ChainLink Version 5

Steven Wood Software

2 Harksome Hill

Northampton

United Kingdom

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ChainLink 5

Legal Notices

ChainLink 5 User's Guide

Contents

Section 1

Introduction

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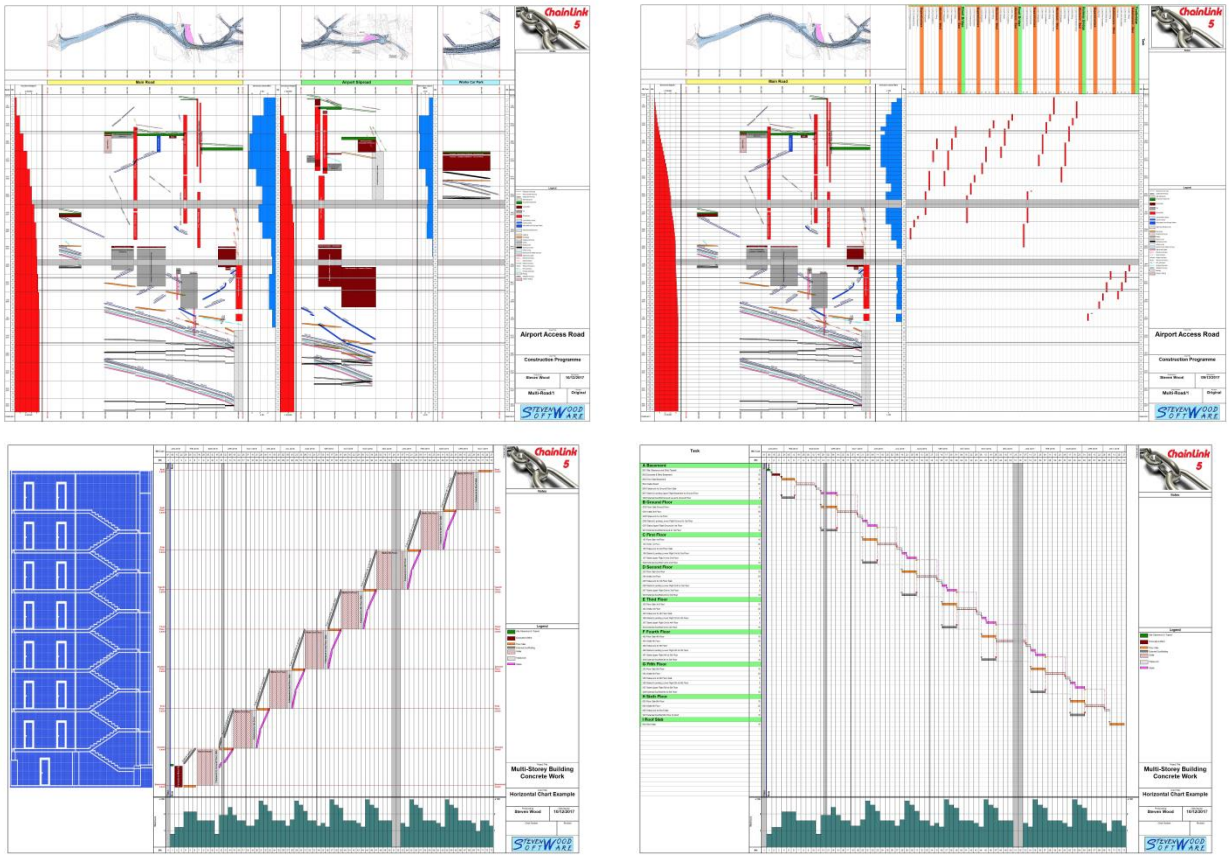
1. Introduction



For over two decades the family of ***ChainLink*** software has provided a no frills add-on utility to your Project Management system to produce quality Time Location charts quickly and easily.

ChainLink 5 now takes over the baton and brings with it most of the bells and whistles that have been missing in the past, with some more still to come. Available in two versions ***Standard*** and ***Professional***, it is now even easier to transfer data from your PM system, add the ***ChainLink*** formatting fields and produce Time Location and Gantt charts like the ones shown above (see ***Section 11 Sample Charts*** for larger versions).

The software is primarily designed to operate on a two screen display, with the Data on one screen and the Library windows and Chart on the second screen, however, ***ChainLink 5*** can be run quite successfully on a single screen.

All data, including any graphics, is held in a single project file making it easier to transfer data between planners and computers. Only the special ***Layout*** files need to be transferred with the data file. All diagrams, clipart and logos are already included.

The main features to be found in each version of the software are as follows:-

Standard

1. Produces vertical and horizontal ***Time Location*** and ***Gantt*** charts.
2. Can combine multiple charts per page, including vertical and horizontal ***Time Location*** and ***Gantt*** charts on same page.
3. ***Header Lines*** can be added to the chart.
4. Simple Spreadsheet input with ***Chart***, ***Schedule*** and ***Task*** filtering, column selection and user naming.
5. Automatic recalculation of ***Duration*** and ***Dates*** during editing.
6. A ***Personal Bar Library*** which allow combinations of ***Bar Types*** and ***Colours*** to be saved for use on every project.
7. A ***Project Bar Library***, containing all the **Bar Type** and **Colour** combinations used in the project.
8. A ***Standard Bar Types Library***, for selecting the bar and hatching combination.
9. A ***Personal Bar Types Library*** which allows user defined bars to be saved for use on every project.
10. A ***Project Bar Types Library***.
11. A ***Personal Colour Library***, which allows additional user named colours to be added to the eleven *Standard Colours* for use on every project.
12. A ***Project Colour Library***, which stores the named colours used on the project.
13. A ***Filter Library***, which stores the ***Filters*** to be applied to **Tasks** for both input and output.
14. A ***Print Preview*** facility for viewing the chart prior to printing.
15. Extensive ***Chart Options*** for defining the make-up of the charts.
16. A chart ***Layout Designer*** which allows the user to customise the layout of each chart.
17. A ***Title Block Designer***.
18. ***Multi-Page*** mosaic printing for use with small printers.
19. ***Links*** between Tasks
20. Extensive ***Onscreen Help***.

Professional

1. All the features found in Standard.
2. Graphical input window for ***Tasks***, which allows a ***Time Location*** chart to be drawn from scratch on the screen without the need for transfer of data, or ***Task*** scheduling to be visually amended without the need for rescheduling by the PM system.
3. Graphical input window for ***Labels***.
4. Graphical input window for ***Text/Notes*** (v4.5 *Milestones/Notes*).
5. Graphical input window for ***Graphics*** (v4.5 *Diagrams*).
6. Four special ***Task Types*** with imposed ***Start*** or ***Finish Dates***
7. Ten step ***Progress Data*** storage
8. ***Bar Profiling*** for non-linear production tasks.
9. ***Resource Histograms***
10. ***Financial Graphs***
11. Multi-function ***Scheduling*** which allows for full and fragnet timing.

Section 2

Getting Started

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2. Getting Started

When ***ChainLink 5*** is first loaded the user is presented with the above Startup screen.

The Version (top right) and Licence message (lower left) will vary dependent upon the state of activation of the software. If the message shows that this is a Demonstration or Evaluation Copy and the software has been purchased then an ***Activation Code*** can be obtained by submitting the ***User Details*** and ***ID Number*** (which is also shown on the Startup screen) by e-mail to support@swsoftware.co.uk.

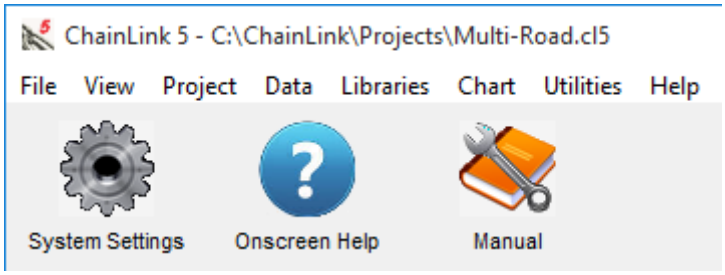
If the Activation Code section is not shown, double click on the Steven Wood Software logo, the Startup screen will be extended to display the entry boxes at the bottom. Enter each group of four characters in the appropriate box in turn, the cursor will move to the next box once the fourth character has been entered. After the last group has been entered a message will be displayed confirming that the code has been accepted or rejected.

If it is rejected, first check that all characters entered are correct, otherwise report the problem to support@swsoftware.co.uk.

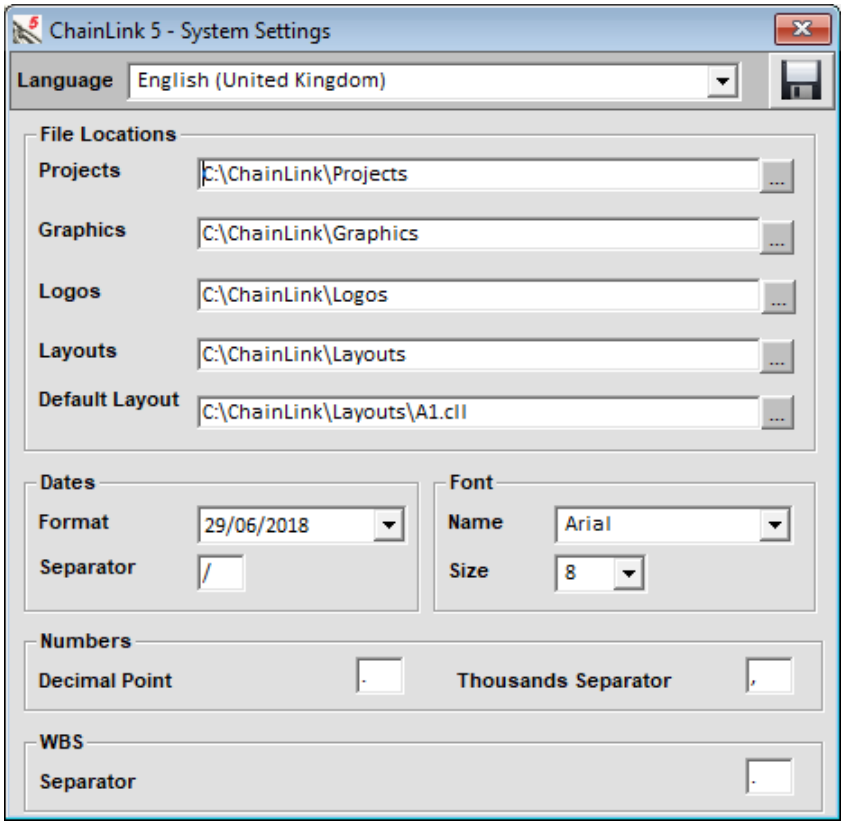
Select ***New***, ***Existing***, ***Last*** or ***No Project*** from the buttons on the right of the screen, or close the program using the ***Exit*** button on the bottom left.

2.1. System Settings

When loading the ***ChainLink 5*** software for the first time it is advised that ***No Project*** is selected as the System Settings may not be correct for your setup.



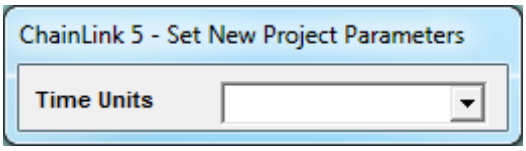
To access the System Settings, select ***Utilities*** from the Menu bar and then the ***System Settings*** 'cogged gear' icon on the ribbon. The 'cogged gear' icon will appear depressed to indicate that the window is open and the System Settings dialogue window will be displayed.



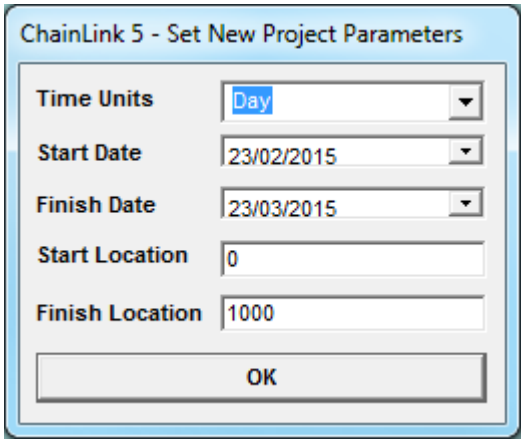
Change the settings, if necessary to suit your system and click on the button to save them. Click on the or the ***System Settings*** icon to close the window, the icon will return to its normal appearance.

2.2. New Project

To create a new project, click on the New Project button. ***ChainLink 5***'s main screen will be displayed together with a dialogue window requesting the ***Time Units*** to be used on this project.



Select Minutes, Hours or Days from the pull-down menu. Once selected the window will expand to allow the user to set the Time and Location Limits.



Default Time Limits of today's date plus 4 weeks and Location Limits of 0 to 1000 are automatically entered. If Time Units of Minutes or Hours are selected then the date fields will also contain the time field, set to 00:00, as well. These should be changed to those required by the project. It is not vital to enter the exact limits as these will be automatically corrected as Task Data is added to the system.

The remainder of the project details can now be entered on the Project Tab.

Title A text field entered in a multi-line text box which can be formatted for font and colour using the font button.

Base Date A date field in the format specified in the ***System Settings***, which determines Week 1 of the project.

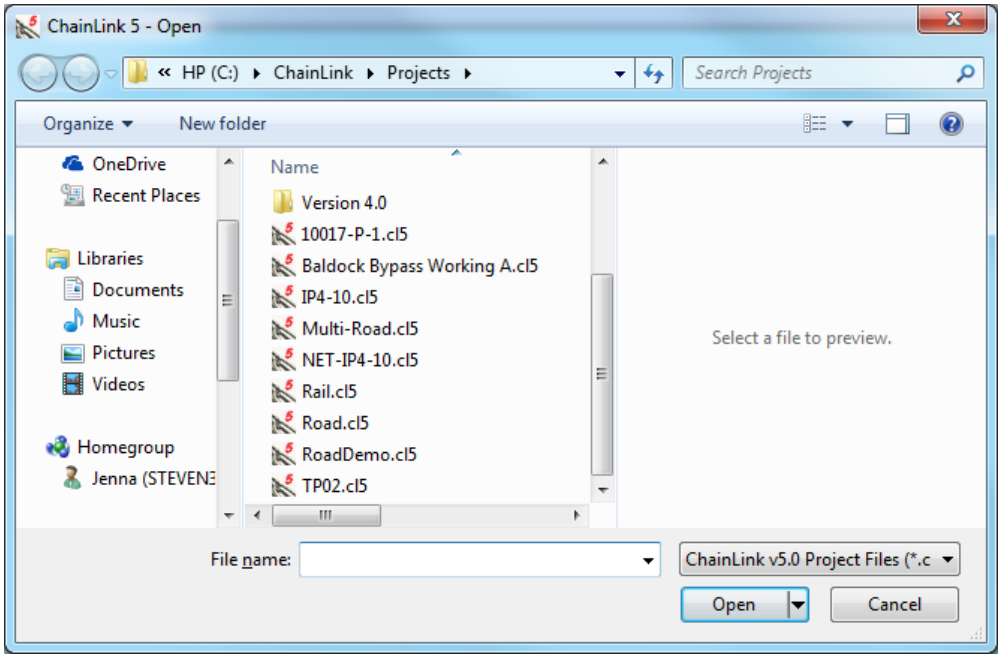
Time Now A date field in the format specified in the ***System Settings***, which denotes the last completed day of the project.

Completion Date A date field in the format specified in the ***System Settings***, which denotes the completion day of the project.

Time Units The units set in the ***New Project*** dialogue window. This cannot be changed for this project.

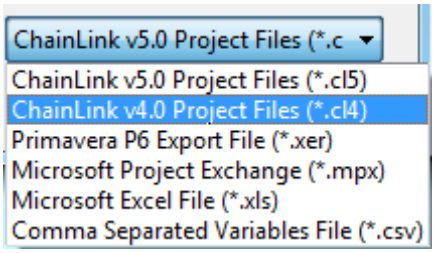
2.3. Existing Project

To open an already created project, click on the ***Existing Project*** button. An ***Open*** file dialogue window will be displayed, showing the files in the ***Projects*** folder selected in ***System Settings***.



Select the **Project** required and click on the ***Open*** button. The ***ChainLink 5*** main screen will be displayed together with the ***Project*** details.

To open a ***ChainLink 4*** file or an import file select an alternative file type from the pull-down menu at the end of the ***File name:*** box.



You may need to select a different folder as well, dependent upon the settings of your ***ChainLink 4*** system.

2.4. Last Project

To open the last project that was loaded, click on the ***Last Project*** button. After loading the ***ChainLink 5*** main screen will be displayed together with the ***Project*** details.

2.5. No Project

The ***No Project*** option is provided to allow the user to load ***ChainLink 5*** in order to maintain ***Personal Libraries***, create ***Filters***, ***Profiles*** and ***Layouts*** or change **System Settings** without the danger of inadvertently changing the data in the ***Project*** file.

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Section 3

Main Window

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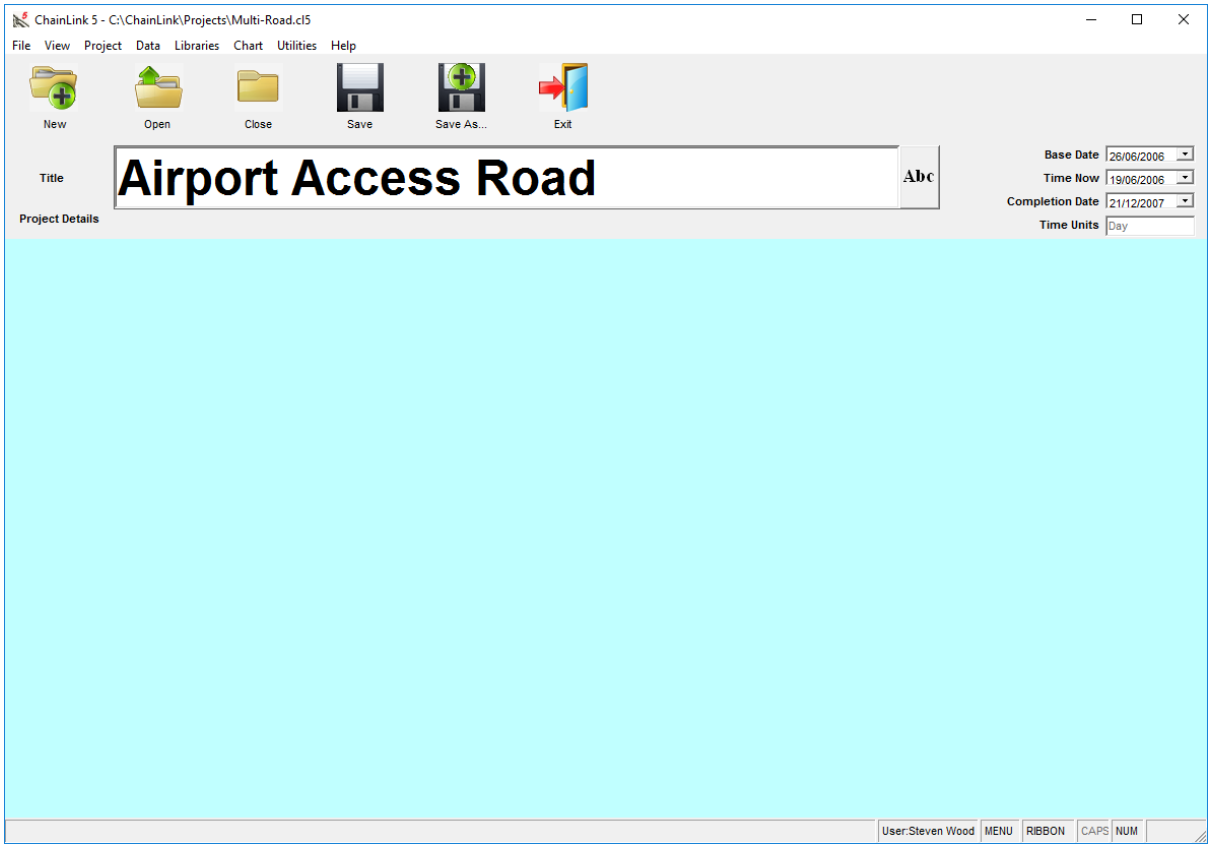
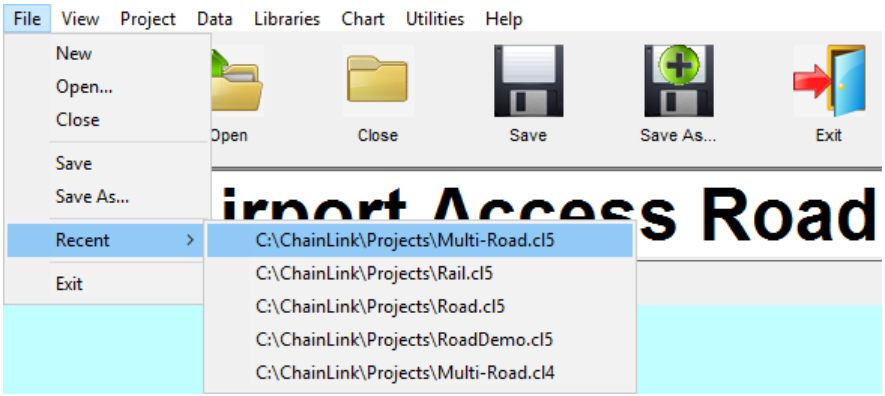
3. Main Window



3.1. Menus

3.1.1. File Menu



New Displays the ***New Project*** dialogue window (see ***2.1 New Project***) to allow creation of a new project and initialises the project data and chart parameters

Open Displays the ***Open Project*** dialogue window (see ***2.2.Existing Project***) to allow selection of the project file to be loaded

Close Closes the currently loaded project and clears all data from memory. If changes have been made to the project data a ***Save Project*** request will be displayed.

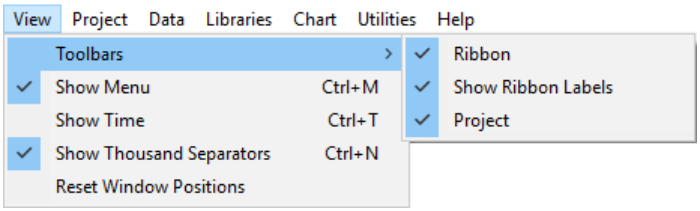
Save Saves the currently loaded project to the file and folder from which it was loaded.

Save As… Displays the ***Save As…*** dialogue window to allow the currently loaded project file to be saved under a different name and/or to a different folder.

Recent Contains a list of up to the last ten ***ChainLink*** projects to be loaded. The project, to be loaded, may be reselected from this list instead of selecting the ***Open*** option.

Exit Closes the currently loaded project and clears all data from memory and exits the ChainLink program. If changes have been made to the project data a ***Save Project*** request will be displayed.

3.1.2. View Menu



Toolbars Shows or hides the various toolbars and ribbons to provide more room on the screen for the ***Data*** windows. The various toolbars are shown on a sub-menu.

- ***Ribbon*** Shows or hides the whole of the ***Ribbon*** bar.
- ***Show Ribbon Labels*** Shows or hides the text on the ***Ribbon*** bar.
- ***Project*** Shows or hides the ***Project*** bar.

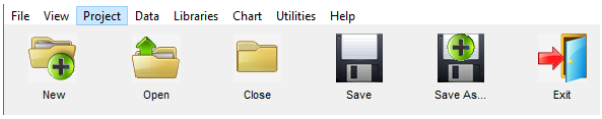
Show Menu Shows or hides the ***Menu*** bar.

Show Time Shows or hides the ***Time*** fields on projects where the ***Time Units*** are in Days.

Show Thousand Separators Shows or hides the ***Thousand Separator*** character in numeric **User Fields** and **Financial/Resource** numbers displayed on the **Charts.**

Reset Window Positions Cascades all open windows to the main screen.

3.1.3. Project Menu



The ***Project*** menu duplicates the ***File*** menu with the exception of the ***Recent*** files list.

New Displays the ***New Project*** dialogue window (see ***2.1 New Project***) to allow creation of a new project and initialises the project data and chart parameters

Open Displays the ***Open Project*** dialogue window (see ***2.2.Existing Project***) to allow selection of the project file to be loaded

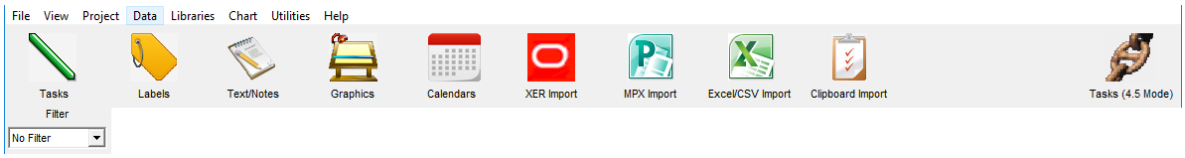
Close Closes the currently loaded project and clears all data from memory. If changes have been made to the project data a ***Save Project*** request will be displayed.

Save Saves the currently loaded project to the file and folder from which it was loaded.

Save As… Displays the ***Save As…*** dialogue window to allow the currently loaded project file to be saved under a different name and/or to a different folder.

Exit Closes the currently loaded project and clears all data from memory and exits the ChainLink program. If changes have been made to the project data a ***Save Project*** request will be displayed.

3.1.4. Data Menu



The ***Data*** menu provides access to all the data input and import screens.

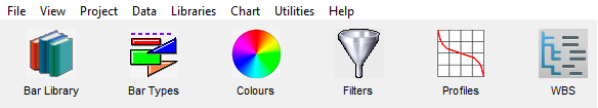
All ***Data*** screens are contained within the main ***ChainLink 5*** window and are colour coded blue.

Left mouse click on the appropriate icon to open the screen. The icon will remain depressed and the text will be shown in red while ever the screen remains open.

A ***Filter*** may be set up/selected before loading the ***Tasks*** screen to speed up loading.

Only one ***Data*** screen at a time may be displayed, selecting a second screen closes the open screen before loading the new one. See ***Section 4 Data*** for further details on each of the screens.

3.1.5. Libraries Menu



The ***Libraries*** menu provides access to all the ***Standard***, ***Personal*** and ***Project*** libraries

The ***Libraries*** windows may be placed anywhere on the screen, their positions are saved on closure and they will appear in the same place next time each window is re-opened. They are colour coded as follows:-

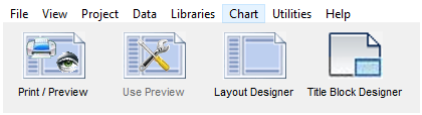
Bar Library	Orange
Bar Types	Yellow
Colours	Green
Filters	Pink
Profiles *(Professional only)*	Mauve
WBS	Purple

Left mouse click on the appropriate icon to open the window. The icon will remain depressed and the text will be shown in red while ever the window remains open.

All the ***Library*** windows may be opened at the same time. Any ***Library*** window, which is open when ***ChainLink 5*** is closed will also be closed, however, they will be re-opened when it is re-loaded.

See ***Section 5 Libraries*** for further details on each of these windows.

3.1.6. Chart Menu



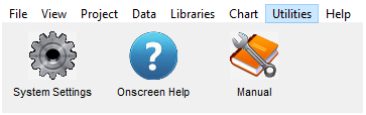
The ***Chart*** menu provides access to all aspects of ***Chart*** production and formatting.

The ***Chart*** windows may be placed anywhere on the screen, their positions are saved on closure and they will appear in the same place next time each window is re-opened. They are colour coded Grey.

Left mouse click on the appropriate icon to open the window. The icon will remain depressed and the text will be shown in red while ever the window remains open.

All the ***Chart*** windows may be opened at the same time with the exception of the Layout Designer and Title Block Designer, opening one of these will close the other. Any ***Chart*** window, which is open when ***ChainLink 5*** is closed will also be closed. See ***Section 6 Chart*** for further details on each of these windows.

3.1.7. Utilities Menu



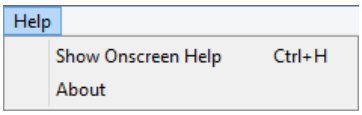
The ***Utilities*** menu provides access to the ***System Settings***, ***Onscreen Help*** facility and the ***ChainLink 5 Manual***.

The ***System Settings*** and ***Manual*** windows may be placed anywhere on the screen, their position is saved on closure and they will appear in the same place next time the windows are re-opened.

Left mouse click on the appropriate icon to open the ***System Settings*** or ***Manual*** window or activate the ***Onscreen Help*** facility. The icon will remain depressed and the text will be shown in red while ever the window(s) remains open or the facility is active.

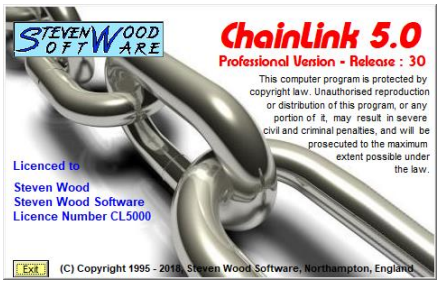
See ***Section 2.1 System Settings*** for further details.

3.1.8. Help Menu



Show Onscreen Help Turns on or off the Onscreen Help facility, changes the mouse pointer from an arrow to an arrow with a question mark.

About Displays details of the current version of ***ChainLink 5***.



3.2. Project Details

The ***Project Details*** ribbon contains the outline details of the project.
To create more space on the screen for the ***Data*** windows the bulk of the ribbon can be hidden by clicking on the tab. To redisplay the whole ribbon click on the exposed tab again.

The ribbon contains the following data items:-

Title Entered in a multi-line text box which can be formatted for font and colour using the font button at the end of the box.

Base Date Determines Week 1 of the project.

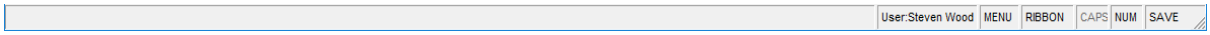
Time Now The last completed day of the project.

Completion Date A date field in the format specified in the ***System Settings***, which denotes the completion day of the project.

Time Units The units set in the ***New Project*** dialogue window. This cannot be changed for this project.

The space below the ribbon and in line with the tab is used to show progress for any background operations such as loading data or plotting charts.

3.3. Status Bar



The ***Status Bar*** contains six panels which display system messages, the status of certain features of ***ChainLink 5*** and the status of the Caps and Numeric locks.

The panels function as follows:-

MESSAGE The left most panel of the bar and displays system messages to inform the user of any problems encountered.

MENU Highlighted when the ***Menu*** is visible. Clicking on the panel shows or hides the ***Menu***.

RIBBON Highlighted when the ***Ribbon*** is visible. Clicking on the panel shows or hides the ***Ribbon***.

CAPS Highlighted when the ***Caps Lock*** key is activated.

NUM Highlighted when the ***Numeric Lock*** key is activated.

SAVE When the word ***SAVE*** is shown in this panel it indicates that the Project data has been changed and needs to be saved. If ***SAVE*** is shown when ChainLink 5 is closed then a message will be displayed asking if the data is to be saved.

Section 4

Data

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4. Data

The ***Data*** screens provide access to all aspects of the ***Project*** data.

The ***Data is*** accessed from the ***Data*** menu by clicking on the appropriate icon. The icon will appear depressed and remain depressed whilst ever the screen remains open. To close the screen re-click the icon or click on the button.

All screens are contained within the main ***ChainLink 5*** window and are colour coded blue.

Only one screen at a time may be displayed, selecting a second screen closes the open screen before loading the new one.

The elements on each screen vary dependent on the screen loaded, however, each screen contains, as a minimum, a toolbar and a spreadsheet. The ***Tasks*** screen also contains a tabbed ***Details*** panel which can be hidden or displayed by means of a button on the toolbar.

In the ***Professional*** version, as an alternative to the spreadsheet method of input, some screens have a graphical interface, again accessed by a button on the toolbar.

4.1. Tasks

The ***Tasks*** screen provides access to all the ***Task*** data, either by the spreadsheet table, details panel or graphics interface (***Professional*** only).

4.1.1. Toolbars

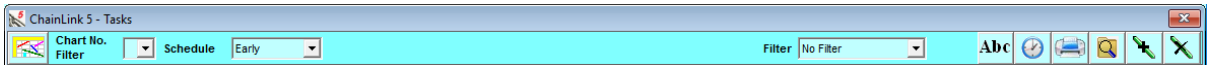


Table Toolbar

Chart Toolbar (Professional only)

The ***Toolbars*** contains thirteen elements to assist in inputting and editing of the ***Task*** data.

	***Chart Button***	Switches to graphic input screen (***Professional*** ony)
	***Table Button***	Switches to table input screen (***Professional*** ony)
	***Chart No. Filter***	Filters the display to show only the ***Tasks*** that appear on the selected ***Chart***. Selecting blank shows all ***Tasks***

Schedule Selects which timing schedule is to be shown on the ***Details*** panel and ***Chart*** screen (***Professional*** only)

Task ID and ***Description*** Allows the ***Task ID*** and ***Description*** to be amended on the ***Chart*** screen (***Professional*** only)

Task Filter Filters the display to show only the ***Tasks*** which match the criteria set by the ***Filter***

Font Button Displays a Font Dialogue window for the selection of the font and font size for the selected ***Task(s)***

Scheduler Button Allows the user to reschedule then project following changes to the ***Task Data***. (***Professional*** ony, see ***Section 8 Scheduling***)

Zoom Out Button Halves the size of the current chart window to improve visibility

Zoom In Button Doubles the size of the current chart window to improve accuracy.

Print Button Table input screen - Prints the table of ***Task*** data
Graphic input screen - Loads ***Print Preview*** window

Details Button Shows/hides the ***Details*** panel

Add Task Button Adds a new ***Task***. See ***4.1.2 Table*** and ***4.1.3 Chart*** on how to add ***Tasks***.

Delete Task Button Deletes the selected ***Task(s)***

4.1.2. Table

Task ID v	Description	Duration (Days)	Calendar	Early Start	Early Finish	Late Start	Late Finish	Baseline Start	Baseline Finish	Total Float (Days)
2.1.0112	Site Clearance and Demolition	5	5 day week Industry Holidays	09/01/2007	15/01/2007	18/09/2007	24/09/2007	09/01/2007	15/01/2007	171
2.1.0131	Topsoil Strip	2	5 day week Industry Holidays	16/01/2007	17/01/2007	25/09/2007	26/09/2007	16/01/2007	17/01/2007	171
2.1.0132	Excavation	3	5 day week Industry Holidays	18/01/2007	22/01/2007	27/09/2007	01/10/2007	18/01/2007	22/01/2007	171
2.1.0141	Carrier / Narrow Filter Drain	25	5 day week Industry Holidays	23/01/2007	26/02/2007	02/10/2007	05/11/2007	23/01/2007	26/02/2007	171
2.1.0151	Sub-Base	2	5 day week Industry Holidays	13/03/2007	14/03/2007	20/11/2007	21/11/2007	13/03/2007	14/03/2007	171
2.1.0152	Gullies and Ducts	8	5 day week Industry Holidays	15/03/2007	26/03/2007	22/11/2007	03/12/2007	15/03/2007	26/03/2007	171
2.1.0153	Kerbs	8	5 day week Industry Holidays	20/03/2007	29/03/2007	27/11/2007	06/12/2007	20/03/2007	29/03/2007	171
2.1.0154	Basecourses	2	5 day week Industry Holidays	17/04/2007	18/04/2007	18/12/2007	19/12/2007	17/04/2007	18/04/2007	172
2.1.0155	Wearing Course	1	5 day week Industry Holidays	19/04/2007	19/04/2007	20/12/2007	20/12/2007	19/04/2007	19/04/2007	172
2.1.0161	Barriers and Safety Fencing	8	5 day week Industry Holidays	23/03/2007	03/04/2007	30/11/2007	11/12/2007	23/03/2007	03/04/2007	171
2.1.0162	Signs and Lights	8	5 day week Industry Holidays	28/03/2007	16/04/2007	05/12/2007	14/12/2007	28/03/2007	16/04/2007	171
2.1.0163	Road Markings	1	5 day week Industry Holidays	20/04/2007	20/04/2007	21/12/2007	21/12/2007	20/04/2007	20/04/2007	172
2.1.0192	EN1-Fibre Optic Service connection crossing(cast rcc slab)	5	5 day week Industry Holidays	06/03/2007	12/03/2007	13/11/2007	19/11/2007	06/03/2007	12/03/2007	171
2.1.1101	Chainlink Fencing	10	5 day week Industry Holidays	07/08/2006	18/08/2006	10/08/2006	23/08/2006	07/08/2006	18/08/2006	3
2.1.1102	Pallisade Fencing	15	5 day week Industry Holidays	17/07/2006	04/08/2006	20/07/2006	09/08/2006	17/07/2006	04/08/2006	3
2.1.1121	Carrier Drain	5	5 day week Industry Holidays	17/10/2006	23/10/2006	27/11/2006	01/12/2006	17/10/2006	23/10/2006	29
2.1.1122	Filter Drain CPMCL 1/818N to CPMCL 1/801N	10	5 day week Industry Holidays	24/10/2006	06/11/2006	04/12/2006	15/12/2006	24/10/2006	06/11/2006	29
2.1.1131	Topsoil Strip (1287m3)	3	5 day week Industry Holidays	29/08/2006	31/08/2006	01/09/2006	05/09/2006	29/08/2006	31/08/2006	3
2.1.1132	Excavate for Gabion Wall (1143m3)	2	5 day week Industry Holidays	01/09/2006	04/09/2006	06/09/2006	07/09/2006	01/09/2006	04/09/2006	3
2.1.1133	Gabion Wall	22	5 day week Industry Holidays	05/09/2006	04/10/2006	23/11/2006	22/12/2006	05/09/2006	04/10/2006	57
2.1.1134	Excavate for Benching (1103m3)	3	5 day week Industry Holidays	14/03/2007	16/03/2007	14/03/2007	16/03/2007	14/03/2007	16/03/2007	0
2.1.1135	Fill to Embankment part (4471m3)	6	5 day week Industry Holidays	01/09/2006	08/09/2006	14/12/2007	21/12/2007	01/09/2006	08/09/2006	316
2.1.1136	Fill to Embankment complete (15930m3)	20	5 day week Industry Holidays	19/03/2007	23/04/2007	19/03/2007	23/04/2007	19/03/2007	23/04/2007	0
2.1.1141	Carrier / Narrow Filter Drain	10	5 day week Industry Holidays	24/04/2007	08/05/2007	24/05/2007	07/06/2007	24/04/2007	08/05/2007	21

The ***Table*** screen is a spreadsheet which can contain most of the ***Task*** data fields for easy input and editing. The spreadsheet is user definable and may display anywhere between a minimum of 2 and a maximum of 27 fields.

To select the fields, the order of the columns and/or change the column headers, click on the table header row with the right mouse button. The Column Selection/Naming window wiil be displayed (see ***7.3 Column Selection/Naming***).

To assist with entering and editing data the a popup menu can be displayed by clicking the right mouse button on any data cell of the spreadsheet.

The available fields are as follows:-

Task ID — A unique alpha-numeric identifier for the ***Task***. This is a fixed field and always appears in column 1 of the spreadsheet. Its position cannot be changed by the user.

Description — A description of the ***Task***. This is a fixed field and always appears in column 2 of the spreadsheet. Its position cannot be changed by the user.

Duration — A numeric field containing the duration in days or hours and minutes dependent on the units selected when creating the project.

Calendar — A pull-down menu which allows the user to select the ***Calendar*** used for scheduling this ***Task***.

Chart Number — A pull-down menu which allows the user to select the number of the ***Chart*** on which the ***Task*** is to appear. Leave blank if the ***Task*** appears on all ***Charts***.

Start Location — A numeric field containing the chainage or metreage at which the ***Task*** commences.

Finish Location — A numeric field containing the chainage or metreage at which the ***Task*** is completed.

Bar Direction — A pull-down menu which allows the user to select the direction in which the bar is to slope. If left blank the direction is determined by the order of the ***Start*** and ***Finish Locations***.

Bar Library Code — A unique code which appears in the either the ***Personal*** or ***Project Bar Library***. If a ***Personal Bar Library*** code is entered then the details are copied to the ***Project Bar Library***. If a valid code is entered in this field then the ***Bar Type Number***, ***Bar Type Selected*** and ***Bar Colour*** fields are automatically populated with the data from

the library. The field may be allocated directly from the ***Bar Library*** window (see section ***5.1 Bar Library***).

Bar Type Number A numeric field containing a number between 0 and 55 for bars in the ***Standard Bar Type Library*** or 60+ for User Defined Bars in the ***Personal*** or ***Project Bar Type Libraries***. If a ***Personal Bar Type Library*** number is entered then the details are copied to the ***Project Bar Type Library***. Entering a number in this field will blank any code in the ***Bar Library Code*** field. The field may be allocated directly from the ***Bar Type Library*** window (see section ***5.2 BarType Library***).

Bar Type Selected This field is for display only as confirmation that the correct ***Bar Type Number*** has been entered. It is populated when the ***Bar Library Code*** or ***Bar Type Number*** is entered.

Bar Colour A numeric field containing a number between 0 (black) and 16777215 (white) or a colour name from the ***Personal*** or ***Project Colour Library***. If a ***Personal Colour Library*** name is entered then the details are copied to the ***Project Colour Library***. Entering a number in this field will blank any code in the ***Bar Library Code*** field. The field may be allocated directly from the ***Colour Library*** window (see section ***5.3 Colour Library***) or can be selected from the ***Colour*** dialogue window by double-clicking on the ***Bar Colour*** cell.

Bar Text A pull-down menu which allows the user to select the text, if any, that is to be shown on the bar on the Chart. The field may be blank or any of the ***Task*** data fields or ***User Fields***.

Location Offset/ Line Thickness A numeric field used to determine bar thickness or text position.

For ***Bar Types 0*** to ***7*** a number between 0 and 9 may be entered to produce a thicker line.

