SCIRT Rebuilding Infrastructure

LEARNING LEGACY

Lessons learned from one of New Zealand's most challenging civil engineering projects: rebuilding the earthquake damaged pipes, roads, bridges and retaining walls in the city of Christchurch 2011 - 2016.

SCIRT AutoCAD Customisation Manual – Overview Tools Summary

Story: AutoCAD and 12d Design Tools

Theme: Design

A manual which informs SCIRT AutoCAD users of all tools, utilities, keyboard shortcuts, and tips available within the SCIRT CAD System.

This document has been provided as an example of a tool that might be useful for other organisations undertaking complex disaster recovery or infrastructure rebuild programmes.

For more information about this document, visit www.scirtlearninglegacy.org.nz

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SCIRT AutoCAD Customisation Manual
Overview / Tools Summary

10001-SC-GE-RP-0003

Revision: C

Date: October 2013

Contents

Revision History

Revision	Date	Name	Brief Description of Change
A	27/08/12	B. Stewart	Initial submission
B	10/09/13	B. Stewart	Pre-sets added 15-07-13 to 19-07-13 – Tools added Bench Mark, Patch Repair, WW Plan Generator, Street Name Insert. Section 4 updated with more tools. Section 5 added
C	18/09/13	B. Stewart	Document name modified Manual split into three manuals Document revised in most sections

1. Introduction

1.1. Purpose of Tools

The purpose of this manual is to inform AutoCAD users of all tools, utilities, keyboard shortcuts, and tips available within the SCIRT CAD System.

Automation of key tasks is vital to a more productive, efficient, consistent drawing office. The SCIRT tools created will save minutes, hours and even days of work for every drafter.

It is strongly recommended that all drafters make themselves aware of all the SCIRT CAD tools available regardless of whether they have their own specific ways of operating.

A 70 – 90% usage of tools SCIRT wide is trying to be achieved. The tools provided should make a big difference to the drafting performance as a team and also give users the knowledge of how more efficient AutoCAD can be with a bit of customisation.

The first section of this manual gives users information on the current drawing status and explains what AutoCAD variables and settings are pre-set when open every drawing. It's important to recognise these pre-sets so when settings keep resetting you will understand why.

1.2. Loading / Reloading the SCIRT menus

There are 3 menu SCIRT menu reload options.

General and BETA / Developer (specific users only)

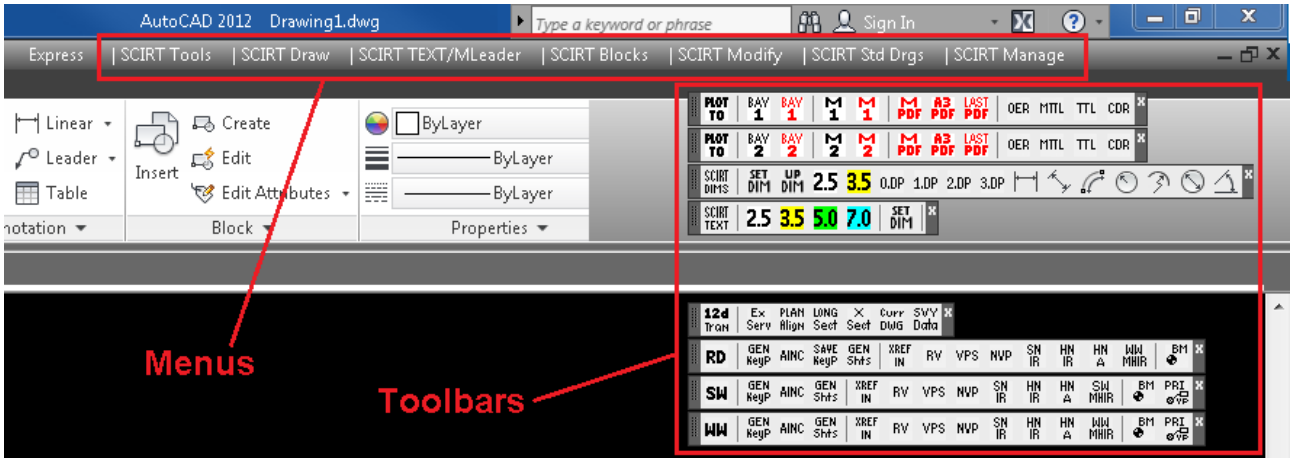
Type: SCIRTMENU → Loads SCIRT General user menus

Type: SCIRTMENUBETA → Loads SCIRT BETA Test user menus.

Type: SCIRTMENUDEVELOPER → Loads SCIRT DEVELOPER user menus.

Commands: SCIRTMENUBETA and SCIRTMENUDEVELOPER do not appear to general users.

These Menus and Toolbars will appear as shown below:



1.3. STATUS Bar Display

The Customised Status Line now shows current settings.

Layer, DIM Style, Font, Text Size and MLeader Style for quick visual reference as typically AutoCAD doesn't show ALL these on the screen in one hit

1.4. Start-up / Welcome AutoCAD Screen

Press F2 when AutoCAD has started and information about the current drawing is displayed for reference. SCIRT CAD does a number of checks, audits, resets settings & printer configurations and turns off the Watermark and Wipeout Frames.

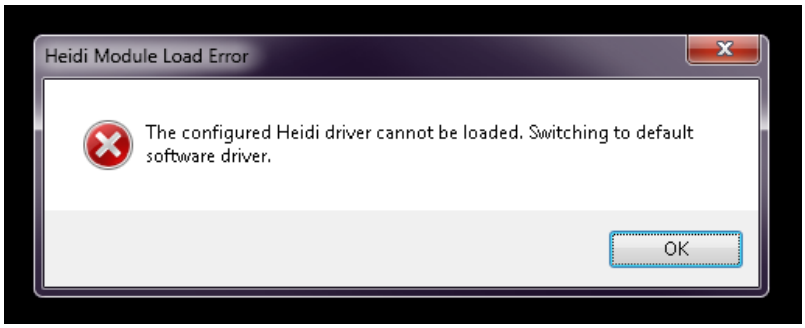
This maintains consistency across SCIRT and ensures our final deliverables look similar.

```
AutoCAD menu utilities
DWG Tabs ARX Loaded
*****************************************
**                                     **
**  Welcome to the SCIRT CAD Environment  **
**                                     **
*****************************************
*************************************************************************
**                                                                     **
**  SCIRT CAD Deployment Privileges                                    **
**                                                                     **
**  User:  STEWARTB (Brent Stewart)   - has DEVELOPER rights           **
**  User:  LOCKEN   (Neil Locke)      - has DEVELOPER rights           **
**                                                                     **
**  User:  SUTTONS  (Stephen Sutton)  - has BETA-Test rights           **
**  User:  SIMPSONR (Richard Simpson) - has BETA-Test rights           **
**  User:  SENJ     (Jeejay Sen)      - has BETA-Test rights           **
**  User:  WILTONG  (Grant Wilton)    - has BETA-Test rights           **
**  User:  FROWEING (Glen Frowein)    - has BETA-Test rights           **
**  User:  Lyttles  (Stephen Lyttle)  - has BETA-Test rights           **
**                                                                     **
**  All other users use Previous Deployed Tools                        **
**                                                                     **
*************************************************************************
Page setup "[APPLIES TO ALL PRINTER PAGE SETUPS]" already exists, redefining.
Plot Pagesetups Successfully loaded
DWG "10113-DE-WW-DG-1005.dwg" Logged
Drawing Number Audit 10113-DE-WW-DG-1005.dwg - No Errors
System Registry Screen Saver Settings updated
Loading Drawings from J:\
SCIRT Project: 10113
0 MLeaders RESET,  4 Already correct
<<Wipeout Frames are now OFF >>
Not For Construction Watermark - Turned OFF
Viewports Locked = 1
SCIRT Border Audit Passed
```

1.5. Troubleshooting

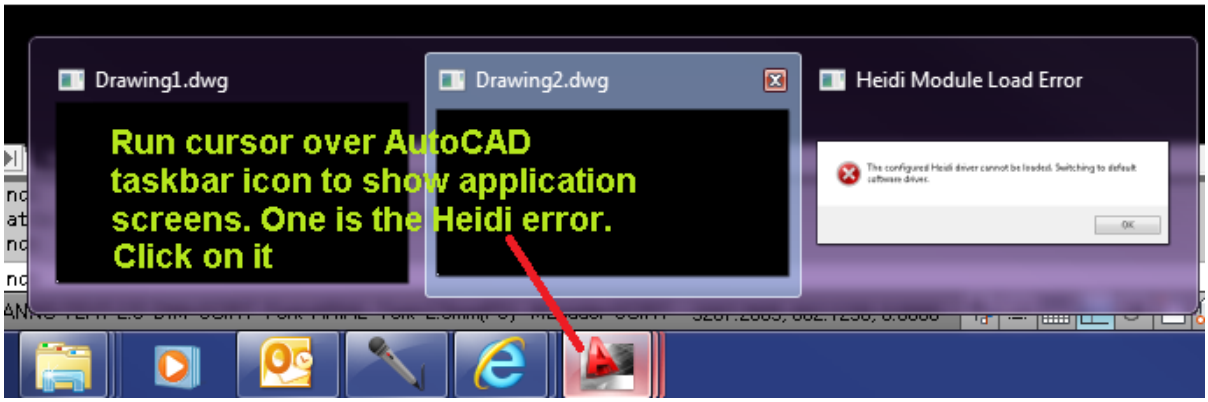
1.5.1. Heidi Graphics Driver Problems

A compatibility issue with the NVIDIA Quadro 2000 Graphics Card and AutoCAD causes a Heidi Graphics hardware accelerator error when returning from Window Lock screen.



