

DIMENSIONS

IN ACTION



The last bend at Moonee Valley, soon to be redesigned using Geocomp and Terravista.

Photo courtesy of Harness Racing Victoria

THE STABLE ROAD

“Designing a trotting track is equivalent to highway design and pavement technology.”

So says Don Parry of Parry, Fraser & Jones, Consulting Engineers and Surveyors.

As a medium-sized company, most of their projects involve industrial and residential land development. Recently, however, they became the consulting engineers to Harness Racing Victoria, so they are now involved in all of the State’s 25 harness racing tracks in one way or another. This can mean everything from design work at one end of the scale to directing daily maintenance at the other.

“We’ve completed designs for the Maryborough track, which begins construction in July, and we are halfway through the design for Kilmore,” says Don. “But the big news is that we are starting to redesign Moonee Valley.”

All three are existing tracks which are being made longer, with greater turn radii to promote speed. The company uses Geocomp to download survey field data and create digital terrain models. “Then we just apply road design criteria,” says Don. “Trotting tracks are essentially roads for horses.”

“The most important part of the track is the running surface,” Don explains. “The ideal is a very firm base with a 10–12mm cushion layer over the top. This layer is essentially sand, absorbing the impact of the horse’s hoof. The hoof then strikes the hard base underneath, giving the horse a feeling of sure-footedness and enabling it to spring off the surface.”

Cow tracks

Each time a horse runs on a track like this it digs it up, so continuing maintenance is vital. “The main problems generally occur on the rail because this is where most of the horses run,” says Don. “You get what

we call “cow tracking”, which is when all the hooves land within a 1-metre corridor, causing excessive removal of material from the base.”

Most harness racing tracks employ a full-time maintenance person to fill in cow tracks, replace cushion material, and make sure the track is watered so that it doesn’t blow away. Even if there is a month between race meetings, the tracks are probably used for training every day.

Unlike harness racing tracks, conventional racecourses have more to do with turf technology than road design. Trotting tracks have more in common with motorbike racing tracks and recently, the company’s expertise enabled an unlikely link between the two sports.

When an international entrepreneur approached the City of Shepparton to hire their trotting track for a major motorbike event, Don was called for advice. His reaction to the idea?

“I was terrified! A motorbike could rip a track like that to shreds.”

“But because of the obvious tourism benefits for Shepparton, we tried to find a way to do it.”

Don’s company carefully monitored what was happening to the track. In readiness, the Council had graders, water carts and other equipment waiting. They had arranged 15-minute intervals between brackets of races to get the grader in, replace the cushion layer and water it down. The result? “We’d have no reason to refuse a request like this in future,” says Don with relief. “There was no damage to the base—it’s been a great success.”

“Our new specialisation might seem a world away from subdivisions,” Don mused. “But being skilled in using Geocomp means that we can apply our design talents to all kinds of situations, and as a result, diversify our work.”

STAFF PROFILE

Hello Bill? I need help...

Bill Lazaris owns the other voice clients might hear on our Helpline. Bill studied Civil Engineering (majoring in Structures & Transport) at Melbourne University, and joined Geocomp after working with a housing construction company, and as a Project Manager for Melbourne Water.

Q: Is there anything you miss about your job at Melbourne Water?

A: Working on-site. And the smelly sewer walks. Of course, you put on a protective suit and carry a gas detector. The furthest I went down was the North Yarra main, about 60m under ground. But the deepest is about 100m.

Q: So things changed when you began work here?

A: It was a change of focus. I trained with Spectra Precision in Atlanta on TERRAMODEL, TerraVista and Paydirt. But because I've worked on projects from estimations to commissioning to handover to client, I can generally picture the stage a client's job might be at. I hope I provide a valuable service to our callers.

Q: Who would you like to hear from?

A: Those who are too scared to install TERRAMODEL, especially those who took up the offer for free CADs.

Q: Is it true that you've been to more Grand Finals than Dermott Brereton?

A: Possibly. (laughs) I work out of hours as an AFL Host, supervising staff at corporate functions. How many? Eight Grand Finals.

To contact Bill, see the Helpline box.



WHEN CHANGE MAKES SENSE

Changing your computer system isn't an easy decision, especially if you have built your business around it.

In 1998 many of our clients changed from Geocomp to TERRAMODEL. In this issue, *Dimensions* looks at their reasons for the change, and their progress.

For sentimental Geocomp users, the idea of switching to another program can almost seem like betrayal. However, those of our clients who have changed and settled into new systems are finding that the move is paying off with wider project possibilities and better productivity.

Some have found the challenge to be very stimulating:

"We successfully moved to using TERRAMODEL last year and that's been a big highlight for me." Mark Bowkett, survey draftsman with Telstra, working on radio tower design profiles.

"The younger ones are handling the switch better than I am—they love TERRAMODEL." Roger Hurley, SE Water.

Brad Quick, the inventor of Geocomp, says that the shift to TERRAMODEL is a natural step. "If you think about what computers will look like in 5 years time, there'll be few DOS operating systems ... most will use Windows."