For ***Bar Types 10*** to ***17***, when ***ChainLink 5*** draws a sloping bar, a horizontal offset is calculated, in order that the bar remains within the location restraints. The ***Location Offset*** can be predetermined by the user to produce a "fat" bar, providing that the bar is not horizontal or vertical. The value of the ***Location Offset*** required for this activity is entered in location units. If an offset greater than the difference between ***Start*** and ***Finish Locations*** is entered then the ***Location*** difference will be used.

For ***Bar Types 50*** to ***55***, the ***Location Offset*** moves the position of the ***Bar Text*** on the bar, if required, along the ***Location*** axis.

Entering a number less than zero positions the ***Bar Text*** to the lower ***Location*** end of the baron the chart.

Entering zero positions the ***Bar Text*** at the centre of the bar

Entering a number greater than zero positions the ***Bar Text*** to the higher ***Location*** end of the bar on the chart.

Time Offset A numeric field used to determine bar thickness or text position.

For ***Bar Types 10*** to ***17***, when ***ChainLink 5*** draws a sloping bar, a vertical offset is calculated, in order that the bar remains within the time restraints. The ***Time Offset*** can be predetermined by the user to produce a "fat" bar, providing that the bar is not horizontal or vertical. The value of the ***Time Offset*** required for this activity is entered in time units.

The ***Time Offset*** figure may be positive or negative. If a negative figure is entered then the widening of the bar will be within the current time limits of the bar. If a positive figure is entered then the widening of the bar will be added to the current finishes of the bar.

For ***Bar Types 50*** to ***55***, the ***Time Offset*** moves the position of the ***Bar Text*** on the bar, if required, in respect to the ***Time*** axis.

Entering a number less than or equal to zero positions the ***Bar Text*** to the earlier ***Time*** side of the bar on the chart.

Entering a number greater than zero positions the ***Bar Text*** to the later ***Time*** side of the bar on the chart.

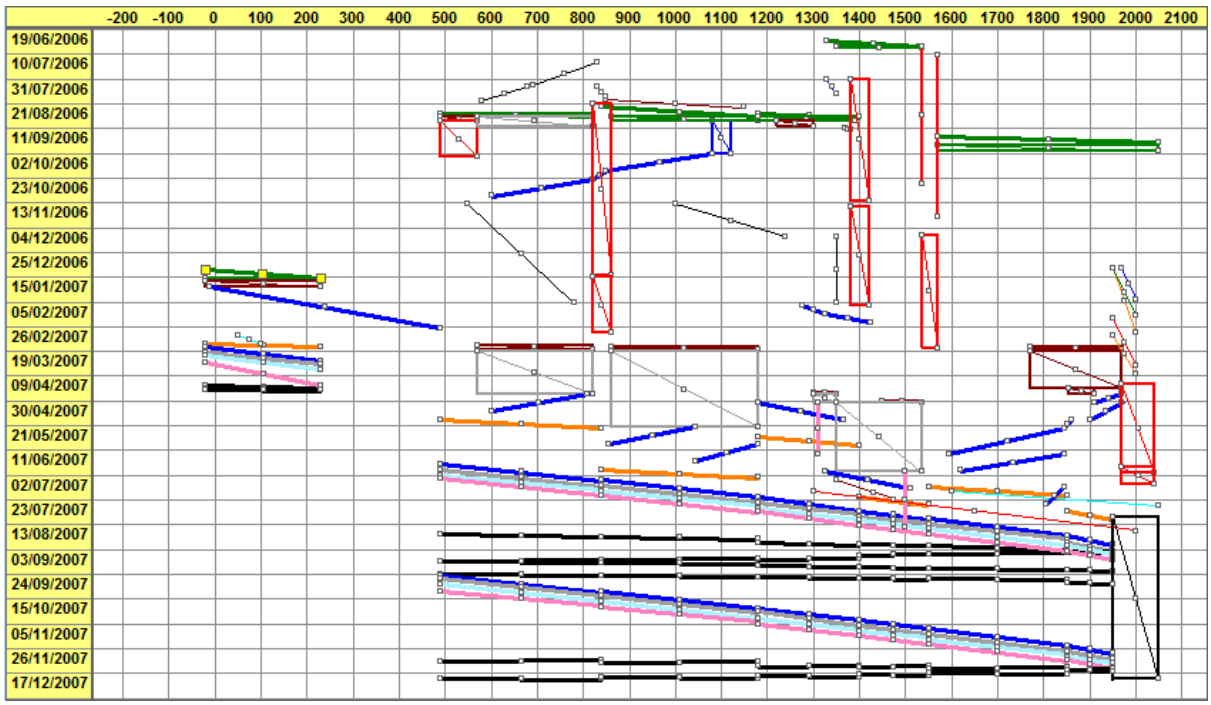
Late Start Date A date field in the format specified in the ***System Settings***, containing the latest start of the ***Task***. As the ***Late Finish Date*** is fixed by the scheduling process, changing this date will automatically change the ***Duration, Early Finish Date*** and ***Total Float***. If the ***Task*** has been allocated an ***Actual Start Date*** then this field will display that date and cannot be changed on the spreadsheet.

Late Start Time A time field in the format ***hh:mm*** containing the early start time of the ***Task***. Changing this field has the same effect as changing the ***Late Start Date***. If the ***Task*** has been allocated an ***Actual Start Time*** then this field will display that time and cannot be changed on the spreadsheet.

Late Finish Date	A date field in the format specified in the ***System Settings***, containing the latest finish of the ***Task***. The ***Late Finish Date*** is fixed by the scheduling process, therefore, changing this date will have an effect on the overall schedule, which ***ChainLink 5*** will not take into account, unless the project is rescheduled (see ***Section 8 – Scheduling***. Professional only). Changing this date will also reschedule the ***Late Start Date*** and recalculate the ***Total Float*** for the ***Task***. If the ***Task*** has been allocated an ***Actual Finish Date*** then this field will display that date and cannot be changed on the spreadsheet.
Late Finish Time	A time field in the format ***hh:mm*** containing the late finish time of the ***Task***. Changing this field has the same effect as changing the ***Late Finish Date***. If the ***Task*** has been allocated an ***Actual Start Time*** then this field will display that time and cannot be changed on the spreadsheet.
Baseline Start Date	A date field in the format specified in the ***System Settings***, containing the planned or baseline start of the ***Task***. Changing this field has no effect on any other fields.
Baseline Start Time	A time field in the format ***hh:mm*** containing the early start time of the ***Task***. Changing this field has no effect on any other fields.
Baseline Finish Date	A date field in the format specified in the ***System Settings***, containing the planned or baseline finish of the ***Task***. Changing this field has no effect on any other fields.
Baseline Finish Time	A time field in the format ***hh:mm*** containing the planned or baseline finish time of the ***Task***. Changing this field has no effect on any other fields.
Total Float	A numeric field showing the Total Float in days or hours and minutes dependent on the units selected when creating the project. Changing this field has no effect on any other fields.
WBS Code	A pull-down menu which allows the user to allocate a ***WBS Code*** from the ***WBS Library*** to the ***Task***.

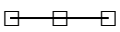
To add a new ***Task*** on the ***Table*** screen, click on the ***Add Task*** button. A new row will be added to the bottom of the spreadsheet, the ***Task ID*** and ***Description*** set to 'New Task', the ***Duration*** to 1, the dates to the ***Base Date***, ***Total Float*** to 0, ***Start Location*** to the minimum location, ***Finish Location*** to 10% of total project distance, ***Bar Type*** to 0 and ***Profile*** to "Linear" (Professional only). All other fields will be set to blank. These fields may then be edited to the required values.

4.1.3. **Chart** (***Professional*** only)



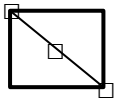
The ***Chart*** screen is a graphical representation of the ***Task*** data.

Each ***Task*** is shown as a wire-frame representation of its ***Bar Type*** with a □ at the start, centre and finish points.

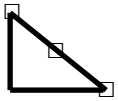


Bar Types 0 to 7, 50 to 57 and 60+

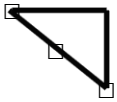
Bar Types 10 to 17



Bar Types 20 to 27



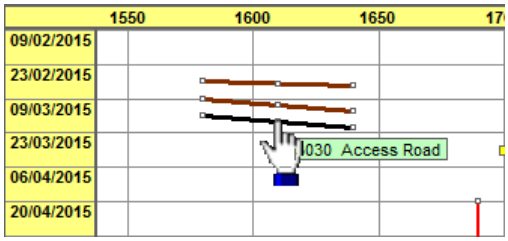
Bar Types 30 to 37



Bar Types 40 to 47

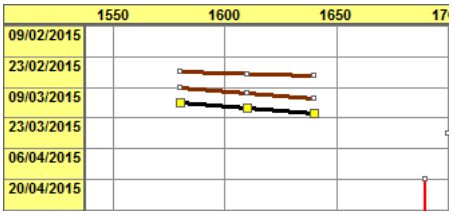
If a point is shown ■ then the ***Task*** has ***Actuals*** allocated and that point cannot be moved.

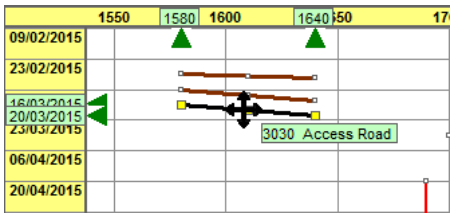
Editing a Task



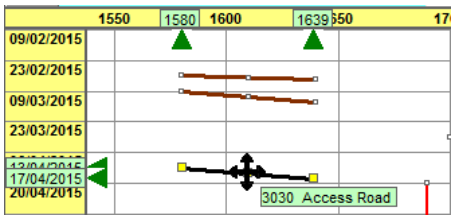
Positioning the cursor over one of the □ points will display a popup box showing the ***Task ID*** and ***Description*** and the cursor will change to the selection pointer .

Clicking the left mouse button on the □ point will select the ***Task***, all three □ points will increase in size to indicate that this is the selected ***Task***. If the point can be moved it will become yellow and it can now be manipulated on the screen using the mouse.

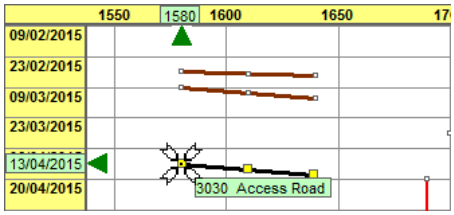




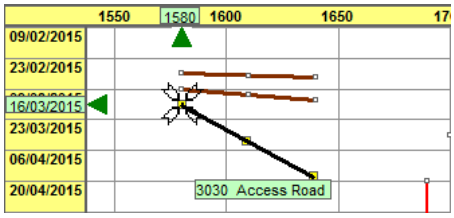
To move the Task in its entirity, click the left mouse button on the centre □ point and hold down the button, the cursor will change to , two arrows will appear next to each of the ***Time*** and ***Location*** axes and boxes indicating the current ***Start*** and ***Finish Dates*** and ***Start*** and ***Finish Locations*** will appear within the axes.



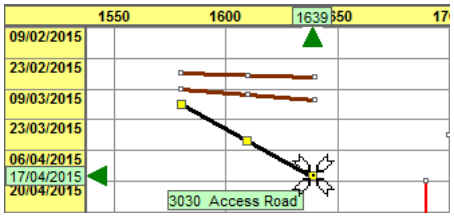
Using the mouse, move the centre □ point to the required dates and/or locations, the arrows and boxes will indicate the new values, and release the button.



To change the ***Start Date*** or ***Start Location*** click the left mouse button on the start □ point and hold down the button, the cursor will change to , an arrow will appear next to each of the ***Time*** and ***Location*** axes and boxes indicating the current ***Start Date*** and ***Start Location*** will appear within the axes.

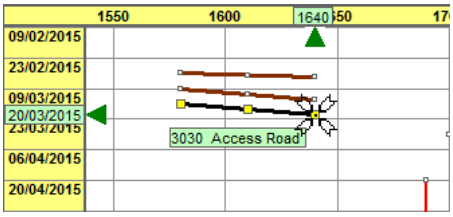


Using the mouse, move the start □ point to the required date and/or location, the arrows and boxes will indicate the new values, and release the button.



To change the ***Finish Date*** or ***Finish Location*** click and hold down on the finish □ point instead of the start.

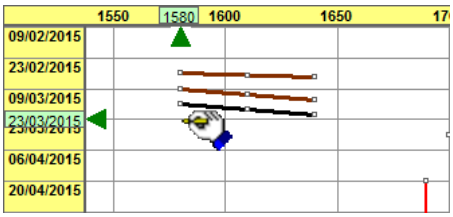
Following the release of the button for any of the above, ***ChainLink 5*** checks the new ***Start*** and ***Finish Dates*** to make sure they are working days. If they are not then starts are moved backwards in time and finishes forwards in time to the nearest working day.



Adding a Task

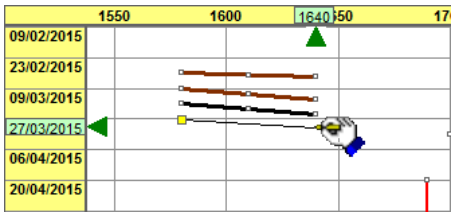
To add a new ***Task*** on the ***Chart*** screen, click on the ***Add Task*** button, the cursor will change to .

Move the cursor on to the ***Chart***, an arrow will appear next to each of the ***Time*** and ***Location*** axes and boxes, indicating the current ***Start Date*** and ***Start Location*** of the cursor, will appear within the axes.



Using the mouse, move the cursor to the required date and/or location, the arrows and boxes will indicate the new values, and click and hold the left mouse button, a yellow □ point will appear.

Still holding the left mouse button, drag the cursor to the required ***Finish Date a***nd ***Finish Location*** and release the button.



Following the release of the button, ***ChainLink 5*** checks the new ***Start*** and ***Finish Dates*** to make sure they are working days. If they are not then starts are moved backwards in time and finishes forwards in time to the nearest working day.

The ***Task ID*** and ***Description***, shown in the ***Toolbar*** will be set to 'New Task', ***Total Float*** to 0, ***Bar Type*** to 0 and ***Profile*** to "Linear" (Professional only). All other fields will be set to blank. These fields may then be edited to the required values.

On large projects the scale of the chart may be too small to achieve accurate dates and locations using the mouse. This can be improved by clicking on the ***Zoom In*** button, which doubles both the time and location scales of the chart. This may be done twice after which the button is hidden.

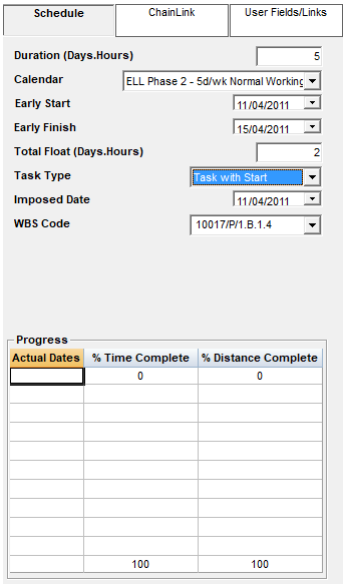
To see the areas of the chart which are beyond the edges of the window, click and hold down the left mouse button on any blank area of the chart, the cursor will change to . Move the mouse until the area of the chart required is visible in the window and release the button. Repeat as many times as necessary to move to the required part of the chart into view.

A zoomed In chart can be reduced to half its current size by clicking on the ***Zoom Out*** button. Once it has been reduced to its original size the button is hidden.

4.1.4. Details Panel

The ***Data Panel*** is a tabbed panel which contains all of the ***Task*** data fields with the exception of the ***Task ID*** and ***Description*** fields. The panel consists of three sections, ***Schedule***, ***ChainLink*** and ***User Fields/Links***

4.1.4.1. Schedule Tab



The ***Schedule Tab*** holds all the timing fields and the WBS Code:-

Duration
Calendar
Start Date/Time)***Early***, ***Late*** or ***Baseline*** dependent on
Finish Date/Time)the ***Schedule*** selected on the ***Toolbar***
Total Float
Task Type
Imposed Date
WBS Code

See section ***4.1.2 Table*** for the definitions of the first five fields and section ***8.1 Additional Fields*** for the definitions of ***Task Type*** and ***Imposed Date***

The ***Schedule*** tab also holds the ***Progress*** table. This table can have two rows or eleven rows depending upon licence version and ***Task*** type.

If the ***ChainLink 5*** licence version is ***Standard*** or the ***Task*** is a milestone or has a ***Duration*** of zero then only the 0% and 100% complete rows are shown. If the licenece version is ***Professional*** and the ***Task*** is not a milestone and has a ***Duration*** greater than zero the nine additional rows are shown between the 0% and 100% complete rows.

The table contains up to four fields:-

Actual Dates — A date field in the format specified in the ***System Settings***, containing the actual date the ***Task*** started or finished or the date at which the percentage progresses were achived. The ***Actual Date*** entered cannot be later than the ***Time Now Date***.

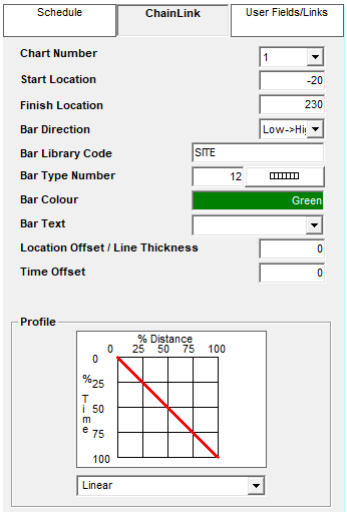
Actual Times — A time field in the format ***hh:mm*** containing the actual time the ***Task*** started or finished or the time at which the percentage progresses were achived.

% Time Complete A numeric field between 0 and 99, indicating the percentage of the ***Duration*** that has been expended on this ***Task*** at the date/time entered in columns 1/2.

% Distance Complete A numeric field between 0 and 99, indicating the percentage of the ***Distance*** that has been achieved on this ***Task*** at the date/time entered in columns 1/2.

As data is entered, checks are done to make sure that the ***Actual Dates*** and ***Times***, ***% Time Complete*** and ***% Distance Complete*** are in sequence. If a date, time or number less than the entry in the previous row is entered, an error message will be displayed.

4.1.4.2. ChainLink Tab



The ***ChainLink Tab*** holds all the location and formatting fields:-

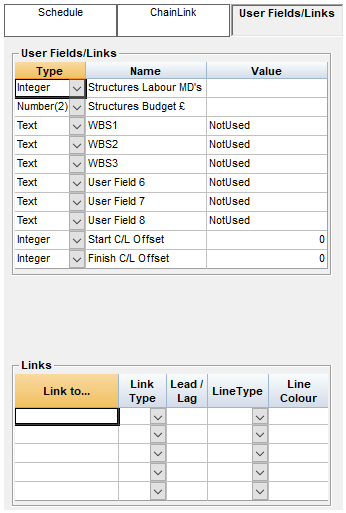
Chart Number
Start Location
Finish Location
Bar Direction
Bar Library Code
Bar Type Number
Bar Colour
Location Offset/Line Thickness
Time Offset

See section ***4.1.2 Table*** for the definitions of these fields

In the ***Professional*** version, the ***ChainLink*** tab also holds the ***Profile*** panel. This panel has a pull-down menu to allow the user to select an existing ***Profile***, from the ***Profile Library***, to be applied, create a new one or customise one specifically for this ***Task***. The selected Profile is also, shown in outline graphical form. The graphic also takes into account the slope of the

bar indicated by the ***Start*** and ***Finish Locations*** or ***Bar Direction*** fields. See section ***5.5 Profiles*** for further details.

4.1.4.3. User Fields/Links Tab



The ***User Fields Tab*** holds up to 10 user defined fields containing additional information about the ***Task*** and 5 ***Links*** to other ***Tasks*** which are to be shown on the ***Chart***.

The ***User Fields*** table contains three fields:-

Type A pull-down menu that allows the user to select the type of data to be held in this field.

The fields can be any of 6 different types:-

Date	A date field in the format specified in the ***System Settings***
Text	Any alpha-numeric characters
Integer	A number with no decimal places
Number(1)	A number with 1 decimal place
Number(2)	A number with 2 decimal place
Number(3)	A number with 3 decimal place

Name An alpha-numeric name to describe this field

Value A value for this field in the format specified by the ***Type*** selection. Numbers entered with the incorrect number of decimal places will be formatted the next time they are loaded

These fields can be used for sorting and filtering.

Any field not required should have “Not Used” entered in the ***Value*** field.

Changing the ***Type*** field after data has been entered may result in the loss of data held in that field for other ***Tasks***. A warning message will be displayed.

The ***Links*** table contains four fields:-

Link to… An alpha-numeric field which matches the ***Task ID*** of another ***Task***

Link Type A pull-down menu that allows the user to select the type of ***Link***.

The ***Link*** can be one of the four standard types:-

S-S Start to Start
S-F Start to Finish
F-S Finish to Start
F-F Finish to Finish

Line Type A pull-down menu that allows the user to select the type of ***Line***.

The ***Line*** can be one of the five standard types:-

_____ Continuous
_ _ _ _ _ _ _ Dashed
..... Dotted
_._._._._._._ Dash Dot
_.._.._.._.._.. Dash Double Dot

Bar Colour A numeric field containing a number between 0 (black) and 16777215 (white) or a colour name from the ***Personal*** or ***Project Colour Library***. If a ***Personal Colour Library*** name is entered then the details are copied to the ***Project Colour Library***. Entering a number in this field will blank any code in the ***Bar Library Code*** field.

4.2. Labels

The ***Labels*** screen provides access to all the ***Label*** data, either by the spreadsheet table or graphics interface (***Professional*** only).

The Time Location Chart can be automatically subdivided, by ***ChainLink 5***, at regular intervals along its location axis, by vertical lines drawn from the top to the bottom of the chart and labelled with the chainage/metreage in numeric units. The spacing of these vertical lines defaults to one tenth of the location range or can be specified by the user. (See ***7.3 Chart Options***).

If subdivisions at irregular intervals or labels other than the numeric references are required then the ***Label*** facility is provided to achieve this.

4.2.1. Toolbars

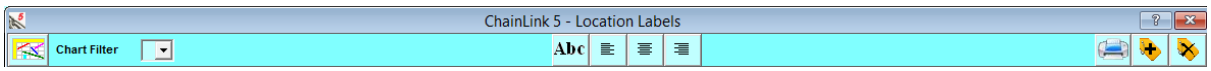


Table Toolbar

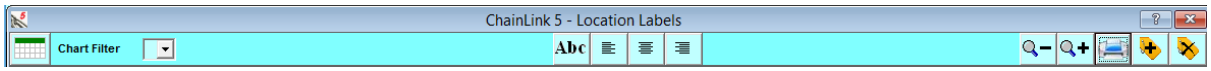


Chart Toolbar (Professional only)

The ***Toolbars*** contains eleven elements to assist in inputting and editing of the ***Labels*** data.

	***Chart Button***	Switches to graphic input screen (***Professional*** ony)
	***Table Button***	Switches to table input screen (***Professional*** ony)
	***Chart Filter***	Filters the display to show only the ***Labels*** that appear on the selected ***Chart***. Selecting blank shows all ***Labels***
	***Font Button***	Displays a Font Dialogue window for the selection of the font and font size for the selected ***Label(s)***
	***Align Left***	Aligns the text of the ***Label*** such that the left end of the text is in line with the vertical grid line. If the ***Label*** text is vertical then the top of the text is lined up grid line
	***Align Centre***	Aligns the text of the ***Label*** such that the centre of the text is in line with the vertical grid line
	***Align Right***	Aligns the text of the ***Label*** such that the right end of the text is in line with the vertical grid line. If the Label text is vertical then the bottom of the text is lined up grid line
	***Zoom Out***	Halves the size of the current ***Chart*** window to improve visibility
	***Zoom In***	Doubles the size of the current ***Chart*** window to improve accuracy.
	***Print Button***	***Table*** input screen - Prints the table of ***Label*** data ***Chart*** input screen - Loads ***Print Preview*** window
	***Add Label Button***	Adds a new ***Label***. See ***4.2.2 Table*** and ***4.2.3 Chart*** on how to add ***Labels***.
	***Delete Label Button***	Deletes the selected ***Label(s)***

4.2.2. Table

Chart Filter	Line Type Number	Line Type Selected	Line Colour	Location v	Label Text
1	0	——	Red	-150	000-150
	1	----	Black	0	000+000
	1	----	Black	250	000+250
	1	----	Black	500	000+500
	1	----	Black	750	000+750
	1	----	Black	1000	001+000
	1	----	Black	1250	001+250
	1	----	Black	1500	001+500
3	0	——	Red	1545	001+545
2	0	——	Red	1585	001+585
	1	----	Black	1750	001+750
3	0	——	Red	1845	001+845
	1	----	Black	2000	002+000
1	0	——	Red	2050	002+050
	1	----	Black	2250	002+250
	1	----	Black	2500	002+500
	1	----	Black	2750	002+750
2	0	——	Red	2945	002+945

The ***Table*** screen is a spreadsheet which contains all of the ***Label*** data fields for easy input and editing. The spreadsheet headers are user definable.

To change the column headers, click on the table header row with the right mouse button. The Column Selection/Naming window wiil be displayed (see ***7.3 Column Selection/Naming***).

To assist with entering and editing data the Edit menu can be accessed as a popup menu by clicking the right mouse button on any data cell of the spreadsheet.

The fields are as follows:-

Chart Number A pull-down menu which allows the user to select the number of the ***Chart*** on which the ***Label*** is to appear. Leave blank if the ***Label*** appears on all ***Charts***.

Line Type Number A numeric field containing a number between 0 and 4 for lines in the ***Standard Bar Type Library***. The field may be allocated directly from the ***Bar Type Library*** window (see section ***5.2 BarType Library***).

Line Type Selected This field is for display only as confirmation that the correct ***Line Type Number*** has been entered. It is populated when the ***Line Type Number*** is entered.

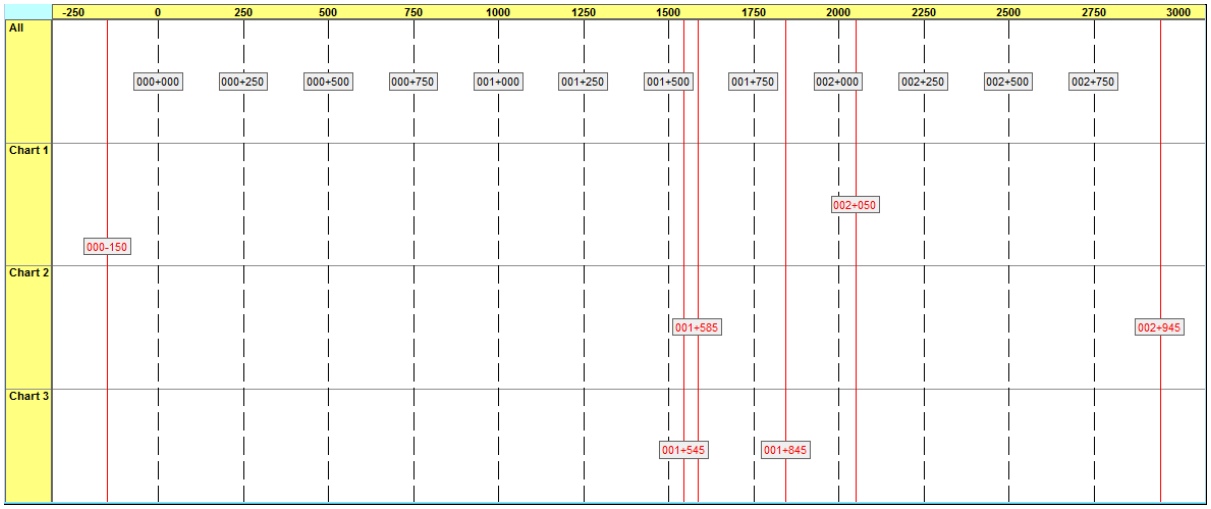
Line Colour A numeric field containing a number between 0 (black) and 16777215 (white) or a colour name from the ***Personal*** or ***Project Colour Library***. If a ***Personal Colour Library*** name is entered then the details are copied to the ***Project Colour Library***. The field may be allocated directly from the ***Colour Library*** window (see section ***5.3 Colour Library***) or can be selected from the ***Colour*** dialogue window by double-clicking on the ***Line Colour*** cell.

Location A numeric field containing the chainage or metreage at which the ***Label*** is appear on the ***Chart***.

Label Text The name or chainage/metreage of the ***Label***.

To add a new ***Label*** on the ***Table*** screen, click on the ***Add Label*** button. A new row will be added to the bottom of the spreadsheet, the ***Line Type*** set to 0, the ***Line Colour*** to 0 (black), the ***Location*** to the centre of the project and the ***Label*** to 'New Label'. All other fields will be set to blank. These fields may then be edited to the required values.

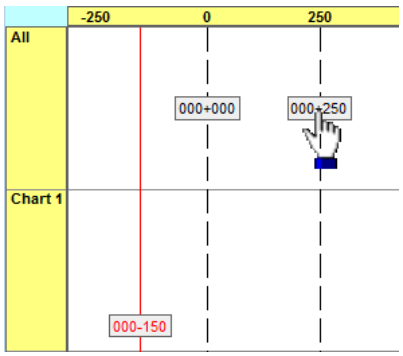
4.2.3. Chart



The ***Chart*** screen is a graphical representation of the ***Label*** data.

Each ***Label*** is shown in its specified ***Colour*** in a grey box, positioned with its line as determined by the text alignment setting. The Line is shown in its specified ***Line Type*** and ***Colour***.

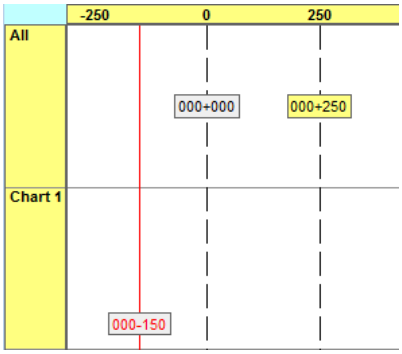
Editing a Label

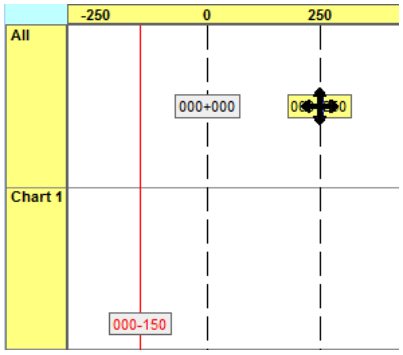


Positioning the cursor over one of the ***Label*** boxes will cause it to change to the selection pointer .

Clicking the left mouse button on the box will select the ***Label***, the background colour of the box will change to yellow to indicate that this is the selected ***Label*** and it can now be edited or manipulated on the screen using the mouse.

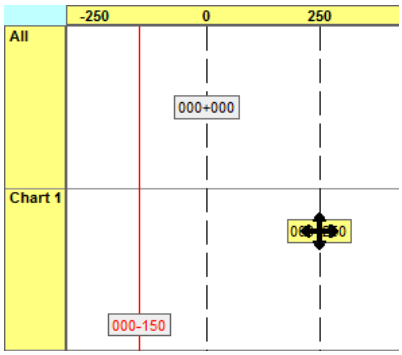
The text of the Label can be edited in the normal way.



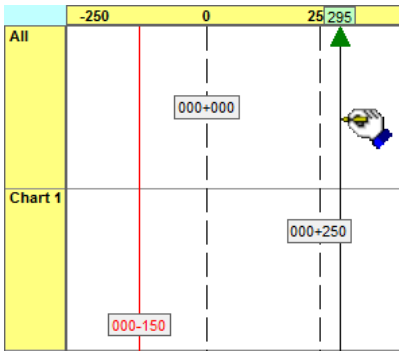


To change the ***Chart Number*** or ***Location*** of the ***Label***, click the left mouse button on the box and hold down the button, the cursor will change to ✣, an arrow will appear next to the location axis and a box indicating the current ***Location*** will appear within the axis.

Using the mouse, move the box left or right to the required ***Location*** or up and down into the required ***Chart Number*** band, the arrow and box will indicate the new location. Release the mouse button where the desired position has been achieved. The box may be placed anywhere within the ***Chart Number*** band in order to avoid overlaps.

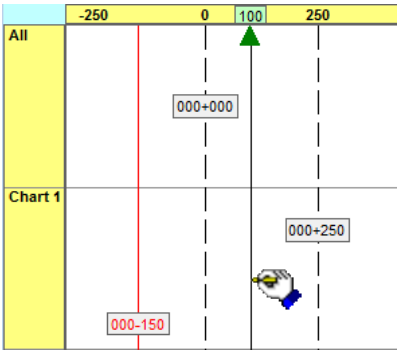


Adding a Label



To add a new ***Label*** on the ***Chart*** screen, click on the ***Add Label*** button, the cursor will change to . Move the cursor on to the ***Chart***, a vertical line, together with an arrow next to the location axis will appear and a box, indicating the current ***Location*** of the cursor, will appear within the axis.

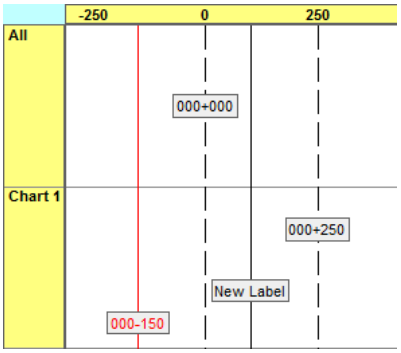
Using the mouse, move the cursor to the required ***Location***, the arrow and box will indicate the new value of the current cursor position.



Click the left mouse button. A new ***Label*** box will appearwith the text set to 'New Label'. This ***Label*** may then be edited as normal.

On large projects the scale of the chart may be too small to achieve accurate dates and locations using the mouse. This can be improved by clicking on the ***Zoom In*** button, which doubles both the time and location scales of the chart. This may be done twice after which the button is hidden.

To see the areas of the chart which are beyond the edges of the window, click and hold down the left mouse button on any blank area of the chart, the cursor will change to . Move the mouse until the area of the chart required is visible in the window and release the button. Repeat as many times as necessary to move to the required part of the chart into view.



A Zoomed In chart can be reduced to half its current size by clicking on the ***Zoom Out*** button. Once it has been reduced to its original size the button is hidden.

4.3. Text

The ***Text*** screen provides access to all the ***Text*** data, either by the spreadsheet table or graphics interface (***Professional*** only).

Other than the text shown on the ***Task*** bars, user defined text can be added to the Time Location Chart in three different places. The Notes box, the Header lines at the top of the chart and within the chart itself.

4.3.1. Toolbars

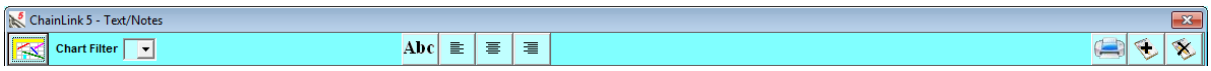


Table Toolbar

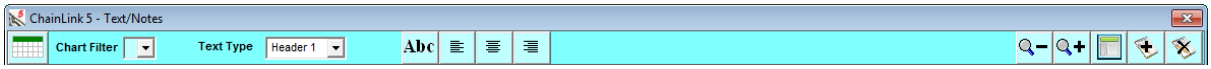


Chart Toolbar (Professional only)

The ***Toolbars*** contain thirteen elements to assist in inputting and editing of the ***Text*** data.

	***Chart Button***	Switches to graphic input screen (***Professional*** ony)
	***Table Button***	Switches to table input screen (***Professional*** ony)
	***Chart Filter***	Filters the display to show only the ***Text*** that appear on the selected ***Chart***. Selecting blank shows all ***Text***
	***Text Type***	Changes the ***Text Type*** of the selected ***Text*** on the ***Chart*** screen only (***Professional*** ony)
	***Font Button***	Displays a Font Dialogue window for the selection of the font, font size and colour of the selected ***Text***
	***Align Left***	Aligns the text such that the start of the text is in line with the left side of the ***Header*** box
	***Align Centre***	Centres the text at the centre of the ***Header*** box
	***Align Right***	Aligns the text such that the end of the text is in line with the right side of the ***Header*** box
	***Zoom Out***	Halves the size of the current ***Chart*** window to improve visibility
	***Zoom In***	Doubles the size of the current ***Chart*** window to improve accuracy.
	***Print Button***	***Table*** input screen - Prints the table of ***Text*** data ***Chart*** input screen - Loads ***Print Preview*** window
	***Headers Button***	Hides/Shows the ***Header*** lines
	***Add Text Button***	Adds new ***Text***. See ***4.3.2 Table*** and ***432.3 Chart*** on how to add ***Text***

Delete Text Button Deletes the selected ***Text***

4.3.2. Table

Chart Number	Text Type	Background Colour	Date	Start Location	Finish Location	Text
	Notes	16777215		0	0	**1. This Note is Arial 10pt regular bold font**
	Notes	16777215		0	0	***2. This Note is Arial 10pt italic bold font***
	Notes	16777215		0	0	3. This Note is Arial 10pt regular font
	Notes	16777215		0	0	*4. This Note is Arial 10pt italic font*
	Notes	16777215		0	0	5. This Note is Arial 10pt regular underlined font
	Notes	16777215		0	0	~~6. This Note is Arial 10pt regular stikeout font~~
1	Text Only	16777215	27/09/2015	1872	1938	Any type of graphics pointer can be used to highlight a bar
1	Full Border	16777215	22/03/2015	1480	1560	*Clipart can be placed anywhere on the chart using Graphics and text using Text/Notes*
1	Line Above	16777215	06/09/2015	1480	1580	**Open Sections 1 and 2 to Traffic (Traffic to use new road from tie-in to new roundabout)**
1	Header 1	8454016		0	1480	**Section 1**
1	Header 1	8454143		1480	1580	**Section 2**
1	Header 1	8454016		1580	1740	**Section 3**
1	Header 1	8454143		1740	2100	**Section 4**
1	Header 1	8454016		2100	2200	**Section 5**

The ***Table*** screen is a spreadsheet which contains all of the ***Text*** data fields for easy input and editing. The spreadsheet headers are user definable.

To change the column headers, click on the table header row with the right mouse button. The Column Selection/Naming window wiil be displayed (see ***7.3 Column Selection/Naming***).

To assist with entering and editing data the Edit menu can be accessed as a popup menu by clicking the right mouse button on any data cell of the spreadsheet.

The fields are as follows:-

Chart Number A pull-down menu which allows the user to select the number of the ***Chart*** on which the ***Text*** is to appear. Leave blank if the ***Text*** appears on all ***Charts***. By default ***Notes*** text does not have a ***Chart Number***

Text Type A pull-down menu which allows the user to select the type of the ***Text*** entry. This is one of fourteen types:-

Text Only Places ***Text*** within the Time Location Chart with no border

Line Above Places ***Text*** within the Time Location Chart below a line drawn at the specified ***Date*** and between the ***Start*** and ***Finish Locations***

Line Below Places ***Text*** within the Time Location Chart above a line drawn at the specified ***Date*** and between the specified ***Start*** and ***Finish Locations***

Full Border	Places ***Text*** within the Time Location Chart with a full border
Notes	Places ***Text*** within the ***Notes*** box. No ***Date*** or ***Start*** and ***Finish Locations*** are required
Header 1-9	Places ***Text*** within the specified ***Header*** line between the specified ***Start*** and ***Finish Locations***. No ***Date*** is required

Background Colour A numeric field containing a number between 0 (black) and 16777215 (white) or a colour name from the ***Personal*** or ***Project Colour Library***. If a ***Personal Colour Library*** name is entered then the details are copied to the ***Project Colour Library***. The field may be allocated directly from the ***Colour Library*** window (see section ***5.3 Colour Library***) or can be selected from the ***Colour*** dialogue window by double-clicking on the ***Background Colour*** cell.

Date A date field in the format specified in the ***System Settings***, containing the date at which the ***Text*** is to be located.

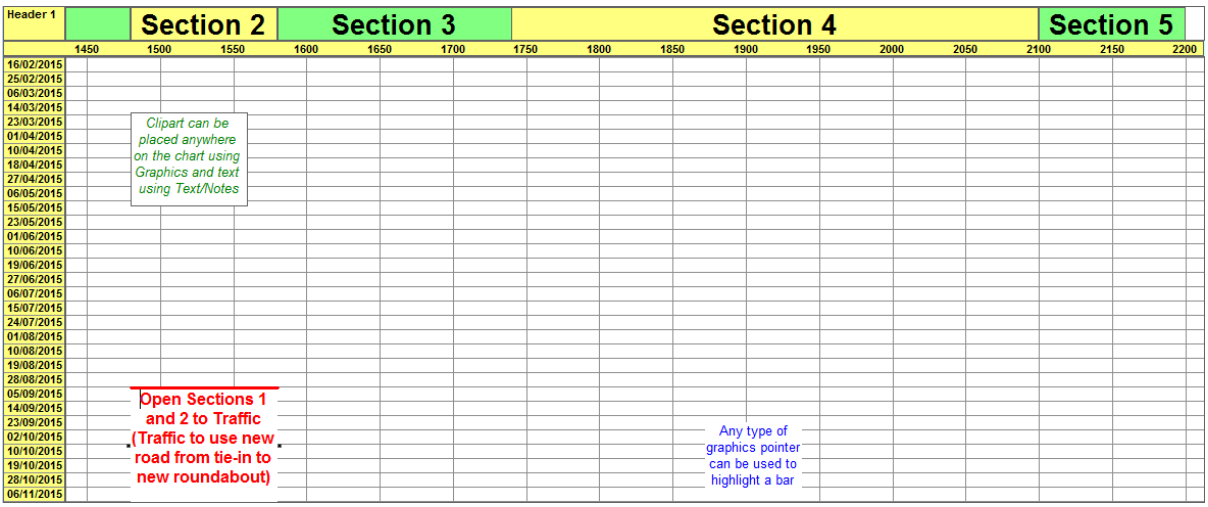
Start Location A numeric field containing the chainage or metreage at which the ***Text*** and/or ***Line*** is to start on the ***Chart***.