Hint / Tip of getting AutoCAD back running without losing any unsaved drawings.

Run cursor over AutoCAD taskbar icon to show available application screens. Click on one with Heidi Error dialogue.



Click OK to continue using AutoCAD.

Save all open drawings now (no need to close them).

The AutoCAD Graphics Hardware driver now needs restarting for top performance.

Type at Command line: **hi** or **HI**

Now you know this tip, you shouldn't lose your precious CAD data and time.

1.5.2. Using QSAVE in a Viewport – An AutoCAD 2012 Bug only

Please NEVER run QSAVE when inside a Paperspace Viewport as this makes the **Crosshairs** disappear and you may need to restart CAD.

Try this first before restarting AutoCAD: Background Toggle tool.

Type at Command Line: **BGT** (Background Toggle). This changes background colour to White, run again and background changes back to Black. Crosshairs should re-appear.

When this step is complete, save all open drawings.

2. Pre-set AutoCAD and System settings to be Aware Of

Ever wondered why AutoCAD settings keep resetting themselves when opening each drawing?

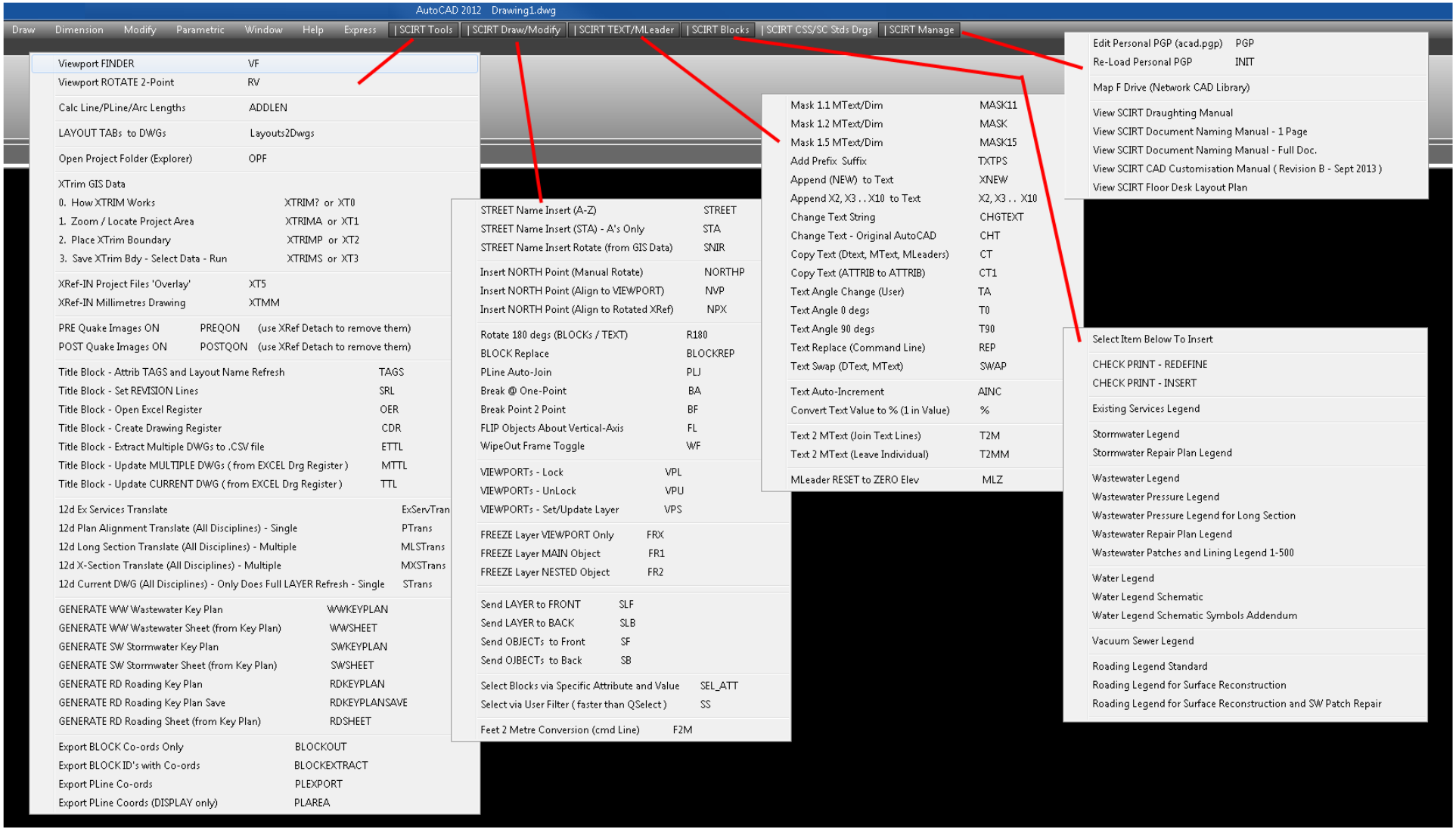
To maintain consistency between drawings and users, some system and AutoCAD variables must be reset to best practice settings. If users find some settings are causing performance difficulties, contact the CAD Manager.

The following AutoCAD System Variables have been pre-set upon opening every drawing:

System Variable	Description / Command usage
Options/Files – SupportPath	"P:\AutoCAD Support;" "F:\AutoCAD_Shared\Legends;" "F:\AutoCAD_Shared\Borders;" "\\strongerchch\public\Apps\Autodesk\Autocad\AutoCAD_Shared\support;" "\\strongerchch\public\Apps\Autodesk\Autocad\AutoCAD_Shared\borders;" "C:\Program Files\Autodesk\AutoCAD 2012 - English\support;" "C:\Program Files\Autodesk\AutoCAD 2012 - English\fonts;" "C:\Program Files\Autodesk\AutoCAD 2012 - English\help;" "C:\Program Files\Autodesk\AutoCAD 2012 - English\express;" "C:\Program Files\Autodesk\AutoCAD 2012 - English\support\color;" "G:\General\Shared XRefs Services;" "G:\General\Shared Images"
Options/Files – TemplateDwgPath	F:\AutoCAD_Shared\Template
Options/Files – PrinterConfigPath	\\strongerchch\public\Apps\Autodesk\Autocad\AutoCAD_Shared\plotters
Options/Files – PrinterStyleSheetPath	\\strongerchch\public\Apps\Autodesk\Autocad\AutoCAD_Shared\plotters\Plot Styles
Options/Files – Toolpalettepath	F:\AutoCAD_Shared\ToolPalette\Palettes
Options/Files – PlotLogFilePath	\\strongerchch\public\Apps\Autodesk\Autocad\AutoCAD_Shared\support\
Options/Files – AutoSavePath	C:\AutoCAD AutoSaves
MTEXTCOLUMN = 0	Set MText columns to NONE (was Dynamic)
MSLTSCALE = 1.0	Set Linetypes to Scale using annotation scale
CELTSCALE = 1.0	Set Current LTscale to 1.0
DIMASSOC = 2	Set DIMensions to be Associative
DIMZIN = 0	Turn Zero Suppression OFF (allows RTOS and ANGTOS to work)
MEASUREMENT = 1	Set 1 = Metric ISO version - acadiso.pat & acadiso.lin. (0 = Imperial)
HPASSOC = 1	Set Hatch Patterns to be Associative
ATTMODE = 1	Set Invisible attributes to stay invisible = Normal
ATTREQ = 0	Set ATTRIB block insert only, No prompting for information
LAYEREVALCTL = 0	Set Un-reconciled Layer notification to DISABLED
LAYERNOTIFY = 0	Set Un-reconciled Layer alert to OFF
LAYOUTREGENCTL = 2	Set Layout Regen to "Cache model tab and all layouts"

