Civil Site Design

Design - Analyse - Visualise - Deliver

Developed by

civil survey solutions

www.civilsitedesign.com.au

Head Office:
1/29 Business Park Dr
Notting Hill, Victoria
Australia

Email
sales@civilsurveysolutions.com.au

Web Contact
www.civilsitedesign.com.au/
index.php/contact-us

Phone
+61 3 9544 5250

Convert your CAD solution into a Civil Site Design package

Civil Site Design provides BricsCAD® designers with highly efficient and simple-to-use civil design tools including surfaces, alignments, road networks, drainage, sewer and utility pipe systems. With Civil Site Design residing directly inside the drawing, you can do all your design and drafting within the CAD drawing, ready for plotting. Built for all civil designers, you can quickly and easily generate road network designs complete with dynamic intersections and cul-de-sacs, updating as you make changes to any element. The software is also purpose built for the road reconstruction designers, and there are piping design tools for stormwater, sewer and water supply designers. As you design, you will update your drawing, ready to plot.

Here's how Civil Site Design can benefit you:
- ✓ Integrates design and drafting on your CAD based platform
- ✓ All-in-One Program – Surface, Alignment, Grading, Road & Pipe design
- ✓ Easy to learn – leverage your CAD drawing skills
- ✓ Low cost – resides on top of your CAD based platform

Reports and Outputs Direct to your Drawing

You design in your CAD drawing and your drafting occurs in your drawing, updating as you make your design changes. Save time, effort and risk with revision controls by managing the design and drafting in the one drawing.

Create numerous reports and tables from the design, such as volume reports, point setout (optionally to Civil 3D®) and pipe tables.

Produce long and cross section views to separate drawings or as layouts in the current drawing—you get to customise the output to suit your drafting standards during the plotting process.

The benefits at a glance:
- ✓ Export reports to .csv and as tables in the drawing
- ✓ Table outputs can be customised by you
- ✓ Generate setout reports, volume reports, long & cross section plots at any time from your designs
- ✓ Quick and easy to use

Surface Modelling

For BricsCAD® users, you can turn your 3D drawing data into a Surface model and dynamically display contours and contour labels. You can create surface data from a multitude of data in the drawing, as well as external point files and LandXML.
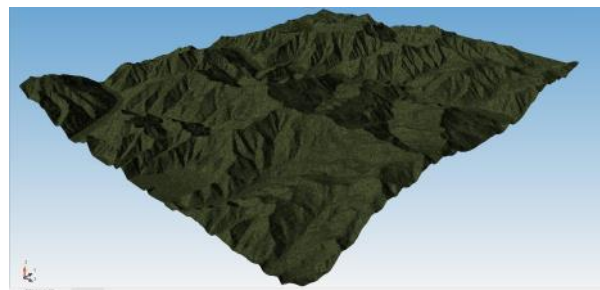
Display the surface how you want—a wide range of surface analysis tools enable you to display slope arrows, elevation banding, direction shading and more.

The benefits at a glance:
- ✓ Supports multiple data inputs
- ✓ Outputs dynamically represented in your drawing
- ✓ AutoCAD® table output of surface analyses

Stringer Survey* - Topographical Survey

Include **Stringer Topo*** for a total topographical surface modelling solution. Import your raw survey data to create COGO points, and create your surface with breaklines automatically added from the points.

BRICSYS Authorised Developer

Civil Site Design

## Site Grading　　Roads　　Stormwater　　Sewer　　Water

Alignment Design

Alignment design tools are powerful and simple to use —just click on a polyline and it becomes an alignment object, complete with labelling. Alignment editing tools provide quick adjustments to the tangents, curves and spirals, and you can graphically edit the alignment in the drawing. As you edit the alignment geometry the display updates in the drawing, including all labelling.

The benefits at a glance:

- ✓ Click button conversion from polylines to alignments
- ✓ Grip edit alignment, set curve radii and spiral lengths
- ✓ Create alignment and curve tables in the drawing

Alignment tables can be created when you create the alignment or during editing. You select the information to include in the table object and update it after the design changes.
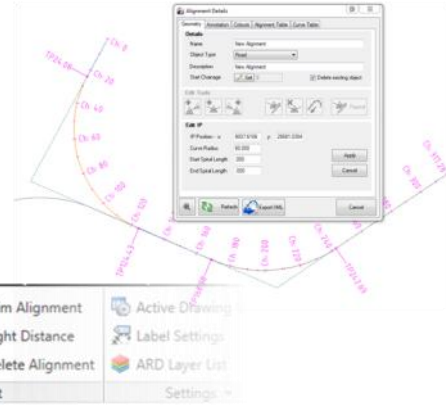
Road Design—Road Networks, Road Reconstruction and String Design

Civil Site Design combines template and string based design and automates the inclusion of common design elements such as intersections, kerb returns and cul-de-sacs, providing for rapid creation and output of road subdivisions, reconstruction, rural, highway and other design projects.

