

Location Intelligence
Infrastructure Asset Management

Confirm®

Network Manager

v26.30a.AM

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Network Manager

The Network Manager folder contains libraries, utilities and reports for the management of Street data relating to PMS.

For details on producing the National Indicator reports see **UKPMS Indicator Reports**.

For details on producing financial information for asset management see **UKPMS Financial Information**.

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PMS

PMS Street Sections are held in the Network Manager folder, together with Inventory and Survey data. Inventory and Surveys are linked with Street Sections. Street Sections are held on Streets. Street Information is stored in the Confirm Street folder and information on creating, editing, and viewing Streets is covered in the Street Register manual.

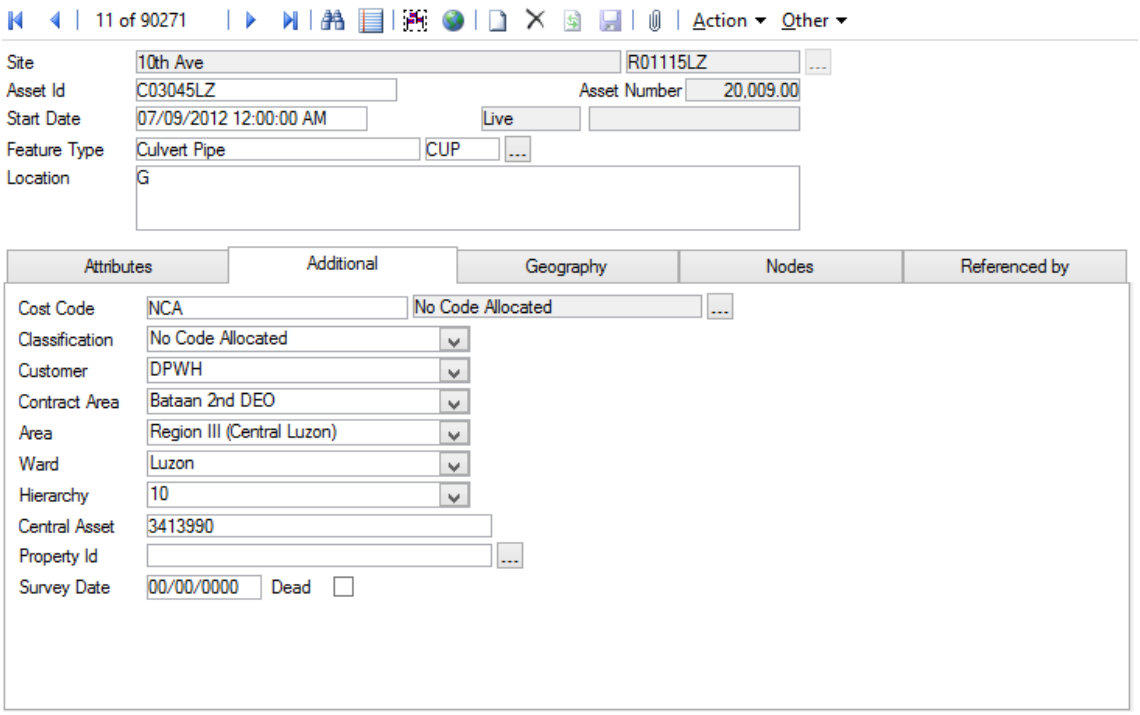
Street Register for PMS

Most of the Street Lookups and entries are not specific to PMS and will be used for Maintenance and reporting. Only the following Street Lookup has a specific PMS function:

Network Priority:	This is a mandatory requirement of PMS for grouping Streets together according to their priority or hierarchy for processing and analyses. Network Priority set at Street Level will default to Street Sections and Inventory, but may be edited at either of those levels. **Note:** The Network Hierarchy for PMS processing is set at PMS Section level in Inventory

Feature

The Feature form displays the basic Feature information in the top part of the form, with associated Inventory, references and attributes in tabs along the bottom. The lower portion of the form remains blank until the form is populated with Features. The associated Inventory and Attributes are added by reference to the Feature Group, and may be edited but not added directly in the form.



The Feature screen will optionally display an image of the Feature currently being viewed. See **Feature Identification Image** on page 11 for more information.

Site: The name of the Site that contains the Feature.

Note: Entering the Site for a new Feature will automatically populate the Cost Code and Classification fields from the Site.

Asset Id: A free text field into which a reference Feature number can be entered. (Optional)

The system can be set to accept only unique entries in this field.

Feature System Setting

Asset Number: Each Feature must have a unique Plot Number within the Site.

This number can be set automatically by Confirm using the following rules:

1. If the Feature Group of the Feature being created has a range set then this is used. **Feature Group - Additional tab** on page 52
2. If the Feature Group is not set, the range in the Feature System Settings is used. **Feature System Settings** on page 12
3. If the two checks above fail, a new Plot Number will be assigned by Confirm from the range 0-99999999.99 - This range cannot be changed.

Start Date: The date at which the Feature became or will become active. The box to the right will show the status of the Feature. It will be one of the following:

- Live for a Feature with a Start Date in the past and no End Date

- Live Until for a Feature with a Start Date in the past and an End Date in the future. The End Date is also shown.
- End Dated for a Feature with an End Date in the past. The End Date is also shown.
- Proposed for a Feature with a Start Date in the future. If it has an End Date, that is shown too.

To:	The date at which the Feature has reached the end of its useful life, or is replaced by another version. Features are end dated using the 'End Date' button, or when the Feature is made 'Dead'
Feature Type:	Select from the Feature Type library. **Feature Type** on page 73 Entering a Feature Type will bring in default Measurement Types and Units of Measure for the Type (through the Feature Group). Attributes Types, Smart Attribute Types, Date Types, and Inventory Types will also default from the Feature Type through the Feature Group. **Note:** It is not possible to manually change the Feature Type of an existing Feature to one which is in a different Feature Group. If this is required, the '**Allocate Feature Type** on page 15' utility must be used.
Location:	A free text field for the optional entry of a location. Location details will be displayed on Works Orders and (optionally) on Works Tickets
Validated Date and Validated By:	(Asset Validation module) These fields are not editable, but show the date and time the Feature passed validation using the ‘Batch Validate Features’ utility, and the User who ran the utility. The fields are only visible for a Feature belonging to a Feature Group configured for validation, i.e. one with a Validation Data Source specified. If a Feature has been validated, then editing the Feature will result in a warning being displayed on saving. If the user chooses to proceed with the save, these fields will be cleared. See **Batch Validate Features** for more information.

Update access to Asset Id, Feature Type, Start Date and Location of a feature is controlled by ’Feature Main (Security)’ user level security setting within user and group security.

Feature Identification Image

The Feature screen will optionally display an image of the Feature currently being viewed, if this has been activated for the Feature Group (using the 'Show Identification Image' setting on the Display tab), and a suitable image is available.

The image must be an image file (bmp, jpg, png or gif) attached as a Document Link to the Feature. A URL link will not be considered.

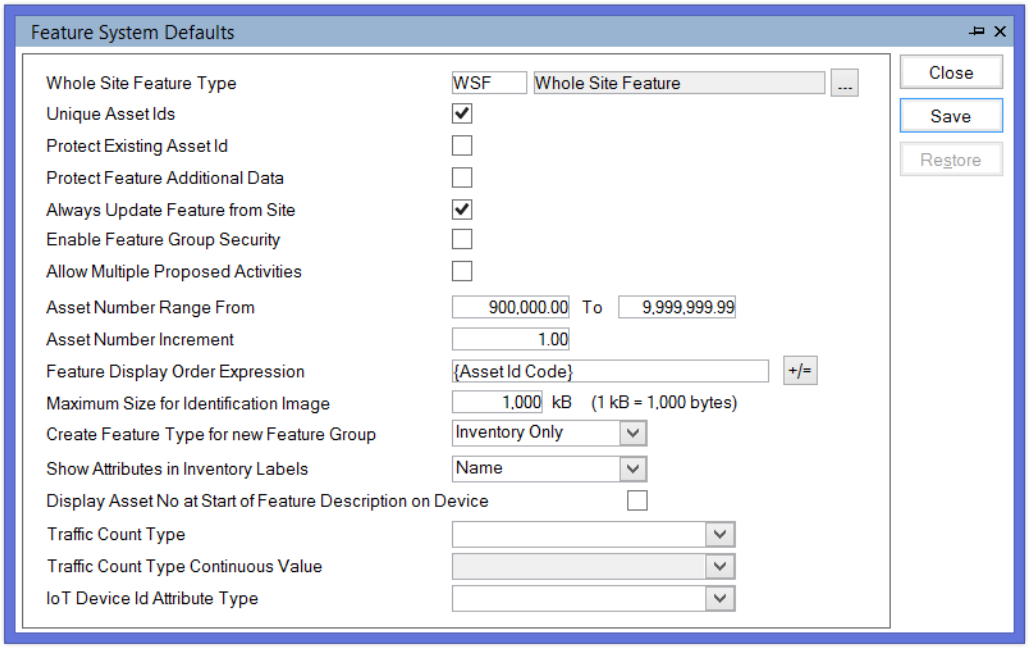
The Feature System Settings screen has a ‘Maximum Size for Identification Image’ which can be used to limit the size of the image files considered, to prevent performance issues with large files. By default files up to 1,000kB in size are considered.

A user can indicate the preferred Identification Image on the Document Links screen. If this is not done, an image will be automatically chosen as either the oldest or most recent Document Link for the Feature (depending on the setting on the Feature Group screen), that corresponds to an image file of an appropriate size.

Clicking the image will launch it in the same way as it can be launched from the Document Link screen.

Feature System Settings

The Feature System settings allow the defaults for some of the Feature fields to be altered.



Whole Site Feature Type:	Enter the Feature Type that has been used for the Whole Site Feature. **Note:** The whole site feature is a plot - usually numbered 9999 - which represents the whole of the Site. It is used to enable work or valuations to be carried out on the whole Site rather than to one individual Feature
Unique Feature Ids:	Check this to set the System to refuse duplicate entries in the Feature ID field.
Protect Existing Feature Ids:	Check this to make the Feature ID field un-editable once a Feature ID has been entered and the Feature record saved.
Protect Feature Additional Data:	If this is checked Confirm will disable the following fields on the Feature, and Feature Details screens. • Ward • Area • Cost Code • Classification • Customer • Contract Area

It will also update the above list of fields on a Site's Features if the current values match when changed. This setting will also update the Road Status on a Site's Interest if it matches the Classification on the Site and that value is then changed on the Site.

Always Update Feature from Site: When checked, Confirm will always update the fields mentioned above if any of them are changed on a Site. This update will occur regardless of whether the Site and Feature values are the same or not.

Note: If the 'Update Sites' flag is used with any of the batch updating tools, the changes will not be cascaded back to the Features.

Enable Feature Group Security: Check this to enable Action Officers to be designated Feature Groups. See **Action Officer - Specialists** for more details.

Asset Maintenance\Action Officer - Specialist

Allow Multiple Proposed Activities: (Activity Log module)

Check this to enable several proposed Activities per Activity Class to be stored against a Feature.

Note: If the setting is unchecked after having been checked (i.e. to prevent multiple proposed activities) all but the latest proposed activity is set to 'Cancelled'.

Plot Number Range From / To: Supply a range of numbers which will be used to set the Plot Number for a Feature being created if there is no range specified on the **Feature Group**.

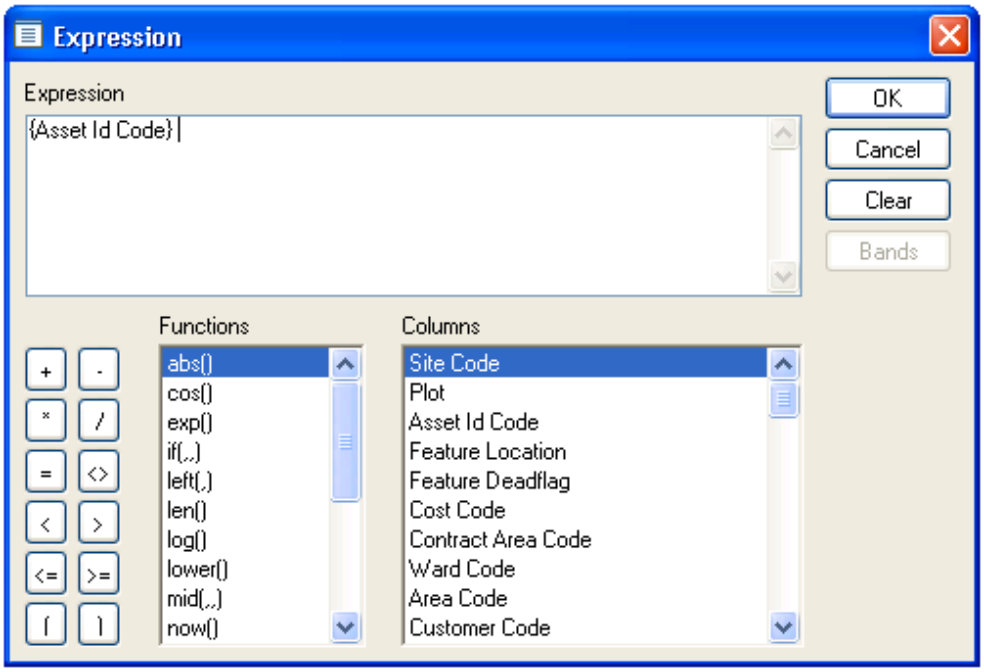
Confirm will choose the first available number in the Site, in the specified range. The range can therefore include numbers already used.

Plot Number Increment: Enter here the number by which Plot Numbers are to be incremented when assigning numbers to duplicated incoming Features.

Feature Display Order Expression: You may specify the Feature sort for lookup lists accessed from Feature pick buttons. You may enter an expression, or use the Expression dialog to build an expression.

Features in pick-list lookups will display in the stated order (within each Site). Features with the same value as the expression are sorted by Plot Number. The expression could be a single column (e.g. the Feature Type) or something computed from multiple columns (e.g. the first character of the Feature Id plus the Start Date).

You may enter an expression, or click on the pick button to display the Expression dialog where an expression may be built:



Double click on Functions in the Function list, and Columns in the Columns list, to build up an Expression in the Expression field. You may also directly edit the Expression, and add operators from the buttons on the left-hand side.

Click on OK to return the Feature Display Order Expression field.

Maximum Size for Identification Image

The Feature screen will show an Identification Image, selected from the Document Links attached to a Feature, if this functionality has been activated for the Feature Group.

This setting allows a limit to be set on the largest size of file that will be considered, to prevent performance issues with large files.

See **Feature Identification Image** on page 11 for more information.

Create Feature Type..:

Select from:

'None' - No Feature Type will be created to match the Feature Group being created.

'Assets Only' - A new Feature Type, with a matching Code and Description, will be created when a Feature Group is created in the main Feature Group form.

'Inventory Only' - A new Feature Type, with a matching Code and Description, will be created when a new Inventory Feature Group is created in the Inventory Feature Groups form. This will be set by default.

'All' - A new Feature Type, with a matching Code and Description, will be created when a new Feature Group, or a new Inventory Feature Group is created.

Show Attributes in Inventory Labels:

(Inventory module)

Where Inventory items are stored on the Inventory tab of the Feature form, and the Inventory Items vary by attribute, you may select the format of the Item label (viewed in the left-hand pane of the Inventory tab). Select from:

'Name' - Inventory Items that Vary by Attribute will be labelled with the Attribute Value Code.

	'Code' - Inventory Items that Vary by Attribute will be labelled with the Attribute Value Name.
Display Asset No. at Start of..:	ConfirmConnect® only: When Features are displayed on a mobile device the location of the Plot Number can be configured. When this setting is unchecked the Feature will be displayed in the following format: Feature_ID Feature_Type [Plot_Number] When disabled Features will be displayed in the following format: [Plot_Number] Feature_ID Feature_Type.
Traffic Count Type:	Specify the Attribute Type which will be used to identify whether a Traffic Count Feature should not have Factors applied to it's Count Data by the **Traffic Count Summary Report**.
Traffic Count Type Continuous Value:	Specify an Attribute Value from the Attribute Type selected in the Traffic Count Type setting. This setting is mandatory if the Traffic Count Type setting has been specified. If a Feature has an Attribute Value which matches the Traffic Count Type Continuous Value setting, then the **Traffic Count Summary Report** will not apply Factors to the Feature's Traffic Count Data.
IoT Device Id Attribute Type	Specify a Text Attribute Type which will be used to capture IoT Device Id in ConfirmConnect® Asset Survey. On Asset Survey Complete with this attribute, if IoT device provisioning is not successful in the Confirm IoT cloud platform, the attribute value in the Confirm feature will be appended by the provisioning failure message like 'IoT device not provisioned'. If successfully provisioned via Asset Survey in ConfirmConnect, the attribute value will contain only the IoT device Id. **Note:** For ConfirmConnect to be able to validate this attribute on the Confirm IoT cloud platform, following system settings need to be configured in the Confirm database by the Confirm system administrator: 'THINGS_API_URL' - URL of the Confirm IoT cloud platform. 'THINGS_API_REGION' - Region of the Confirm IoT cloud platform. 'THINGS_API_ACCESS_KEY' - User Id to access the Confirm IoT cloud platform. 'THINGS_API_SECRET' - User password to access the Confirm IoT cloud platform.

Allocate Feature Type

The top part of the form (above the grey line) has a field for the entry of the new Feature Type.

The pick list references the **Feature Type lookup**. New Feature Types must therefore have been entered in the lookup before they can be entered here.

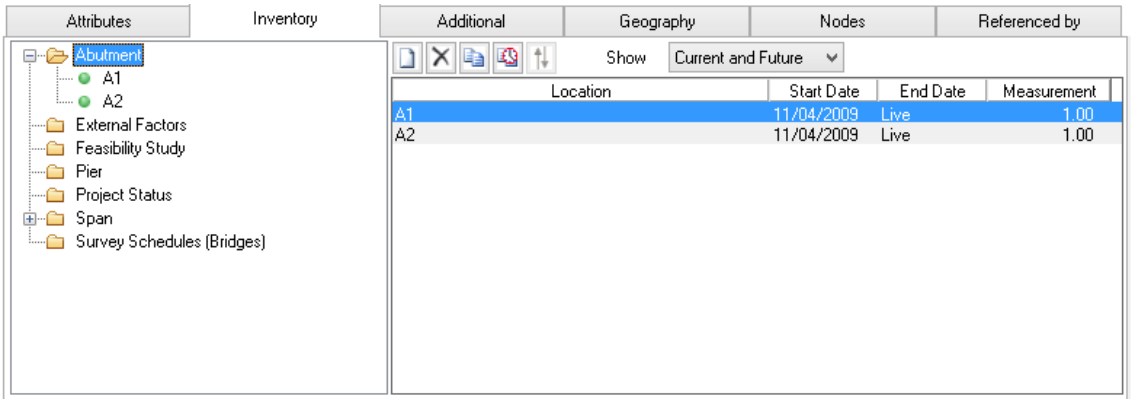
The lower portion of the form defines the Features that will take on the new Feature Type.

Click on OK to display a preview list of the Features that will take on the new Feature Type. Save the Preview to effect the change.

Feature - Inventory tab

(Inventory Module)

The Inventory tab is only present for those Features which have Inventory Types associated with them. Inventory Types are created on the **Inventory tab of the Feature Group**.



The Inventory tab shows each relevant Inventory Type as a folder in the left-hand pane.

If a whole folder is selected, the right-hand pane will show a list of Inventory Items contained in the folder. Double clicking an Item will display the Item details in the right-hand pane. In the illustrated example, a lighting point has been selected, and so the details of the lighting point are displayed on the right-hand side.

The way in which an Inventory Type behaves, and the information that may be stored with it depends on the parameters that were set for it against the Feature Group.

Allocate Condition Values

The Feature Condition batch allocate tool allows a Condition Grade to be set for an existing Observation Type (Observation Types must be linked to the Features through the Feature Group).

Use the top part of the form (above the grey line) to select the Observation type, and the Grade to assign. The Drop down lists reference the Observation type, and the **Observation Parameter lookups**.

Type of Change: The following choices are available form the drop down list:

'Set Grade' - The grade dropdown menu displays the Grades associated with the selected Observation Type Parameter. Selecting one of these Grades will update the Score field with the value of the Grade.

'Set Score' - The Grade field will be disabled and Score enabled. By entering an applicable value in the Score, the corresponding Grade will be set.

'Add' - Grade will be disabled and cleared. The Score will be added to the Features current value. The Score will not change the Grade value on the filter.

'Subtract' - Grade will be disabled and cleared. The Score will be subtracted from the Features current value. The Score will not change the Grade value on the filter.

Use the lower portion of the form (below the grey line) to limit the Features that will take on this change in Condition grade.

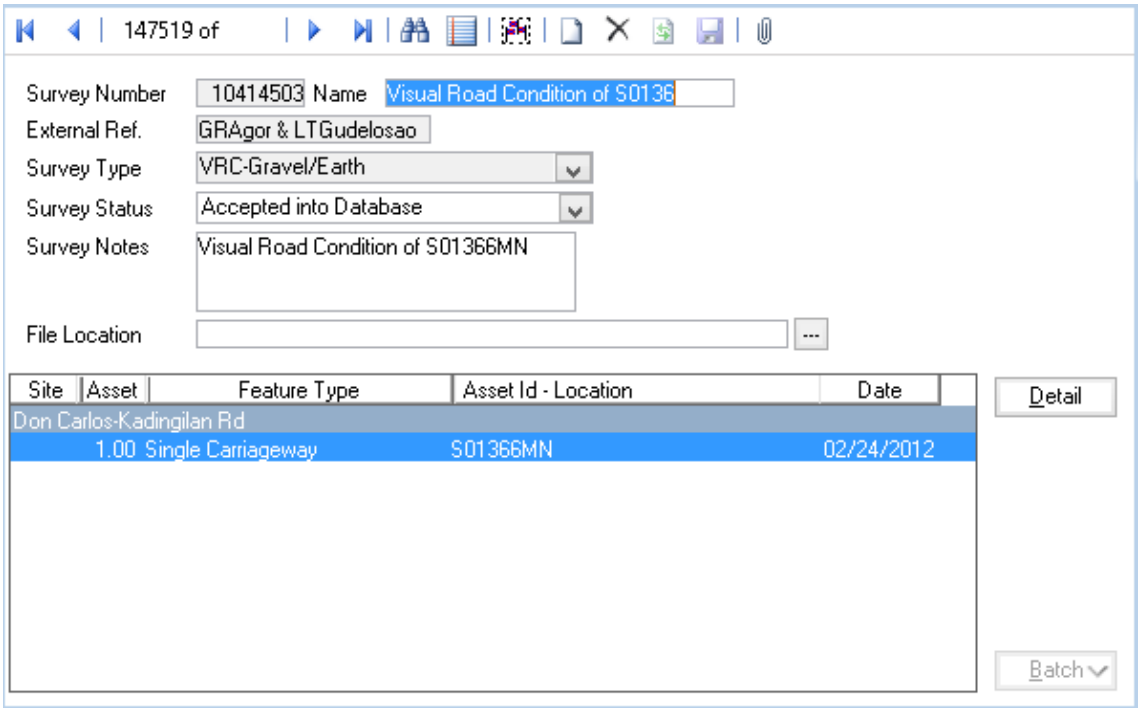
Survey Data

Survey data may be entered into Confirm PMS using the Confirm standard type of input screen. However, survey or condition data generally consists of very large quantities of data. It is therefore appropriate that the data is imported from the output files produced by processed machine surveys or from hand-held devices used in visual surveys. The input screen that relates to the survey data can then be used for editing or entering small batches of data where appropriate.

The Confirm PMS data import facilities enable the majority of survey or condition data to be entered from simple text files. These import files may be Comma Separated Variable (CSV), Tab Separated, and Highway Management Data Interchange Format (HMDIF) files. CSV and Tab Separated files are easily constructed or edited using standard spreadsheet and text editor facilities. HMDIF files can be edited in the same way but the changing format from row to row of data, depending on the record type within the file, makes this more difficult to work with. HMDIF is more appropriate to its primary purpose for export from one computer-based system into another.

Survey

The Survey screen contains all the details relating to a single survey and provides access to the individual survey or condition data readings.



Survey Number: An 8 digit number. This is automatically entered by Confirm from the next available seed number.

If a number is entered by the user that does not already exist a warning is given.

Name: A 30 character name or description as appropriate for each Survey. The name given to the survey may come from the import files, although it is possible to change it subsequently using this screen.

External Ref.: A 20 character description as appropriate for each survey. This survey number can be entered for a new survey or may be imported from the import files. This number cannot be edited once saved.

Survey Type: This is entered from the import file or from the dropdown data window for manual entry. The Survey Type must exist in the database and is set up in the Survey Lookups. This cannot be edited once saved.

Survey Status: There are two possible options for this field: Loaded into Edit Area and Accepted into Database. A survey that is loaded into the edit area can be edited - down to individual observations if required.

Changing the Survey Status to 'Accepted into Database' and then clicking on the 'Save' button on the screen will change the status flag for the data in this survey in the database. The status is changed using the dropdown data window.

Surveys held in the edit area are not available for data processing by the system.

'Accepted into Database' means that:-

- APPENDIX A - It is no longer possible to edit any parts of the survey
- APPENDIX B - The data will be included in data analysis.
- APPENDIX C - The data is available for all reports.

If the data in the survey needs to be edited, the Survey Status can be changed back to 'Loaded into Edit Area'. Clicking on the 'Save' button again will 'move' the data back into the edit area.

Note: When survey data is imported, it is automatically placed into the edit area.

The data analyser will ignore surveys that are in the edit area. By default, some reports will not report data from surveys in the edit area.

Survey Notes: A free form text description of virtually unlimited length. This field is used for storing notes about the survey.

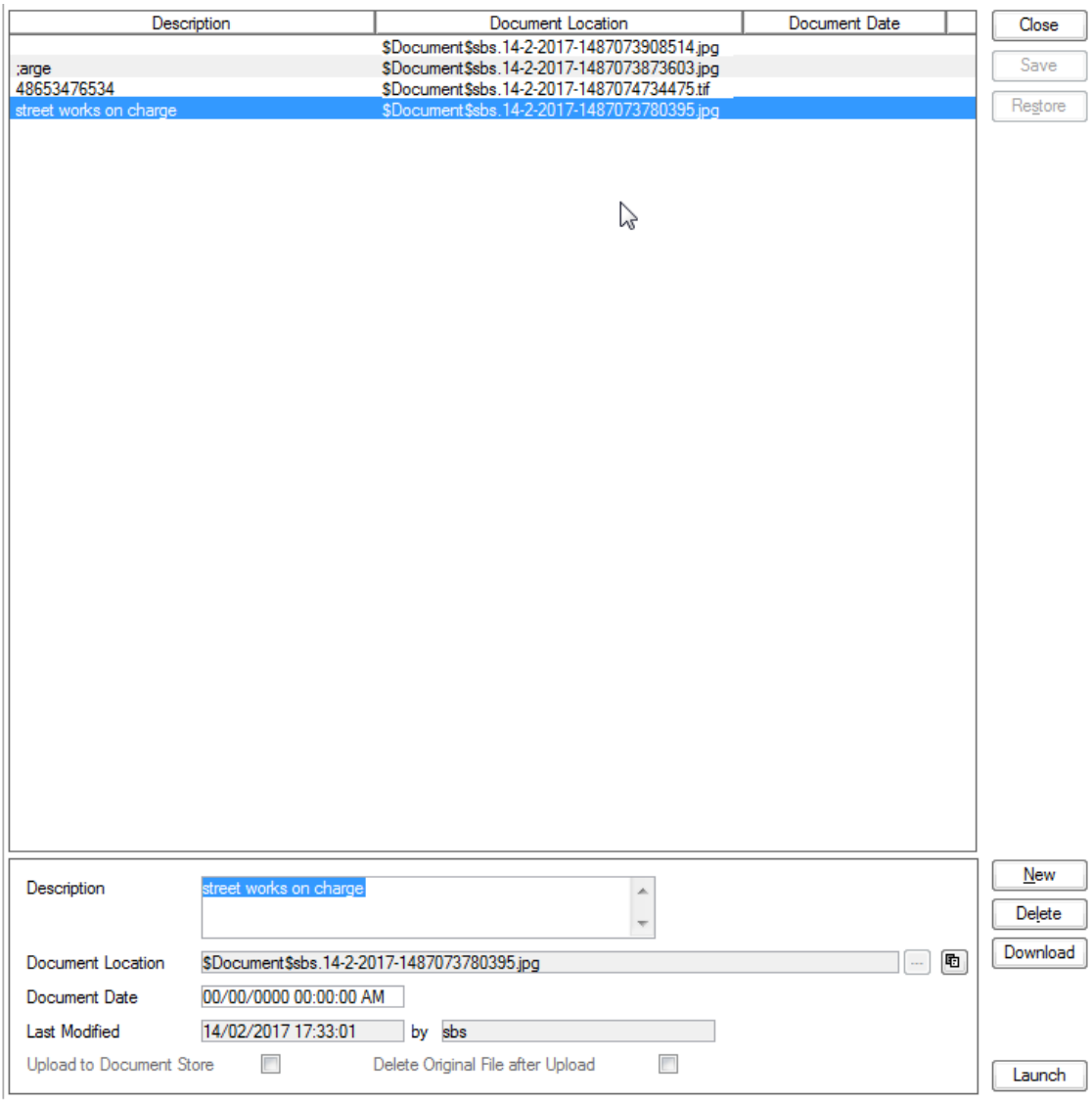
File Location: This field stores the location of video files, where these have been provided with the survey.

The filename and path can be entered directly or selected from the Select File screen using the 'Pick' button.

Document Links

Document Links can be created to point to any file in the system, allowing relevant photographs or text documents to be associated with a record.

Click the Links button  todisplay the Document Links form, listing the documents linked to the corresponding record. If there are already Document Links associated with the record then the Links button will be highlighted with a border .



The screen lists the currently linked files. The fields below the list give specific information about the selected Link.

Note: For Documents Links created from Street Works Notice, Inspections and Fixed Penalty Notices an extra column will be displayed. This column will notify whether this document was received via EToN or not. This column will not be displayed for Document Links on Features, Enquiry or Jobs.

To add new Links:

Click on the New button and enter the document details .

Description	A free text field used to annotate the file.This field is required while publishing a document from Street Works, otherwise it is optional.
Document Location	Enter or select the path to the required document. Copy Button: This button will copy the fully-qualified path of the Document Location to the clipboard, resolving any location prefixes.

Document Date	A date and time for the Link. This defaults to the current system time but can be edited freely.
Last Modified (by)	The date and time when this Link was last modified, and the User who made the change. This cannot be edited.
Upload to Document Store	This is only available if a 'Document Store Folder' or a 'Web Service URL' has been specified in the **Document Link System Settings** screen. If this is ticked, the Document will be transferred from its current location to a central document store when the screen is saved. After uploading the file to a central document store the 'Document Location' value will be changed to reflect the new location of the document, and depending on the type of document store being used the location may be prefixed with either '$Document Store$' if the central document store is set to 'Folder', or '$Document URL$' if set to 'Web (PUT)' or 'Web (POST)'. This prefix will be applied to all links uploaded to a Folder document store, but this may not be true for a 'Web' document store if no part of the returned URL matches the 'Document Link URL Prefix'. For more information on Document Stores see **Document Link System Settings**.
Delete Original File after Upload	This is only available if Upload to Document Store is ticked. If this is ticked, the local file will be deleted after it has been successfully transferred to the Document Store.
Download	Allow to browse to an accessible location and download the attachment.
Identification Image	This is only available when viewing Feature Document Links, where the Feature belongs to a Feature Group for which an image is shown on the Feature screen. By default, the first appropriate Document Link in the list will be used as the image. This field may be ticked to override this behaviour and choose a specific image for display. The Description of the Document Link record will be updated to show that this has been done. For more details see **Feature Identification Image**.
Dead	*This option is only available when viewing Job Type or Site Document Links.* This option is enabled only when 'Reference' is selected in the 'Document Copy To' option. When checked, it will prevent any further linking while creating or updating Jobs.
Document End Date	*This option is only available when viewing Job Type or Site Document Links.* By default, the Current Date is populated when the 'Dead' field is checked. Once populated, it will automatically end date the document after the specified date.
Document Copy To	*This option is only available when viewing Job Type or Site Document Links.* The options are: • None • Copy • Reference By default, 'None' is selected, No document link is copied to the Job. If 'Copy' is selected, both the document link and the document itself is copied to the specified Document path of the Job, with the description of the copied document link including the suffix 'Copied from Job Type/Site'.

	If 'Reference' is selected, only the document link is copied to the Job and the document is referenced from the actual Document path, with the description of the copied document link including the suffix 'Referenced from Job Type/Site'. **Note:** The Job Standard Document functionality will only be available when the Document Store setting is set to "Folder".

Once the details for one or more Links have been entered, click Save to store the details.

Document Location Prefixes

If a document was selected for transfer to a central document store, or was a Street Works link that was published, then part of the path or URL to that file is often replaced with a prefix. There are several prefixes in use and each has a different value.