VISRETAIN = 0	Set Xref Layer control to CURRENT drawing
VIEWRES (cmd) = 10000	Set Fast Zoom Circle percent to 10000 (max 20000)
COORDS = 2	Set X,Y,Z Coords display, except Polar when entering numbers
MIRRTEXT = 0	Set Text Mirror to OFF
OBJECTISOLATIONMODE	If objects are Hidden or Isolated, display them by Default
ANNOAUTOSCALE = -4	Set Auto add annotation scale -4 = disable, 4 = enable
LUPREC = 3	Set Unit Precision
TRANSPARENCYDISPLAY = 1	Set Global Visual Transparency Display to ALWAYS ON
PLOTTRANSPARENCYOVERRIDE = 2	Set Plotting Transparency to ALWAYS ON
SHEETSETHIDE	Hide any Sheet Sets. SCIRT Plotting Tools control this
PROXYNOTICE = 0	Set Proxy object dialogue to NEVER appear
NAVBARDISPLAY = 0	Turn Nav Bar OFF
AUDITCTL = 0	Set Audit Reporting log to disabled
SAVETIME = 10	Set AutoSAVE Time to 10mins. Also turns AutoSAVE ON (if OFF)
ISAVEPERCENT = 50	Set Incremental save to 50 percent
ISAVEBAK = 1	Turn ON Save .BAK file
SAVEFIDELITY = 0	AutoCAD 2007 Compatibility turned OFF
LARGEOBJECTSUPPORT = 1	AutoCAD 2007 Compatibility turned OFF
UPDATETHUMBNAIL= 8	Only Layout Sheet now saved as Thumbnail
THUMBSIZE = 2	Set Save Thumbnail size to 256 x 256
PROJECTNAME = .	Set Project name to NONE
ACADLSPASDOC = 1	ACAD.LSP will load into every drawing
PLINEWID = 0	Set PLine width to 0.0 (encase someone left it set)
PLINEGEN = 1	Set PLine generation to ENABLE (for new PLines only)
SPLINESEGS = 16	Set PLine Spline segments to 16
LWDEFAULT	Set LineWeight "Default" to 0.18mm (required value -3 to 211)
WHIPARC = 1	Set Circles and Arcs as display SMOOTH (regardless of zoom)
3DConfig	Hardware Acceleration is Turn ON
SHEETSETHIDE (cmd)	Hide any Sheet Sets
STYLE (Font) = ARIAL	Reset ARIAL Font settings

3. SCIRT Tools Pull-down Menus - Summary



3.1. SCIRT Tools

The following tools have been added to the SCIRT Tools menu:

Tool / Utility	Short-cut Key-in	Description / Command usage
Viewport FINDER	VF	Locates selected viewport (in PSpace) and switches to Model space and zooms to same view.
Viewport ROTATE 2-Point	RV	Rotates viewport using to 2 points from Modelspace . Maintains viewport scale
SET REV Table Lines to Last Rev	SRL	Sets the revision outlines (lines) to the latest rev visible.
Calc Line/PLine Lengths	ADDLEN	Calculates a total for all selected Lines, Plines, Arcs. Returns value at command line.
LAYOUT TABs to DWGs	Layouts2Dwgs	Splits a multi-tab layout drawing into separate drawing files. Asks for Prefix and appends the Layout Tab Name. Make sure the Layout Tab names are named as per the final filename eg. Prefix say = A- and Layout name is 10511-DE-RW-DG-9000 . . . 9003 Output file: A-10511-DE-RW-9000 . . .9003.dwg Rename and delete A-
Open Project Folder (Explorer)	OPF	Open Current Drawing Project Folder
XTrim GIS Data		XTRIM selected GIS Data to user defined boundary.
0. How XTRIM Work	XTRIM? or XT0	Help information for all Steps 1 to 3.
1. Zoom / Locate Project Area	XTRIMA or XT1	Loads property boundaries and allows user to zoom to project area.
2. Place XTrim Boundary	XTRIMP or XT2	User to draw boundary around project area.
3. Save XTrim bdy - Select data – Run	XTRIMS or XT3	Saves current XTrim boundary, allows user to select data to trim and runs clip process File created is XTrim_Bdy_Coords_(DO_NOT_DELETE).dwg stored in .\Drawings\ folder
XRef-IN Project File 'Overlay'	XT5	Lists all XRef's available in current project folder to be XRef load using Overlay.
XRef-IN Millimetres Drawing	XTMM	Drawings are placed at 0,0,0 and WORLD UCS and on Layer XRefs
PRE Quake Image ON	PREQON	Loads PRE Quake Images from Grid layout – Type number only of cell to load
POST Quake Image ON	POSTQON	Loads POSR Quake Images from Grid layout – Type number only of cell to load To unload imagery use XRef Detach
Title Block – Attrib TAGS and Layout Name Refresh	TAGS	Replaces current Title Block Tags with latest version from SCIRT network. Transfers all data into refreshed Title Tags (Attributes). Updates the Layout Tab to SCIRT filename. Must be used whenever a SCIRT Border is modified by CAD Manager.

Title Block - Set REVISION Lines	SRL	Sets the REVISION Table outlines (lines) to the latest revision shown.
Title Block - Open Excel Register	OER	Open current project drawing register for editing
Title Block - Extract Multiple DWGs to .CSV file	ETTL	Extract current project select drawings to .CSV Excel file
Title Block - Update MULTIPLE DWGs (from EXCEL Drg Register)	MTTL	Update current project multiple drawings with data from drawing register
Title Block - Update CURRENT DWG (from EXCEL Drg Register)	TTL	Update current drawing with data from drawing register
12d Translators NOTE: ALL drawings will be created in the **..\Transfer\..** main folder for the PLAN GENERATORS to use. Move once GENERATORs complete		
12d Ex Services Translate	ExServTrans	Translate Ex services data exported from 12d to AutoCAD standards, symbols, layers. Make sure Survey data is Turned OFF before exporting from 12d
12d Plan Alignment Translate (All Disciplines) – Single	PTrans	Translate Plan Alignment exported from 12d to AutoCAD SCIRT standards. Works across ALL Disciplines Format: example x10860-DESIGN-PLAN-RD_Alignment.dwg
12d Long Section Translate (All Disciplines) – Multiple	MLSTrans	Translate Multiple Long Sections exported from 12d. String Name with First & Last Manholes creates unique LS filename. Format: example x10860-DESIGN-LS-WW-RICHARDSON TCE_WWMH-10860-7 to WWMH-17018.dwg
12d X-Section Translate (All Disciplines) - Multiple	MXSTrans	Translate Multiple Cross Sections exported from 12d. Street Name with Lowest & Highest section chainage creates unique XS filename. Format: example x10860-DESIGN-XS-RD_RICHARDSON TCE_Dist 0.00 to 40.00.dwg
12d Current DWG (All Disciplines) – Only Does Full LAYER Refresh - Single	STRANS	Translate current drawing exported from 12d. Only processes Layers (now) to current SCIRT standards
GENERATE NOTE: ALL drawings from 12d Translators (above) MUST be in the **..\Transfer\..** folder for these tools to work		
GENERATE WW Wastewater Key Plan	WWKEYPLAN	Creates WW Key Plan from Plan Alignment and LS Translations completed in tools above. These Files Must exist: ..\Drawings\Admin\LS-WW-START-END_Data.csv ..\Drawings\Transfer\xNNNNN-DESIGN-PLAN-WW_Alignment_IDs.dwg

GENERATE WW Wastewater Sheet (from Key Plan)	WWSHEET	Create Plan and Long Section drawings from WW Key Plan (tool above) User to selects XRefs to Overlay onto every drawing. These must be copied from the ..\Drawings\.. folder beforehand.
GENERATE SW Wastewater Key Plan	SWKEYPLAN	Creates SW Key Plan from Plan Alignment and LS Translations completed in tools above. These Files Must exist: ..\Drawings\Admin\LS-SW-START-END_Data.csv ..\Drawings\Transfer\xNNNNN-DESIGN-PLAN-SW_Alignment_IDs.dwg
GENERATE SW Wastewater Sheet (from Key Plan)	SWSHEET	Create Plan and Long Section drawings from SW Key Plan (tool above) User to selects XRefs to Overlay onto every drawing. These must be copied from the ..\Drawings\.. folder beforehand.
GENERATE RD Roading Key Plan	RDKEYPLAN	Creates RD Key Plan from Plan Alignment and LS Translations completed in tools above. These Files Must exist: ..\Drawings\Transfer\xNNNNN-DESIGN-LS-RD_RS RD01_Dist 0.00 to 116.54.dwg ..\Drawings\Transfer\xNNNNN-DESIGN-LS-RD_RS RD01_Dist 116.54 to 200.00.dwg etc….
GENERATE RD Roading Key Plan Save	RDKEYPLANSAVE	Save RD Key Plan as xNNNN-DESIGN-PLAN-RD_Alignment_Key_Plan_Sheets.dwg
GENERATE RD Roading Sheet (from Key Plan)	RDSHEET	Create Plan and Long Section drawings from RD Key Plan (tool above) User to selects XRefs to Overlay onto every drawing. These must be copied from the ..\Drawings\.. folder beforehand.
Export BLOCK Co-ords Only	BLOCKOUT	Exports X,Y co-ordinates only for selected blocks
Export BLOCK ID's with Co-ords	BLOCKEXTRACT	Exports Specific Block and TAG name only with ID and co-ords to .CSV FILE
Export PLine Co-ords	PLEXPORT	Exports PLine vertices to .CSV FILE
Export PLine Co-ords (DISPLAY only)	PLAREA	Displays selected polyline areas and total area (Closed PLines)