Finish Location A numeric field containing the chainage or metreage at which the ***Text*** and/or line is to finish on the ***Chart***.

Text The text to be shown at the specified position.

To add new ***Text*** on the ***Table*** screen, click on the ***Add Text*** button. A new row will be added to the bottom of the spreadsheet, the ***Text Type*** set to 'Full Border', the ***Background Colour*** to 1677215 (white), the ***Date*** to the ***Base Date*** of the project, the ***Start Location*** to the minimum location, the ***Finish Location*** to 10% of total project distance and the ***Text*** to 'New Text'. All other fields will be set to blank. These fields may then be edited to the required values.

4.3.3. Chart

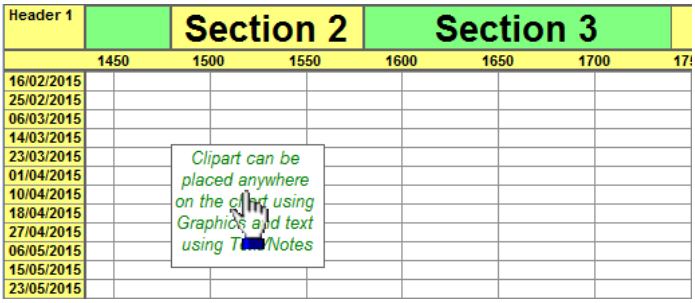


The ***Chart*** screen is a graphical representation of the ***Text*** data.

Each ***Text*** is shown in its specified ***Font*** and ***Background Colour*** in a box, positioned as determined by the ***Date*** and ***Location*** settings.

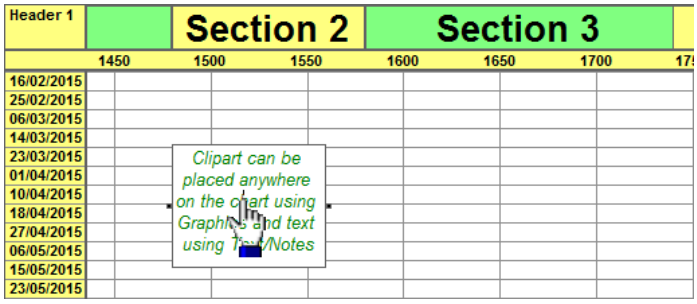
Notes are not shown and cannot be edited on this screen, however, they can be added (see ***Adding Text*** later in this section).

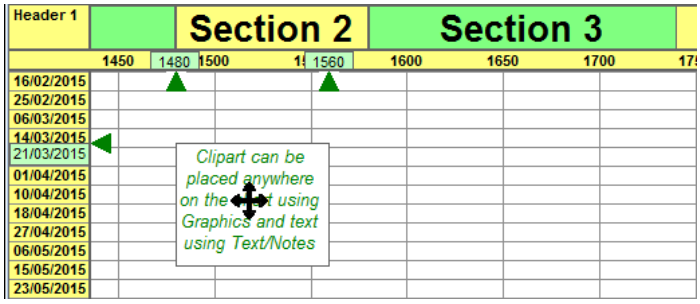
Editing Text



Positioning the cursor over one of the ***Text*** boxes will cause it to change to the selection pointer .

Clicking the left mouse button on the box will select the ***Text***, a start and finish point ▪ will appear at each side of the box to indicate that this is the selected ***Text*** and it can now be edited or manipulated on the screen using the mouse. The text of the Label can be edited in the normal way.

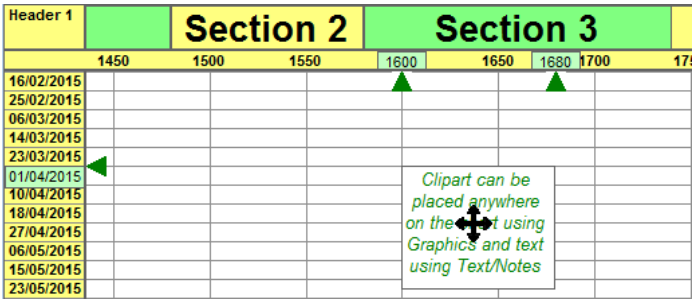


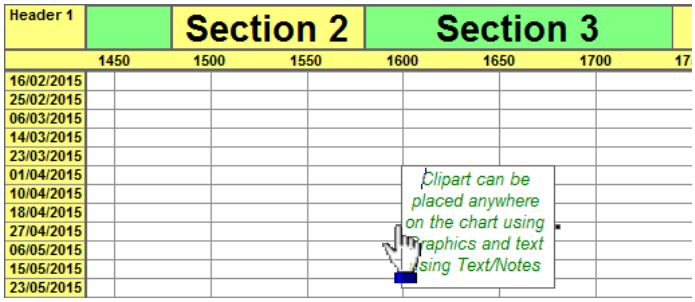


To change the ***Date*** and/or ***Location*** of the ***Text***, click the left mouse button on the box and hold down the button, the cursor will change to ✣, two arrows will appear next to the location axis and boxes indicating the current ***Start*** and ***Finish Locations*** will appear within the location axis.

An arrow will also appear next to the time axis and a box indicating the current ***Date*** will appear within the time axis.

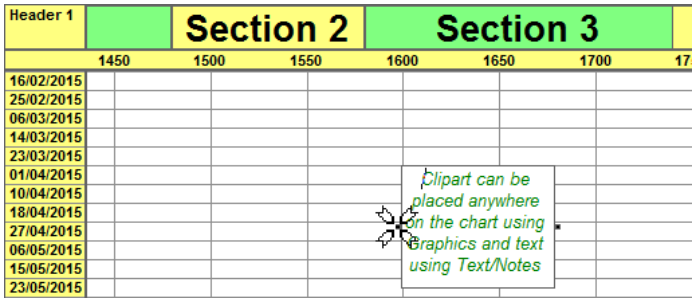
Using the mouse, move the box left or right to the required ***Locations*** or up and down to the required ***Date***, the arrows and boxes will indicate the new locations and date. Release the mouse button when the desired position has been achieved.

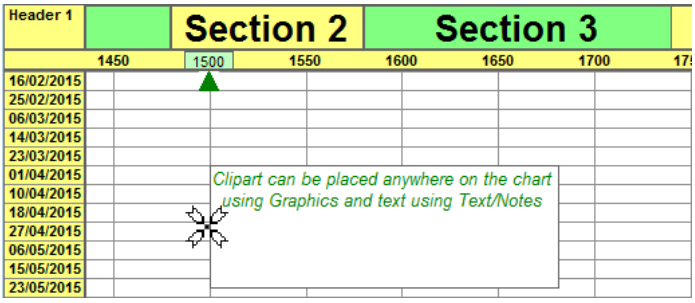




To change the ***Start Location*** of the Text, positioning the cursor over the start point ▪, it will change to the selection pointer ☝.

Click the left mouse button on the start point ▪ and hold down the button, the cursor will change to ✣, an arrow will appear next to the location axis and a box indicating the current ***Start Location*** will appear within the location axis.

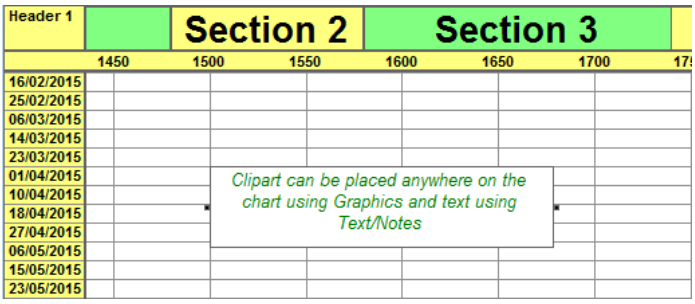




Using the mouse, move the start point ▪ left or right to the required ***Start Location***, the arrow and box will indicate the new location. Release the mouse button when the desired position has been achieved.

The text box will automatically resize to fit the new location parameters.

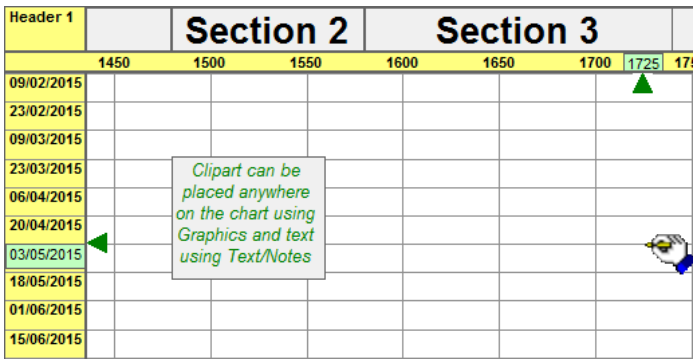
To change the ***Finish Location***, click and hold down on the finish ▪ point instead of the start.



The ***Start*** and ***Finish Locations*** of ***Text*** in the ***Header*** section may be edited in the same way as the ***Text*** in the ***Chart*** section.

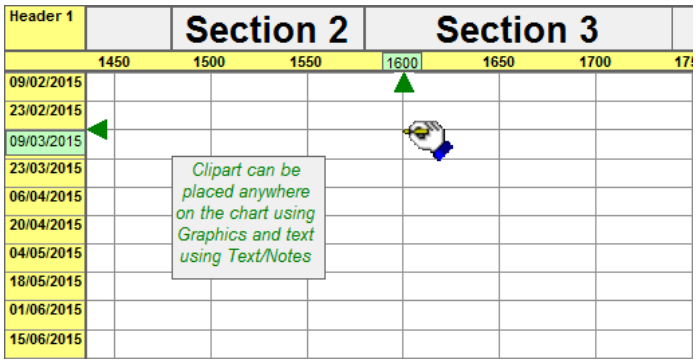
If the selected ***Layout File*** has more than one ***Header Line*** specified then the ***Header Text*** can be moved between lines using the drag method described earlier.

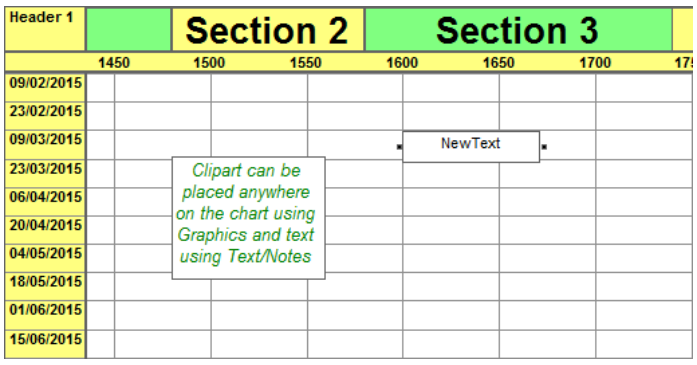
Adding Text



To add new ***Text*** on the ***Chart*** screen, click on the ***Add Text*** button, the cursor will change to and the ***Header*** section will turn grey. Move the cursor on to the ***Chart***, arrows next to the location and time axes will appear and boxes, indicating the current ***Location*** and ***Date*** of the cursor position, will appear within the axes.

Using the mouse, move the cursor to the required ***Location*** and ***Date***, the arrows and boxes will indicate the new values, and click the left mouse button.





A new ***Text*** box will appear with the text set to 'New Text' and the ***Header*** section will be returned to its original state.

This ***Text*** may then be edited, moved or resized as described earlier.

To move the ***Text*** into the ***Header*** section or ***Notes*** change the ***Text Type*** to the required type/line.

On large projects the scale of the chart may be too small to achieve an accurate location using the mouse. This can be improved by clicking on the ***Zoom In*** button, which doubles both the time and location scales of the chart. This may be done twice after which the button is hidden.

To see the areas of the chart which are beyond the edges of the window, click and hold down the left mouse button on any blank area of the chart, the cursor will change to . Move the mouse until the area of the chart required is visible in the window and release the button. Repeat as many times as necessary to move to the required part of the chart into view.

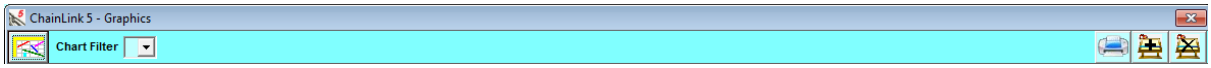
A Zoomed In chart can be reduced to half its current size by clicking on the ***Zoom Out*** button. Once it has been reduced to its original size the button is hidden.

4.4. Graphics

The ***Graphics*** screen provides access to all the ***Graphics*** data by a spreadsheet table.

Graphics can be added to the Time Location Chart in three different places, the ***Diagram*** at the top of the chart, as ***Clipart*** within the chart itself or as one of up to four ***Logos***.

4.4.1. Toolbars



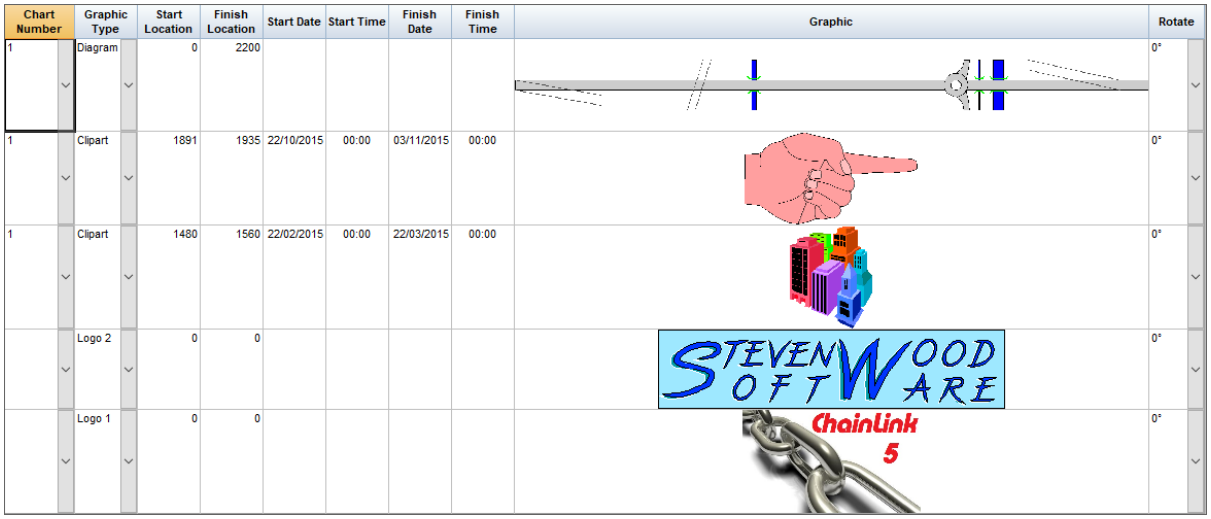
The ***Toolbars*** contain seven elements to assist in inputting and editing of the ***Text*** data.

	***Chart Button***	Switches to graphic input screen (***Professional*** ony)
	***Chart Filter***	Filters the display to show only the ***Text*** that appear on the selected ***Chart***. Selecting blank shows all ***Text***
	***Print Button***	Prints the table of ***Graphics*** data
	***Zoom Out***	Halves the size of the current ***Chart*** window to improve visibility
	***Zoom In***	Doubles the size of the current ***Chart*** window to improve accuracy.

Add Graphic Button Adds a new ***Graphic***. See ***4.4.2 Table*** on how to add ***Graphics***

Delete Graphic Button Deletes the selected ***Graphic(s)***

4.4.2. Table



The ***Table*** screen is a spreadsheet which contains all of the ***Graphics*** data fields for easy input and editing. The ***Graphic*** shown on the spreadsheet is a thumbnail representation of the actual ***Graphic***, held full size in the ***ChainLink 5*** project file, and does not give a true representation of the actual quality. The spreadsheet headers are user definable.

To change the column headers, click on the table header row with the right mouse button. The Column Selection/Naming window wiil be displayed (see ***7.3 Column Selection/Naming***).

To assist with entering and editing data the Edit menu can be accessed as a popup menu by clicking the right mouse button on any data cell of the spreadsheet.

The fields are as follows:-

Chart Number A pull-down menu which allows the user to select the number of the ***Chart*** on which the ***Graphic*** is to appear. Leave blank if the ***Graphic*** appears on all ***Charts***. By default ***Logos*** do not have a ***Chart Number***

Graphic Type A pull-down menu which allows the user to select the type of the ***Graphic*** entry. This is one of 6 types:-

Diagram Places the ***Graphic*** in the ***Diagram*** section at the top of the ***Chart*** between the ***Start*** and ***Finish Locations***

specified. If the specified locations fall outside the location limits of the ***Chart*** then the ***Graphic*** is cropped at the appropriate points.

Clipart Places the ***Graphic*** within the ***Chart*** between the ***Start*** and ***Finish Locations*** and ***Start*** and ***Finish Dates*** specified. If the specified locations fall outside the location and time limits of the ***Chart*** then the ***Graphic*** is cropped at the appropriate points.

Logo 1-4 Places the ***Graphic*** within the Logo Box specified in the Layout. If the proportions of the ***Graphic*** do not match the size of the logo box then the box is adjusted to suit.

Start Location A numeric field containing the chainage or metreage at which the left edge of the ***Graphic*** is to be placed. Not required for ***Logos***

Finish Location A numeric field containing the chainage or metreage at which the right edge of the ***Graphic*** is to be placed. Not required for ***Logos***

Start Date A date field in the format specified in the ***System Settings***, containing the date at which the top of the ***Graphic*** is to placed. Only required for ***Clipart***.

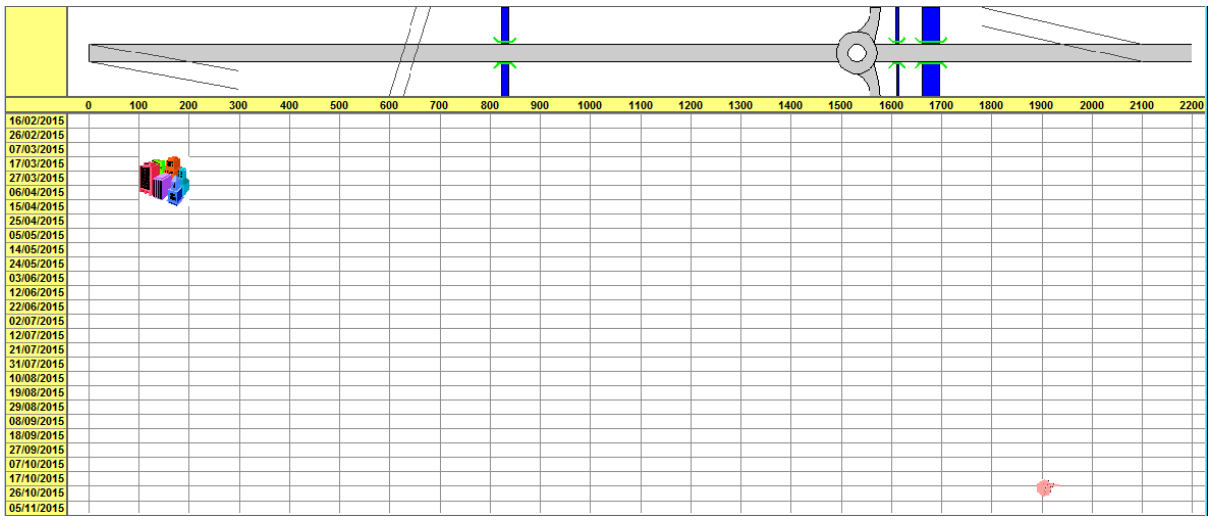
Finish Date A date field in the format specified in the ***System Settings***, containing the date at which the bottom of the ***Graphic*** is to be placed. Only required for ***Clipart***.

Graphic A ***Graphic*** from a .bmp, gif or .jpg file. To load the file, double click on the cell, a File Dialogue window will be loaded to allow selection of the file required.

Rotate A pull-down menu which allows the user to rotate the ***Graphic*** through 90°, 180° or 270° when it is displayed on the chart. Leave at 0° if rotation not required, set at 270° to rotate a diagram for horizontal Time Grid charts if not already rotated.

To add a new ***Graphic*** on the ***Table*** screen, click on the ***Add Graphic*** button. A new row will be added to the bottom of the spreadsheet, the ***Chart Number*** set to 1, the ***Graphic Type*** to Clipart, the ***Start Location*** to the minimum location, the ***Finish Location*** to 10% of total project distance, the ***Start Date*** to the ***Base Date***, the ***Finish Date*** to 25% of the project period and the ***Graphic*** to 'Double-Click here to load Graphic'. These fields may then be edited to the required values.

4.4.3. Chart



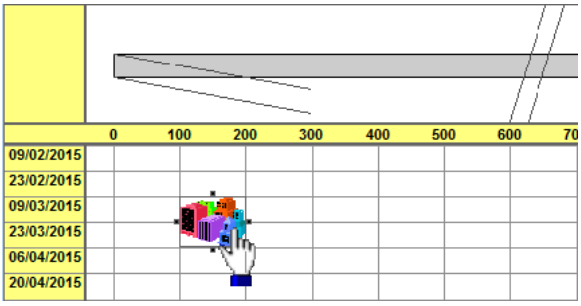
The ***Chart*** screen is a graphical representation of the ***Graphic*** data.

Each ***Graphic*** is positioned as determined by the ***Date*** and/or ***Location*** settings.

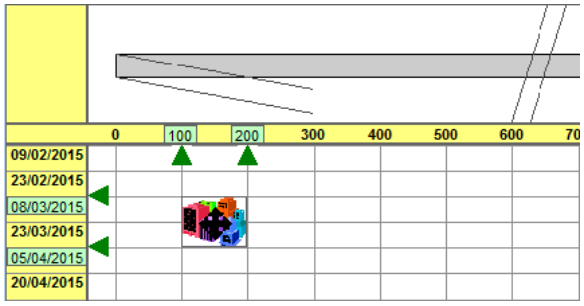
Logos are not shown and cannot be edited on this screen, however, they can be added (see ***Adding Graphics*** later in this section).

Resizing/Repositioning a Graphic

Positioning the cursor over one of the ***Graphic*** boxes will cause it to change to the selection pointer .

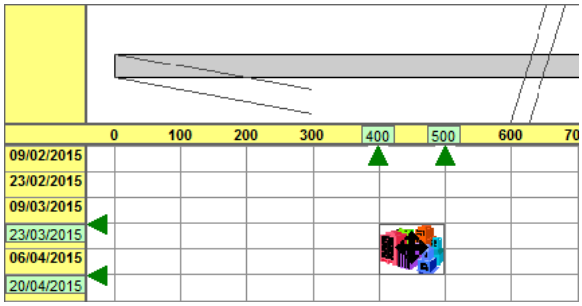


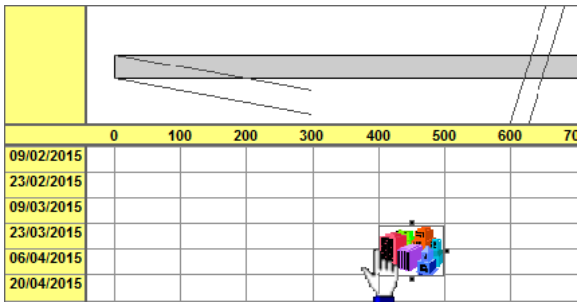
To change the ***Dates*** and/or ***Location*** of the ***Graphic***, click the left mouse button on the box, start and finish points ▪ will appear at the centre points of each side.



Click and hold down the left mouse button, the cursor will change to ✣, two arrows will appear next to the location axis and boxes indicating the current ***Start*** and ***Finish Locations*** will appear within the location axis. Arrows will also appear next to the time axis and a box indicating the current ***Date*** will appear within the time axis.

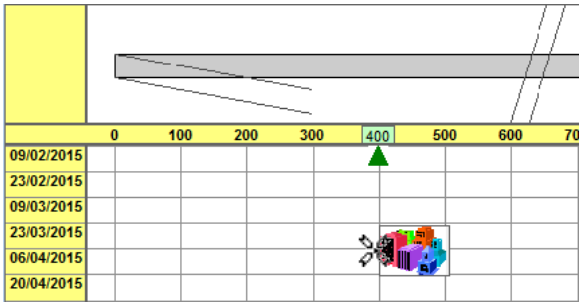
Using the mouse, move the ***Graphic*** left or right to the required ***Locations*** or up and down to the required ***Dates***, the arrows and boxes will indicate the new locations and dates. Release the mouse button when the desired position has been achieved.

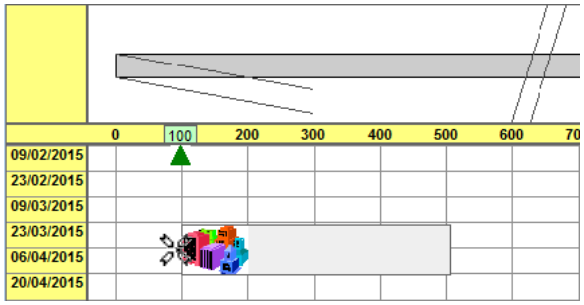




To change the ***Start Location*** of the Text, positioning the cursor over the start point ▪ to the left of the box, it will change to the selection pointer .

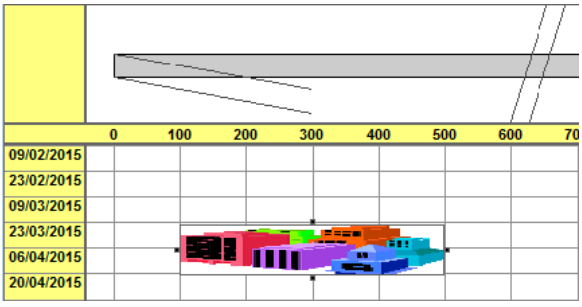
Click the left mouse button on the start point ▪ and hold down the button, the cursor will change to , an arrow will appear next to the location axis and a box indicating the current ***Start Location*** will appear within the location axis.





Using the mouse, move the start point ▪ left or right to the required ***Start Location***, the arrow and box will indicate the new location. Release the mouse button when the desired position has been achieved.

The ***Graphic*** will automatically resize to fit the new location parameters.



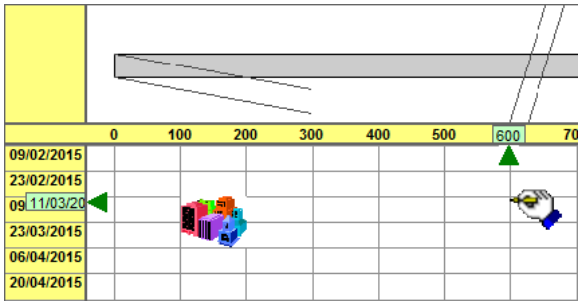
To change the ***Finish Location***, click and hold down on the finish ▪ point to the right of the box instead of the start.

To change the ***Start*** or ***Finish Dates***, click and hold down on the start or finish ▪ point at the top and bottom of the box instead of the sides.

The ***Start*** and ***Finish Locations*** of the ***Graphic*** above the grid may be edited in the same way as the ***Graphic*** within the grid.

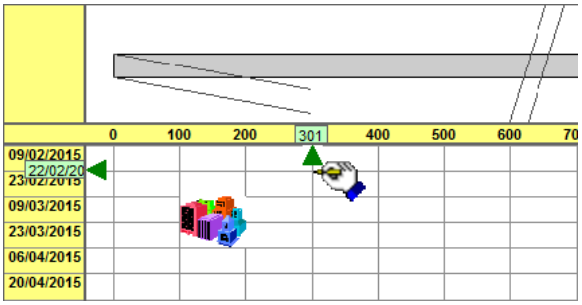
The height of the ***Graphic*** above the grid cannot be changed.

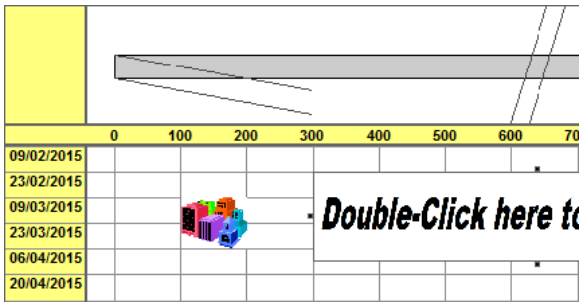
Adding Graphics



To add a new ***Graphic*** on the ***Chart*** screen, click on the ***Add Graphic*** button, the cursor will change to . Move the cursor on to the grid or above the grid, arrows next to the location and time axes will appear and boxes, indicating the current ***Start Location*** and ***Start Date*** of the cursor position, will appear within the axes.

Using the mouse, move the cursor to the required ***Location*** and ***Date***, the arrows and boxes will indicate the new values, and click the left mouse button.





A new ***Graphic*** box will appear with the caption 'Double-Click here to load Clipart'. Double-Click on the box to display a dialogue window to select the ***Graphic*** to be displayed in the box.

This ***Graphic*** may then be moved or resized as described earlier.

To move a ***Graphic*** on the grid to above the grid or vice-versa or to move it to a logo change the ***Graphic Type*** to the required type.

On large projects the scale of the chart may be too small to achieve an accurate location using the mouse. This can be improved by clicking on the ***Zoom In*** button, which doubles both the time and location scales of the chart. This may be done twice after which the button is hidden.

To see the areas of the chart which are beyond the edges of the window, click and hold down the left mouse button on any blank area of the chart, the cursor will change to . Move the mouse until the area of the chart required is visible in the window and release the button. Repeat as many times as necessary to move to the required part of the chart into view.

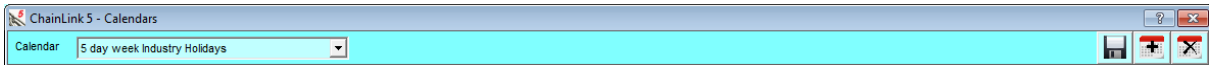
A Zoomed In chart can be reduced to half its current size by clicking on the ***Zoom Out*** button. Once it has been reduced to its original size the button is hidden.

4.5. Calendar

The ***Calendar*** screen provides access to all the ***Calendar*** data.

A project may contain multiple ***Calendars*** with each ***Task*** using any one of them for scheduling purposes. A ***Calendar*** may also be used as the default for the ***Chart*** to display the standard holiday periods.

4.5.1. Toolbar



The ***Toolbar*** contain three elements to assist in inputting and editing of the ***Calendar*** data.

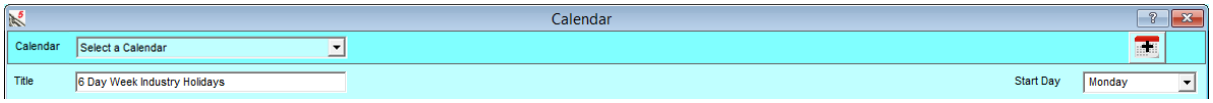
Calendar — A pull-down menu which allows the user to select the ***Calendar*** to be displayed.

Save CalendarButton — Saves the selected ***Calendar***. Only visible if changes have been made.

Add CalendarButton — Adds a new ***Calendar***.

Delete CalendarButton — Deletes the selected ***Calendar*** *The* ***Calendar*** cannot be deleted if it has been allocated to any ***Tasks***

4.5.2. Adding a New Calendar

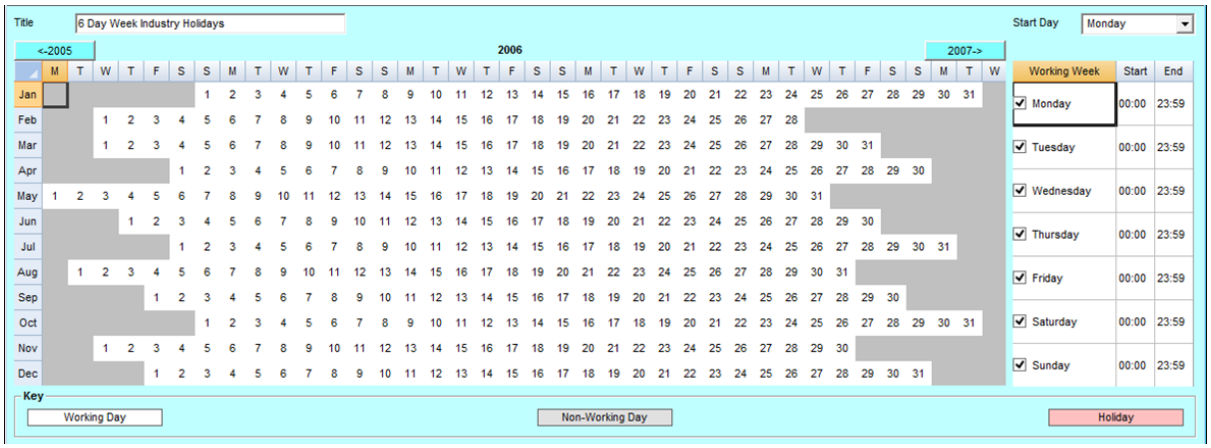


To add a new Calendar click on the ***Add Calendar*** button, the screen will change to display the following two elements:-

Title — A text field describing the ***Calendar***. This field may be edited in the usual way

Start Day — A pull-down menu which allows the user to select on which day the week starts.

Enter a ***Title*** for this ***Calendar*** and left click on the ***Start Day*** menu, you can change the day if required. If the ***Start Day*** menu is clicked before a ***Title*** is entered an error message is displayed. After clicking on the ***Start Day*** menu the remainder of the screen appears, with the displayed year set to that of th ***Base Date***.



The remainder of the screen contains four more elements:-

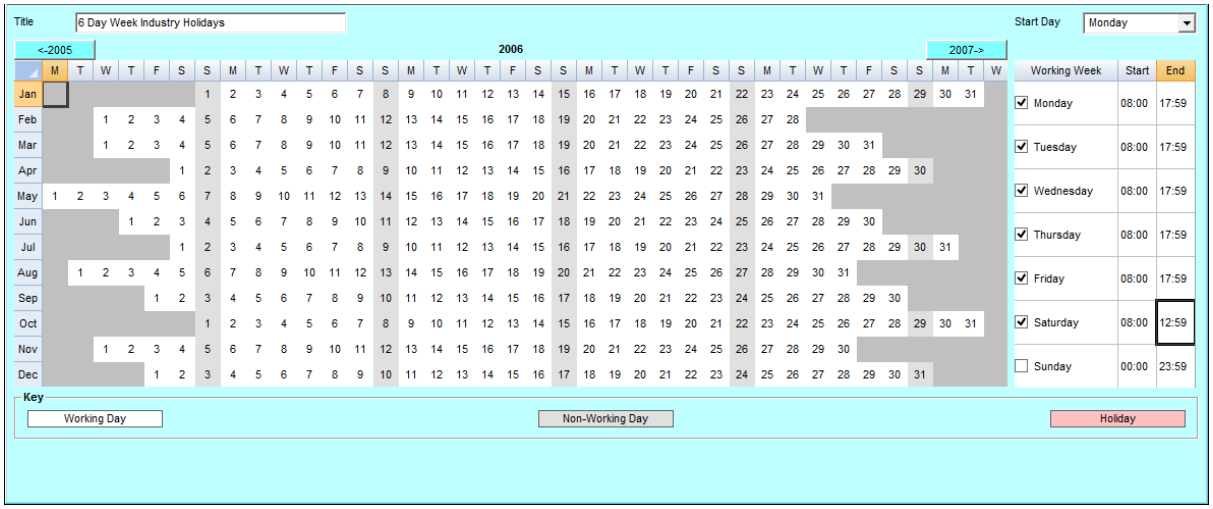
Previous Year Button A button which changes the displayed year to the previous year.

Next Year Button A button which changes the displayed year to the next year

Dates Table A spreadsheet displaying a full year for the selected ***Calendar*** which allows the user to select/deselect the ***Holiday*** dates.

Working WeekTable A spreadsheet displaying the ***Working Week*** for the ***Calendar***, which allows the user to select/deselect the ***Working Days*** and ***Times***.

The ***Working Week*** defaults to a 7 day week and 24 hours per day. Deselect the days of the week that are non-working days by unticking the box using the mouse or by selecting the ***Day Name*** cell and pressing the Enter key. The ***Calendar*** spreadsheet will updated automatically as each day is deselected.



Next set the ***Working Times*** for each day. Though not essential, for consistancy it is advised that ***Finish Times*** should be set to 1 minute before the actual ***Finish Time*** i.e. 17:59 not 18:00. A finish at midnight must always be set to 23:59 as 24:00 is not a valid time.

Now add any Holiday dates that are required.

To add ***Holidays*** to the ***Calendar*** select the cells with a white background containing the dates that are to be ***Holidays***, either by using the mouse, or by using the Shift and arrow keys. Then click the right mouse button or press the 'H' key to set the dates as ***Holidays***.

If the selection includes Non-Working days these will be ignored.

A month or a particular day of a week can be selected by clicking on the row or column header.

To remove a Holiday, select the cells with a pink background containing the Holiday(s) dates to be removed and click the right mouse button or press the 'W' key.

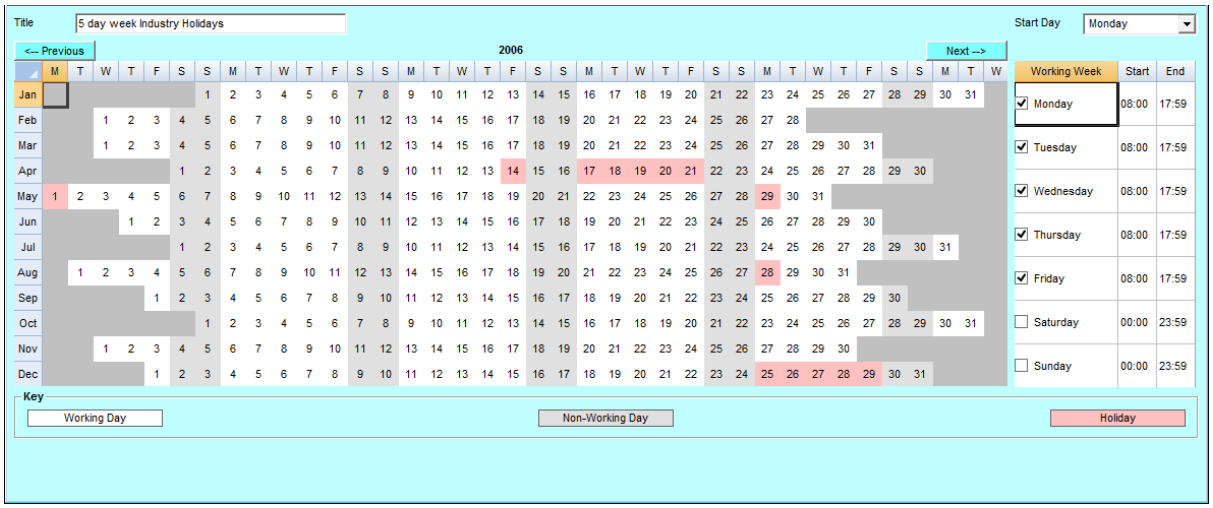
Use the ***Previous Year*** and ***Next Year*** buttons to move backwards and forwards through the years.

The ***Calendar*** details will be saved when the screen is closed or when another ***Calendar*** is created or edited.

4.5.3. Editing an Existing Calendar

To edit an existing Calendar, select the Calendar to be changed from the pull-down menu.

After selecting the ***Calendar*** the main screen appears containing all the ***Calendar*** data and with the displayed year set to that of th ***Base Date***.



The data can now be edited as described in ***4.5.2 Adding a New Calendar***.

4.6. XER Import

The ***XER Import*** screen allows data to be imported into ***ChainLink 5*** from an Oracle Primavera P6 XER file. The import facility can be accessed in three different ways:-

1. Loading an XER file using the ***Open Existing Project*** or ***Open Last Project*** from the Startup window

2. Loading an XER file using the ***File/Open*** or ***File/Recent*** menu from the Main window

3. Loading an XER file using the ***XER Import*** button from the ***Data Ribbon***

The XER file may contain multiple Projects.

Once the file has been selected the data is loaded. Progress is displayed in the ***MESSAGE*** panel on the ***Status Bar*** at the bottom of the ***Main Window***. Dependent on the number of ***Projects***, ***Tasks***, ***Activity Codes*** and ***User Defined Fields*** contained in the XER file, loading can take anything from a few seconds to several minutes.

The utility loads the following tables from the XER file:-

PROJECT	a spreadsheet containing the ***Project*** data
PROJWBS	a spreadsheet containing the ***Work Breakdown Codes***
CALENDAR	a spreadsheet containing the ***Calendar*** data
ACTVCODE	a spreadsheet containing the ***Activity Code*** groups
ACTVTYPE	a spreadsheet containing the ***Activity Codes***
UDFTYPE	a spreadsheet containing the details of the ***User Defined Fields***
TASK	a spreadsheet containing the ***Task*** data
TASKACTV	a spreadsheet containing the ***Activity Codes*** allocated to the ***Tasks***
UDFVALUE	a spreadsheet containing the ***User Defined Fields*** allocated to the ***Tasks***

After the data has been loaded the utility sorts and indexes the ***PROJWBS***, ***TASK***, ***TASKACTV*** and ***UDFVALUE*** tables and builds the ***WBS*** structure before displaying the main ***XER Import*** screen.

4.6.1. Toolbars

Main Screen

Log File Screen

The ***Toolbars*** contain seven elements to assist in importing the data from the XER file.

Import Method A pull-down menu which allows the user to select how the XER data is to be imported. This can be one of 3 methods:-

Create New Project	Clears the current memory of any data already loaded and adds all imported data into a new project.
Add to Existing Project	Adds all imported data to the project data already loaded. **NB** This may duplicate ***Task ID***'s. The option is only available if a project is already loaded.
Update Existing Project	Looks for matching ***Calendar Names*** and ***Task ID***'s and updates the existing data when a match is found. Where no match is found the data is added to the existing data already loaded. The option is only available if a project is already loaded.

Import Allows the user to select which of the three types of data from the XER file are to be imported. This option is only available if ***Add to Existing Project*** or ***Update Existing Project*** is selected.

Project Data If ticked, imports the Project data contained in the XER file i.e. ***Project Title***, ***Default Calendar***, ***Hours/Day***, ***Hours/Week***, ***Base Date*** and ***Time Now***.