Wider opportunities

Lee Woolhouse, Hydrographic Surveyor with the Port of Fremantle: "We'd used Geocomp since the 1980s, but were finding that the 32,000 point limitations were holding us back. We began using TERRAMODEL in late 1996 and since then we have contracted a sea-bed survey that uses hundreds of thousands of points.

"TERRAMODEL is more powerful, far quicker, better with volume calculations, and has a Windows interface," Brad explains. "It's easier for new software users to learn and doesn't require any third-party CAD software, such as Autocad."

This cuts support costs on extra software, and also bypasses problems of interfacing products when one of them is upgraded.

Time and money

There are two ways to consider time and money issues. The most obvious is the short-term view: that you have little time to learn new systems, which are an extra expense anyway.

This approach doesn't factor in the many other benefits that can flow on from changing. The medium-term view is that investing time and money in learning new systems speeds up your efficiency and productivity.

Ian Rose, subcontractor, has used Geocomp since 1987: "I'm a victim of 'learning overload'. I work long hours so I have little time to learn new programs, but this year I'm going to persevere with TERRAMODEL."

Presentation features

One reason some clients changed was to improve their presentations and communication with clients, without going through lengthy layout processes. Geocomp projects have to be exported to other programs for enhancement—TERRAMODEL's inbuilt presentation features produce better-looking plans more quickly.

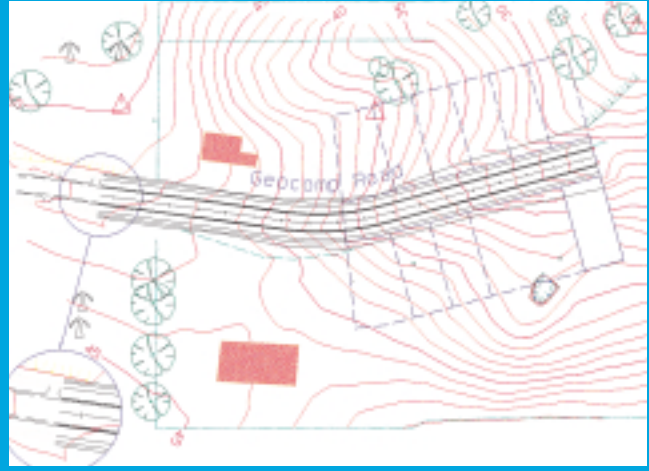
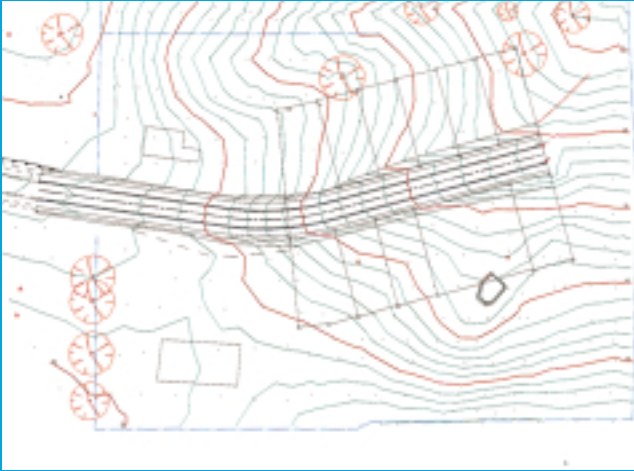
Taking on a new system

One of the biggest hurdles can be how to incorporate any new software into current work practices.

"The change is inevitable," says Allan Subritzsky of Thiess Australia. "So you need to find a way. We've not touched projects that are already in Geocomp, but all of our new projects are done in TERRAMODEL. We provide training at the start of a project, and then as needed.

"Our staunchest Geocomp user is very happy, having realised that TERRAMODEL actually makes his life easier. He's eager to learn more."

Lee Woolhouse again: "We are now content TERRAMODEL users."



On screen: the same data in Geocomp (left) and TERRAMODEL (right).

GEOCOMP VS TERRAMODEL

Description	Option number	Speed increase with TERRAMODEL	No. times per typical job
Loading 90,000 points	SDS1	1067%	1
Refresh points and strings	SDS132 F3	400%	15
Refresh points and strings with Pt Nos on	SDS132 F7+F3	192%	10
Zoom in 90%	SDS135 F5	500%	25
Forming DTM and extract contours	SDS43	718%	3
Redraw points, strings and contours	SDS132 F3	640%	10
Zoom in 90%	SDS135 F5	1533%	15
Volume computation	DTM3	517%	1
Create plot and send to printer/plotter	SDS93 & SDS94	1135%	3
3D DXF out	FC D	519%	1

Summary: TERRAMODEL is 572% faster than Geocomp on a typical job.

TERRAMODEL 9.6

minimum requirements

- Disk install: 40 Mb
- Processor: 486
- Screen: VGA
- Operating system: Windows 95/98 or NT
- RAM: 16 Mb+
- Hard disk size: 200 Mb
- Printer: Windows printer driver
- Plotter: Windows printer driver
- Mouse: Any Windows pointing device
- Digitiser: Any Win TAB device

When is it the right time?