3.2. SCIRT Draw/Modify

The following tools are available from this menu:

Tool / Utility	Short-cut Key-in	Description / Command usage
STREET Name Insert (A-Z)	STREET	Enter A – Z and a list of Street Names appears for that letter to choose (double-click). Prompt asks: Is Street (M)ain or (S)ide street: <S>: Enter M or S (S is default) M = 7mm text, S = 5mm text
STREET Name Insert (STA) – A's Only	STA to STZ	Quick List of Street Names appears for that letter. Same prompt as above.
STREET Name Insert Rotate (from GIS Data)	SNIR	Insert Street Names into either Plan/LongSection or Layout Plan These XTrim Files must be present: xNNNNN-GIS-RoadNames-Full-Names.dwg - for Plan/LongSection xNNNNN-GIS-RoadNames-Abbv-Names.dwg - for Layout Plan
Insert NORTH Point (Manual Rotate)	NORTHP	Place North Symbol and allow user to rotate
Insert NORTH Point (Set from VIEWPORT)	NVP	Place North Symbol aligned to selected ViewPort. User to position.
Insert NORTH Point (Aligned to XRef)	NPX	Place North Symbol aligned to XRef. Useful when XRef has been rotated in drawing.
Rotate 180 degs (BLOCKs / TEXT)	R180	Rotate selected blocks and objects 180 degs exactly
BLOCK Replace	BLOCKREP	Replace EXISTING block with NEW block. CAREFUL !! (See CAD Tech lead first)
PLine Auto-Join	PLJ	PLine Auto-Join based on first LINE or PLINE selected. Adopts settings of first object picked
Break @ One Point	BA	Quick Break AT One point. Select object and pick a Break point.
Break Point 2 Point	BF	Quick Break Point to Point. Select object and pick start and end break points
FLIP Objects About Vertical Axis	FLV	Flip (Mirror) objects about a Y-Axis. Select objects and pick ONE point
WIPEOUT Frame Toggle	WF	WIPEOUT Frames ON/OFF Toggle
VIEWPORTs Lock	VPL	Viewport Quick LOCK (ALL)
VIEWPORTs UnLock	VPU	Viewport Quick UNLOCK (ALL)

VIEWPORTs Set/Update Layer	VPS	Viewport Quick change to layer G-ANNO-VPORT (ALL)
Freeze VIEWPORT Layer Only	FRX	Viewport Freeze layer – Works with XRefs
Freeze Layer MAIN Object	FR1	Freeze layer of MAIN object
Freeze Layer NESTED Object	FR2	Freeze layer of NESTED object
Send LAYER to BACK	SLB	Send Selected LAYER to Back
Send LAYER to FRONT	SLF	Send Selected LAYER to Front
Send OBJECTs to BACK	SB	Send selected objects to BACK
Send OBJECTs to FRONT	SF	Send selected objects to FRONT
Select Blocks via Specific Attribute and Value	SEL_ATT	Select blocks using ATTRIB tag with an existing Value
Select via User Filter (faster than QSelect)	SS	Get Selection Set from for chosen type: B or WB=Block C or WC=Colour E or WE=Entity LI or WLI=Linetype LA or WLA=Layer WCL=Window Current Layer LAP=Layer Picked
Feet 2 Metre Conversion (cmd Line)	F2M	Convert Ft or M. Enter Feet then Inches. Variables saved !mm and !m Practical Use: PLINE [pick start point] then type: !mm or !m as next co-ord. Can use ORTHO

3.3. SCIRT TEXT/MLeader

Tool / Utility	Short-cut Key-in	Description / Command usage
MASK 1.1 MText/DIM	MASK11	Mask MText or DIM with 1.1 Bounding box mask
MASK 1.2 MText/DIM	MASK	Mask MText or DIM with 1.2 Bounding box mask (Default)
MASK 1.5 MText/DIM	MASK15	Mask MText or DIM with 1.5 Bounding box mask
Add Prefix Suffix	TXTPS	Text Prefix and Suffix on any selected text
Append (NEW) to Text	XNEW	Append (NEW) to any selected text
Append X2, X3. . .X10 to Text	X2, X3, X4 . . . X10	Append X2, X3, X4 . . . or X10 to any selected text eg POWER x3
Change Text String	CHGTEXT	Find and replace text string pattern within MText or DText
Change Text – Original CAD	CHT	AutoCAD Original CHText command. For OLD Style Users
Copy Text (DText, MText, MLeaders)	CT	Copy one piece of text between DText, MText, MLeaders
Copy Text (ATTRIB to ATTRIB)	CT1	Copy one pierce of ATTRIB text to another ATTRIB piece of text
Text Angle Change (User)	REP	Change Text angle to user defined angle. 2 Points using NEArest required.
Text Angle 0 degs	SWAP	Change Text angle to 0 degs (horizontal orientation)
Text Angle 90 degs	TA	Change Text angle to 90 degs (vertical orientation)
Text Replace (Command-Line)	T0	Replace text string via command line
Text Swap (DText, MText, MLeader)	T90	Swap 2 pieces of Text or MText
Text Auto-Increment	AINC	Auto-Increment Text. eg WW2002 with increment of 1 = WW2003, WW2004
Convert Text Value to % (1 in Value)	%	Change Text to Percentage. eg 213 places text string 0.47% (1 in 213)
Text 2 MText (Join Text Lines)	T2M	DText to MText and combines multiple lines into one string
Text 2 MText (Leave Individual)	T2MM	DText to MText for selected text strings. No combining of text lines
MLeader RESET to ZERO Elev.	MLZ	RESETs MLeaders that appear BOLD. Sets the Z elevation to 0.000

3.4. SCIRT Blocks

Block / XRef	Short-cut Key-in	Description / Command usage
CHECK PRINT - REDEFINE		Update CHECK PRINT Stamp if visible
CHECK PRINT – INSERT		Insert CHECK PRINT Stamp at Cursor and allow user to position
CO-ORDINATE STAMP – INSERT		Insert Designer to Provide Coordinates Stamp
Existing Services Legend		
Stormwater Legend		
Stormwater Repair Plan Legend		Xref Attach Legend as stated
Wastewater Legend		Legends are located in F:\AutoCAD_Shared\Legends\ folder
Wastewater Pressure Legend		
Wastewater Pressure Legend or Long Section		
Wastewater Repair Plan Legend		
Wastewater Patches and Lining Legend 1-500		
Water Legend		
Water Legend Schematic		
Water Legend Schematic Symbols Addendum		
Vacuum Sewer Legend		
Roading Legend Standard		
Roading Legend for Surface Reconstruction		
Roading Legend for Surface Reconstruction and SW Patch Repair		

3.6. SCIRT CSS/SC Standard Drawings (under Development)

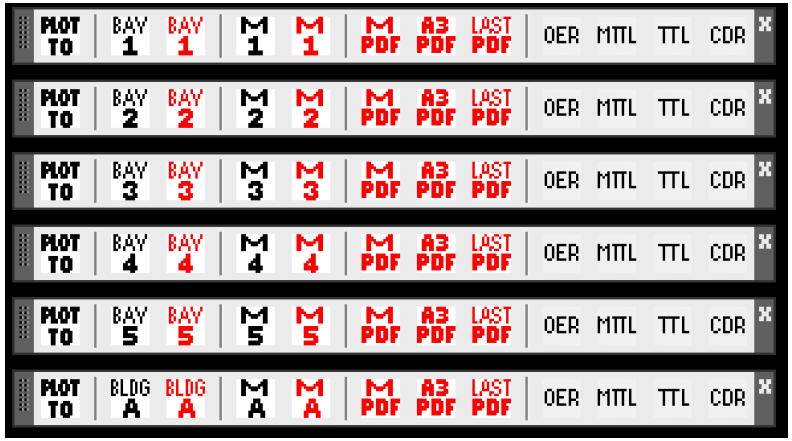
Tools / Utility	Short-cut Key-in	Description / Command usage
View CSS Details	PGP	Instant Load and Edit personal ACAD.PGP file
Under Development		