Calendars If ticked, imports the ***Calendar*** data contained in the XER file.

Tasks If ticked, imports the ***Task*** data contained in the XER file which match the ***Field Selections*** and ***Filter*** if set.

Links If ticked, imports the ***Links*** data contained in the XER file. Only five ***Links*** per ***Task*** can be imported any more that five will be rejected and shown in the log.

WBS If ticked, imports the ***WBS*** data contained in the XER file.

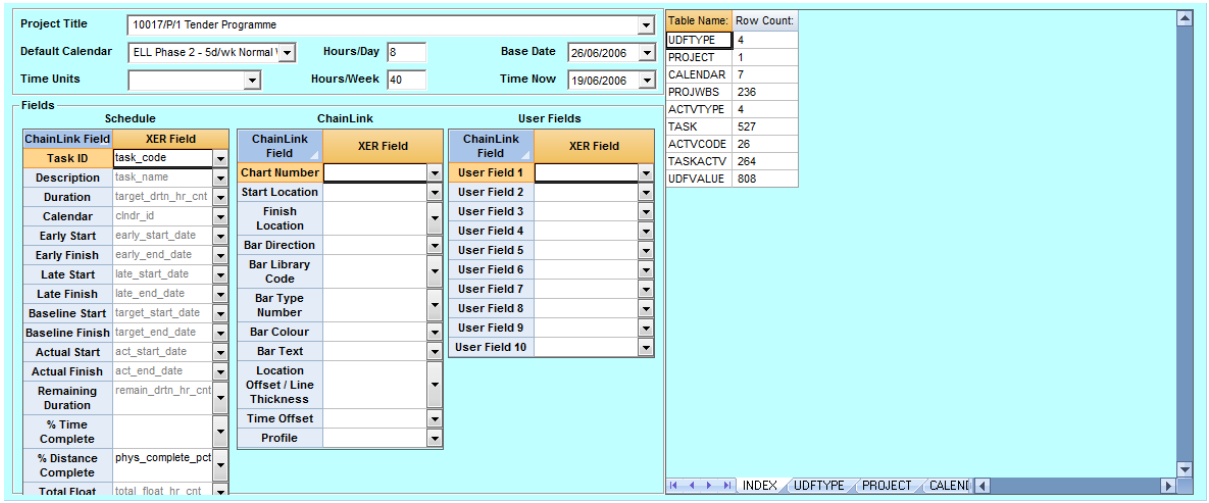
Filter Filters the ***Task*** to be imported. Only ***Tasks*** matching the selected criteria will be imported.

On Completion Allows the user to select what happens once the data has been imported.

Import Button Starts the import

Print Button If the Log File is viewed then this button replaces the Import Button and allows the Log File to be printed.

4.6.2. Main Screen



The main screen contains five elements:-

Project Data A collection of seven fields which comprise the Project Data

Project Title A pull-down menu showing the title of the project loaded from the XER file. If the XER file contained more than one project then this will display an 'All Projects' option and the menu will contain the title of each project individually, to allow a single project to be selected for import

Default Calendar A pull-down menu which allows the user to select the ***Calendar*** to be used as the default for this project.

Time Units A pull-down menu which allows the user to select the ***Time Units*** to be used on this project. If an existing project is already loaded and an ***Import Method*** other than ***Create New Project*** is selected then this will be set to the ***Time Units*** of the loaded project.

Hours/Day A numeric field determining the number of working hours in each day of the project. This field will contain the value imported from the XER file, however, it may be changed if desired.

Hours/Week A numeric field determining the number of working hours in each week of the project. This field will contain the value imported from the XER file, however, it may be changed if desired.

Base Date A date field in the format specified in the ***System Settings***, which determines Week 1 of the project. This field will contain the date imported from the XER file, however, it may be changed if desired.

Time Now A date field in the format specified in the ***System Settings***, which denotes the last completed day of the project. This field will contain the date imported from the XER file, however, it may be changed if desired.

Schedule Table A spreadsheet containing the field mapping for the ***Scheduling*** data of the ***Tasks***. The selections are made from pull-down menus containing all available fields in this section. With the exception of the ***Task ID*** and ***% Distance Complete***, the mapping is predetermined and cannot be changed. **NB** the 'task-id' field available for mapping contains the ***Oracle*** **Primavera P6** database index number, the 'task-code' field contains the P6 user entered ID.

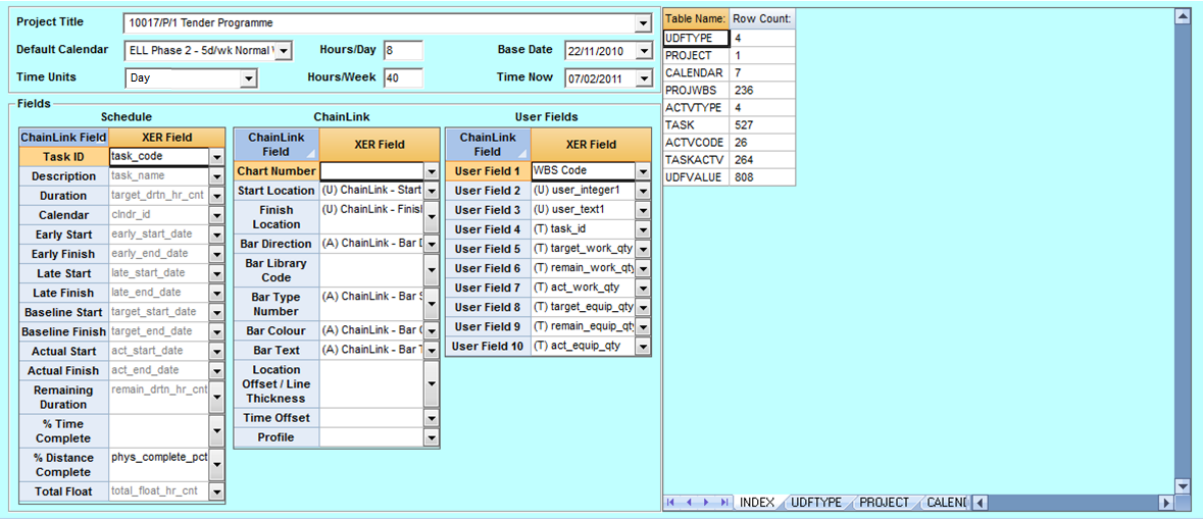
ChainLink Table A spreadsheet containing the field mapping for the ***ChainLink*** data of the ***Tasks***. The selections are made from pull-down menus containing all available fields in this section. A field name preceded by ***(A)*** is an ***Activity Code*** field and by a ***(U)*** is a ***User Defined Field***.

User FieldsTable A spreadsheet containing the field mapping for the ***User Fields*** data of the ***Tasks***. The selections are made from pull-down menus containing all available fields in this section. A field name preceded by ***(A)*** is an ***Activity Code*** field, by a ***(U)*** is a ***User Defined Field*** and by a ***(T)*** is a ***Task*** field.

XER Data Table Spreadsheets containing the imported data from the XER file. These tables are for reference only and should not be changed, except by an expert user of both ***ChainLink 5*** and ***Oracle Primaver P6***.

Before the ***Import Button*** is pressed all blank fields in the ***Project Data*** section must be entered. A warning message will be displayed if any of these fields are blank or invalid.

In the field mapping tables only fields to be imported need to be mapped, any field left blank will be ignored during the import. The selected mapping will be saved and automatically selected the next time an XER file is imported.

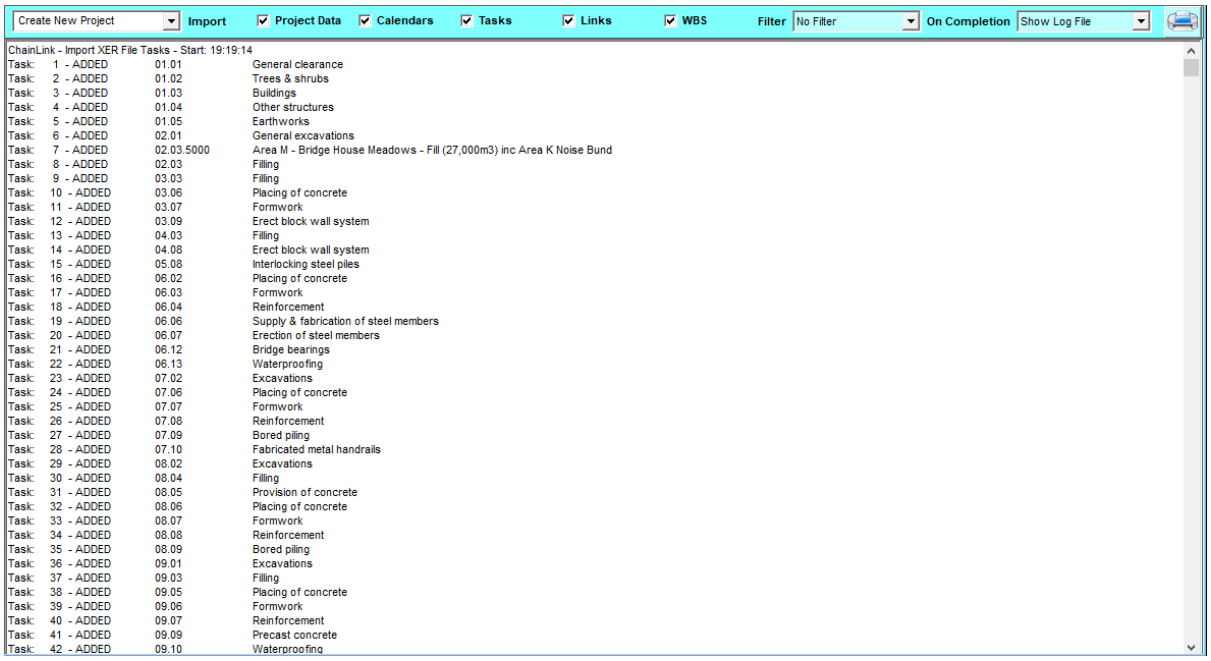


As an XER file contains all the ***Tasks*** that appear in the ***Project***, it is recommended that a ***Filter*** is created and selected which eliminates ***Tasks*** which are not required for the Time Location Chart at this stage, rather than deleting them later.

When all the necessary fields have been populated, the ***Import Method*** and ***Import*** selections made and ***Filter*** set, click on the ***Import Button***.

The data will now be imported. Progress is displayed by scrolling the spreadsheets and on the Progress Bar on the Project Details ribbon.
Dependent on the number of ***Tasks***, ***Activity Codes*** and ***User Defined Fields*** contained in the XER file, loading can take anything from a few seconds to several minutes.

On completion of the import, the ***On Completion*** function selected will be performed. If ***Show Log File*** has been selected, or more than five ***Links*** per ***Task*** have been found, then the log file will be displayed and will show which ***Tasks***, ***Links*** and ***WBS Codes*** were Added, Updated or Rejected.



To print the file click the ***Print Button***.

The imported data can now be viewed and edited by selecting one of the ***Data*** screens.

4.7. MPX Import

The ***MPX Import*** screen allows data to be imported into ***ChainLink 5*** from an Microsoft MPX file. The import facility can be accessed in three different ways:-

1. Loading an MPX file using the ***Open Existing Project*** or ***Open Last Project*** from the Startup window

2. Loading an MPX file using the ***File/Open*** or ***File/Recent*** menu from the Main window

3. Loading an MPX file using the ***MPX Import*** button from the ***Data Ribbon***

Once the file has been selected the data is loaded. Progress is displayed in the ***MESSAGE*** panel on the ***Status Bar*** at the bottom of the ***Main Window***. Dependent on the number of ***Tasks*** contained in the MPX file, loading can take anything from a few seconds to several minutes.

The utility loads the following tables from the MPX file:-

MPX Calendar Data	a spreadsheet containing the ***Calendar*** data. This table is hidden to prevent the imported data being changed
MPX Task Data 1 - n	Spreadsheet containing the ***Task*** data, where n is the number of Tasks/100.

The Task data is split into groups of 100 to improve the loading speed.

4.7.1. Toolbars

Main Screen

Log File Screen

The ***Toolbars*** contain five elements to assist in importing the data from the MPX file.

Import Method A pull-down menu which allows the user to select how the MPX data is to be imported. This can be one of 3 methods:-

Create New Project	Clears the current memory of any data already loaded and adds all imported data into a new project.

Add to Existing Project	Adds all imported data to the project data already loaded. **NB** This may duplicate ***Task ID***'s. The option is only available if a project is already loaded.
Update Existing Project	Looks for matching ***Calendar Names*** and ***Task ID***'s and updates the existing data when a match is found. Where no match is found the data is added to the existing data already loaded. The option is only available if a project is already loaded.

Import Allows the user to select which of the three types of data from the MPX file are to be imported. This option is only available if ***Add to Existing Project*** or ***Update Existing Project*** is selected.

Project Data If ticked, imports the Project data contained in the MPX file i.e. ***Project Title***, ***Default Calendar***, ***Hours/Day***, ***Hours/Week***, ***Base Date*** and ***Time Now***.

Calendars If ticked, imports the ***Calendar*** data contained in the MPX file.

Tasks If ticked, imports the ***Task*** data contained in the MPX file which match the ***Field Selections*** and ***Filter*** if set.

Links If ticked, imports the ***Links*** data contained in the MPX file. Only five ***Links*** per ***Task*** can be imported any more that five will be rejected and shown in the log.

WBS If ticked, imports the ***WBS*** data contained in the MPX file.

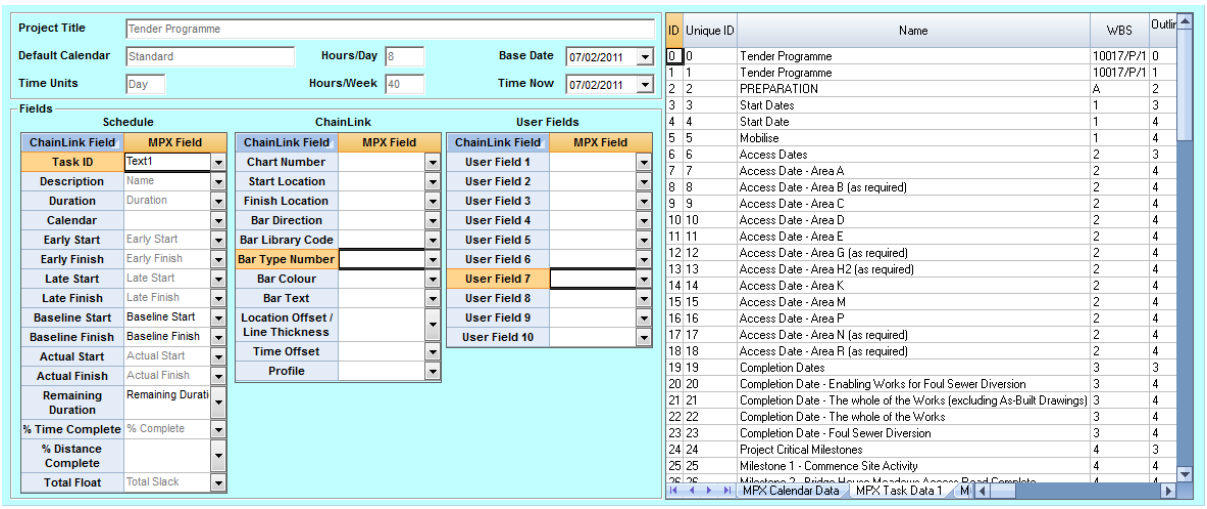
On Completion Allows the user to select what happens once the data has been imported.

Filter Filters the ***Task*** to be imported. Only ***Tasks*** matching the selected criteria will be imported.

Import Button Starts the import

Print Button If the Log File is viewed then this button replaces the Import Button and allows the Log File to be printed.

4.7.2. Main Screen



The main screen contains five elements:-

Project Data A collection of seven fields which comprise the Project Data.

Project Title A pull-down menu showing the title of the project loaded from the MPX file..

Default Calendar A pull-down menu showing the ***Calendar*** to be used as the default for this project.

Time Units A pull-down menu showing the ***Time Units*** to be used for this project.

Hours/Day A numeric field determining the number of working hours in each day of the project.

Hours/Week A numeric field determining the number of working hours in each week of the project.

Base Date A date field in the format specified in the ***System Settings***, which determines Week 1 of the project.

Time Now A date field in the format specified in the ***System Settings***, which denotes the last completed day of the project.

With the exception of the **Base Date** and ***Time Now***, this data is obtained from the MPX file and connot be changed.

Schedule Table A spreadsheet containing the field mapping for the ***Scheduling*** data of the ***Tasks***. The selections are made from pull-down menus containing

all available fields in this section. With the exception of the ***Task ID***, ***Calendar***, ***Baseline Start***, ***Baseline Finish*** and ***% Distance Complete***, the mapping is predetermined and cannot be changed. **NB** the 'ID' and 'Unique ID' fields available for mapping contains the ***Microsoft Project*** Line Numbers, which change as new Tasks are added to the project, so cannot be used sucessfully for updating purposes.

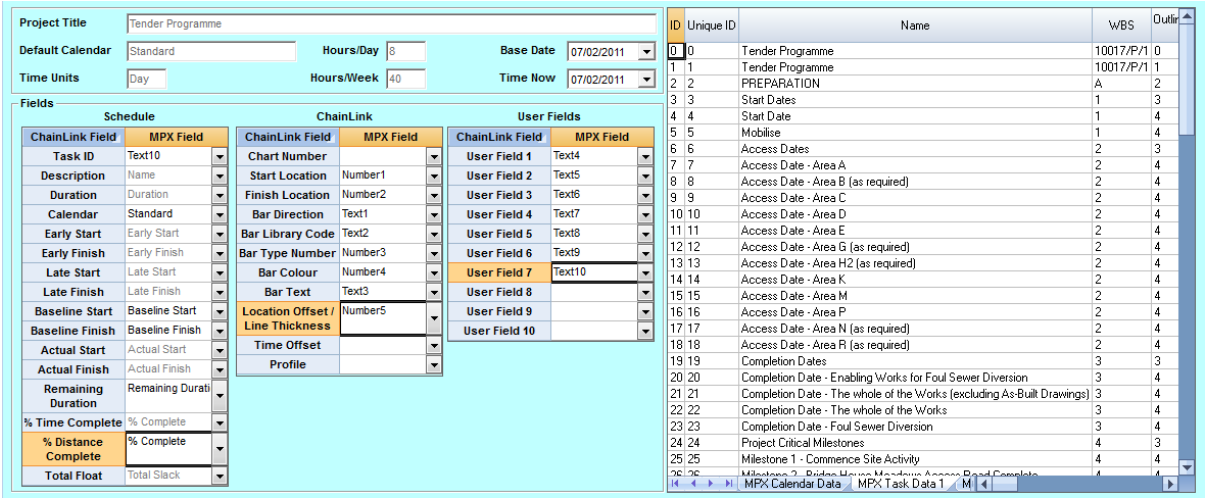
ChainLink Table A spreadsheet containing the field mapping for the ***ChainLink*** data of the ***Tasks***. The selections are made from pull-down menus containing all available fields in this section.

User FieldsTable A spreadsheet containing the field mapping for the ***User Fields*** data of the ***Tasks***. The selections are made from pull-down menus containing all available fields in this section.

MPX Data Table Spreadsheets containing the imported data from the MPX file. This table is for reference only and should not be changed, except by an expert user of ***ChainLink 5***.

Before the ***Import Button*** is pressed all blank fields in the ***Project Data*** section must be entered. A warning message will be displayed if any of these fields are blank or invalid.

In the field mapping tables only fields to be imported need to be mapped, any field left blank will be ignored during the import. The selected mapping will be saved and automatically selected the next time an MPX file is imported.



As an MPX file contains all the ***Tasks*** that appear in the ***Project***, it is recommended that a ***Filter*** is created and selected which eliminates ***Tasks*** which are not required for the Time Location Chart at this stage, rather than deleting them later.

When all the necessary fields have been populated, the ***Import Method*** and ***Import*** selections made and ***Filter*** set, click on the ***Import Button***.

The data will now be imported. Progress is displayed in the ***MESSAGE*** panel on the ***Status Bar*** at the bottom of the ***Main Window***. Dependent on the number of ***Tasks*** and ***Calendars*** contained in the MPX file, loading can take anything from a few seconds to several minutes. On completion of the import, the user will be asked if they wish to see the ***Log File*** which shows which Tasks were Added, Updated or Rejected. If 'Yes' is selected then the ***Log File*** screen is displayed.

To print the file click the ***Print Button***.

The imported data can now be viewed and edited by selecting one of the ***Data*** screens.

4.8. Excel/CSV Import

The ***Excel/CSV Import*** screen allows data to be imported into ***ChainLink 5*** from an Microsoft XLS or a CSV file. **NB** a Microsoft XLSX file cannot be imported (see ***4.9 Clipboard Import*** to overcome this problem).

The import facility can be accessed in three different ways:-

1. Loading an XLS or CSV file using the ***Open Existing Project*** or ***Open Last Project*** from the Startup window

2. Loading an XLS or CSV file using the ***File/Open*** or ***File/Recent*** menu from the Main window

3. Loading an XLS or CSV file using the ***Excel/CSV Import*** button from the ***Data Ribbon***

Once the file has been selected the data is loaded. If the file is an XLS file and there is more than one sheet then the data is imported from the selected sheet. **NB** A combined date/time field is not recognised by the import utility and only the date is imported

4.8.1. Toolbars

Main Screen

Log File Screen

The ***Toolbars*** contain six elements to assist in importing the data from the XLS or CSV file.

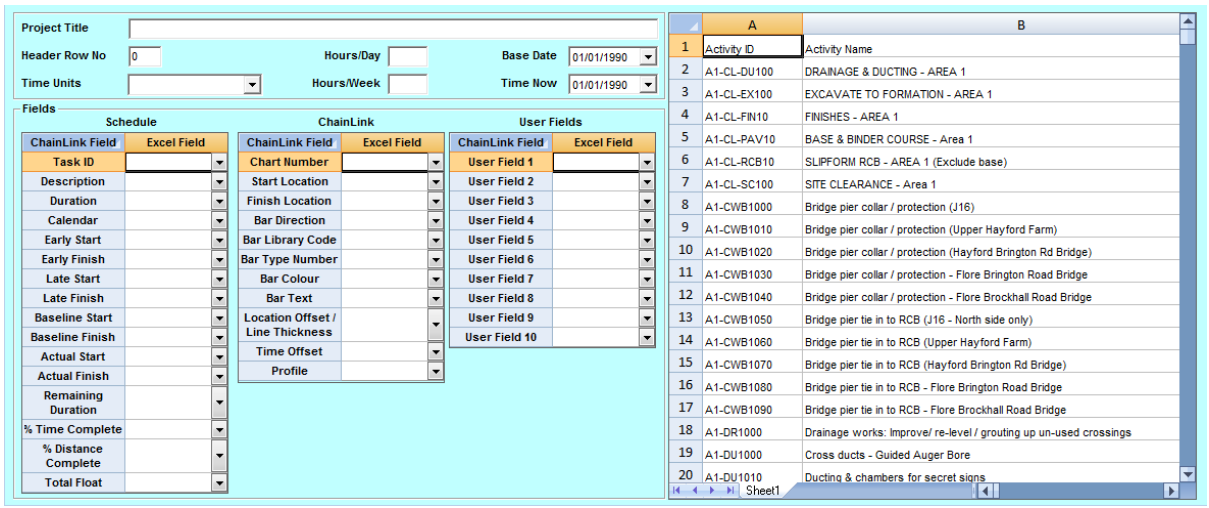
Import Method A pull-down menu which allows the user to select how the XLS or CSV data is to be imported. This can be one of 3 methods:-

Create New Project Clears the current memory of any data already loaded and adds all imported data into a new project.

Add to Existing Project Adds all imported data to the project data already loaded. **NB** This may duplicate ***Task ID***'s. The option is only available if a project is already loaded.

	Update Existing Project	Looks for matching ***Calendar Names*** and ***Task ID***'s and updates the existing data when a match is found. Where no match is found the data is added to the existing data already loaded. The option is only available if a project is already loaded.
Import	***Import***	Allows the user to select which of the two types of data are to be imported. This option is only available if ***Add to Existing Project*** or ***Update Existing Project*** is selected.
☑ Project Data	***Project Data***	If ticked, imports the data entered by the user in the Project Details i.e. ***Project Title***, ***Default Calendar***, ***Hours/Day***, ***Hours/Week***, ***Base Date*** and ***Time Now***.
☑ Tasks	***Tasks***	If ticked, imports the ***Task*** data contained in the XLS or CSV file which match the ***Field Selections*** and ***Filter*** if set.
On Completion: Show Log File	***On Completion***	Allows the user to select what happens once the data has been imported.
Chart Filter	***Filter***	Filters the ***Task*** to be imported. Only ***Tasks*** matching the selected criteria will be imported.
	Import Button	Starts the import
	Print Button	If the Log File is viewed then this button replaces the Import Button and allows the Log File to be printed.

4.8.2. Main Screen



The main screen contains five elements:-

Project Data A collection of seven fields which comprise the Project Data. If an existing project is already loaded and the ***Import Method*** is not set to 'Create New Project' then the ***Project Data*** of the loaded project will automatically entered in these fields.

- ***Project Title*** A text field containing the title of the Project.
- ***Header Row*** A numeric field indicating the row number of the ***XLS/CSV Data Table*** which contains the column headings to be used in the mapping pull-down menus. This is set to zero by default so the A, B, C, etc. headings are used. Changing this setting resets the pull-down menus.
- ***Time Units*** A pull-down menu which allows the user to select the ***Time Units*** to be used for this project.
- ***Hours/Day*** A numeric field determining the number of working hours in each day of the project.
- ***Hours/Week*** A numeric field determining the number of working hours in each week of the project.
- ***Date Format*** Allows the user to specify the format of the imported dates contained in the spreadsheet for correct conversion into the ***ChainLink 5*** format. This is normally dd/mm/yyyy.
- ***Base Date*** A date field in the format specified in the ***System Settings***, which determines Week 1 of the project.
- ***Time Now*** A date field in the format specified in the ***System Settings***, which denotes the last completed day of the project.

Schedule Table A spreadsheet containing the field mapping for the ***Scheduling*** data of the ***Tasks***. The selections are made from pull-down menus containing all available fields in this section.

ChainLink Table A spreadsheet containing the field mapping for the ***ChainLink*** data of the ***Tasks***. The selections are made from pull-down menus containing all available fields in this section.

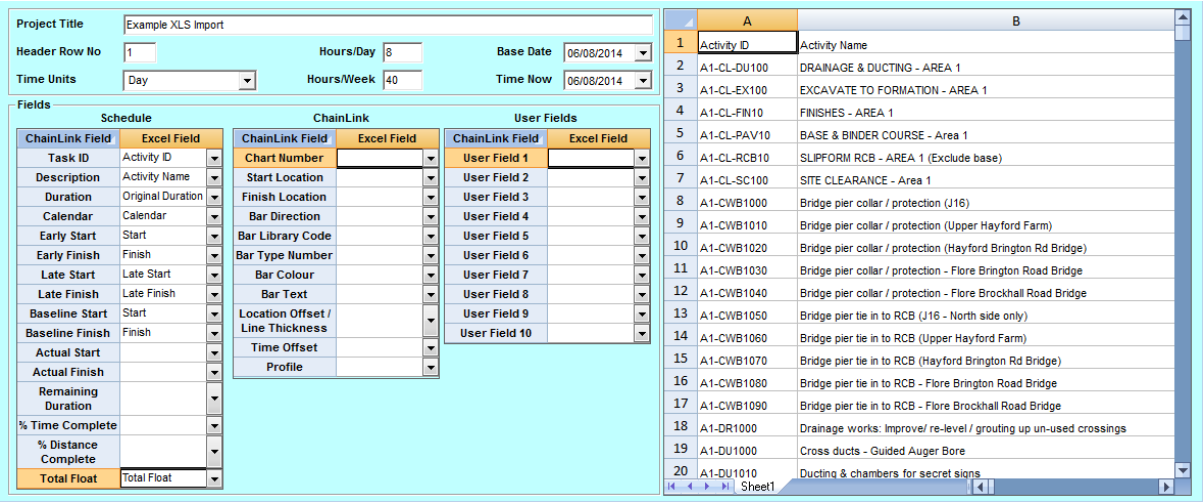
User FieldsTable A spreadsheet containing the field mapping for the ***User Fields*** data of

the ***Tasks***. The selections are made from pull-down menus containing all available fields in this section.

XLS/CSV Data Table A spreadsheet containing the imported data from the XLS or CSV file. This table is for reference only and should not be changed, except by an expert user of ***ChainLink 5***.

Before the ***Import Button*** is pressed all blank fields in the ***Project Data*** section must be entered. A warning message will be displayed if any of these fields are blank or invalid.

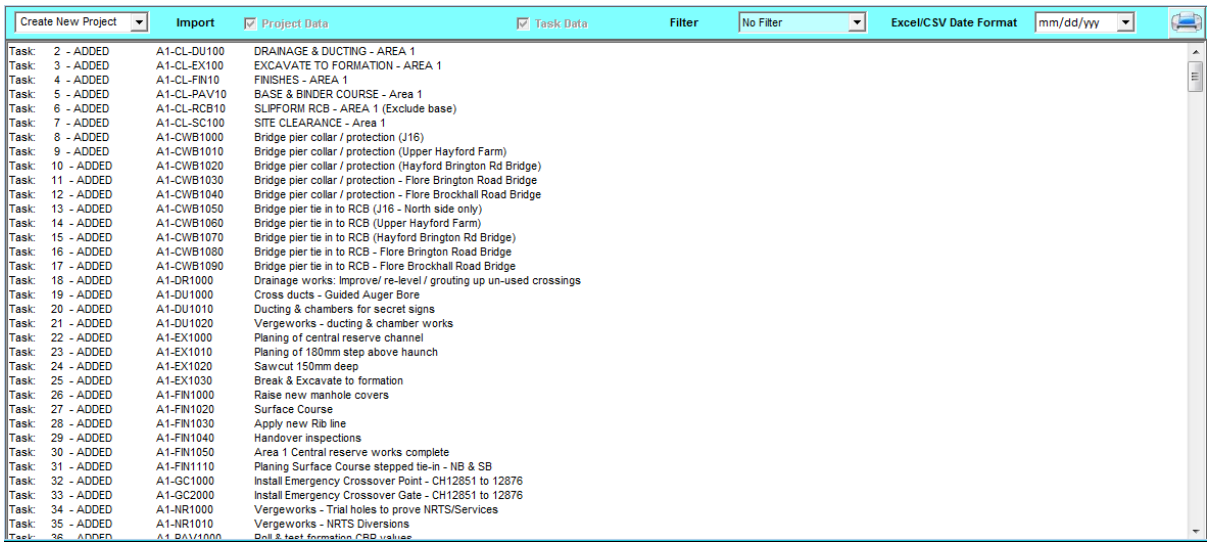
In the field mapping tables, with the exception of the ***Task ID*** field, only fields to be imported need to be mapped, any field left blank will be ignored during the import. If the ***Task ID*** field is mapped to a empty field no ***Tasks*** will be imported. The example below only imports the ***Schedule*** fields. The selected mapping will be saved and automatically selected the next time an XLS or CSV file is imported.



When all the necessary fields have been populated, the ***Import Method*** and ***Import*** selections made and any ***Filter*** set, click on the ***Import Button***.

The data will now be imported. Progress is displayed in the ***MESSAGE*** panel on the ***Status Bar*** at the bottom of the ***Main Window***. Dependent on the number of ***Tasks*** contained in the XLS or CSV file, loading can take anything from a few seconds to several minutes.

On completion of the import, the user will be asked if they wish to see the ***Log File*** which shows which ***Tasks*** were Added, Updated or Rejected. If 'Yes' is selected then the ***Log File*** screen is displayed.



To print the file click the ***Print Button***.

The imported data can now be viewed and edited by selecting one of the ***Data*** screens.

4.9. Clipboard Import

The ***Clipboard Import*** screen allows data to be selectively imported into ***ChainLink 5*** from the Microsoft Windows clipboard rather than by a global Copy and Paste. This facility replaces the 'Paste All' facility in ***ChainLink 4.5***.

This facility provides a work-around for importing Microsoft Excel XLSX files, by loading the file into Excel and copying the entire sheet to the Clipboard before using this method. It also provides a work-around for importing combined date/time fields in a Microsoft Excel XLS file.

The import facility can only be accessed using the ***Clipboard Import*** button from the ***Data Ribbon.***

Before clicking on the button the data must first be copied to the clipboard otherwise an error message is displayed indicating there is no data to import.

4.9.1. Toolbars

Main Screen

Log File Screen

The ***Toolbars*** contain six elements to assist in importing the data from the XLS OR CSV file.

Import Method A pull-down menu which allows the user to select how the Clipboard data is to be imported. This can be one of 3 methods:-

Create New Project	Clears the current memory of any data already loaded and adds all imported data into a new project.
Add to Existing Project	Adds all imported data to the project data already loaded. **NB** This may duplicate ***Task ID***'s. The option is only available if a project is already loaded.
Update Existing Project	Looks for matching ***Calendar Names*** and ***Task ID***'s and updates the existing data when a match is found. Where no match is found the data is

added to the existing data already loaded. The option is only available if a project is already loaded.

Import Allows the user to select which of the two types of data are to be imported. This option is only available if ***Add to Existing Project*** or ***Update Existing Project*** is selected.

Project Data If ticked, imports the data entered by the user in the Project Details i.e. ***Project Title***, ***Default Calendar***, ***Hours/Day***, ***Hours/Week***, ***Base Date*** and ***Time Now***.

Tasks If ticked, imports the ***Task*** data contained in the Clipboard which match the ***Field Selections*** and ***Filter*** if set.

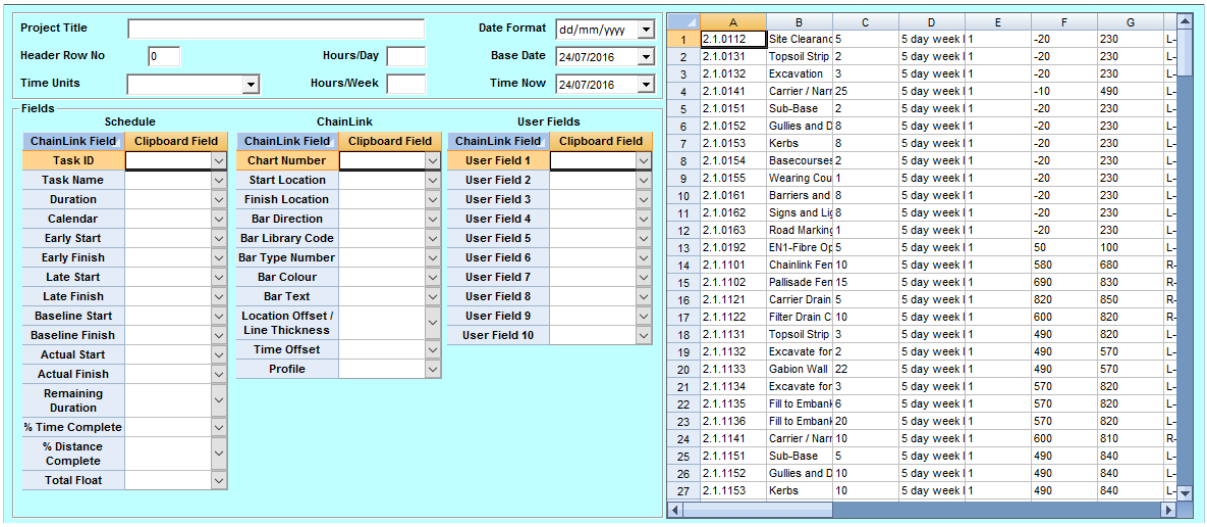
Filter Filters the ***Task*** to be imported. Only ***Tasks*** matching the selected criteria will be imported.

On Completion Allows the user to select what happens once the data has been imported.

Import Button Starts the import

Print Button If the Log File is viewed then this button replaces the Import Button and allows the Log File to be printed.

4.9.2. Main Screen



The main screen contains five elements:-

Project Data A collection of seven fields which comprise the Project Data. If an existing project is already loaded and the ***Import Method*** is not set to 'Create New Project' then the ***Project Data*** of the loaded project will automatically entered in these fields.

Project Title A text field containing the title of the Project.

Header Row A numeric field indicating the row number of the ***Clipboard Data Table*** which contains the column headings to be used in the mapping pull-down menus. This is set to zero by default so the A, B, C, etc. headings are used. Changing this setting resets the pull-down menus.

Time Units A pull-down menu which allows the user to select the ***Time Units*** to be used for this project. If an existing project is already loaded the this will be set to the Time Units of the loaded project.

Hours/Day A numeric field determining the number of working hours in each day of the project.

Hours/Week A numeric field determining the number of working hours in each week of the project.

Date Format Allows the user to specify the format of the imported dates contained in the spreadsheet for correct conversion into the ***ChainLink 5*** format. This is normally dd/mm/yyyy.

Base Date A date field in the format specified in the ***System Settings***, which determines Week 1 of the project.

Time Now A date field in the format specified in the ***System Settings***, which denotes the last completed day of the project.

Schedule Table A spreadsheet containing the field mapping for the ***Scheduling*** data of the ***Tasks***. The selections are made from pull-down menus containing all available fields in this section.

ChainLink Table A spreadsheet containing the field mapping for the ***ChainLink*** data of the ***Tasks***. The selections are made from pull-down menus containing all available fields in this section.

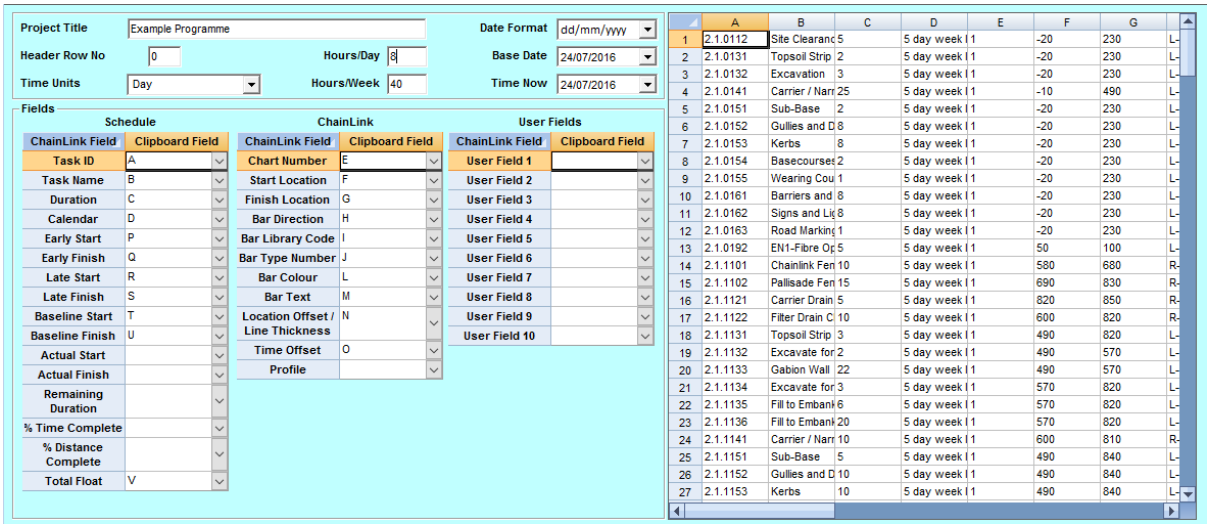
User FieldsTable A spreadsheet containing the field mapping for the ***User Fields*** data of the ***Tasks***. The selections are made from pull-down menus containing

all available fields in this section.

XLS/CSV Data Table A spreadsheet containing the imported data from the XLS or CSV file. This table is for reference only and should not be changed, except by an expert user of ***ChainLink 5***.

Before the ***Import Button*** is pressed all blank fields in the ***Project Data*** section must be entered. A warning message will be displayed if any of these fields are blank or invalid.

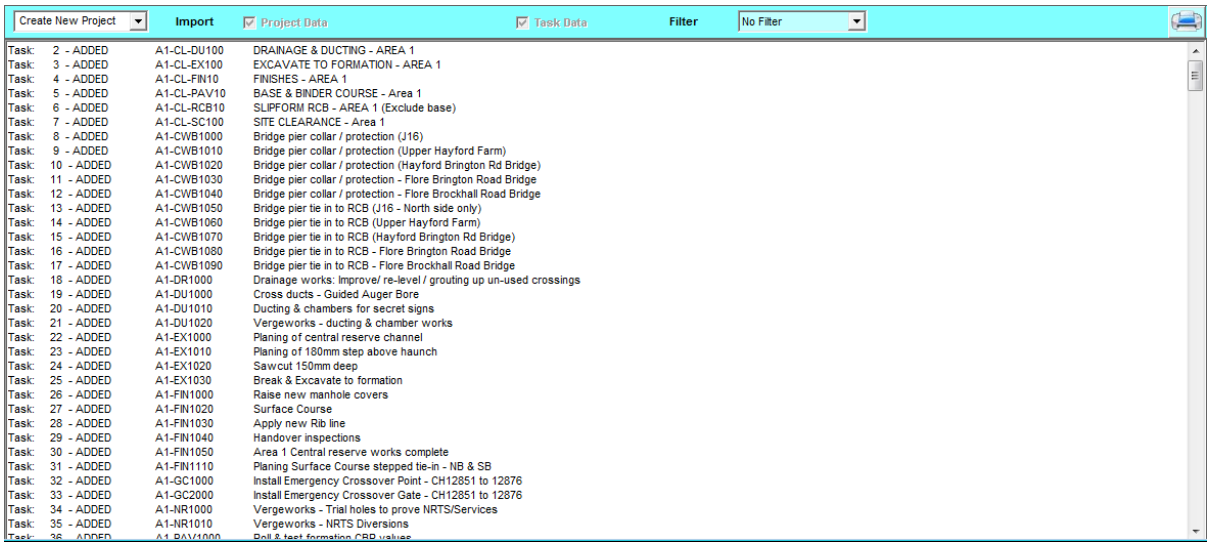
In the field mapping tables, with the exception of the ***Task ID*** field, only fields to be imported need to be mapped, any field left blank will be ignored during the import. If the ***Task ID*** field is mapped to a empty field no ***Tasks*** will be imported. The example below only imports the ***Schedule*** fields. The selected mapping will be saved and automatically selected the next time data from the ***Clipboard*** is imported.



