



VicRoads CADD Configuration Notes

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Update Record

| Rev. No. Date Released | Section Updated | Description of Revision |
|-----------------------------------|------------------------|---|
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| Ver. 1.01 January 2011 | Sections 2.2 / 2.3 | Amendment of default directory related to PowerDraft V8i |
| Ver. 2.0 April 2012 | Various sections | Note on PowerDraft failure to run certain VicRoads' MDLs. Substantial modifications to accommodate the introduction of MicroStation FULL levelnames. |
| Ver. 3.0 August 2014 | Various sections | Changes to environment installation processes, removal of 'start-up' icon processes, consolidation to 'FULL Levelname' environment and provision of 'VicRoads CADD Help'. |
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VicRoads CADD Configuration

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1 General

1.1 VicRoads CADD Configuration - Overview

VicRoads provides all of their available **MicroStation** and **InRoads** configuration files to external contractors 'free of charge'.

The **MicroStation** workspace will also function with **PowerDraft** but most of the VicRoads MDLs (Batik, F2S, Grid, Nose, Slope, TP, TRAVLINE, XFilllet, XPS) will not. All the VBA's and menus are OK.

After installation external users will have access to the same interface and menu choices as VicRoads internal staff.

The purpose of providing our environment is to assist external organizations to provide DGN information back to VicRoads that complies with our published CAD standards.

1.2 Access to Files

Access to required files within the VicRoads' secure FTP facility is currently via WinSCP 'freeware'.

Refer to **VicRoads_SFTP_Access.pdf**

Currently 'zip files' or a MicroSoft Windows installer (.msi) can be found within:

.../pub/VicRoads_CADD_Environments/
and should be downloaded, as required, to a local area on your PC.

In future we intend to make files available directly from the VicRoads website to simplify access.

1.3 WorkSpace files

'Installation files' will be found below **.../VicRoads_CADD_WorkSpace/**

Note:

Refer to Section 3 for information and installation instructions.

1.5 Update History and Notification

There will be no direct contact with external users as changes occur to our configuration setup. Changes will be listed in the '**Update_History.rtf**' file within the FTP directory hierarchy.

1.6 Quick Installation

Users are able to complete a quick installation of the VicRoads CADD environment by simply running the provided installer (.msi) mentioned in 1.2 above.

Our workspace will be installed and a start-up icon will be available under Start Menu > All Programs > **VicRoads MicroStation CADD Environment**.

This start-up icon includes Project/Interface/User switches:

```
"...\MicroStation\ustation.exe" -wuvicroads_FULL_levelnames -wuvicroads_FULL_lvnames -wpVicRoads_LVNames
```

2 Bentley Default 'WorkSpace' installation directories

2.1 Overview

The following information is supplied as general information only as a guide to the location of workspace directory structures when a standard installation of Bentley software is completed to 'default' directory locations.

2.2 Windows XP

MicroStation / PowerDraft - XM

c:\Documents and Settings\All Users\Application Data\Bentley\WorkSpace\

MicroStation / PowerDraft - V8i

c:\Documents and Settings\All Users\Application Data\Bentley\MicroStation V8i (SELECTseries)\WorkSpace\

Power InRoads - V8i

c:\Documents and Settings\All Users\Application Data\Bentley\PowerInRoads V8i\WorkSpace\

2.3 Windows VISTA / Windows 7

MicroStation / PowerDraft - XM

c:\ProgramData\Bentley\WorkSpace\

MicroStation / PowerDraft - V8i

c:\ProgramData\Bentley\MicroStation V8i (SELECTseries)\WorkSpace\

Power InRoads - V8i

c:\ProgramData\Bentley\PowerInRoads V8i\WorkSpace\

3 VicRoads Workspace

3.1 Overview

The VicRoads workspace now consists of a single interface (***vicroads_FULL_lvnames***) and a single project structure (***VicRoads_LVNames***) containing a variety of files that includes:

- Cell libraries, seed files, resource files, MDLs, VBAs
- Plan Enhancement programs and menus
- Printing setup for PDF
- VicRoads 'survey symbols' tabulation in DGN format.
- Mapping files (.csv) to assist in migration of existing DGN data between various levelname and element standards.

