

# **Traffic Sign Structures**

# (TraSiS V3.0)

# **User Manual**

TRAFFIC & ROAD USE MANAGEMENT DIVISION TRAFFIC ENGINEERING AND ROAD SAFETY BRANCH



ONTENTS =

CHAPTER 1 INTE	RODUCTION TO THE MANUAL 5	
SECTION 1.1 AE	OUT THIS USER MANUAL	
1.1.1	The Purpose of This Manual7	
1.1.2	How to Use This Manual8	,
1.1.3	Typographical Conventions Used in This Manual10	
1.1.4	Acronyms Used in This Manual11	
1.1.5	Related Documents12	
CHAPTER 2 INTE	RODUCTION TO TraSiS 13	
SECTION 2.1 AE	OUT THIS USER MANUAL	
2.1.1	Introducing TraSiS15	
2.1.2	The Main Menu17	
2.1.3	Menus	,
CHAPTER 3 DES	IGN PROCEDURE 23	
SECTION 3.1 DE	SIGN PROCEDURES	
3.1.1	Sign Details Entry Form25	
3.1.2	Roadside Environment Entry Form28	,
CHAPTER 4 MAI	N WINDOW 33	1
SECTION 4.1 UN	IDERSTANDING THE WINDOW	
4.1.1	Introducing Main Window	
SECTION 4.2 TE	CHNICAL DESIGN DATA	,
4.2.1	Support Details	
4.2.2	Footing Details	
4.2.3	Sign And Stiffener Details	
4.2.4	Post Type Selection	
4.2.5	Message Box45	,
CHAPTER 5 SIGI	N STORAGE 47	i.
SECTION 5.1 SI	GN STORAGE	i
5.1.1	Storage Department	ļ
CHAPTER 6 CLE	AR ZONE 51	



SECTION 6.1 UI	NDERSTANDING CLEAR ZONE	53
6.1.1	Clear Zone Concept	53
SECTION 6.2 CI	LEAR ZONE WINDOW	53
SECTION 6.2 CI	LEAR ZONE WINDOW	54
6.2.1	Display	54
6.2.2	Parameters	55
6.2.3	Clear Zone Distance	56
CHAPTER 7 PRI	NTING	57
SECTION 7.1 Pr	RINTING FORMS	59
7.1.1	Accessing the Print Commands	59
7.1.2	How to Print Design and Summary Forms	60
7.1.3	How to Print Order Forms	64
CHAPTER 8 WA	RNINGS AND ERRORS	65
SECTION 8.1 U	NDERSTANDING THE WINDOW	67
8.1.1	Introducing Main Window	67
KEYBOARD SHO	DRTCUTS	69
GLOSSARY		73
INDEX		77



### **CHAPTER 1**

### **INTRODUCTION TO THE MANUAL**



### Section 1.1 About This User Manual

1.1.1	The Purpose of This Manual				
Audience	This User Manual is intended for designers utilising the <b>TraSiS V.V3.0</b> software program for the design of roadside sign support structures.				
Scope	<ul> <li>The User Manual describes the process involved to:</li> <li>Create a new sign structure;</li> <li>Understand the sign storage feature;</li> <li>Print forms;</li> <li>Interpret warnings and errors; and</li> <li>License the program.</li> </ul>				
Reader Skills	<ul> <li>The User Manual assumes that the reader has a basic knowledge of:</li> <li>Personal computers and their operation; and</li> <li>The sign design procedures as outlined in the <i>Design Guide for Roadside Signs</i>.</li> </ul>				
Expected Outcome	<ul> <li>After studying this manual, the reader should be able to:</li> <li>Create a new sign structure;</li> <li>Understand the sign storage feature;</li> <li>Print forms;</li> <li>Interpret warnings and errors; and</li> <li>License the program.</li> </ul>				



1.1.2	How to Use This Manual					
Composition	This manual is divided into eight chapters to group together related subject matter.					
Chapter 1	Chapter 1, Introduction To The Manual, explains:					
	<ul> <li>The purpose of the manual;</li> <li>The typing conventions and acronyms used in the manual; and</li> <li>Where to obtain further information relating to traffic sign structures.</li> </ul>					
Chapter 2	Chapter 2, Introduction to TraSiS:					
	<ul> <li>Install TraSiS software;</li> <li>Open the program;</li> <li>View the Main Window; and</li> <li>Access the various menus.</li> </ul>					
Chapter 3	<ul> <li>Chapter 3, <i>Design Procedure</i>, provides sufficient information to the user to:</li> <li>Create a new sign file;</li> <li>Complete the Sign Details Entry Form; and</li> <li>Complete the Roadside Environment Entry Form.</li> </ul>					
Chapter 4	Chapter 4, Main Window, explains:					
	<ul> <li>The layout of the Main Window;</li> <li>How to enter the sign design data on the appropriate forms; and</li> <li>How the Message Box is used for warnings and errors.</li> </ul>					
Chapter 5	Chapter 5, Sign Storage explains how to use the:					
	<ul><li>Database storage system; and</li><li>Job management feature.</li></ul>					
Chapter 6	Chapter 6, <i>Clear Zone</i> explains:					
	The clear zone concept; and How to complete the <b>Clear Zone Form</b> .					
Chapter 7	Chapter 7, <i>Printing</i> , describes the three forms available and explains how to print the various forms.					



### **1.1.2 How to Use This Manual**, (continued)

Chapter 8	Chapter 8, <i>Warnings and Errors</i> , explains how warnings and errors are communicated to the user through the <b>Message Box</b> .
Keyboard Shortcuts	The Keyboard Shortcuts lists the available shortcut keys and their function.
Licensing	The <i>Licensing</i> explains how to license the software and how to transfer a licence.
Glossary	The <i>Glossary</i> contains an explanation of terms used throughout the manual.
Index	The comprehensive <i>Index</i> at the end of the manual is provided to assist in locating topics and their page numbers, with cross-references to other topics where applicable.



### 1.1.3 Typographical Conventions Used in This Manual

**Typographical** The following table explains the typing convention used in this manual: **Conventions Table** 

Convention	Meaning	Example
Bold	Names of menu names, items, buttons, utilities and text entry fields.	Select the <b>Open</b> command. Click on the <b>Browse</b> button.
System data	System text displayed on your screen. This font is also used for file names and directories.	Do you wish to rebuild printers? (Y/N)
Italics	Cross-reference to other manuals, chapter and Appendices in the documentation.	Refer to the <b>Design Guide for Roadside Signs</b> for more information.
entry data	Commands that should be entered exactly as shown appear in this boldface type.	Enter the following: A:\setup
dir newdir	Information that you must supply is in bold, lower-case italics.	Enter the command: Copy olddir newdir
<del></del>	Keys to be pressed are shown in the <and> brackets.</and>	Press <b><f3></f3></b> to call up the wizard.
X > Y > Z	Menu items to be selected in sequence (usually clicked on using the mouse) are separated by the symbol ">"	View > System Status > Channels.
<ctrl>+<c></c></ctrl>	Keys to be pressed simultaneously are shown with a + (plus) sign.	To close the window, press <ctrl>+<c>.</c></ctrl>

#### Important Messages

Important messages are highlighted in this manner



### 1.1.4 Acronyms Used in This Manual

Acronyms List The following acronyms are used in this manual:

Acronym	Details			
AADT	Annual Average Daily Traffic Flow			
CHS	Circular Hollow Section			
RHS	Rectangular Hollow Section			
TraSiS	Traffic Sign Structures			



### 1.1.5 Related Documents

Document	Details
1	Standard Drawing Number 1363 – Traffic Sign Support
2	Standard Drawing Number 1364 – Connection Strap and Erection Details
3	Standard Drawing Number 1365 – Traffic Sign Support Breakaway Post Details (2 or more supports)
4	Standard Drawing Number 1366 – Traffic Sign Support Detail – Truss Type Breakaway
5	Standard Drawing Number 1367 – Traffic Sign Support Detail – Truss Type Breakaway Bracing Details
6	Standard Drawing Number 1368 – Single Traffic Sign Support
7	Standard Drawing Number 1450 – Traffic Sign Support Timber Posts
8	Standard Drawing Number 1451 – Timber Support Details
9	Main Roads Guidelines ES-126, Appendix 3
10	Design Guide for Roadside Signs, Edition 1, Rev 0, February 2000

**Document List** The following lists all related documents:

End of Chapter 1



## **CHAPTER 2**

## **INTRODUCTION TO TraSiS**



### Section 2.1 About This User Manual

### 2.1.1 Introducing TraSiS

What is TraSiS V.V3.0 is a program developed by the Traffic Engineering & Road Safety Section of Main Roads, to assist in the design of roadside sign support structure. It is used in conjunction with the companion document *Design Guide for Roadside Signs*.