When all the necessary fields have been populated, the ***Import Method*** and ***Import*** selections made and any ***Filter*** set, click on the ***Import Button***.

The data will now be imported. Progress is displayed in the ***MESSAGE*** panel on the ***Status Bar*** at the bottom of the ***Main Window***. Dependent on the number of ***Tasks*** contained in the XLS OR CSV file, loading can take anything from a few seconds to several minutes.

On completion of the import, the user will be asked if they wish to see the ***Log File*** which shows which ***Tasks*** were Added, Updated or Rejected. If 'Yes' is selected then the ***Log File*** screen is displayed.



Task:	2 - ADDED	A1-CL-DU100	DRAINAGE & DUCTING - AREA 1
Task:	3 - ADDED	A1-CL-EX100	EXCAVATE TO FORMATION - AREA 1
Task:	4 - ADDED	A1-CL-FIN10	FINISHES - AREA 1
Task:	5 - ADDED	A1-CL-PAV10	BASE & BINDER COURSE - Area 1
Task:	6 - ADDED	A1-CL-RCB10	SLIPFORM RCB - AREA 1 (Exclude base)
Task:	7 - ADDED	A1-CL-SC100	SITE CLEARANCE - Area 1
Task:	8 - ADDED	A1-CWB1000	Bridge pier collar / protection (J16)
Task:	9 - ADDED	A1-CWB1010	Bridge pier collar / protection (Upper Hayford Farm)
Task:	10 - ADDED	A1-CWB1020	Bridge pier collar / protection (Hayford Brington Rd Bridge)
Task:	11 - ADDED	A1-CWB1030	Bridge pier collar / protection - Flore Brington Road Bridge
Task:	12 - ADDED	A1-CWB1040	Bridge pier collar / protection - Flore Brockhall Road Bridge
Task:	13 - ADDED	A1-CWB1050	Bridge pier tie in to RCB (J16 - North side only)
Task:	14 - ADDED	A1-CWB1060	Bridge pier tie in to RCB (Upper Hayford Farm)
Task:	15 - ADDED	A1-CWB1070	Bridge pier tie in to RCB (Hayford Brington Rd Bridge)
Task:	16 - ADDED	A1-CWB1080	Bridge pier tie in to RCB - Flore Brington Road Bridge
Task:	17 - ADDED	A1-CWB1090	Bridge pier tie in to RCB - Flore Brockhall Road Bridge
Task:	18 - ADDED	A1-DR1000	Drainage works: Improve/ re-level / grouting up un-used crossings
Task:	19 - ADDED	A1-DU1000	Cross ducts - Guided Auger Bore
Task:	20 - ADDED	A1-DU1010	Ducting & chambers for secret signs
Task:	21 - ADDED	A1-DU1020	Vergeworks - ducting & chamber works
Task:	22 - ADDED	A1-EX1000	Planing of central reserve channel
Task:	23 - ADDED	A1-EX1010	Planing of 180mm step above haunch
Task:	24 - ADDED	A1-EX1020	Sawcut 150mm deep
Task:	25 - ADDED	A1-EX1030	Break & Excavate to formation
Task:	26 - ADDED	A1-FIN1000	Raise new manhole covers
Task:	27 - ADDED	A1-FIN1020	Surface Course
Task:	28 - ADDED	A1-FIN1030	Apply new Rib line
Task:	29 - ADDED	A1-FIN1040	Handover inspections
Task:	30 - ADDED	A1-FIN1050	Area 1 Central reserve works complete
Task:	31 - ADDED	A1-FIN1110	Planing Surface Course stepped tie-in - NB & SB
Task:	32 - ADDED	A1-GC1000	Install Emergency Crossover Point - CH12851 to 12876
Task:	33 - ADDED	A1-GC2000	Install Emergency Crossover Gate - CH12851 to 12876
Task:	34 - ADDED	A1-NR1000	Vergeworks - Trial holes to prove NRTS/Services
Task:	35 - ADDED	A1-NR1010	Vergeworks - NRTS Diversions
Task:	36 - ADDED	A1-PAV1000	Roll & test formation CBR values

To print the file click the ***Print Button***.

The imported data can now be viewed and edited by selecting one of the ***Data*** screens.

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Section 5

Libraries

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5. Libraries

The ***Libraries*** windows provide access to all aspects of the ***Library*** data.

The ***Libraries*** are accessed from the ***Libraries Ribbon*** by clicking on the appropriate icon. The icon will appear depressed and remain depressed whilst ever the window remains open. To close the window re-click the ribbon icon or click on the button.

All windows are independent of the main ***ChainLink 5*** window and are individually colour coded.

All the ***Library*** windows may be opened at the same time and remain open until closed by the user. Any ***Library*** window, which is open when ***ChainLink 5*** is closed will also be closed, however, they will be re-opened when it is re-loaded.

The position of each ***Library*** window is saved on closing and will be appear in the same position when re-opened.

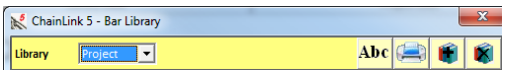
The elements on each window vary dependent on the ***Library*** loaded, however, each screen contains, as a minimum, a toolbar and a spreadsheet.

5.1. Bar Library

The ***Bar Library*** window gives access to the ***Personal*** and ***Project Bar Libraries*** and comprises of a toolbar and a spreadsheet.

The window is colour coded yellow.

5.1.1. Toolbar



The ***Toolbars*** contains five elements to assist in inputting and editing of the ***Bar Library*** data.

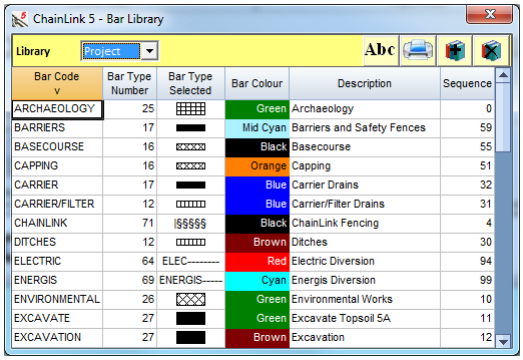
Library Filter — A pull-down menu that allows the user to filters the display to show only the ***Bar Codes*** that appear in the ***Personal*** or ***Project Library***.

Font Button — Displays a Font Dialogue window for the selection of the font and font size for the selected ***Bar Code***

Print Button — Prints the table of ***Bar Library*** data

	***Add Bar Code Button***	Adds a new ***Bar Code***. See ***5.1.2 Table*** on how to add ***Bar Codes***.
	***Delete Bar Code Button***	Deletes the selected ***Bar Code(s)***

5.1.2. Table



Bar Code	Bar Type Number	Bar Type Selected	Bar Colour	Description	Sequence
ARCHAEOLOGY	25		Green	Archaeology	0
BARRIERS	17		Mid Cyan	Barriers and Safety Fences	59
BASECOURSE	16		Black	Basecourse	55
CAPPING	16		Orange	Capping	51
CARRIER	17		Blue	Carrier Drains	32
CARRIER/FILTER	12		Blue	Carrier/Filter Drains	31
CHAINLINK	71		Black	ChainLink Fencing	4
DITCHES	12		Brown	Ditches	30
ELECTRIC	64	ELEC--------	Red	Electric Diversion	94
ENERGIS	69	ENERGIS------	Cyan	Energis Diversion	99
ENVIRONMENTAL	26		Green	Environmental Works	10
EXCAVATE	27		Green	Excavate Topsoil 5A	11
EXCAVATION	27		Brown	Excavation	12

The ***Table*** is a spreadsheet which contains all of the ***Bar Library*** data fields for easy input and editing. The spreadsheet headers are user definable.

To change the column headers, click on the table header row with the right mouse button. The Column Selection/Naming window wiil be displayed (see ***7.3 Column Selection/Naming***).

To assist with entering and editing data the Edit menu can be accessed as a popup menu by clicking the right mouse button on any data cell of the spreadsheet.

The fields are as follows:-

Bar Code An alpha-numeric code unique to the selected ***Personal*** or ***Project Library***. The same code may appear in both libraries with similar or different combinations of ***Bar Type***, ***Colour*** and ***Description***. All codes are automatically converted to upper case.

Bar Type Number A numeric field containing a number between 0 and 55 for bars in the ***Standard Bar Type Library*** or 60+ for User Defined Bars in the ***Personal*** or ***Project Bar Type Libraries***. If a ***Personal Bar Type Library*** name is entered and the ***Project Bar Library*** is displayed then the details are copied to the ***Project Bar Type Library***. The field may be allocated directly from the ***Bar Type Library*** window (see section ***5.2 BarType Library***), however, ***Project Bar Types*** cannot be allocated to the ***Personal Bar Library***.

Bar Type Selected This field is for display only as confirmation that the correct ***Bar Type Number*** has been entered. It is populated when the ***Bar Type Number*** is entered.

Bar Colour A numeric field containing a number between 0 (black) and 16777215 (white) or a colour name from the ***Personal*** or ***Project Colour Library***. If a ***Personal Colour Library*** name is entered and the ***Project Bar Library*** is displayed then the details are copied to the ***Project Colour Library***. The field may be allocated directly from the ***Colour Library*** window (see section ***5.3 Colour Library***) or can be selected from the ***Colour*** dialogue window by double-clicking on the ***Bar Colour*** cell. **NB** ***Project Colours*** cannot be allocated to the ***Personal Bar Library***.

Description A text field describing the type of Task that is indicated by this ***Bar Type*** and ***Colour*** combination.

Sequence A numeric field to determine the order in which the bars appear in the ***Legend*** on the ***Chart***.

To add a new ***Bar Code*** on the ***Table***, click on the ***Add Bar Code*** button. A new row will be added to the bottom of the spreadsheet, the ***Bar Code*** set to 'NEW CODE', ***Bar Type*** to zero, the Bar ***Colour*** to 0 (black), the ***Description*** to the 'New Code' and the ***Sequence*** to the next highest number. These fields may then be edited to the required values.

5.1.3. Allocating Bar Codes to Tasks

To allocate ***Bar Codes*** to ***Tasks*** using the ***Bar Library*** open the ***Tasks*** data screen and select the ***Task(s)*** to which the code is to be allocated. If it is being allocated to multiple ***Tasks*** then it may be helpful to sort the ***Tasks*** spreadsheet by the ***Description*** column in order to collect the ***Tasks*** with similar descriptions together in the same block.

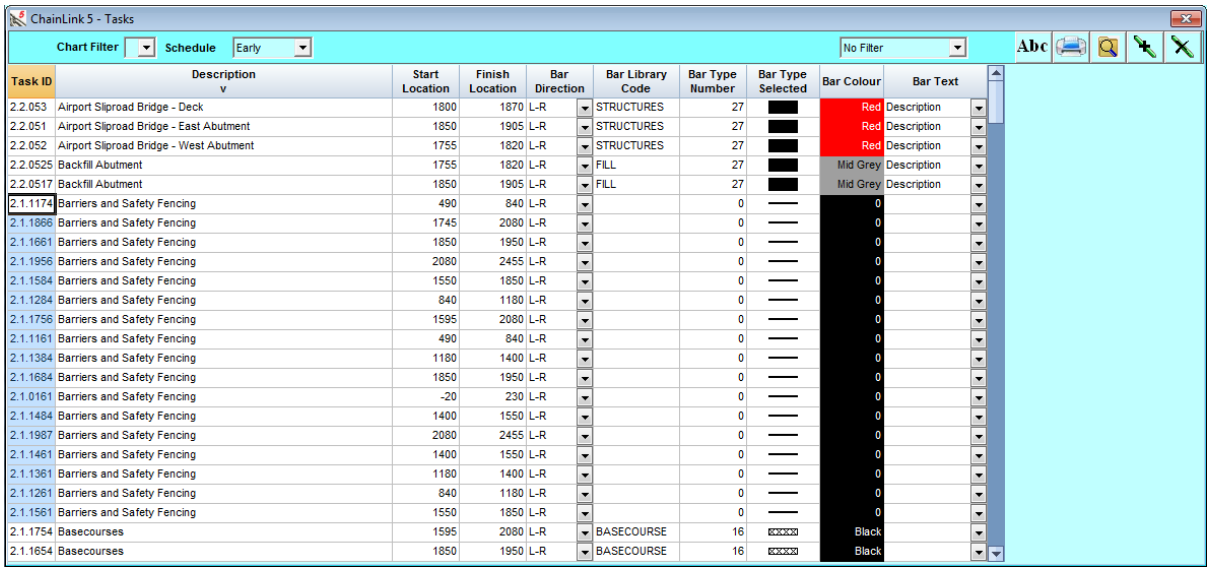
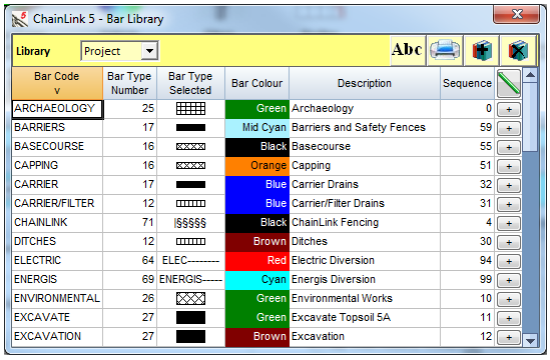

ChainLink 5 - Tasks

Chart Filter | Schedule: Early | No Filter

Task ID	Description	Start Location	Finish Location	Bar Direction	Bar Library Code	Bar Type Number	Bar Type Selected	Bar Colour	Bar Text
2.2.053	Airport Sliproad Bridge - Deck	1800	1870	L-R	STRUCTURES	27		Red	Description
2.2.051	Airport Sliproad Bridge - East Abutment	1850	1905	L-R	STRUCTURES	27		Red	Description
2.2.052	Airport Sliproad Bridge - West Abutment	1755	1820	L-R	STRUCTURES	27		Red	Description
2.2.0525	Backfill Abutment	1755	1820	L-R	FILL	27		Mid Grey	Description
2.2.0517	Backfill Abutment	1850	1905	L-R	FILL	27		Mid Grey	Description
2.1.1174	Barriers and Safety Fencing	490	840	L-R		0		0	
2.1.1866	Barriers and Safety Fencing	1745	2080	L-R		0		0	
2.1.1661	Barriers and Safety Fencing	1850	1950	L-R		0		0	
2.1.1956	Barriers and Safety Fencing	2080	2455	L-R		0		0	
2.1.1584	Barriers and Safety Fencing	1550	1850	L-R		0		0	
2.1.1284	Barriers and Safety Fencing	840	1180	L-R		0		0	
2.1.1756	Barriers and Safety Fencing	1595	2080	L-R		0		0	
2.1.1161	Barriers and Safety Fencing	490	840	L-R		0		0	
2.1.1384	Barriers and Safety Fencing	1180	1400	L-R		0		0	
2.1.1684	Barriers and Safety Fencing	1850	1950	L-R		0		0	
2.1.0161	Barriers and Safety Fencing	-20	230	L-R		0		0	
2.1.1484	Barriers and Safety Fencing	1400	1550	L-R		0		0	
2.1.1987	Barriers and Safety Fencing	2080	2455	L-R		0		0	
2.1.1461	Barriers and Safety Fencing	1400	1550	L-R		0		0	
2.1.1361	Barriers and Safety Fencing	1180	1400	L-R		0		0	
2.1.1261	Barriers and Safety Fencing	840	1180	L-R		0		0	
2.1.1561	Barriers and Safety Fencing	1550	1850	L-R		0		0	
2.1.1754	Basecourses	1595	2080	L-R	BASECOURSE	16		Black	
2.1.1654	Basecourses	1850	1950	L-R	BASECOURSE	16		Black	

You may use any column(s) to select the ***Task(s)***.

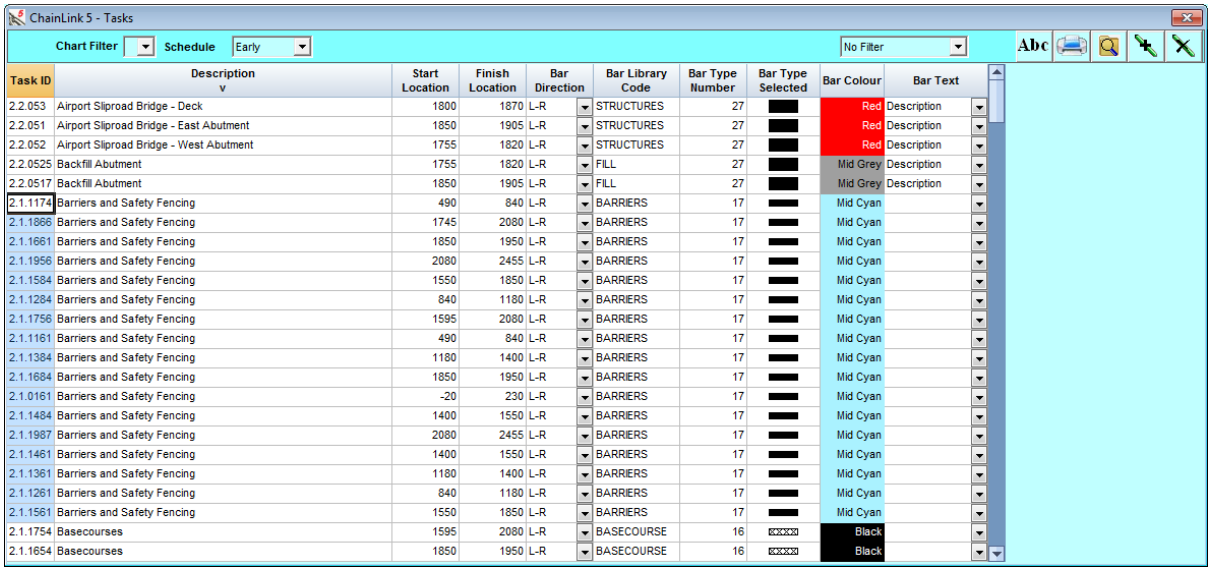
Once the ***Task(s)*** have been selected, open the ***Bar Library*** window, if not already open, and select the library to be used.



Bar Code	Bar Type Number	Bar Type Selected	Bar Colour	Description	Sequence
ARCHAEOLOGY	25		Green	Archaeology	0
BARRIERS	17		Mid Cyan	Barriers and Safety Fences	59
BASECOURSE	16		Black	Basecourse	55
CAPPING	16		Orange	Capping	51
CARRIER	17		Blue	Carrier Drains	32
CARRIER/FILTER	12		Blue	Carrier/Filter Drains	31
CHAINLINK	71		Black	ChainLink Fencing	4
DITCHES	12		Brown	Ditches	30
ELECTRIC	64	ELEC--------	Red	Electric Diversion	94
ENERGIS	69	ENERGIS-----	Cyan	Energis Diversion	99
ENVIRONMENTAL	26		Green	Environmental Works	10
EXCAVATE	27		Green	Excavate Topsoil 5A	11
EXCAVATION	27		Brown	Excavation	12

There is now an additional column on the spreadsheet with the Task symbol in the header and a + button in the rows below it.

Left mouse click on the button at the end of the row with the required code.



Task ID	Description	Start Location	Finish Location	Bar Direction	Bar Library Code	Bar Type Number	Bar Type Selected	Bar Colour	Bar Text
2.2.053	Airport Sliproad Bridge - Deck	1800	1870	L-R	STRUCTURES	27		Red	Description
2.2.051	Airport Sliproad Bridge - East Abutment	1850	1905	L-R	STRUCTURES	27		Red	Description
2.2.052	Airport Sliproad Bridge - West Abutment	1755	1820	L-R	STRUCTURES	27		Red	Description
2.2.0525	Backfill Abutment	1755	1820	L-R	FILL	27		Mid Grey	Description
2.2.0517	Backfill Abutment	1850	1905	L-R	FILL	27		Mid Grey	Description
2.1.1174	Barriers and Safety Fencing	490	840	L-R	BARRIERS	17		Mid Cyan	
2.1.1866	Barriers and Safety Fencing	1745	2080	L-R	BARRIERS	17		Mid Cyan	
2.1.1661	Barriers and Safety Fencing	1850	1950	L-R	BARRIERS	17		Mid Cyan	
2.1.1956	Barriers and Safety Fencing	2080	2455	L-R	BARRIERS	17		Mid Cyan	
2.1.1584	Barriers and Safety Fencing	1550	1850	L-R	BARRIERS	17		Mid Cyan	
2.1.1284	Barriers and Safety Fencing	840	1180	L-R	BARRIERS	17		Mid Cyan	
2.1.1756	Barriers and Safety Fencing	1595	2080	L-R	BARRIERS	17		Mid Cyan	
2.1.1161	Barriers and Safety Fencing	490	840	L-R	BARRIERS	17		Mid Cyan	
2.1.1384	Barriers and Safety Fencing	1180	1400	L-R	BARRIERS	17		Mid Cyan	
2.1.1684	Barriers and Safety Fencing	1850	1950	L-R	BARRIERS	17		Mid Cyan	
2.1.0161	Barriers and Safety Fencing	-20	230	L-R	BARRIERS	17		Mid Cyan	
2.1.1484	Barriers and Safety Fencing	1400	1550	L-R	BARRIERS	17		Mid Cyan	
2.1.1987	Barriers and Safety Fencing	2080	2455	L-R	BARRIERS	17		Mid Cyan	
2.1.1461	Barriers and Safety Fencing	1400	1550	L-R	BARRIERS	17		Mid Cyan	
2.1.1361	Barriers and Safety Fencing	1180	1400	L-R	BARRIERS	17		Mid Cyan	
2.1.1261	Barriers and Safety Fencing	840	1180	L-R	BARRIERS	17		Mid Cyan	
2.1.1561	Barriers and Safety Fencing	1550	1850	L-R	BARRIERS	17		Mid Cyan	
2.1.1754	Basecourses	1595	2080	L-R	BASECOURSE	16		Black	
2.1.1654	Basecourses	1850	1950	L-R	BASECOURSE	16		Black	

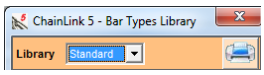
The ***Bar Library Code***, ***Bar Type Number***, ***Bar Type Selected*** and ***Bar Colour*** fields will be populated with the data from the ***Bar Library***.

5.2. Bar Types Library

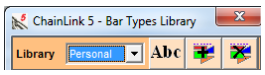
The ***Bar Types Library*** window gives access to the ***Standard***, ***Personal*** and ***Project Bar Types Libraries*** and comprises of a toolbar and a spreadsheet.

The window is colour coded orange.

5.2.1. Toolbars



Standard Toolbar



Personal and Project Toolbar

The ***Toolbars*** contains four elements to assist in inputting and editing of the ***Bar Library*** data.

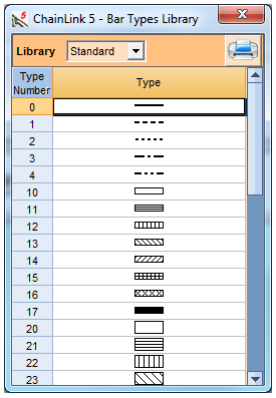
Library Filter — A pull-down menu that allows the user to filters the display to show only the ***Bar Types*** that appear in the ***Standard***, ***Personal*** or ***Project Library***.

Font Button — Displays a Font Dialogue window for the selection of the font and font size for the selected ***Bar Code***

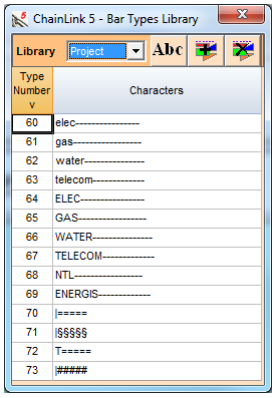
Add BarType Button — Adds a new ***Bar Type***.
See ***5.2.2 Table*** on how to add ***BarTypes***.

Delete Bar Type Button — Deletes the selected ***Bar Type(s)***

5.2.2. Tables



Standard Table



Personal and Project Table

The ***Table*** is a spreadsheet which contains all of the ***Bar Type*** data fields for easy input and editing. The spreadsheet headers of the ***Personal*** and ***Project Libraries*** are user definable.

To change the column headers, click on the table header row with the right mouse button. The Column Selection/Naming window wiil be displayed (see ***7.3 Column Selection/Naming***).

To assist with entering and editing data the Edit menu can be accessed as a popup menu by clicking the right mouse button on any data cell of the spreadsheet.

The fields are as follows:-

Bar Type Number A numeric code unique to the selected ***Personal*** or ***Project Library***. The same code may appear in both libraries with similar or different ***Characters***.

Description A text field containing as many characters as required to define the bar. The '-' character is used to space the text apart and not used in the bar but is replace by a continuous line

To add a new ***Bar Type*** on the ***Table***, click on the ***Add Bar Type*** button. A new row will be added to the bottom of the spreadsheet, the ***Bar Type Number*** set to the next highest number and the ***Characters*** to a siongle '-'. These fields may then be edited to the required values.

5.2.3. Allocating Bar Types to the Data and Bar Libraries

To allocate ***Bar Types*** to ***Tasks*** using the ***Bar Task Library*** open the ***Tasks*** data screen and select the ***Task(s)*** to which the code is to be allocated. If it is being allocated to multiple ***Tasks*** then it may be helpful to sort the ***Tasks*** spreadsheet by the ***Description*** column in order to collect the ***Tasks*** with similar descriptions together in the same block.

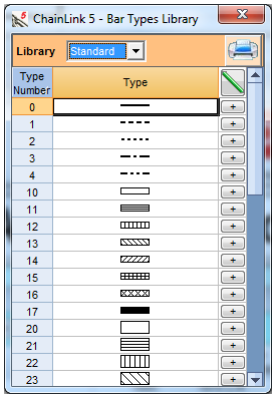
ChainLink 5 - Tasks

Chart Filter | Schedule: Early | No Filter

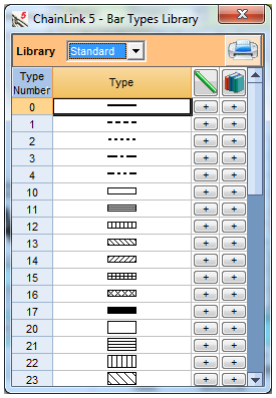
Task ID	Description	Start Location	Finish Location	Bar Direction	Bar Library Code	Bar Type Number	Bar Type Selected	Bar Colour	Bar Text
2.2.053	Airport Sliproad Bridge - Deck	1800	1870	L-R	STRUCTURES	27		Red	Description
2.2.051	Airport Sliproad Bridge - East Abutment	1850	1905	L-R	STRUCTURES	27		Red	Description
2.2.052	Airport Sliproad Bridge - West Abutment	1755	1820	L-R	STRUCTURES	27		Red	Description
2.2.0525	Backfill Abutment	1755	1820	L-R	FILL	27		Mid Grey	Description
2.2.0517	Backfill Abutment	1850	1905	L-R	FILL	27		Mid Grey	Description
2.1.1561	Barriers and Safety Fencing	1550	1850	L-R	BARRIERS	17		Mid Cyan	
2.1.1584	Barriers and Safety Fencing	1550	1850	L-R	BARRIERS	17		Mid Cyan	
2.1.1161	Barriers and Safety Fencing	490	840	L-R	BARRIERS	17		Mid Cyan	
2.1.1484	Barriers and Safety Fencing	1400	1550	L-R	BARRIERS	17		Mid Cyan	
2.1.1174	Barriers and Safety Fencing	490	840	L-R	BARRIERS	17		Mid Cyan	
2.1.1461	Barriers and Safety Fencing	1400	1550	L-R	BARRIERS	17		Mid Cyan	
2.1.1956	Barriers and Safety Fencing	2080	2455	L-R	BARRIERS	17		Mid Cyan	
2.1.1987	Barriers and Safety Fencing	2080	2455	L-R	BARRIERS	17		Mid Cyan	
2.1.1384	Barriers and Safety Fencing	1180	1400	L-R	BARRIERS	17		Mid Cyan	
2.1.1756	Barriers and Safety Fencing	1595	2080	L-R	BARRIERS	17		Mid Cyan	
2.1.1361	Barriers and Safety Fencing	1180	1400	L-R	BARRIERS	17		Mid Cyan	
2.1.1866	Barriers and Safety Fencing	1745	2080	L-R	BARRIERS	17		Mid Cyan	
2.1.0161	Barriers and Safety Fencing	-20	230	L-R	BARRIERS	17		Mid Cyan	
2.1.1284	Barriers and Safety Fencing	840	1180	L-R	BARRIERS	17		Mid Cyan	
2.1.1661	Barriers and Safety Fencing	1850	1950	L-R	BARRIERS	17		Mid Cyan	
2.1.1261	Barriers and Safety Fencing	840	1180	L-R	BARRIERS	17		Mid Cyan	
2.1.1684	Barriers and Safety Fencing	1850	1950	L-R	BARRIERS	17		Mid Cyan	
2.1.1985	Basecourses	2080	2455	L-R	BASECOURSE	16		Black	
2.1.1254	Basecourses	840	1180	L-R	BASECOURSE	16		Black	

You may use any column(s) to select the ***Task(s)***.

Once the ***Task(s)*** have been selected, open the ***Bar Task Library*** window, if not already open, and select the library to be used.



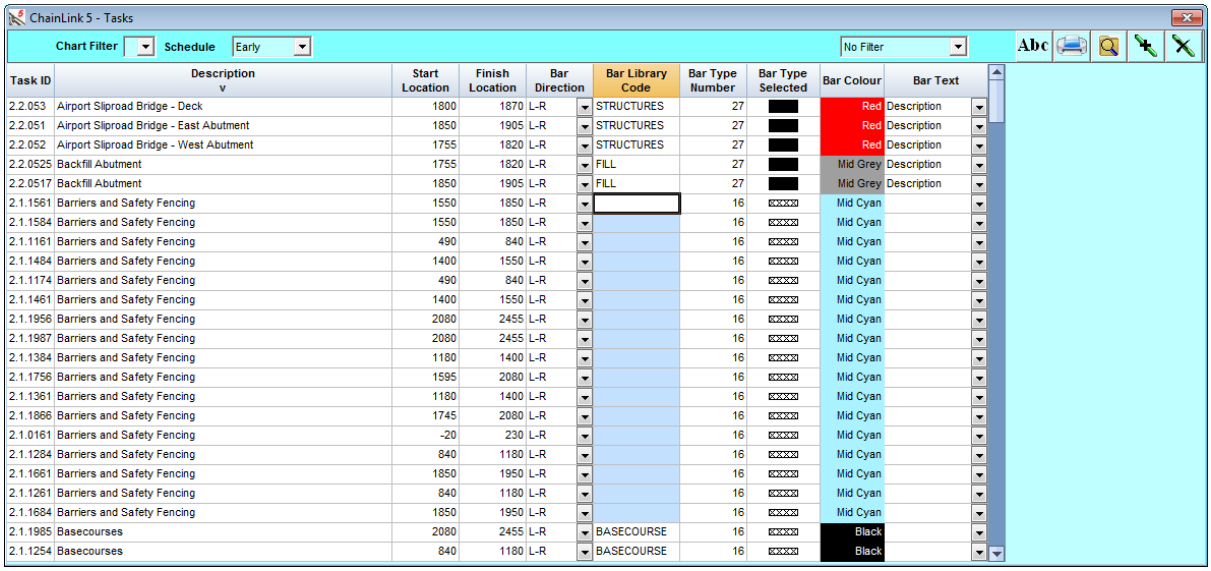
With Task Screen Open



With Task Screen and Bar Library Open

There is now an additional column on the spreadsheet with the ***Task*** symbol in the header and a button in the rows below it. If the ***Bar Library*** window is also open another column is added with the ***Bar Library*** symbol in the header and buttons in the rows below.

Left mouse click on the button under the ***Task*** symbol on the row with the required type.



Task ID	Description	Start Location	Finish Location	Bar Direction	Bar Library Code	Bar Type Number	Bar Type Selected	Bar Colour	Bar Text
2.2.053	Airport Sliproad Bridge - Deck	1800	1870	L-R	STRUCTURES	27		Red	Description
2.2.051	Airport Sliproad Bridge - East Abutment	1850	1905	L-R	STRUCTURES	27		Red	Description
2.2.052	Airport Sliproad Bridge - West Abutment	1755	1820	L-R	STRUCTURES	27		Red	Description
2.2.0525	Backfill Abutment	1755	1820	L-R	FILL	27		Mid Grey	Description
2.2.0517	Backfill Abutment	1850	1905	L-R	FILL	27		Mid Grey	Description
2.1.1561	Barriers and Safety Fencing	1550	1850	L-R		16		Mid Cyan	
2.1.1584	Barriers and Safety Fencing	1550	1850	L-R		16		Mid Cyan	
2.1.1161	Barriers and Safety Fencing	490	840	L-R		16		Mid Cyan	
2.1.1484	Barriers and Safety Fencing	1400	1550	L-R		16		Mid Cyan	
2.1.1174	Barriers and Safety Fencing	490	840	L-R		16		Mid Cyan	
2.1.1461	Barriers and Safety Fencing	1400	1550	L-R		16		Mid Cyan	
2.1.1956	Barriers and Safety Fencing	2080	2455	L-R		16		Mid Cyan	
2.1.1987	Barriers and Safety Fencing	2080	2455	L-R		16		Mid Cyan	
2.1.1384	Barriers and Safety Fencing	1180	1400	L-R		16		Mid Cyan	
2.1.1756	Barriers and Safety Fencing	1595	2080	L-R		16		Mid Cyan	
2.1.1361	Barriers and Safety Fencing	1180	1400	L-R		16		Mid Cyan	
2.1.1866	Barriers and Safety Fencing	1745	2080	L-R		16		Mid Cyan	
2.1.0161	Barriers and Safety Fencing	-20	230	L-R		16		Mid Cyan	
2.1.1284	Barriers and Safety Fencing	840	1180	L-R		16		Mid Cyan	
2.1.1661	Barriers and Safety Fencing	1850	1950	L-R		16		Mid Cyan	
2.1.1261	Barriers and Safety Fencing	840	1180	L-R		16		Mid Cyan	
2.1.1684	Barriers and Safety Fencing	1850	1950	L-R		16		Mid Cyan	
2.1.1985	Basecourses	2080	2455	L-R	BASECOURSE	16		Black	
2.1.1254	Basecourses	840	1180	L-R	BASECOURSE	16		Black	

The ***Bar Type Number*** and ***Bar Type Selected*** fields will be populated with the data from the ***Bar Library*** . **NB** The ***Bar Library Code*** has been removed as this ***Bar Type*** and ***Colour*** combination is no longer valid for that code.

Standard Bar Types can be allocated to the ***Labels*** data using the same procedure as for the ***Tasks*** data, except that the ***Labels*** screen is opened, the symbol in the table header is replaced by the ***Labels*** symbol and only ***Bar Types*** 0 to 4 are displayed.

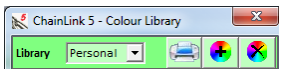
Bar Types can be allocated to the selected ***Bar Code(s)*** in the ***Bar Library*** in a similar way, except that the button on the row with the required type under the ***Bar Library*** symbol is clicked.

5.3. Colour Library

The ***Colour Library*** window gives access to the ***Personal*** and ***Project Colour Libraries*** and comprises of a toolbar and a spreadsheet.

The window is colour coded green.

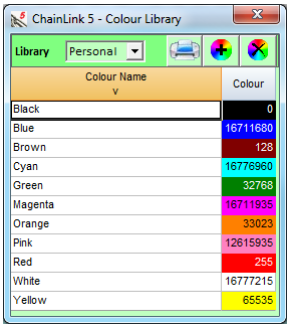
5.3.1. Toolbar



The ***Toolbars*** contains four elements to assist in inputting and editing of the ***Bar Library*** data.

	***Library Filter***	A pull-down menu that allows the user to filters the display to show only the ***Colours*** that appear in the ***Personal*** or ***Project Library***.
	***Print Button***	Prints the table of ***Colour*** data
	***Add Colour Button***	Adds a new ***Colour***. See ***5.3.2 Table*** on how to add ***Colours***.
	***Delete Colour Button***	Deletes the selected ***Colour(s)***

5.3.2. Table



The ***Table*** is a spreadsheet which contains all of the ***Colour*** data fields for easy input and editing. The spreadsheet headers are user definable.

To change the column headers, click on the table header row with the right mouse button. The Column Selection/Naming window wiil be displayed (see ***7.3 Column Selection/Naming***).

To assist with entering and editing data the Edit menu can be accessed as a popup menu by clicking the right mouse button on any data cell of the spreadsheet.

The fields are as follows:-

Colour Name A text field describing the Colour that is unique to the selected ***Personal*** or ***Project Library***. The same name may appear in both libraries with similar or different ***Colour*** numbers.

Colour Number A numeric field containing a number between 0 (black) and 16777215 (white). **NB** Names cannot be used on this table.

The ***Colour Number*** represents the proportions of red, green and blue which go to make up the colour. The amounts of red, green and blue are determined by a number between 0 and 255 expressed in hexadecimal format i.e. 0 - 9 = 0 - 9, 10 - 15 = A - F, thus 0 = 00 and 255 = FF.

These 3 colour component values are then combined to form a six figure hexadecimal number in the order blue, green, red, thus the values for the basic colours can be easily calculated as:-

Black = 000000
Blue = FF0000
Green = 00FF00
Red = 0000FF
White = FFFFFF

However, apart from these five colours, calculating the number of other colours is virtually impossible.

The easiest way to obtain a ***Colour Number*** is to double-click on the ***Colour Number*** cell. The ***Colour*** dialogue window will be displayed and the required colour can be selected from it.

The ***Personal Colour Library*** supplied with ***ChainLink 5*** contains the following ***Colours***:-

Black	**= 0**	**Pink**	**= 12615935**
Brown	**= 128**	**Blue**	**= 16711680**
Red	**= 255**	**Magenta**	**= 16711935**
Green	**= 32768**	**Cyan**	**= 16776960**
Orange	**= 33023**	**White**	**= 16777215**
Yellow	**= 65535**		

To add a new ***Bar Code*** on the ***Table***, click on the ***Add Bar Code*** button. A new row will be added to the bottom of the spreadsheet, the ***Bar Code*** set to 'NEW CODE', ***Bar Type*** to zero, the Bar ***Colour*** to 0 (black), the ***Description*** to the 'New Code' and the ***Sequence*** to the next highest number. These fields may then be edited to the required values.

5.3.3. Allocating Bar Codes to Tasks

To allocate ***Colours*** to ***Tasks*** using the ***Colour Library*** open the ***Tasks*** data screen and select the ***Task(s)*** to which the colour is to be allocated. If it is being allocated to multiple ***Tasks*** then it may be helpful to sort the ***Tasks*** spreadsheet by the ***Description*** column in order to collect the ***Tasks*** with similar descriptions together in the same block.