With four dynamic and interactive views of your road design you can see the development of the plan, profile, sections and 3D model as edits are made. Plan drafting updates are automatic. Centralisation of the vertical grading and section editing tools makes designs simple and efficient.
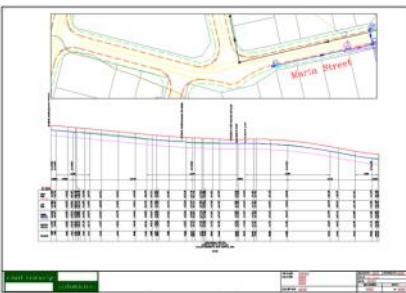
Every alignment can be converted into a String for independent vertical grading, so you can construct whatever design you need.

Publish profile and section views at any time . Point setout tools included.

The benefits at a glance:

- ✓ Template and string based design
- ✓ Centralised vertical grading and section tools to streamline the design process
- ✓ Automates common road network elements such as intersections, kerb returns, cul-de-sacs and knuckles
- ✓ Comprehensive String design tools
- ✓ Dynamic and interactive views for profiles, section, plan design and fully rendered 3D model view for analysis
- ✓ Multiple vertical design and section windows to view the design at various stations, with trackers in each view.

Road Network Design and Outputs

You can completely automate your road subdivision processes using intelligent objects such as kerb returns, cul-de-sacs and knuckles. The software understands the interactions between roads, kerb returns and cul-de-sacs. When you edit any road profile or section geometry, the affected kerb returns and cul-de-sacs automatically update, including updating all linework and surfaces.
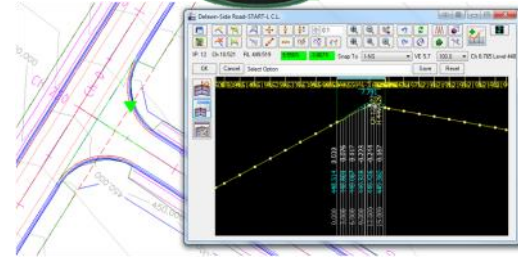
Road Reconstruction

The software has been developed with road reconstruction in mind.

You can develop multiple pavement layers, apply independent horizontal and/or vertical control over any part of your sections, match parts of your design to any surface, automate the vertical design by applying resheet/overlay depths, and more.

With multiple cross section window displays, you can track changes to crossfalls and cut/fill depths along your road design.

Using a String and modelling based approach, you can tackle any type of design, incorporating both new and existing infrastructure into your design model.

Civil Site Design

Site Grading   Roads   Stormwater   Sewer   Water

Highway Design and Modelling

Civil Site Design is a proven performer for large scale designs including service roads, 50+km of multiple divided carriageways and grade separated intersections. Civil Site Design includes specific design tools for highway designers in managing grade separated roads, multiple benching conditions and open drains.

You design it—the software will build it!

You can create your own design models in the software, applying any combination of roads, kerb returns, cul-de-sacs and other strings at user defined chainage ranges. This provides design freedom to model car parks, retaining walls, wetlands, subdivision lot grading or other design features.

Surface models are created and can automatically update as any of the design strings change, as well as be shown in the cross sections.

Pipe, Stormwater, Water and Sewer Design

Complete your pipe designs and generate your design outputs directly in the drawing.

You can take any polyline geometry in the drawing and convert it into a connected pipe network, then view and edit it vertically and in plan.

Stormwater designers can assign catchments and rainfalls, and have the software calculate pipe inverts and pipe sizes to accommodate the design flows based on Rational Method design. You can generate long sections and reports of your designs.

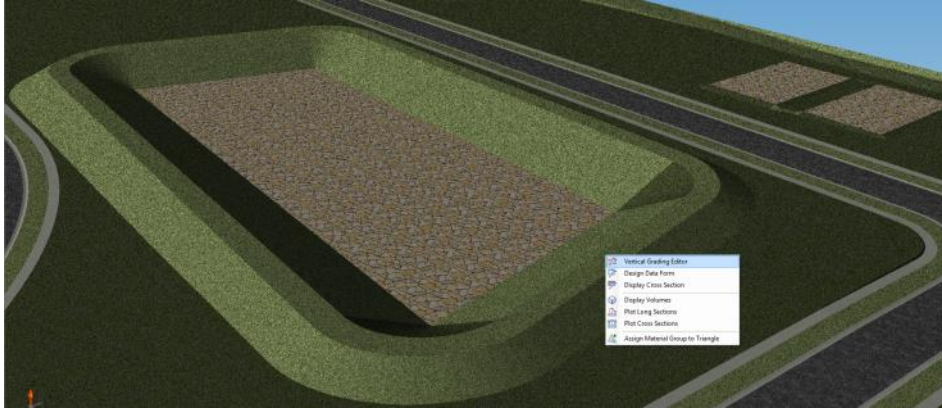The interactive vertical design windows make designing the pipe branches simple – see the pipe details in a pipe profile view including all crossing services, with conflicting pipes highlighted. Make changes at the click of a button and review all design impacts.