3.2 Workspace Installation

After downloading the required installation files as defined in **Section 1.4** you can utilise the automatic Microsoft windows installer (*.msi) or manually copy the contents of the zip file to required destinations.

3.2.1 MicroSoft Windows installer (.msi)

The .msi installer is able to handle and successfully install our environment on the following products:

- Bentley View XM Edition
- Bentley View V8i (SELECTseries 2, 3)
- MicroStation XM Edition
- MicroStation V8i (SELECTseries 1, 2, 3)
- MicroStation PowerDraft XM Edition
- MicroStation PowerDraft V8i (SELECTseries 2)
- Power InRoads V8i (SELECTseries 1, 2, 3)

3.2.2 'Zip file'

The zip file provides easier access to the workspace structure for those external operations using network drives or other arrangements. CADD managers will make their own changes accordingly.

3.3 VicRoads Interface

There is now a single interface that provides access to all VicRoads programs, CADD menus and PDF printing menus (**Section 6**) using MicroStation DGNLIBs and barmenu_vicroads.ma.

The **MicroStation** interface location is located accordingly:

....\WorkSpace \Interfaces**MicroStation**\vicroads_FULL_lvnames\

Note:

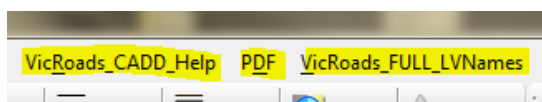
The location of interface files will vary for other Bentley applications but use of the windows 'installer' (.msi) should automatically resolve those locations.

i.e.

....\WorkSpace\Interfaces**PowerDraft**\vicroads_FULL_lvnames\

....\WorkSpace\Interfaces**PowerInRoads**\vicroads_ FULL_lvnames\

When the interface files are correctly loaded the following VicRoads options will be available on the MicroStation menu bar.



3.4 'VicRoads_LVNames' Project

The 'VicRoads_LVNames' project directory, including all files and sub-directories should be located below ...\\WorkSpace\\Projects\\VicRoads_LVNames\\

Project behaviour is controlled by:

....\\WorkSpace\\Projects\\ VicRoads_LVNames.pcf

3.5 MicroStation Cell Library Files

Cell library directory:

...\\WorkSpace\\Projects\\VicRoads_LVNames**cell_FULL_LVNames**

3.6 MicroStation Resource Files

Display of custom linestyles and text fonts is controlled by a variety of MicroStation resource files listed below.

Contractors are required to use these resource files for work submitted back to VicRoads.

vroads.rsc: Resource file for use with MicroStation version 5, and above.

Enables display of survey symbols that utilised 'text symbol fonts' and text fonts used in production of drawings created to VicRoads standards.

vr_lines_v8.rsc: Resource file for use with MicroStation to enable display of VicRoads custom linestyles excluding line marking.

vr_lmark_v8.rsc: Resource file for use with MicroStation to enable display of VicRoads custom linestyles that relate to line marking.

zttpsfnt.rsc: Assorted text fonts assembled and delivered over a number of years.

3.7 MicroStation Seed Files

At present VicRoads is maintaining separate seed files for AMG/MGA and Local datums. This facilitates, when required, the ability to save MicroStation v8 format DGNs back to the v7 format in respect of correct global origins and working units applicable to 'pre v8 format DGNs'.

Ultimately VicRoads will be adopting two seed files only, one for 2d and the other for 3d.

VicRoads seed files are created with correct Global Origins, working units and the VicRoads colour table (VICROADS.TBL) attached.

These seed files are located in:

...\\WorkSpace\\Projects\\VicRoads_LVNames**seed_FULL_LVNames**
vr_amg2d_FULL_LVNames.dgn AMG/MGA Datum 2D seed file.
vr_amg3d_FULL_LVNames.dgn AMG/MGA Datum 3D seed file.
vr_loc2d_FULL_LVNames.dgn Local Datum 2D seed file.
vr_loc3d_FULL_LVNames.dgn Local Datum 3D seed file.