$Document$	This is used for photos uploaded from a hand held device via the Confirm connector. Its value is equivalent to the 'Document Store Folder' setting in the Document links System Settings screen.
$Document Store$	This is used for documents uploaded to a central document store that is set to be a 'Folder' type. Its value is also equivalent to the 'Document Store Folder' setting in the Document links System Settings screen.
$Document URL$	This is used for documents uploaded to a central document store that is set to be a 'Web (PUT)' or 'Web (POST)' types. Its value is also equivalent to the 'Document Link URL Prefix' setting in the Document links System Settings screen.
ORG_PREFIX	This is specific to Street Works document links and is used when a document is Published. It's value is dependant on the Organisation that the document link is related to. The value is equivalent to the 'Attach. URL' setting in the Organisation screen, for the Organisation that the link is related to.

To modify an existing Link:

Click the link in the list and modify the Description or Document Location as required, then click Save.

To view a currently linked file:

With the required file highlighted, click on the 'Launch' button. The associated program is launched and the file displayed.

To delete a Link:

Click the link in the list, then click the 'Delete' button. The link will be removed from the list, but the file will not be deleted.

Security of Linked items:

There is a generic User Security option which can be used to selectively prevent Users from either adding, deleting or modifying (e.g. changing the Description or Document Location) items linked to entities in Confirm. This option appears in the Security section of the menu when configuring privileges on the User Security and Group Security screens.

Document Links in Street Works

The document links feature within Street Works has extended functionality. Refer to the document links section of the Street Works help for more information.

Street Works\Document Links

Problems Uploading to the Document Store

Problems may be encountered when using the 'Upload to Document Store' setting, especially when using a web service document store, where the document may travel across a network to an external application.

If problems do arise then any changes made to the document link details, such as dates and description, will still be saved to the Confirm database, however the document link will not be updated and the document will remain in its original location. It will not be deleted, even if 'Delete Original File after upload' was selected.

Uploading to a Web Service is highly dependant on external applications, and it is not possible for Confirm to interpret all of the possible errors that may arise once the document is sent out. If an error does occur then Confirm will display "Failed to upload - the following error was returned by the Web Service:" followed by the error message that is returned to it from the external application.

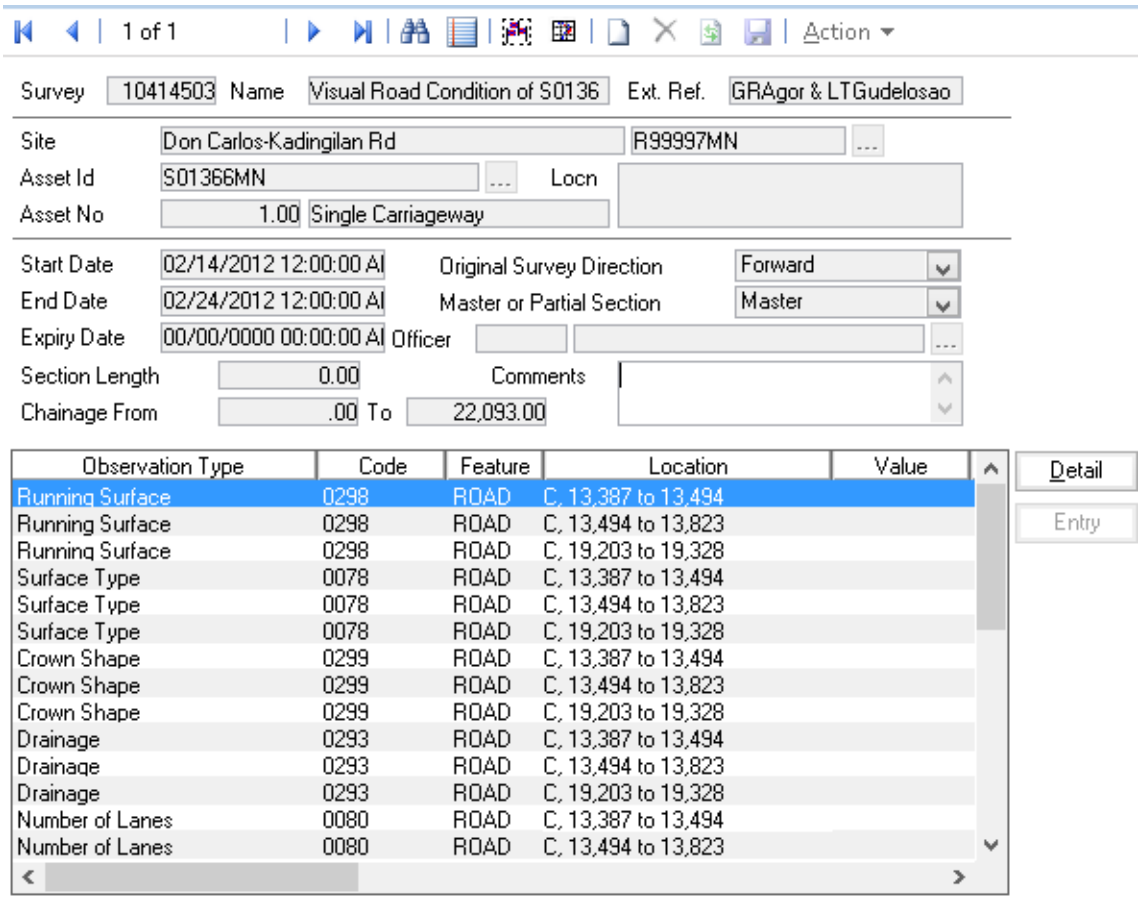
Document Visibility

When a new document is uploaded in Confirm Enterprise,it will default to private if no specific user or tenant-level settings are configured.

Additionally users now has the ability to tag documents on entities as "Public" or "Private" using the Confirm Web Interface. To change the default enterprise visibility setting, users can switch the document's visibility through the Confirm Web Interface. For more information, please refer to the Confirm Web Help Documentation for Document Links.

Survey Section

Clicking on the 'Detail' button in the Survey window will display Survey Section screen.



Survey, Name, Ext. Ref.:	These fields are automatically completed from the parent Survey screen.
Street, Label, Locn., Seq. No:	These can be entered using the 'Pick' buttons  or known reference codes manually or from reference codes in the import files.
Start Date:	The date at which the survey is carried out
End Date:	The date at which the survey is completed. **Note:** Start and End date are normally the same even for machine surveys that may have taken place overnight.
Expiry Date:	The date at which the survey data is no longer valid either due to subsequent Surveys.
Original Survey Direction:	Entered manually from the drop down or by code in the import file. The options are forward or reverse. A forward survey is one carried out in the normal direction of the section i.e. from chainage 0 to the end chainage. A reverse survey is carried out in the opposite direction i.e. from the end chainage to the start chainage 0.
Master or Partial Section:	Entered manually from the drop down or by code in the import file. The options are Master or Partial. This data connects to the 'Action' button and the option to Merge in Partial Sections. When this option is selected on a Master Section Confirm checks through other surveys for candidate survey sections (those

Loaded into the edit area only). A list of all survey section marked as partial with the same survey section and of the same survey type is then displayed. Selecting a partial section from this list moves that partial section from its original survey to the survey containing the Master Section.

Note: The Action Button is only enabled when the survey is Loaded into the Edit Area

Officer: The Action Officer for the survey. This can be entered manually using the 'Pick' button and associated Action Officer Lookup or by code from the import file.

Note: This is not a mandatory field and can be left blank.

Section Length: The length of the section held under section information in the database, which cannot be modified in this screen or from an import file.

Chainage From: This field is in 6.2 format, i.e. 6 numbers before and 2 numbers after the decimal point. This is the start chainage on the survey for the survey observations corresponding to the start of the section.

Typically for a machine survey observations are taken over a route that will comprise of many street sections. The survey data will be held against a running chainage that has to be mapped on to the Confirm street section.

To: This field is in 6.2 format, i.e. 6 numbers before and 2 numbers after the decimal point. This is the end chainage on the survey for the survey observations corresponding to the end of the section.

Comments: A free form text description of virtually unlimited length. This can be entered manually or imported from file.

The list at the bottom of the screen shows all the Observations made on the selected Survey Section.

If any of those Observation records are of an Observation Type that can have additional values stored against it, a ‘Parameters’ heading will be shown to the right of ‘Value’ and those values listed underneath.

Survey Section - Action Button

The list shows all Partial instances of this Section on other Edit Area Surveys of the same type as the current one.

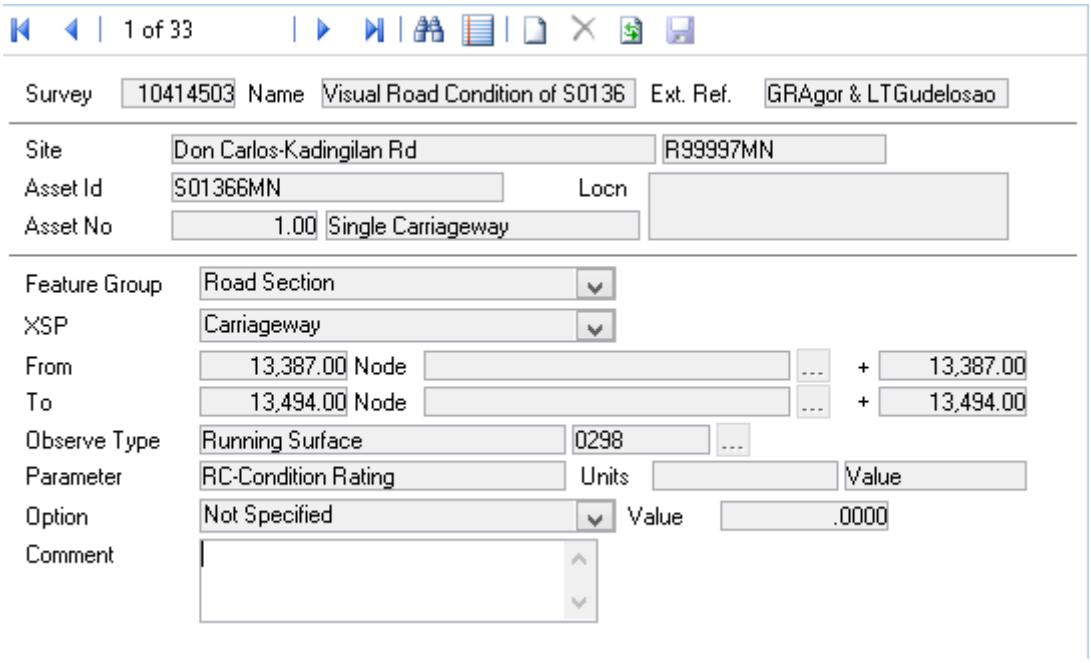
The selected Section will be moved into the current Survey and merged with the current Section when committed.

Survey Section - Detail Button

Survey Observation

Clicking on the 'Detail' button on the Survey Section screen displays the Survey Observation screen.

This screen displays the details of the individual observations, brief details of which are viewed in the window at the bottom of the Survey Section screen.



Survey, Name, Ext. Ref.:	These fields are automatically completed from the parent Survey screen.
Street, Label, Seq. No.,Locn:	These fields are automatically completed from the parent Survey Section screen.
Feature Group:	Selected from the drop down of defined Feature Groups or imported from the code in the import file.
Observe Type:	Selected using the 'Pick' button and Lookup of defined Observation Types or imported from the code in the import file. Only the observation types applicable to the survey type are displayed.
Parameter:	This is automatically completed from the data held against the Observation Type.
Units:	This is automatically completed from the data held against the Observation Type and includes both the units and the unit type.
From:	The section start chainage for the Survey Observation.
To:	The section end chainage for the Survey Observation
XSP:	The cross section position is selected from the dropdown data window of defined types or imported from the code in the import file.
Option:	The option is selected from the drop down of defined types or imported from the code in the import file. **Note:** The Option is dependent on the Observation parameter assigned to the Observation Type in the Survey Lookups.
Value:	The value of the observation where appropriate either entered manually or imported from the import file.
Comment:	A free form text description or comment of virtually unlimited length. This can be entered manually or imported from the code in the import file

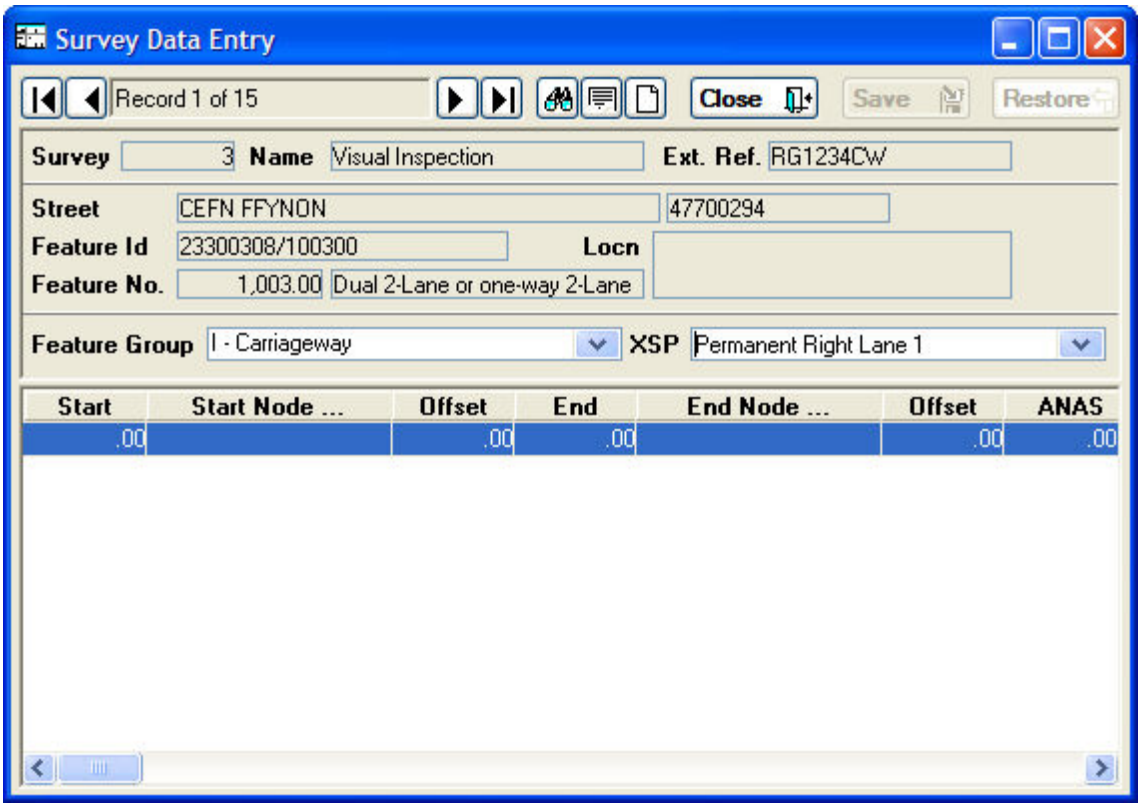
An Observation Type may be able to have additional values stored against it, if in the Survey Type screen others have this one specified as their Parent Observation Type. In this case, the names

of the relevant additional Observation Types will be listed under the ‘Comment’ field, with a numeric value field next to each one.

Entry Button - Survey Section

The Entry screen provides the means of entering values where there are multiple observations at the same chainage.

Click on the 'Entry' button to display the Survey Data Entry form:



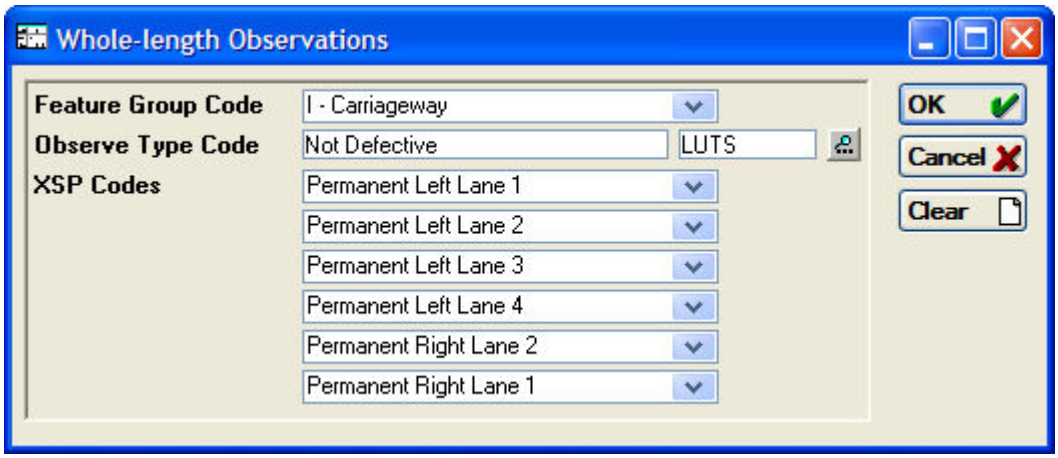
Batch Button

Clicking the 'Batch' button displays a pop-up menu. Select from:

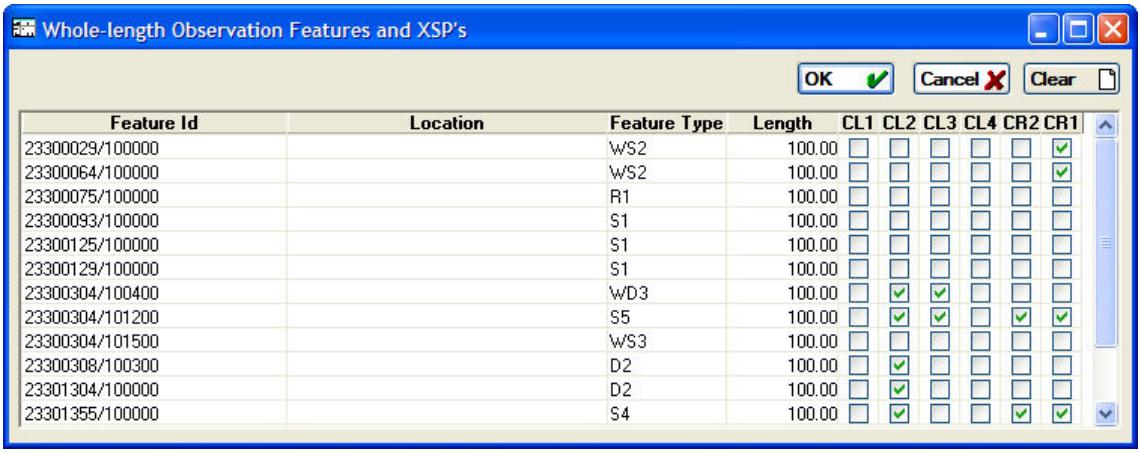
'Add Sections' - A filter will be displayed to allow a selection of Sections to be added to the Survey.

'Add Whole-Length Observations' - Two filters will be displayed:

The first is to allow the selection of Observation Type, Feature Group and the XSP codes.



The second is for selecting the Section and XSP Combinations Observations will be added. The selected Observation details will then be created for the selected Feature and XSP combinations with the Observation covering the entire Section length.



Network Utilities

Import Utilities

Data may be imported into Confirm using Import Utilities. Each Utility requires a tab separated, or comma separated text file which must conform in layout to an Import Specification. Import specifications are available from Confirm, and from the Confirm User Support section on the Confirm web page.

The available Import Utilities are:

Import Survey Data:

See **Confirm PMS Import Specification**.

The import utility will import data against a Section that has been end dated which was live at the time of the Survey and will pass this data down to descendent Sections of the now dead Section. Confirm will not be able to pass this data down if the Section has been Split or Merged in a way that the Lengths can no longer be matched. A warning will be generated when Survey Data is imported against a Section that has been end dated.

A Survey HMDIF file can be produced using the Save As option from any screen or report showing Survey data. Irrespective of the data in the screen/report, only data from a single Survey can be included in the file. There are two variants of the format:

- **HMDIF Survey -** this option saves the full Survey including all (currently live) Sections.
- **HMDIF Survey Section -** This option is only available where Section level data is shown in the screen or report. It saves only those Sections within the Survey which are also shown in the data.

Import Network Data:

See **Confirm PMS Import Specification**.

A Network HMDIF file can be produced using the Save As option from any screen or report showing Linear Features.

Import Inventory Data:

See **Confirm PMS Import Specification**.

Import Type:

Select from:

- **Full -** This option will End Date all Inventory for the surveyed Section and replace it with the Inventory in the import file.
- **Partial -** This option will check for overlaps in the data and allows the additional Inventory to be added to the Sections within the import file.
- **Full by Inventory Type -** The 'coverage' of a Survey is derived from the import file on a per Section basis. If any items of a particular Inventory Type are being imported for a Section, then all existing items of that Type on that Section are End Dated.

An Inventory HMDIF file can be produced using the Save As option from any screen or report showing Linear Features. There are two variants of the format:

- **HMDIF Inventory -** the file will contain all Inventory Items for the selected Feature(s).
- **HMDIF Inventory Type -** this option is only available where Inventory level data is shown in the screen or report, specifically depending on the presence

	of the Inventory Type field. It saves only records of Inventory Types that are shown in the data, but will include all Inventory of those types. So for example if the report shows Carriageway the file will contain all Carriageway items for the Features in the report.
Import Observation Lookups:	See Confirm **Import Specification**.
Import Network Translation:	See Confirm **Import Specification**.
Import Survey Type:	See Confirm **Import Specification**.
Import Network Correlations:	See Confirm - BS7666 Level 3 Gazetteer Compiler - Network Cross-Reference File Import Specification - Document Reference CAH-6-129

Field Format, Restrictions and Details

Field Format, Restrictions and Details

- APPENDIX I - Fields containing an invalid character will cause an error during import.
- APPENDIX J - Fields requiring uppercase characters but containing lower case or mixed case characters will be automatically converted to all uppercase during import.
- APPENDIX K - Fields that must be unique or Key Fields will be ignored if they are duplicated and an error generated during import.
- APPENDIX L - Imported fields that reference Lookup tables must exist, i.e. have corresponding entries, in the database or appropriate parent Lookup table, if not an error will be generated during import. In certain circumstances, the appropriate Lookup record will automatically be generated from the field using the field code for both the Lookup table code and description

Note: See the Survey & Condition Data Import Specifications Document for specific details on each import files formats, headers and special restrictions.

Survey Data Entry - Survey Data Lookups

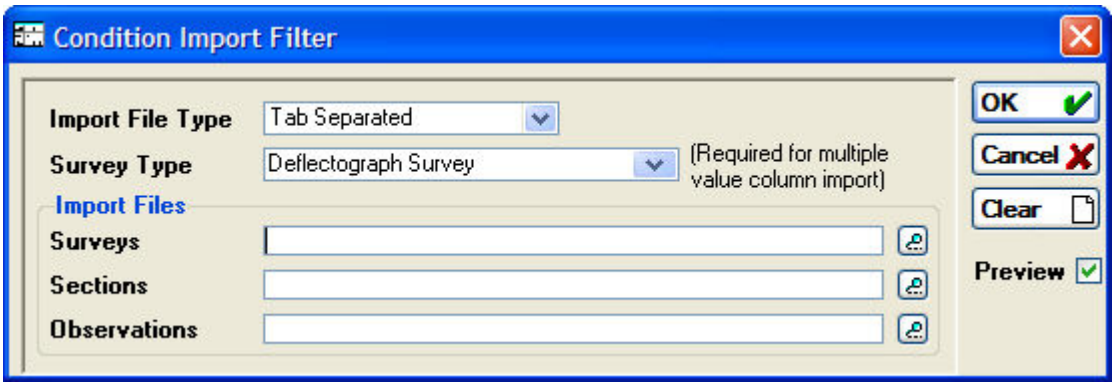
As outlined above the appropriate Lookup Tables have to be populated prior to the import of data from the files. This must be done before file import of the Survey data or errors will occur during import that will have to be corrected before the import can be completed and saved. i.e. no 'On the fly' entries can be made during the import process. The Survey Lookup files have to be populated manually although the codes associated with any default Rules and Parameters supplied/loaded into the database will already be present.

The Survey Data Lookups that must be populated prior to the import of the Network Section files are as follows:-

1. **Observation Type**
2. **Observation Parameter**
3. **Observation Impact**
4. **Survey Type** on page 90
5. **Action Officer**
6. **Notebook Code** on page 95
7. **Network Import Settings** on page 80
8. **Observation Import Codes** on page 96
9. **Network System Settings** on page 81
10. **Survey Seed Numbers** on page 98

Import Survey Data

The Survey Data is imported from three delimited text files or a single HMDIF file. The delimited import files can be either CSV or Tab Separated, but the two types cannot be used in the same import operation. The file headings must be included and the data columns can be in any order. The file types, field codes (headings) and field formats for each of these are given in the Import Specification.



Import File Type: The Import File Type is selected from the drop down data window.

When the import file type HMDIF is chosen only one file is required for import.

If Import File Type of Comma Separated or Tab Separated is chosen then this screen provides the facility to import the separate delimited text files for: Surveys, Sections, and Observations.

Survey Type: The Survey Type is selected from the drop down data window of available types and is only required when the using the 'multiple Value column import' feature.

If the Survey Type is specified, the system can import multiple Observation Types on each length. This works for the first 10 Observation Types within the Survey Type, in the order they are defined against the Observation Type.

Import Files: The Import Files section of the import filter is used for specifying a single HMDIF import file or the multiple ASCII type files.

Surveys This is the file containing the basic Survey information or for HMDIF import the HMDIF file containing all the information for Survey, Section and Observations.

Sections - Observations These are the files containing the information as described by their respective headings.

To select the individual files click on the 'Pick' button at the end of the file name data window for each different type of file. This displays the Select File window from which the file is selected in the usual way.

The Import Process

When the required files have been selected, they are imported by clicking on the 'OK' button in the top right corner of the Condition Import Filter.

The files are then read into the system and the data is checked and validated by the program. When the data has been checked the Inventory Import screen displays the File Import Summary.

This allows the user to check that the correct import file has been used and that the expected number of records have been imported. Options are also available for printing and exporting the report as with all Confirm report screens. If the data is accepted then the 'Save' button is clicked and the data is then saved to the database. Small progress windows display the various elements of data being saved as the process is carried out.

Importing the file or files produces the File Import Summary. This is the standard Network import screen whether using HMDIF or delimited text files. The report summarises the following information:-

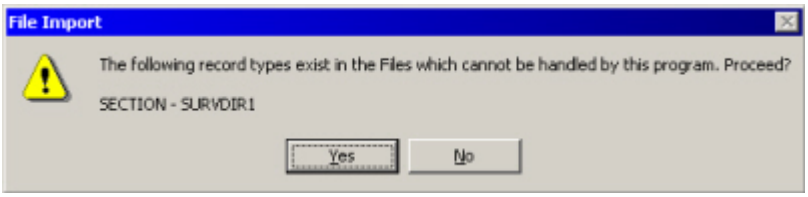
Import Type	In this case - Condition
Import Status	Ready - This indicates the import verification process has not found any errors and the data is ready to import into the database The 'Save' button is also shown in full. When errors are present the 'Save' button is greyed out and records cannot be saved to the database.
File Name	Only the file name of the Sections file is shown even when multiple files are imported.
Record Identifier-Number of Records	The record identifier describes the main record type imported from each row in the file or files. The number of records for each is the count of the records ready for import. This should match the number of rows in the file for this type of record less header rows for CSV & Tab Separated files.

Clicking on the 'Save' button results in the records being written to the database with the corresponding Updating Database screen which shows progress.

Survey Import Error Reports

Confirm PMS provides extensive error reporting facilities through the File Import Error Report. This report is automatically generated whenever the validation process comes across an error. The error report provides information on the line number, the record type, the item label and details of the error.

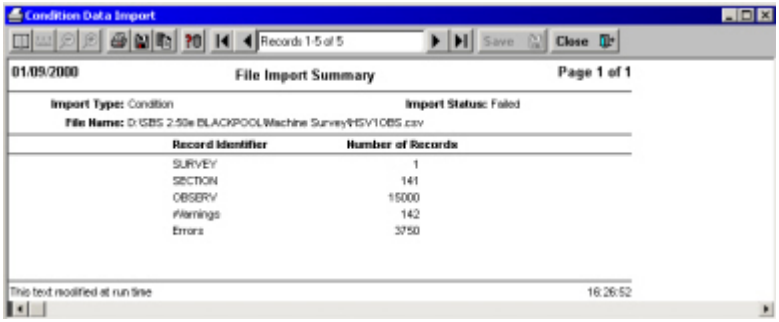
The initial validation check is on the record type header codes. Where an error is found in these codes a warning screen is displayed. An example of such a screen is shown below.



This allows the import process to be abandoned immediately or for the process to be continued with the remaining validation of the import file. The error may be non-fatal so caution needs to be exercised to ensure that the data is not saved to the database with errors or missing information.

If errors are detected by Confirm when importing data, one of two things will occur. If the errors do not prevent the data being imported, Confirm will show warning messages. Warnings may be ignored and the data saved. If the errors would prevent the data being imported, Confirm will display an error message. When this occurs, you will be unable to save the data, and the import files will need to be corrected before the data import is repeated.

When the files are imported, the Condition Data Import screen displays the File Import Summary as shown below.



As can be seen, there has been several warnings and errors reported. The save box on the report has also been greyed out, meaning that the imported data cannot be saved to the database and the Import Status is 'Failed'.

This is accompanied by a screen requesting whether the user wishes to view the error report. Selecting Yes will display the File Import Error Report.

Note: If No is selected the import must be repeated to be able to view the File Import Error Report.

The report shows the details on the error. From this, it can be determined in which files and on which lines that the problems exist. The import files can now be examined and the problems rectified

Error reporting may show both non-fatal warnings and fatal errors. The difference between the two is that a warning will not cause Confirm to prevent the user from saving the data whereas an error will.

For convenience, once the File Import Error Report has been closed after errors or warnings have been reported, the system returns to the File Import Summary report. Clicking on the Re-Retrieve Records button returns to the Import Filter screen. Files can then be corrected and re-imported.

Note: care should be taken to avoid minimising the Error Report screen since no other action can be taken in Confirm until this screen is closed.

Examining and Reporting Survey Data

Once the survey or condition data has been imported and saved into the database then it can be viewed in several different ways.

- APPENDIX D - The data may be examined (and edited) using the Survey input and editing screen.
- APPENDIX E - It may be viewed in one of the several available reports.
- APPENDIX F - It may be exported to spreadsheet programs to graph and chart.
- APPENDIX G - It may be exported to statistical analysis programs.
- APPENDIX H - It may be exported to strip diagrams or a GIS for visual representation and reporting.

Condition Data Import Tips

Network not defined

This will occur if the contractor providing you with the survey data has given an entry for the network in their files, and this entry does not tie up with a named network in your database. There are a number of solutions to this problem.

If the data you are importing is correctly referenced for your network (i.e. Network Translation is not required), you can create a new network (Preparation, Network Manager, Network Lookups, Network). Give the new network the appropriate code to tie in with that used in the data to be im-

ported. Next find your current base network (Base Network ticked) and clear the Base Network box. Save this change, then move back to your new network, tick the Base Network box and save.

You can now import the data without further changes. Remember to return the original network to being the base network after the import, and also note that you will have to clear the Base Network box on one network before you can set it on another.

Once you have created names for other networks, the next time you wish to import data that refers to that network, you can simply change the network that is set as the base network to that one. Note that this method is only used when no network translation is needed - where translation is required, the base network should not be changed.

As an alternative to switching the base network in Confirm, and again only if the network does not require translation, you could carry out a search and replace in the import file(s). Load the file into a text editor (i.e. Wordpad) and search for occurrences of the name given to the network by the contractor and replace it with the name of your base network. The import should then proceed correctly. Note that whilst this may be quicker if there are only one or two files to import, the method above will be far easier if a number of files are to be imported. Once the new name has been created if subsequent data is received referring to the same network importing it will only involve changing the Base Network setting. It should also be noted that care must be exercised when using a search and replace, as data other than the network may match and therefore be replaced. For this reason, the search and replace method is not recommended.

Finally, if the network does require translation, you will have to set up the new network and create a translation for it. Note that a network that is translated to the base network should not itself be set as the base network. For more details on network translations, refer to the Network Fundamentals Input section in the Network Setup and Maintenance training material.

Setting up Officers

Some import files may contain a reference to the officer carrying out the survey. This is often actually used to indicate the contractor. When you have to import a file with the officer field in it completed, you will need to ensure that that officer exists in Confirm's list of officers, and has access to the Work Group / Contract Area in which the survey took place. To access the Officer lookup (actually called Action Officer in Confirm), choose Preparation, Asset Maintenance, Maintenance Lookups, Action Officer. This will bring up a form allowing you to enter a code (this is what will be in the survey import file) along with Name, Telephone numbers etc as well as the Work Group. The required fields are Code, Name and Work Group. Once details have been entered, and saved, it will be possible to import survey data attributed to that officer.