Service Obstructions are created directly from polylines and are included in every vertical design window to avoid clashes.

Sewer designers benefit from including House/property connections, setting depth controls and minimum elevations along sewer and stormwater networks. House connections (lot controls) are easy to create and edit, and are presented in the vertical design window to highlight any compliance issues.

Water supply designers can create pipe networks from polylines in the drawing, assign pipe and node elevations from the surface, add reservoirs, pumps and tanks, and analyse network performance.

As you move pipes up and down and change pipe sizes you can review the design impacts.

Results are presented directly inside the drawing, including reports and long section sheets. When the design changes, you can easily synchronise your outputs.

Pipe, Sewer and Stormwater Designers—the benefits at a glance:

- ✓ Supports stormwater, sewer, water and general pipe design
- ✓ Identify and avoid service obstructions and pipe conflicts
- ✓ Edit multiple pipe networks in Vertical Grading widows and interactively review crossing pipe conflicts
- ✓ Pipe networks are synchronised with and displayed on Road profiles and sections
- ✓ Stormwater design is based on Rational Method —review the design implications of making changes to pipe inverts and sizes, as you make the changes
- ✓ Easily create stormwater catchments using surface and polylines in the drawing
- ✓ Be alerted if sewer or stormwater pipe edits result in any compliance issues with house/property connection elevations
- ✓ Publish profile views of pipe networks with ease
- ✓ Customisable reports outputted directly to the drawing

Civil Site Design

Civil design inside your drawing

Site Grading

Built for rapid design of features such as building pads, retaining walls, lot grading and detention basins, the dynamic grading tools automatically clean up internal overlapping corners and include radial and mitre options on external corners.

The grading tools support cross section templates and intelligent daylighting/batters to address any site design requirements. The surface and grading linework automatically updates as you edit your grading, so you get dynamic feedback on the impact of your design changes. Get volume outputs at the click of a button.

When coupled with the model building tools in Civil Site Design, the Site Grading functionality can be used for any land development project incorporating multiple designs and combined directly with the road design models. Since grading strings are created directly from polylines, you can dynamically grip edit the grading location in the drawing and see the impacts immediately.

Data Sharing

Civil Site Design interfaces with other design programs that support Land XML. Using Land XML, you can share your surfaces, alignments and string data with other designers or upload to survey equipment for machine control.
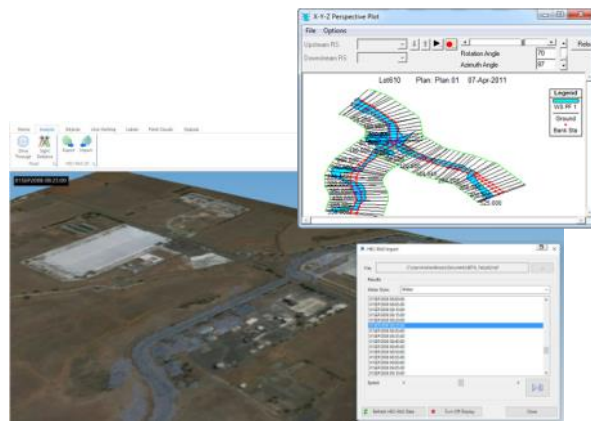
In pipe design, Civil Site Design shares pipe network data for used with other design programs via user configurable reports and LandXML transfer.
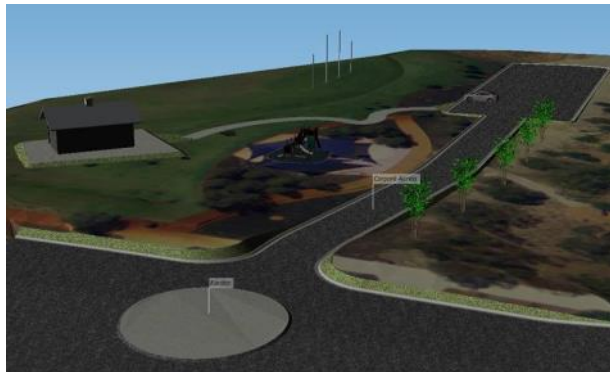
Hec-Ras Support

Civil Site Design for HEC-RAS provides users with the ability to transfer section data and 2D areas to HEC-RAS for river and flood analysis. Section output includes assignment of Mannings coefficients, defining overbank areas, skewed sections, houses and ineffective areas.

Waterline results can be exported back to Civil Site Design for presentation in the drawing and construction of a water surface. 2D models can be imported and visualised dynamically using Model Viewer

Stringer Topo is a software package developed by Civil Survey Solutions, the developers of Civil Site Design.

www.civilsitedesign.com.au