"The risk is leaving the change too late ... when other companies can do the same work in a fraction of the time that you are quoting" says Brad Quick.

"When your current system is limiting the work you can win, better systems will be needed just to keep avenues open."

"In terms of workloads, it's difficult to find an ideal time to upgrade your system. But ultimately, it's an investment in your own productivity and profitability."

Ashley Hopp of Queensland's DNR is using TERRAMODEL on a dam project on Palm Island, off Townsville. "I am a self-taught Geocomp user, but we now use TERRAMODEL. I was determined to learn it so I put in time after hours. I'm confident now and still learning."



'Oh, that's George ... he does that every time he changes his software.'

Easing the way

Brad Quick: "We could have made TERRAMODEL look like a DOS product, but that would put off new users who are familiar with Windows."

"Instead, we've made sure that the programs talk to each other very well, so that you don't go down a path and get completely stuck. You can still export to Geocomp if necessary to complete the work with minimal disruption to your client."

Training

To get you going in TERRAMODEL, Geocomp Systems offers a training CD, monthly group courses in TERRAMODEL or on-site training on a live project.

Of these, on-site training is the most effective because you learn using your real data and real problems. You learn skills that increase your productivity, AND you get the job out.

EXPERT ADVICE



GEOCOMP SYSTEMS

*Our experts explain
functions in Geocomp
and TERRAMODEL*

Volumes

In GEOCOMP there are six ways to compute volumes. By DTMs, choose from: net of two surfaces; to datum; and within a cut or fill boundary. Alternatively, end area volumes can be computed from centrelines, grids and contours.

In TERRAMODEL, the most commonly used volume computation commands are Volume, Avgend and Gridvol. To compute volumes by end area along an alignment, form the two DTMs, draw Xlines to define where the cross-sections are and then compute volumes from the cross-sections.

Boundaries

In Geocomp, contours and volumes are limited by clipping the DTM triangles to an arbitrary manually-entered boundary. Otherwise the

boundary is limited to the extent of the points with heights.

In TERRAMODEL, you can use the same approach. First form the model from all the points with heights in a layer. The sets in that layer are the break-lines. The links settings and DTM edge, if any, control the extent of the triangles. Use the Clip command to clip the contours outside a boundary. Specify a boundary when computing volumes between surfaces.

Answers to TERRAMODEL 9.5 FAQs you haven't asked yet

- Don't install 9.5 in the same place as the 9.3 software.
- If you export to AutoCAD from sheet view, the data ends up in the paper space, not model space.
- If you import from DWG, keep layer names to 16 characters or less.
- If you cannot plot to small HP printers any more, ask us what to do.

The revisions are documented on the 9.5 CD under
`\tmodwin\docs\tmw_add.pdf`.

2-6 Albert Street
Blackburn 3130
Australia

Tel: +61 3 9877 8400
Fax: +61 3 9877 8411
Email: support@geocomp.com.au
info@geocomp.com.au
Web site www.geocomp.com.au

Upgrade & Support Help Hotlines

Toll free: 1800 800 754 (in Australia)
Email: support@geocomp.com.au

9 am – 6 pm EST every working day

For help with all queries about using our software, including:

- installation
- systems compatibility
- converting data
- applications.

2 hour response time

We aim to respond to your call 95% of the time within 30 minutes, and 100% of the time within 2 hours.

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SALES	Paul Fulton Gerry Dimatos
SALES Manager	
Account Manager	
TRAINING/CONSULTING	Jerry Cresp
SUPPORT	
Client Services	Garth Coverdale
Engineers	Bill Lazaris
OFFICE	
Office Manager	Denita MacDonald

Products

Geocomp Systems supports:

GeoCalc GeoNav Geocomp
TERRAMODEL TerraVista
Trenchwork Paydirt®

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SNIPPETS

Digitizer special

For all Upgrade and Support customers

The GTCO Corporation Roll-up II Digitizer series is TERRAMODEL, Geocomp, Paydirt and Wintab compatible.

They come with a choice of 4-button or 16-button cursor or stylus pen; accessory pouch; shipping/storage tube with insert for plans storage; serial cable; power supply; GTCO custom configuration menu; 9-25 pin adapter; integral controller; software utilities and drive support for all Windows, DOS and UNIX based applications; and a User's Manual.

(A1) 30" x 36" roll-up digitizer includes choice of transducer, power supply and accessories. Usually \$A 5000 rrp, sale price \$A 3900.

(A2) 20" x 24" roll-up digitizer includes choice of transducer, power supply and accessories. Usually \$A 4600 rrp, sale price \$A 3450.

Contact our Sales staff for more information.

A very happy New Year

Fiona Miller, our former Office and Finance Manager, has given birth to a healthy baby girl. Hayley Morgan made her entrance just 4 hours before midnight on New Year's Eve.

Millennium bug update

The current version of Geocomp 9.13 is Y2K compliant. For further information regarding Geocomp and TERRAMODEL compliance, please see our Web site at:
www.geocomp.au/y2k