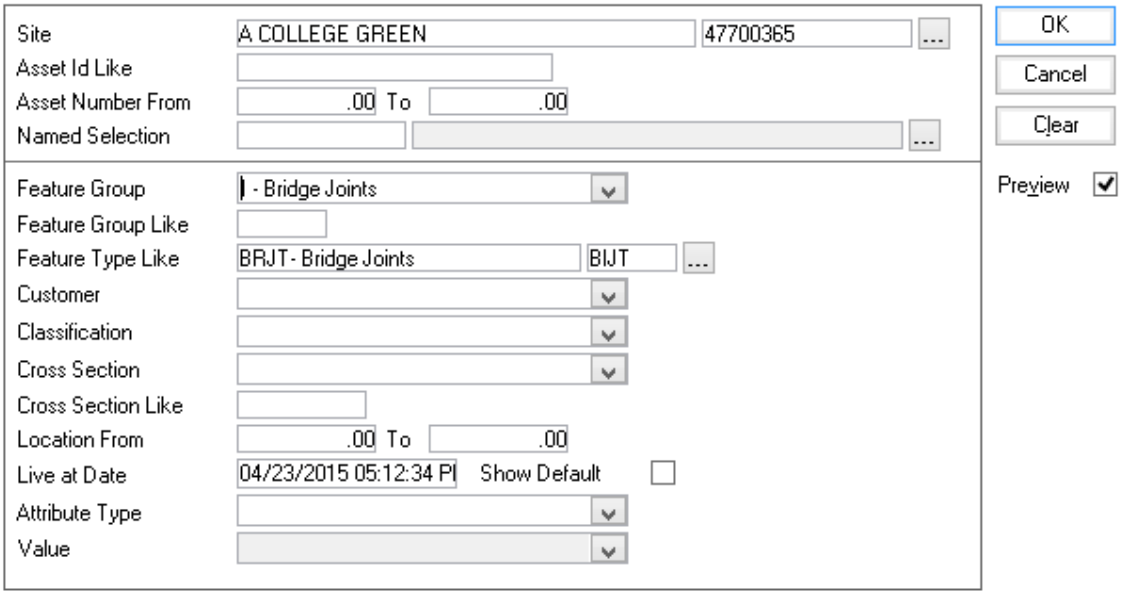
Aggregate Measurements

This utility will aggregate the Measurements held against Inventory Items and apply a total to the Feature.

The aggregation is of the measurements held in the 'Measurement' field(s) of the specified Inventory item. The Inventory Group to which the item belongs must have a Primary Measurement Type specified, which is the same as a Measurement Type applied to the Feature.

The Inventory Group Primary Measurement is applied in the **Inventory Feature Group** .

Feature Measurement Types are applied through the **Feature Group**.



Use the upper part of the form to define the Feature(s) that will have measurements aggregated.

Use the lower portion of the form to specify the Inventory Item(s) which will contribute to the aggregation.

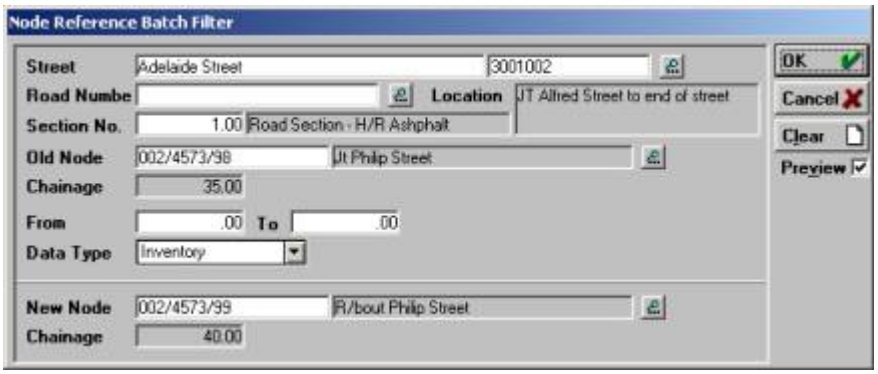
Click on Ok to view the preview. The Aggregation will total Inventory Primary Measurements, and apply the total to the same Measurement Type in the Feature. So if Inventory Items all carry the Primary Measure: 'Length', then the total of all these measures will be applied to the Measurement Type 'Length' on the Feature.

Click on 'Save' in the preview window to save the aggregations.

Node Reference Batch

Module 4050 (LRPs)

The Node Reference batch will realign all Inventory Data, or Observation Data, which references a Node, from that Node to another.



Use the top part of the form to enter details of the old Node.

Data Type: select Inventory, or Observation, from the drop down list to indicate which type of data should be re-referenced.

Use the lower part of the form to select the New Node.

Note: both the old Node and the new Node should already exist on the Section.

Click on OK To run the utility, and save the preview to carry out the re-referencing.

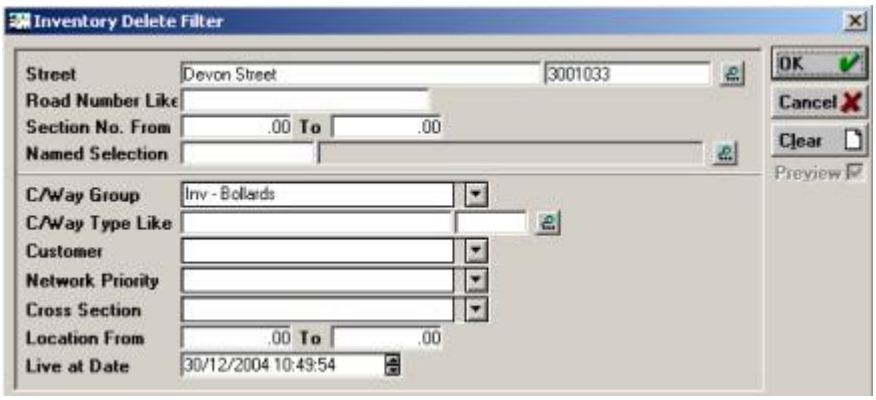
Create Inventory Links

Where maintained Features do not exist in the Confirm database, they can be generated from Inventory Items. This utility will create one Feature per Inventory Item with the following information:

- The primary measurement of the new Feature will be set from the Inventory Items measurement.
- The Feature Location will be created from Section Label plus chainage and XSP of the Inventory Item.
- The Survey Date will be the Inventory Items Survey Date.

Delete inventory

Inventory Items may be batch deleted from Sections using the Delete Inventory utility



Use the filter fields to define the Inventory Items to be deleted.

Click on OK to run the utility. A preview report will list all the Inventory Items that will be deleted.

Click on the 'Delete' button to continue and delete all the listed items. Click on 'Close', and on 'No' in the 'Do you wish to Save' dialog, to close without deleting Inventory.

Inventory Attribute Dependent Update

The Inventory Attribute Update utility will update Inventory Attributes in line with the Attribute dependencies set up in the Attribute Type Lookup.

The utility will not add Attribute Types to Inventory Items, nor carry out any updates other than those dictated by the Attribute Type dependencies set up in the Attribute Type Lookup.

Use the top part of the filter to restrict the selection of Inventory Items for update. You may leave the top section blank to update all Inventory Items.

The bottom part of the filter screen is for the selection of Attribute Type Values to be updated.

Attribute Type:	You may select an Attribute from the drop down list. Only those Attribute Types with a Dependent Attribute Type can be updated. Hence, only these will be seen in the drop down list.
Attribute Value:	You may specify a value to restrict the update to the attributes currently holding that value.
Depend On Type:	This will be entered automatically by reference to the Attribute Type if you have entered on in the Attribute Type field. Otherwise you may pick an Attribute

	Type from the drop down list to restrict the update to the attributes dependent on that attribute type
Depend On Value:	You may specify a value to restrict the update to attributes dependent on the above attribute type, which have that value.
Include:	Select from: 'All Attribute Values' - To update values without reference to the current value. 'Disallowed Attribute Values' - To update only those values that are disallowed according to the Dependency rules set up for the Attribute Types. 'Allowed with Warning only' - To update only those values that are flagged to give a warning in the Dependency rules set up for the Attribute Types. 'Disallowed and Allowed with Warning' - to update all values that are disallowed or flagged to give a warning in the Dependency rules set up for the Attribute Types.

Click on OK to run the utility and display the preview.

Network Reports

Section Overall Report
Provides an overall report on the Features including attributes and their values.

Street Section Condition Summary

The Street Section Condition Summary provides a report summarising the network condition by Observation Type and Parameter for individual Street Sections and the associated Feature Groups.

The report will list Data Analysis and/or Survey records for a single Survey and Data Set or all Surveys and Data Sets at a time. Use of the Street and Named Selection options on the filter are recommended for the avoidance of excessively large reports.

Note: Survey status must be selected as either 'Loaded into Edit Area' or 'All' for data to be returned.

A similar report, grouped at Network level is available by running the **Network Condition Summary**.

Street Section Current Condition

Completing the appropriate fields to restrict the report listing then clicking on the OK button commences the report processing. In order to report only on structural condition index the correct surveys and observation type should be selected in the filter.

Multiple Observations List

This report can be used to provide a listing of survey observations from either a single survey or a number of surveys or analyses.

Section Survey Need Report
This report is used to highlight Sections that have not been surveyed since a provided cut of date. Sections which have been completed will be displayed with the Survey Type and date that the Survey was completed.

External Network Section Current Condition

This report allows reporting on the Current Condition of External Network Sections.

Network Summary by...
The Network Summary reports by Type, Attribute, Condition provide a means of viewing a summary value of the total primary measurement for all Features that meet the specified criteria. An overall total is shown as well as one for each Type, Attribute or Condition.

Inventory Summary
This report provides a summary report of Inventory. It displays the total quantity of Inventory per Feature Type.

Inventory Summary by Section
This report provides a summary report of Inventory grouped by Feature. It displays the total quantity of Inventory per Feature Type.

There are two report levels available:

'Summary' - This displays the proportion of a Feature Type in relation to other Feature Types of the same Inventory Type.

'Detailed' - When this is selected the report will show the data at XSP level but does not show the proportion of the Feature Type.

Unlinked Inventory Feature List
This report provides a means of identifying Features of a Type that could be 'Referenced' by Inventory where no such reference exists.

Unlinked Inventory Item List
This report provides a means of identifying Inventory items of a Type that could be linked to a Feature where no such link exists.

Survey Inconsistency Report
This report highlights inconsistencies between the imported Survey Data and the Network Inventory that is in the Confirm database.

Inventory Attribute Dependency Exceptions Report

The Inventory Attribute Update utility will update Inventory Attributes in line with the Attribute dependencies set up in the Attribute Type Lookup.

The utility will not add Attribute Types to Inventory Items, nor carry out any updates other than those dictated by the Attribute Type dependencies set up in the Attribute Type Lookup.

Use the top part of the filter to restrict the selection of Inventory Items for update. You may leave the top section blank to update all Inventory Items.

The bottom part of the filter screen is for the selection of Attribute Type Values to be updated.

Attribute Type:	You may select an Attribute from the drop down list. Only those Attribute Types with a Dependent Attribute Type can be updated. Hence, only these will be seen in the drop down list.
Attribute Value:	You may specify a value to restrict the update to the attributes currently holding that value.
Depend On Type:	This will be entered automatically by reference to the Attribute Type if you have entered on in the Attribute Type field. Otherwise you may pick an Attribute Type from the drop down list to restrict the update to the attributes dependent on that attribute type
Depend On Value:	You may specify a value to restrict the update to attributes dependent on the above attribute type, which have that value.
Include:	Select from: 'All Attribute Values' - To update values without reference to the current value. 'Disallowed Attribute Values' - To update only those values that are disallowed according to the Dependency rules set up for the Attribute Types.

'Allowed with Warning only' - To update only those values that are flagged to give a warning in the Dependency rules set up for the Attribute Types.

'Disallowed and Allowed with Warning' - to update all values that are disallowed or flagged to give a warning in the Dependency rules set up for the Attribute Types.

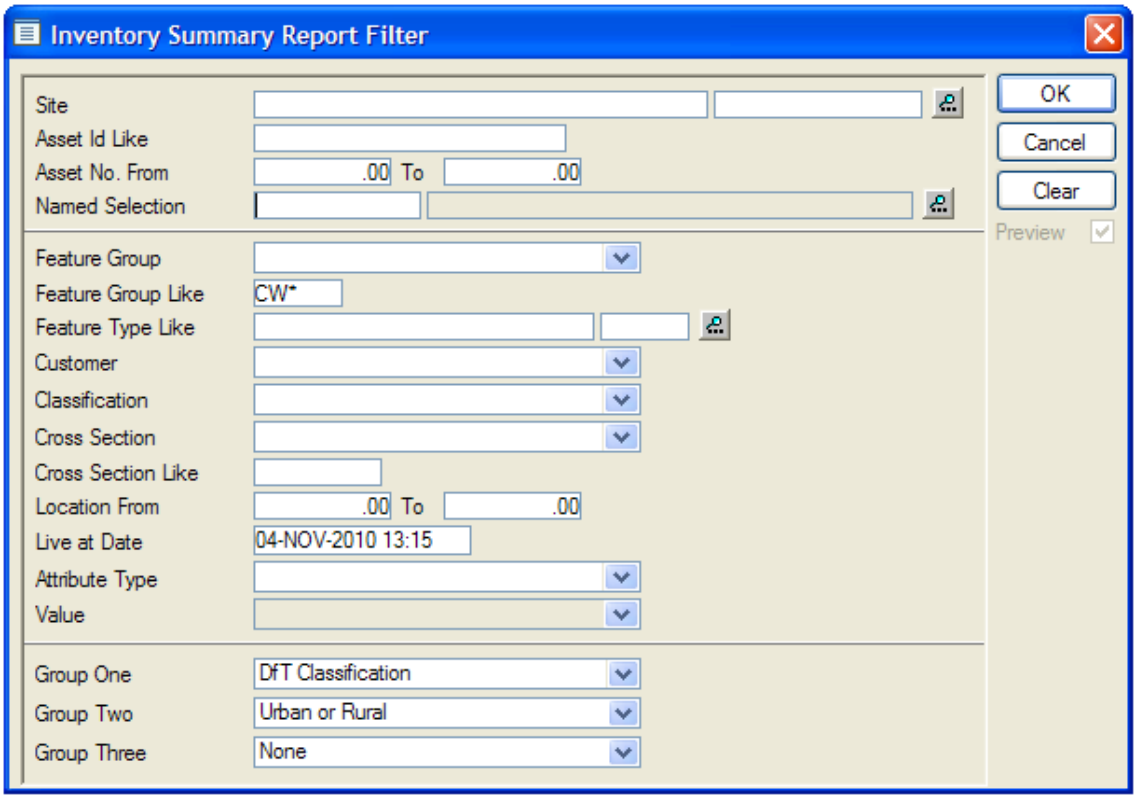
Click on OK to run the utility and display the preview.

Inventory Summary Report

This report shows a summary of Inventory quantities, with subtotals shown for user defined groups of data.

It can be used in the UK to provide financial information for asset management. For further details see **UKPMS Financial Information**.

The filter screen for the report is divided into three sections. The top section allows Feature selection criteria to be entered. The centre section is used to select the Inventory data to be included. The bottom section allows the user to specify how data in the report is to be grouped, by specifying up to three criteria to define the groups.



The report displays a row for each group within each Inventory Type. For each combination, the information described below is shown.

The 'Network' values summarise Feature information. These values are shown for an Inventory Type if all Features can be categorised unambiguously. If 'Inventory Classification' or 'Construction' has been chosen to define the groups, there could be different values for Inventory Items within the same Feature. Hence if either of these fields is chosen the Network values are only shown if all Items of an Inventory Type have the same value.

- **Total Number:** The total number of Features in this group.
- **Total Length:** The total length of these Features.

The ‘With Inventory’ values summarise those Features with Inventory Items. These are also shown only where a Feature can be categorised.

- **Total Number:** The total number of Features in this group with at least one Inventory Item of this Inventory Type.
- **Total Length:** The total length of these Features.

The ‘Inventory Items’ values summarise the actual Inventory data:

- **Total Number:** The total number of Inventory Items of this Inventory Type in this group.
- **Total Length:** The total length of these Inventory Items.
- **Total Area:** The total area of these Inventory Items.
- **Average Width:** The average width of these Inventory Items.

The Average Width calculation depends on the Inventory Type as follows:

- **Carriageway:** Total Area / Total Length of Features with Inventory Items.
- **Others:** Total Area / Total Length of Inventory Items.

A row of summary values is also shown for each Inventory Type.

Network Survey Coverage Report

This report is used to summarize how much of the network has been surveyed in a chosen date range. The top half of the filter screen allows Feature selection criteria to be entered. The bottom half is used to select the Survey data to be used.

Note: "Feature Group Like" refers to the Feature Group of the Survey Observations, not the Features themselves.

The report can group the results in different ways by selecting the appropriate 'Report Type'. Details of the different report types are as follows:

1. **Finance Year Breakdown**

   The report displays a list of all the Finance Years wholly or partially contained in the entered date range, with a summary of Survey coverage information for each. For each year the report shows the number and length of surveyed Features. There is also a summary row showing the number and length of Features surveyed at any time in the entered date range.

   For each Finance Year, the following information is shown:

   - **Observation Length:** The total length of Observations for the Features in this Finance Year. If a feature is surveyed twice in the Finance year then this column will show only the latest survey.
   - **Number Surveyed:** The number of selected Features with a Survey in this Finance Year. The percentage of all selected Features that this represents is also shown.
   - **Length Surveyed:** The total length of these Features, and the percentage of the total length of all selected Features that this represents.

2. **Footway Hierarchy Breakdown**

   The report displays a list of Footway Hierarchy values, with a summary of Survey coverage information for each, as well as the total number and length of Features surveyed.

   For each Footway Hierarchy, the following information is shown:

   - **Network Count:** The number of selected Features in this Footway Hierarchy.
   - **Network Length:** The total length of these Features.
   - **Observation Length:** The total length of Observations for the Features in this Footway Hierarchy.

- **Number Surveyed:** The number of selected Features with a Survey in this Footway Hierarchy. The percentage of all selected Features that this represents is also shown.
- **Length Surveyed:** The total length of these Features and the percentage of the total length of all selected Features that this represents.

The report can be used to provide Survey information on parts of the network, but its primary purpose is to produce the **UKPMS Footway Network Survey Coverage report**. For further details see **UKPMS Indicator Reports**.

It can also be used in the UK to provide financial information for asset management. For further details see **UKPMS Financial Information**.

Network Survey Coverage Detail Report

This report is similar to Network Survey Coverage report but shows more detailed results. The results are broken down by each Observation type for each Footway Hierarchy.

The filter is divided in three sections where the top section allows Feature selection criteria to be entered. The middle section is used to select the Survey data to be used and the bottom part to select Observations to report on.

The report displays selected Observation values for all Footway Hierarchies. For each Footway Hierarchy the report shows:

- **Surveyed Length:** Length of sections surveyed.

Then within this, for each of the chosen Observations the report shows:

- **Length:** The number of selected Features with a Survey within the specified date range. The percentage of all selected Features that this represents is also shown.
- **%:** Percentage this Observation represents of the Length Surveyed.
- **Average:** Average value for this Observation.
- **Indicator:** This column shows totals for each Observation for which Indicator checkbox was ticked. The Percentage of lengths here is the headline indicator and is highlighted in bold.

The report's primary purpose is to produce the **UKPMS Footway Network Survey Headline Indicator** report. For further details see **UKPMS Indicator Reports**.

Network Lookups

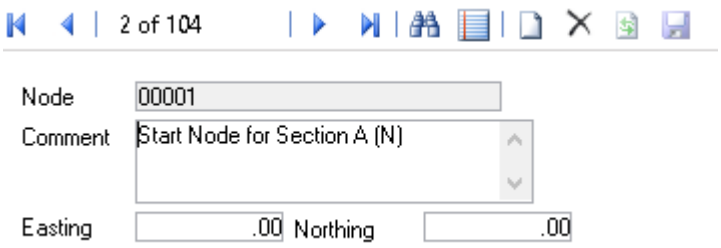
The Network Lookups section is used to pick each of the options required to populate the database with the base Network information. The use of each library will be described in detail. For those lookups which are not covered by this manual, please refer to the Asset Register manual.

Node

Nodes can be entered 'on the fly' i.e. as they are required during entry of a PMS section or they may be imported from existing data. For manual entry of a larger number of nodes, enter them as a batch using the Node input screen.

Nodes can also be imported from a pre-prepared file, which is dealt with under the Data Import topic.

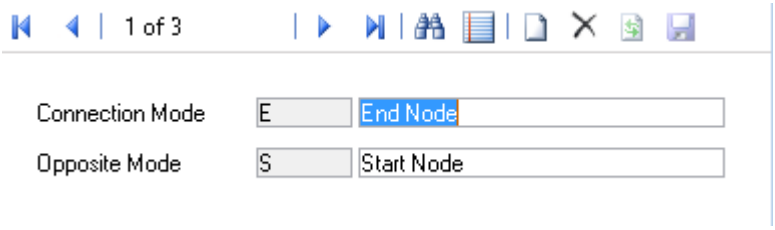
New Nodes are entered directly using a blank input screen. A blank screen is automatically selected when the Node screen is started using the Node icon on the Network Lookups branch. Alternatively, a blank input screen can be selected when editing using the 'Clear/New' button.



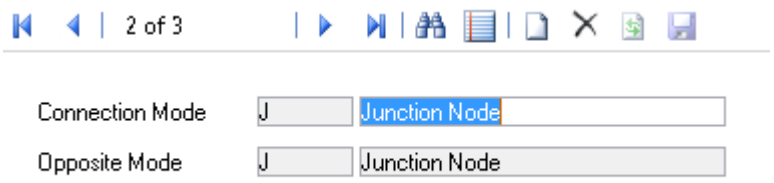
Node:	The node reference number may be up to 30 alpha/numeric characters long, this should be the standard node number used for referencing the network.
Comment:	A free form text description of virtually unlimited length used to enter the description of the Node, this may be as simple as Start, End, Junction etc. More informative descriptions, particularly in relation to local features, will be helpful for future reference as well as time saving in the ongoing collection and handling of data.
Easting and Northing:	The coordinates of the Node as eastings and northings may be recorded in the appropriate boxes. This field is in 8.2 format, i.e. 8 numbers before and 2 numbers after the decimal point.

Connection Mode

The Connection Mode input screen allows for the definition of a new type of node, its method of connection and the opposite or reverse connection. Connection Mode is not currently used for any processing within the PMS system however the Connection Mode and Opposite Mode must be defined to comply with Confirm requirements for possible future functionality. For instance, connectivity of sections can be established if the same node is defined as an end or start node on a section and a junction node on another.



For an intermediate type of node e.g. 'Junction' or 'Speed Sign' the connection mode and opposite mode are the same.



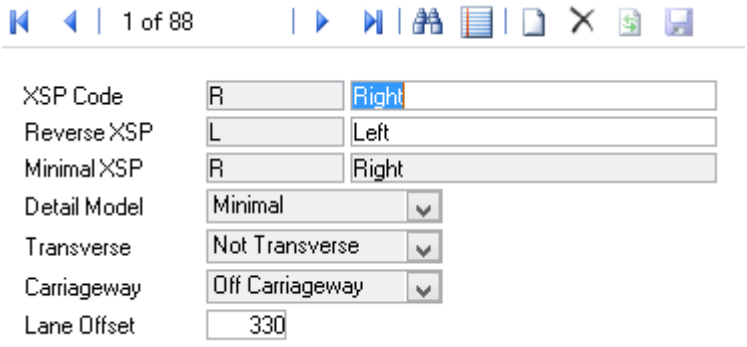
Connection Mode: A unique code of up to 4 alpha/numeric characters and a 30 character description as appropriate for each Connection or a suitable description for the node type being created, e.g. Junction.

Opposite Mode: A unique code of up to 4 alpha/numeric characters and a 30 character description as appropriate for each Connection or a suitable description for the node type being created, e.g. Junction.

Cross Sectional Position (XSP)

Cross Sectional Positions define the various points on any cross section for a particular property such as a lane edge, kerb, footpath, etc. Confirm PMS has the a default set of cross sectional positions defined as standard in the database. Cross Sectional Positions are used by the Confirm Data Transformation Engine in PMS processing therefore it is essential that the defined XSP codes match those expected by the processing systems rules and parameters.

Cross Sectional Positions may be defined to have vertical as well as horizontal positions to allow for items that may be above or below the carriageway. Vertical components are not currently used in PMS processing. However a user can extend the rules and parameters for local conditions to include such items as buried services, foundations, drains, etc. below the carriageway and structures, signage, street furniture above the carriageway that can effect the cost of works or the viability of applying a particular treatment.



XSP Code: A unique code of up to 6 alpha/numeric characters plus a 30 character description as appropriate for each XSP in the adjacent box to the right.

Reverse XSP: A unique code of up to 6 alpha/numeric characters plus a 30 character description as appropriate for each Reverse XSP in the adjacent box to the right.

This is the equivalent XSP to that entered as the XSP Code when handed about the centreline position. e.g. The opposite of CL3 - Permanent Left Lane 3 is CR3 - Permanent Right Lane 3.

Minimal XSP: A unique code of up to 6 alpha/numeric characters plus a detailed description in the adjacent box to the right.

The standard codes for Minimal XSP, for use where minimal XSP referencing is used, are L (Left), C (Carriageway) or R (Right). Minimal XSP allows the user to set up a useable system without collecting detailed inventory information, however, the accuracy of the results will reflect the lack of detailed information being processed.

Confirm PMS allows further user defined minimal XSP's to be entered if required for user defined processing. (NB. These will not conform to the default standard and therefore will not be used in processing of the standard rules and parameters set).

Detail Model: This is the level of detail for the cross sectional position model and is selected from the drop down. It is defined as either Full or Minimal, these are pre-set in Confirm and are not user definable. The full cross sectional position model describes the position of each item being referenced in the inventory in terms of its location relative to the centreline of a section. The minimal cross sectional position model is a simplified system that describes the item in terms of on or off carriageway and to the left or right of the centreline.

Transverse: This is defined as either 'Transverse' or 'Not Transverse' and is entered from the drop down, these are pre-set in Confirm and are not user definable. Transverse XSP's enable the referencing of items such as a kerb or footpath at the end of a cul-de-sac, or similar items that run parallel to the line of the cross section i.e. perpendicular to the section centre line.

Carriageway: This can be defined as either 'On Carriageway' or 'Off Carriageway' and is entered from the drop down, these are pre-set in Confirm and are not user definable.

Lane Offset: Lane Offset is an arbitrary figure to locate that particular XSP horizontally in relation to the other XSP's. This figure is used by Confirm in spatial representation and therefore only the relative position in relation to other XSP's needs to be considered. The lower number will represent a position closer to the centreline. Minus numbers will indicate right offset and positive numbers will indicate a left offset. Using numbers with a separation of say 10 will allow for additional XSP's to be placed in between those currently defined without having to renumber all the XSP's. Confirm will use the widths entered for a particular cross section or the default width if not specified.

Unit of Measure

The Unit of Measure lookup should contain a list of all the Units of Measure that will be required within Confirm. The library can be added to as units become necessary.

The list would usually comprise the standard metric measures such a Metre and Square Metre, an Hour - for hourly paid work, a Pound (£) for raising work for which a price has been quoted and a Number for counting items.

Code:	Up to four alphanumeric characters
Description:	Up to thirty characters
Rate Uplift:	Checked by default, to indicate that Items priced using this measure (e.g. - per Square Metre), may be uplifted when a Rate Uplift is applied. **Note:** usually only one item is NOT checked for Rate Uplift: the Unit of Measure for a currency unit. An SOR item representing a unit of currency, which is used to directly apply a value to work, should not suddenly acquire a greater value.
This Unit uses:	Check these boxes if you wish to used the relevant components to enter measurements. If you checked Length and Width for the Unit 'Square Metre' for instance - you would be required to enter Length and Width when entering the Measurements for a Job. If you prefer to work directly in Square Metres (and not Length and Width) then do not check these boxes.

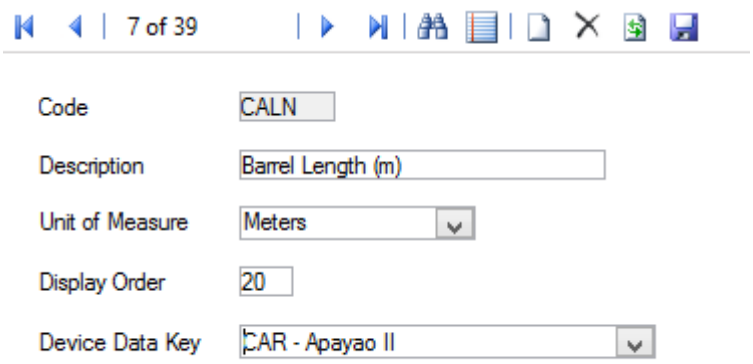
Measurement Type

The Measurement Type defines the Measurements that will be taken for a Feature, with the Unit of Measure used for the Measurement.

Using Measurement Types allows several measurement to be entered against a Feature which all use the same Unit. So, for instance, Height, and Spread can be entered against a tree - both measured by the Metre.

Measurement Type can also be used to define work by defining the Measurement to which work will be done. So a flowerbed can have a measurement for 'Mulching Area, which is distinct from the 'Overall Area'.

Measurement Types are therefore used to define the Feature Measurements, and, possibly, to define the work that will be carried out.



Code:	Up to four alphanumeric characters
Description:	Up to thirty characters
Unit of Measure:	Select, from the Drop down list, the Unit of Measure used to take this Measurement. The drop down list references the Unit of Measure Lookup.

Device Data Key: Optionally specify a Device Data Key.

ConfirmConnect® **user** whose **data security group** includes view access to this data security key will be able to view this measurement type as an attribute on their Survey tasks.

Note: Leaving this field blank will allow all users to view this date type in ConfirmConnect®.

Attribute Types

(Extended Attributes)

Attribute types can be used to describe any aspect of the Feature that can be set as a type with a range of values. Attributes are set up as Types, each with a range of possible Values.

(Asset Valuation Module)

Where the Asset Valuation Module is present, Text Attribute values may be used to factor the Replacement and life values for Features that carry these Attributes and values.

Code: Up to four alphanumeric characters

Name: Up to thirty characters

Description: An optional, free text field. This value is used in ConfirmConnect® to give further information about the Attribute Type in order to aid the setting of the Value.

Not Applicable Value: This value will be used on any Feature which has this Type applied and has not yet been assigned a Value. This has a default of NA, the Code and description may be changed.

Display Order: Affects the order in which the Type appears in the Feature tab and when Features are viewed on a mobile device. A type numbered 1 will appear at the top of the numbered list, a Type numbered 9999 will appear at the bottom. Unnumbered Types will be listed before numbered ones.

Type: Select from:

'Pick List' - To define values that will form a drop down list from which a user will pick when assigning values in this Attribute Type.

'Text' - To apply free text as the value in this Attribute Type.

The following Types are only applicable in the Inventory module to Attribute applied to Inventory Items:

'Number' - To apply a number value in this Attribute Type

'Date' - To apply a date value in this Attribute Type

'Date Time' - To apply a date and time value in this Attribute Type.

Note: Only Pick List and Text Attribute Types may be chosen for use as Feature Attributes, since Number and Date Attributes are implemented as Measurement and Date Types respectively. The Number, Date and Date Time Types are used for Inventory Attributes.

Case: (Inventory module)

Where a 'Text' Type this field will be available. Select from:

'Any' - To allow text entries in Upper or lower case, or a combination of both.

'Upper' - To force text entries to Upper case.

'Lower' - To force text entries to lower case.

Decimal Places: (Inventory module)

Where a 'Number' type is selected this field will be available for defining the number of decimal places displayed for a number entry.

Maximum Width: (Inventory module)

Where a 'Text' type is selected this field will be available for defining the maximum width (in number of characters) of the text entry field.

Proportional: (Inventory module)

Where a 'Number' type is selected this field will be available to indicate if the Parameter Value is proportional to the 'size' of the field that it is recorded against. For example, the area of cracking on a Feature would reduce if the Feature was split (proportional), but the number of lanes would not (not proportional).

Depends on: If the current Attribute Type's Values are dependent on another Attribute Types Values then specify the appropriate Attribute Type here. This will apply a default value for this Attribute Type when a value for the dependent Attribute Type is entered. See **Setting Attribute Dependencies** on page 47.

Unit of Measure: (Inventory module)

Where a 'Number' type is selected this field will be available for the selection of a Unit of Measure. The drop down list references the Unit of Measure lookup.

Device Data Key: Optionally specify a Device Data Key.