3.7. SCIRT Manage

Tools / Utility	Short-cut Key-in	Description / Command usage
Edit Personal PGP (acad.pgp)	PGP	Instant Load and Edit personal ACAD.PGP file
Re-Load Personal PGP	INIT	Instant Re-Load of ACAD.PGP file. Similar to REINIT
Map F Drive (Network CAD Library)	-	Maps Network F Drive access – will stay connected on re-login
View SCIRT Draughting Manual	-	Open Draughting Manual PDF
View SCIRT Document Naming Manual – 1 Page	-	Open Document Naming Manual - 1 Page PDF
View SCIRT Document Naming Manual – Full Doc	-	Open Document Naming Manual - Full Doc PDF
View SCIRT CAD Customisation manual	-	Open CAD Customisation Manual PDF
View SCIRT Floor Desk Layout Plan	-	Open SCIRT Floor Desk Layout PLAN PDF

4. SCIRT Toolbars – Summary

4.1. Printing and Titleblock Update



Bay #1 to 5 & A= A3 Current Drawing Black or Colour to Bay # Printer

M #1 to 5 & A = A3 Multi-Drawings Black or Colour to Bay # Printer

M PDF = A3 Multi-Drawing to PDF as individual sheet, SCIRT file naming

A3 PDF = A3 Current Drawing to SCIRT file naming convention

OER = Open Excel Register

MTTL = Multi-Title Block Update (from Excel Drawing Register)

TTL = Current Drawing Title Block Update (from Excel Drawing Register)

CDR = Create Drawing Register

4.2. MText and Set DIM Layer

2.5, 3.5, 5.0 & 7.0 = Create MText at chosen text height on G-ANNO-TEXT-[text height] layer

SET DIM = Set Layer to G-ANNO-DIM

4.3. Dimensions

SET DIM = Set Layer to G-ANNO-DIM

UP DIM = Reset DIM variables when things are not working

2.5 & 3.5 = Set DIM Text Height

0.DP, 1.DP, 2.DP & 3.DP = Set DIM Decimal Precision

DIM Types:

Horizontal, Aligned, Arc, Radius, Jogged, Diameter & Angular

all set DIM variables and Layer to G-ANNO-DIM

4.4. 12d to AutoCAD Translators

All 12d data to be placed in...\Drawings\Transfer\.. folder under a DATE Stamped (eg 2013-MM-DD) with description format.

Ex Serv = Translate Ex Service to SCIRT AutoCAD Standards and file naming format

PLAN Align = Translate PLAN Alignment to SCIRT AutoCAD Standards and file naming. Strips Manhole IDs to separate dwg file.

LONG Sect = Translate Long Sections, record Start / End Manholes or Roading Chainage to SCIRT AutoCAD Standards

X Sect = Translate Cross Sections, record Road Name, Start / End Section Chainage to SCIRT AutoCAD Standards.

Curr DWG = Run Full Layer refresh of current drawing. *(USE other Translators above before using this for better performance)*

SVY Data = Translate Survey Data to SCIRT AutoCAD Standards and file naming.

4.5. Discipline Specific Tools

RD (Roading), SW (Stormwater) and WW (Wastewater) all use similar tools. These are duplicated into each discipline because not all users use all the disciplines and keeps common tools available in one toolbar.

GEN KeyP = Generate Key Plan (SW, WW from .CSV and PLAN IDs), (RD from PLAN Alignment and Long Sections)

GEN Shts = Generate Plan and Long Section Sheets. Create drawings from Key Plan drawing.

XREF IN = XRef in Project xNNNNN drawings at 0,0,0 and WORLD UCS

RV = Rotate View

VPS = Viewport set to G-ANNO-VPORT layer

NVP = North Point from Viewport

SNIR = Street Name Insert Rotate

HNIR = House Number Insert Rotate

HNA = House Number Align

SWMHIR = SW Stormwater Manhole ID insert rotate

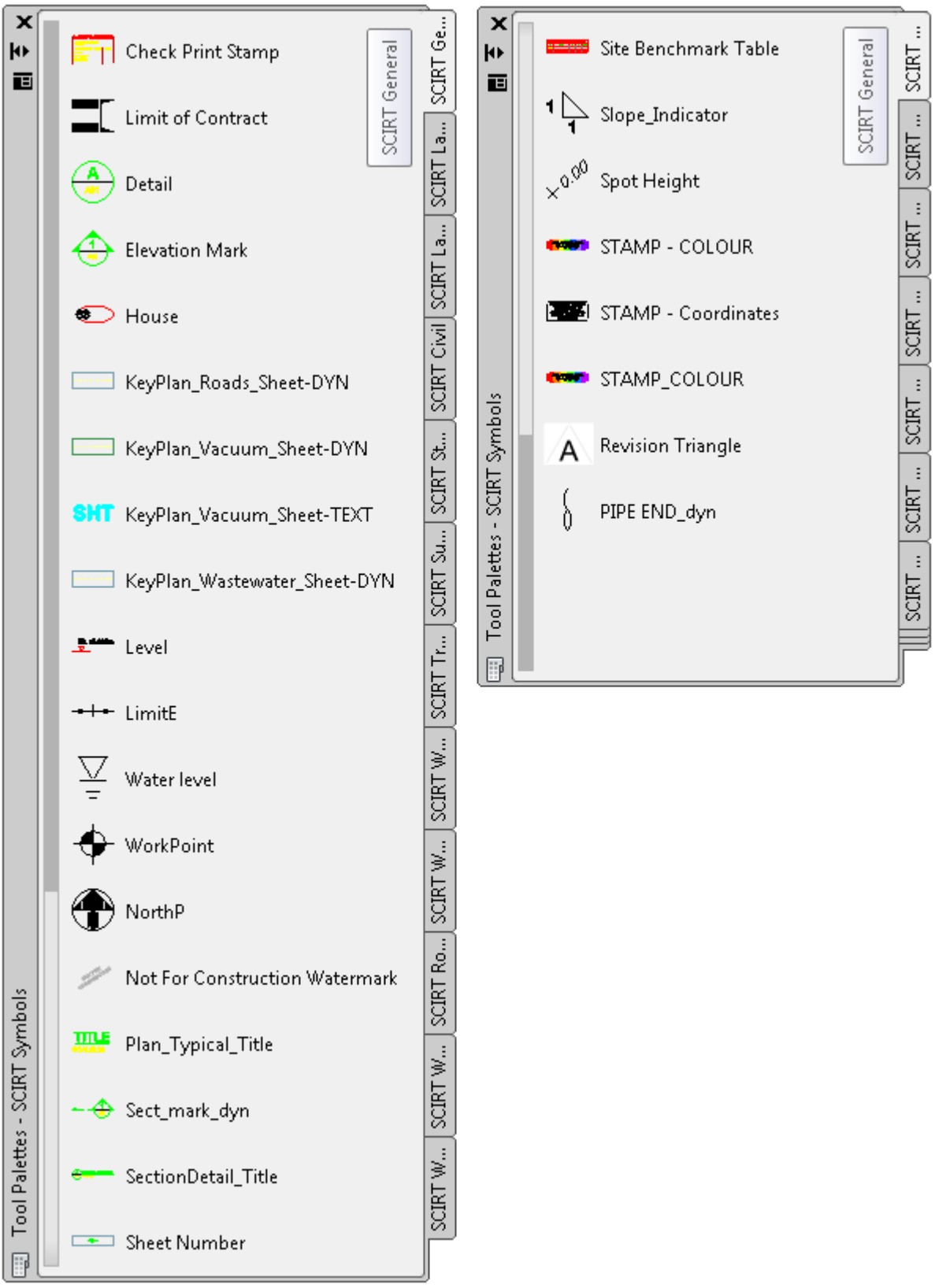
WWMHIR = WW Wastewater Manhole ID insert rotate