Installing TraSiS Insert the CD ROM or download "*trasis.exe*" from Main Roads web site <u>www.mainroads.gld.gov.au</u> to an appropriate directory. From that directory/folder select the "trasis.exe" file. The **Welcome** screen will appear. Close all other applications and click **Continue** to proceed with the download.



Close all other applications then click the **Continue** button.



### **2.1.1 Introducing TraSiS**, (continued)

Installing TraSiS (cont'd) When the downloading is complete you will see the following screens. The program will automatically download and create new default folder called **Main Roads** located on your hard drive. Select **Next** or an appropriate installation folder (Browse for folder). Then simply click **Finish** to complete the download.





### 2.1.2 The Main Menu

Main Menu

Description	available							
	Traffic Sign Structures v2.1							
	Fle Edit Help	Sign Position						
	Traffic Sign Structures v2.1							
Menu Bar	Traffic Sign Structures v2.1	The Main Menu provides the user with access to the:						
	<u>File</u> <u>E</u> dit <u>H</u> elp	• File menu;						
		• Edit menu; and						

Once the program is loaded, the Title Bar becomes active and the menus

• Help menu.



#### 2.1.3 **Menus**

Main Menu **Description** 



#### File Menu

et etc						
File Edit	Help					Creat
New	Ctrl+K					
Open	Ctrl+O					
Close	Ctrl+C					
Save	Ctrl+S					
Save As	Ctri+A					
Rename	Ctrlup					
Delete	CUITO	10				
Print	AND 1000	-				
Exit	Ctrl+F4					
Traffic	: Sign St	truc	tures v2	2.1		Open
File Edit	Help					Open
New	Ctrl+N	$\nearrow$	1			1
Open	Ctrl+O					
Close	Ctrl+C					
Save	Ctrl+S					
Save As	Ctrl+A					
Rename						
Delete	Ctrl+B					
Print		•				
Traffic	Sign St	truc	tures v2	.1		Close
Exit	Ctrl+F4	truc	tures v2	.1		<b>Close</b> Close
Exit Traffic File Edit New Open	Ctrl+F4 Sign St Help Ctrl+N Ctrl+O	truc	tures v2	.1 Example		<b>Close</b> Close
Exit Traffic File Edit New Open Close	Ctrl+F4 Sign St Help Ctrl+N Ctrl+O Ctrl+C	truc	tures v2	.1 EXAMPLE		Close Close
Exit Traffic File Edit New Open Close Save	Ctrl+F4 Sign St Help Ctrl+N Ctrl+O Ctrl+C Ctrl+S		tures v2	.1 EXAMPLE		Close Close
Exit Traffic File Edit New Open Close Save Save Save As	Ctrl+F4 Sign St Help Ctrl+N Ctrl+O Ctrl+C Ctrl+S Ctrl+A		tures v2	.1 EXAMPLE 0, Standard 1500		Close Close
Exit Traffic File Edit New Open Close Save Save Save As Rename	Ctrl+F4 Sign St Help Ctrl+N Ctrl+O Ctrl+C Ctrl+S Ctrl+A		tures v2 I ad edge geway	. 1 EXAMPLE 0, Standard 1500 0		Close Close
Exit Traffic Edit New Open Close Save Save Save As Rename Delete	Ctrl+F4 Sign St Help Ctrl+N Ctrl+O Ctrl+C Ctrl+S Ctrl+A Ctrl+B		tures v2 I ad edge geway	. 1 EXAMPLE 0, Standard 1500 0 3250		Close Close
Exit Traffic File Edit New Open Close Save Save Save As Rename Delete Print	Ctrl+F4 Sign St Help Ctrl+N Ctrl+O Ctrl+C Ctrl+S Ctrl+A Ctrl+B	truc	tures v2 I ad edge geway	2.1 EXAMPLE 0, Standard 1500 0 3250 0 0		Close Close
Exit Traffic Edit New Open Close Save Save Save Save Save Save Save Sav	Ctrl+F4 Sign St Help Ctrl+N Ctrl+O Ctrl+C Ctrl+S Ctrl+A Ctrl+B		tures v2 ad edge geway	2.1 EXAMPLE 0, Standard 1500 0 3250 0 0 0 0		Close Close
Exit Traffic File Edit New Open Close Save Save Save Save Save Save Save Sav	Ctrl+F4 Sign St Help Ctrl+N Ctrl+O Ctrl+C Ctrl+S Ctrl+A Ctrl+B Ctrl+F4	truc it a	tures v2 I ad edge geway	2.1 EXAMPLE 0, Standard 1500 0 3250 0 0 0 0 0		Close Close
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Exit Traffic Ile Edit New Open Close Save Save Save Save Save Save Save Sav	Ctrl+F4 Sign St Help Ctrl+N Ctrl+O Ctrl+C Ctrl+S Ctrl+A Ctrl+B Ctrl+F4 Sign St	truc	tures v2 ad edge geway	2.1 EXAMPLE 0, Standard 1500 0 3250 0 0 0 0 0 0 0 0 0 0 0 0 0		Close Close Save
Exit Traffic File Edit New Open Close Save	Ctrl+F4 Sign St Help Ctrl+N Ctrl+O Ctrl+C Ctrl+S Ctrl+A Ctrl+B Ctrl+F4 Sign St Help	truc truc	tures v2 ad edge geway	2.1 EXAMPLE 0, Standard 1500 0 3250 0 0 0 0 0 0 0 0 0 0 0 0 0		Close Close Save Save
Exit Traffic File Edit New Open Close Save Save Save Save Save Save Save Save Save Save Save Save Delete Print Exit Traffic Edit New Open Close Save	Ctrl+F4 Sign St Help Ctrl+N Ctrl+O Ctrl+C Ctrl+S Ctrl+A Ctrl+B Ctrl+F4 Ctrl+F4 Sign St Help Ctrl+N	truc truc	tures v2 ad edge geway	2.1 EXAMPLE 0, Standard 1500 0 3250 0 0 0 0 0 0 0 0 0 0 0 0 0		Close Close Save Save
Exit Traffic Ile Edit New Open Close Save Save Save Save As Rename Delete Print Exit Exit Traffic Ile Edit New Open	Ctrl+F4 Sign St Help Ctrl+N Ctrl+O Ctrl+C Ctrl+S Ctrl+A Ctrl+B Ctrl+F4 Ctrl+F4 Sign St Help Ctrl+N Ctrl+N	truc iiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiii	tures v2 ad edge geway	2.1 EXAMPLE 0, Standard 1500 0 3250 0 0 0 0 0 0 0 0 0 0 0 0 0		Close Close Save Save
Exit Traffic Ile Edit New Open Close Save Save Save Save As Rename Delete Print Exit Exit Traffic Ide Edit New Open Close	Ctrl+F4 Sign St Help Ctrl+N Ctrl+O Ctrl+C Ctrl+S Ctrl+A Ctrl+B Ctrl+F4 Ctrl+F4 Sign St Help Ctrl+N Ctrl+N Ctrl+P Ctrl+N Ctrl+F4	truc truc	tures v2 ad edge geway	2.1 EXAMPLE 0, Standard 1500 0 3250 0 0 0 0 0 0 0 0 0 0 0 0 0		Close Close Save Save
Exit Traffic Ile Edit New Open Close Save Save Save As Rename Delete Print Exit Exit Traffic Ide Edit New Open Close Save Save	Ctrl+F4 Sign St Help Ctrl+N Ctrl+O Ctrl+C Ctrl+S Ctrl+A Ctrl+B Ctrl+F4 Sign St Help Ctrl+N Ctrl+O Ctrl+V Ctrl+C Ctrl+C Ctrl+C	truc	tures v2 ad edge geway	2.1 EXAMPLE 0, Standard 1500 0 3250 0 0 0 0 0 0 0 0 0 0 0 0 0		Close Close Save Save
Exit Traffic Ile Edit New Open Close Save Save Save As Rename Delete Print Exit Exit Vew Open Close Save Save Save Save Save Save Save Sav	Ctrl+F4 Sign St Help Ctrl+N Ctrl+O Ctrl+C Ctrl+S Ctrl+A Ctrl+B Ctrl+F4 Sign St Help Ctrl+N Ctrl+Q Ctrl+N Ctrl+C Ctrl+C Ctrl+C Ctrl+C		tures v2 ad edge geway	2.1 EXAMPLE 0, Standard 1500 0 3250 0 0 0 0 0 0 0 0 0 0 0 0 0		Close Close Save Save
Exit Traffic Ile Edit New Open Close Save Save Save Save As Rename Delete Print Exit Exit New Open Close Save Save Save Save Save Save Save Sav	Ctrl+F4 Sign St Help Ctrl+N Ctrl+O Ctrl+C Ctrl+S Ctrl+A Ctrl+B Ctrl+F4 Sign St Help Ctrl+N Ctrl+Q Ctrl+N Ctrl+C Ctrl+C Ctrl+C		tures v2 ad edge geway :tures v2 ad edge ageway	2.1 EXAMPLE 0, Standard 1500 0 3250 0 0 0 0 0 0 0 0 0 0 0 0 0		Close Close Save Save
Exit  Traffic  Ile Edit New Open Close Save Save Save Save As Rename Delete Print Exit Exit New Open Close Save Save Save Save Save Save Save Delete	Ctrl+F4 Sign St Help Ctrl+N Ctrl+O Ctrl+C Ctrl+S Ctrl+A Ctrl+B Ctrl+F4 Sign St Help Ctrl+N Ctrl+O Ctrl+C Ctrl+C Ctrl+A Ctrl+A Ctrl+A		tures v2 ad edge geway :tures v2 ad edge ageway	2.1 EXAMPLE 0, Standard 1500 0 3250 0 0 0 0 0 0 0 0 0 0 0 0 0		Close Close Save Save
Exit  Traffic  Ile Edit New Open Close Save Save Save Save As Rename Delete Print Exit Exit New Open Close Save Save Save Save Save Save Save Sav	Ctrl+F4 Sign St Help Ctrl+N Ctrl+O Ctrl+C Ctrl+S Ctrl+A Ctrl+B Ctrl+F4 Sign St Help Ctrl+N Ctrl+Q Ctrl+C Ctrl+C Ctrl+A Ctrl+A Ctrl+A Ctrl+A		tures v2 ad edge geway :tures v2 ad edge ad edge	2.1 EXAMPLE 0, Standard 1500 0 3250 0 0 0 0 0 0 0 0 0 0 0 0 0		Close Close Save Save
Exit  Traffic  Ile Edit New Open Close Save Save Save Save As Rename Delete Print Exit New Open Close Save Save Save Save Save Save Save Print Exit New Open Close Save Save Save Save Save Save Save Sav	Ctrl+F4 Sign St Help Ctrl+N Ctrl+O Ctrl+C Ctrl+S Ctrl+A Ctrl+B Ctrl+F4 Sign St Help Ctrl+N Ctrl+Q Ctrl+C Ctrl+C Ctrl+C Ctrl+A Ctrl+A Ctrl+A		tures v2 ad edge geway :tures v2	2.1 EXAMPLE 0, Standard 1500 0 3250 0 0 0 0 0 0 0 0 0 0 0 0 0		Close Close Save Save