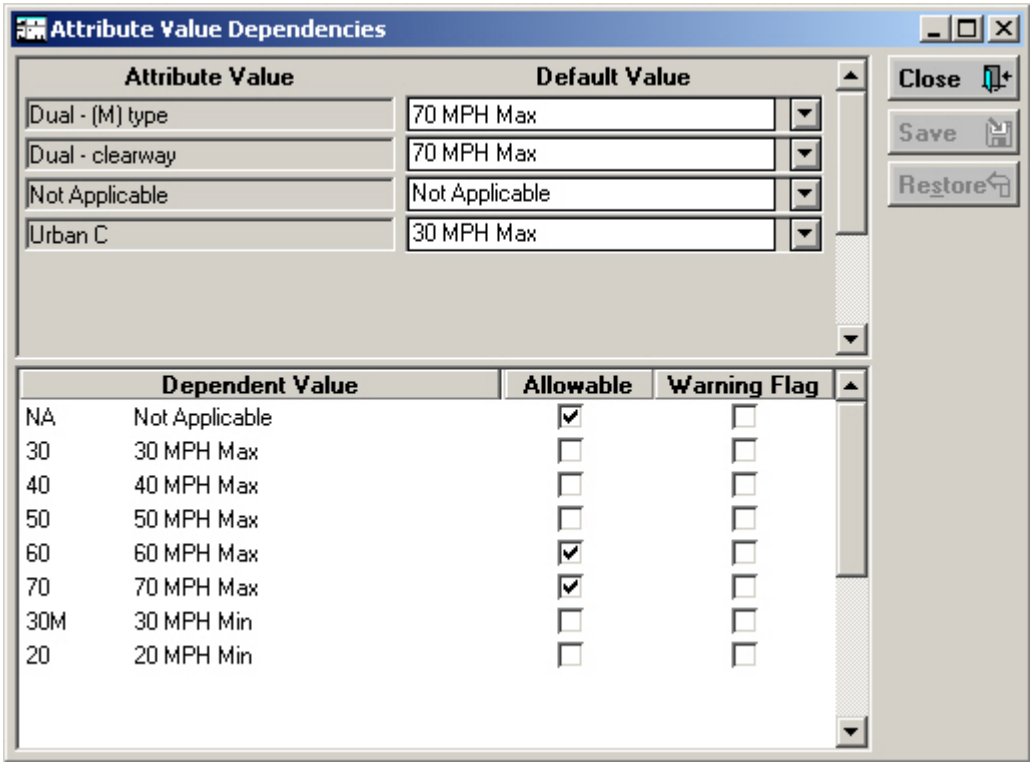
ConfirmConnect® **user** whose **data security group** includes view access to this data security key will be able to view this attribute type on their Survey tasks.

Note: Leaving this field blank will allow all users to view this date type in ConfirmConnect®.

Setting Attribute Dependencies

Set the Attribute Value Dependencies by clicking on the Depend Button on the Attribute Type form.

Note: The Depend button will only become active if an Attribute Type has been specified in the 'Depends on' field in the Attribute Type form.



The top part of the Attribute Value Dependencies form will display the Attribute Values for the dependent Attribute Type (entered in the 'Depends on' field of the Attributes Type form). The Default Value is set in the drop down lists. The drop down lists reference the Values set against this Attribute Type.

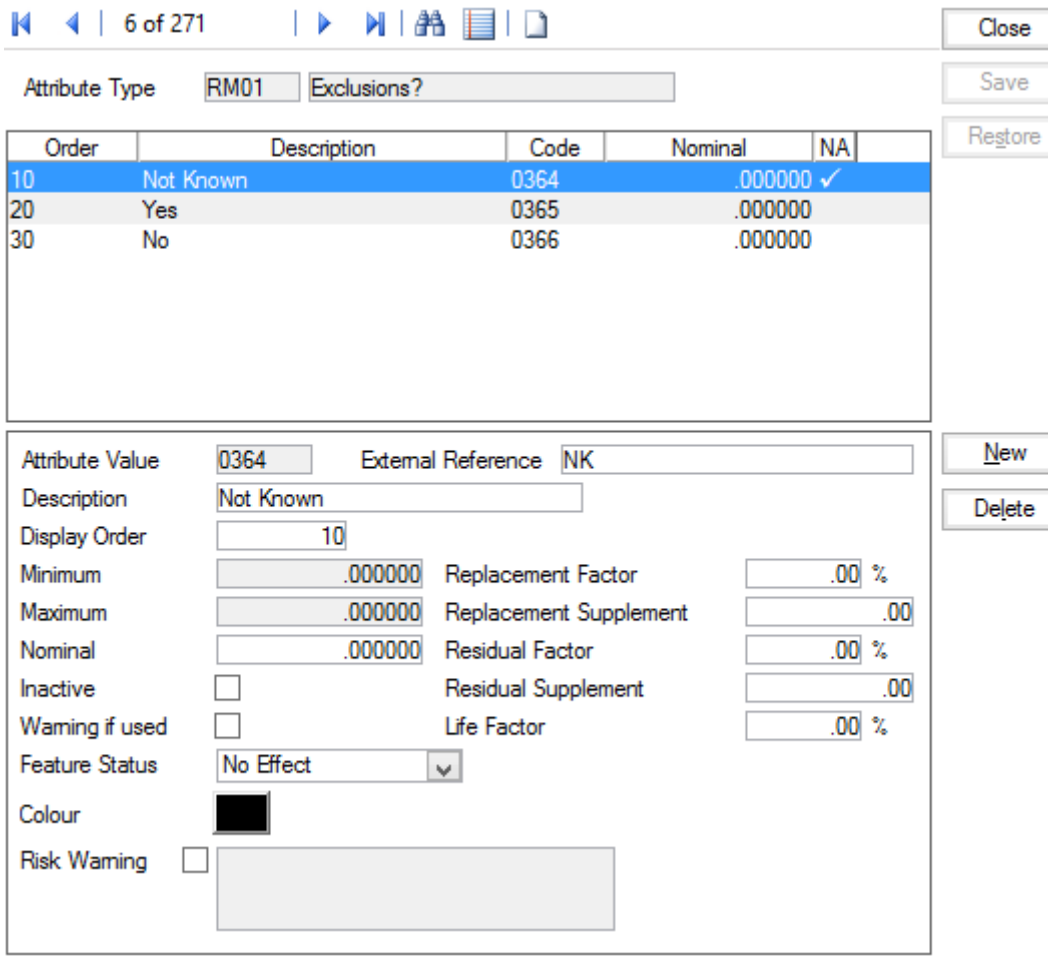
In this way an association is made between this Attribute Type and the dependent Attribute Type such that a default value is entered for this Attribute Type when the associated dependent attribute Type has an Attribute Value entered. So that in the above example, if 'Carriageway Types' is selected as the Dependent Attribute Type, the value 'Dual (M) type', automatic entry of '70 MPH Max' will be made against the Attribute Type: 'Statutory Speed Limit'.

The lower part of the form specifies which Dependent Values are Allowable in each Default Value. Select a default value by clicking in the field, and then check the values, which will be allowable if the default value is to be changed. In addition the user may check the Warning column to have the system issue a warning when the dependency relationship is used.

Note: The Attribute Value drop downs will not be restricted by the relationships configured here. The Feature Attribute Dependent Update and Inventory Attribute Dependent Update utilities can be used to correct any inconsistencies highlighted by running the Attribute Dependency Exceptions reports.

Attribute Value

Click on the 'Attr Value button to display the Attribute Value form.



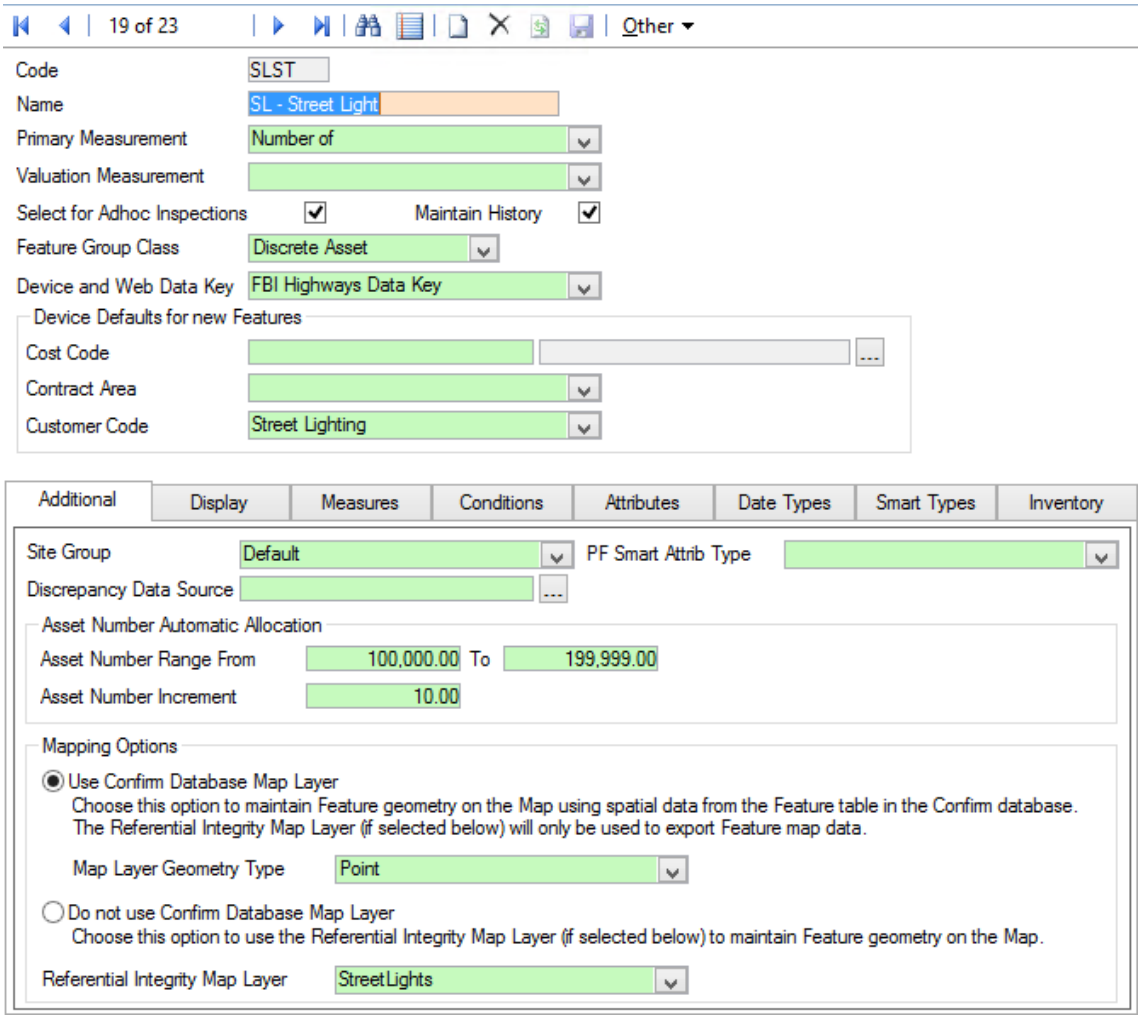
Attribute Value:	Up to four alphanumeric characters
Description:	Up to 30 characters.
Display Order:	Affects the order in which the Value appears in a drop down list. A Value numbered 1 will appear at the top of the numbered list, a Value numbered 9999 will appear at the bottom. Unnumbered Values will be listed before numbered ones.
Minimum / Maximum /Nominal:	These fields are used in 'Number' type Attribute Types to define the allowable number range (by setting a 'Minimum' and 'Maximum') and to ascribe a default value (by setting a 'Nominal' value).
Inactive:	To remove this value from the list of values the user may chose from when assigning a value to an Attribute on a Feature or Inventory item.
Warning if Used:	Flag this to display a warning when this Parameter Value is used.
Feature Status:	This setting may be used to determine the Feature Status (whether the Feature is 'Live' or 'Dead') based on the value applied to the Feature Attribute. Select from: 'No Effect' - Setting this value on a Feature Attribute will not affect the Feature Status. 'Set to Active' - Setting this value on a Feature Attribute will set the Feature Status to 'Live'. 'Set to Inactive' - Setting this value on a Feature Attribute will set the Feature Status to 'Dead' and apply an End date.

Colour:	(Dashboard module) You may set a colour value to Attribute values that will display results in the Dashboard). See **Reporting\Dashboard\Attribute Types** for full details on using Attribute Types in the Dashboard.
Risk Warning:	This setting allows a warning message to be specified that will appear when a Feature or Inventory Item carrying this Pick List value is selected on a Job. **Note:** Risk Warnings are not applicable to Date, Text or Number Attributes.
External Reference:	(Traffic Count Data module) This field is used to group Attribute Values together on the **Traffic Count Summary Report**. (Condition Survey - BCI Reports module) When using the Structures Data Export utility to export Structures data this field is exported and must be exactly the same as the Structures Toolkit values. See **Structure Toolkit Export System Settings** for full details on configuring your Structures data.

Feature Group

The Feature Group provides the means of grouping Feature Types so that parameters, which are common to a group of Feature Types, can be applied. The parameters include Measurement Types, Text Attributes and Observation Types. The Groups also provide a means of selecting which Features will be available for Ad hoc inspection (Condition Survey Module), whether Text Attributes and Smart Attributes will be shown on Works orders (Extended Attributes module) and a means of applying a condition grade Weighting within the Feature Group.

Where the Inventory module is present, Groups may have Inventory Types assigned to them so that Features in that Group can have Inventory Items in the specified Inventory Types added to them. Inventory Types are in turn allocated to Inventory Groups to assign the Attribute Types that are to be available for an Inventory Item.



Code:	Up to four alphanumeric characters.
Name:	Up to thirty characters
Primary Measurement:	Select from the drop down list. The drop down list references the Measurement Type Lookup. (The Primary Measurement will be entered in the Measurement field of the Feature tab of the Feature form)
Valuation Measurement:	(Asset Valuation module) Enter (or select from the drop down list) the Measurement type that will be used when calculating the value or depreciation for Assets in this Group. Where the Asset Valuation module is not present, this field can be left blank.
Select for Adhoc Inspections:	(Condition Survey module) Check this box to include all Features in this Group in the list of Features available for Ad Hoc inspection on mobile devices. Features that are not available for Ad Hoc inspection cannot have Ad Hoc Defects raised against them from a mobile device. However, on the Host, this setting does not apply and any Feature can have a Defect raised against it. See Condition Survey for details of Ad Hoc inspections. If the Condition Survey module is not used - this check box can be ignored.
Maintain History:	(Asset Register - Audit Trails module)

	Check this box to include all Features in this Group in a Feature Entity History report on changes made to Features.
Feature Group Class:	(Asset Register - Linear Assets) This field will only be visible if the Linear Assets Module is present. Select from: 'Linear Asset' - To allow linear parameters in Features of this Group. 'Discrete Asset' - To disallow linear parameters in Features of this Group.
Device and Web Data Key:	In ConfirmConnect, this controls what Features can be created. A user can only create a Feature of a Feature Group to which they have at least View access. It has no impact on what Features are visible on ConfirmConnect but it does restrict the Features that can be added as Inventory links or references. In Confirm web interface, this controls what Features are visible on the Enquiry map. A user will only see Features of a Feature Group to which they have at least View access.
Cost Code:	Select a Cost Code which is to be used for the creation of Features in this Feature Group when imported from the mobile. If this is not set then the Features will inherit the Cost Code from the Site.
Contract Area:	Select which Contract Area is to be used for the creation of Features in this Feature Group when imported from the mobile. If this is not set then the Features will inherit the Contract Area from the Site.
Customer Code:	Select which Customer is to be used for the creation of Features in this Feature Group when imported from the mobile. If this is not set then the Features will inherit the Customer from the Site.

Confirm Database Map Layer

When first setting up Confirm to use a Confirm Database Map Layer, some configuration steps are required, if these steps have not been performed you may receive errors. Please refer to the section in the help for further advice on how to set up your database to support using internal Confirm tables as map layers.

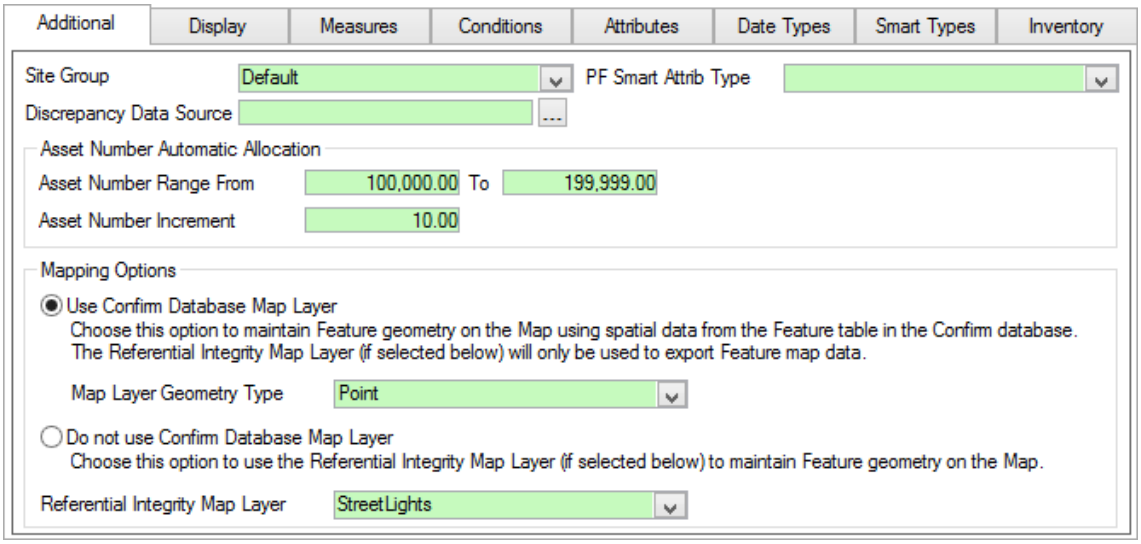
Feature Group - tabs

The tabs are used to define the ways in which the Feature on the Groups may be accessed and viewed, as well as defining the parameters that will default to a Feature when a Feature Type is selected. (Feature Types are placed in Groups in the Feature Type lookup).

The following can be added: Measurement Types, Text Attributes, Smart Attributes, Date Types and Observation Parameters. All the tabs can be left blank if there are no parameters required - including a parameter does not force a Value to be added for any particular Feature.

Types can be added to the tabs at any time after the creation of the Feature Group. Adding Types to the Feature Group will offer the option of adding the Type (with no Value) to all the pre-existing Features. This may be accepted or refused.

Feature Group - Additional tab



Site Group	The default Site Group will be entered and may be altered by selection from the drop down list. The default Site Group is set in the Site System Defaults. **Site Register\Site Lookups\General Site Lookups** Site Groups are stored in the Site Group Lookup. **Site Register\Site General\General Site Lookups** Assigning a Feature Group to a Site Group allows Features in that Feature Group to be added to Sites in the associated Site Group.
PF Smart Attribute Type	If you wish to set up a Price Factor Matrix for this Feature Group, you must select the Smart Attribute whose values will be used in the Price Factor matrix. See 'PFactor button' below for information on setting up a Price Factor matrix. The drop down list references the **Smart Attribute Lookup**.
Discrepancy Data Source	Select a Data Source that will be used for Feature Discrepancy checks. These checks will be run whenever a Feature is created or updated in the Feature screen, of a Feature Group that has a Discrepancy Data Source specified. This is to validate the entries made for the Feature against a user-defined set of criteria, in addition to the standard validation carried out by Confirm. The Data Source is run and a message displayed to the user if anything is returned. Note that this does not prevent or undo the update, but just provides a warning to the User. For details on configuring the Data Source to be used see **Validation Data Sources**
Validation Data Source	(Asset Validation Module) If the Batch Validate Features utility is to be used for Features in this Feature Group, select the Data Source that will be used for this validation. See **Batch Validate Features** for more information.
Asset Number Range From / To	Supply a range of numbers which will be used to automatically allocate the Asset Number for new Features created in this Feature Group. If these settings remain blank, Confirm will use the range set in the **Feature System Settings**. If these are blank, a number between 0-99999999.99 will be used when Features are created.

Asset Number Increment	Supply an increment which will be used for each Feature created.
Mapping Options: Use Confirm Database Map Layer	Select this option to create a map layer containing all Features from the selected Feature Group that have spatial information recorded against them in the Confirm database. Spatial data for all the valid and unmapped point features will also be created if Map Layer Geometry Type is set to 'All', 'Point' or 'Multipoint'.The layer's name will be the Feature Group name and it will be stored in the Confirm database with the Feature data. The layer will be available for selection from the Workspace Manager. De-selecting this option will remove the layer from the Workspace Manager and it will no longer be available for selection. The original layer will remain on any Workspaces it was assigned to before it was deleted. A 'Referential Integrity Map Layer' can still be picked when this option is selected which will export Feature changes to the selected layer but this would not be the layer that is maintained.
Mapping Options: Map Layer Geometry Type	Selecting a Layer Type will only allow spatial geometry of that specific geometry type to be created for Features belonging to this Feature Group. Only available when "Use Confirm Database Map Layer" is enabled and is defaulted to "All". The "All" option will allow any supported **Spatial Geometry Types**. On saving a Feature Group, that uses the "Use Confirm Database Map Layer" option, a warning message may display a list of geometry types which already exist for Features in this Feature Group. Changing this value will not change the Geometry data for Features stored in Confirm.
Mapping Options: Do Not Use Confirm Database Map Layer	Selecting this option will mean that Feature Group layers will not be created for the selected Feature Group. Instead there will be an option to use a Referential Integrity Layer (selected underneath this option) to maintain Feature geometry.
Referential Integrity Map Layer	(0440 - Referential Integrity module and 0425 Map module) If the 'Do Not Use Confirm Database Map Layer' option is selected then this field can be used to select a registered layer as a designated Referential Integrity Layer for the selected Feature Group. When Features in this Feature Group are created or updated the attributes on this map layer will also be updated when the Referential Integrity Agent runs. The spatial representation on this layer will be placed at the Centroid coordinate. If the Feature's spatial representation already exists it will only be updated if the map shape is a point.

Feature Group - Display tab

The display tab allows you to add Feature Groups as menu items in the Confirm Explorer, and to configure a display order for the tab on the Feature form.

Specific Menu Option	Check this to indicate that this Feature Group should be available in a menu option in the Asset Register folder in the Confirm Explorer. Up to 85 Feature Groups can be configured to appear in the Explorer. In the above example the 'Trees' group has the flag set, which results in a new menu option appearing in the Confirm Explorer.

Feature Groups with a Feature Group Class of 'Linear Asset' will also appear in the Network Manager folder. Up to 15 Feature Groups can be configured to appear there.

Note: You will need to log out of Confirm (for example use the Coffee Cup icon), and log back in for the menu item to become available. It then needs to be added to the program rights of each user who will need the menu item, by selecting it in the User Security form (for an individual User), or in the User Security Group form (for all user in that Group, when the 'Users' button is clicked)

Show Identification Image

The Feature screen will show an Identification Image, selected from the Document Links attached to a Feature, if this functionality has been activated.

Select here whether to default to showing the oldest or most recent Link as the Identification Image (according to the 'Document Date' field).

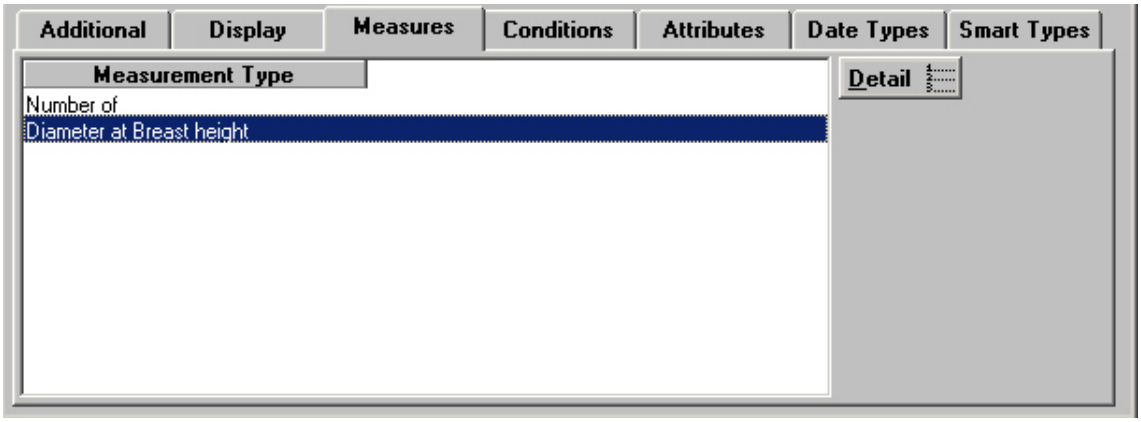
See **Feature Identification Image** on page 11 for more information.

Tab Display Order

Each tab may be assigned a number, which will place it in order in the Feature window from left to right. In the illustrated example, the Attribute tab will be the first tab on the left for Features in this Feature Group, followed by the Additional tab, then Geography and Smart Attributes.

Where no number is entered the tab will be hidden when viewing Features in that Feature Group. In the above example the Valuation Tab and the References tab will not be seen when viewing Features in the Trees Group.

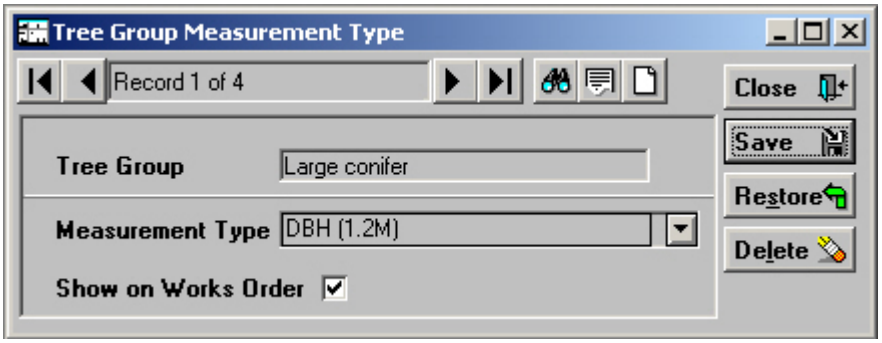
Feature Group - Measures tab



The Measures tab lists all Measurement Types (including the Primary Measurement) associated with this Group and makes them available in the Feature Windows.

To add a new Measurement Type:

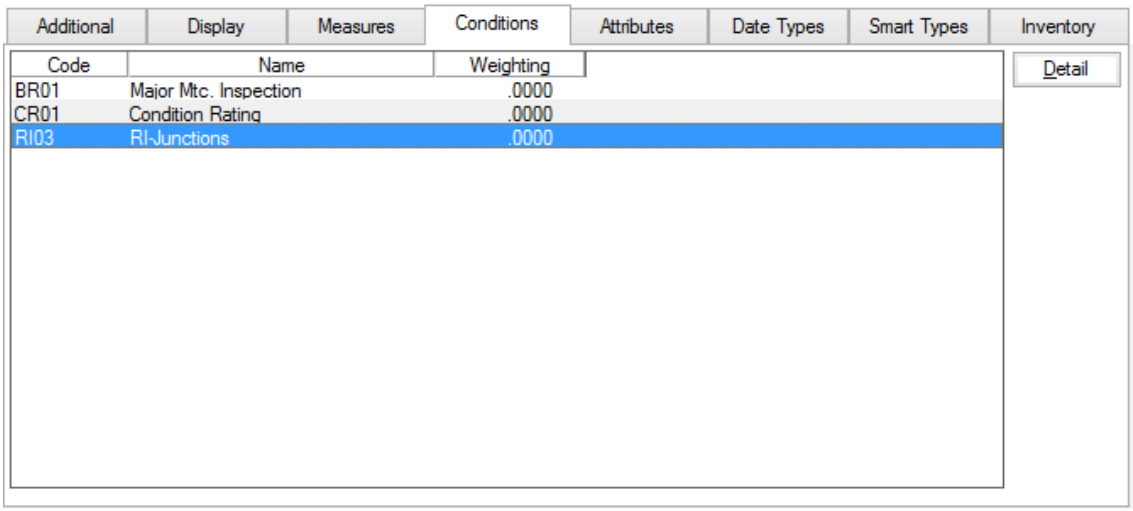
Click on Detail to display the Group Measurement form.



The Primary Measure will already be entered. Click on the 'new page' button, and select from the drop down list to add a Measurement Type. The drop down list references the Measurement Types lookup

Show on Works Order:	Check this box to display the Measurement Types and associated measurements on a Non-routine Works Order.

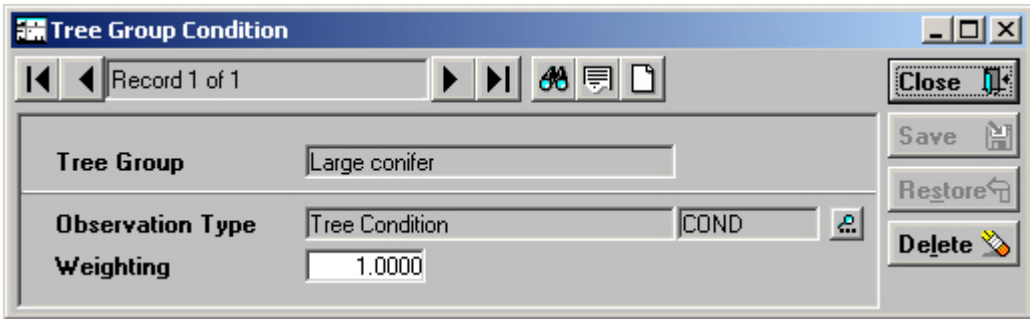
Feature Group - Conditions tab



The Conditions tab lists all Observation Types associated with this Group and makes them available in Condition Grades window off the Feature form (found under 'Conditions' on the 'Other' button).

To add a new Observation Type:

Select the Condition tab and click on Detail to display the Group Condition form.



Select from the pick list to add an Observation Type. The pick list references the Observation Types lookup.

Note: Selecting an Observation Type to link with this Group will make these Types available within the Condition Survey module when an Inspection batch is raised. You should therefore include against a Group all the Observations you will wish to make when you inspect.

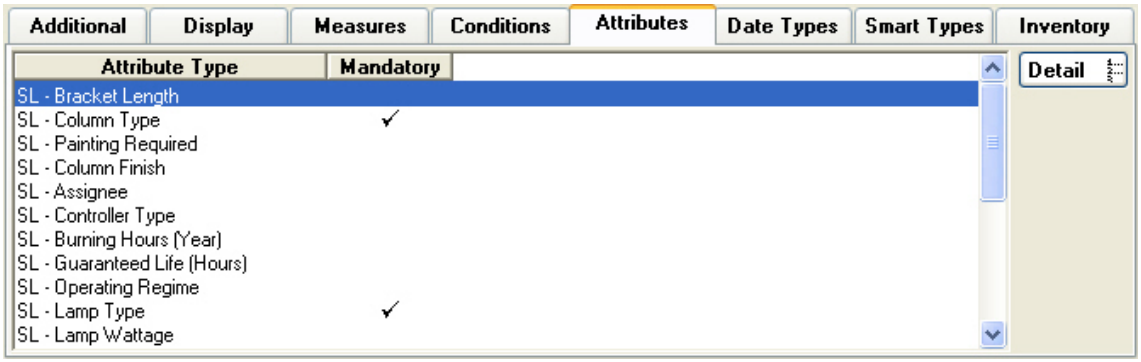
Weighting: Enter a number here to weight the score associated with the Observation Parameters linked to the Observation Type. The weighting multiplies the score so that a 'Poor' parameter, scored at 8, will acquire greater weight for Features in a Feature Group weighted at 3 (the score becomes 24), than for Features in a Feature Group weighted at 1 (the score becomes 8).

Where a score has been applied, there must therefore be a weighting of more than zero (because multiplying by zero will return zero score).

Note: An Observation Type can also be linked to a Group through the Observation Type lookup.

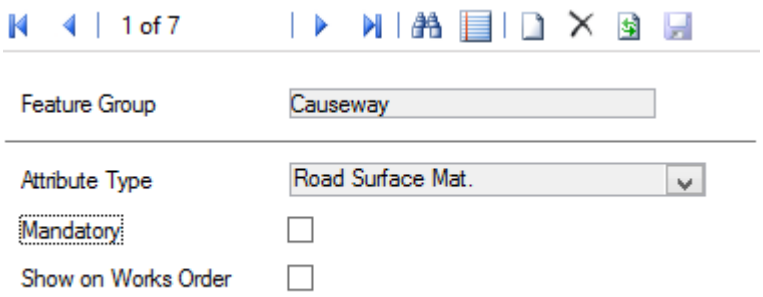
Feature Group - Attributes tab

The Attributes tab lists all Attributes associated with this Group and makes them available in the Feature screens.



To add a new Attribute:

Select the Attributes tab and click the 'Detail' button to display the Group Attribute Type form.



Select from the drop down list to add an Attribute Type. The drop down list references the Attribute Types lookup and displays all Attribute Types of a 'pick list' or 'text' Type. Adding an Attribute Type to a Feature Group will automatically create the Attribute with its default value against all Features of the Feature Group – for Pick List Attribute Types this is the Not Applicable Value, for Text Attribute Types it is blank.

Note: Only Pick List and Text Attribute Types may be added. To add numeric or date values to Features, use the ‘Measures’ and ‘Date Types’ tabs respectively.