3.8 Survey Symbols

VicRoads specified surveys now use 'cells' to display symbols within DGNs but there will be legacy data around that also displays symbols using 'text symbol fonts'.

A complete display of VicRoads survey symbols, including superseded 'text symbol fonts' is provided in:

.....\WorkSpace\Projects\VicRoads_LVNames\dgn\
VicRoads_Survey_Symbols_and_Lines-FULL_LEVELNAMES.dgn

Alpha and numeric codes with accompanying feature code descriptions are included for each symbol.

3.9 InRoads Configuration Files

All required InRoads configuration files are also available within the downloaded workspace structure.

Once installed on PC various sub-directories and files will be found.

i.e.

....\WorkSpace\Projects\ VicRoads_LVNames**InRoads**

\data

Various superelevation, template, roadway control files

\xin

Master InRoads preference file (**VR_Civil_FULL_LevelNames.xin**).

The XIN is compatible with both XM and V8i (SS2).

\xml

Various report formats and style sheets

4 Starting MicroStation

4.1 Icon Start-Up

If our workspace has been installed using the provided Windows installer (.msi) process a start-up icon/shortcut will be available under Start Menu > All Programs > **VicRoads MicroStation CADD Environment**.

This 'shortcut' includes Project/Interface/User switches:

```
"...\MicroStation\ustation.exe" -wuvicroads_FULL_levelnames -wivicroads_FULL_lvnames -wpVicRoads_LVNames
```

4.2 Manual Start-Up

For PCs with multiple users we recommended that you create a new MicroStation user (.ucf) for VicRoads tasks which should also avoid any conflict with your normal user set-up.

1. Using Windows Explorer go to ...\Workspace\users\

Manually create a new .ucf file using the contents of vicroads_FULL_levelnames.ucf
Suggested naming: 'userID'_full_lvnames.ucf

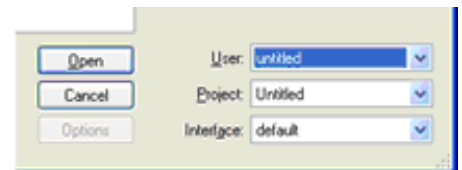
Note:

vicroads_FULL_levelnames.ucf only defines the user interface and project.

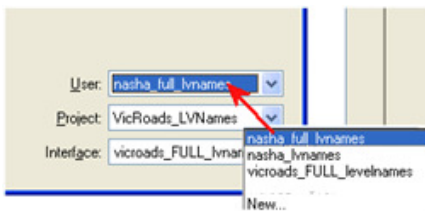
2. Start MicroStation/PowerDraft/etc

MicroStation Manager dialogue box appears

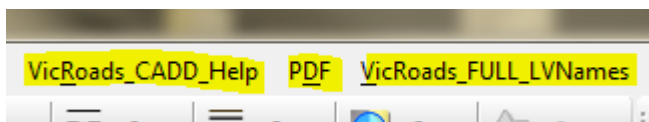
Select appropriate user created in Step 1 above.



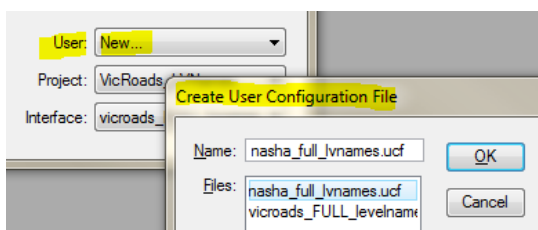
3. Project and interface options will now be correctly defined - open required DGN.