If a first time user, take some time to become familiar with these menus.

ew sign.

eviously created file.

current sign.

current sign.



#### Menus, (continued) 2.1.3

#### File Menu (cont'd)

🕏 Traffic Sign Str	uctures v2.1	Save As:
File Edit Help		Save the new sign in the current
New Ctrl+N	EXAMPLE	databasa
Open Ctrl+O		ualavast.
Close Ctrl+C	1	
ave Ctrl+S	0_Standard	
ave As Ctrl+/		
lename	pgeway U	
elete Ctrl+B	3250	
rint 🕨	U	
kit Ctrl+F4	0	
Traffic Sign Str	ructures v2.1	Rename:
ile Edit Help		Ponamo a sign, job soction or an ontiro
New Ctrl+N	EXAMPLE	
Open Ctrl+O		JOD, SEE 5.1.1.
Close Ctrl+C	1	
Save Ctrl+S	0, Standard	
Save As Ctrl+A 🦯	ad edge 1500	
Rename		
Delete Ctrl+B	3250	
Print	0	
FILIN.		
Exit Ctrl+F4	U	
Traffic Sign Str	uctures v2.1	Delete:
ile Edit Help		
New Ctrl+N	EVANDLE	Delete a previously saved file.
Open Ctrl+O	EXAMPLE	
Close Ctrl+C	1	
Save Ctrl+S	0 Standard	
Save As Ctrl+A	ad edge 1500	
Rename 🦯	ageway 0	
Delete Ctrl+		
Print		
FILL	0	
Exit Ctrl+F4	0	
Traffic Sign Stru	ctures v2 1	Print:
ile Edit Help	NS1997937	
New Ctrl±N	"	Print out a <b>Design Form</b> , Order Form
Open Ctrl+O	III	or Summary Form.
Close Ctrl+C	2	· · · · · · · · · · · · · · · · ·
Save Ctrl+S	1200 Standard	
Save As Ctrl+A	ad edge 1500	
Rename	ageway 1000	
Delete Ctrl+B	4110	
Print •	Design Form Ctrl+D	
	Order Form Ctrl+R	
Exit Ctrl+F4	Summary Form Ctrl+M	
T ((' (' (' (')	``	Evit-
<ul> <li>Traffic Sign Str</li> </ul>	uctures vz.1	EXIL.
ile Edit Help		Exit the TraSiS program.
New Ctrl+N	ffr	
Open Ctrl+O		
Close Ctrl+C	2	
Save Ctrl+S	1200, Standard	
Save As Ctrl+A	ad edge 1500	
Rename	ageway 1000	
Delete Ctrl+B	3990	
Print	0	
Exit <u>Ctrl+</u>		