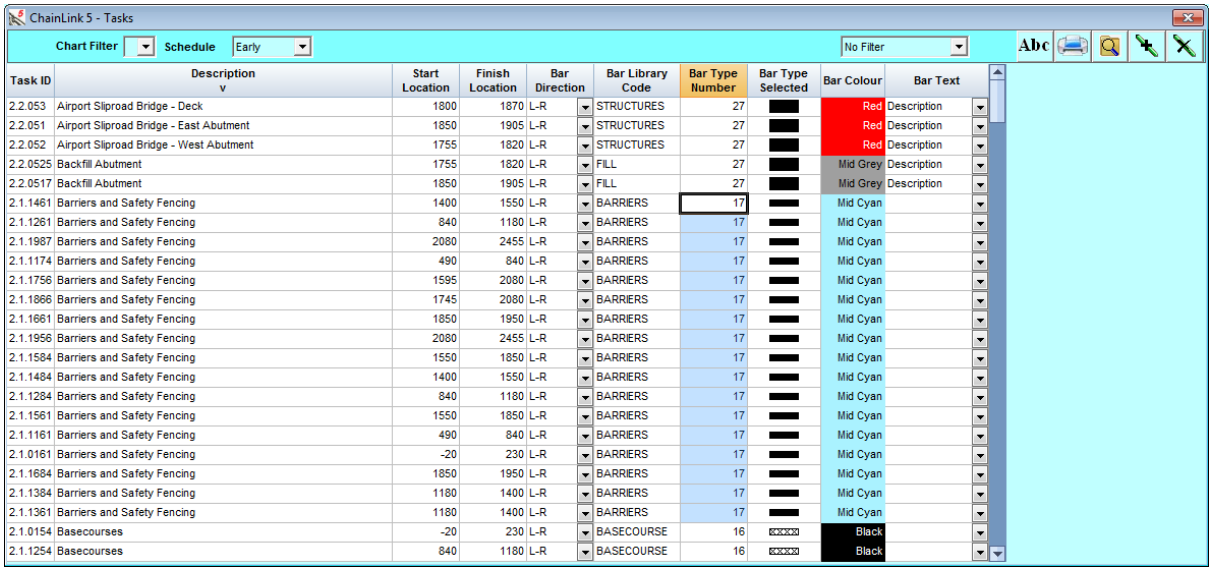
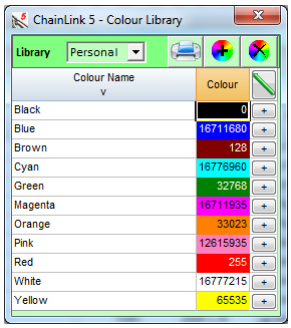

ChainLink 5 - Tasks

Chart Filter | Schedule: Early | No Filter

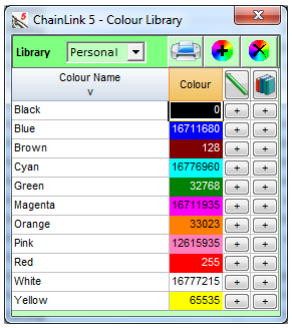
Task ID	Description	Start Location	Finish Location	Bar Direction	Bar Library Code	Bar Type Number	Bar Type Selected	Bar Colour	Bar Text
2.2.053	Airport Sliproad Bridge - Deck	1800	1870	L-R	STRUCTURES	27		Red	Description
2.2.051	Airport Sliproad Bridge - East Abutment	1850	1905	L-R	STRUCTURES	27		Red	Description
2.2.052	Airport Sliproad Bridge - West Abutment	1755	1820	L-R	STRUCTURES	27		Red	Description
2.2.0525	Backfill Abutment	1755	1820	L-R	FILL	27		Mid Grey	Description
2.2.0517	Backfill Abutment	1850	1905	L-R	FILL	27		Mid Grey	Description
2.1.1461	Barriers and Safety Fencing	1400	1550	L-R	BARRIERS	17		Mid Cyan	
2.1.1261	Barriers and Safety Fencing	840	1180	L-R	BARRIERS	17		Mid Cyan	
2.1.1987	Barriers and Safety Fencing	2080	2455	L-R	BARRIERS	17		Mid Cyan	
2.1.1174	Barriers and Safety Fencing	490	840	L-R	BARRIERS	17		Mid Cyan	
2.1.1756	Barriers and Safety Fencing	1595	2080	L-R	BARRIERS	17		Mid Cyan	
2.1.1866	Barriers and Safety Fencing	1745	2080	L-R	BARRIERS	17		Mid Cyan	
2.1.1661	Barriers and Safety Fencing	1850	1950	L-R	BARRIERS	17		Mid Cyan	
2.1.1956	Barriers and Safety Fencing	2080	2455	L-R	BARRIERS	17		Mid Cyan	
2.1.1584	Barriers and Safety Fencing	1550	1850	L-R	BARRIERS	17		Mid Cyan	
2.1.1484	Barriers and Safety Fencing	1400	1550	L-R	BARRIERS	17		Mid Cyan	
2.1.1284	Barriers and Safety Fencing	840	1180	L-R	BARRIERS	17		Mid Cyan	
2.1.1561	Barriers and Safety Fencing	1550	1850	L-R	BARRIERS	17		Mid Cyan	
2.1.1161	Barriers and Safety Fencing	490	840	L-R	BARRIERS	17		Mid Cyan	
2.1.0161	Barriers and Safety Fencing	-20	230	L-R	BARRIERS	17		Mid Cyan	
2.1.1684	Barriers and Safety Fencing	1850	1950	L-R	BARRIERS	17		Mid Cyan	
2.1.1384	Barriers and Safety Fencing	1180	1400	L-R	BARRIERS	17		Mid Cyan	
2.1.1361	Barriers and Safety Fencing	1180	1400	L-R	BARRIERS	17		Mid Cyan	
2.1.0154	Basecourses	-20	230	L-R	BASECOURSE	16		Black	
2.1.1254	Basecourses	840	1180	L-R	BASECOURSE	16		Black	

You may use any column(s) to select the ***Task(s)***.

Once the ***Task(s)*** have been selected, open the ***Colour Library*** window, if not already open, and select the library to be used.



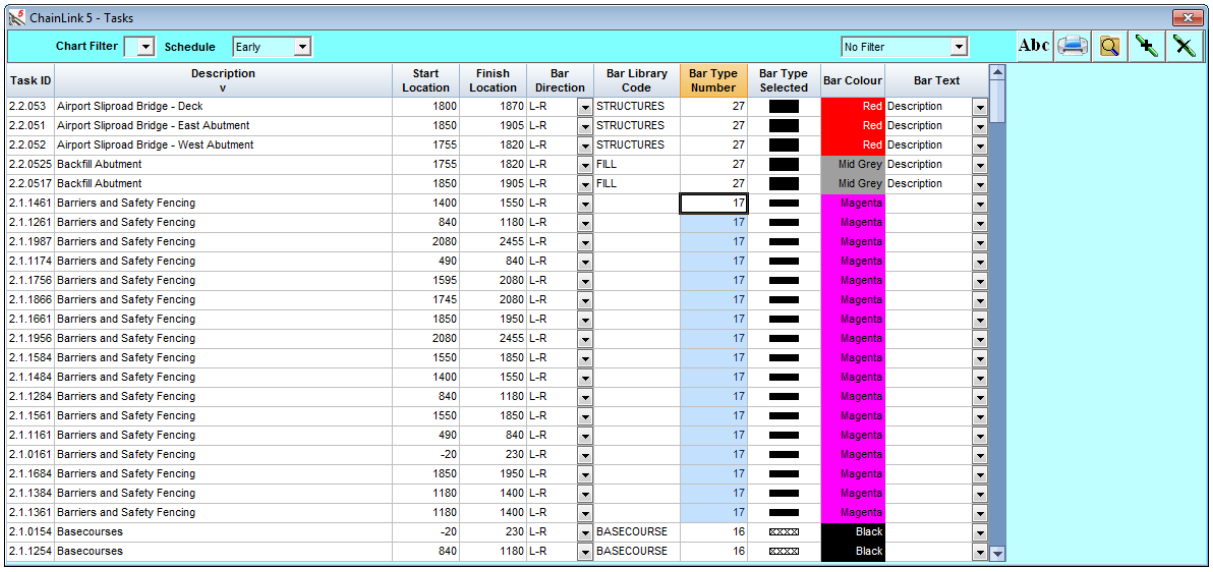
With Task Screen Open



With Task Screen and Bar Library Open

There is now an additional column on the spreadsheet with the ***Task*** symbol in the header and a button in the rows below it. If the ***Bar Library*** window is also open another column is added with the ***Bar Library*** symbol in the header and buttons in the rows below.

Left mouse click on the button at the end of the row with the required ***Colour***.



Task ID	Description	Start Location	Finish Location	Bar Direction	Bar Library Code	Bar Type Number	Bar Type Selected	Bar Colour	Bar Text
2.2.053	Airport Sliproad Bridge - Deck	1800	1870	L-R	STRUCTURES	27		Red	Description
2.2.051	Airport Sliproad Bridge - East Abutment	1850	1905	L-R	STRUCTURES	27		Red	Description
2.2.052	Airport Sliproad Bridge - West Abutment	1755	1820	L-R	STRUCTURES	27		Red	Description
2.2.0525	Backfill Abutment	1755	1820	L-R	FILL	27		Mid Grey	Description
2.2.0517	Backfill Abutment	1850	1905	L-R	FILL	27		Mid Grey	Description
2.1.1461	Barriers and Safety Fencing	1400	1550	L-R		17		Magenta	
2.1.1261	Barriers and Safety Fencing	840	1180	L-R		17		Magenta	
2.1.1987	Barriers and Safety Fencing	2080	2455	L-R		17		Magenta	
2.1.1174	Barriers and Safety Fencing	490	840	L-R		17		Magenta	
2.1.1756	Barriers and Safety Fencing	1595	2080	L-R		17		Magenta	
2.1.1866	Barriers and Safety Fencing	1745	2080	L-R		17		Magenta	
2.1.1661	Barriers and Safety Fencing	1850	1950	L-R		17		Magenta	
2.1.1956	Barriers and Safety Fencing	2080	2455	L-R		17		Magenta	
2.1.1584	Barriers and Safety Fencing	1550	1850	L-R		17		Magenta	
2.1.1484	Barriers and Safety Fencing	1400	1550	L-R		17		Magenta	
2.1.1284	Barriers and Safety Fencing	840	1180	L-R		17		Magenta	
2.1.1561	Barriers and Safety Fencing	1550	1850	L-R		17		Magenta	
2.1.1161	Barriers and Safety Fencing	490	840	L-R		17		Magenta	
2.1.0161	Barriers and Safety Fencing	-20	230	L-R		17		Magenta	
2.1.1684	Barriers and Safety Fencing	1850	1950	L-R		17		Magenta	
2.1.1384	Barriers and Safety Fencing	1180	1400	L-R		17		Magenta	
2.1.1361	Barriers and Safety Fencing	1180	1400	L-R		17		Magenta	
2.1.0154	Basecourses	-20	230	L-R	BASECOURSE	16		Black	
2.1.1254	Basecourses	840	1180	L-R	BASECOURSE	16		Black	

The ***Bar Colour*** fields will be populated with the data from the ***Colour Library***. **NB** The ***Bar Library Code*** has been removed as this ***Bar Type*** and ***Colour*** combination is no longer valid for that code.

Colours can be allocated to the ***Labels*** and ***Text*** data using the same procedure as for the ***Tasks*** data, except that the ***Labels*** or ***Text*** screen is opened, the symbol in the table header is replaced by the ***Labels*** or ***Text*** symbol.

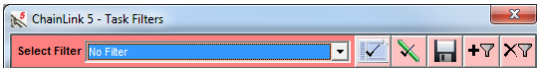
Colours can be allocated to the selected ***Bar Code(s)*** in the ***Bar Library*** in a similar way, except that the button on the row with the required type under the ***Bar Library*** symbol is clicked.

5.4. Filters Library

The ***Filters*** window gives access to the ***Filters Library*** and can be loaded from the ***Tasks***, ***XER Import***, ***MPX Import***, ***XLS Import***, ***CLB Import*** toolbars and the ***Chart Options*** window as well as the ***Libraries Ribbon***.

The window is colour coded pink.

5.4.1. Toolbar



The ***Toolbars*** contains six elements to assist in inputting and editing of the ***Filter*** data.

Filter Selection — A pull-down menu that allows the user to select the ***Filter*** to be displayed, edited or applied.

Chart Button — Saves the currently selected ***Filter*** and applies it to the currently selected ***Chart Number*** and closes the ***Filter*** window. This button is only visible if the ***Chart Options*** window is open and a ***Chart Number*** other than the default has been selected.

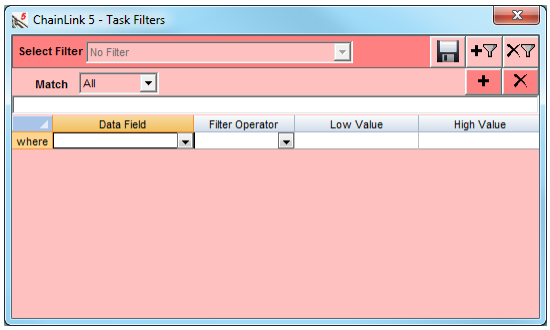
Data Button — Saves the currently selected ***Filter***, applies it to the currently open ***Data*** screen and closes the ***Filter*** window. This button is only visible if one of the relevent ***Data*** screens is open. The symbol shown on the button is the ***Task*** screen symbol, this will be replaced by the ***XER***, ***MPX***, ***Excel*** or ***Clipboard*** symbol if it is one of those ***Data*** screens that is open.

Save Button — Saves the currently selected ***Filter*** but does not close the ***Filter*** window.

Add Filter Button — Adds a new ***Filter***.
See ***5.4.2 Adding/Editing a Filter***

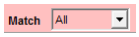
Delete Filter Button — Deletes the selected ***Filter***
See ***5.4.3 Deleting a Filter***

5.4.2. Adding/Editing a Filter



To add or edit a ***Filter*** click on the ***Add Filter*** button or select an existing ***Filter*** from the ***Select Filter*** pull-down menu, the remainder of the window will now be displayed.

The screen shown left is displayed after the ***Add Filter*** button has been selected and contains five elements:-



Match Menu A pull-down menu which allows the user to select whether the ***Task*** data is to match 'All' or 'Any' of the criteria of the ***Filter***.

Add Row Button Adds an additional row to the Criteria Table for further filtering. The word 'and' or 'or' is shown in the row header dependent on the ***Match Menu*** selection.

Delete Row Button Removes the selected row from the Criteria Table.

Filter Name A unique text field describing this ***Filter***

Criteria Table A spreadsheet containing the matching criteria for this ***Filter***. The criteria comprises four fields

Data Field A pull-down menu which allows the user to select the ***Task*** data field which is to be matched.

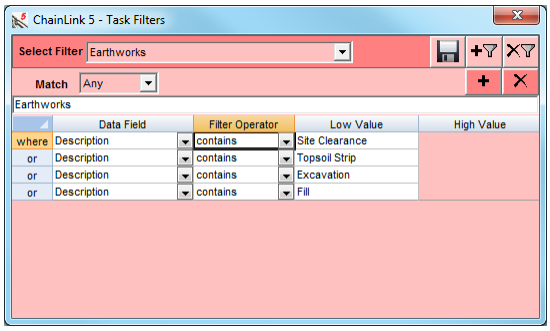
Filter Operator A pull-down menu which allows the user to select one of seven methods of matching, these are

is equal to	is not equal to
is within range	
contains	does not contain
is greater than	is less than

Low Value A variable field dependent on the ***Filter Operator*** selected. It is the ***Value*** to be matched against the ***Task*** data field. If 'is within range' is selected then this is the ***Low Value***

of the range.

High Value A variable field dependent on the Filter Operator selected. It is the ***High Value*** to be matched against the ***Task*** data field if 'is within range' is selected otherwise not required.



Once the ***Filter Name*** and criteria have been entered or an existing ***Filter*** from the pull-down menu has been selected the screen should appear as shown left. It can now be edited, saved or allocated to the ***Chart Options*** or ***Data*** using the appropriate button on the ***Toolbar***.

The ***Criteria Table*** column headers are user definable.

To change the column headers, click on the table header row with the right mouse button. The Column Selection/Naming window wiil be displayed (see ***7.3 Column Selection/Naming***).

5.4.3. Deleting a Filter

To delete a ***Filter***, select the Filter to be deleted from the pull-down click on the ***Delete Filter*** button.

When a ***Filter*** is deleted a check is carried out to see if that ***Filter*** is in use on the currently loaded project.

If it is a message is displayed asking the user if they wish to continue. A positive response will also remove the ***Filter*** from where it is being used on this project.

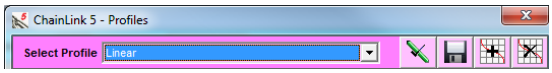
However, care should be taken when deleting a ***Filter*** as it may have been used on other non-loaded projects and may cause unexpected results when these are re-loaded.

5.5. Profiles Library (*Professional only*)

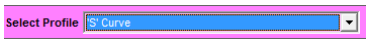
The ***Profiles*** window gives access to the ***Profiles Library*** and can be loaded from the ***Tasks Details*** panel as well as the ***Libraries Ribbon***.

The window is colour coded mauve.

5.5.1. Toolbar



The ***Toolbars*** contains five elements to assist in inputting and editing of the ***Profile*** data.



Profile Selection A pull-down menu that allows the user to select the ***Profile*** to be displayed, edited or applied.

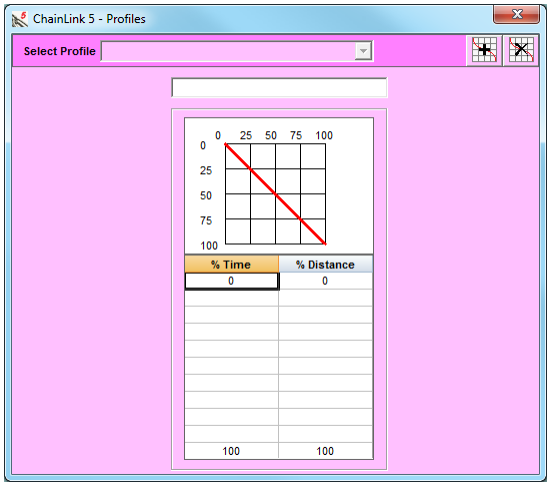
Task Button Saves the currently selected ***Profile***, applies it to the currently selected ***Task*** on the open ***Task*** screen and closes the ***Profile*** window. This button is only visible if the***Task*** screens is open.

Save Button Saves the currently selected ***Filter*** but does not close the Filter window.

Add Profile Button Adds a new ***Profile***.
See ***5.5.2 Adding/Editing a Profile***

Delete Profile Button Deletes the selected ***Profile***
See ***5.5.3 Deleting a Profile***

5.5.2. Adding/Editing a Profile



To add or edit a ***Profile*** click on the ***Add Profile*** button or select an existing ***Profile*** from the ***Select Profile*** pull-down menu, the remainder of the window will now be displayed.

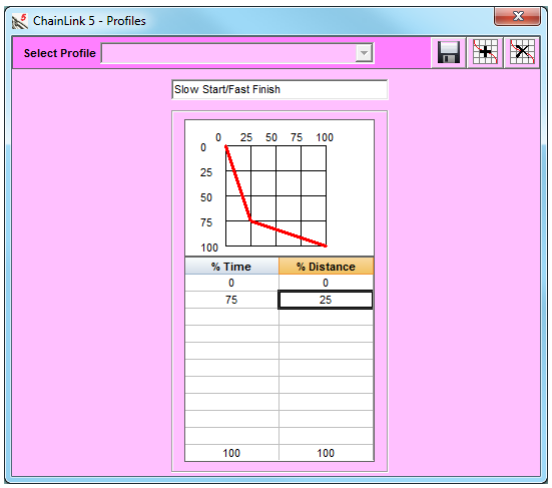
The screen shown above is displayed after the Add ***Profile*** button has been selected and contains two elements:-

Profile Name A unique text field describing this ***Profile***

Profile Table A spreadsheet containing the parameters to define this ***Profile***. These parameters are:-

% Time A numeric field between 1 and 99 denoting the percentage of the duration that will elapse to achieve the percentage distance figure. The figures of 0 and 100 in rows 1 and 11 are fixed and cannot be changed.

% Distance A numeric field between 1 and 99 denoting the percentage of the distance that will be achieved in the specified percentage duration figure. The figures of 0 and 100 in rows 1 and 11 are fixed and cannot be changed.



Once the ***Profile Name*** and parameters have been entered or an existing ***Profile*** from the pull-down menu has been selected the screen should appear as shown left. It can now be edited or saved by clicking on the ***Save*** button on the ***Toolbar***. **NB** The 'Linear' ***Profile*** cannot be edited.

As the figures are entered the graphic is redrawn to show the revised appearance. Rows not required to define the ***Profile*** should be left blank.

If the ***Profile*** window is loaded from the ***Task Details*** panel by selecting 'New/Edit Profile' then the ***Select Profile*** is set at 'Current Task' and the rest of the details show the current settings. If the figures in the ***Profile Table*** are added to or amended then the ***Profile Name*** is set at 'Custom Profile' and cannot be changed by the user. This ***Profile*** may then be re-allocated to the ***Task*** as a 'Custom Profile' by clicking on the ***Task Button***, however, it cannot be saved as a new ***Profile***.

The ***Profile Table*** column headers are user definable.

To change the column headers, click on the table header row with the right mouse button. The Column Selection/Naming window wiil be displayed (see ***7.3 Column Selection/Naming***).

5.5.3. Deleting a Profile

To delete a ***Profile***, select the ***Profile*** to be deleted from the ***Select Profile*** menu and click on the ***Delete Profile*** button. **NB** The 'Linear' ***Profile*** cannot be deleted.

5.6. WBS Library

The ***WBS Library*** window gives access to the ***Project WBS Codes*** and comprises of a toolbar and a spreadsheet.

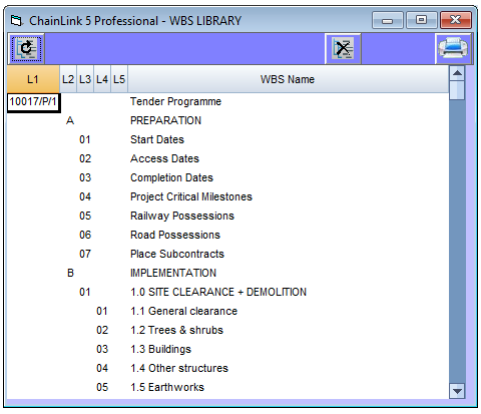
The window is colour coded purple.

5.6.1. Toolbar

The ***Toolbars*** contains six elements to assist in inputting and editing of the ***WBS Library*** data.

	***Refresh Button***	Refreshes and re-sorts the ***WBS Code*** table
	***Add Button***	When visible adds a new ***WBS Code*** immediately below and at the same level as the selected code. See ***5.6.2 Table*** on how to add ***WBS Codes***.
	***Delete Button***	Deletes the selected ***WBS Code(s)*** and all sub-codes.
	***Outdent Button***	When visible outdents the currently selected ***WBS Code***.
	***Indent Button***	When visible outdents the currently selected ***WBS Code***.
	***Print Button***	Prints the table of ***WBS Codes*** data

5.6.2. Table



With Task Screen Closed

The ***Table*** is a spreadsheet which contains all of the ***WBS*** data fields for easy input and editing.

The fields are as follows:-

Ln Where n is the level number. A text field containing the ***WBS Code*** that is unique to this level. The same code may appear in in higher or lower levels.

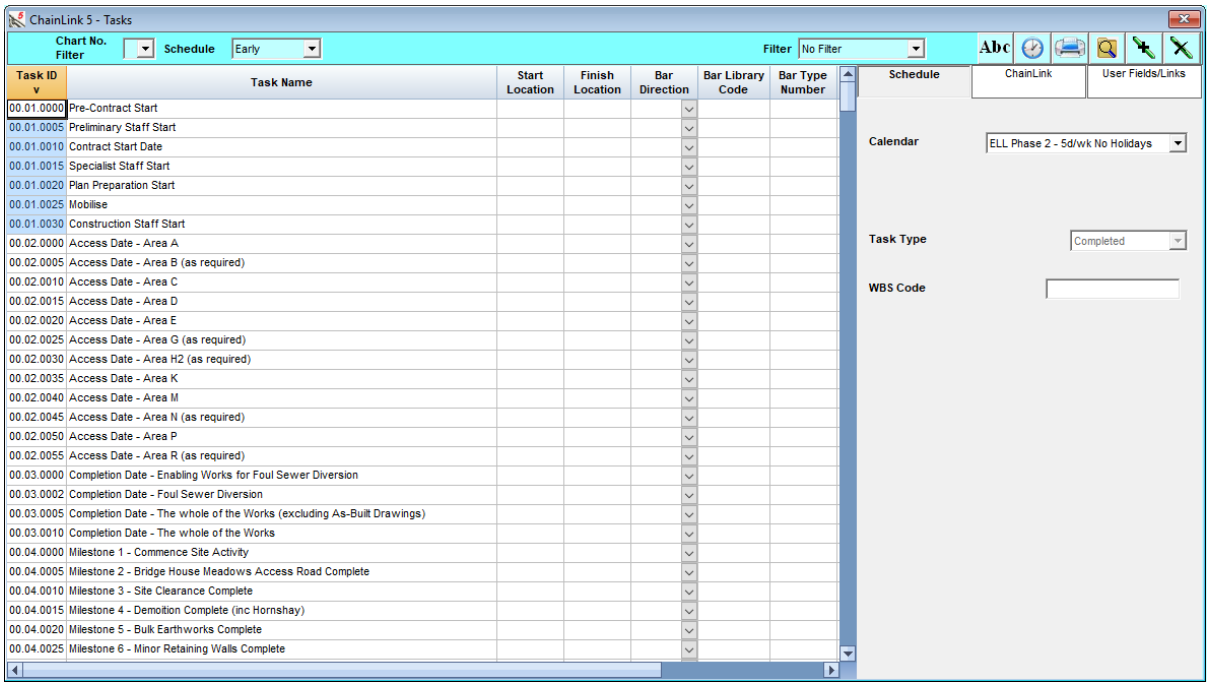
WBS Name A text field describing this ***WBS Code***.

To add a new WBS ***Code*** on the ***Table***, click on the ***Add WBS Code*** button, the button will only be visible if a new code can be added at the selected level. A new row will be added immediately below the selected row of the spreadsheet and the ***WBS Code*** set to the value of the next record number in the library. This field may then be edited to the required code and the ***WBS Name*** added.

To add a sub-code add the code as above and then indent it using the **Indent Button**

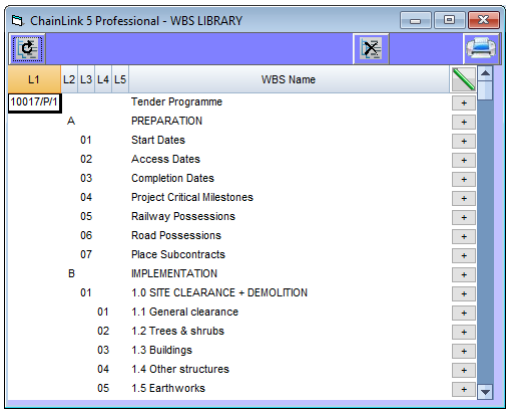
5.6.3. Allocating WBS Codes to Tasks

To allocate ***WBS Codes*** to ***Tasks*** using the ***WBS Library*** open the ***Tasks*** data screen and select the ***Task(s)*** to which the code is to be allocated. As the WBS Code is only shown in the Details pane it is advisable to have this open at the time.



You may use any column(s) to select the ***Task(s)***.

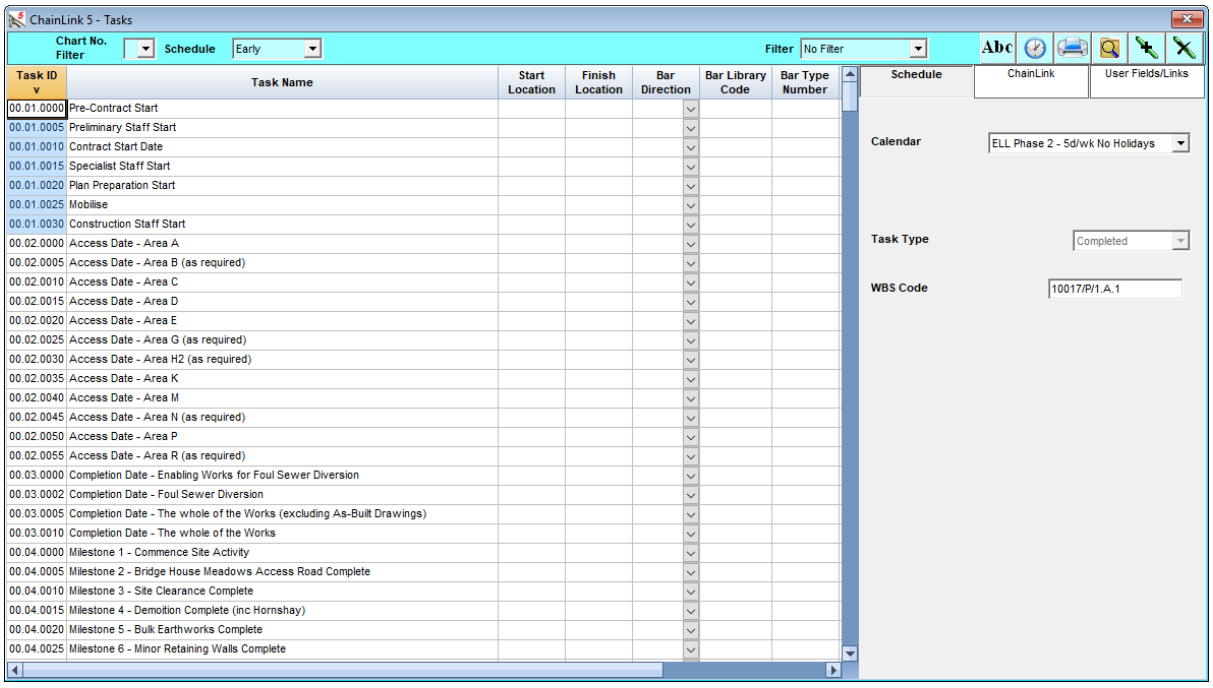
Once the ***Task(s)*** have been selected, open the ***WBS Library*** window, if not already open.



With Task Screen Open

There is now an additional column on the spreadsheet with the ***Task*** symbol in the header and a button in the rows below it.

Left mouse click on the button at the end of the row with the required ***WBS Code***.



The ***WBS Code*** field will be populated with the data from the ***WBS Library***.

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Section 6

Chart

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6. Chart

The ***Chart*** windows provide access to all aspects of the ***Chart*** production and formatting.

The ***Chart*** windows are accessed from the ***Chart Ribbon*** by clicking on the appropriate icon. The icon will appear depressed and remain depressed whilst ever the window remains open. To close the window re-click the ribbon icon or click on the button.

All windows are independent of the main ***ChainLink 5*** window and are colour coded grey.

All the ***Chart*** windows, with the exception of the ***Layout Designer*** and ***Title Block Designer***, may be opened at the same time and remain open until closed by the user. Any ***Library*** window, which is open when ***ChainLink 5*** is closed will also be closed.

The position of each ***Chart*** window is saved on closing and will be appear in the same position when re-opened.

6.1. Print/Preview Chart

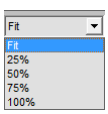
The ***Preview Chart*** window gives allows the user to preview and print the Time Location Chart.

6.1.1. Toolbar

The ***Toolbar*** contains five elements to assist in producing the ***Chart***.

Status Button

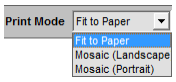
A three state button showing the status of the ***Chart***. The ***Green*** smiling face indicates that the ***Chart*** is in sync with current data and options. The ***Red*** sad face indicates that the Project data or Options have been changed and the ***Chart*** is no longer in sync. To resyncronise the ***Chart*** click on this button, the face will change to an ***Orange*** neutral face, after regeneration the button will return to its ***Green*** face state. This button may be pressed at any time , green or red, to regenerate the ***Chart***.



Zoom Menu

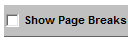
A pull-down menu which allows the user to select one of five preset sizes of ***Fit to Screen*** or ***25%***, ***50%***, ***75%*** and ***100%*** of the paper size to improve clarity. If the Chart size is larger than the screen then the parts of the Chart that are not visible can be scrolled into view by clicking and holding down the left mouse button, the cursor will change to , the chart can now be

dragged to reveal the offscreen areas.



Print Mode A pull-down menu which allows the user to select the method of printing.

Fit to Paper	Scales the ***Chart*** to fit on the size of paper currently selected for the printer.
Mosaic (Landscape)	Prints the full size ***Chart*** on as many pages as required using the size of paper currently selected for the printer in landscape mode.
Mosaic (Portrait)	Prints the full size ***Chart*** on as many pages as required using the size of paper currently selected for the printer in landscape mode.



Show Page Breaks When ticked, overlays the page layout on the ***Chart*** if the ***Print Mode*** selected is one of the ***Mosaic*** options.

Chart Designer Button Loads the ***Chart Designer*** window.
See ***6.3 Chart Designer***

Title Block Designer Button Loads the ***Title Block Designer*** window
See ***6.4 Title Block Designer***

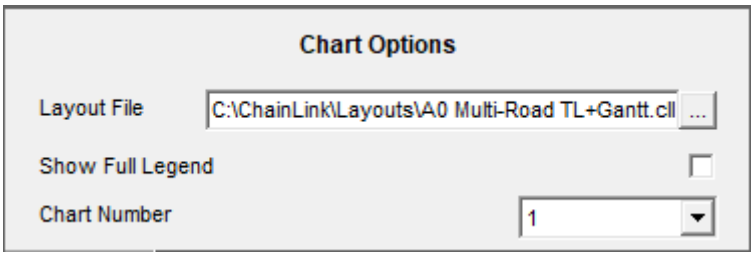
Print Button Prints the ***Chart*** using the currently selected ***Print Mode***

6.2. Chart Options

The ***Chart Options*** window gives access to the ***Chart Layout*** and parameters for each of the ***Charts*** on the page.

The window is colour coded grey.

6.2.1. Global Options



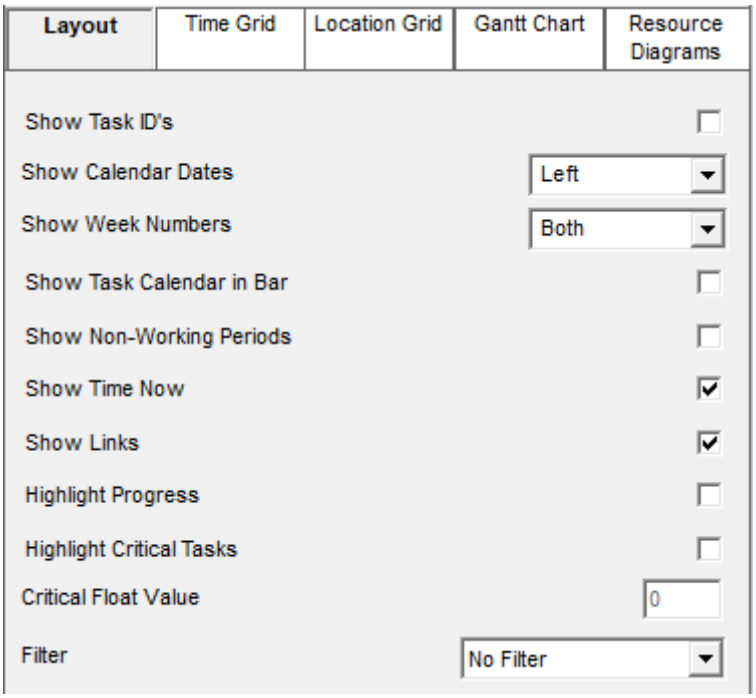
The ***Global Options*** contains three elements to assist in producing the ***Chart***.

Layout File A text box which allows the user to select the ***Layout File*** to be used for this ***Chart***. Clicking on the browse button at the end of the text box opens the ***File Selection*** dialogue.

Show Full Legend Tick this box if the full ***Legend*** and not just the ***Legend*** of the displayed ***Tasks*** are to be shown on the ***Chart***.

Chart Number A pull-down menu which allows the user to select the number of the ***Chart*** for which the ***Chart Options*** are to be input. Only the number of the ***Charts*** which appear on the selected ***Layout*** will be shown.

6.2.2. Layout Tab



The ***Layout Tab*** comprises eleven elements:-

Show Task ID's — Tick this box if ***Task ID's*** are to be shown against each bar

Show Calendar Dates — A pull-down menu which allows the user to select if ***Calendar Dates*** are to be shown on the left, right, both side or not at all.

Show Week Numbers — A pull-down menu which allows the user to select if ***Week Numbers*** are to be shown on the left, right, both side or not at all.

Show Task Calendar in Bar — Tick this box if ***ChainLink 5*** is to break the bar where ***Holidays*** occur in the ***Calendar*** assigned to the ***Task*** rather than the ***Chart Calendar***.

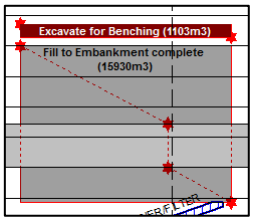
Show Non-Working Periods — Tick this box if ***ChainLink 5*** is to break the bar at Non-Working Days.

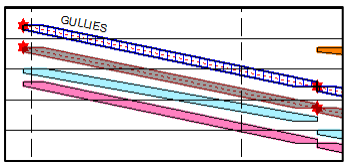
Show Time Now — Tick this box if the ***Time Now*** line is to be shown on the ***Chart***.

Show Links — Tick this box if ***Links*** between ***Tasks*** are to be shown on the ***Chart***.

Highlight Progress Tick this box if the progressed part of a ***Task*** is to be highlighted in blue. Similar to ***Highlight Critical Tasks*** see below.

Highlight Critical Tasks Tick this box if critical ***Tasks*** are to be highlighted in red. See examples below.

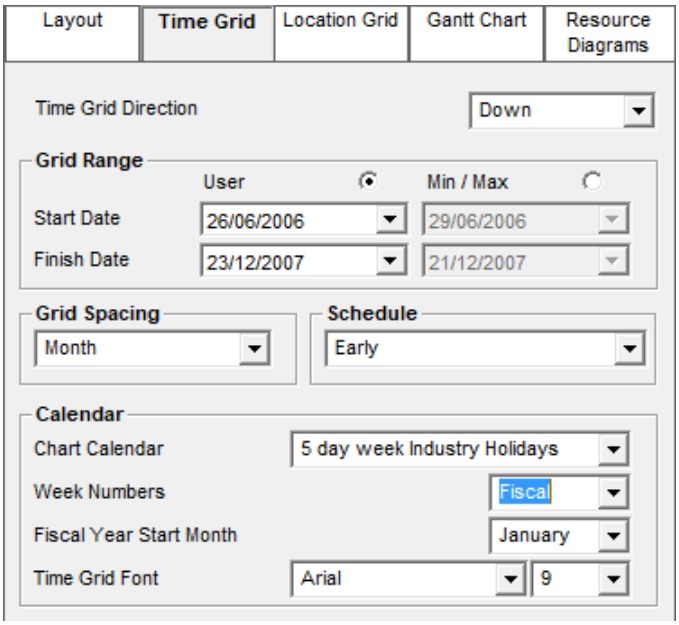




Critical Float Value A numeric value of the ***Float*** that defines a critical ***Task***.

Filter A pull-down menu which allows the user to select or create a ***Filter*** to be used to determine which ***Tasks*** appear on the ***Chart***.

6.2.3. Time Grid Tab



The ***Time Grid Tab*** comprises five elements:-

Time Grid Direction Select the ***Time Grid Direction*** from the pull down menu. ***Down*** if the calendar is to be drawn from top to bottom or ***Up*** if the calendar is to be drawn from bottom to top or ***Horizontal*** if the calendar is to be drawn from left to right.

Grid Range

A set of two options and two fields to set the limits of the ***Time Grid*** window on the ***Chart***.

Min/Max Option Select this option if the minimum and maximum dates of the ***Tasks*** entered are to be used as the ***Time Grid*** window limits.

User Option Select this option if the minimum and maximum dates of the ***Time Grid*** window are to be manually set by the user.

Start Date A date field in the format specified in the ***System Settings***, which determines the start of the ***Time Grid*** window.

Finish Date A date field in the format specified in the ***System Settings***, which determines the finish of the ***Time Grid*** window.

Grid Spacing

A pull-down menu which allows the use to set the spacing of the ***Time Grid***. This can be one of eight settings:-

No Grid	Week
Minute	Month
Hour	Quarter
Day	Year

Schedule

A pull-down menu which allows the user to select which of the three ***Schedules*** is to be used for positioning the ***Tasks*** on the ***Chart***. The user may also choose one of three pairs of **Schedules** (**Early/Late, Baseline/Early** or **Baseline/Late**) in order to compare the difference between the two. By default, if Actual Dates exist, then these override these settings for ***Early*** or ***Late*** **Dates**.

Calendar

A set of 5 pull-down menus to set the parameters for the ***Calendar*** to be used on the ***Chart***.

Chart Calendar Select the Calendar, from the pull-down menu, which will be used to determine the Start of the Week and the ***Holiday*** periods to be shown on

the ***Chart***. On daily Gantt charts the non-working periods are automatically shaded like holidays.

Week Numbers Select the type of Week Numbers, from the pull-down menu which are to be used on the Chart.

Project ***Week 1*** set by ***Base Date***

Annual ***Week 1*** is first week in January, resets at the start of each year.

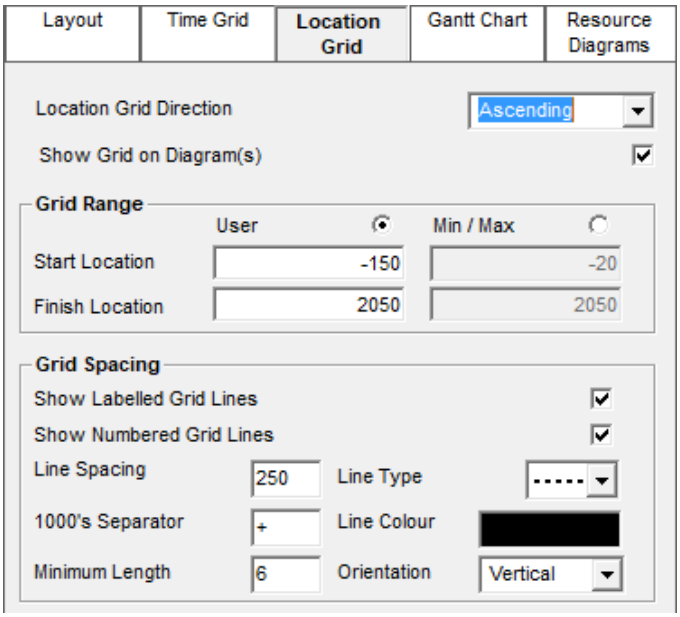
Fiscal ***Week 1*** is set by user, resets on the first week of the same month of each year.

Fiscal Year Start Month Select the ***Fiscal Year Start Month*** from the pull-down menu. This menu is only visible if ***Fiscal Year*** is selected in the ***Week Numbers*** menu.

Time Grid Font Name Select the ***Font Name***, from the pull-down menu, to be used for the ***Dates*** and ***Week Numbers*** on the ***Chart***.

Time Grid Font Size Select the ***Font Size***, from the pull-down menu, to be used for the ***Dates*** and ***Week Numbers*** on the ***Chart***. The Font option is available because, dependent on the size of the paper, the time span and the grid spacing, the space between the horizontal grid may be too small to fit in the text at the size set in the System Settings, thus it can be reduced using this facility.

6.2.4. Location Grid Tab



The ***Location Grid Tab*** comprises five elements:-

Location Grid Direction Select the ***Location Grid Direction*** from the pull down menu. ***Ascending*** if the grid is to be drawn from left to right (bottom to top on horizontal charts) or ***Descending*** if the grid is to be drawn from right to left (top to bottom on horizontal charts).

Show Grid on Diagram(s) Tick this box if the ***Grid Lines*** are to be drawn over the ***Graphic*** at the top of the ***Chart***. Helps with the alignment.

Grid Range A set of two options and two fields to set the limits of the ***Time Grid*** window on the ***Chart***.