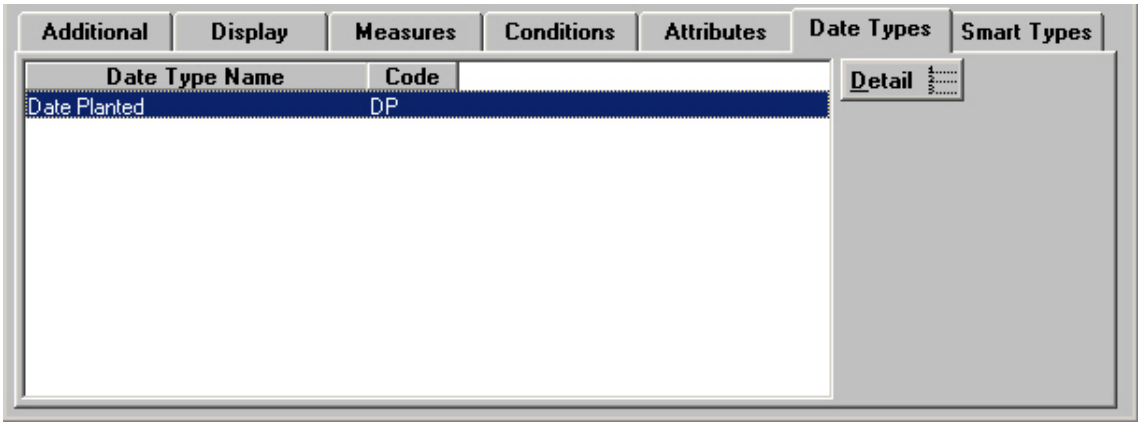
Mandatory:	Check this to ensure that this Attribute is supplied before a Feature carrying it can be saved. This check will be performed on the Feature and Feature Details screens when Feature Attributes are being edited. Confirm will prevent the save if a Mandatory Attribute is left with the 'Not Applicable' value (or for Text Attributes, is left as blank or just containing space characters). The Feature screen will also prevent the save if any Mandatory Attributes for Inventory Items have not been supplied.
Show on Works Order:	Check this box to display the Text Attribute Types and Values associated with the Feature on a Non-routine Works Order.

To Delete an Attribute

Deleting an Attribute Type from a Feature Group where there are existing Features with a value set for the Attribute will display a warning to the user. The user then has the choice to either delete the Attributes from all the Features, or to leave those with values set and delete only the Attributes still set to the default value.

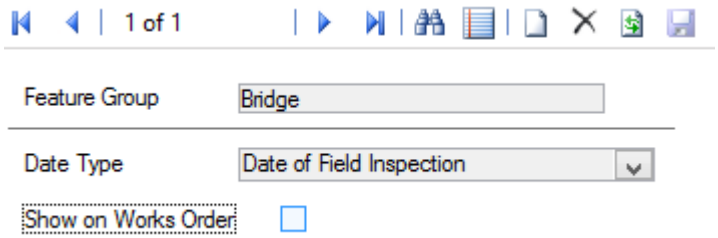
Feature Group - Date Types tab

The Date Types tab lists all Date Types associated with this Group and makes them available in the Feature Windows.



To add a Date Type:

Select the Date Type tab and click on Detail to display the Group Date Type form.

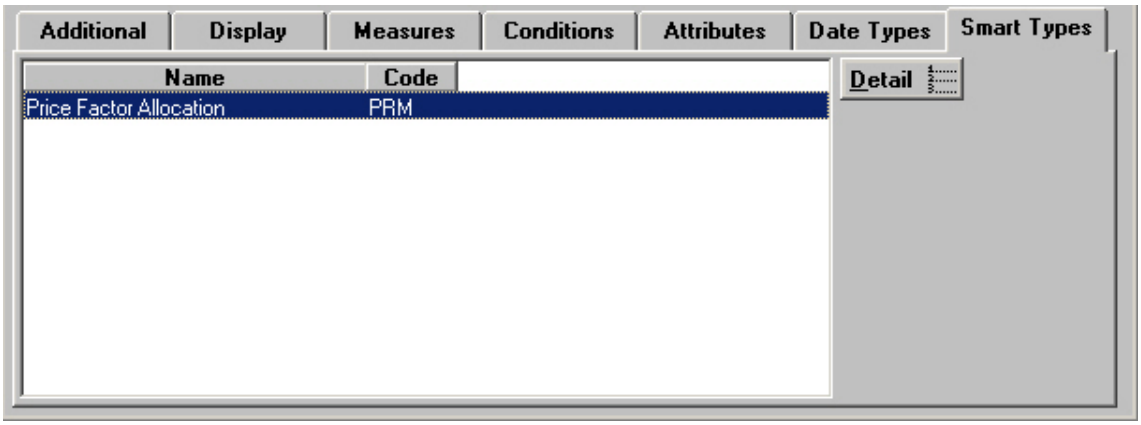


Select from the drop down list to add a Date type. The drop down list references the Date Types lookup

Show on Works Order:	Check this box to display the Date Type and associated Dates on a Non-routine Works Order.

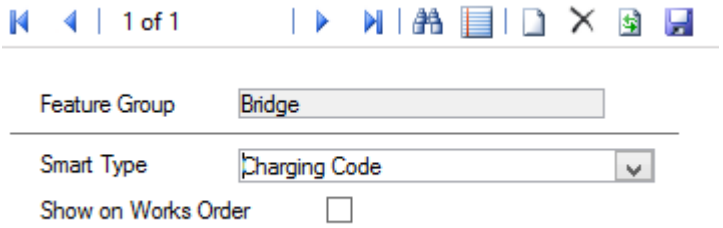
Feature Group - Smart Attributes tab

The Smart Attributes tab lists all Smart Attributes associated with this Group and makes them available in the Feature Windows.



To add a Smart Attribute:

Select the Smart Attrib tab and click on Detail to display the Group Smart Type form.



Select from the drop down list to add a Smart type. The drop down list references the Smart Attribute Types lookup

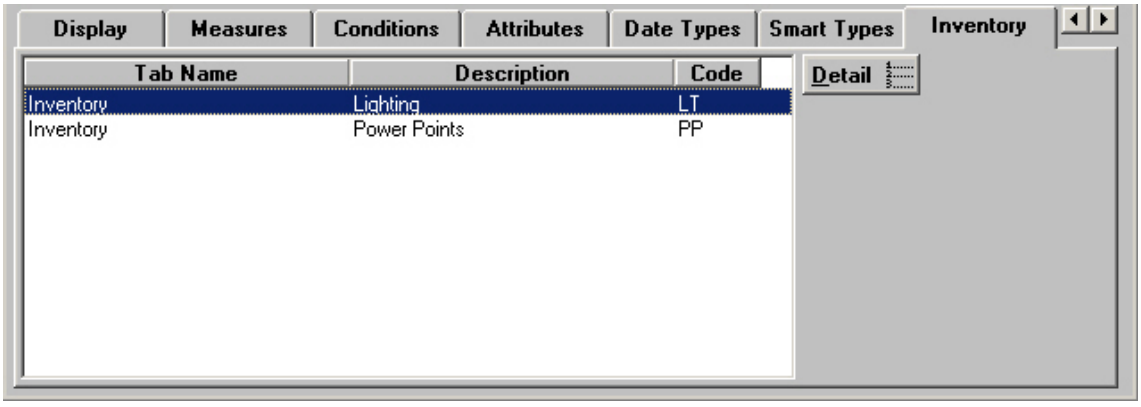
Show on Works Order:	Check this box to display the Smart Type and associated values on a Non-routine Works Order.

Feature Groups - Inventory tab

(Inventory module)

The Inventory tab will only be present if the Inventory module is 'turned on'.

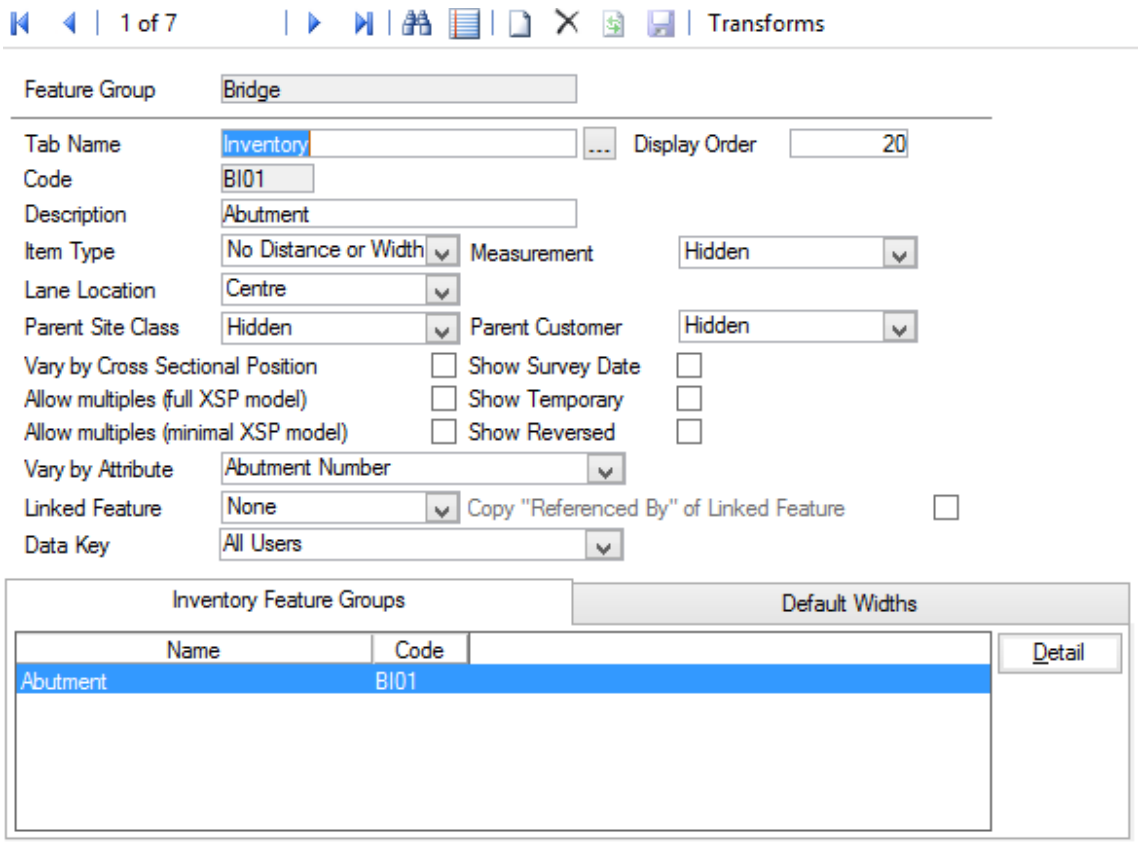
The Inventory lists all the Inventory Types associated with this Group and makes them available in the Features window. Inventory Types are assigned to one or more Inventory Feature Groups. This allows Attributes to be specified for the Inventory Type such that attributes may be assigned to them in the Feature window.



The illustrated example results in the Inventory items which are seen in the illustrated Feature.

Inventory Items may be viewed or added by clicking on the 'Detail' button.

Inventory Items



Tab Name: This will default to 'Inventory', indicating that any inventory Items added here will be shown on the Inventory tab of the Feature window. You may type in another name to create a new tab of that name, which will become available in the Feature window for Features in this Group. Once new tab names have been created they become available for subsequent selection from the Pick button.

Display Order: Affects the order in which the Inventory Type appears in the Feature window tab. A type numbered 1 will appear at the top of the numbered list, a Type numbered 9999 will appear at the bottom. Unnumbered Types will be listed before numbered ones.

Code: Up to four characters

(PMS) - This will be the code from the Rules & Parameters set being used. (This is a 2 letter code in UKPMS.)

Description: Up to 30 characters

(PMS) - Normally the description should be the same as that in the Rules & Parameters set being used.

Item Type: Make a selection to define the way in which the measurement will be derived, and whether or not Inventory Items in this Type vary by distance, i.e. more than one Inventory Item may be assigned to the Feature provided they are in different positions on the Feature

Select from:

'No Distance or Width' - No measurement is required against the inventory Item on the Feature. This selection is appropriate to Inventory Items that represent discrete assets whose position is not calculated relative to chainage.

An item with no Distance or Width may not vary by distance (but may vary by XSP)

'Point (No Width)' - Provides a 'Start Distance' field against the Inventory Item on the Feature. The measurement entered in the 'Start Distance' field is copied into the 'Measurement' field against the Inventory Item on the Feature, if the Measurement is set to 'Automatic'.

'Point (Width)' - Provides a 'Start Distance' field and a 'Start Width' field against the Inventory Item on the Feature. The measurement entered in the 'Start Width' field is copied into the 'Measurement' field against the Inventory Item on the Feature, if the Measurement is set to 'Automatic'.

Multiple 'point' items may exist against a Feature providing that no two Items are placed at the same point (in the same XSP. Items may exist at the same point in a different XSP).

'Linear (No Width)' - Provides a 'Start Distance' field and an 'End Distance' field against the Inventory Item on the Feature. The 'Measurement' will be derived from the difference between the End distance and the Start distance, if the Measurement is set to 'Automatic'.

'Linear (Width)' - Provides a 'Start Distance' field, an 'End Distance' field and a 'Start Width' field against the Inventory Item on the Feature. The 'Measurement' will be derived from the difference between the End distance and the Start distance, if the Measurement is set to 'Automatic'.

Multiple 'Linear' items may exist against a Feature providing that no two Items have overlapping chainage (in the same XSP. Items may exist in the same chainage in a different XSP).

'Area (One Width)' - Provides a 'Start Distance' field, an 'End Distance' field and a 'Start Width' field against the Inventory Item on the Feature. The 'Measurement' will be derived from the difference between the End distance and the Start distance multiplied by the Start Width, if the Measurement is set to 'Automatic'.

'Area (Two Widths)' - Provides a 'Start Distance' field, and an 'End Distance' field with a 'Start Width' field and an End Width field against the Inventory Item on the Feature. The 'Measurement' will be derived from the difference between the End distance and the Start distance multiplied by half the sum of the Start and End Widths (i.e. an average width), if the Measurement is set to 'Automatic'.

Multiple 'Area' items may exist against a Feature providing that no two Items have overlapping chainage (in the same XSP. Items may exist in the same chainage in a different XSP).

Measurement: Make a selection to define the way in which a Measurement may be entered into the 'Measurement' field of the Inventory item in a Feature.

Select from:

'Automatic' - The Measurement field of the inventory item will not be editable, and the entry will be calculated from the 'Start Distance', 'End Distance', 'Start Width', 'End Width' entries, as defined for Item Type above.

'User Defined' - The Measurement field of the inventory item will be editable, and no calculation will be made.

'Hidden' - The Measurement filed will not appear at all for Inventory Items on the Feature. This should be selected if 'No Distance or Width' is selected as the item Type.

Lane Location: (PMS)

Select from 'Inside', 'Outside' or 'Centre'

Parent Site Class: Select from:

'Maintain' - To apply the Feature Site Classification to the Inventory Item, and to update the Inventory Item in line with changes to the Feature. This will result in the Inventory item always carrying the same Site Classification as the Feature to which it is applied.

'Default' - To apply the Feature Site Classification to the Inventory Item when it is first created, and to ignore subsequent changes to the Feature. This may result in the Inventory item carrying a different Site Classification from the Feature to which it is applied.

'Hidden' - The Site Classification will not be shown against the Inventory item.

Parent Customer: Select from:

'Maintain' - To apply the Feature Customer to the Inventory Item, and to update the Inventory Item in line with changes to the Feature. This will result in the Inventory item always carrying the same Customer as the Feature to which it is applied.

'Default' - To apply the Feature Customer to the Inventory Item when it is first created, and to ignore subsequent changes to the Feature. This may result in the Inventory item carrying a different Customer from the Feature to which it is applied.

'Hidden' - The Customer will not be shown against the Inventory item.

Vary by Cross Sectional Position: (PMS)

Check this to allow several occurrences of this Inventory Type against a Feature, provided that each occurrence is in a different Cross Sectional Position.

Show Survey Date: Check this to display the 'Survey' field against the Inventory Item on the Feature. The Survey field displays the date of the last Survey carried out which involved this Inventory Item.

Allow Multiples (full XSP model): (PMS)

The box is checked when the item can have more than one occurrence at the same chainage for a Full Cross Section Position.

Show Temporary: (PMS)

Check this to display the 'Temporary' checkbox against the Inventory Item on the Feature.

Allow Multiples (minimal XSP model): (PMS)

The box is checked when the item can have more than one occurrence at the same chainage for a Minimal Cross Section Position.

Show Reversed: (PMS)

Check this to display the 'Reversed' checkbox against the Inventory Item on the Feature

Vary by Attribute: An Attribute Type may be selected so that the associated values may be used to add more than one Inventory Item in this Inventory Type to the Feature.

If not 'Vary by ' attribute is specified, than there may only be one instance of this Inventory item against the Feature.

For example:

In the illustrated example the Text Attribute 'Electrical - Type of Point' has been specified. The Values associated with this Attribute Type are for the various type of electrical outlet (mains, shaver point, cooker).

This allows one Inventory Item to be added to the Feature in each of the Values - an Item for all the 'Mains' points, an Item for all the 'Shaver points', an item for all the 'Cooker' points and so on.

See **Feature - Inventory tab** on page 16 for an illustration of Inventory Items on a Feature.

Linked Feature: Select from:

'None' - To indicate that this Inventory item will not also exist as a Feature.

'Optional' - To indicate that a linked Feature may be optionally specified against the Inventory Item on the Feature.

'Mandatory' - To indicate that a linked Feature must be specified against the Inventory Item on the Feature, i.e. the user will not be permitted to save the Feature until the Inventory Item has a linked Feature specified.

Copy 'Referenced By' of linked Feature: Defaults to unchecked, only available when 'Linked Feature' is set to 'Optional' or 'Mandatory'.

Check this to copy the details from the 'Referenced By' tab on the Feature screen to a new version of a Feature during the End-Dating process.

Data Key: Set a Data Security Key in order to limit the availability of this record to Users with rights to this Data Security Key through their Data Security Group.

Users will only be able to view / update Inventory Type and Inventory Item if they have been granted access to the Data Key associated with the Inventory Type.

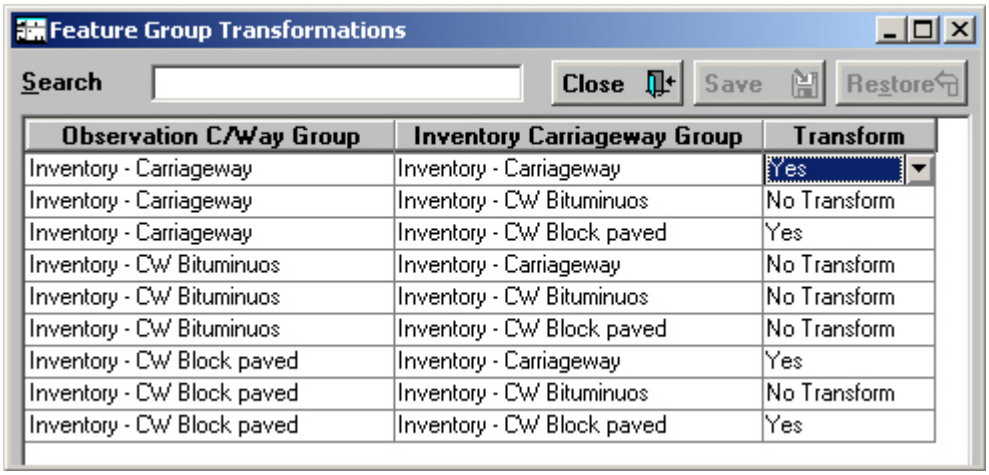
Select from the drop down list. The drop down list references the Data Security Key library.

Note: This option is only visible if the current user has "Assign Data Key Manually" enabled in **User Security**.

Inventory Types - Transform button

(PMS)

The 'Transform' button on the Inventory Type input screen opens the Feature Group Transformations window, and provides the facility to control whether or not to allow Transformation or mapping of imported observations, e.g. condition data surveyed as belonging to a particular inventory group, to the inventory group held in the database for that section.



Observation C/Way Group	Inventory Carriageway Group	Transform
Inventory - Carriageway	Inventory - Carriageway	Yes
Inventory - Carriageway	Inventory - CW Bituminuos	No Transform
Inventory - Carriageway	Inventory - CW Block paved	Yes
Inventory - CW Bituminuos	Inventory - Carriageway	No Transform
Inventory - CW Bituminuos	Inventory - CW Bituminuos	No Transform
Inventory - CW Bituminuos	Inventory - CW Block paved	No Transform
Inventory - CW Block paved	Inventory - Carriageway	Yes
Inventory - CW Block paved	Inventory - CW Bituminuos	No Transform
Inventory - CW Block paved	Inventory - CW Block paved	Yes

The Feature Group Transformation table is a matrix of all the Inventory Feature Groups assigned to that Inventory Type (as defined on the Inventory Feature Groups tab). Where an Inventory Type has no Feature Group specified, there are no entries in the Transformation table. The columns for Observation Feature Group and Inventory Feature Group are automatically completed by Confirm when the Transformation screen is launched.

Only the 'Transform' column may be edited. To change the option for transformation click in the Transform column for the appropriate row and select from:

- 'Yes' - Observations are transformed to the inventory's feature group.
- 'No Transform' - Observations are considered valid but keep their original feature group.
- 'Not Allowed' - Observations will be discarded.

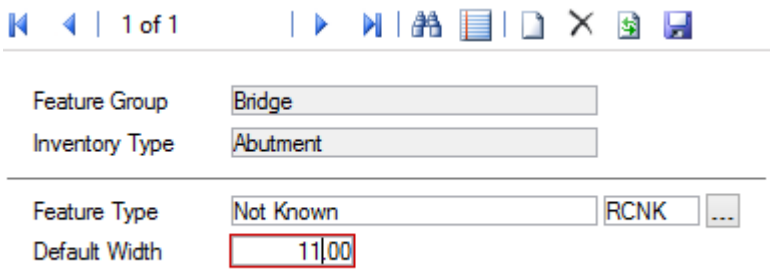
Clicking on the desired option will place it in the transform field. When all the desired changes have been made click on the 'Save' button to save the changes to the database and return to the Inventory Type screen.

Inventory Types - Default Widths tab

(PMS)

The Inventory Default Width is set using the base unit for linear measure, normally metres. Any item that has width e.g. carriageway, channel block etc., and has a Feature Group Class of 'Linear Asset', can have a default width set that will automatically be applied in the absence of specific details being entered against the Feature. The user may then override this width for an individual inventory item at the appropriate input stage. For any item without width or for which a default is inappropriate, default width should be set at 0.00.

Select the Default Widths tab and click on the 'detail' button to display the Inventory Default Widths screen



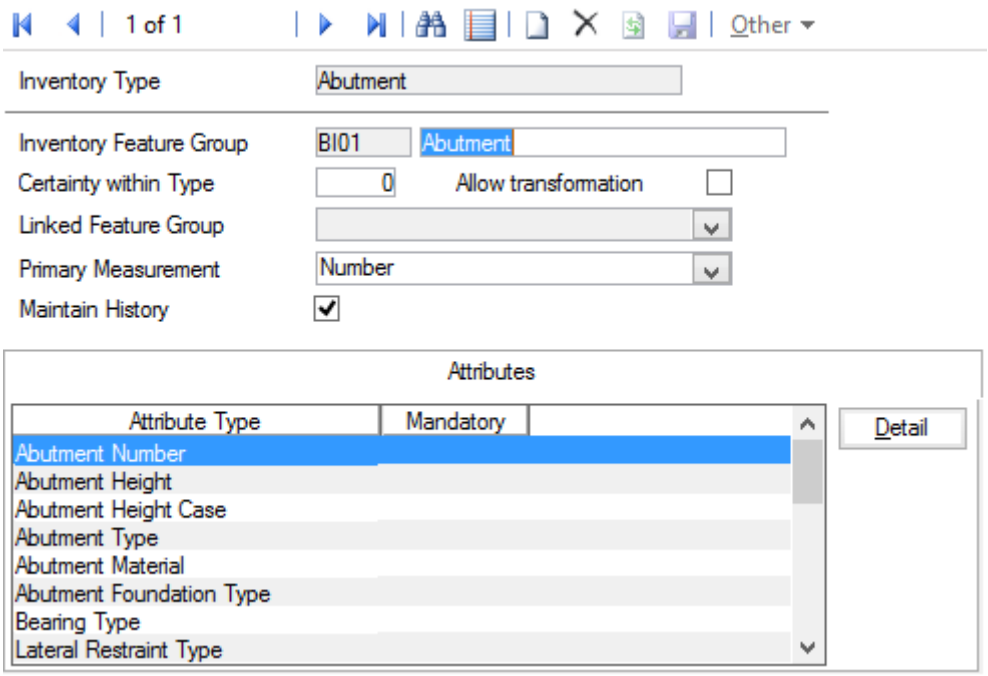
The top part of the form will show the current Feature Group and Inventory Type, and may not be edited.

Feature Type:	Select from the pick list. The pick list references all Feature Types associated with the current Feature Group. **Note:** The Feature Group must be of the Feature Group Class 'Linear Asset' in order for a selection of Feature Type to be made.
Default Width:	Enter a number that represents the default width of Features in this Feature Type. The default width entered is based on the users estimate or the considered 'normal' or average width for the type of inventory being defined. Default widths will be used in PMS calculations where no detailed inventory data exists.

Inventory Types - Inventory Feature Groups tab

The Inventory Feature Groups tab defines the Inventory Feature Group (as distinct from the Feature Group) to which the Inventory Item belongs. This in turn allows Attributes to be specified for the Inventory Item.

Select the Inventory Feature Groups tab and click on the 'Detail' button to display the Inventory Feature Groups window:

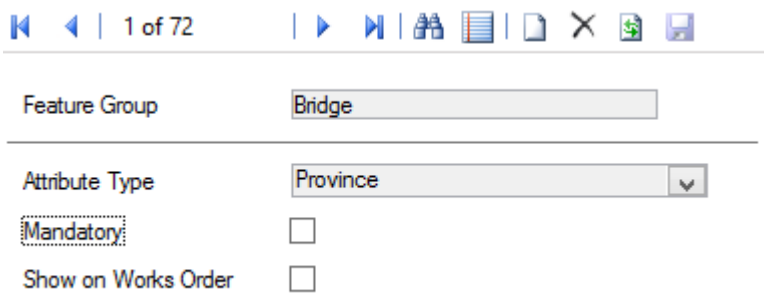


Inventory Feature Group:	Enter a code and name to create and Inventory Feature Group for this Inventory item. The code must be unique within Inventory Feature Groups and Feature Groups.
Certainty within Type:	(PMS) Enter a number to set the priority of transformation within an Inventory Type for Feature Type Transformations.
Allow Transformation:	(PMS) Check this to allow transformation from one observed Feature Group to another during the Automatic Pass Process.
Linked Feature Group:	This field is only available if the 'Linked Feature' field in the Inventory item window is set to 'Mandatory' or 'Optional'. If either of those is set then a selection must be made in this field to determine the Feature Group from which a selection of linked Features may be made for the Inventory item on the Feature. The drop down list references the Feature Group lookup.
Primary Measurement:	Enter here the Measurement Type that applies to the measurement shown against the Inventory Item in the Feature. **Note:** The Measurement field will only display if the Inventory Type has 'Automatic' or 'User Defined' entered in the Measurement field of the Inventory Type form.

Inventory Feature Groups tab - Attributes

Attribute Types may be associated with Inventory Feature Groups to make them available in the Inventory type on the Feature.

Click on the 'Detail' button to display the Feature Group Attributes window:



The 'Vary by ' Attribute Type will already be entered by default.

Attribute Type:	Select from the drop down list to add a Text Attribute Type. The drop down list references the Attribute Types lookup for all Attribute Types.
Priority Level:	Relevant to Pavement Management System - all other asset types should leave the default entry.
Show on Works Order:	Check this box to display the Text Attribute Types and Values associated with the Inventory Item.

Inventory Feature Groups tab - Other button

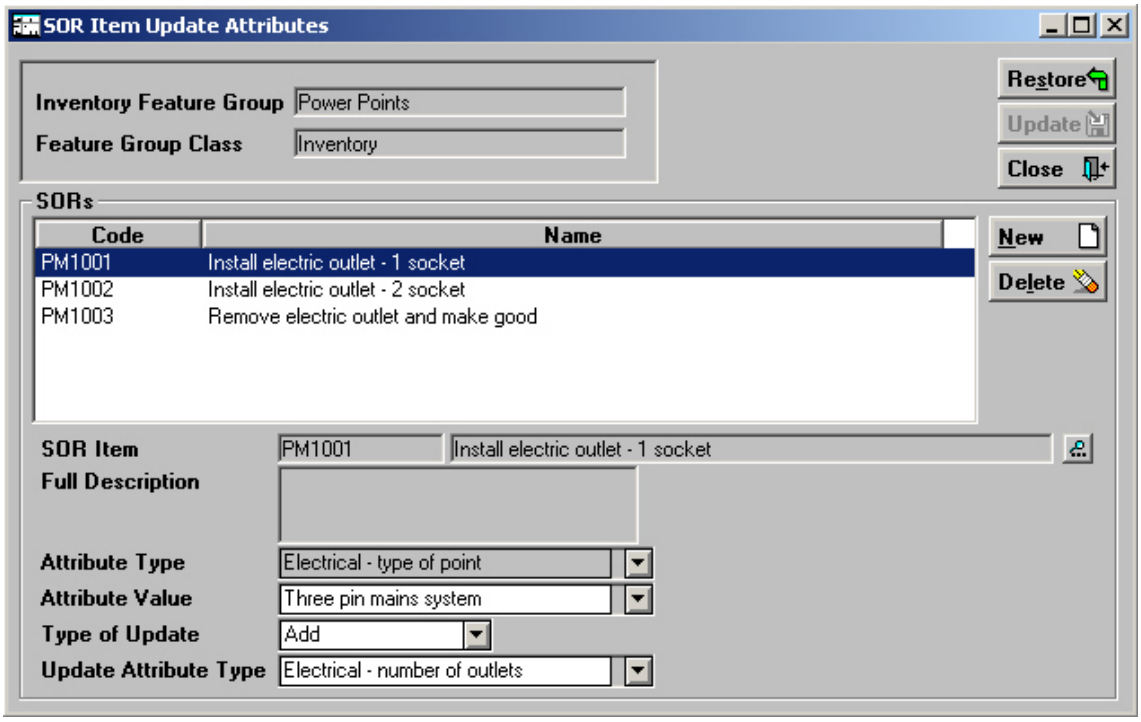
SOR Item Update Attributes

Inventory Item Attribute parameters may be updated automatically when work is raised on Features in this Feature Group, using any of the SORs specified in the SOR Item Update Attributes window. This is done to update a number attribute in line with the quantities specified in a Job so that, for instance, the quantity is added to the number when a Job is completed to install Inventory items. The update is carried out when:

- When the Job is subject to Request Checking if the 'Update Attribs\Warranties when Request Checking' flag is set in the Payment System Settings.
- When Payment on the Job is committed

Note: The Attribute Types that may be updated at the Payment Batch commit or Request Checking stage are restricted to numeric ones that are valid for the Feature Group.

Click on the Inventory Feature Groups tab - Other button, and select SOR Item, to display the SOR Item Update Attributes window:



The top part of the form displays the current Inventory Feature Group and the Feature Group class, and may not be edited.

The central pane displays all the SORs currently assigned to this Inventory Feature Group.

The fields in the lower portion of the form displays additional information about the SOR currently selected in the SORs pane.

To add a new SOR and define its behaviour:

Click on the 'New' button to the right of the SORs pane to move to a new row and clear the fields in the lower part of the form.

SOR Item:	Enter, or select from the pick list, the required SOR Item. The pick list references the SOR Item library. **Asset Maintenance\SOR Item**
Full Description:	From the SOR Item, may not be edited.
Attribute Type:	The 'Vary by ' Attribute Type is entered (as defined in the Inventory Items window) and may not be edited. **Note:** only 'pick list' Attribute Types may be used in this context. Where the Vary by attribute is not a pick list type then no automatic attribute updates may be carried out.
Attribute Value:	Select the Attribute Value of the Inventory Item that is to be updated. The drop down list references the Values for the 'Vary by ' attribute.
Type of update:	Select from: 'Add' - To add the SOR Item quantity on the Job to the Attribute specified below. 'Remove' - To remove the SOR Item quantity on the Job from the Attribute specified below.

Update Attribute Type:	Select the Attribute type whose value is to be updated. The drop down list references Attribute Types added to this Inventory Type, of the type 'Number' as defined in the Text Attributes Lookup.

You may add as many SORs items as required, and each SOR will have its behaviour set in the related fields.

Click on 'Update' to save the SOR Item Update Attributes.

Spatial Geometry Types

Feature Group Geometry Types

When Feature Groups are using Confirm Database Map Layers, the Feature's spatial representation will be stored in the Confirm Database. When configuring these Feature Groups, a summary of the Geometry Types of Features within this Feature Group will be shown.

Below, is a list of geometry sub-types that fall within the Geometry Type options available on the Feature Group screen.

1. Point Types
   - Point
2. Multi-Point Types
   - MultiPoint
3. Line Types
   - LineString
   - MultiLineString
   - Curve
   - MultiCurve
4. Polygon Types
   - Polygon
   - MultiPolygon

The following types may also appear in the confirmation message when setting the Map Layer Geometry Type value.