After starting your CADD session you should see the following items included on the MicroStation menu line layout:



Note: Users can also create a new 'user' via the 'MicroStation Manager' utilising **User: New...** etc



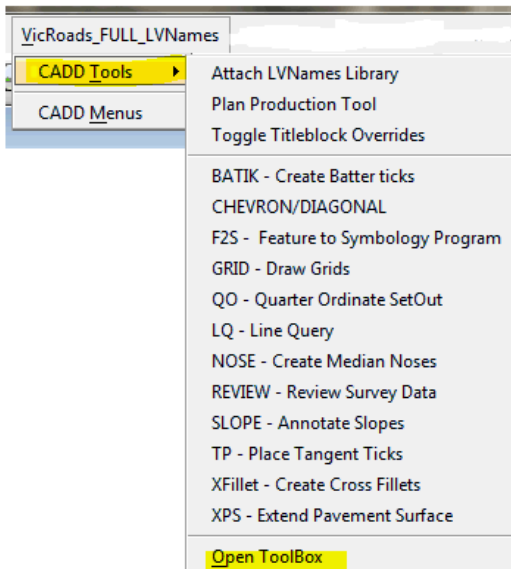
5 VicRoads Programs and Menus

5.1 Overview

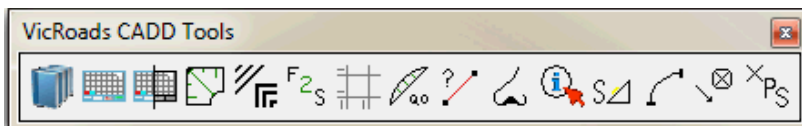
Working within the VicRoads 'workspace' provides easy access to all the VicRoads **CADD Tools**, **CADD Menus**, **VicRoads CADD Help** and **PDF** creation options. The following sections will show options available.

5.2 CADD Tools

Access all **CADD Tools** via the MicroStation menu bar below '**VicRoads_FULL_LVNames**':



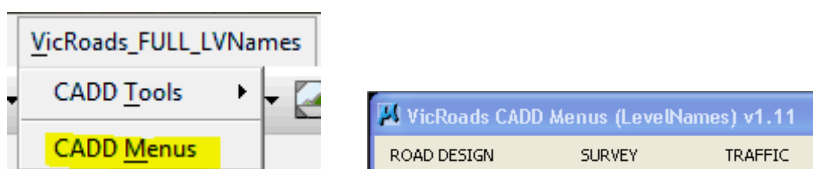
You are also able to open a single '**ToolBox**' by choosing **Open ToolBox** from the menu,



Documentation covering use of all programs is available in PDF format and accessible from within MicroStation via the **VicRoads_CADD_Help**.

5.3 CADD Menus

Choosing **VicRoads_FULL_LVNames > CADD Menus** will start a '**barmenu**' dialog:



Further menus are accessed from this dialogue.

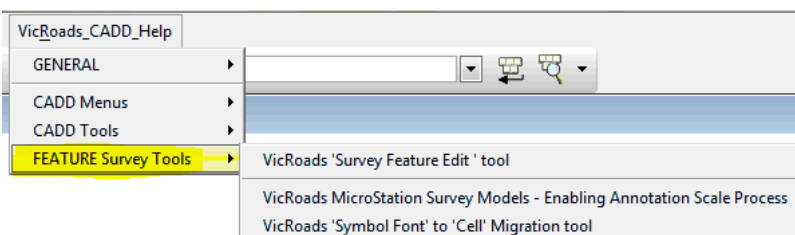
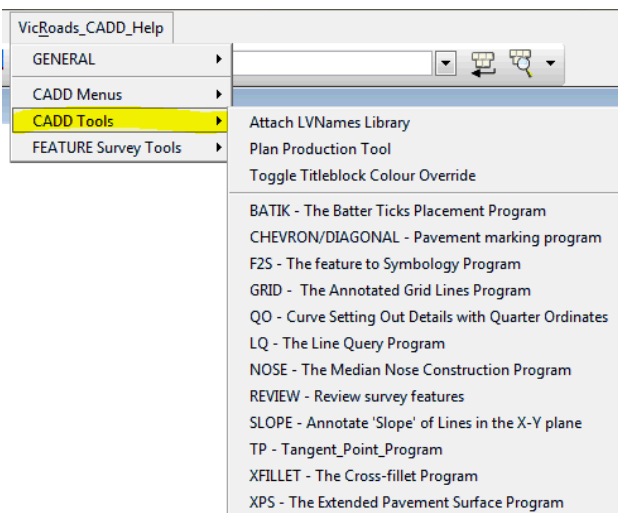
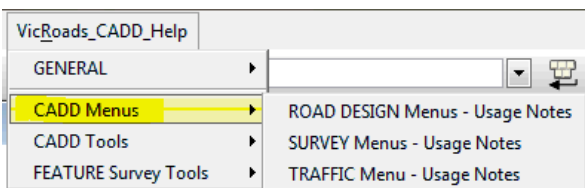
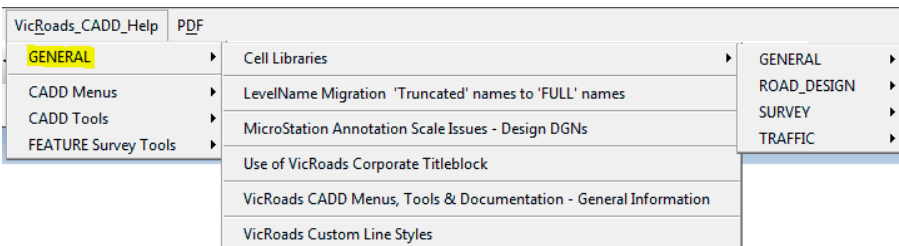
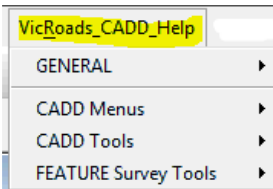
Documentation covering use of menus is also available in PDF format and accessible from within MicroStation via the **VicRoads_CADD_Help**.