- ***Min/Max Option*** Select this option if the minimum and maximum locations of the ***Tasks*** entered are to be used as the ***Location Grid*** window limits.
- ***User Option*** Select this option if the minimum and maximum locations of the ***Location Grid*** window are to be manually set by the user.

Start Location A numeric field, which determines the start of the ***Location Grid*** window.

Finish Location A numeric field, which determines the finish of the ***Location Grid*** window.

Grid Spacing A set of options, pull-down menus and fields which allows the use to set the look and spacing of the ***Location Grid***.

Show Labelled Grid Lines Tick this box if the Labelled Grid Lines (see section ***4.2 Labels***) are to be shown on the ***Location Grid***.

Show Numbered Grid Lines Tick this box if Numbered Grid Lines are to be shown at regular intervals on the ***Location Grid***.

Line Spacing Enter/Edit the distance between the ***Numbered Grid Lines***. If no distance is entered, lines will be drawn at $^{1}/_{10}$ of the overall distance. This field is only visible if the ***Show Numbered Grid Lines*** box is ticked.

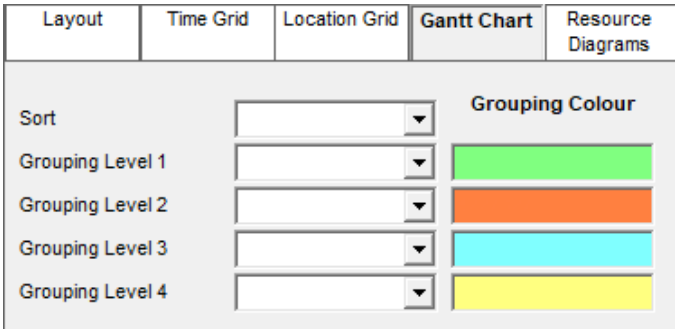
Line Type Select the ***Line Type***, from the pull-down menu, to be used to draw the ***Grid Lines***. This menu is only visible if the ***Show Numbered Grid Lines*** box is ticked.

1000,s Separator Enter/Edit the character to be used as the separator when the numeric grid value is greater than 999. This field is only visible if the ***Show Numbered Grid Lines*** box is ticked.

Line Colour Double-Click on the box to display the ***Colour*** dialogue palette for selection. Select the ***Colour*** to be used for the ***Text*** and ***Grid Lines***. This field is only visible if the ***Show Numbered Grid Lines*** box is ticked.

Orientation Select the ***Orientation***, from the pull-down menu, of the ***Grid Line Text***. This is either ***Horizontal*** or ***Vertical***.

6.2.5. Gantt Chart Tab



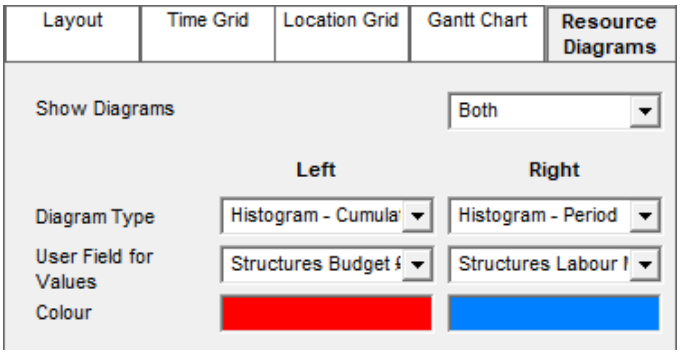
The ***Gantt Chart Tab*** comprises three elements:-

Sort A pull-down menu which allows the user to select the Data field to be used to sort the Tasks on the Gantt Chart.

Grouping Level 1 - 4 A series of pull-down menus which allows the user to select the Data field to be used to Group the Tasks on the Gantt Chart for each of four levels.

Grouping Colour 1 - 4 Four boxes showing the ***Colour*** to be used to highlight each level of the Grouping on the Gantt Chart. Double-Click on the boxes to display the ***Colour*** dialogue palette for selection.

6.2.6. Resource Diagrams Tab (Professional only)



The ***Resource Diagrams*** section comprises five elements:-

Show Diagrams	A pull-down menu which allows the user to select if ***Resource Diagrams*** are to be shown or not on the left or right for vertical ***Time Grid Direction*** charts or top or bottom for horizontal ***Time Grid Direction*** charts or both.
Diagram Type	Two pull-down menus which allows the user to select the type of Resource Diagram to be shown on both the left and right of the Chart. This may be a Table of Period and Cumulative figures, Period or Cumulative Histograms or Period or Cumulative Line Graphs. Only the side(s) selected are displayed.
User Field for Values	Two pull-down menus which allows the user to select the ***User Fields*** containing the values to be used to calculate both the left and right diagrams. Only the side(s) selected are displayed.
Colour	Two boxes showing the ***Colour*** to be used for the Histogram or Line Graph. Double-Click on the boxes to display the ***Colour*** dialogue palette for selection. Only the side(s) selected are displayed.

6.3. Layout Designer

The ***Layout Designer*** window allows the user to design/modify bespoke ***Layouts*** for use with ***ChainLink 5***.

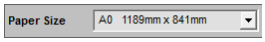
The window is not resizable, the size and proportions are set by the software to suit the size and orientation of the sheet selected.

The window is colour coded grey.

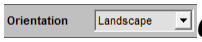
When first opened the ***Layout Designer*** window will display the ***Layout*** for the currently loaded Project or the default ***Layout*** if no Project is loaded.

6.3.1. Toolbar

The ***Toolbar*** contains six elements to assist in designing the ***Layout***.



Paper Size — A pull-down menu which allows the user to select the ***Paper Size*** to be used for this ***Layout***. If an existing ***Layout*** is loaded and the ***Paper Size*** is changed the current Layout will be re-proportioned to suit the new size. The menu contains a list of fifteen standard paper sizes and ***Custom Paper Size***, this should only be selected once the size has been set in the **Custom Paper Size Section**.



Orientation — A pull-down menu which allows the user to select the ***Orientation*** of the ***Paper***.

Save Button — Click this button to save the ***Layout*** with it current ***Name*** which is shown in the caption at the top of the window. Only visible once changes have been made or the ***Add Button*** clicked.

Save As Button — Click this button to save the ***Layout*** with a new ***Name***. A ***Save File*** dialogue will be displayed.

New Layout Button — Click this button to create a new ***Layout*** for the selected ***Chart*** and close the window.

Open Layout Button — Click this button to load an existing ***Layout***. An ***Open File*** dialogue will be displayed. **NB** If a ***ChainLink 4 Layout*** is to be loaded it is advisable to set the ***Paper Size*** to that of the ***Layout*** before loading, otherwise it will be scaled to the current size.

6.3.2. Main Screen

The ***Main Window*** comprises three sections:-

Paper Section

This section represents the sheet of paper where the ***Layout*** design is to be built up by positioning and sizing the individual areas within its borders. The design must contain at least one ***Chart***, thus, when creating a new ***Layout*** from scratch, ***Chart 1*** is always displayed on the sheet. This can be removed providing one of the other ***Charts*** is included in the ***Layout***.

Available Section

This section contains the remaining ***Areas*** that are available for use on the ***Chart***. To move an ***Area*** onto the ***Paper Section*** position the cursor over the required ***Area***, the cursor changes to  , click and hold down the left mouse button, the cursor changes to ✣, drag the ***Area*** to the required position and drop it by releasing the button.

To remove an ***Area*** from the ***Paper Section*** drag it so that its right hand edge is beyond the right hand edge of the paper and drop it. The ***Area*** will automatically resize and position itself in the correct place on the ***Available Section***

Layout Name and Properties Section	This section contains the ***Layout Name*** and displays the ***Properties*** of the currently selected ***Area***. The ***Layout Name*** can be edited in the usual way and has no effect until the ***Layout*** is saved, when the name is used as the default ***File Name***. The Properties panel varies dependent on the Area selected, see ***6.3.4 Areas***.
Custom Page Size Section	This section allows the user to set a ***Custom Page Size*** rather than the standard sizes.

6.3.3. Positioning and Sizing Areas

Once an ***Area*** has been dropped in the ***Paper Section*** it can be moved to its desired position by placing the cursor over the ***Area***, the cursor changes to , and clicking and holding down the left mouse button, the cursor changes to ✣, drag the ***Area*** to the required position and drop it by releasing the button.

Alternatively, or for final accurate positioning, the Left and Top values can be changed in the Properties panel, see ***6.3.4 Areas***.

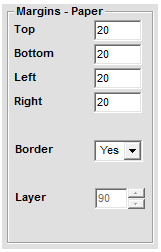
To change the size of an ***Area***, position the cursor over the coloured border of the Area, the cursor changes to , and click and hold down the left mouse button, the cursor changes to ⇔ or ⇕ dependent on whether the sides or the top or bottom are selected. Drag the border until it reaches the required size and drop it by releasing the button.

Alternatively, or for final accurate sizing, the Width and Height values can be changed in the Properties panel, see ***6.3.4 Areas***.

NB The ***Areas*** cannot be placed in a position where all or part of the ***Area*** is within the ***Paper Margins***. Any attempt to do so will result in an error message being displayed.

6.3.4. Areas

6.3.4.1. Paper Area



The ***Paper Area*** occupies the whole of the ***Paper Section***. It cannot be resized by the user other than by changing the ***Paper Size*** by using the pull-down menu on the ***Toolbar***.

The properties are displayed by clicking the left mouse button on any unoccupied space of the ***Paper Section***.

They comprise six items:-

Top Margin A numeric field containing the number of millimetres from the top edge of the ***Paper*** to the start of the usable area of the ***Layout***.

Bottom Margin A numeric field containing the number of millimetres from the bottom edge of the ***Paper*** to the finish of the usable area of the ***Layout***.

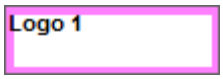
Left Margin A numeric field containing the number of millimetres from the left edge of the ***Paper*** to the start of the usable area of the ***Layout***.

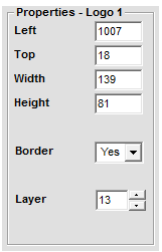
Right Margin A numeric field containing the number of millimetres from the right edge of the ***Paper*** to the finish of the usable area of the ***Layout***.

Border A pull-down menu which allows the user to select whether or not a ***Border*** is to be drawn around the usable area of the ***Layout***.

Layer A numeric field showing the ***Layer*** number, which is used to determine which ***Areas*** appear on top of other ***Areas***, thus the ***Paper*** is always the lowest Layer and is set to 90. This cannot be changed by the user.

6.3.4.2. Logo Areas





There are four ***Logo Areas*** available to the user for incorporating company and project logos. They can be positioned anywhere on the ***Chart*** and resized by the user using the mouse or the ***Properties*** panel. They are colour coded pink.

The ***Properties*** for each of the areas are displayed by moving the mouse over any ***Logo Area***, currently within the ***Paper Section***, the cursor will change to , then selecting the area by clicking on the left mouse button. ***Logo Areas*** within the ***Available Section*** cannot be selected.

The ***Logo Areas*** properties comprise six items:-

Left A numeric field containing the distance in millimetres from the left edge of the ***Paper*** to the start of the ***Logo Area***.

Top A numeric field containing the distance in millimetres from the top edge of the ***Paper*** to the top of the ***Logo Area***.

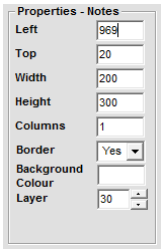
Width A numeric field containing the width of the ***Logo Area*** in millimetres.

Height A numeric field containing the height of the ***Logo Area*** in millimetres.

Border A pull-down menu which allows the user to select whether or not a ***Border*** is to be drawn around the ***Logo Area***.

Layer A numeric field showing the ***Layer*** number, which is used to determine which ***Areas*** appear on top of other ***Areas***. This may be any number between 1 and 59, however, they are set to 13, 12, 11 and 10 by default.

6.3.4.3. Notes Area



The ***Notes Area*** provides the user with a container to hold any relevant notes pertaining to the Chart. It can be positioned anywhere on the ***Chart*** and resized by the user using the mouse or the ***Properties*** panel. It is colour coded orange.

The ***Properties*** for this area are displayed by moving the mouse over the ***Notes Area***, once it has been moved into the ***Paper Section***. The cursor will change to , then select the area by clicking on the left mouse button. When the ***Notes Area*** is within the ***Available Areas Section*** it cannot be selected.

The ***Notes Area*** properties comprise eight items:-

Left A numeric field containing the distance in millimetres from the left edge of the ***Paper*** to the start of the ***Notes Area***.

Top A numeric field containing the distance in millimetres from the top edge of the ***Paper*** to the top of the ***Notes Area***.

Width A numeric field containing the width of the ***Notes Area*** in millimetres.

Height A numeric field containing the height of the ***Notes Area*** in millimetres.

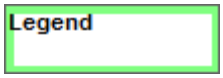
Columns A numeric field containing the number of columns that the ***Notes Area*** is to be divided into. The number of columns entered will be shown graphically on the ***Notes Area***.

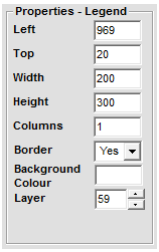
Border A pull-down menu which allows the user to select whether or not a ***Border*** is to be drawn around the ***Notes Area***.

Background Colour The colour used as a fill colour to higlight the ***Notes Area***. It can only be selected by double clicking on the text box to display the ***Colour*** dialogue window.

Layer A numeric field showing the ***Layer*** number, which is used to determine which ***Areas*** appear on top of other ***Areas***. This may be any number between 1 and 59, however, it is set to 30 by default.

6.3.4.4. Legend Area





The ***Legend Area*** provides the user with a container to hold the ***Key*** or ***Legend*** of the ***Bars*** appearing on the ***Chart***. It can be positioned anywhere on the ***Chart*** and resized by the user using the mouse or the ***Properties*** panel. It is colour coded green.

The ***Properties*** for this area are displayed by moving the mouse over the ***Legend Area***, once it has been moved into the ***Paper Section***. The cursor will change to , then select the area by clicking on the left mouse button. When the ***Legend Area*** is within the ***Available Section*** it cannot be selected.

The ***Legend Area*** properties comprise eight items:-

Left A numeric field containing the distance in millimetres from the left edge of the ***Paper*** to the start of the ***Legend Area***.

Top A numeric field containing the distance in millimetres from the top edge of the ***Paper*** to the top of the ***Legend Area***.

Width A numeric field containing the width of the ***Legend Area*** in millimetres.

Height A numeric field containing the height of the ***Legend Area*** in millimetres.

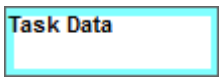
Columns A numeric field containing the number of columns that the ***Legend Area*** is to be divided into. The number of columns entered will be shown graphically on the ***Legend Area***.

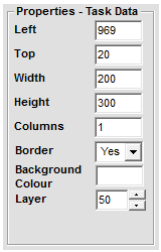
Border A pull-down menu which allows the user to select whether or not a ***Border*** is to be drawn around the ***Legend Area***.

Background Colour The colour used as a fill colour to higlight the ***Legend Area***. It can only be selected by double clicking on the text box to display the ***Colour*** dialogue window.

Layer A numeric field showing the ***Layer*** number, which is used to determine which ***Areas*** appear on top of other ***Areas***. This may be any number between 1 and 59, however, it is set to 40 by default.

6.3.4.5. Task Data Area





The ***Task Data Area*** provides the user with a container to hold a list of the ***Tasks*** which appear on the Chart. It can be positioned anywhere on the ***Chart*** and resized by the user using the mouse or the ***Properties*** panel. It is colour coded cyan.

The ***Properties*** for this area are displayed by moving the mouse over the ***Task Data Area***, once it has been moved into the ***Paper Section***. The cursor will change to , then select the area by clicking on the left mouse button. When the ***Task Data Area*** is within the ***Available Section*** it cannot be selected.

The ***Task Data Area*** properties comprise eight items:-

Left A numeric field containing the distance in millimetres from the left edge of the ***Paper*** to the start of the ***Task Data Area***.

Top A numeric field containing the distance in millimetres from the top edge of the ***Paper*** to the top of the ***Task Data Area***.

Width A numeric field containing the width of the ***Task Data Area*** in millimetres.

Height A numeric field containing the height of the ***Task Data Area*** in millimetres.

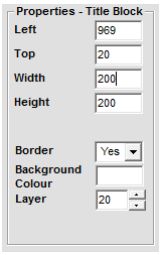
Columns A numeric field containing the number of columns that the ***Task Data Area*** is to be divided into. The number of columns entered will be shown graphically on the ***Task Data Area***.

Border A pull-down menu which allows the user to select whether or not a ***Border*** is to be drawn around the ***Task Data Area***.

Background Colour The colour used as a fill colour to higlight the ***Task Data Area***. It can only be selected by double clicking on the text box to display the ***Colour*** dialogue window.

Layer A numeric field showing the ***Layer*** number, which is used to determine which ***Areas*** appear on top of other ***Areas***. This may be any number between 1 and 59, however, it is set to 50 by default.

6.3.4.6. Title Block Area



The ***Title Block Area*** provides the user with a container to hold the ***Project*** and ***Chart Details***. It can be positioned anywhere on the ***Chart*** and resized by the user using the mouse or the ***Properties*** panel. It is colour coded cyan.

The ***Properties*** for this area are displayed by moving the mouse over the ***Titile Block Area***, once it has been moved into the ***Paper Section***. The cursor will change to , then select the area by clicking on the left mouse button. When the ***Title Block Area*** is within the ***Available Section*** it cannot be selected.

Double clicking on this ***Area*** closes the ***Layout Designer*** and loads the ***Title Block Designer***. If the ***Layout*** has not been saved then the user will be asked if they wish to save it.

The ***Task Data Area*** properties comprise seven items:-

Left A numeric field containing the distance in millimetres from the left edge of the ***Paper*** to the start of the ***Title Block Area***.

Top A numeric field containing the distance in millimetres from the top edge of the ***Paper*** to the top of the ***Title Block Area***.

Width A numeric field containing the width of the ***Title Block Area*** in millimetres.

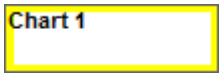
Height A numeric field containing the height of the ***Title Block Area*** in millimetres.

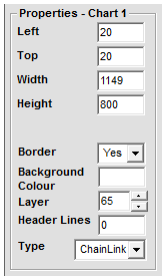
Border A pull-down menu which allows the user to select whether or not a ***Border*** is to be drawn around the ***Title Block Area***.

Background Colour The colour used as a fill colour to higlight the ***Title Block Area***. It can only be selected by double clicking on the text box to display the ***Colour*** dialogue window.

Layer A numeric field showing the ***Layer*** number, which is used to determine which ***Areas*** appear on top of other ***Areas***. This may be any number between 1 and 59, however, it is set to 20 by default.

6.3.4.7. Chart Areas





The ***Chart Areas*** provides the user with up to six containers to hold the Time Location or Gantt Chart(s). They can be positioned anywhere on the ***Chart*** and resized by the user using the mouse or the ***Properties*** panel. It is colour coded yellow.

The ***Properties*** for these areas are displayed by moving the mouse over the ***Chart Area*** required once it has been moved into the ***Paper Section***. The cursor will change to , then select the area by clicking on the left mouse button. When the ***Chart Area*** is within the ***Available Section*** it cannot be selected.

Each ***Chart Area*** contains a ***Diagram Area*** which is initially hidden.

To display a hidden ***Diagram Area***, right mouse click on the ***Chart Area***. The ***Diagram Area*** will be opened and set to $^{1}/_{5}$ th the height of the ***Chart Area***.

To hide a displayed ***Diagram Area***, right mouse click on the on the ***Chart Area***.

The ***Chart Area*** properties comprise eight items:-

Left A numeric field containing the distance in millimetres from the left edge of the ***Paper*** to the start of the ***Chart Area***.

Top A numeric field containing the distance in millimetres from the top edge of the ***Paper*** to the top of the ***Chart Area***.

Width A numeric field containing the width of the ***Chart Area*** in millimetres.

Height A numeric field containing the height of the ***Chart Area*** in millimetres.

Border A pull-down menu which allows the user to select whether or not a ***Border*** is to be drawn around the ***Chart Area***.

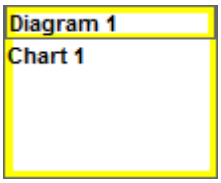
Background Colour The colour used as a fill colour to higlight the ***Chart Area***. It can only be selected by double clicking on the text box to display the ***Colour*** dialogue window.

Layer A numeric field showing the ***Layer*** number, which is used to determine which ***Areas*** appear on top of other ***Areas***. This may be any number between 1 and 59, however, they are set to 60 to 65 by default.

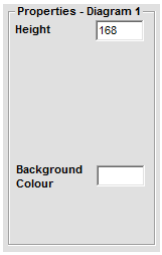
Header Lines A numeric field containing the number of ***Header Lines*** to be shown at the top of the ***Chart Area*** and immediately below the ***Diagram Area***, if displayed. The number of lines entered is shown graphically on the chart.

Type A pull-down menu which allows the user to select the type of chart to be produce in this **Chart Area** i.e. ChainLink (Time Location) or Gantt (Barchart)

6.3.4.8. Diagram/Gantt Text Areas



The ***Diagram/Gantt Text Areas*** allows the user to place Scheme Diagram(s) at the top of Time Location Chart(s) or provides space for the Task details on Gannt Chart(s). The ***Diagram/Gantt Text Areas*** are contained in each ***Chart Area*** and are initially hidden. They can be resized by the user using the mouse or the ***Properties*** panel. They are colour coded yellow.



To display a hidden ***Diagram/Gantt Text Area***, right mouse click on the ***Chart Area***. The ***Diagram/Gantt Text Area*** will be opened and set to $^{1}/_{5}$th the height of the ***Chart Area***.

To hide a displayed ***Diagram/Gantt Text Area***, right mouse click on the on the ***Chart Area***.

The ***Properties*** for these areas are displayed by moving the mouse over the ***Chart Area*** required, once it has been moved into the ***Paper Section***. The cursor will change to , then select the area by clicking on the left mouse button. When the ***Chart Area*** is within the ***Available Section*** it cannot be selected.

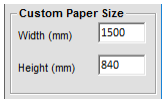
The ***Diagram/Gantt Text Area*** properties comprise two items:-

Height A numeric field containing the height of the ***Chart Area*** in millimetres.

Background Colour The colour used as a fill colour to higlight the ***Chart Area***. It can only be selected by double clicking on the text box to display the ***Colour*** dialogue window.

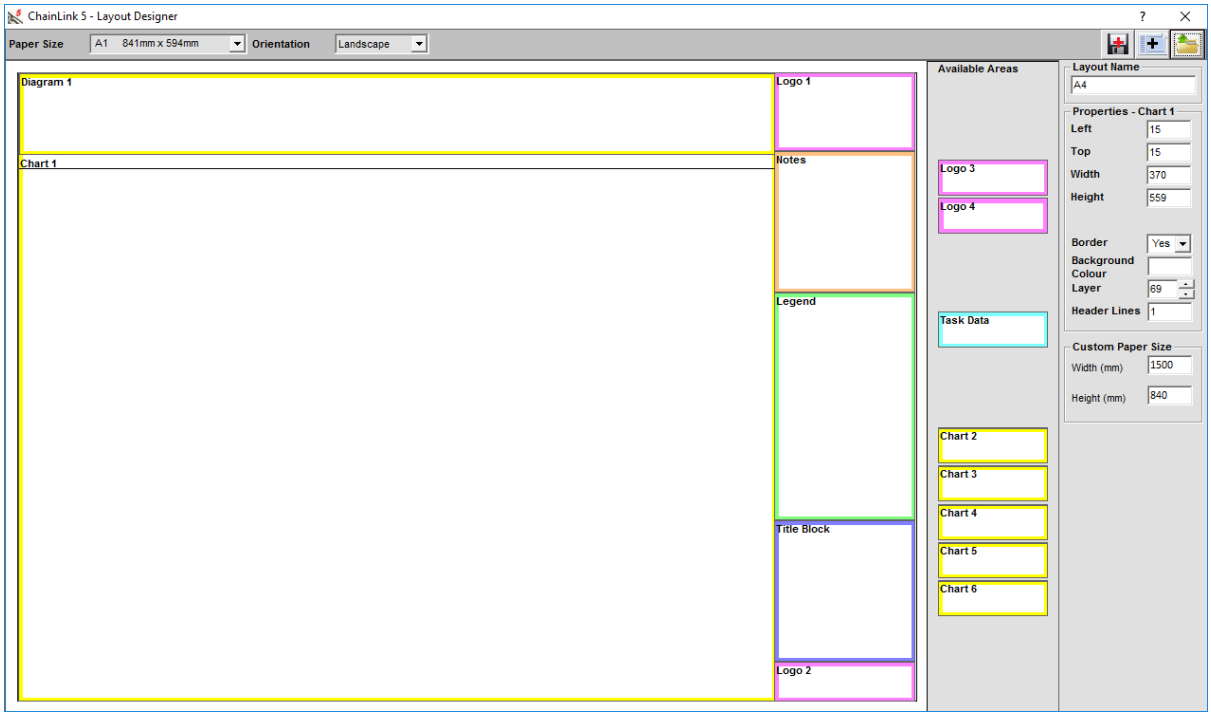
N.B. When displaying both ChainLink (Time Location) and Gantt (Barchart) Charts on the same page, if the ***Time Grids*** are to line up with each other then the sizing parameters of both ***Chart Areas*** must be identical, excluding the ***Width*** but including the **Diagram/Gantt Text** height and the number of ***Header Lines***.

6.3.5. Custom Paper Size

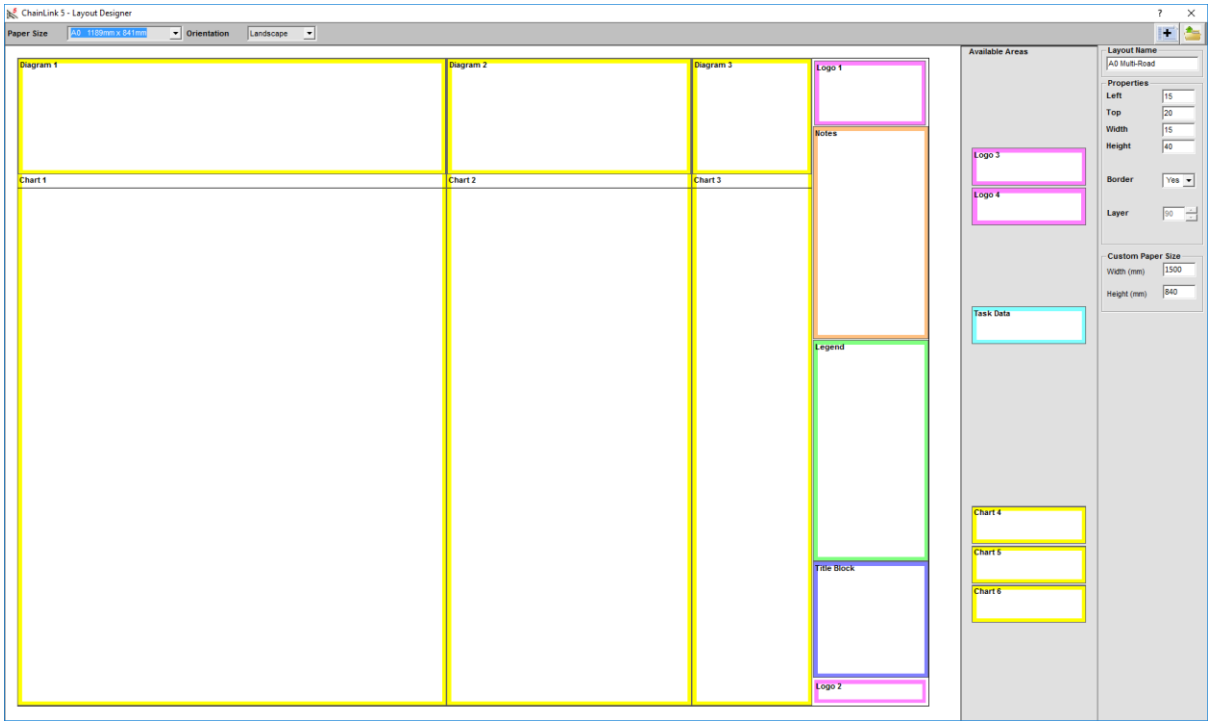


The ***Custom Paper Size*** allows the user to specify a non-standard pagesize for use where the chart requires more space than can be fitted on the standard page. The sizes must be entered in millimetres and are saved by ***ChainLink 5*** until new ones are set.

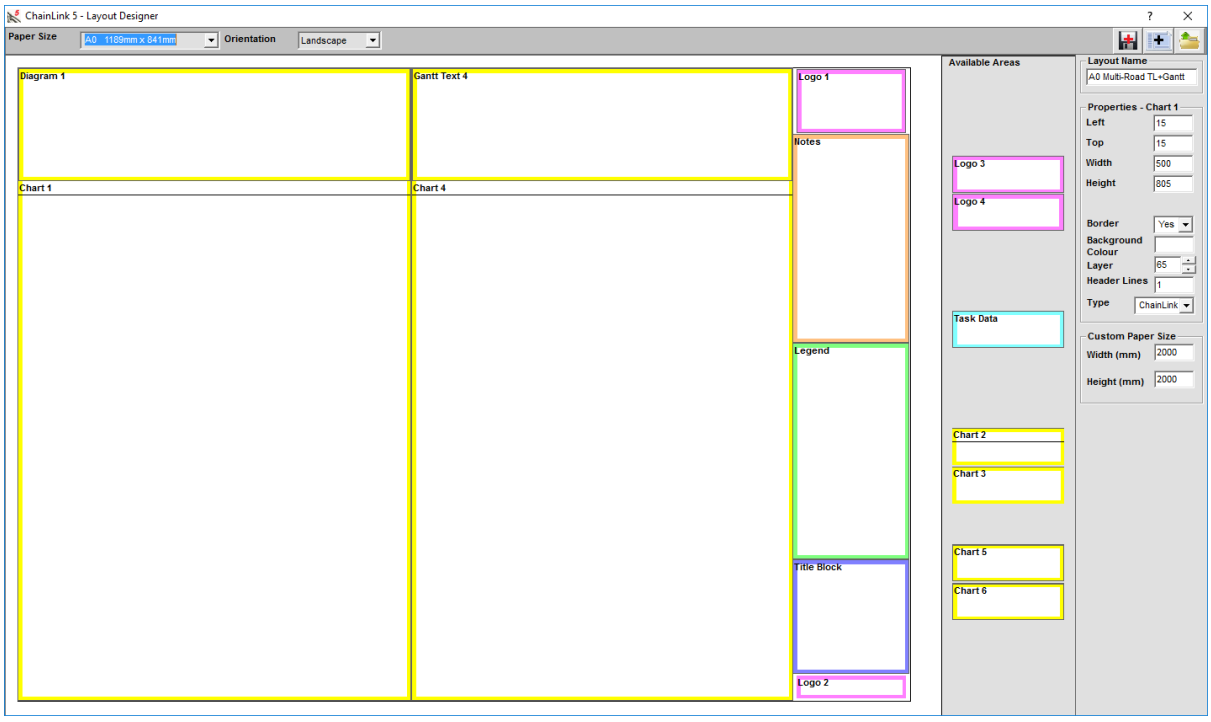
6.3.6. Example Layout Designs



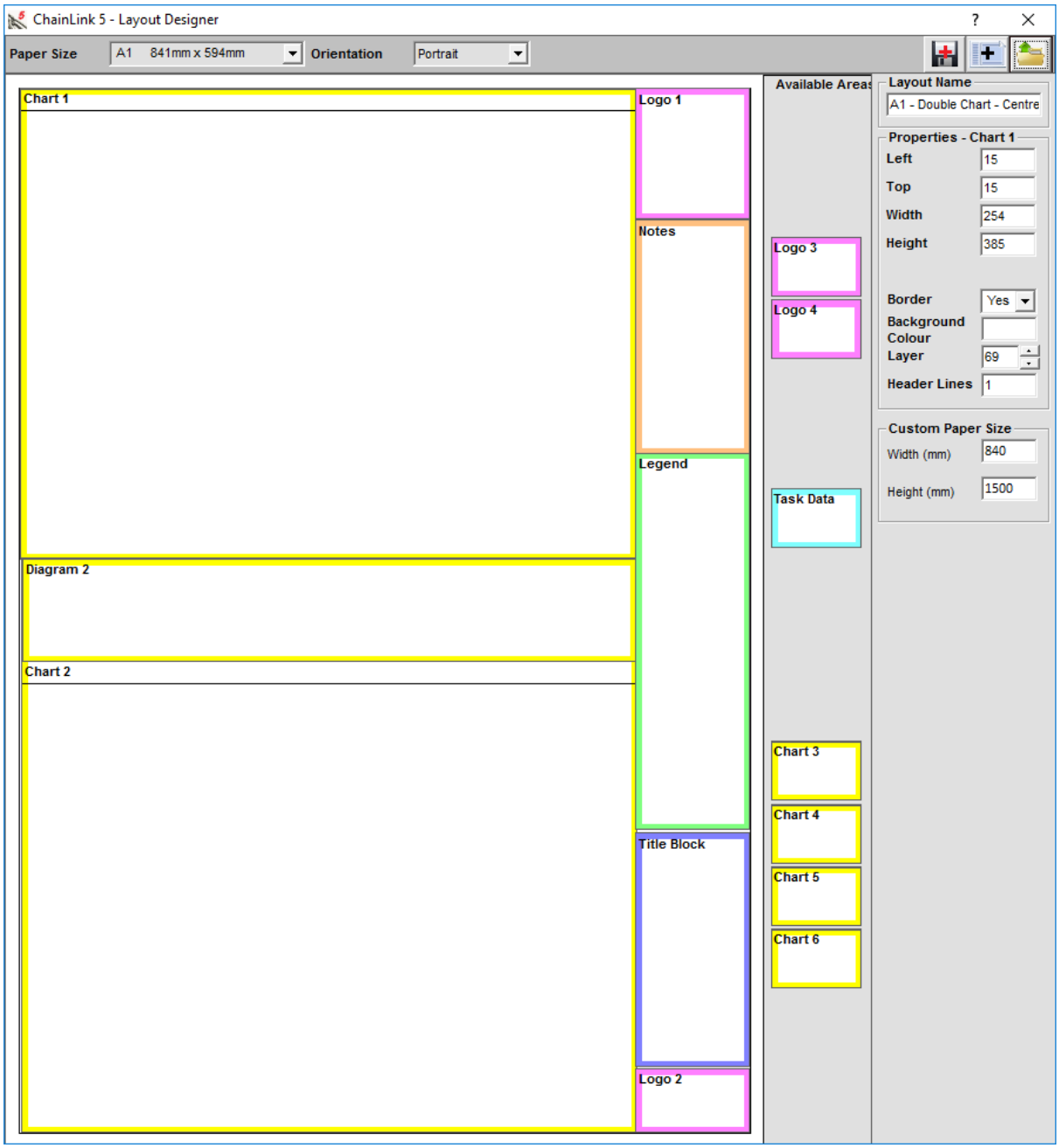
The Standard A1 Layout



The A0 Multi-Road TL x 3 Layout used on the Multi-Road Example



The A0 Multi-Road TL + Gantt Layout used on the Multi-Road Example



A 2 Chart Stacked Layout

This layout could be used to show the Baseline programme on Chart 1 and the Current programme on Chart 2 as a comparison, with the Scheme Diagram in the centre.

Alternatively, on a dual carriageway road or rail project the two Charts could show the separate carriageways or tracks, with a common Scheme Diagram in the centre.

6.4. Title Block Designer

The ***Title Designer*** window allows the user to design/modify the layout of the ***Title Block*** for use with the ***Layouts***.

The window is not resizable, the size and proportions are set by the software to suit the size and orientation of the sheet selected.

The window is colour coded grey.

When opened the ***Title Block Designer*** window will display the ***Title Block*** size of the ***Layout*** for the currently loaded Project or the default ***Layout*** if no Project is loaded.

6.4.1. Toolbar

The ***Toolbar*** contains four elements to assist in designing the ***Title Block***.

Box Size — Two text boxes showing the width and height of the ***Title Block*** contained in the current active ***Layout***. These sizes cannot be changed by the user.

Save Button — Click this button to save the ***Title Block*** design. Only visible once changes have been made. The ***Title Block*** design is saved in the users ***System Settings*** and is used on every ***Layout*** for that user.

Font Button — Displays a ***Font Dialogue*** window for the selection of the font and font size for the selected ***Title Block Area***. This button is only visible when the ***Title Block*** text is displayed.

Text View Button — Click this button to toggle between the ***Title Block*** design and the ***Title Block*** text, thus allowing the user to enter/edit and size the text to suit the design.

6.4.2. Main Screen

The ***Main Window*** comprises three sections:-

Title Block Section This section represents the ***Title Block*** box where the design is to be built up by positioning and sizing the individual areas within its borders. The design must contain at least one ***Area***.

Available Section This section contains the remaining ***Areas*** that are available for use on the ***Title Block***. To move an ***Area*** onto the ***Title Block Section*** position the cursor over the required ***Area***, the cursor changes to , click and hold down the left mouse button, the cursor changes to , drag the ***Area*** to the required position and drop it by releasing the button.

To remove an ***Area*** from the ***Title Block Section*** drag it so that its right hand edge is beyond the right hand edge of the paper and drop it. The ***Area*** will automatically resize and position itself in the correct place on the ***Available Section***

Properties Section This section contains the ***Properties*** of the currently selected ***Area,*** see ***6.4.4 Areas***.

6.4.3. Positioning and Sizing Areas

Once an ***Area*** has been dropped in the ***Title Block Section*** it can be moved to its desired position by placing the cursor over the ***Area***, the cursor changes to , and clicking and holding down the left mouse button, the cursor changes to ✣, drag the ***Area*** to the required position and drop it by releasing the button.

Alternatively, or for final accurate positioning, the Left and Top values can be changed in the Properties panel, see ***6.4.4 Areas***.

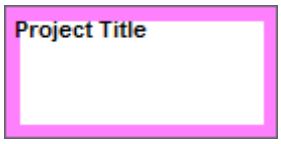
To change the size of an ***Area***, position the cursor over the coloured border of the Area, the cursor changes to , and click and hold down the left mouse button, the cursor changes to ⇔ or ⇕ dependent on whether the sides or the top or bottom are selected. Drag the border until it reaches the required size and drop it by releasing the button.

Alternatively, or for final accurate sizing, the Width and Height values can be changed in the Properties panel, see ***6.4.4 Areas***.

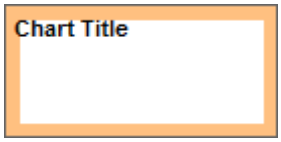
NB The ***Areas*** cannot overlap with other ***Areas***. Any attempt to do so will result in an error message being displayed.

6.4.4. Areas

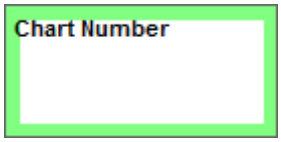
There are six ***Areas*** available for inclusion in the ***Title Block***. These are:-



This is the Project Title that also appears on the main ***ChainLink 5*** screen.

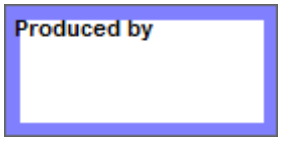


The title of this particular Time Location/Chainage chart.

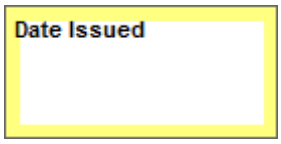


A unique number/code that identifies this chart

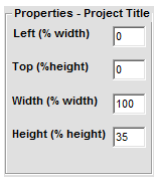
A unique revision number/code for this version of the Chart Number.



The name or initials of the person who has produced this chart.



The date on which this chart was produced



The ***Properties*** for these ***Areas*** are displayed by moving the mouse over the required ***Area***, once it has been moved into the ***Title Block Section***. The cursor will change to , then select the area by clicking on the left mouse button. When the ***Area*** is within the ***Available Section*** it cannot be selected.

All ***Property*** values are entered as a percentage of the width or height of the current ***Title Block***. Thus if the size of the ***Title Block*** is changed either intentionally or by changing the ***Paper Size*** then this design is still valid.

The ***Properties*** comprise four items:-

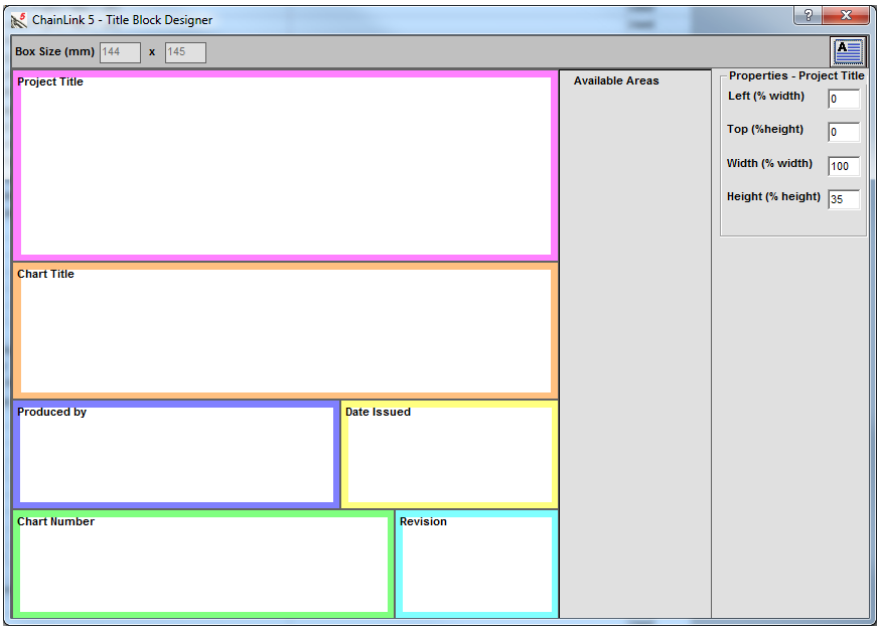
Left (% width) A numeric field containing the percentage of the width of the ***Title Block*** equivalent to the required distance from the left edge of the ***Title Block*** to the start of the ***Area***.