### **2.1.3 Menus**, (continued)

Edit Menu

<mark>،</mark>	Traffic Sign Stru	cture	es v2.1	
Eile	Edit			
🔶 Ti	raffic Sign Structures	v2.1		
File	Edit Help		4	
Job	Sign Details	Ctrl+L	< $-$	
Su	Environment Conditions	Ctrl+E		
N	Stiffener Spacing	Ctrl+T		
Sp	Notes Clear Zone	Ctrl+7	ndard	
Di	Default Values	Ctrl+V		
🐣 т	raffic Sign Structures	v2.1		
File	Edit Help			
Job	Sign Details	Ctrl+L		
Sur	Environment Conditions	Ctrl+E		
N	Stiffener Spacing	Ctrl+T		
Sr	Notes		ndard	
CI	Clear Zone	Ctrl+Z		
	Default values	Culty		
A				
🔶 1	raffic Sign Structures	v2.1		
File	Edit Help			
Job	Sign Details	Ctrl+L	E	
Sur	Stiffener Spacing	Ctrl+E		
Sr	Notes	Curre	ndard	
Ci	Clear Zone	Ctrl+Z		
Di	Default Values	Ctrl+V		
🔶 Т	raffic Sign Structures	v2.1		
File	Edit Help			
Job	Sign Details	Ctrl+L	F	
Sur	Environment Conditions	Ctrl+E		
N	Stiffener Spacing	Ctrl+T		and a
Sp	Notes Clear Zone	Ctrl+7	<u></u>	
Di	Default Values	Ctrl+V	<b>\</b>	
🐟 Ti	raffic Sign Structures v2	.1		
File	Edit Help			
Job	Sign Details Ctr	rl+L	E	
Sup	Environment Conditions Ctr	rl+E		
Ni Sr	Stiffener Spacing Ctr Notes	1+1	<u>↓. □</u>	
CI	Clear Zone Ctr	rl+z		
Di	Default Values Ctr	rl+v		
🔶 т	raffic Sign Structures	v2.1		
File	Edit Help			
Job	Sign Details	Ctrl+I	F	
Sur	Environment Conditions	Ctrl+E		
N	Stiffener Spacing	Ctrl+T		
Sr	Notes		ndard	
CI	Clear Zone	Ctrl+Z		
DI		Cur+v		

The following information is available from the **Edit** menu:

#### Sign Details:

Edit the current job description, sign faces and roadside slope, see 3.1.1.

#### **Environmental Conditions:**

Specify wind region, foundation ground type and situation risk, see 3.1.2.

#### **Stiffener Spacing:**

Use DMR standard (ES – 126) or customised settings, see 4.2.3.

#### Notes:

Assigns general comments and notes. These notes are printed with the **Design Form,** see 7.1.1.

#### **Clear Zone:**

Calculates the appropriate clear zone distance for the road, see 7.1.1.

### **Default Values**

Assigns default values to Sign Position and Clear Zone parameters, see 7.1.1.



### **2.1.3 Menus**, (continued)

Edit Menu	🔶 Т	raffic Sign Structures	v2.1		Default Values:
(cont'd)	File	Edit Help			Assigns default values to sign position
	Job	Sign Details	Ctrl+L		and clear zone parameters
	Sur Ni	Stiffener Spacing	Ctrl+T		
	Sr	Notes		~	Change Default Values
	CI Di	Clear Zone Default Values	Ctrl+Z	N	Sign Position
				1	Clearance above road edge (mm) 1500
					Distance from carriageway (mm) 1000
					Clear Zone Parameters
					Speed environment (km/h) 70 💌
					Average Annual Daily Traffic (vehicles) 751 - 1500 💌
					Cancel Ok

#### **Help Menu**

### The following information is available from the Help Menu



End of Chapter 2



### **CHAPTER 3**

### **DESIGN PROCEDURE**



### Section 3.1 Design Procedures

### 3.1.1 Sign Details Entry Form

**To begin** From the **File** menu or the Main Window select the **New** command. This launches the **Sign Details Entry Form** 



#### Job Details

s All information boxes must be filled in before proceeding to the next tab.

Use the **Previous** and **Next** buttons to navigate between the three tabs.

TraSiS stores all signs in a database. Each sign is distinguished by job, section, and sign position (location), allowing for simple and effective organisation of sign storage.

A **Status** area indicates possible duplication of name allocations and validation of new design.





### **3.1.1 Sign Details Entry Form,** (continued)

Roadside Slope Details Define the roadside geometry.

Up to five slope segments of variable length and height can be used to model a particular roadside cross-section. In addition, the longitudinal details of the slope segments can be specified (this is useful when examining the feasibility of strut sport signs, for example where there are longitudinal differences in post location).

💠 Sign Details Entry Form		
Road	dside Slope Sign Panels	
Terrain Details Segment1		
No. of Slope segments	Sign Details Entry Form	X
01 02 03 04		
	Job Details Roadside Slope Sign Panels	
Which side of the carriageway is	Terrain Details Segment1	ιI
	Enter cross section segment details	
	Length <u>• Height</u> C % Gradient	
Slope Segment Details	2000 500 25	
	(mm) (mm)	
	Slope Segment Details	-
¥		
Cance		
	<i>v</i>	
	<	
		- 1



### **3.1.1 Sign Details Entry Form,** (continued)

**Sign Panels** Specify the details of the sign face.

A sign structure can support up to four separate panels (three facing the front and one facing the rear), each panel having individual dimensions, road clearance and colour. Refer to the *Design Guide for Roadside Signs 3.1* for information regarding sign face design.

Job Details Roadside Slope	Sign Panels
General Details	
Clearance above road edge Sign Details Entry Form	Roadside Slope Sign Panels
Distance from carriageway       General Details       From         0       (mm)       Enter Sign Details       From         Number of Front Signs       C       1       C       Sign N         Number of Back Signs       Width (m       Height (m	Sign Layout View
Click the OK button to move to the next form.	ss : 1A v ur : Black CAl v ss : 1W v ur : Green Std v

Once all sign details forms are complete, the **OK** button becomes available. Clicking on it launched the next form, **Roadside Environment.** 



#### **Roadside Environment Entry Form** 3.1.2

#### To Begin Once all Sign Details forms are complete and the OK button clicked, then the Roadside Environment form will appear.

🔶 Roadside Environment

Three tabs will be visible:

- Wind Region;
- Soil Type; and
- Slip Base.

Wind Region Slip Base Soil Type Select the Wind Region Region A Region B **Region** C Region D Click on the Guide **Exposed Location Option** to Wind Regions This is an Exposed Location button for the map of Wind Regions Guide to Wind Regions (Click) Click the OK button to Cancel OK move to the next form.

#### Wind Region Select which geographic wind region the sign is to be built in.

The wind region scale is from A to D, A being for areas which generally experience normal wind conditions and D being for areas that are subject to severe cyclones.



The wind region map indicates the geographic regions associated with the scale.

Locations that are exposed to higher winds than what is usual for the locality (e.g. coastal highways) are accommodated for by selecting the Exposed Location check box. Refer to the Design Guide for Roadside Signs, 2.9.



### **3.1.2 Roadside Environment Entry Form,** (continued)

**Soil Type** Select the soil type that most accurately describes the soil at the location:

- 1. Cohesive Clay Soils; or
- 2. Cohesionless Sand Soils.

		Roadside Environment				×		
				Wir	nd Region	Soil Type	Slip Base	
					Select the F	oundation Soil Type		
Reference can be made to <b>Guide to</b> Foundation Strength Selection by clicking				Cohesive Cl	ay Soils : C Firm to Stiff C Very Stiff			
on the button. A description of each type (field and scientific identification) will assist				Cohesionles	s Sand Soils : C Loose to Medi C Dense	ium Dense		
appropriate soil type.				Guide to Fou	ndation Strength Sele	ection (Click)		
	Click the <b>OK</b> butto move to the next f	n to orm.			Ca	ancel OK		



- 1. Clay Soil Firm to Stiff;
- 2. Clay Soil Stiff to Hard;
- 3. Sand Loose to Medium Dense; and;
- 4. Sand Dense.