5.4 VicRoads_CADD_Help

'VicRoads_CADD_Help' provides easy access to a variety of the VicRoads CADD program and process documentation directly within an active CADD session.

These options are controlled by interface file 'vr_cadd_help_menu.dgnlib'

See choices now available below:

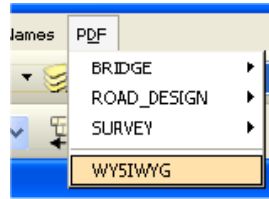


6 PDF Creation/Printing

6.1 Overview

Loading the **VicRoads_FULL_LVNames** 'interface' will provide easy access to the VicRoads predefined set-up for creating PDFs that will conform to VicRoads printed requirements.

These options are controlled by interface file 'vicroads_printing_pdf.dgnlib'



Choosing **PDF** from MicroStation menu line will provide a selection of PDF printing/creation options.

Each choice will load required pen tables that 'resymbolise' graphics created to VicRoads standards.

6.2 Notes on Printing Set-Up

Final printed results are controlled by a combination of print drivers and pen tables.

Supplied print drivers contain definition of MicroStation linestyles 1-7 in respect to strokes and gaps. Printed requirements vary between areas and it is important that correct print/pdf driver is selected.

Pen tables contain controls for printed thicknesses via entries in the 'Map Pen Weights...' section. Values below 1mm have been chosen after testing to produce required thicknesses.

i.e. 0.18mm, 0.25mm, 0.35mm, 0.50mm, 0.70mm

6.3 PDF Set-Up via Menu Selection

Following information explains the various printer driver / pen table combinations that get set when **PDF** printing choices are selected.

Bridge

BRDGWTS.TBL
Bridge_PDF.pltcfg / BRDGWTS.TBL

Road Design

MONO1.TBL
Standard_VR_PDF.pltcfg \ mono1.tbl

MSCOL2.tbl
Standard_VR_PDF.pltcfg \ mscol2.tbl

Survey

Cadastral
Survey_Cadastral_PDF.pltcfg \ Survey_Cadastral.tbl

Cadastral A1 to A3
Survey_Cadastral_PDF.pltcfg \ Survey_Cadastral_A1_to_A3.tbl

WYSIWYG

Standard_VR_PDF.pltcfg \ std.tbl

7 VicRoads CADD HelpDesk

VicRoads provides a HelpDesk service to internal staff for all matters that relate to support and training.

Enquiries of a general nature relating to the provision of the VicRoads CADD environment by external users can be directed to technicalconsulting@roads.vic.gov.au with email subject line to include **'VicRoads CADD Environment Enquiry – Design Systems'**