- Geometry
- GeometryCollection
- CircularString
- CurvePolygon
- CompoundCurve
- Surface
- MultiSurface
- PolyhedralSurface
- TIN
- Triangle

Feature Group - 'Other' button

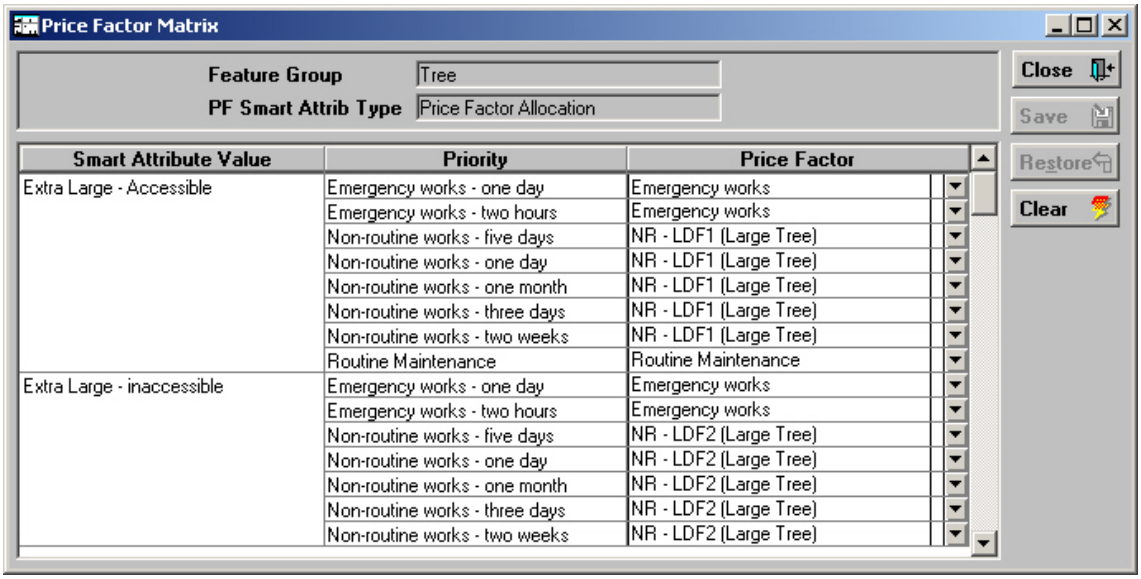
The 'Other' button gives access to the following options.

Note: The 'SOR Item' option is only available if Module 0745 (Warranty Dates) is active.

Price Factor Matrix

You may optionally set up a relationship between Smart Attribute values, and Priorities, such that a Price Factor is automatically selected on Non Routine Jobs when a Feature carrying a particular Smart value is used together with a particular Priority. The Price Factors to be used in each combination of Smart Attribute and Priority is determined in the Price Factor matrix.

Click on the PFactor button to display the Price Factor Matrix:



The top part of the form shows the Feature Group and PF Smart Attribute Type selected in the Feature Group form.

This column will list each Value found in the Smart Attribute specified as the PF Smart Attribute Type.

This column will list every Priority found in the Priority Lookup.

Asset Maintenance\Maintenance Lookups

This column will be blank in a new matrix, and is for the selection of the Price Factor that should be used when the accompanying combination of Smart Attribute Value and Priority is found. You may select from the drop down list. The drop down references the Price Factor Lookup.

Asset Maintenance\Maintenance Lookups

Using the Price Factor Matrix

Where a Price Factor Matrix exists for a particular Feature (as determined by the Feature Group to which the Feature belongs) then the Price factor will be applied when raising Non-Routine Jobs in the following ways:

- Manually in the Job, or Order Job screens
- When Jobs are Batch Allocated onto Order (providing that no Price Factor is entered in the Order Job Batch Filter).
- Jobs raised by means of the Raise Jobs from Regimes, or Raise Jobs from Defects utilities.
- Jobs being uploaded from a mobile device. Where a Feature's Smart Value has been altered on the mobile device, then the upload will update the Smart value on the host before applying a Price Factor to any jobs raised on the amended Feature (thus ensuring that the Price Factor reflects the new Smart Value for the Feature).

Note: The Price Factor supplied from the matrix is a default for the Job and may be altered in any particular Job.

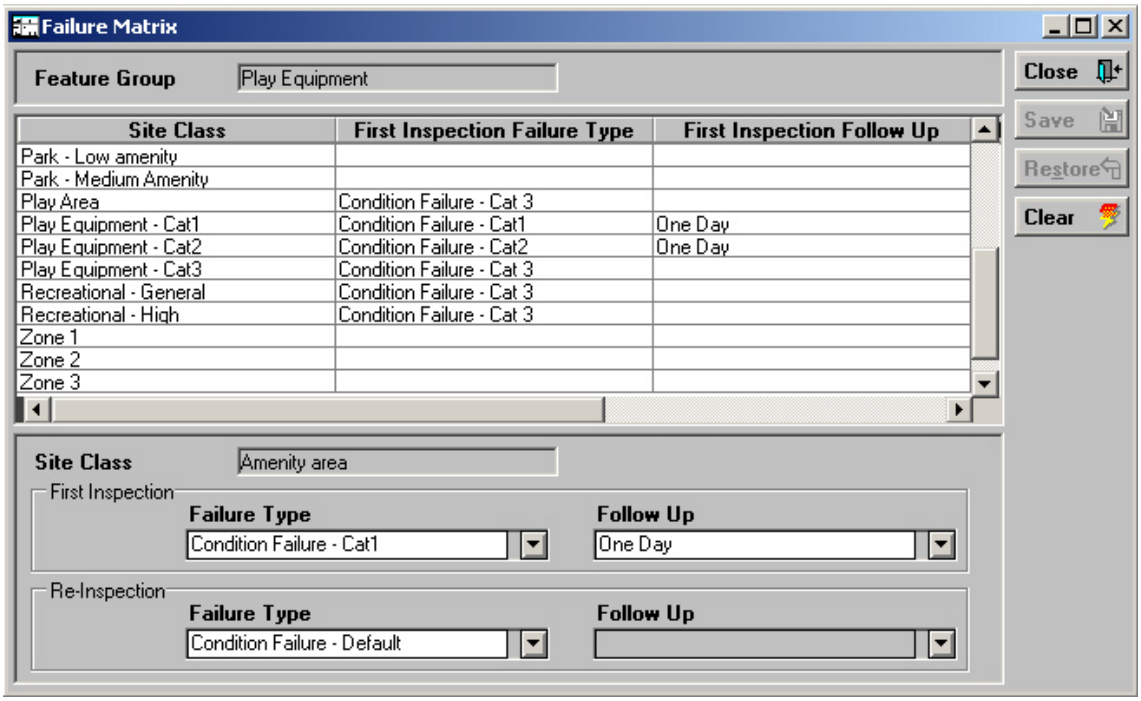
Where no Price Factor Matrix has been set up then Price Factor default is assigned by reference to Priority.

Failure Matrix

(Performance Monitoring module)

The Failure Matrix combines a Feature Group with Classification and Failure Type so that the system can select the correct Failure Type when an 'unacceptable' parameter is applied to a Feature during a Feature Monitoring Inspection.

Select Failure Matrix in the 'Other' button drop down menu to display the Failure Matrix:



The top part of the form displays the current Feature Group.

The central pane contains one row for each Site Classification found in the Classification Lookup.

Site\Site Lookups\Operational Lookups\Classifications

The Site Classifications are displayed in the left-hand column, the remaining column to the right display the information about Failure Type and follow-ups.

Note: use the bottom scroll bar to view column to the right.

The lower portion of the form is for selection of the parameter for the currently selected row in the central pane:

Site Class:	Displays the Classification that is currently highlighted in the pane above.
Failure Type:	Select the Failure Type that will be applied to Feature in this Feature Group, carrying this Classification, if they are assigned an unacceptable Condition Grade on a first inspection. The drop down list references the Failure Type Lookup for all Failure Types that are set to: 'All Inspections' or 'First Inspections Only'. **Performance Monitoring\Monitoring Lookups**
Follow Up:	This field will be available if the Failure Type selected in the previous field is one that has been flagged for 're-inspection'.

Select the appropriate Follow Up for the second Inspection. The drop down list references the Follow Up Lookup.

Asset Maintenance\Maintenance Lookups

Failure Type: Select the Failure Type that will be applied to Feature in this Feature Group, carrying this Classification, if they are assigned an unacceptable Condition Grade on a subsequent inspection. The drop down list references the Failure Type Lookup for all Failure Types that are set to: 'All Inspections' or 'Re-Inspections Only'.

Performance Monitoring\Monitoring Lookups

Note: a subsequent Inspection is one where a Failure exists, with a Reinspection date

Follow Up: This field will be available if the Failure Type selected in the previous field is one that has been flagged for 'Re-inspection'.

Select the appropriate Follow Up for a subsequent Inspection. The drop down list references the Follow Up Lookup.

Asset Maintenance\Maintenance Lookups

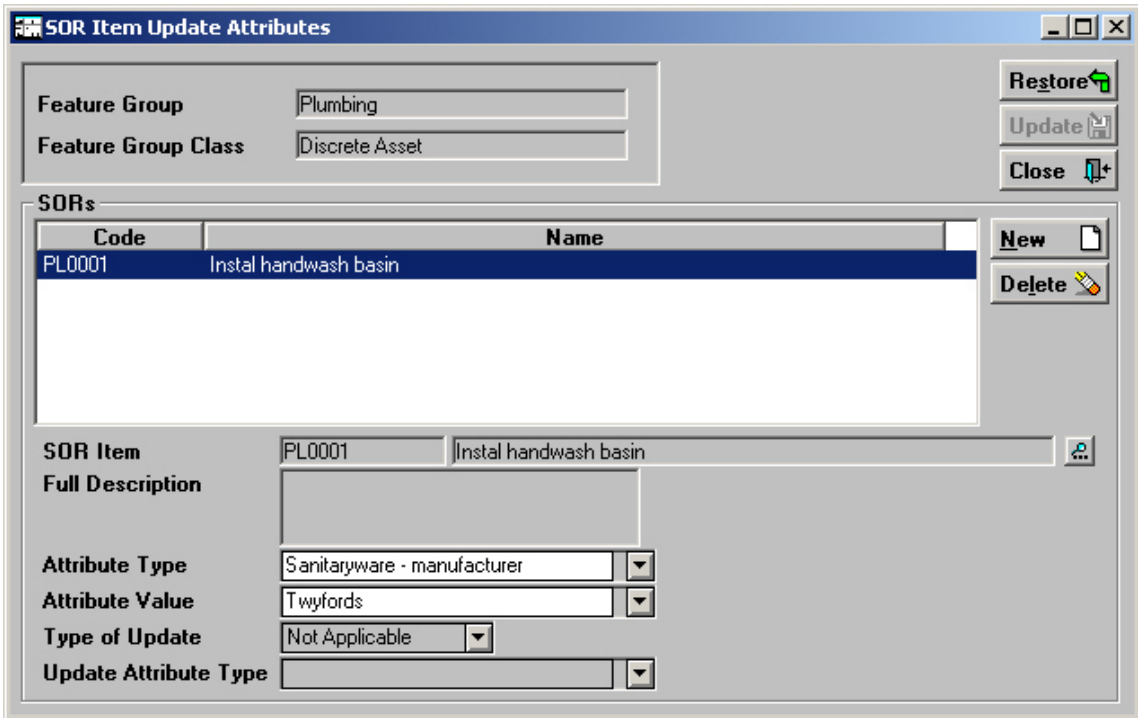
The Failure Matrix is completed for each required Feature Group, in each relevant Classification.

SOR Item

This option is only available for Feature Groups of the Feature Group Class 'Discrete Asset'.

Feature Attribute values may be updated automatically when work is raised on a Feature in this Feature Group, using any of the SORs specified in the SOR Item Update Attributes window. The committal of payment for the Job will update the Attribute value to that specified in the SOR Item Update Attributes window.

Click on the 'Other' button, and select SOR Item, to display the SOR Item Update Attributes window:



The top part of the form displays the current Feature Group and the Feature Group class, and may not be edited.

The central pane displays all the SORs currently assigned to this Feature Group.

The fields in the lower portion of the form displays additional information about the SOR currently selected in the SORs pane.

To add a new SOR and define its behaviour:

Click on the 'New' button to the right of the SORs pane to move to a new row and clear the fields in the lower part of the form.

SOR Item:	Enter, or select from the pick list, the required SOR Item. The pick list references the SOR Item library.
Full Description:	From the SOR Item, may not be edited.
Attribute Type:	Select an Attribute Type from the drop down list. The drop down list references the Attribute Type for Pick List Attribute Types.
Attribute Value:	Select the value that is to be applied to the Attribute Type for a Feature that has work carried out on it using this SOR Item.

Note: the Feature must already have the Attribute Type assigned to it. **Feature Group - Attributes tab** on page 57 - for information on assigning Text Attributes to Features.

Type of update:	This field is not available for Feature Attribute updates.
Update Attribute Type:	This field is not available for Feature Attribute updates.

You may add as many SORs items as required, and each SOR will have its Attribute and Attribute value set in the related fields.

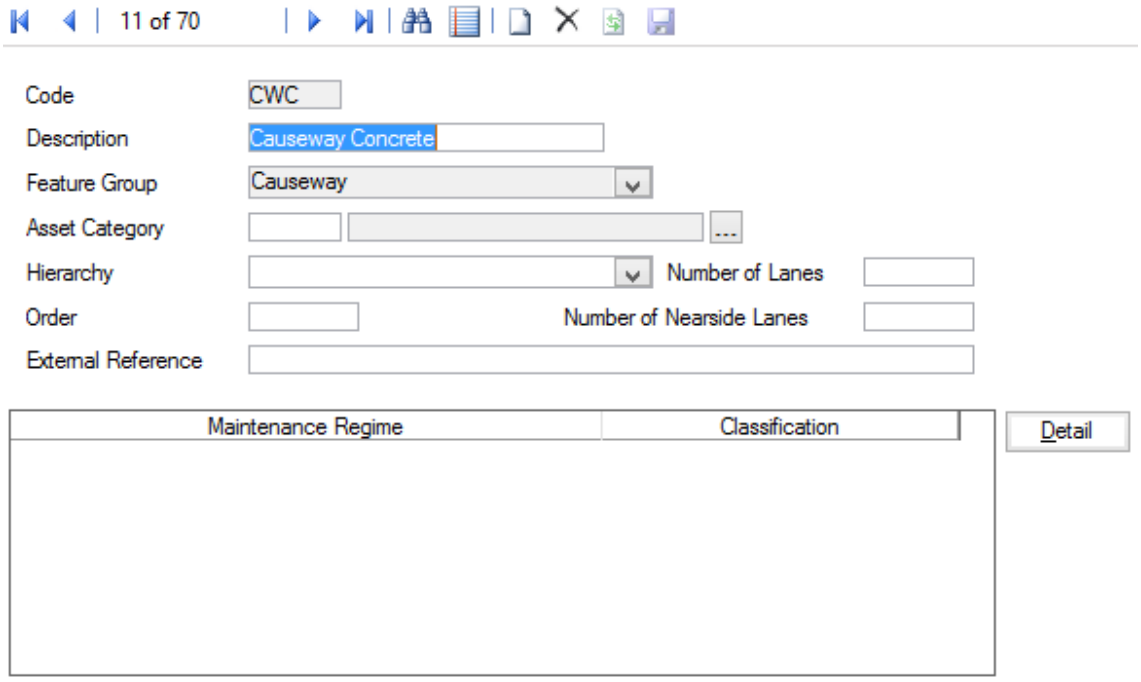
Click on 'Update' to save the SOR Item Update Attributes.

Feature Type

A Feature Type will define a Feature for the purposes of maintenance and/or valuation. Because Features Types are assigned to Feature Groups, and Feature Groups carry a set of Measurement Types, Text and Smart Attributes Types, Inventory Types, Observation Types; and Date Types, setting the Feature Type will set default Types for a Feature by reference to the Group

Feature Types may also be called: Species (Confirm Arboriculture), or Carriageway Type (Confirm Street Works and Confirm Highways). Please see the Confirm Books Overview manual for details.

Confirm Books Overview\Terminology in Confirm Products



Code:	Up to four alphanumeric characters.
Description:	Up to thirty characters.
Feature Group:	Select from the drop down list. The drop down list references the Feature Group Lookup. **Note:** It is not possible to change the Feature Group of an existing Feature Type if any Features or Inventory Items exist.

(Asset Valuation Module)

Feature Types may be linked with Asset Categories and Hierarchy Levels to provide defaults for associated Features.

Asset Category:	Enter or select from the pick list. The pick list references the **Asset Category Lookup**. This Asset Category will be the default for new Features of this Type.
Hierarchy:	Select from the pull down list. The pull down references the **Hierarchy Level Lookup**.
Order:	You may assign a display order to the Feature Type. The lower the number, the higher up the lookup list the Feature Type will appear. Where several Feature Types are assigned the same sort number, they will sort alphabetically by Feature Type Name within the sort number. **Note:** Types with no Order number assigned will appear first in the list, followed by those with Order numbers in the assigned order.
Number of Lanes:	(PMS - Observation Data module) Enter the number of Lanes that this Feature Type will have.
Number of Nearside ...:	(PMS - Observation Data module) Enter the number of surveying directions for this Feature Type.
External Reference:	(Condition Survey - BCI Reports module) When using the Structures Data Export utility to export Structures data this field is exported and must be exactly the same as the Structures Toolkit values.

See **Structures Toolkit Export System Setting** for full details on configuring your Structures data.

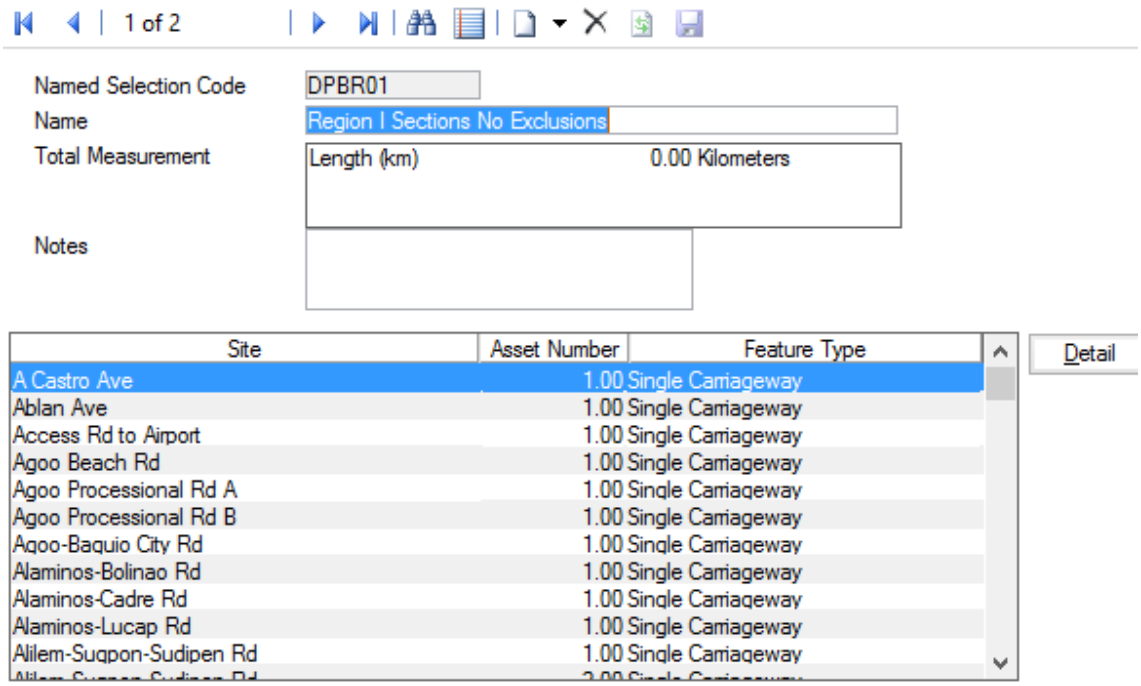
Maintenance Regimes will be automatically entered for their related Feature Types when the 'Allocate Applicable Regimes' utility is run. See **Asset Maintenance - Allocate Applicable Regimes**.

Named Selection

A Named Selection groups together any set of Features in any order that the user defines. Named Selections can be used throughout Confirm wherever there is a filter option for Named Selection. It allows the selection of groups of Features that cannot be picked out by any other filter criteria.

The named Selection lookup will more usually be used to view and edit existing Selections, rather than to create Named Selections from scratch (although that can be done)

Note: Named Selections are restricted by Work Group throughout Confirm. When a new record is created it will be assigned the Work Group automatically from the current User.



Code:	Up to eight alphanumeric characters
Description:	Up to fifty characters
Total Measurement:	Displays Primary Measures for the Features. Cannot be edited.
Notes:	Optional free text field

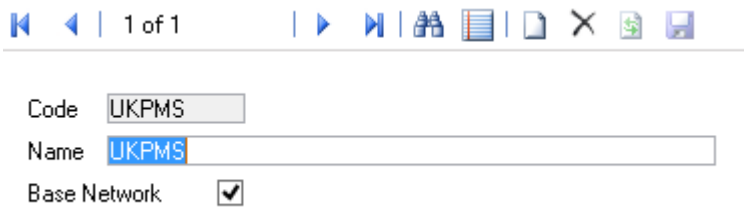
A Named Selection can be created anywhere the Named Selection button can be seen, which will usually be on Asset / Inventory forms, lookup lists, and report previews.

Clicking on the Named Selection button will allow the user to save whatever list of Features is present in the report (if a report has been run) or lookup list (if a filter has been run).

See **System Fundamentals\Common Buttons**, for details on how to create a Named Selection.

Network

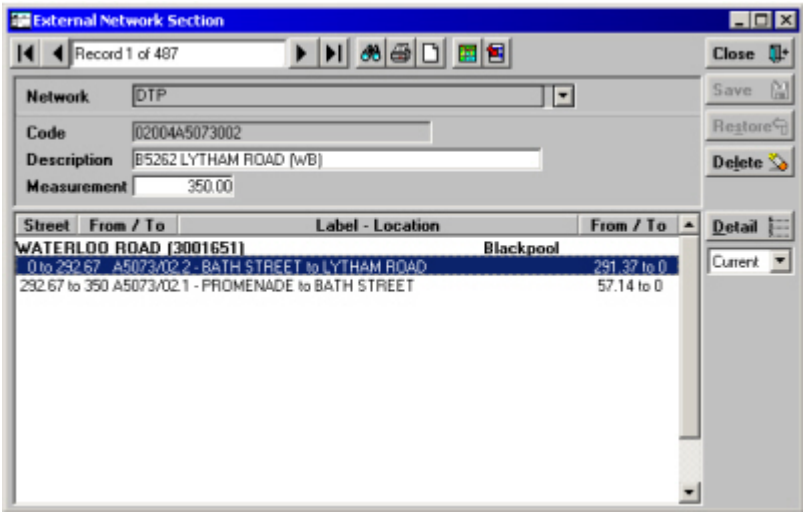
More than one Network can be defined for the same area. These networks may be completely separate but it is more likely that they will be a different definition of streets and sections over the same street network. This option is designed to cater only for the case when there is a base network to which any other network translates to some or all of the same streets. The purpose being to allow data collected using one network referencing system to be translated to the base Network used to set up the Confirm database. A typical example would be a base network set up on a Street Gazetteer model with machine survey set up on a different type of network (e.g. Department of Transport). This then allows translation of data referenced on the survey network to be automatically translated by Confirm to the base network. This not only obviates the need to enter the same data twice but also caters for adjusting the data to fit the base network where there are dimensional differences in the lengths. This translation is a one way process from any network to the base network. The base network is where all the data is held and processed.



Code:	The Network reference code is entered and may be up to 6 alpha/numeric characters long.
Name:	A 50 character description as appropriate for each network.
Base Network:	The Base Network checkbox should be ticked for the network against which data is stored in the Confirm database

External Network Section

This is the process by which a secondary Network, as described above, can be translated onto the base network. This allows the user to take whole or part sections from one network and define them as equivalent to a whole or part section on the base network. This facility also allows for discrepancies in the measurements between the two networks to be catered for by automatically shrinking or expanding the translated network to fit. One of the primary uses of this is to translate machine survey networks to the base network while overcoming any measurement discrepancies at the same time.



Network: The 'External Network' i.e. the network that is being translated from. The drop down will list all the defined networks in the database. Please see **Network** on page 76for further details.

Code: A unique code of up to 20 alpha/numeric characters. The code is entered corresponding to the section code for the translated network section. When translating from Waylen files for PANDEF and SKID processing the direction letters at the end of the code should be stripped out as the section does not need to be defined in both directions (for single carriageway situations).

Description: A 50 character description as appropriate for each External Network Section. The description used originally for the Translated Section or another suitable description would normally be entered here.

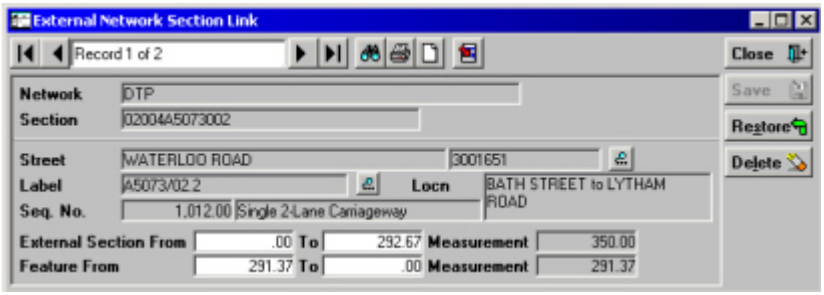
Measurement: This field is in 6.2 format, i.e 6 numbers before and 2 numbers after the decimal point. The measured length of the translated section is entered here. This should be the actual measurement for this section, not corrected in any way, even if there is a known discrepancy to the true length. This is because any correction is automatically applied by Confirm PMS in the translation and the data stretched or shrunk to fit accordingly.

Current/All Field: When Current is selected, only Network Sections that have not been end dated will be displayed. Selecting All will result in both End dated and Current Network Sections being displayed.

External Network Section Link

The Network and Section fields are automatically completed from the External Network Section Screen. The External Network Section Link screen is now used to link the External Section to one or more existing sections on the base network.

The External Network Section Link window is started using the 'Detail' button on the External Network Section screen.



Network: Automatically completed by the system from the External Network Section screen.

Section: Automatically completed by the system from the External Network Section screen.

Street: The street or first street of the base network on which the section is to be translated can now be selected either by directly inputting the name or code to the screen. Alternatively, the street can be selected through the Street Filter and Street Lookup Tables using the 'Pick' button . Refer to the Named Selection Item for screenshot examples.

Label: The Section Label (Feature Label) can be entered directly or selected through the Feature Filter and Filter Lookup Tables using the 'Pick' button . As the Feature Filter will select all features, not just sections, it is advisable to refine the search using the Feature Group window and selecting Street Section from the drop down. (Street Section is the default name for the PMS Feature Group but may have been set up differently by an individual user. The Feature Group Whole Street Section is normally associated with routine maintenance functionality in Confirm Engineering, Highways etc. and not the PMS) Refer to Named Selection Item for screenshot examples.

Note: - The section can be selected directly using the 'Pick' button without first selecting a street. The Street part of the screen will then be automatically completed when the section is selected from the Section Lookup Table.

Seq. No.: The Sequence Number can be entered directly, when it is known, as an alternative to selecting the Feature Label as described above. This field is automatically completed if the Section (Feature) is selected by Label.

External Section From: This field is in 6.2 format, i.e 6 numbers before and 2 numbers after the decimal point. This is the start chainage and will normally be zero for the first Link on the External Network Section. Where the External Network Section is longer or diverges from the first Section on the base network there will be subsequent links until the end of the External Network Section is reached. Each new link will have a start chainage equivalent to the end chainage of the previous link.

To: This field is in 6.2 format, i.e 6 numbers before and 2 numbers after the decimal point. This is the chainage at which the mapping from the External Network Section onto the Base Network Section finishes for this link. If the whole of the External Network Section translates onto this first Base Network Section or for the last External Network Section Link in the translation then this will be it's end chainage.

Section From: This field is in 6.2 format, i.e 6 numbers before and 2 numbers after the decimal point. This is the chainage at which the Start of the External Network

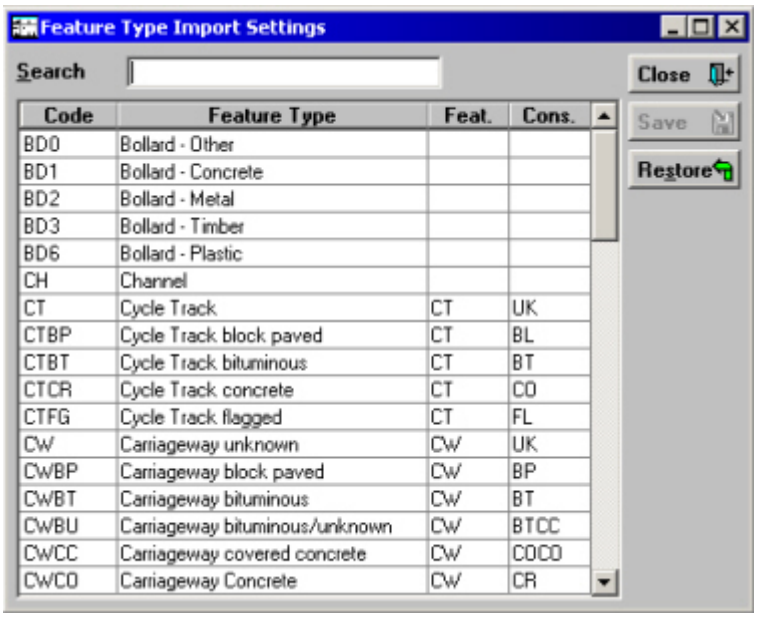
section or the start point for that particular link maps onto (coincides with) the Base Network Section.

To: This field is in 6.2 format, i.e 6 numbers before and 2 numbers after the decimal point. This is the end chainage for that particular link where the External Network Section maps onto the Base Network Section.

This chainage needs to reflect any adjustments in the length between the length defined for the external network section and the base network section. i.e. if the external network section has a defined length of 94.5m but this translates to a base network length of 93.7m then the 93.7m needs to be entered here whereas the To measurement for the external network section would be 94.5m.N.B. If the External Network Section has been defined in the opposite direction to the Base Network Section then the Section From chainage and To chainage are 'reversed', i.e. the from chainage will be the higher value and the to chainage the lower value.

Feature Type Import Settings

The Feature Type Import Setting input screen provides a means of assigning the relevant Rules and Parameters codes for Inventory items.



The Feature Import Setting lists all the available Inventory Feature types by Code and Description as the first two columns. This is automatically completed by Confirm which searches the Feature Type Lookup table when Feature Type Import Settings is started. Also, any previously entered Feat. (Feature) & Cons. (Construction) Codes are also displayed. The associated Inventory Type (Feat.) and Construction Type (Cons.) codes can be entered in the appropriate columns on the right of the screen. These combinations of features and construction type entered must be unique. Feat. and Cons. are the codes that would appear in any import file which you wish to be mapped to a particular Feature Type.

Inventory Feature Types and their associated construction type can then be imported using an import file in the appropriate Confirm import routine. In the import file the feature and its construction type can be specified as a single code provided that the code is sufficient for confirm to identify which Feature Type is intended.

Search:	The user can enter part of the description shown in the Type column to 'jump' to that item in the table.
Code:	The existing code for the Feature Type belonging to the Feature Groups with a Feature Group Class of 'Inventory' or 'Maintained Inventory' as already entered in the database.
Feat.:	The Inventory Type code used in the import file - a unique code of up to 4 alpha/numeric characters. Please see **Asset Register\Feature Lookups\Feature Group - Inventory tab**.
Cons.:	The Construction code - this is the Attribute Value associated with the Attribute Type 'Construction' and is a unique code of up to 4 alpha/numeric characters. Please see **Asset Register\Feature Lookups\Attribute Type**.
Save:	The 'Save' button must be used to save the new entries before exiting the table as no reminder to Save Changes is given.

Network Import Settings

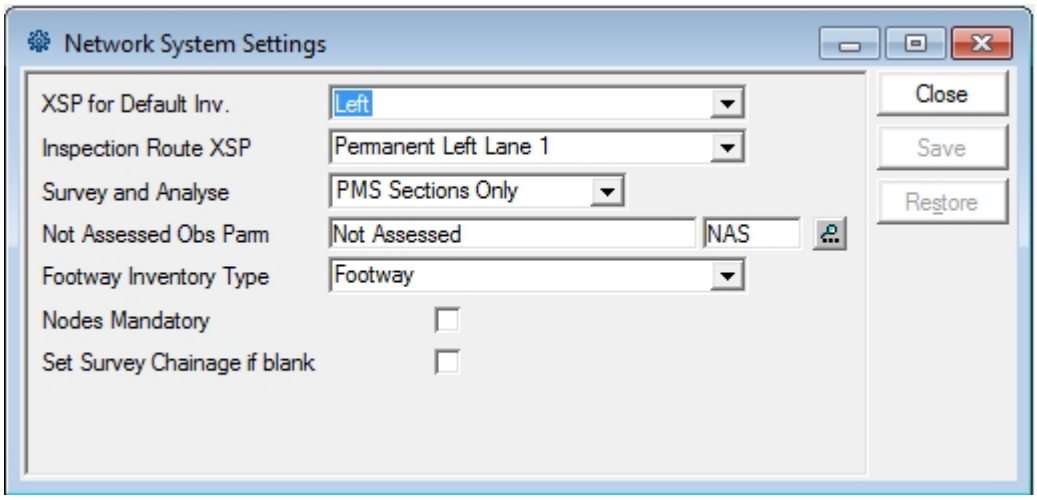
The Network Import Settings screen provides settings relating to the import and export of Network, Inventory and Survey data.