### **3.1.2 Roadside Environment Entry Form,** (continued)

Soil Description	Select the soil type that most accurately describes the soil at the location:						
	Guide to Foundation Strength Options	×					
	Sand Loose to Madium Dense 4 Cand Dense						
	Clay Soil - Firm to Stiff Stif	ר					
	Click the OK button to move to the next form. Effort is required to penetrate with thumb or remould with fingers Cancel						
	Suide to Foundation Strength Options						
	Sand - Loose to Medium Dense       Sand - Dense         Clay Soil - Fi       Clay Soil - Stiff to Hard         Field Identification       OK         Only indented by thumb and not possible to remould in fingers without adding water       OK						
	Sand - Loose to Medium Dense Clay Soil - Firm to Stiff Field Identification No significant resistance to excavation with spade or penetration by crowbar Cancel						
	<ul> <li>Guide to Foundation Strength Options</li> <li>Sand - Loose to Media</li> <li>Sand - Densei</li> <li>Clay Soil - Firm to Stiff</li> <li>Clay Soil - Stiff to Hard</li> <li>Field Identification</li> <li>Noticeable resistance to excavation with spade or little penetration by crowbar</li> <li>Cancel</li> <li>Scientific Identification</li> <li>Friction Angle = 45 degrees</li> <li>Elastic Modulus, E = 80,000 kPa</li> <li>Coefficient of Modulus Variation = 9 MNm3</li> </ul>						



### **3.1.2 Roadside Environment Entry Form,** (continued)

Slip Base If the sign is to be erected in an area where there is a high risk of impact (ie within the clear zone distance), see 7.1, select Slip Base. Otherwise select Rigid Base.

Refer to the Design	💠 Roadside Environment				
<i>Guide for Roadside</i> <i>Signs, 8.3.4</i> for further information.	Wind Region Support Rist	Soil Type	Shp Base		
Click the <b>OK</b> button to continue.		ancel OK			

End of Chapter 3



## **CHAPTER 4**

### **MAIN WINDOW**



### Section 4.1 Understanding The Window

### 4.1.1 Introducing Main Window

### What is Displayed

The Main window gives a clear display of the most important elements of the sign. The left half of the screen displays technical design data, while the right half displays a graphic view of the sign in relation to the ground and road.





### Section 4.2 Technical Design Data

### 4.2.1 Support Details

Number

Details the number of support posts.

Traffic Sign Structures v2.1							
File	File Edit Help						
Job	Job Number Sample						
Su	pport Posts						
N	umber	1	<b>E</b>				
S	pacing	0, Standard					
CI	earance above road edge	1500					
Di	istance from carriageway	1000					
K	erb Post Length	3250					
P P	ost Length 2	0	1				
P P	ost Length 3	0	1				
P P	ost Length 4	0	1				
SI	tub Length	0	1				
Pe	ost Dimensions	50 NB	1				
Pe	ost Wall Thickness	2.9	1				
Pe	ost Grade	C350	1				
SI	lip Base Required	No	1				
SI	tiffener Type	Туре 1	]				
Support Foundations							
Di	iameter of Hole	300					
D	epth of Hole	750					

Clicking the square button will launch the dialog box. The number of posts may be varied within a certain range by clicking the increase or decrease triangles

Adjust Number of Posts	×
DLD 1 1 Cancel OK	
Click the <b>OK</b> button to continue.	

Instructions will appear on the Status Bar.

#### Spacing

Details the spacing between the support posts.

Traffic Sign Structures v2.1						
File Edit Help	File Edit Help					
Job Number	Sample					
Support Posts						
Number	1					
Spacing	0, Standard 🛛 🔨					
Clearance above road edge	1500					
Distance from carriageway	1000					
Kerb Post Length	3250					
Post Length 2	0					
Post Length 3	0					
Post Length 4	0					
Stub Length	0					
Post Dimensions	50 NB					
Post Wall Thickness	2.9					
Post Grade	C350					
Slip Base Required	No					
Stiffener Type	Туре 1					
Support Foundations						
Diameter of Hole	300					
Depth of Hole	750					

Clicking the square button will launch the dialog box. The spacing between posts may be varied within a certain range by clicking the increase or decrease triangles. Clicking on the **Standard** button will select the standard spacing.




#### Support Details, (continued) 4.2.1

Clearance Above Road Edge	Details the height of the sign from the road surface to the bottom of the sign.		
	Traffic Sign Structures v2 File Edit Help	.1	Clicking the square button will launch the dialog box. The
Edge	File Edit Help Job Number Support Posts Number Spacing Clearance above road edge Distance from carriageway Kerb Post Length Post Length 2 Post Length 3 Post Length 4 Stub Length 4 Stub Length Post Dimensions Post Wall Thickness Post Wall Thickness Post Grade Slip Base Required Stiffener Type Support Foundations Diameter of Hole	Sample  1  0, Standard 1500 1000 3250 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	launch the dialog box. The height of the sign may be varied within a certain range by clicking the increase or decrease triangles.
	Depth of Hole	<b>/50</b>	Click the <b>OK</b> button to continue.

Carriageway

**Distance From** Details the lateral clearance between the part of the sign nearest to the road and the edge of the kerb, or pavement.

Traffic Sign Structures v2	.1
File Edit Help	
Job Number	Sample
Support Posts	
Number	1
Spacing	0, Standard
Clearance above road edge	1500
Distance from carriageway	1000
Kerb Post Length	3250
Post Length 2	0
Post Length 3	0
Post Length 4	0
Stub Length	0
Post Dimensions	50 NB
Post Wall Thickness	2.9
Post Grade	C350
Slip Base Required	No
Stiffener Type	Туре 1
Support Foundations	
Diameter of Hole	300
Depth of Hole	750

Clicking the square button will launch the dialog box. The distance of the sign may be varied within a certain range by clicking the increase or decrease triangles.

🔶 Adjust Distance from Carriag	jeway 🔀
OLD 100	
Cancel	OK
Click the <b>OK</b> button to continue.	



### **4.2.1 Support Details,** (continued)

### **Post Lengths**

Traffic Sign Structures v2	.1
File Edit Help	
Job Number	Sample
Support Posts	
Number	1
Spacing	0, Standard 🛛 🛄
Clearance above road edge	1500
Distance from carriageway	1000
Kerb Post Length	3250
Post Length 2	0
A Traffic Sign Structures v2	1
Traffic Sign Structures V2	5 J
File Edit Help	
Job Number	Sample
Support Posts	
Number	1
Spacing	0, Standard
Clearance above road edge	1500
Distance from carriageway	1000
Kerb Post Length	3250
Post Length 2	
Post Length 3	0
Post Length 4	0
Stub Length	0
Post Dimensions	50 NB
Post Wall Thickness	2.9
Post Grade	C350
Slip Base Required	No
Stiffener Type	Туре 1
Support Foundations	
Diameter of Hole	300
Depth of Hole	750

The length of the post nearest the kerb (not including section underneath slip base or screw footing).

The length of the second, third and fourth nearest post to the kerb (not including section underneath slip base or screw footing).

### Stub Length

Traffic Sign Structures v2.1				
File Edit Help				
Job Number	Sample			
Support Posts				
Number	1 📖			
Spacing	0, Standard 🔜			
Clearance above road edge	1500			
Distance from carriageway	1000			
Kerb Post Length	3250			
Post Length 2	0			
Post Length 3	0			
Post Length 4				
Stub Length	0			
Post Dimensions	50 NB			
Post Wall Thickness	2.9			
Post Grade	C350			
Slip Base Required	No			
Stiffener Type	Туре 1			
Support Foundations				
Diameter of Hole	300			
Depth of Hole	750			

The length of the post stub that sits inside the screw (if a screw footing is used), or that remains below the slip mechanism (if a slip is used).



### **4.2.1 Support Details**, (continued)

### Post Dimensions



For CHS, truss and strut posts, the measurement is the external diameter of the posts. For RHS the measurement is the rectangular cross-section of the post. For truss supports, the additional measurement is the distance between the two vertical posts.

### Post Wall Thickness

Traffic Sign Structures v2	.1
ile Edit Help	
Job Number	Sample
Support Posts	
Number	1
Spacing	0, Standard 🔜
Clearance above road edge	1500
Distance from carriageway	1000
Kerb Post Length	3250
Post Length 2	0
Post Length 3	0
Post Length 4	0
Stub Length	0
Post Dimensions	50 NB
Post Wall Thickness	2.9
Post Grade	C350
Slip Base Required	No
Stiffener Type	Туре 1
Support Foundations	
Diameter of Hole	300
Depth of Hole	750

The thickness of the wall material.



