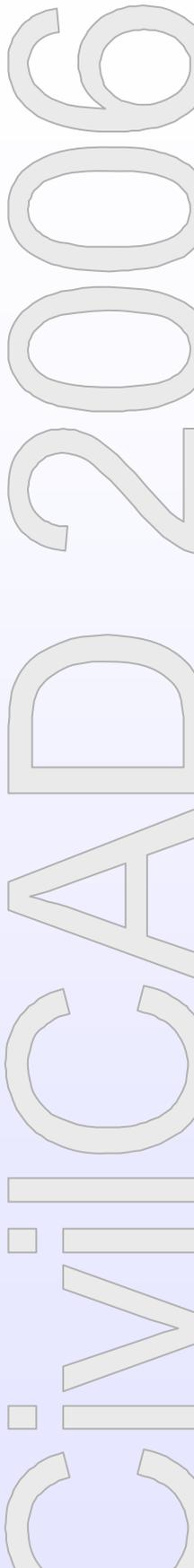
The plotting method is been controlled through the 'File' -> 'Configuration' window, 'Drawing environment' tab, and affects the plots through 'Frames maker', 'V. Alignment' and 'Cross Sections'.

6. Units display in Topography & Design Planes

The Planes creation modules (Topography and Design) have been upgraded to enable Units display for distances and areas. The display is been controlled through the Options window, where you can choose to display your Units – m, ft, acre etc.

7. Freeze points according to it's code (Contours creation)

In some cases the topography coordinates file includes points, such as trees, poles & houses, that should not affect the Contours creation (3D model) process. The existing functions - freezing points using the Freeze button at the topography points' editor, or adding 'FR' code to the point (typing 'FR' at the end of row or adding 'FR' code to the point in the field) solves the problem. Nevertheless, both methods may not be enough for surveyors that works with their own set of codes. The new Version 2 includes a new 'Freeze' definition that can be applied on each code been used by the surveyor. To apply a 'Freeze' status on a certain code, go to the



'Topography' -> 'Codes' window, choose the code to apply the status on, and check the 'Freeze points with this code' check-box. Each point that has the selected code will not affect the contours creation process.

8. Pre-defined paper sizes in Frames maker

To ease the drawing's frames division process, the new version includes pre-defined paper sizes templates. In the Frames maker window ('General' -> 'Frames maker'), press the Options button. In the Options button, select the scale (Under 'Scale 1:' caption) and the paper size under the 'Divide by paper size' caption. Press OK. In the Frames maker window, press the 'Locate frame on drawing' button, go to the drawing, and pick the lower left corner of the frame to be created. A Polyline, fitting to the selected scale and paper size will be created. You can now continue with the regular frames division process, pressing Select, selecting the Polyline, pressing apply and 'New' button for the next frame.

9. Topography flow direction

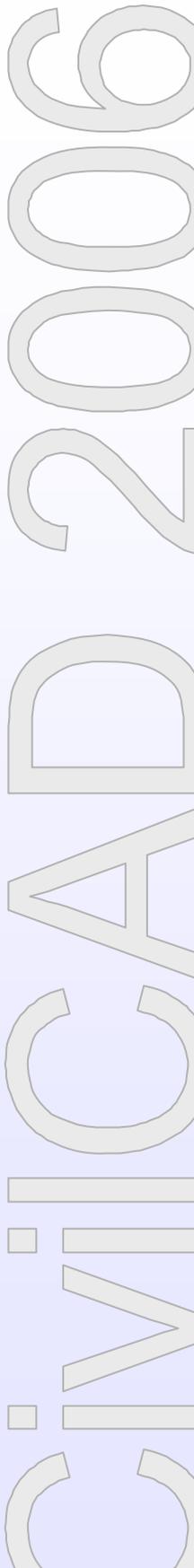
CivilCAD 2006 V2 includes a function that displays the topography 'flow' direction. To use the function, go to 'Topography' -> 'Contours', press 'Options', and in the window check the 'Add direction' checkbox. Press OK and run the contours line. The software will create small arrows that show the topography 'flow' direction.

Roads/ Ditches

10. New Extract module

One of the major improvements in the **CivilCAD 2006 V2** is the new Extract module. While roads design with the old Extract module may involve several typical Cross Sections at a single project and 'manual' changes at specific locations, the new Extract module includes these following improvements:

- a. The typical Cross Section's segments are been attached to specific layers, therefore a single typical cross section can serve for different types of road's layout (for example: a road that includes medians in part of it can be extracted using a single typical cross sections – at segments that does not have median, the software will not use the median's Cross Section's segments due to non-existence of the median's layers).
- b. The Extract function can be applied on part of the road (and not the whole road). This improvement saves time and does not affect the road's segments that are not included in the range to be extracted.
- c. The Extract function can be used through the main window (using the tool-bar). The user selects the road to apply the extract on and press the button to run the module.