BM = Benchmark Insert

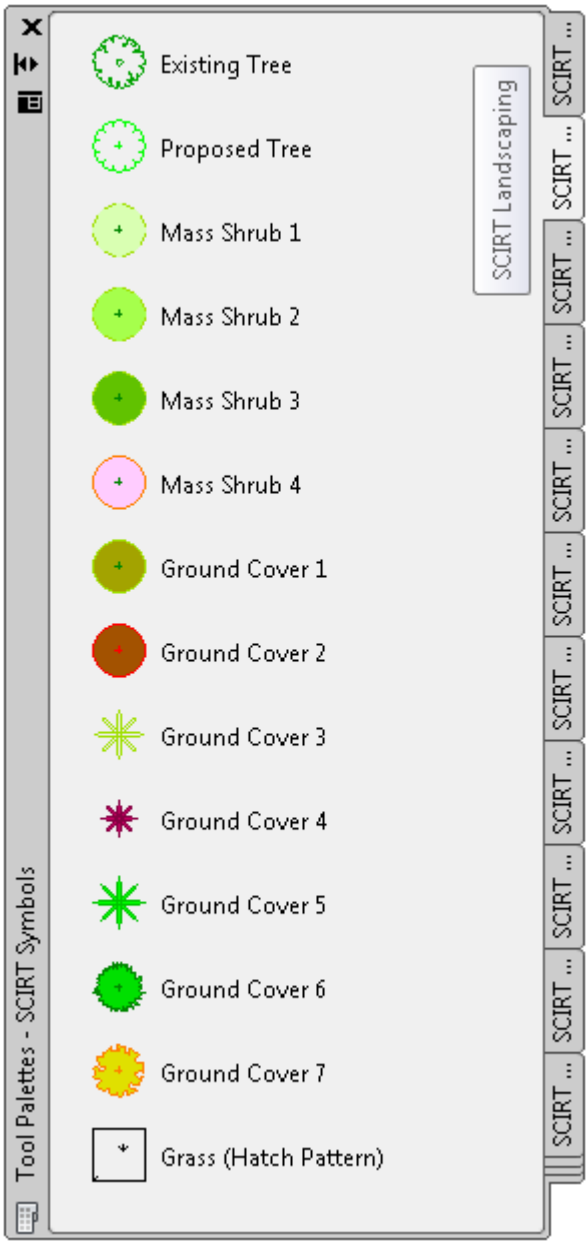
PRI = Patch Repair Insert

5. SCIRT Tool Palettes – Summary

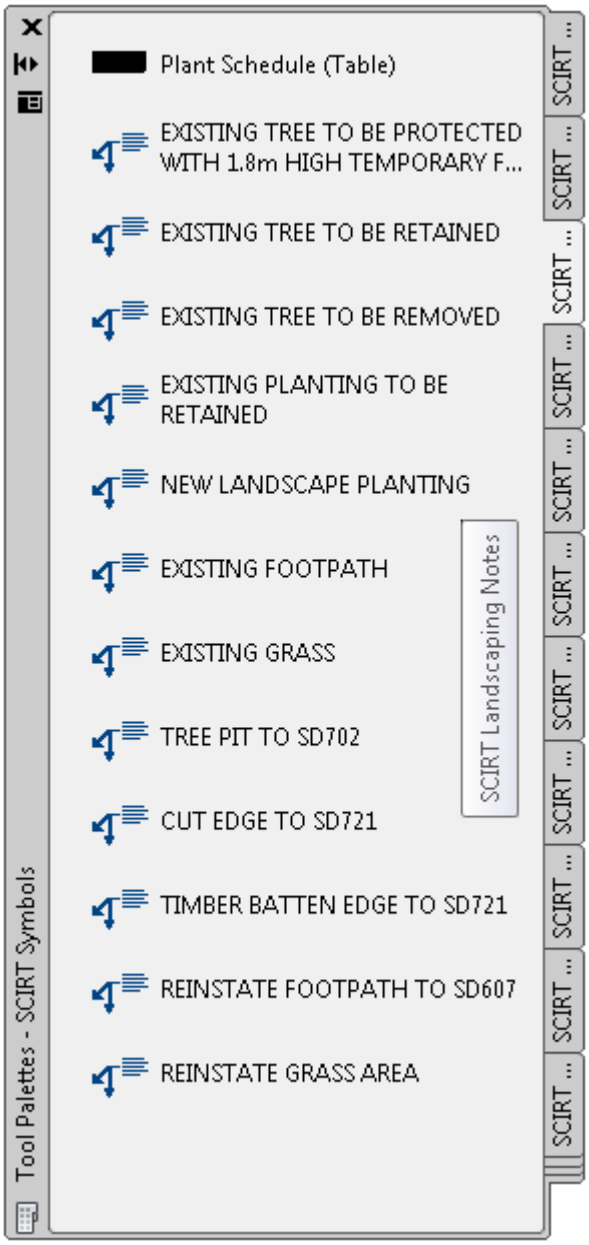
SCIRT General



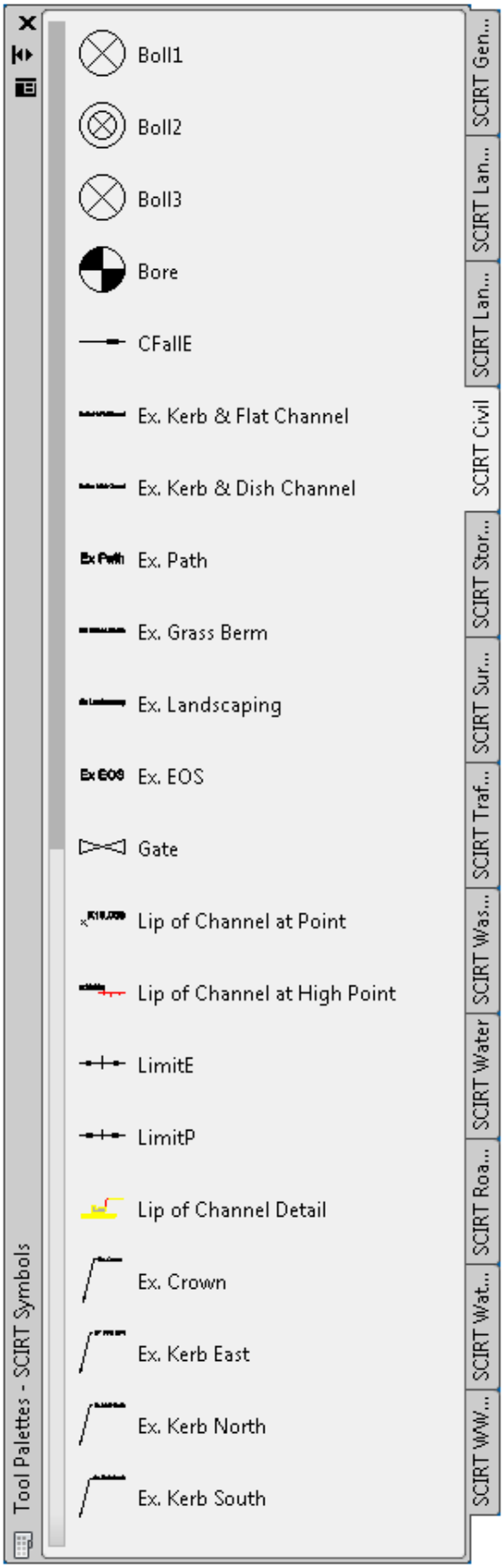
SCIRT Landscaping

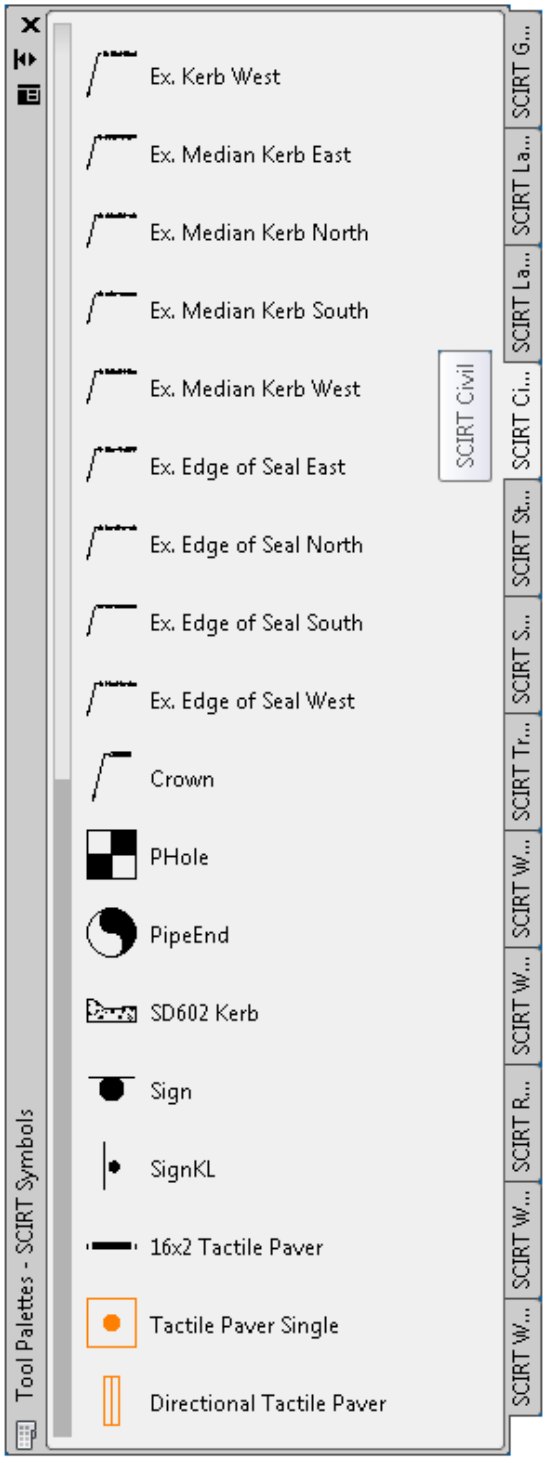


SCIRT Landscaping Notes

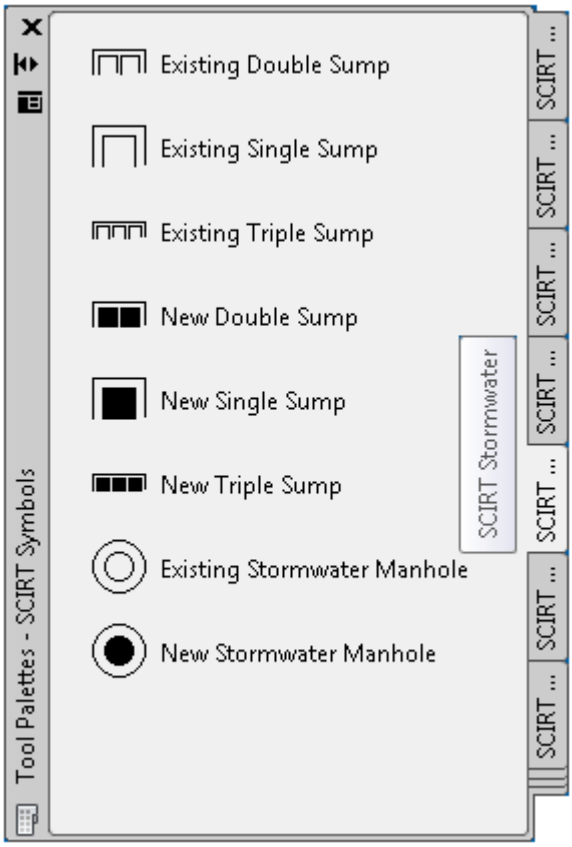


SCIRT Civil

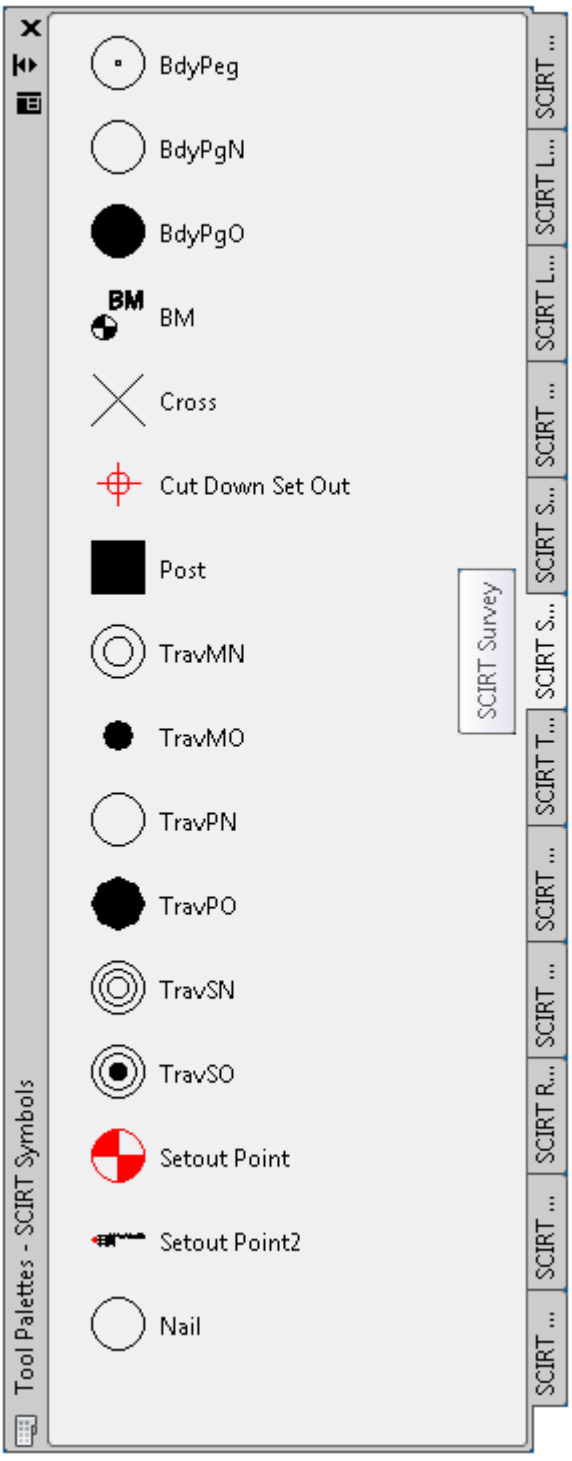




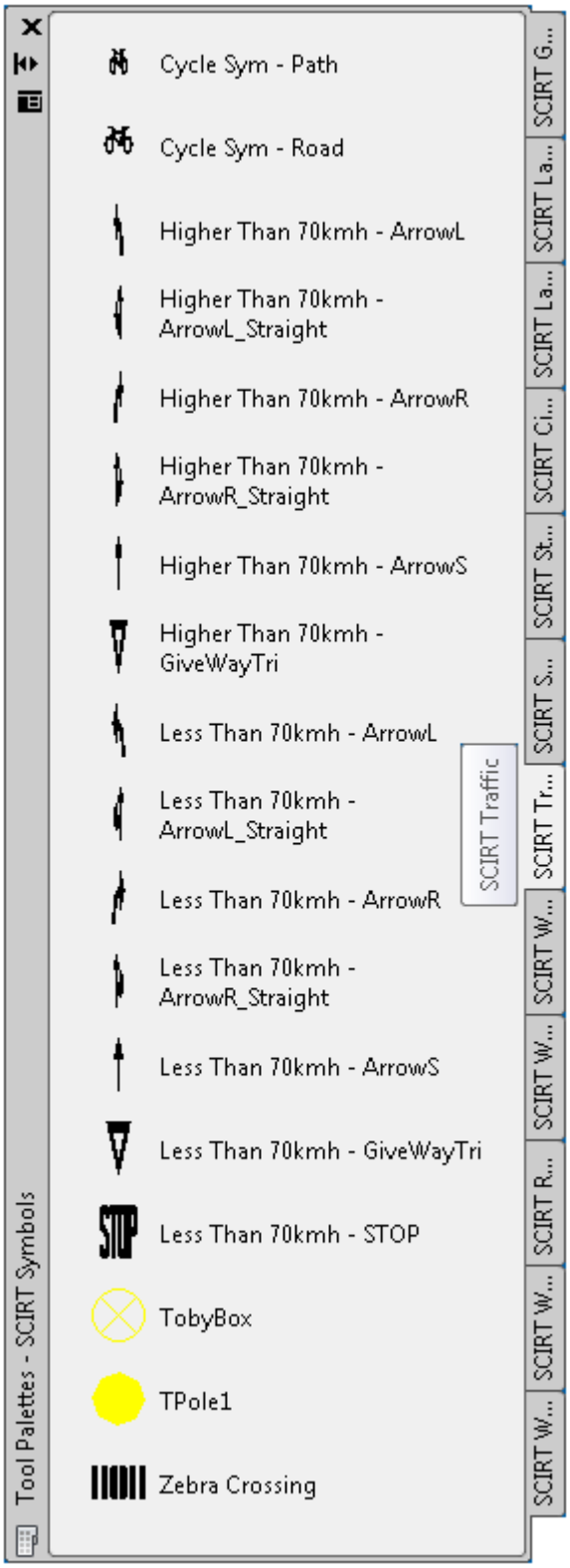
SCIRT Stormwater



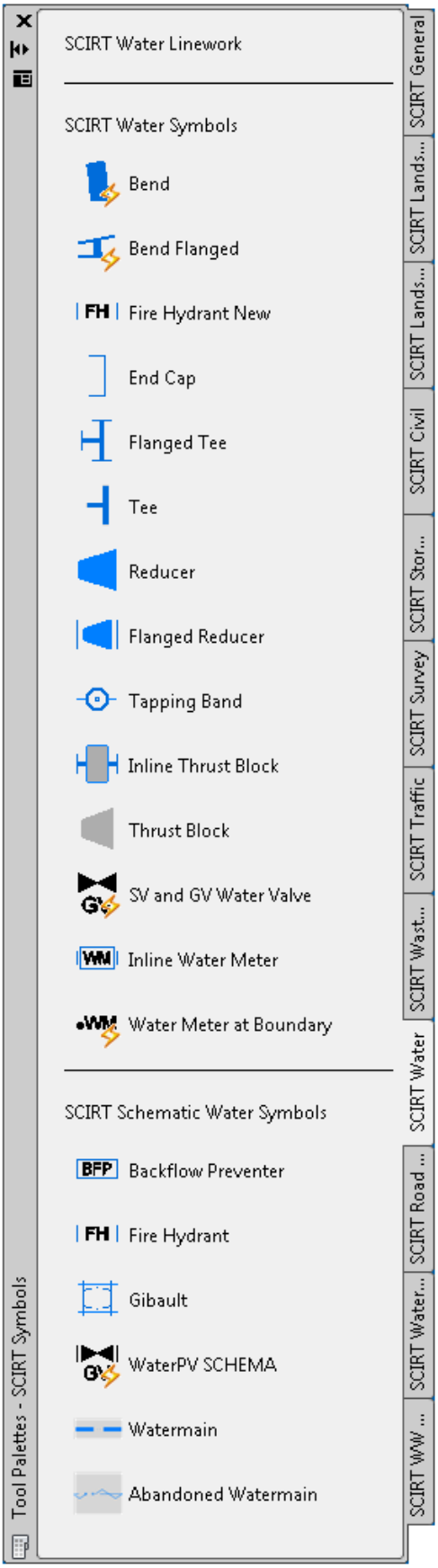
SCIRT Survey



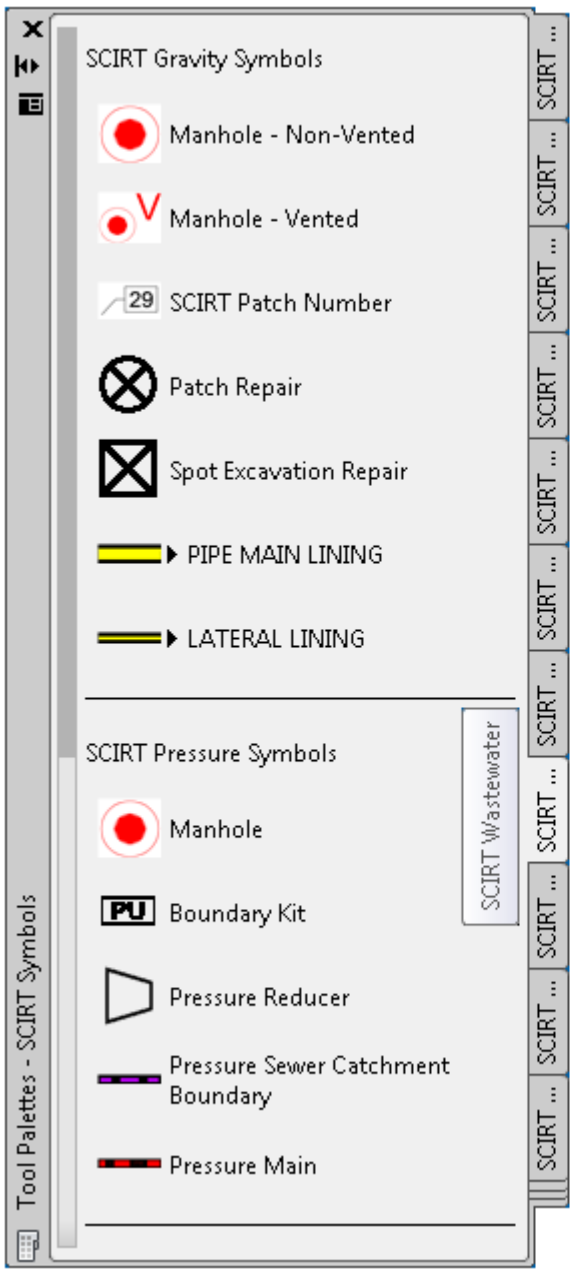
SCIRT Traffic



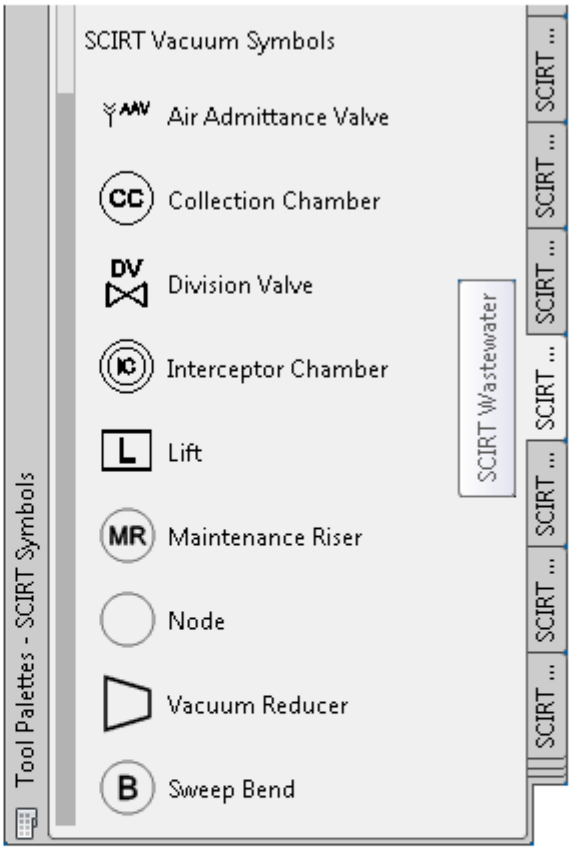
SCIRT Water



SCIRT Wastewater



Cont'd



6. SCIRT Command Line only Tools - Summary

The following tools are current only available from the AutoCAD command line:

6.1. General Commands

Tools / Utility	Short-cut Key-in	Description / Command usage
Quick PREVIEW	PRE	Quick Plot Preview – Works form MODEL and PAPER space
OSNAP Quick Change Pre-sets	OS1, OS2, OS3, OS4	Pre-set OSNAP settings. Will be user definable OS1 = None OS2 = END, MID, CEN, NOD, QUA, INT OS3 = END, MID OS4 = END, MID, CEN, INT, EXT, INS
Select Similar	SIM	Activates SELECTSIMILAR command (Standard AutoCAD cmd)
DIM Horizontal	DH	DIM Horizontal. Sets G-ANNO-DIM layer