#### Support Details, (continued) 4.2.1

### **Post Grade**



The grade of steel used for the post.

### **Slip Base** Required

Traffic Sign Structures v2	2.1		
ile Edit Help			
Job Number	Sample		
Support Posts			
Number	1		
Spacing	0, Standard 🛄		
Clearance above road edge	1500		
Distance from carriageway	1000		
Kerb Post Length	3250		
Post Length 2	0		
Post Length 3	0		
Post Length 4	0		
Stub Length	0		
Post Dimensions	50 NB		
Post Wall Thickness	2.9		
Post Grade	C350	Indicates	previous
Slip Base Required	No		promotio
Stiffener Type	Туре 1	IN 3.1.∠).	
Support Foundations			
Diameter of Hole	300		
Depth of Hole	750		
	L		

election (selected



### **4.2.1 Support Details**, (continued)

**Stiffener Type** 



Shows one of two types of stiffener, designated as Type 1 and Type 2. Refer to *Standard Drawing ES – 126.* 



### 4.2.2 Footing Details

Diameter of Hole/Screw

Shows the diameter of the hole for normal concrete footings/diameter of screw.



# Depth of Traffic Sig Hole/Length of File Screw Job Number



Shows the depth of hole from the surface to the end of the post, not including the depth of concrete underneath the post/length of screw.



Moving the cursor over each sign box

displays a small window that shows information relevant to each sign face.

To adjust the method by which the

required number of stiffeners is

calculated, select Stiffener Spacing

options from the Edit menu

### 4.2.3 Sign And Stiffener Details

Sign and Stiffener Details



Stiffener Spacing Options





#### 4.2.4 **Post Type Selection** Selection Refer to the Design Guide for Roadside Signs, 8.3.2 for instructions on the Guide selection of appropriate post sections. It is not always possible to construct a sign using a particular post type **CHS Steel** Specifies that the post(s) be made of circular hollow section. Refer to Standard Drawing 1363. Job Section Sign Position A 1 CHS Steel RHS Steel Truss Steel Strut Steel **RHS Steel** Specifies that the post(s) be made of rectangular hollow section. Refer to Standard Drawing 1363. Job Section Sign Position A 1 **CHS Steel** RHS Steel Truss Steel Strut Steel **Truss Steel** Each truss post comprises two vertical CHS posts connected by smaller CHS members that form a web, zigzagging down the length of the posts. Refer to Standard Drawings 1366 and 1367. Job Section Sign Position 1 A **CHS Steel** RHS Steel Truss Steel Strut Steel **Strut Steel** Each strut is formed from two CHS posts, one vertical and the other at an angle to the ground. Strutted steel signs are not yet approved for use in Queensland Job Section Sign Position A 1 CHS Steel RHS Steel **Truss Steel** Strut Steel Selection Use the View 3D button to Strut Steel Guide see the strut structure in relation to the ground. liew 3D



### 4.2.5 Message Box

Warnings and/or Errors The Message Box displays any warning or errors regarding the structural design. Most warnings are to inform that various aspects of the sign do not meet standard guidelines. Others indicate that no standard sign structure is possible for the specified conditions.

A list of errors may be found in Chapter 8 Warnings and Errors

ob Number	Sample	Job Section	1	Sign Position	U
sh Number senset Posts Number Spasing Clearance above road edg Datance from corrispoweg Post Length Post Length Post Length Post Length Post Length Post Length Post Length Post Length Post Stude Post Stude Stiffment Stiffment Post Sign Post Sign Post Sign Post Sign Post Sign Post Sign	Sample	Job Section	1 Cancel	Sign Position	U Strut Steel View 3D

**Status Bar** Indicates the current operating status of program and provides status information



End of Chapter 4



# CHAPTER 5

# **SIGN STORAGE**



# Section 5.1 Sign Storage

### 5.1.1 Storage Department

Database TraSiS stores all of its signs in a database format organised by job, section and location.

	💠 Load a Sign Structural Design	
	Job Code Sample Job Section 1	Load Design
Job Code	Sign Position 0	Job Management
Job Section	Select Sign Position from Stored Signs Caaa CEXAMPLE CSample C1 E 0	
Sign Position		

**Renaming** To rename a Sign, Job Section or an entire Job, firstly click on the required folder icon in the stored signs area then click on to the name of the file, which will now become bolded. Type in the new name as required and click the **Rename** button.

Type New Name Folder Icon File Name	Rename a Sign, a Job Section or an entire Job       Job Code     aaa       Job Section     bbb       Sign Position     ccl       Job Management         Select from Stored Signs         Cancel         Select from Stored Signs
Click the <b>Rename</b> button to continue.	



### **5.1.1 Storage Department**, (continued)

Job Management

The job management feature selects which jobs appear in the storage department windows, preventing the window from becoming crowded with older jobs.



Clicking the **Job Management** button will launch a dialog box from where the job codes can be enabled (displayed in the **Load a Sign Structural Design** box) or disabled (hidden).

Once modified, clicking the **OK** button will close the dialog box.



The **Job Management** dialog box shows the particular database location and permits relocation of files.

The database that stores the signs can be found as a **gsddb.mdb** file, residing in the **TraSiS** directory.

Extra databases can be developed, by copying, renaming and then editing the original database to suit.

These databases may then be retained or transferred to other locations by copying the relevant database **gsddb.mdb** file. Selection of a particular database can then be made from the relevant .**mdb** files in the **TraSiS** directory.



End of Chapter 5



CHAPTER 6

# **CLEAR ZONE**



### Section 6.1 Understanding Clear Zone

### 6.1.1 Clear Zone Concept

# **Purpose** The purpose of the clear zone is to minimise the risk for errant motorists by establishing a minimum distance beside the road that ought to be clear of obstructions.

TraSiS automatically calculates the appropriate clear zone distance for a roadside cross-section while taking into account parameters such as speed environment, road curvature and AADT.

The clear zone distance is not a precise measurement; rather it is an indicative guide to assist in the application of engineering judgement to a particular situation.

Refer to Design Guide for Roadside Signs, 4.1.







### Section 6.2 Clear Zone Window

### 6.2.1 Display

# What is Seen The window is divided into two main section; a graphical display of the roadside on the left and a column on the right that contains controls for the clear zone parameters and other data displays.

Graphical Display		Controls
🔶 Clear Zone		
		Road Curvature (Radius (m))       Curved?         708         708         1         8arrier Distance (mm)         8arrier Distance (mm)         8arrier?         2789         1         2789         1         2789         1         2789         1         2789         1         2789         1         2789         1         2789         1         2789         1         2789         1         2789         1         2789         1         2789         1         3         2789         100km/h         Average Anual Daily Traffic (Vehicles)         751 - 1500 vehicles         1         1         1         1         1         1         1         1         1         1         1         1         1     <
	2.789m Back to Mair	,
Clear Zone		



### 6.2.2 Parameters

### Road Curvature

Use the check box to indicate whether the road is on a curve or not, and if so adjust the curve radius using the scroll bar. Road curvature with radius greater than 900m is considered to be comparatively straight, while a minimum radius of curvature exists for each speed environment.



### Barrier Distance

Specifies if a barrier is employed on the roadside, and if so the distance from the roadside to the barrier that can be adjusted using the scroll bar.

# Barrier Distance (mm) V Barrier?

SpeedEither the 85th percentile speed of all traffic on the road; or if this is unavailable<br/>then the posted speed limit.

Speed Environment (km/h)		
70km/h	-	

AADT

Traffic volume in units of vehicles per day.

Average Anual Daily Traffic (Vehicles)
751 - 1500 vehicles



### 6.2.3 Clear Zone Distance

Level Terrain The calculated clear zone distance for a level slope using the given parameters.

Clear zone for level terrain = 5.31m

Actual Terrain As above, but considering the slope details as specified for the sign location (3.1.10. Currently no algorithm exists to calculate clear zone distance for sections with both cut and fill slopes, therefore in this circumstance TraSiS returns a message indicating that the slope section is too complicated to analyse.