11. Roads rehabilitation – 'Breaking' the Design G.L in the Cross Sections

The new software version includes a special new module that assist on designing roads rehabilitation projects. When designing roads rehabilitation, making the road wider than it used to be, we might like to present the road's structure in the Cross Sections with its complete height in the widening area, and its pavement height in the existing road area. To do so, follow these steps:

1. Make sure that you have a Polyline (or Polylines) that represents the existing road's edges. The Polylines must be in a separated layer and can be either 2D or 3D Polylines.
2. Go to the Cross sections window ('Roads' -> 'Cross Sections').
3. In the right window press the 'Get utilities by layer' button.
4. In the 'Get utilities by layer' window, either choose the layer (the layer where the existing road's Polylines are) or press 'Select' and select one of the road's Polyline in the drawing + <Enter>. When finish press OK. Press OK on the 'Successful' message.

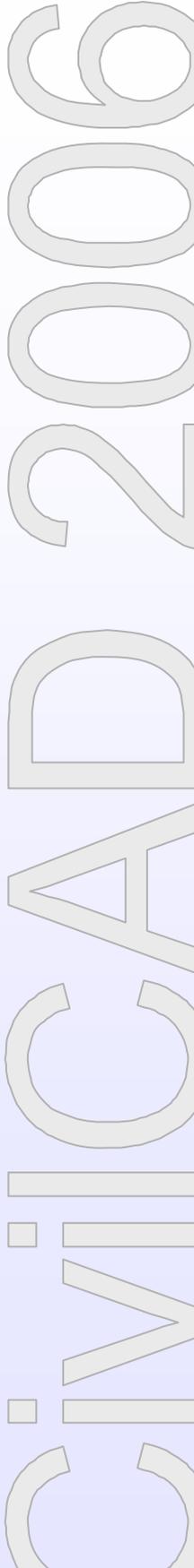
The software will present the road's edges on the cross sections at their exact offsets.

5. Design your new road's cross sections.
6. Change the lower right table (you can choose either lower right or lower left) to 'Utilities'. Assuming you are on a cross section that includes existing road's segments, you will see these segments in the table, represented by their layer's name and offset (if 3D, elevation will be shown as well).
7. Double click the cell that is located on the Existing road's segments, under the 'Cover' column. From the Drop-down list, select '2-Break'.
8. Click in the same cell and right click it. In the list select 'Send to', press 'Yes' to send the current cell and press the 'All' button to send the data to the entire cells. The software will send the 'Break' definition to all the segments at all the sections that contains the same segment's name (been defined by the layer of existing Road's edges).

The software will break the Design G.L (sub-base) at the existing road's segments.

12. Joint Vertical Alignment of nearby roads

A powerful new module that included in the new software is the capability to present vertical alignments of nearby roads on the same profile. This module is very useful on designing interchanges, roads with lanes that are not exactly parallel, ditches that are not parallel to the road etc. The number of joint Vertical Alignment is not limited. To run the module, design two H. Alignment that goes one near the other and define the V. alignment of the first one (the order is not important – you can design the first and project it on the second or otherwise. The mechanism is interactive and automatically updates projections between V. alignments). Change to the second road's V. alignment and press the 'Options' button on the right window. On the 'Options' window, mark the 'Show nearby road' and 'Show road's elevation' check-boxes (The 'Show road's elevation' will present the nearby road's elevation on the lower data table). You can also define the distance of nearby roads in which the software will 'look for' data. Press 'OK' to close the window and 'Apply' on the right to apply the changes. The software will present a profile of the nearby roads been located in the defined 'Distance'.





13. Sending segments slopes in the Cross Sections

A very useful improvement in the new version is the capability of sending Cross-Sections segments' slope (or changes in segments' slope) to other sections. To use this function, click in the segment's slope about to be sent, and right-click. On the drop-down menu, choose 'Send to' and select the Cross-Sections to be affected. The slope will be sent to the selected Cross-Sections, changing their chosen segment's slope.

Pipelines

14. New Air-Valves calculation module (Dorot)

The new CivilCAD 2006 V2 includes a unique Air-Valves calculations module. The module, which is the outcome of a joint-venture of Sivan Design and Dorot Water Technologies (www.dorot.com), enables the user to automatically design and locate Air-Valves along pressure pipe according to number of parameters. To use this new module, design your Water-supply layout and enter into the Section. The lower design table now includes new data column such as Material, Wall thickness, Devices and Flow-rate (if you do not see these columns, press the options button on the right window. In the Options window, check the 'Add air valves' check-box and press OK). Design your profile and enter the relevant parameters. When pressing OK, the software will present the suggested Air-Valves along the profile. To get a report of the suggested Air-Valves, go to Pipelines -> Reports, change to 'Air-Valves' in the upper-right 'Select report' Combo-Box, check the pipelines in the list, and press 'OK'.

15. Reverse Pipeline's direction (Layout)

In the new version, you can now change the direction of a Pipeline. In the 'Pipelines -> Layout', press the 'Reverse current pipeline' button. The pipe's manholes (or IPs) will changed to start at the ending point and end at the starting point.

Earthworks

16. Points names in triangles earthworks report

When creating a triangles earthworks report, the report will include the points' names for each triangle.