Network Data	Default Site	When a Feature in a Network import file contains no Site information, it will be assigned to this Site.
	DTPCLASS, STEPLEVEL, FWAYOPEN, etc.	In each case, the Attribute Type to which this field in a Network import file is to be assigned.
Inventory Data	Construction Type	The Attribute Type to which Construction Type is to be assigned.
	Kerb Material	The Attribute Type to which Kerb Material is to be assigned.
	Length Tolerance	The length tolerance for Inventory Import is entered here as both an absolute length and as a percentage of the section length. These fields are in 6.2 format, i.e. 6 numbers before and 2 numbers after the decimal point.
	Default XSP	This is the XSP position to which imported condition data defaults if no XSP data is provided in the Survey Data Import file(s) or on the Survey Observation screen.
Condition Data	Allow import of Survey with no Observations for a Feature	By default, Import Survey Data will reject any Survey files containing one or more Survey Features with no Observations and report an error. If this setting is checked, then a warning will be reported and it is possible to proceed with importing the Survey.
	Allow either Option or Value to be supplied for Observations	When importing survey data in HMDIF format observation results should be provided in either an option or value field, depending on the observation type. Setting this allows the observation value to be supplied in the value field where the parameter is primarily an option one, or vice versa.
HMDIF Export	Restrict exported values to	Ticking this box will add extra validation to some of the values in exported files. Specifically:

official UKPMS values	• When an HMDIF Network file is exported, any values in the HIER and FWHIER fields that do not correspond to a UKPMS standard code will be ignored and an empty string exported. • When an HMDIF Survey file is exported, if there are non-numeric characters in the Survey External Reference field then the Survey Number will be exported as NUMBER instead. • When an HMDIF Survey file is exported, the NUMBER field is limited to 4 digits and the MACHINE field is limited to 5 characters.

Network System Settings

The Network System Settings screen allows the setting of several default options relating to the Network.



XSP for Default Inv.:	The XSP for Default Inventory is entered here using the drop down that lists the descriptions of all the defined XSP's. Care should be taken where user defined XSP's not included in the Rules & Parameters set have been defined to ensure that data is not defined to an XSP that is not used in the data analyser processing.
Inspection Route XSP:	Select the XSP that will be used by default for Features being added to a 'Machine' Inspection Route.
Survey and Analyse:	The Survey and Analyse field is completed using the drop down which contains the two pre-set options of 'All Groups' or 'PMS Sections Only'. This toggles between a PMS only analysis and the facility to use the Data Analyser on all groups.
Not Assessed Obs Parm:	This setting is used by the Network Indicator List (the BVPI report) which reports on how much of the Network has been Surveyed. You may exclude section lengths with the indicated Parameter recorded from the report totals by entering the Parameter here. The pick list references the Observation Parameter Lookup.
Footway Inventory Type:	For Footway Observations, the Section's Footway Hierarchy Attribute is used as a default in the absence of Inventory, in preference to the Section's Site Classification. Select the Inventory Type that corresponds to Footway.

Nodes Mandatory: The Nodes Mandatory check box should normally be checked so that the system requires all street sections to have start and end nodes. In this situation, nodes will also have to be defined if a section is to be split. If the check box is unchecked sections can be defined or split without start and end nodes.

Note: This setting is not enforced for ESU Features.

Note: Nodes are mandatory in UKPMS for machine surveys so it is recommended that mandatory nodes is always set except where only visual inspection surveys will ever be carried out.

Set Survey Chainage if blank: This checkbox should be completed to have the system complete the survey chainage automatically if left blank.

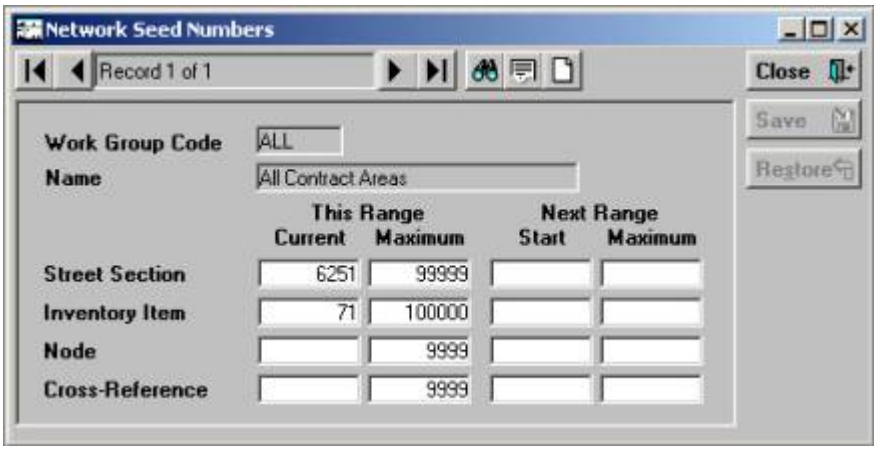
Network Seed Numbers

Seed numbers are set within each Work Group for:

1. Street Section
2. Inventory Item
3. Node
4. Cross Reference

Two ranges are available allowing you to issues two batches of non-contiguous numbers.

Each Work Group must have a unique range of numbers, but if you issue one range to start with, which proves to be too few numbers, you can later come back and use the second range. You can also amend the 'Maximum' number to make room for a range of numbers for a new Work Groups.



Work Group: Enter a Work Group Code, or use the 'Find' button to recall all Work Groups.

System Administration\Security\Work Groups

Name: Will be automatically entered when a Work Group Code is selected.

Street Sections are numbered from these seed numbers when they are created, or imported, into Confirm. The number allocated may be displayed in the Central Asset field of the Additional tab of the Feature form (unless a specific number has been entered by the user, in which case that number will be displayed and the seed number will not be seen on the Feature form).

Enter the number ranges for this Work Group.

Inventory Items are similarly numbered from Seed numbers on creation.

Each connection that is established between one Feature and another has a seed number allocated. These are not seen on the Feature Connection form.

Enter the number ranges for this Work Group.

Cross References are numbered from these seed numbers when they are created in the Observation Type lookup. The numbers are not seen in the Observation Type form.

Enter the number ranges for this Work Group.

Survey Data Lookups

These Survey Data Lookups are the lookups or libraries required to import or create surveys within Confirm. They contain the definitions of different survey types and of the observations that can be recorded within these surveys. For standard surveys, all the lookups are populated with the appropriate definitions in the default database. Where the user requires to import differing survey types, using other observations the set of definitions may be added to and edited as required.

The Survey Data Lookups section is used to pick each of the options required to populate the database with the base Survey information.

The data must be in place before many of the detail input screens can be completed. In order to follow a logical path and facilitate speed and ease of data entry it is recommended that the libraries are set up prior to commencing any other data input. However if errors, omissions or additions are needed they may be edited or added later. Alternatively and/or additionally, they may also be entered 'on the fly'.

Please refer to the Asset Register manual for details on Observations.

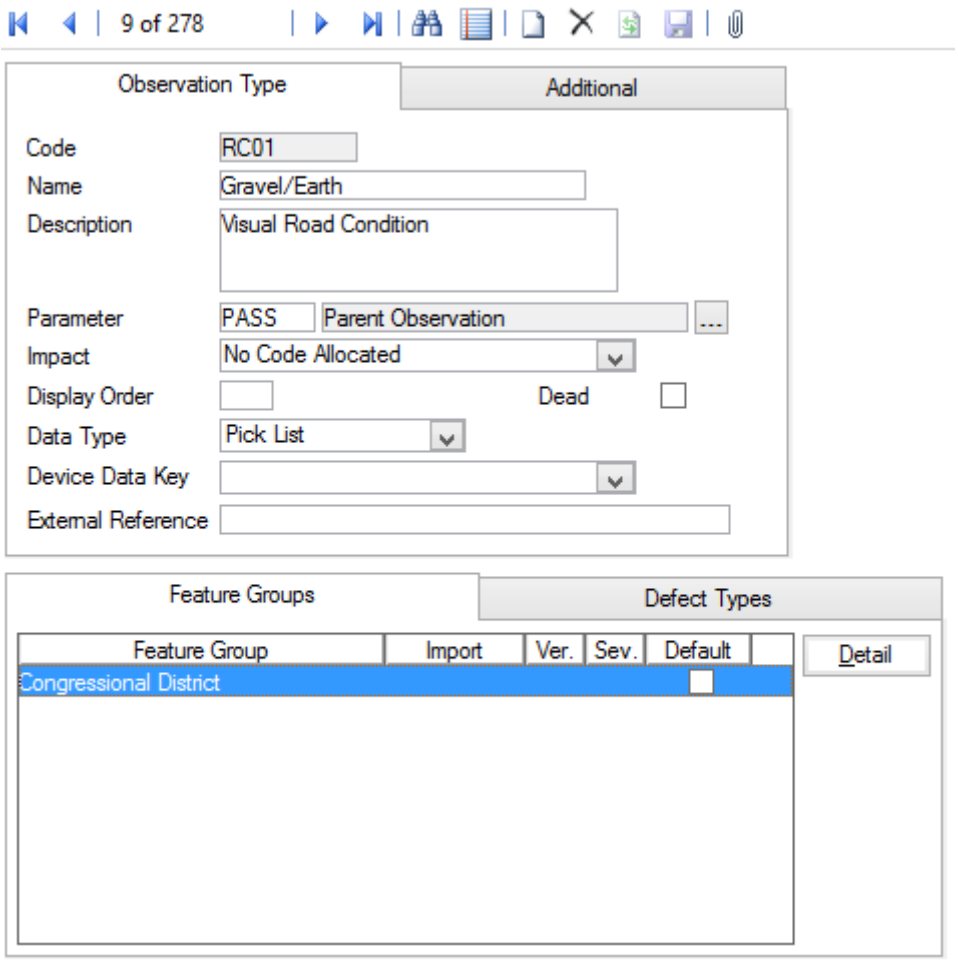
Observation Type

Observation Type, used in conjunction with Observation Parameter and Observation Impact, set up the parameters for judging the condition of a Feature.

Where Observation Types are being used in the Risk module Observation Types define the Failure Modes, or the manner in which an Asset may fail, for example 'Structural', 'Capacity'.

Observations are usually carried out as part of a Condition Survey inspection (Condition Survey module). However, details for Feature condition can be entered directly against Features in the Asset Register, even when the Condition Survey module is not present.

The Observation Type will list the Condition Types that will be judged for a Feature.



Code:	Up to six alphanumeric characters.
Name:	Up to thirty characters
Description:	An optional, free text field. This is used in ConfirmConnect® so that further information can be provided about the Observation Type in order to aid the setting of the value.
Parameter:	Select from the pick list, the Parameter list that will be used in conjunction with this Type. The pick list references the Observation Parameter lookups
Impact:	Select, from the drop down list, the Observation Impact that applies to this Type. The drop down list references the Observation Impact Lookup.
Display Order:	Affects the order in which the Type appears in the Feature Condition screen. A type numbered 1 will appear at the top of the numbered list, a Type numbered 9999 will appear at the bottom. Unnumbered Types will be listed before numbered ones.
Data Type:	Select from: 'Pick List' - To make Condition Grade selections from the pick list of available parameter descriptions. 'Numerical Value' - To assign Condition Grade by entering a numerical value within the minimum and maximum score assigned to parameters.
Device Data Key:	Optionally specify a Device Data Key.

ConfirmConnect® **user** whose **data security group** includes view access to this data security key will be able to view this observation type on their Condition Survey tasks.

Note: Leaving this field blank will allow all users to view this observation type in ConfirmConnect®.

External Reference: (Condition Survey - BCI Reports module)

This field is used when creating the mapping between 'Full Name of Element' to 'Component/Material Type' and 'Proximity to Traffic Spray Zone'. See **Structure Toolkit Export System Settings** for full details on configuring your Structures data.

Observation Type - Feature Groups

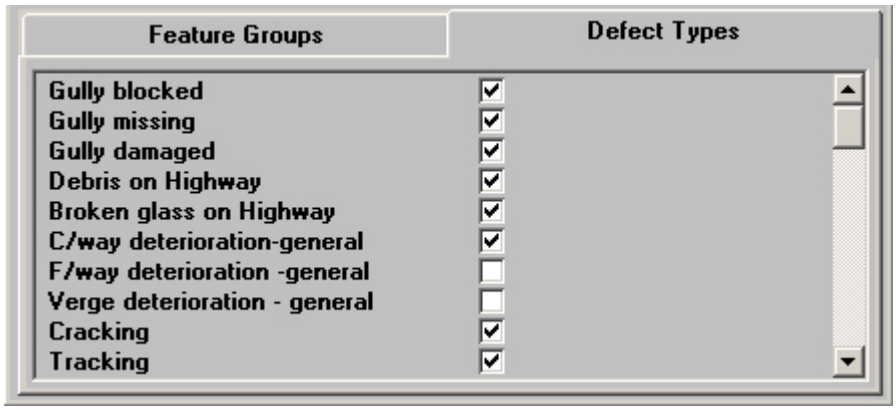
Observation Types can be assigned to Features manually on the Feature screen, by association with a **Feature Group - Conditions tab** on page 56, or by using the **Allocate Condition Values** on page 16.

Feature Group: Click on the 'Detail' button to display Observation Type Feature Group form. Use the Drop down to add a Feature Group. The drop down list references the Feature Group lookup.

Note: An Observation Type can also be linked to a Group through the **Feature Group - Conditions tab** on page 56 lookup.

Note: The screen also shows the UKPMS Defect Code and Severity details for this Observation Type and Feature Group combination. The information is not editable here but is maintained through the Observation Import Codes screen.

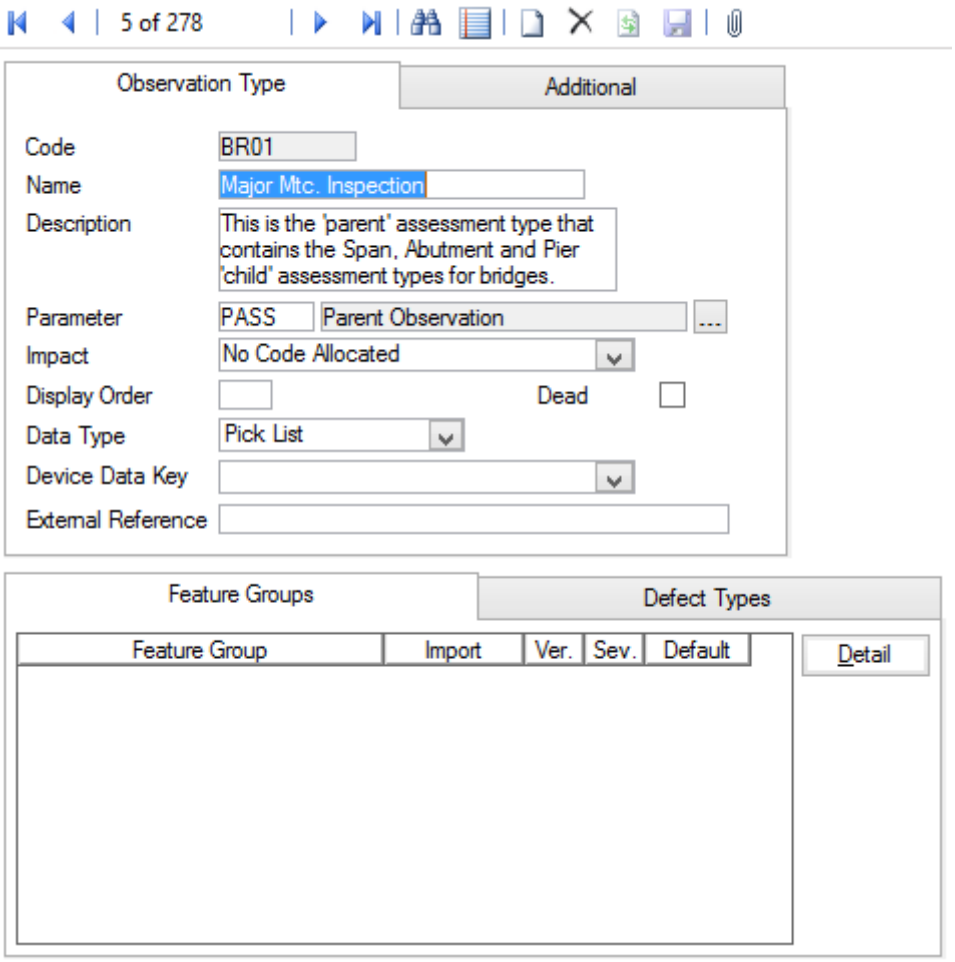
Observation Type - Defect Types



It is possible to associate Defect Types with the current Observation Type so that when this Observation Type is entered in the Defect screen the selection of Defect Types is limited to those checked here. This restriction will be applied when raising Defects directly in Confirm and when using ConfirmConnect®.

The Observation Types Defect Type tab lists all the Defects contained in the Defect library, none of which are checked by default. Check those that may be used when this Observation Type is used.

Observation Type - Additional tab



Aggregation:	Only relevant for the PMS Linear Assets module, this can be ignored for all other users. Select the method by which Observations of this Type being entered are combined when fitting them to fixed lengths, merging etc. Length Weighted Mean is the normal or most usual form of Aggregation for UKPMS.
Default Value:	The numerical value that is assigned to this observation type as a default. (If other than zero).
Condition Assess-ment:	Checked by default, and should not normally be changed.
Failure Mode:	(Activity Log and Risk Assessment modules) Check this for Observation Types that are being used for Risk Assessment, or for recording a Failure type in the Activity Log.
Store Zero Values:	(PMS) Determines if the database will ignore zero values (the default), or, when checked, will actually store zeros as a legitimate data value.

Functional Defect: (PMS)

When checked, during Data Analysis processes, all Observations will automatically break wherever any Functional Defect changes. Functional Defects are relevant only in Automatic Condition Based Analysis processing and beyond.

Note: Functional Defects are defects that are not rated but a treatment is selected. e.g. SCRIM threshold.

Base Date: (PMS)

Base Date is for use with Tranche 3 functionality - see relevant documentation for more details.

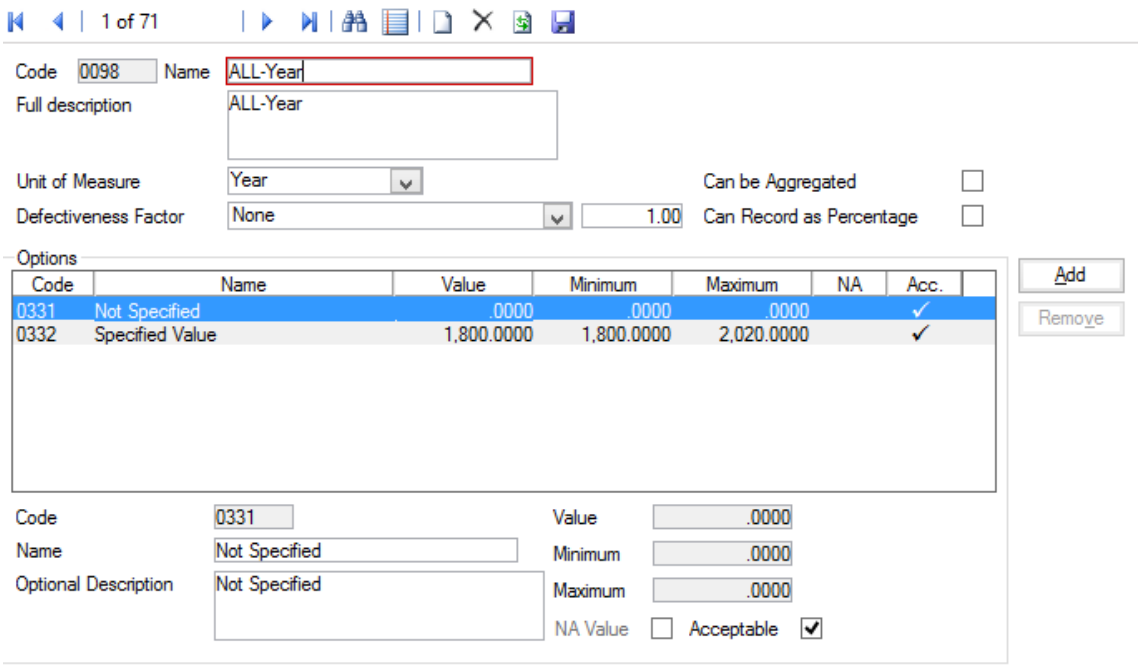
Observation Parameter

The Observation Parameters are the 'grades' that can be assigned to different Observation Types. Many of the conditions (Observation Types) that may be observed on a defect will be identical for many different Observation Types e.g. 'Good', 'Fair' and 'Poor'. By using Observation Parameters these grades only need be defined once and used on multiple Observations Types.

In addition to setting out the condition grades the Parameters allow for these grades to be scored. The score is also used to provide a ‘Condition Rating’ for the Feature and does this by applying a weighted value within a Feature Group e.g. a grade of 'Fair' providing a score of 5 will be multiplied by the weighted value specified in the Feature Group to provide a higher or lower score that contributes to the Features overall ‘Condition Rating’.

Where Performance Monitoring is being used to monitor Features, as opposed to monitoring Works, the assigned grade can be used to generate Failure Notices, based on the value of the ‘Acceptable’ flag for the grade.

Note: Once created an Observation Parameter may continue to be changed until it is used. Once in use the value fields will no longer be editable and it may not be possible to add more Options.



Code: Up to four alphanumeric characters

Name:	Up to 30 characters
Full Description:	An optional free-text field. This is used in ConfirmConnect® so that further information can be provided about the Observation Parameter in order to aid the setting of the value.
Unit of Measure:	You may optionally select a unit of Measure for the scoring ('Percent' for instance, if the score values represent percentages, or 'Number' if the scores represent number of problems found in the asset).
Defectiveness Factor:	(PMS - Observation Data - Module 4010) This can be used to modify the score value to provide a number or percentage where the scoring is based on a length or area. Select the type of Defectiveness Factor from the drop down list and enter the Defectiveness Factor value in the adjacent field.
Can be Aggregated:	(PMS - Observation Data - Module 4010) This checkbox is ticked where aggregation of this Observation Parameter is allowed.
Can Record as Percentage:	(PMS - Observation Data - Module 4010) This checkbox is ticked where the Defectiveness Factor can be recorded as a percentage rather than a pure number.

The lower portion of the form, entitled 'Options' is for the entry of each of the values that this Parameter will use.

Code:	Up to four alphanumeric characters
Name:	Up to 30 characters
Option Description:	An optional free-text field
Value:	A numerical value may be optionally entered for this parameter option. If a value is set, this will be assigned by default to any Feature that acquires this Parameter Option. These Scores may be altered for any individual Feature within the Minimum and Maximum values set in the Minimum and Maximum fields. The value may be equal to the Minimum value but may only be equal to the Maximum value on the last option or if there is no difference between the Minimum and the Maximum values.
Minimum\ Maximum:	These fields are used to set the maximum and minimum scores that may be set for Features acquiring this Parameter Option.
NA Value:	Flag the 'Option' that will be used when the Feature does not currently carry a Grade. It is required that one Option be flagged as NA.
Acceptable:	(Performance Monitoring) All Parameter Values are flagged as 'Acceptable' by default. The flag is removed for those Parameter Values that will attract a Failure under Feature Monitoring.

Observation Impact

Observation Impact provides a means of grouping Observation Types together for reporting and filtering.

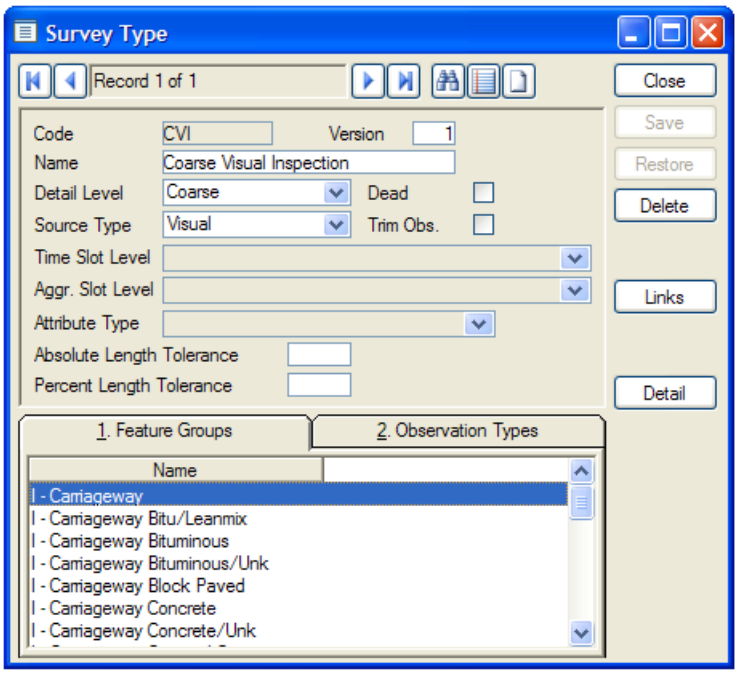
Code:	Up to four alphanumeric characters
Description:	Up to 30 characters

Survey Type

Survey Type defines the types of Survey that will be imported into Confirm PMS. From this screen the Survey Name, Detail Level, etc. can be defined as well as the Feature Groups (i.e. Carriageway bituminous, Footway flagged etc.) to which the Survey applies and the Observation Types that the Survey can contain.

(Traffic Count Data module)

Where the Traffic Count Data module is present, Traffic Count Survey Types can be created and their Time Slot Levels and Attribute Type (e.g. Vehicle Type) can be selected.



Code:	A unique code of up to 4 alpha/numeric characters.
Version:	A 4 digit number. The same Survey Type may exist with different version numbers.
Name:	A 30 character description as appropriate for each Survey Type.
Detail Level:	The Detail Level is chosen from the dropdown list. This indicates the level of detail that this Survey produces. The entries are for information only. The options are Coarse and Detailed.

Dead:	This checkbox is used to mark the Survey Type as no longer live or in use. The details remain held on the Database and the Survey Type can be made live by 'unmarking' the checkbox.
Source Type:	The Source Type is chosen from the dropdown list. This defines the source of the Survey data. This is for information purposes only. The options are: • Visual • Machine Based • Aggregated • Traffic Count (only available when the Traffic Count Data module is present.)
Trim Obs.:	This checkbox is used to indicate if Observations that extend past the end of a Section will be trimmed.
Time Slot Level:	(Traffic Count Data module) Time Slot Level is only enabled when the Source Type is set to Traffic Count. Select from the drop down list the Time Slot Level that applies to the Survey Type. Time Slot Level is a mandatory field and determines which Time Slots are displayed against a Traffic Count Survey. The Time Slot Level cannot be edited for Survey Types which have Traffic Count Surveys created against them.
Aggr. Slot Level:	(Traffic Count Data module) Aggr. Slot Level is only enabled when the Source Type is set to Traffic Count and the Time Slot Level field has been populated. Optionally select from the drop list the Time Slot Level that will be used to calculate the aggegrate Time Slots for this Survey Type. The Values of the aggregate Time Slots are calculated by adding the Values of the Time Slots from the primary Time Slot Level that fall within the Start Time and End Time of the aggregate Time Slot. It is not possible to select the same Time Slot Level record in both the Time Slot Level field and the Aggr. Slot Level field. The Aggr. Slot Level cannot be edited for Survey Types which have Traffic Count Surveys created against them.
Attribute Type:	(Traffic Count Data module) Attribute Type is only enabled when the Source Type is set to Traffic Count. Select from the drop down list the Attribute Type that applies to the Survey Type. Attribute Type is an optional field and determines whether a Traffic Count Survey is broken down by Attribute Type (e.g. Vehicle Type) and Time Slot, or just by Time Slot. Attribute Type cannot be edited for Survey Types which have Traffic Count Surveys created against them.
Absolute Length Tolerance:	This defines how much of a difference between imported Survey data lengths and actual Section lengths will be accepted (the units are defined in terms of the Section measurement type).
Percent Length Tolerance:	This defines how much of a difference between imported Survey data lengths and actual Section lengths will be accepted. The value is entered as a percentage of the Section length.

Feature Groups Tab

The Feature Groups tab lists those feature groups on which this survey may contain observations. E.g. For CVI survey, this includes various types of carriageway, as well as cycletracks, kerbs, footways and verges.



Clicking on the 'Detail' button on the Survey Type screen with the Feature Groups tab selected will display the Survey Type Feature Group screen. From this screen you can add a new feature group or delete an existing feature group.

Observation Types Tab

The Observation Types tab lists those Observation Types applicable to be recorded on Surveys of this Survey Type.



Clicking on the 'Detail' button will display the Survey Type Observation Type screen. In this screen Observation Types can be added to or removed from the Survey Type.

A Parent Observation Type may be specified if an Observation Type is to be stored as an additional value on an Observation record, rather than being an entry in the database in its own right. In this case, a Sequence Number should also be specified. Observation Types with a Parent Observation Type are distinguished in the list by the Sequence Number being displayed in front of the Code.

Note: A Parent Observation Type may not be specified for an Observation Type which is itself the Parent Observation Type for others.

Action Officer

Action Officers have responsibility for certain actions carried out within Confirm. For instance: Jobs are assigned to Action Officers, and each stage (Status) of the Job's life is associated with an Action Officer.

Action Officers can be linked to Users, so that when a User logs in to Confirm they are recognised as a particular Action Officer. Action Officers need not be users - they can be created independently of User logins.

Code:	Up to four alphanumeric characters
Inactive:	Tick this to prevent new records from being assigned to the current Action Officer. Confirm will not allow an Action Officer to be 'Inactive' if it is used on the Enquiry Subject or Enquiry Subject Site records. If an Action Officer needs to be active again, untick this setting. If the linked User is also 'Inactive' Confirm will request that the User is activated first before the Action Officer can be.
Name:	Up to 30 characters
Telephone Number:	(Optional) Up to 20 alphanumeric characters
External Ref.	(Optional) Up to 20 alphanumeric characters. A reference used by external systems to identify this Action Officer
Corresponds to User:	(Optional) Select a User to link this Action Officer to. By linking an Action Officer to a User, Confirm will know which Action Officer to use by default when using various entry screens within Confirm. The User ID can be typed directly into the field or the pick button can be used to search for a User to link the Action Officer to. **System Administration\Security** **Note:** Contractor Users are not able to remove the value in this field.
Work Group:	Where the Action Officer is linked with a User - the Work Group to which the User belongs is entered and the field cannot be edited. Where an Action Officer is not linked with a User - a Work Group must be selected. The drop down list references the Work Groups list. **System Administration\Security**
Enquiries Data Key:	Setting this value gives Enquiries assigned to this Action Officer additional security. Where an Enquiry is assigned to an Action Officer with this Data Key set, only Users with Data Key access to the Enquiry Subject and the assigned Action Officer's Enquiries Data Key will be able to view the Enquiry.
Inspecting Officer:	(Performance Monitoring module) Where Monitoring Batches are created automatically at Request Checking, the Action Officer associated with the last Job Status log on the Job is used to determine who should be the Inspecting officer based on the entry in this field.

Device Settings

Default Priority:	(Optional - ConfirmConnect® - Condition Survey)

Enter the Priority that will be assigned to Jobs raised through the 'Fast Defect' functionality in Condition Survey on the device.

Device Data Key: (Confirm Connector)

Optionally specify a Data Key to restrict which Users will have this lookup available on the device. Please see **the Confirm Connect manual** for further details.

Note: This lookup will still be transferred, it will simply be hidden from the User when logged into the device.

Device Job Officer: (Jobs in the Field module)

Check this to set the current Action Officer as an Officer which will have 'Job' tasks sent to the device when they transfer their tasks.

Task Redirect Officer: Redirect Tasks to the selected Officer in case of absence. It is only possible to redirect to an Officer in the same Workgroup.

Note: It is possible to redirect multiple Officers to the same Officer. If the Officer has other Officers redirecting to them, it will not be possible to redirect this Officer to another. Use the Action Officer List to view any existing Officer Redirects.

Street Works Settings

Route: (Optional - Street Works module)

Select a Route. The pick list references the Site Route lookup.

Site Register\Site Lookups\Operational Lookups

Note: The Route provides a default entry for Inspection Sampling in Street Works. It is not relevant in any other context.

No of Inspections: (Optional - Street Works module)

Enter the maximum number of Sampled Programmed Inspections an Action Officer may have outstanding at any time. This limit does not include non Sampled Programmed Inspections, such as Defect Follow Up Inspections, which are already assigned to the Action Officer.