Clear zone for actual terrain = 2.704m

End of Chapter 6



CHAPTER 7 PRINTING



# Section 7.1 Printing Forms

### 7.1.1 Accessing the Print Commands

Forms Available TraSiS includes three different print forms:

1. Design Form;



Clicking on one of the three options available will launch **the Print Job Selection Form** shown below. This procedure is common for printing any of the three forms, however, the procedure varies slightly form this point forward, as illustrated in the following.

💠 Print Job Sele	ection Form		×
Select Signs to F	rint	Add >>> <<< Remove	Signs Selected to Print
Current Print Stal	2015		
Sign Position	Printed	Date	
ccc	N	04/02/2003	]
Page Setup	Print Setup		Cancel OK



### 7.1.2 How to Print Design and Summary Forms

**Print Selection** On the **Print Selection Job Form** to select the sign for printing, follow the steps:

- 1. Click the appropriate **Job Code Section** and **Position**;
- 2. Information on the Current Print Status will appear;
- 3. Click the Add button to locate the sign in the Signs Selected To Print box;
- 4. Click the Print Setup button to set the printer requirements;
- 5. This will then launch the Print Setup menu box;
- 6. Select printer settings;
- 7. Click OK to close the Print Setup box;
- 8. Return to the Print Job Selection Form; and
- 9. Select **OK** to print.

Stelet Sign Sto Print Control of the status Sign Position Printel Date 9 9 9 9 9 9 9 9 9 9 9 9 9	Print Job Selection Form		
Current Print Status:         Sign Position         P         0         Y         05/02/2003         2         0         Y         05/02/2003         2         0         Y         0         Y         0         Y         0         Y         0         Y         0         Y         0         Y         0         Y         0         Y         0         Y         0         Y         0         Y         0         Y         0         Y         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1	Select Signs to Print Caaa Cobbb B ccc C Sample	Add >>> 3	
Sign roadon     Printed     Dode       0     Y     05/02/2003     2       P     4     Print Setup     Cancel     0K       9     9       5     Print Setup     0       5     Print Setup     Print Setup       9     Print Setup     Print	Current Print Status		
P       4       Print Setup       Cancel       0K       9         Print Setup       Print Setup       8       ? X         Status:       Ready       Properties       Status:       Ready         Type:       HP LaserJet 8100 Series PS       Where:       \\shf7sw21\hp8100DN3         6       Orientation       Pigtrait       Source:       A4       Image: A4         Source:       Automatically Select       OK       Cancel	O Y O	134e 15/02/2003 2	
Print Setup 8   Printer 8   Name: \\shf7sw21\\hp8100DN3   Status: Ready   Type: HP LaserJet 8100 Series PS   Where: \\shf7sw21\\hp8100dn3   Comment: Comment:   Paper Orientation   Size: A4   Source: Automatically Select   Network 7   OK Cancel	P 4 Print Setup	Cancel DK 9	
5         Mame:       \\shf7sw21\\hp8100DN3       Properties         Status:       Ready         Type:       HP LaserJet 8100 Series PS         Where:       \\shf7sw21\\hp8100dn3         Comment:       Paper         Size:       A4         Source:       Automatically Select         Network       7	P	Print Setup	
Name:       \\shf7sw21\hp8100DN3       Properties         Status:       Ready         Type:       HP LaserJet 8100 Series PS         Where:       \\shf7sw21\hp8100dn3         Comment:       Paper         Size:       A4         Source:       Automatically Select         Network       7		Printer	
Status:       Ready         Type:       HP LaserJet 8100 Series PS         Where:       \\shf7sw21\\hp8100dn3         Comment:       Orientation         Paper       Orientation         Size:       A4         Source:       Automatically Select         Network       7	5	Name: \\shf7sw21\hp8100DN3	Properties
Type:       HP LaserJet 8100 Series PS         Where:       \\shf7sw21\\hp8100dn3         Comment:       Paper         Size:       A4         Source:       Automatically Select         Network       7		Status: Ready	
6      Where: \\shf7sw21\\p8100dn3      Comment:      Paper      Size:      A4      Source:      Automatically Select      Network      7		Type: HP LaserJet 8100 Series PS	
6 Comment: Paper Size: A4 Source: Automatically Select Network 7 OK Cancel		Where: \\shf7sw21\hp8100dn3	
Paper       Orientation         Size:       A4         Source:       Automatically Select         Network       7	6	Comment:	
Size:     A4     Image: C Portrait       Source:     Automatically Select     Image: C Portrait       Network     Image: C Portrait     Image: C Portrait	V	Paper	Orientation
Source: Automatically Select Network 7 OK Cancel		Size: A4	C Portrait
Network     7     OK     Cancel		Seuree: Advertiselly Select	A
Network 7 OK Cancel			,•• (Lanuscape)
		Network	OK Cancel
,	L		



### 7.1.2 How to Print Design and Summary Forms, (continued)

### **Design Form** The following is a sample **Design Form**.

14/02/2003	Traffic S	Sign Struct	ures ·	Desi	gn Fori	n	Page 1
Job : EXAMPLE		Section : C			Sign Pos	: 1	
Location Details Wind Region Exposed Terrain Risk Category Foundation Soil Side of Road Distance from carriageway Road Height	Region A No Low Impact Risk Loose to Medium De Left 0 4000	ense Sand	Slope D Segment 1 2 3	letails	Length 3000 1500 2300	Height 0 300 - 300	
Sign Face Details Detail Sign Code Sign Width Sign Depth Legend Class Legend Colour Background Colour Background Colour Sign Separation	Front Lower 4 2000 1200 1 White 2A Green Std 0	Front Middle 5 2000 800 2 White 1W Emerald 0		Front Ur 6 2000 700 Various Various Various Various 0	oper	Back Sign 7 2000 2400 Various Various Various Various 200	
Sign Stiffener Detail Stiffener Type Number of Stiffeners Stiffener Spacing Number of Brackets	Front Lower 1 3 500 6	Front Middle 1 2 500 4		Front U 1 2 500 4	<u>pper</u>	<u>Back Sign</u> 1 6 460 12	
CHS Steel Design Support Details Number Spacing Kerb Post Length Post 2 Length Post 2 Length Post 3 Length Post 4 Length Stub Length Post Dimensions Post Wall Thickness Post Grade Slip Base Required Footing Details Diameter of Hole Depth of Hole	2 1200, Standard 7900 0 0 90 NB 3.2 C350 No 300 1200		4	0000			
Warnings, Errors a	and Suggestio	ns					
TraSiS						Vor	sion 2 1
114313						ven	51011 2.1



#### How to Print Design and Summary Forms, (continued) 7.1.2

**Design Form** 

This <b>Notes</b> page is p	rinted along with the	Design Form.
-----------------------------	-----------------------	--------------

COLLUI	CO	nť	'd'	<u>۱</u>
		ιıι	u.	,

14/02/2003 <b>T</b>	raffic Sign Structures	- Notes	Page 2
Job : EXAMPLE	Section : C	Sign Pos : 1	
These notes are printed as pa	rt of the design form printout		
TraSiS			Version 2.1



### 7.1.2 How to Print Design and Summary Forms, (continued)

SummaryThe Summary Form contains structural data for each sign in a condensed form<br/>under the headings:

- Position Number;
- Sign Code;
- Sign Details;
- Stiffener Details;
- Support Details;
- Support Length Details;
- Stub; and
- Footing Details.