Top (% height) A numeric field containing the percentage of the height of the ***Title Block*** equivalent to the required distance from the top edge of the ***Title Block*** to the top of the ***Area***.

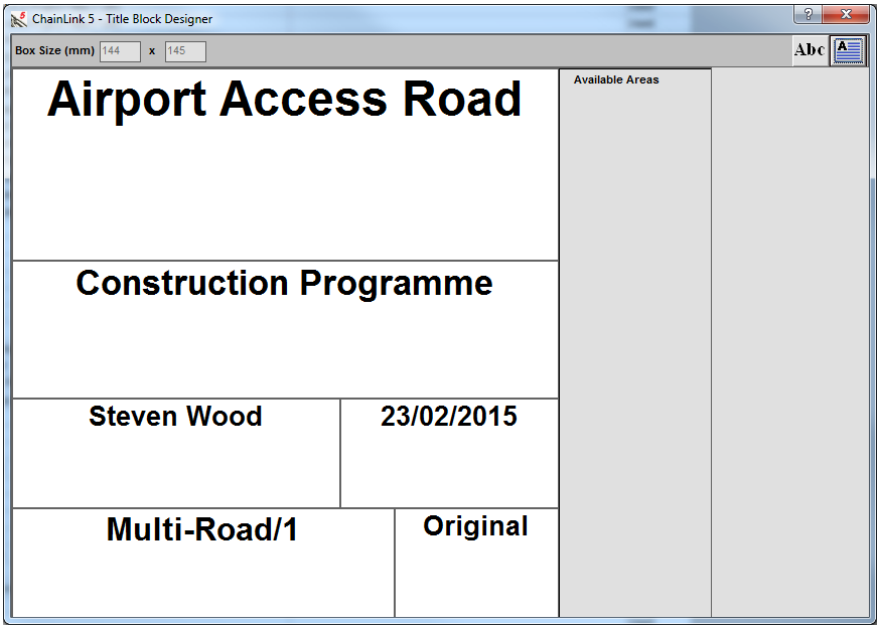
Width (% width) A numeric field containing the percentage of the width of the ***Title Block*** equivalent to the required width of the ***Area***.

Height (% height) A numeric field containing the percentage of the height of the ***Title Block*** equivalent to the required height of the ***Area***.

6.4.5. Example Title Block Design



Design View



Text View

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Section 7

Utilities

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7. Utilities

The Utilities windows provide access to all the system functions.

The ***System Settings*** window and Onscreen Help facility are accessed from the ***Utilities Ribbon*** by clicking on the appropriate icon. The icon will appear depressed and remain depressed whilst ever the window remains open or the facility is operational. To close the window or facility re-click the ribbon icon or click on the button.

The ***Column Selection/Naming*** window is accessed from each of the tables/spreadsheets.

All windows are independent of the main ***ChainLink 5*** window. The ***System Settings*** window is colour coded grey and the ***Column Selection/Naming*** window colour coded purple.

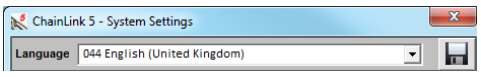
All the Utilities windows and functions may be opened at the same time and remain open until closed by the user. Any ***Utilities*** window, which is open when ***ChainLink 5*** is closed will also be closed.

The position of each Utilities window is saved on closing and will be appear in the same position when re-opened.

7.1. System Settings

The System Settings window provides access to the operational settings of ***ChainLink 5***.

7.1.1. Toolbar



The ***Toolbars*** contains two elements.

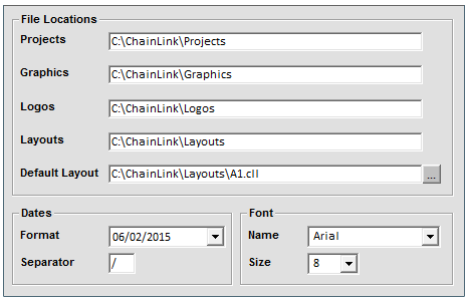
Language Selection A pull-down menu that allows the user to select the ***Language*** to be used throughout ***ChainLink 5***. The following languages are currently available:-

English (United States), English (United Kingdom), Dutch and French

Further languages will be added in the future

Save Button Saves the settings. A message will be displayed indicating that the new settings will be used next time ***ChainLink 5*** is loaded.

7.1.2. Main Screen



The Main window contains three elements.

File Locations A group of five fields containing the addresses of the folders where ***ChainLink 5*** can find the main files that make up the Time Location Chart.

- ***Projects*** The address of the folder that contains the ***.cl5*** project files.
- ***Graphics*** The address of the folder that contains the graphics files.
- ***Logos*** The address of the folder that contains the logo files. This folder may be the same as the graphics folder, but has been retained to maintain compatibility with ***ChainLink 4***.
- ***Layouts*** The address of the folder that contains the Layout Files.
- ***Default Layout*** The address of the file that contains the Default Layout to be initially assigned to each new project. Click on the button at the end of the field to browse for the file.

Dates A group of two fields determining the format used by ***ChainLink 5*** for displaying the dates.

- ***Format*** A pull-down menu which allows the user to select one of 3 formats available. These are:-

dd/mm/yyyy	15/02/2015
mm/dd/yyyy	02/15/2015
dd/mmm/yyy	15/FEB/2015

Separator The character to be used to separate the date elements. This is usually a '/', '.' or '-', however it may be a space if desired but not a null string.

Font A group of two fields specifying the font and size used by ***ChainLink 5*** on all windows and spreadsheets. Care should be taken when selecting the font as some are more legible than others. Similarly, specifying too large a font size may cause problems on some screens and windows.

Name A pull-down menu which allows the user to select a font from those stored on the computer being used.

Size A pull-down menu which allows the user to select the size of the font.

Once the settings have been saved, click on the  or the ***System Settings*** icon to close the window. Then close down and restart ***ChainLink 5*** to use the new settings.

7.2. Onscreen Help

Clicking on the ***Onscreen Help*** icon on the ***Utilities*** ribbon turns on or off the onscreen popup help facility.

When turned on the normal arrow cursor is changed to an arrow with a question mark  .

To use the onscreen help move the cursor over the item and leave it there for two seconds. A brief explanation of what that item does will be displayed

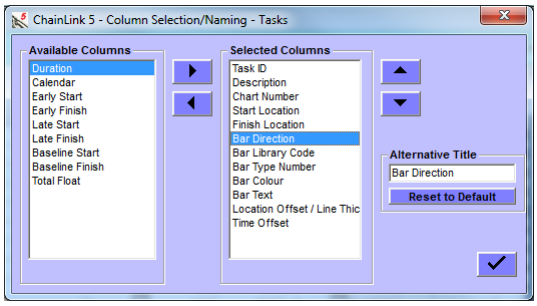
This function may also be turned on or off by pressing ***CTRL + H*** when on the main ***ChainLink 5*** screen.

7.3. Column Selection/Naming

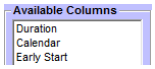
The ***Column Selection/Naming*** window is accessed from any of the tables or spreadsheets and allows the user to select the columns to be displayed on the ***Tasks*** screen and personalise the text in the header row on all other tables or spreadsheets.

Changing the header text of the ***Tasks*** table also changes the text on the ***Details*** panel and the mapping tables of the import screens.

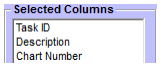
The window is colour coded purple.



The main screen contains nine elements:-



Available Columns — Lists and allows selection of any remaining ***Columns*** that haven't been selected for display.



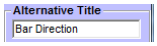
Selected Columns — Lists, allows selection of and ordering of the columns that have been selected for display. The Columns will be displayed on the table/spreadsheet in the order listed here.

Add Button — Moves the selected ***Column*** from the ***Available Columns*** list to the ***Selected Columns*** list to the position below the selected ***Column***. The button is only visible when there are ***Columns*** to add.

Remove Button — Removes the selected ***Column*** from ***Selected Columns*** list and returns it to its predetermined position in the ***Available Column*** list. The button is only visible when the selected ***Column*** can be removed.

Up Button — Moves the selected ***Column*** up the ***Selected Column*** list.

Down Button — Moves the selected ***Column*** down the ***Selected Column*** list.



Alternative Title — Allows the user to enter/edit the ***Title*** of the selected ***Column***.

Reset to Default Button — Resets the selected ***Column Title*** to its original ***Title***.

Apply Button — Applies the new Column selection to the table/spreadsheet shown in the window heading.

Section 8

Scheduling
(Professional Only)

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8. Scheduler (Professional Only)

The ***ChainLink Scheduler*** is not designed to replace the users existing Project Management software, it is provided to allow the user to run what if scenarios without the need to return to their PM package.

Whilst providing a full forward and backward analysis the ***Scheduler*** has been designed to handle partial networks (fragnets) without the need to impose dates on the initial and final ***Tasks*** of each fragnet or isolated ***Tasks*** to maintain compatibility with the main project, thus, maintaining the existing ability to only import the sections of the programme required to produce the Time Location (Chainage) Chart.

The utility is accessed from the ***Data/Task*** window by clicking on the button.

8.1. Additional Fields

In order to allow ***Scheduler*** to work correctly three additional fields have been added to the software. These are:-

Completion Date This field appears on the ***Project Ribbon*** between ***Time Now*** and ***Time Units*** and is the end date of the project.

Task Type (Professional Only) This field appears on the ***Task Details*** below the ***Total Float*** and has five user options and two system options. These are:-

Task	This denotes a standard ***Task***
Start Milestone	This is a zero duration ***Task*** with an imposed ***Early Start***, before which the ***Task*** cannot start. Only the start dates are shown.
Finish Milestone	This is a zero duration ***Task*** with an imposed ***Late Finish***, by which the ***Task*** must be finished. Only the finish dates are shown.
Task with Start	This is a ***Task*** with an imposed ***Early Start***, before which the ***Task*** cannot start.
Task with Finish	This is a ***Task*** with an imposed ***Late Finish***, by which the ***Task*** must be finished.
Started	This indicates that the ***Task*** has commenced and is set by the software when an ***Actual Start Date*** is entered in the ***Progress Data*** section. It can only be changed by the user by removing all the ***Progress Data***.

Completed	This indicates that the ***Task*** has been completed and is set by the software when an ***Actual Finish Date*** is entered in the ***Progress Data*** section. Removing the ***Actual Finish Date*** will reset it to Started.
	Level of Effort Tasks (Hammock) and ***As Late As Possible Tasks*** are not currently handled. If imported using the XER Import utility ALAP Tasks are converted into ***Tasks with Start***, the ***Imposed Date*** being the current ***Early Start***.
Imposed Date (Professional only)	This field appears on the ***Task Details*** below the ***Task Type*** and only appears if the ***Task Type*** is set to ***Start Milestone***, ***Finish Milestone***, ***Task with Start*** or ***Task with Finish***.

Two of the existing fields have been modified to allow greater flexibility which can be seen when the ***Time Units*** are set to ***Days***. These are ***Duration*** and ***Total Float***, which are now formatted as ***Days.Hours***. Thus a duration entered as 6.5 indicates that the ***Task*** requires 6 full days plus 5 hours to be completed, not 6½ days.

8.2. User Defined Scheduling Options

Scheduler has three user defined scheduling options:-

Linked Tasks Only

This option preserves the current ***Early Start*** of any ***Task*** in the fragnet which does not have a predecessor and the current ***Latest Finish*** of any ***Task*** which does not have a successor. ***Tasks*** which are linked are rescheduled in accordance with any changes to timing or logic.

Linked/Tasks affected by Time Now

This option works like **Linked Tasks Only**, however, any incomplete or non-started ***Task*** whose ***Early Start*** is earlier than ***Time Now*** will be set to ***Time Now*** and any subsequent ***Task*** rescheduled accordingly.

All Tasks

All ***Early Starts*** and ***Late Finishes*** will be recalculated in accordance with the current logic, timing, ***Time Now*** and ***Completion Date***.

Any ***Task*** which has no predecessor will have an ***Early Start*** set to ***Time Now*** and any subsequent ***Task*** rescheduled accordingly. Conversely, any ***Task*** which has no successor will be have a ***Late Finish*** set to the ***Completion Date*** and any preceding ***Task*** rescheduled accordingly.

and three user defined ***Total Float*** calculation options:-

Smallest	***Total Float*** is calculated as the smaller of the ***LS – ES*** or ***LF – EF***.
LS – ES	***Total Float*** is calculated as difference between ***Late Start*** and ***Early Start***.
LF – EF	**Total Float** is calculated as difference between ***Late Finish*** and ***Early Finish***.

8.3. Logic and Scheduling Variances from other Software

Some features and options available in current Project Management software do not align with the concepts of ***ChainLink*** and so variances occur when using ***Scheduler.***

8.3.1. Logic

In line with current Project Control thinking which considers that 4 to 6 ***Links*** between ***Tasks*** should be the maximum, ***ChainLink*** only allows a the user to allocate five ***Links*** per ***Task***.

When importing ***Links*** using the ***XER*** or ***MPX Import*** utilities, where the number of ***Links*** from a ***Tasks*** exceeds this limit the remaining ***Links*** are not imported, however, they are highlighted on the import log (which will be displayed regardless of the ***On Completion*** setting) in order that the user can correct the logic to accomodate the ommisions.

Where this number has been exceeded the issue can be easily resolved by adding 'splitter' ***Tasks***, with ***Durations*** of zero, as shown in Figure 1 below.

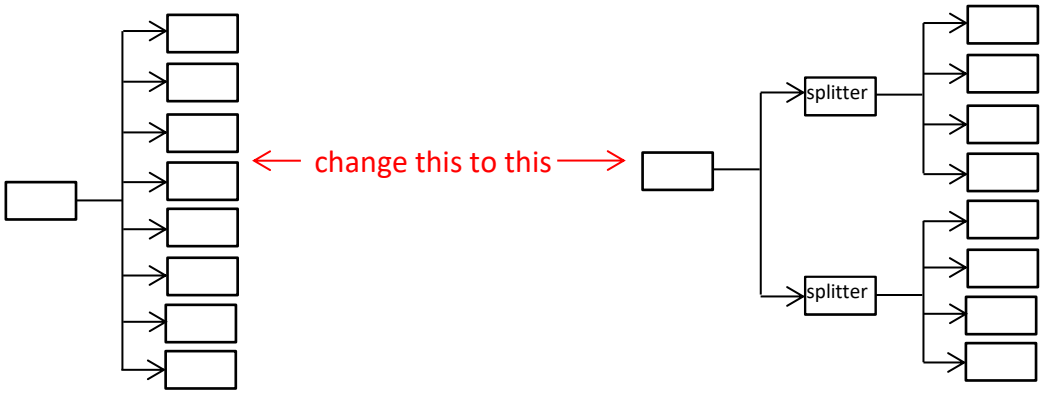

Figure 1

The logic shown below in Figure 2, in most Project Management software, would result in a 'loop' being detected and reported. ***ChainLink*** does not consider this to be a 'loop' as the start and finish of each Task is considered to be a separate node within the network and, as such, can be scheduled independently.

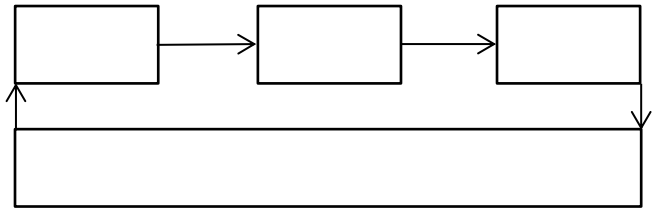

Figure 2

8.3.2. Scheduling

The ***Calendar*** assigned to a ***Link*** is pre-determined by ***Scheduler***, it cannot be set or changed by the user.

S – S and ***S – F Links*** use the ***Calendar*** of the predecessor ***Task***.

F – S and ***F – F Links*** use the ***Calendar*** of the successor ***Task***.

When ***Time Units*** are set to ***Days***, during the timing process a day is counted as a full working day regardless of shift length, thus, if a ***Task*** with a ***Duration*** of 6.5 commenced at 08:00 on Monday of a 5 day working week it would finish at 13:00 on Tuesday of the following week, assuming an 08:00 start of shift and no holidays, i.e. six full working days Monday, Tuesday, Wednesday, Thursday, Friday and Monday plus the five hours from 08:00 to 13:00.

In the logic shown in Figure 3 below (and also Figure 2), if the ***Duration*** of the lower ***Task*** is less than the sum of the ***Durations*** of the upper three ***Tasks*** the difference between the ***Early Start*** and ***Early Finish*** (also ***Late Start*** and ***Late Finish***) will be greater than the ***Duration*** of the lower ***Task***, unlike most Project Management software, which would recalculate the ***Early*** and ***Late Start*** of the lower ***Task*** by deducting the ***Duration*** from the ***Early*** and ***Late Finish***. The result of this technique is that the apparent ***Duration*** of the ***Task*** is effectively 'stretched' to occupy the time between the two calculated dates, although the entered ***Duration*** is unaffected.

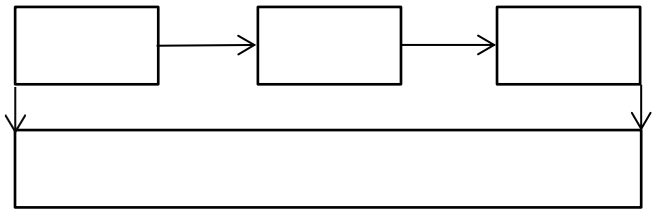

Figure 3

This technique can be used to create a ***Level of Effort*** (Hammock) ***Task***.

Section 9

Administration
(Multi-User Version Only)

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9. Administration (Multi User Version Only)

9.1. Administration Defaults

The Administrator ***Username*** is set to ***Admin*** by the system and cannot be changed.

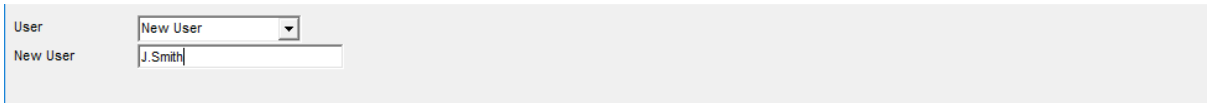
By default the Administrator ***Password*** is set to ***Admin***, this should be changed by the Administrator on first login.

Before adding any ***Users*** the default ***System Settings*** should be set as these are copied to each ***User*** during creation.

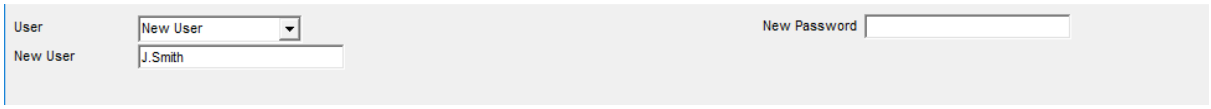
To access the Administration functions, select ***Admin*** from the main menu. The ***Ribbon*** will change to display the following:-

9.2. Adding Users (Administrator Only)

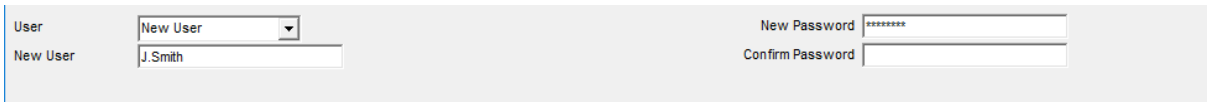
To add a new user select ***New User*** from the ***User*** pull down menu. The number of ***New User*** slots will depend upon the maximum number of ***Users*** allowed.



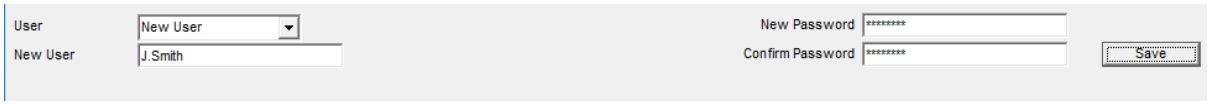
A ***New User*** text box will appear, type in the ***Username*** of the ***New User*** and press enter. If the entered ***Username*** already exists an error message will be displayed.



A ***New Password*** text box will appear, type in a ***Password*** and press enter.



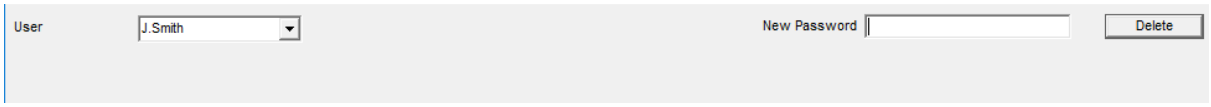
A ***Confirm Password*** text box will appear, type in the same ***Password*** and press enter. If the ***Passwords*** do not match then an error message will be displayed.



A ***Save*** button will appear, click on the button to create the ***New User***.

9.3. Removing Users (Administrator Only)

To remove a ***User*** select the ***User*** to be removed from the pull down menu.



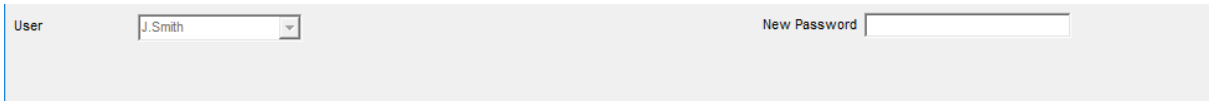
A ***New Password*** text box and ***Delete*** button will appear, click on the button to remove the ***User***.

9.4. Changing Passwords (Users)

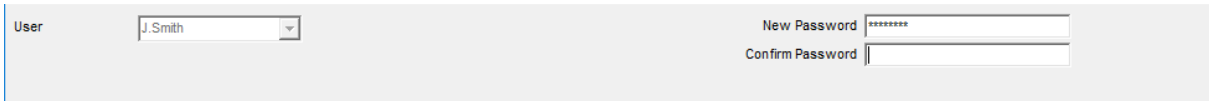
A ***User*** (including the Administrator) may change their own ***Password*** at any time.

To change the ***Password***, select ***Admin*** from the main menu. The ***Ribbon*** will change to display the following:-

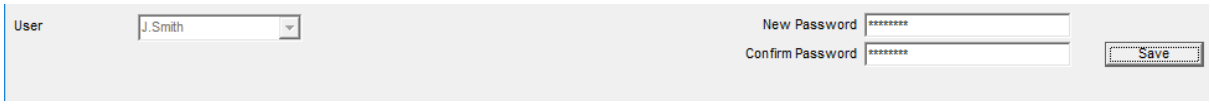
The pull-down menu, showing the currently logged on User, and a ***Password*** text box will appear, if the User is not Admin then no other User can be selected. Type in the existing ***Password*** and press enter. If an incorrect ***Password*** is entered an error message will be displayed.



If the correct ***Password*** is entered then a ***New Password*** text box will appear, type in the new ***Password*** and press enter.



A ***Confirm Password*** text box will appear, type in the same ***Password*** and press enter. If the ***Passwords*** do not match then an error message will be displayed.



A ***Save*** button will appear, click on the button to save the ***New Password***. A message showing the ***Password*** change has been accepted will be displayed

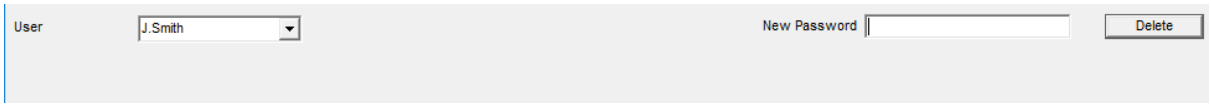
9.5. Changing Passwords (Administrator)

If necessary the Administrator may change the ***Password*** of any of the ***Users*** at any time.

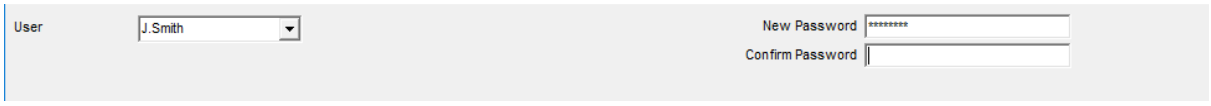
To change the ***Password***, select ***Admin*** from the main menu.

The ***Ribbon*** will change to the above display.

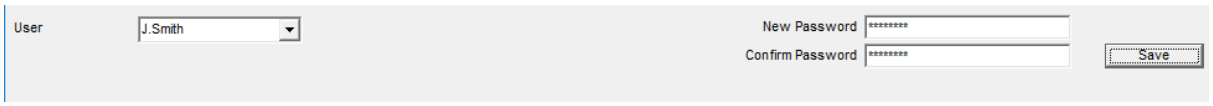
Select the ***User*** from the pull down menu.



A ***New Password*** text box and ***Delete*** button will appear, type in the new ***Password*** and press enter.



The ***Delete*** button will disappear and a ***Confirm Password*** text box will appear, type in the same ***Password*** and press enter. If the ***Passwords*** do not match then an error message will be displayed.



A ***Save*** button will appear, click on the button to save the ***New Password***. A message showing the ***Password*** change has been accepted will be displayed

Section 10

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Section 11

Sample Charts

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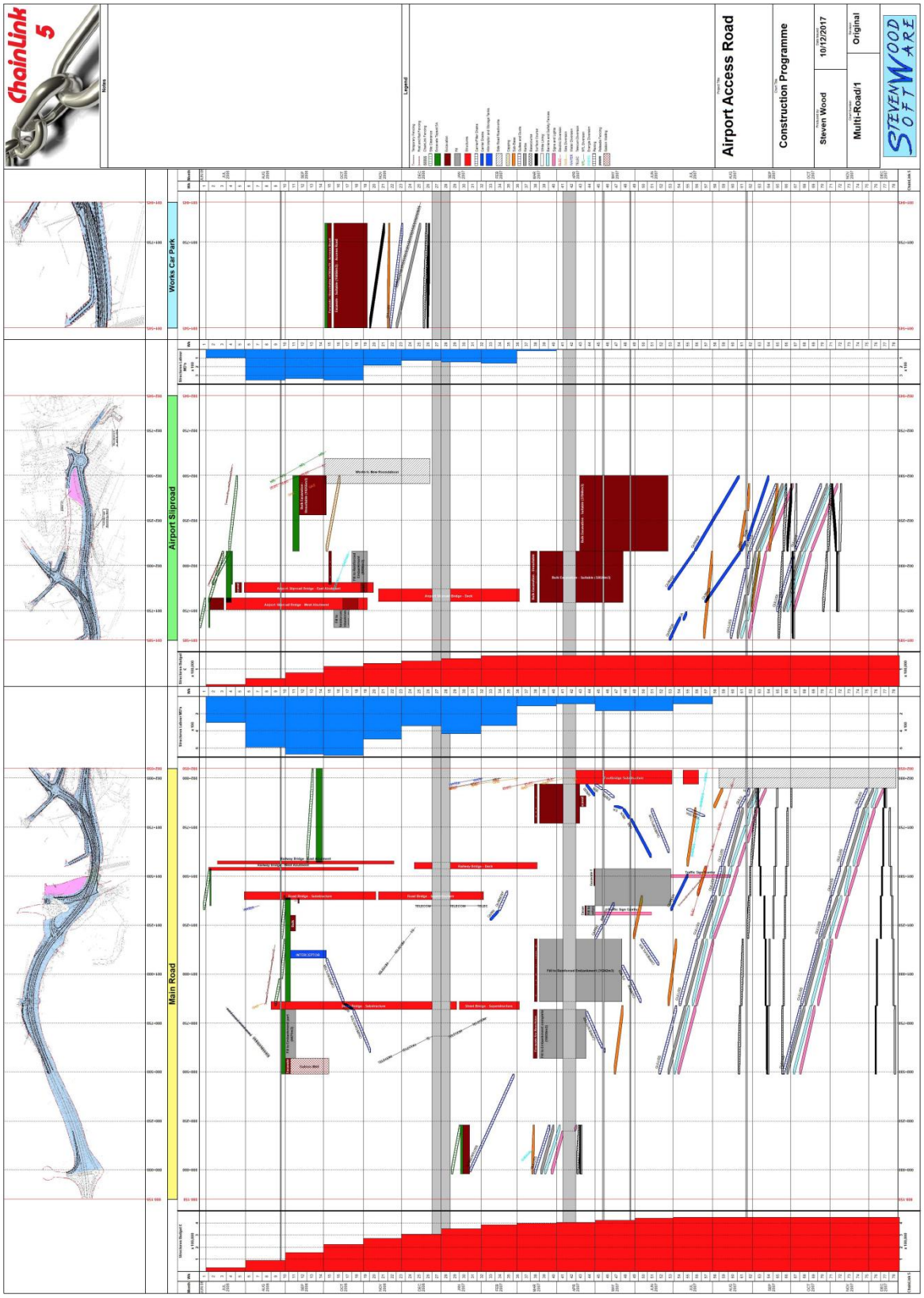
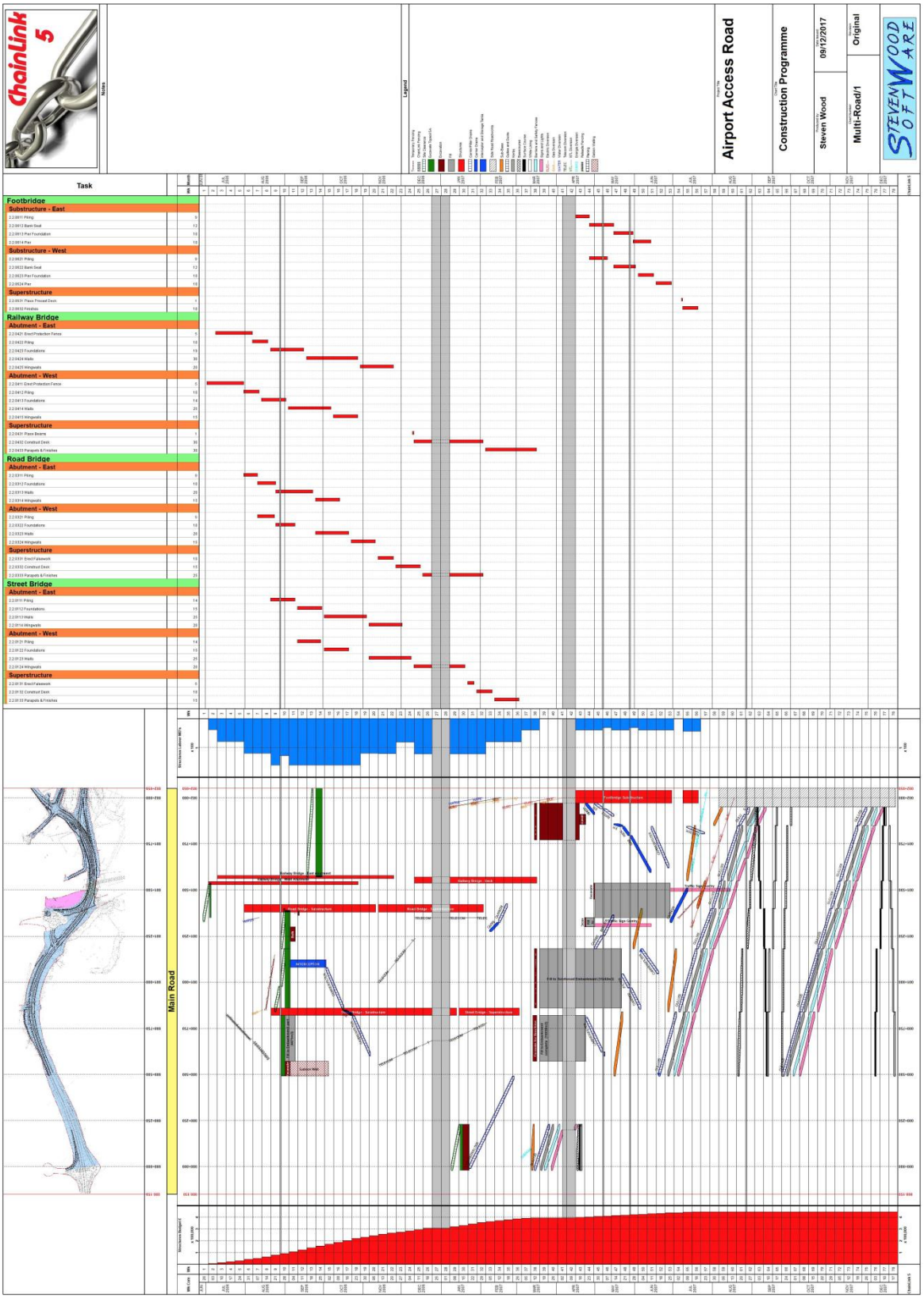
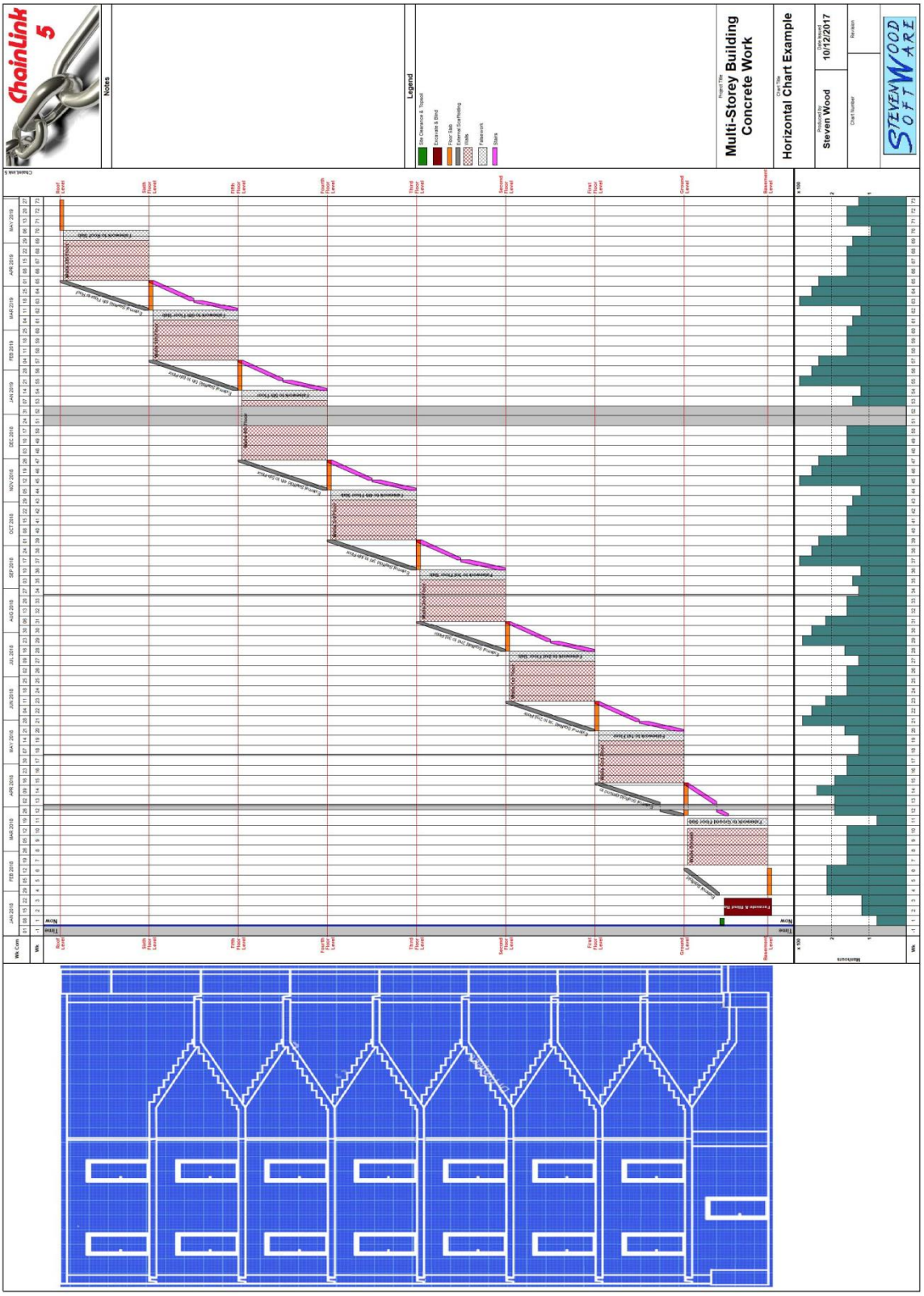
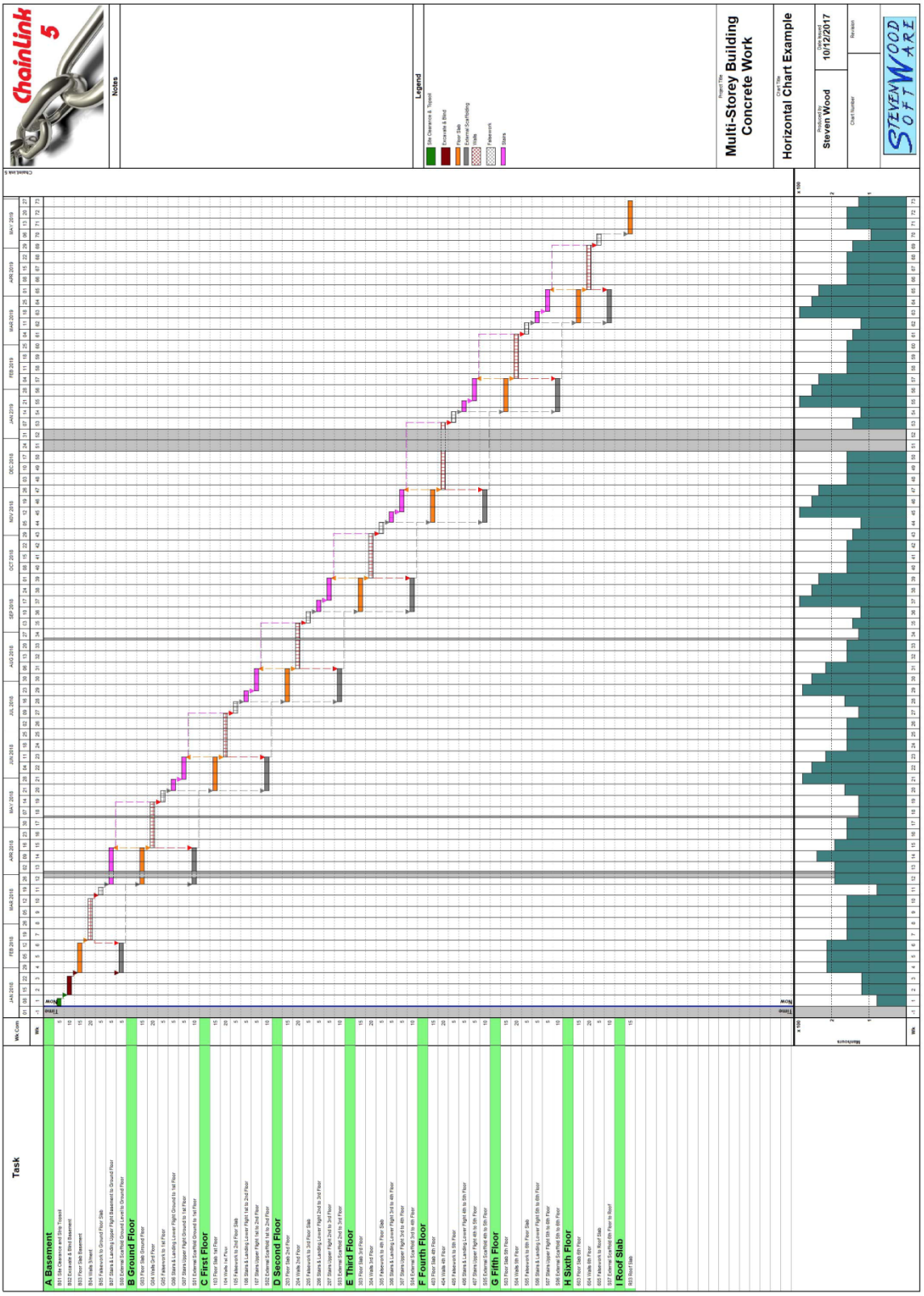

ChainLink 5
Notes
Legend
Airport Access Road
Construction Programme
Steven Wood
10/12/2017
Multi-Road/1
Original
STEVENWOOD SOFTWARE
Works Car Park
Airport Sliproad
Main Road


ChainLink 5
Notes
Legend
Airport Access Road
Construction Programme
09/12/2017
Steven Wood
Original
Multi-Road/1
STEVENWOOD SOFTWARE
Task
Footbridge
Substructure - East
Substructure - West
Superstructure
Railway Bridge
Abutment - East
Abutment - West
Superstructure
Road Bridge
Abutment - East
Abutment - West
Superstructure
Street Bridge
Abutment - East
Abutment - West
Superstructure
Main Road


ChainLink 5
Notes
Legend
Multi-Storey Building
Concrete Work
Horizontal Chart Example
Steven Wood
10/12/2017
STEVENWOOD SOFTWARE


ChainLink 5
Notes
Legend
Site Clearance & Topsoil
Excavate & Blind
Floor Slab
Formwork/Scaffolding
Walls
Fabework
Stairs
Project Title
Multi-Storey Building
Concrete Work
Chart Title
Horizontal Chart Example
Designed by
Steven Wood
Date Issued
10/12/2017
Chart Number
Revision
STEVEN WOOD SOFTWARE
Task
Wk Com
Wk
A Basement
B Ground Floor
C First Floor
D Second Floor
E Third Floor
F Fourth Floor
G Fifth Floor
H Sixth Floor
I Roof Slab
JAN 2016
FEB 2016
MAR 2016
APR 2016
MAY 2016
JUN 2016
JUL 2016
AUG 2016
SEP 2016
OCT 2016
NOV 2016
DEC 2016
JAN 2019
FEB 2019
MAR 2019
APR 2019
MAY 2019
Now
Workforce

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