DIM Vertical	DV	DIM Vertical. Sets G-ANNO-DIM layer
DIM Align	DA	DIM Align. Sets G-ANNO-DIM layer
Get Text String (MText, MLeader, ATTRIB	GETT	Display Text String of selected text. Can be Nested in block or Xref
Batch Process (from User Defined .SCR file)	BATCH	Run SCRIPT file over multiple drawings. Select Project and Drawing. Select predefined .SCR file

6.2. 3D Specific Commands

Tools / Utility	Short-cut Key-in	Description / Command usage
Switch to 3DOrbit Mode	OO	3D – Switch to 3D Orbit mode
UCS Twist in 45 deg increments	UX, UY, UZ	Rotate UCS around specific Axis in 45 deg increments. UX rotate around X-Axis UX rotate around Y-Axis UZ rotate around Z-Axis
View Point (VPOINT) view Pre-sets	SE, NE, NW, SW	Change to True 3D (Isometric View) view. VPOINT set relative to WORLD PLAN UCS SE = South-east View NE = North-east View NW = North-west View SW = South-west View
Switch to 3DOrbit Mode	OO	3D – Switch to 3D Orbit mode

6.3. SW, WW, RD Long Section Manual Adjusting Tools

While these are special tools for modifying long sections, it is recommended the 12d design be updated and be re-exported.

Tools / Utility	Short-cut Key-in	Description / Command usage