The form fits the details of up to forty signs per page, arranged according to Job

ion Sign	Sign Der	tails	Stiffener Details Support Details Support Length Details Stub										Stub	Footing (	Details	1									
Code	Width	Depth	Layout	Separa- tion	Dist frm crgway	Road Height	Туре	Num	Spacing	Bracket	Туре	Num	Spacing	Dim	Wall	Grade	Base	Post 1	Post 2	Post 3	Post 4	Length	Туре	Dim	Dept
EXAMPLE	Section :	c																							
4 5 6 7	2000 2000 2000 2000	1200 800 700 2400	Ft Lower Ft Mid Ft Upper Bk Sign	0 0 200	0	4000	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	3 2 2 6	500 500 500 450	6 4 4 12	CHS Steel	2	1200	90 NB	3.2	C350	Rigid	7900	7900	0	0	0	Normal	300	1200



### 7.1.3 How to Print Order Forms

Order Form The Order Form contains all data necessary to order the correct structural members:

- Requisition Number (see note below);
- Job Code, Job Section and Sign Position;
- Sign Face Details;
- Stiffener Details;
- Support Details;
- Stub Details; and Fitting Details.

Note: The form fits details of up to ten signs per page.



The print process includes a prompt for the requisition number that appears at the top of the page.

End of Chapter 7



# **CHAPTER 8**

# WARNINGS AND ERRORS



### Section 8.1 Understanding the Window

### 8.1.1 Introducing Main Window

# Warnings and Errors

TraSiS communicates warnings or errors through the **Message Box.** Below are some commonly displayed warnings and errors.

Warning or Error	Probable Cause
Insufficient Terrain Information has been defined	Total horizontal length of the roadside slope is less than the width of the sign face
A combination of Large Sign Area and/or High Clearance Height has resulted in no solution being found for the stated Wind Region and Exposure settings	This error generally occurs on signs with large areas and heights, especially with strut signs - not always literal
Only 1 Front Sign is allowed for Truss Designs!	The user attempting to view a truss structure for two or more sign faces
Only Normal Concrete Footings are allowed for Truss Designs!	The user attempting to use screw footings on a truss support
Post 2 Clearance is "x" and needs to be at least 1500	The minimum post clearance is required for the safety and courtesy of pedestrian traffic. Post Clearance is calculated by subtracting 175 mm from the road height
Post 1 Clearance is "x" and needs to be at least 2100	As above, however greater clearance is required for slip-base signs
Post 2 Clearance is "x" and needs to be less than 10000.	The maximum post clearance for CHS and RHS posts is 10 m
Post Spacing must be greater than 1500 mm for Slip Base Supports – signs less than 1700 mm that require two posts may be excluded	Post spacing is critical for only slip-base signs. Note that for some situations it may not be possible to find a suitable design that can be built inside a clear zone
Post Spacing is too wide for the Smallest Signs Width	For a sign panel, the minimum overhang beyond the supports is 100 mm
Post 2 Clearance is "x" and needs to be less than 3250	The maximum post clearance for truss posts is 3250 mm
Design Eccentricity too Large (Difference between Tallest and Shortest Posts)	In a strut support sign, the difference in length of any two posts cannot be more than 500 mm
Cross section data too complicated to analyse	When the roadside cross section has both cut and fill slopes, this message appears in the clear zone window
Sign Panel Height > Twice the Clearance height. A Slip Base Design is not possible for this situation!	For slip-base designs, the clearance height must be more than half the sign panel height
Sign is too wide to be handled by this program!	Sign width must be less than, or equal to 9600 mm.



# 8.1.1 Introducing Main Window, (continued)

Examples of Warnings	The following illustrates typical examples of warnings.
	A combination of Large Sign Area and/or High Clearance Height has resulted in no solution being found for the stated Wind Region and Exposure settings!
	Invalid input value
	The minimum value of Sign Panel Height is 1000. The value you entered is replaced with the minimum value of 1000.
	ОК
	Se Clear Zone
	Road Curvature (Radius (m)) 🔽 Curved?
	2704
	Speed Environment (km/h) 80km/h
	Average Anual Daily Traffic (Vehicles) 751 - 1500 vehicles
	Clear zone for level terrain = -0.001m
	Curve too sharp for speed
	Back to Main

End of Warnings and Errors



# **KEYBOARD SHORTCUTS**



# HORTCUT KEYS =

### Shortcut Functions

Shortcut keys for commands are described in the table below:

То	Press
Open a new file	<ctrl>+<n></n></ctrl>
Open an existing file	<ctrl>+<o></o></ctrl>
Close the current file	<ctrl>+<c></c></ctrl>
Save the current file	<ctrl>+<s></s></ctrl>
Save the current file as	<ctrl>+<a></a></ctrl>
Delete the current file	<ctrl>+<b></b></ctrl>
Exit TraSiS	<ctrl>+<f4></f4></ctrl>
Print Design Form	<ctrl>+<d></d></ctrl>
Print Order Form	<ctrl>+<r></r></ctrl>
Print Summary Form	<ctrl>+<m></m></ctrl>
Edit Sign Details	<ctrl>+<l></l></ctrl>
Edit Environmental Conditions	<ctrl>+<e></e></ctrl>
Edit Stiffener Spacing	<ctrl>+<t></t></ctrl>
Edit Clear Zone	<ctrl>+<z></z></ctrl>
Default Values	<ctrl>+<v></v></ctrl>
Obtain Help	<ctrl>+<g></g></ctrl>

End of Keyboard Shortcuts


# **GLOSSARY**



# 

Application A computer program.. Click The act of shortly pressing the left mouse button. In Windows, this is the standard way of selecting an object. For example, to select something, the pointer is moved over the object and then clicked. Clipboard A temporary storage space used to move text (or images) from one application to another, using the Copy, Cut, and Paste commands. For example, the clipboard can be used to copy text from a word processor document and insert (paste) it into Station's handover notes. **Double-click** The act of momentarily pressing the left mouse button two times. In Windows, this is the standard way of selecting an object and performing an action. For example, to display the details about a particular alphanumeric, the pointer is moved over the alphanumeric and then double-clicked - this displays a window that shows the object's details. A standard technique of moving or resizing an object. For example, to drag an Drag object to a new location, the following procedure is followed: Move the pointer over the object to drag. Click and hold down the mouse button. Move the pointer to the new location and release the mouse button.

- **Status Line** The line below the display, which shows various types of status information.

End of Glossary



**INDEX** 



# NDEX

# A

AADT · 55 acronyms, used · 11 application · See Glossary

# В

Barrier Distance · 55

## С

Clear Zone Concept · 53 Clearance Above Road Edge · 37 click · See Glossary clipboard · See Glossary copy · See Glossary cut · See Glossary

#### D

Data field Adjustment · 35 Database · 49 Depth of Hole/Length of Screw · 42 Design Form · 61 Diameter of Hole/Screw · 42 Distance From Carriageway · 37 Document List · 12 double-click · See Glossary drag · See Glossary

# E

Edit Menu · 20

#### F

File Menu · 18

#### Н

Help Menu · 21

# I

Installing TraSiS · 15

# J

Job Details · 25 Job Management · 50

# K

keyboard shortcuts to commands · 71

#### Μ

Menu Bar · 17

# 0

Order Form · 64

#### Ρ

paste · See Glossary Post Dimensions · 39 Post Grade · 40 Post Lengths · 38 Post Spacing · 36 Post Wall Thickness · 39 Printing Forms · 59

# R

Renaming · 49 Road Curvature · 55 Roadside Slope Details · 26

# S

Shortcut keys · 71 shortcuts, keyboard · 71 Sign Panels · 27 Slip Base · 31

#### Traffic Sign Structures (TraSiS) User Manual



Soil Description  $\cdot$ Soil Type  $\cdot$ Speed Environment  $\cdot$ Status Bar  $\cdot$ status line  $\cdot$  See Glossry Stiffener Spacing Options  $\cdot$ Stiffener Type  $\cdot$ Storage Commands  $\cdot$ Stub Length  $\cdot$ Summary Form  $\cdot$ Support Details  $\cdot$ 

## Т

Terrain · 56 TypographicalConventions · 10

# W

Warnings and Errors  $\cdot$ Warnings and/or Errors  $\cdot$ warnings or errors  $\cdot$ Wind Region  $\cdot$ 

End of Index