Set New RL on WW Long Section. 1:50 Vert scale	SETRL_WW	Draws a vertical line to the new RL height selected. Works on WW Long Sections
Set New RL on RDLong Section. 1:20 Vert scale	SETRL_RDLS	Draws a vertical line to the new RL height selected. Works on RD Long Sections
Set New RL on RD Cross Section. 1:20 Vert scale	SETRL_RDXS	Draws a vertical line to the new RL height selected. Works on RD Cross Sections
Get RL relative to Datum for WW Point on Long Section. 1:50 Vert Scale	GETRL_WW	Displays actual RL of point on Long Section relative to Datum point and value
Get Height of WW Long Section item 1:50 Vert scale	GETHT_WW	Displays actual height between 2 points on Long Section. Scale 1:50 Vert
Get Height of Roading Cross Section item 1:20 Vert scale	GETHT_RDXS	Displays actual height between 2 points on Road Cross Section

6.4. Program Developers and Advanced AutoCAD users

Tools / Utility	Short-cut Key-in	Description / Command usage
Get Entity DXF Data Code (Main Entity)	NENT	Display Object DXF CODE (MAIN object). Stores CODE in !aa variable
Get Entity DXF Date Code (NESTED Entities)	NENTL	Display LAYER Name of Nested entity
Get ActiveX and DXF Data Code	AXENT	Display ActiveX and DXF Code for selected entity
Get ActiveX Data Only	AXENTONLY	Display ActiveX Code only for selected entity