Note: Street Manager Performance Based Inspection Sampling for Category B and C will be downloaded and automatically assigned to an Officer using the following rules: -

- If the Sampled Inspection's Site is in a Route, which is assigned to one or more active Officers, then the Officer with the highest remaining number of Inspections will be allocated this Inspection.
- Should more than one Officer, have the same remaining number of Inspections, the inspection will be allocated by Officer Code.
- If the Sampled Inspection's Site is not in a Route or there are no Officers assigned to a Route, that covers the Site, then the Officer will be set to the **Sample Inspection Default Action Officer** (Confirm Web Settings).

  Note: An empty value is treated as 0 and the first Inspection allocated to the Officer is exceeding their quota.

Organisation: (Optional - Street Works module)

Enter an Organisation to provide a default entry in the 'From' field of the Street Work Notice window for this Action Officer

Note: The default is only provided where the Action Officer is linked to a User, since the identification of the Action Officer is made by reference to the User who is currently logged in.

Labour Type: (Optional - Works Management module)

Select the Labour Type for the Action Officer if they are the member of a Gang. The pick list references the Labour lookup.

Works Management\Works Costing\Works Costing Lookups

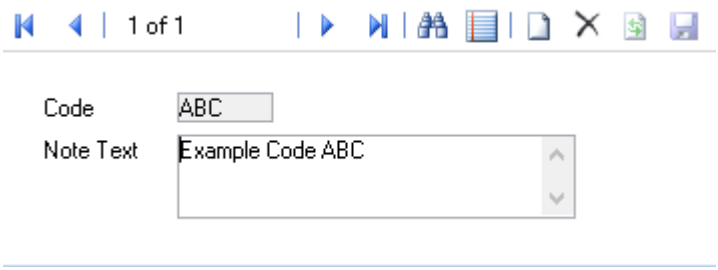
Cost per hour: (Optional - Works Management module)

This will override the Cost per hour specified in the linked Labour Type. Cost per hour on Action Officer is multiplied with Cost per hour multiplier on the Labour Type Lookup to determine the Action Officer's labour rate.

Action Officers can be assigned an area of specialism defined by Feature Groups, with the Asset Specialist module. Please see the **Specialist** section for details.

Notebook Code

Used to set up Notebook Codes.



Code: A unique code of up to 4 alpha/numeric characters.

Note Text: A free form text description of virtually unlimited length.

Network Import Settings

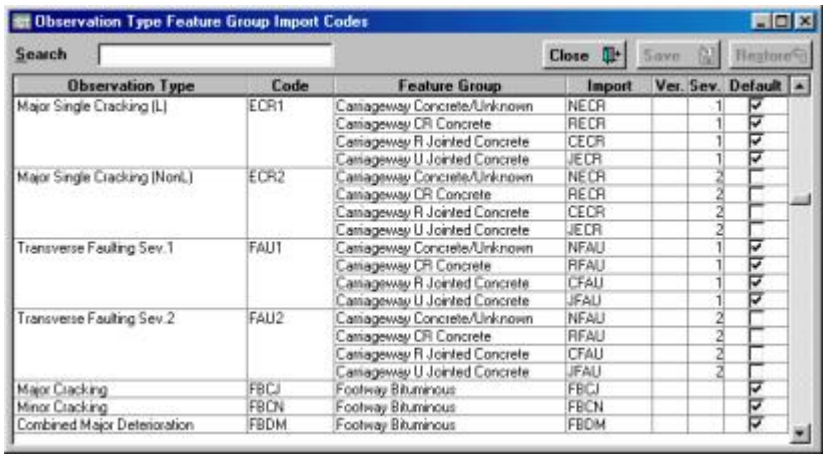
The Network Import Settings screen provides settings relating to the import and export of Network, Inventory and Survey data.

Network Data	Default Site	When a Feature in a Network import file contains no Site information, it will be assigned to this Site.
	DTPCLASS, STEPLEVEL, FWAYOPEN, etc.	In each case, the Attribute Type to which this field in a Network import file is to be assigned.

Inventory Data	Construction Type	The Attribute Type to which Construction Type is to be assigned.
	Kerb Material	The Attribute Type to which Kerb Material is to be assigned.
	Length Tolerance	The length tolerance for Inventory Import is entered here as both an absolute length and as a percentage of the section length. These fields are in 6.2 format, i.e. 6 numbers before and 2 numbers after the decimal point.
	Default XSP	This is the XSP position to which imported condition data defaults if no XSP data is provided in the Survey Data Import file(s) or on the Survey Observation screen.
Condition Data	Allow import of Survey with no Observations for a Feature	By default, Import Survey Data will reject any Survey files containing one or more Survey Features with no Observations and report an error. If this setting is checked, then a warning will be reported and it is possible to proceed with importing the Survey.
	Allow either Option or Value to be supplied for Observations	When importing survey data in HMDIF format observation results should be provided in either an option or value field, depending on the observation type. Setting this allows the observation value to be supplied in the value field where the parameter is primarily an option one, or vice versa.
HMDIF Export	Restrict exported values to official UKPMS values	Ticking this box will add extra validation to some of the values in exported files. Specifically: • When an HMDIF Network file is exported, any values in the HIER and FWHIER fields that do not correspond to a UKPMS standard code will be ignored and an empty string exported. • When an HMDIF Survey file is exported, if there are non-numeric characters in the Survey External Reference field then the Survey Number will be exported as NUMBER instead. • When an HMDIF Survey file is exported, the NUMBER field is limited to 4 digits and the MACHINE field is limited to 5 characters.

Observation Import Codes

The Observation Feature Group Import Codes facility is used to define how codes in the survey are translated, if necessary, when imported into Confirm, based on the inventory to which they relate. The translation of these codes is based on the requirements of the Rules and Parameters set or sets being used for processing.



Observation Type	Code	Feature Group	Import	Ver.	Sev.	Default
Major Single Cracking (L)	ECR1	Carriageway Concrete/Unknown	NECR		1	☑
		Carriageway CR Concrete	RECR		1	☑
		Carriageway R Jointed Concrete	CECR		1	☑
		Carriageway U Jointed Concrete	JECR		1	☑
Major Single Cracking (NonL)	ECR2	Carriageway Concrete/Unknown	NECR		2	☐
		Carriageway CR Concrete	RECR		2	☐
		Carriageway R Jointed Concrete	CECR		2	☐
		Carriageway U Jointed Concrete	JECR		2	☐
Transverse Faulting Sev.1	FAU1	Carriageway Concrete/Unknown	NFAU		1	☑
		Carriageway CR Concrete	RFAU		1	☑
		Carriageway R Jointed Concrete	CFAU		1	☑
		Carriageway U Jointed Concrete	JFAU		1	☑
Transverse Faulting Sev.2	FAU2	Carriageway Concrete/Unknown	NFAU		2	☐
		Carriageway CR Concrete	RFAU		2	☐
		Carriageway R Jointed Concrete	CFAU		2	☐
		Carriageway U Jointed Concrete	JFAU		2	☐
Major Cracking	FBCJ	Footway Bituminous	FBCJ			☑
Minor Cracking	FBCN	Footway Bituminous	FBCN			☑
Combined Major Deterioration	FBDM	Footway Bituminous	FBDM			☑

The columns for Observation Type, Code and Feature Group are generated automatically by Confirm from the database. They are based on the observation types that have been entered and the feature groups that were listed against them.

A code of up to 4 alpha/numeric characters. This is the code in the survey import file that is required to be mapped against the Feature Group and Observation Type combination. E.g. In the above screen, it can be seen that the combination of Major Cracking (Observation Type) FBCJ (Code), and the Feature Group of Footway Bituminous, is translated from the FBCJ (Import) code in the survey import file.

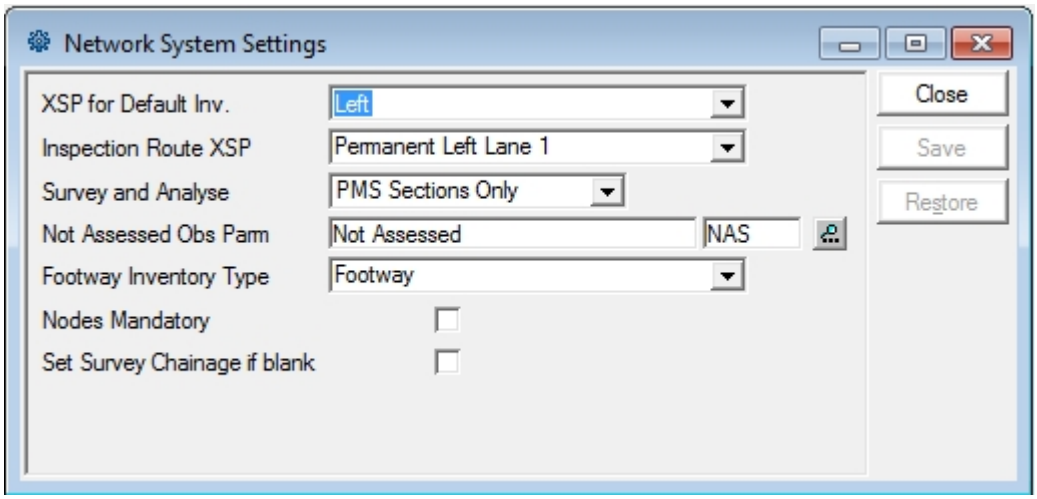
The version number for the survey can be entered here or the field left blank.

The severity of the defect can be entered here if additional information is required to identify to which Observation Type and Feature Group combination a survey defect code should be translated.

The Default checkbox is used to specify the default selection when Ver. or Sev. Data is omitted and a survey defect code (Import) could relate to 2 or more Observation Type and Feature Group combinations.

Network System Settings

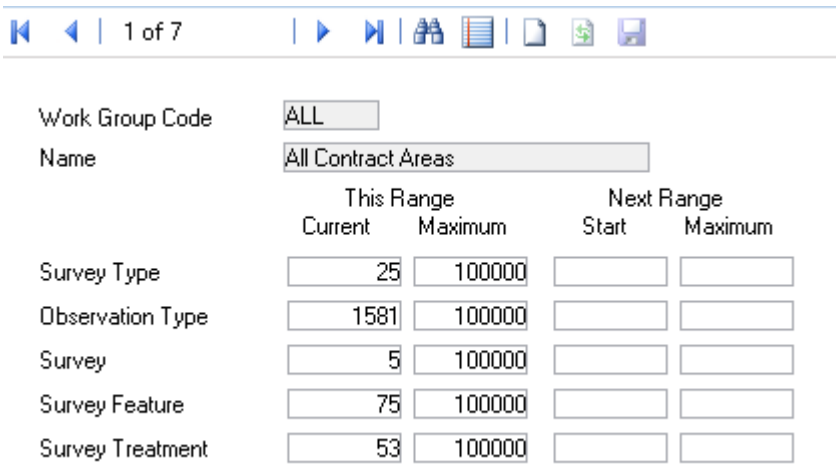
The Network System Settings screen allows the setting of several default options relating to the Network.



XSP for Default Inv.:	The XSP for Default Inventory is entered here using the drop down that lists the descriptions of all the defined XSP's. Care should be taken where user

	defined XSP's not included in the Rules & Parameters set have been defined to ensure that data is not defined to an XSP that is not used in the data analyser processing.
Inspection Route XSP:	Select the XSP that will be used by default for Features being added to a 'Machine' Inspection Route.
Survey and Analyse:	The Survey and Analyse field is completed using the drop down which contains the two pre-set options of 'All Groups' or 'PMS Sections Only'. This toggles between a PMS only analysis and the facility to use the Data Analyser on all groups.
Not Assessed Obs Parm:	This setting is used by the Network Indicator List (the BVPI report) which reports on how much of the Network has been Surveyed. You may exclude section lengths with the indicated Parameter recorded from the report totals by entering the Parameter here. The pick list references the Observation Parameter Lookup.
Footway Inventory Type:	For Footway Observations, the Section's Footway Hierarchy Attribute is used as a default in the absence of Inventory, in preference to the Section's Site Classification. Select the Inventory Type that corresponds to Footway.
Nodes Mandatory:	The Nodes Mandatory check box should normally be checked so that the system requires all street sections to have start and end nodes. In this situation, nodes will also have to be defined if a section is to be split. If the check box is unchecked sections can be defined or split without start and end nodes. **Note:** This setting is not enforced for ESU Features. **Note:** Nodes are mandatory in UKPMS for machine surveys so it is recommended that mandatory nodes is always set except where only visual inspection surveys will ever be carried out.
Set Survey Chainage if blank:	This checkbox should be completed to have the system complete the survey chainage automatically if left blank.

Survey Seed Numbers



Seed numbers for survey related items are set from this screen. Survey Seeds are primarily used by the internal working of Confirm. For most uses it is sufficient to set the range from 1 to 9999999 for all fields.

Work Group Code:	This is the Work Group code to which the seed Numbers relate.
Name:	The Name of the Work Group.
Survey Types:	This is the range of survey type
Observation Types:	This is the range for Observation Types
Surveys:	This is the range for Surveys
Survey Features:	This is the range for Survey Features
Treatments:	This is the range for Treatments

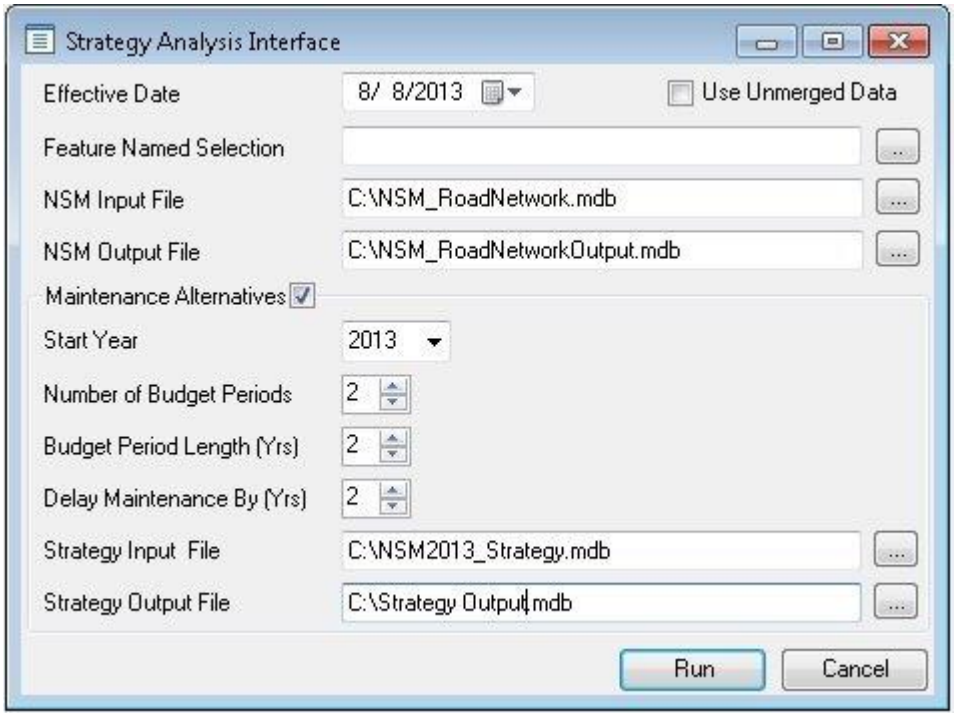
HDM-4 Interface

HDM-4 Interface contains libraries and utilities that can be configured to interface Confirm with HDM-4.

It allows Confirm asset and survey data to be sent to HDM-4 for strategy and program analysis. The interface is compliant with HDM-4 version 2.08

Strategy Analysis Interface

Strategy Analysis Interface screen updates HDM-4 strategy analysis database file for NSM ID lengths as calculated from selections made in **Homogenisation System Settings** screen.

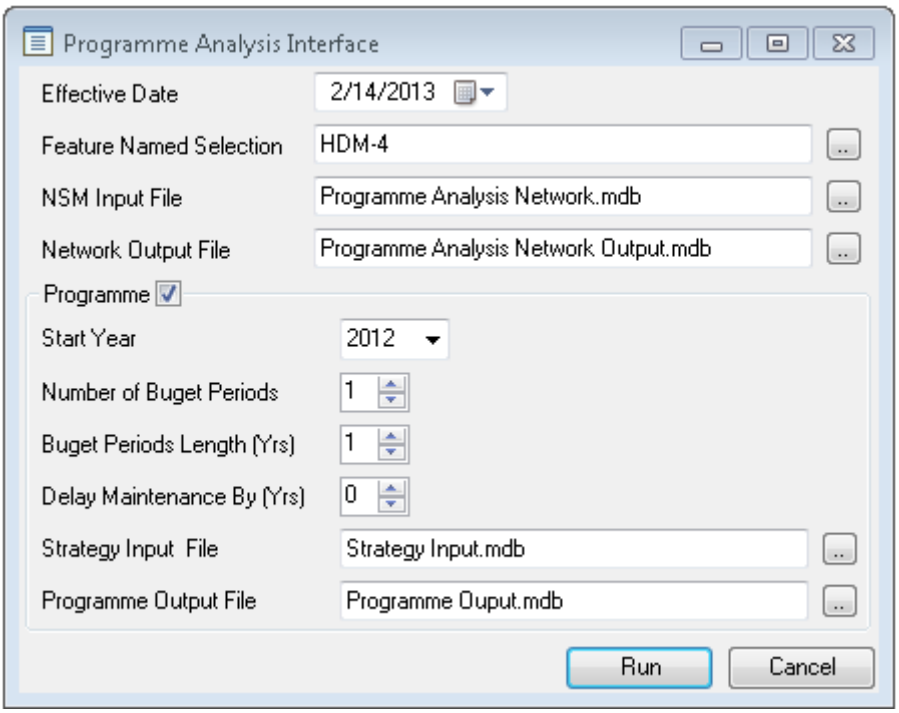


Effective Date:	Filters asset data, corresponding inventory data and survey observations to be considered for strategy analysis. Data that is latest and live as on Effective Date is considered. In case it is not set, system date is considered as Effective Date.
Use Unmerged Data:	If checked, Strategy Analysis Interface RUN uses absolute homogenous data generated and does not consider merge algorithm to compute PRS sections for updating NSM lengths. It is unchecked by default.
Feature Named Selection:	Displays all named selections in the system. It filters homogenous sections under consideration for strategy analysis to those passing named selection. N.B: User is expected to choose a named selection that belongs to feature Group selected on Homogenisation System Settings screen.
NSM Input File:	Points to HDM-4 strategy analysis NSM ID file that needs to be used to update NSM ID lengths. It supports MS access database formats.

NSM Output File:	Output file that will be created using NSM input file. This NSM output file will be updated for NSM ID lengths on Run. NSM ID length is limited by Maximum NSM Length set on **HDM-4 System Setting - General Tab**.
Maintenance Alternatives:	Enables the functionality to correct effective year of existing alternatives and multiply them to create new set(s) of maintenance alternatives for HDM-4 strategy analysis mdb database on RUN.
Start Year:	Defines Start Year of strategy analysis in Strategy Output File.
Number of Budget Periods:	Number of times that the original proposed alternatives will be repeated in the strategy analysis.
Budget Period Length (Years):	Number of years to space between the generated alternatives.
Delay Maintenance by (Years):	Numbers of years by which all existing non-base alternatives (and new alternatives) should be delayed.
Strategy Input File:	Points to HDM-4 strategy database file to correct and multiply maintenance alternatives.
Strategy Output File:	Output file that will be created using Strategy Input File with corrected and new multiplied alternatives.
Run:	Updates section length in NSM Output file with system generated PRS data by default or absolute homogenous data if Use Unmerged Data is checked. Corrects existing alternatives and create new maintenance alternatives. Refer **Strategy Analysis** and **Maintenance Alternatives** in **HDM-4 Interface Reference Manual** for details of actions performed.

Programme Analysis Interface

Programme Analysis Interface screen updates HDM-4 road network mdb file with planning road sections (PRS) generated from Confirm. It also generates HDM-4 programme mdb file with traffic data, traffic growth sets and maintenance alternatives assigned to each PRS section. Settings made in **Homogenisation System Settings** and **HDM-4 System Settings** screen are used while running Programme Analysis Interface.



Effective Date:	Filters asset data, corresponding inventory data and survey observations to be considered for programme analysis. Data that is latest and live as on Effective Date is considered. In case it is not set, system date is considered as Effective Date.
Feature Named Selection:	Displays all named selections in the system. It will limit the homogenous sections under consideration for programme analysis to those passing named selection. **Note:** User is expected to choose a named selection that belongs to feature Group selected on Homogenisation System Settings screen.
NSM Input File:	Points to HDM-4 NSM ID file that needs to be used to generate PRS file. It supports MS access database formats.
Network Output File:	Output file that will be created using NSM input file. This network output file will be updated with PRS sections and traffic data on 'Run'. PRS data is created as per settings on **Homogenisation System Settings** screen and using Merge Method applied.
Programme:	Enables the section to create programme mdb database on RUN.
Start Year:	Defines start year of programme analysis in programme database file.
Number of Budget Periods:	Number of times that the original proposed alternatives in the strategy analysis will be repeated in programme output file.
Budget Period Length (Years):	Number of years to space between the generated alternatives in programme output file.
Delay Maintenance by (Years):	Number of years by which all existing non-base alternatives (and new alternatives) should be delayed in programme output file.
Strategy Input File:	Points to HDM-4 strategy database file that is required to generate programme database file with maintenance alternatives. It supports MS access database formats.
Programme Output File:	Programme Output file that will be created to have – • PRS references from PRS Output File

- Populated with corrected and new multiplied alternatives using Strategy Input File.

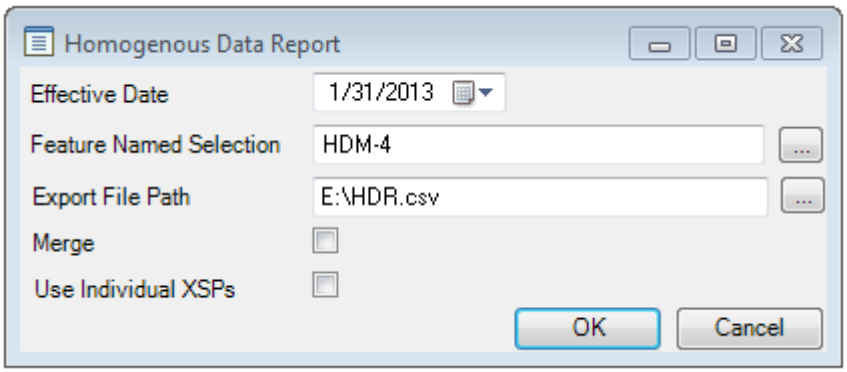
Run: Inserts PRS data from Confirm into Network Output file and creates programme database file to Programme Output File path.

Note: Refer **Programme Analysis** and Maintenance Alternatives in **HDM-4 Interface Reference Manual** for actions performed on RUN button

- Existing Alternatives from Strategy Input file are Inserted in Programme Output file by mapping SECT_ID of Prg_Selsections file to the SECT_ID of Str_SelSections file using NSM ID in homogenous data internally generated in Confirm.
- Correction of existing alternatives' effective year as per start year and specified.

Homogenous Data Report

Homogenous Data Report screen is used to generate homogenised data from Confirm data. On click of OK button, a csv report is generated as per selections made on **Homogenisation System Settings** screen.



Effective Date	Filters asset data, corresponding inventory data and survey observations to be considered for strategy analysis. Data that is latest and live as on Effective Date is considered. In case it is not set, system date is considered as Effective Date.
Feature Named Selection	Displays all named selections in the system. It filters homogenous sections under consideration for report output to those passing named selection.
Export file path	Local or network path where output .csv report will be placed.
Merge	If checked, homogenised data is merged in report output as per Merge Method applied on Homogenisation System Settings screen.
Use Individual XSPs	If checked, individual XSPs as defined at feature inventory and survey observation level are used for report output. In default (unchecked) state, all data is aggregated into single ‘All’ XSP level. Report output with ‘All’ XSP is used in **Strategy Analysis Interface** and **Programme Analysis Interface** .

The output file contains road sections that are homogenised for Feature-XSP combination.

File Format

For output road sections (fixed columns starting from 1st column)

Column Name	Description
Feature_ID	Asset ID of output road section
XSP	Cross section position, cannot be NULL. Aggregates to ‘All’ by default
Start_Distance	Start distance/ chainage point, cannot be NULL
End_Distance	End distance/ chainage point, cannot be NULL
Subsection_length	Absolute difference of Start_Distance and End_Distance
Site_Code	Site code
Site_Name	Site name as specified in Confirm
Location	Feature location
Feature_Type	Feature type code
Area_Code	Area code
Contract_Area	Contract area code
Classification	Classification code
Section_Length	Feature 'primary measurement' specified on feature group. The report always renames it to Section_Length as homogenisation is done only on linear features. It should be set to linear metrics (like linear meters, meters, millimeters)

After fixed column, user defined inventory attributes as selected on **Homogenisation System Settings - Inventory Tab** are listed:

- Columns are displayed in same order as inventory attributes selected.
- Format of column display is {inventory type code}_{attribute type code}.
- Average width attribute is displayed as {inventory type code}_WDTH.
- Survey Date is displayed as {inventory type code}_SRDT.
- Inventory which does not vary by XSP is merged with all other inventory on same feature that vary by XSP.

After user defined inventory attributes, user defined survey observation as selected on **Homogenisation System Settings-Survey Tab** are listed:

- Columns are displayed in same order as survey observations selected.
- Format of column display is {survey type code}_{observation type code}.
- Survey Observations on feature and/or inventory matching 'Feature Group' selected on Homogenisation System Settings only are part of report output.
- Point observations are not part of report output and are ignored.

After user defined Survey observation columns, Computed Columns as defined on **Homogenisation System Settings-Computed Columns Tab** are listed:

- Columns are displayed in same order as defined.
- Format of column display is {Expression Name}.

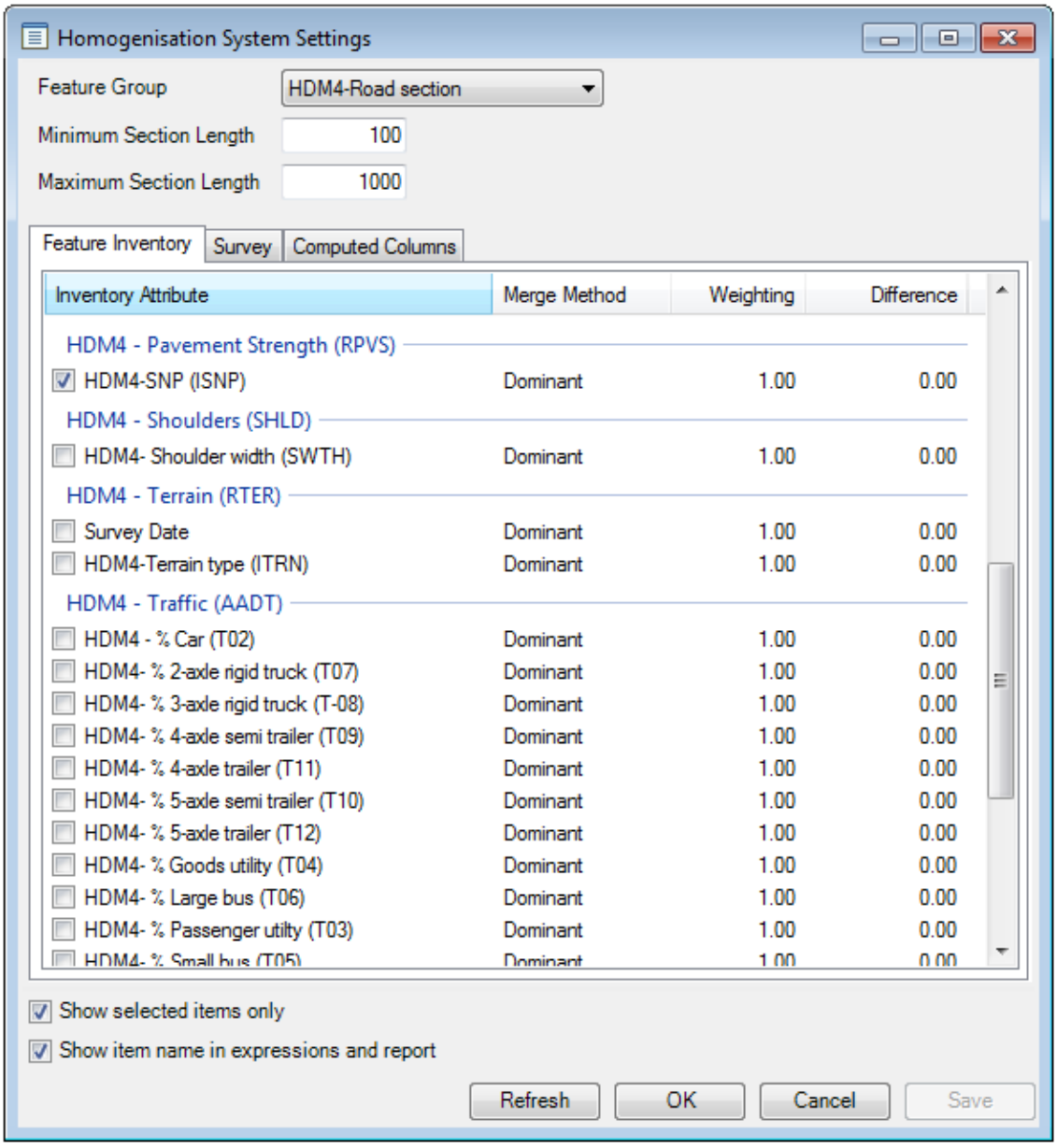
After user defined inventory, survey and Computed columns, **HDM-4 System Settings screen** selections are listed in following order:

- 'nsm_id', 'traffic_growth_set'. These columns map to NSM_ID and Traffic Growth Set respectively on HDM-4 System Settings screen-General tab.

- 'traffic_grwoth_set', this column maps to Traffic Growth Set on HDM-4 System Settings screen-General tab.
- 'exclude_if_true', this column maps to Exclude if True on HDM-4 System Settings screen-General tab.
- {HDM-4 Field} as selected on HDM-4 System Settings screen-Sections tab.

Homogenisation System Settings

Homogenisation System Settings Screen allows user to select asset Inventory and Survey based on which asset data is homogenised. The homogenised data is available as output through **Homogeneous Data report**. It can also be interfaced directly to HDM-4 database files through **Strategy Analysis Interface** or **Programme Analysis Interface**.



Feature Group: This drop down lists those Feature Group that are of *Feature Group Class: Linear Asset.*

Minimum Section Length: A section will not be split any further if either of the resulting sub-sections would be shorter than the specified minimum section length. It is used in Programme Analysis Interface and merged Homogenous Data Report.

Maximum Section Length: If all of the variables on a section are within tolerance the section will still be split if it is longer than the specified maximum section length. This is constrained by output of unmerged homogeneous data, which means, any sub section in unmerged (or absolute) homogenous data cannot be split further. It is used in Programme Analysis Interface and merged Homogenous Data Report.

Feature Inventory and Survey tabs lists corresponding **Inventory Type** and **Survey Type** based on which asset data is homogenised.

Merge Method

The merge Method algorithm works by first considering the whole length of the road section and deciding whether all of the specified variables are within tolerance over the entire length. If not, or if the section is longer than the **Maximum Section Length**, then the section will be split in two. The algorithm decides on the best place to split the section by finding the split point that minimises the overall variance of the specified variables. This whole process is then repeated for the two resulting sections, i.e. deciding whether they need to be split further and if so where to split them until all of the variables are within tolerance or the **Minimum Section Length** is reached.

The algorithms used to determine whether to split and where to split are discussed in more detail below:

For the current section, each variable is considered in the order of its **Weighting** (highest weighting first) to see if it is within tolerance. A **Continuous** (or numerical) variable is considered outside tolerance if any minimum length subsection can be found whose mean value is different from the overall mean value for the section by the specified maximum **Difference**. A **Dominant** (or non-numerical) variable is considered to be outside tolerance if any minimum length subsection has a dominant value which is different from the dominant value of the whole section.

If a variable is found to be outside tolerance then this variable and all of the other variables with the same or higher **Weighting** are used to determine where to split the section. If no variables are outside tolerance but the section is still longer than the **Maximum Section Length** then all variables are used to determine where to split.

The algorithm determines where to split by considering each possible split point along the length of the section that would not result in a length shorter than the **Minimum Section Length**. For each possible split point the length weighted variance of each variable is calculated. The variances for each of the selected variables are multiplied by their respective **Weighting** and added together to give an overall variance for the chosen split point. The split point that results in the lowest overall variance is then chosen and the whole process repeat for the two resulting sections.

Average: Only applies to numeric values and used where a mathematical mean and variance can be calculated

Dominant: Applied to non-numeric values or numeric values where a mathematical mean would not be appropriate. The dominant value is the value that occurs on the most subsections, based on their total length. Variance is calculated by comparing each individual value with the dominant value, with any values that are different having a variance of one.

Weighting: Only variables with a non-zero weighting are considered when determining whether and where to split. Variables are considered in weighting order (highest first) to determine whether a split is needed. The weighting is also used to factor the variance of each variable when considering where to split.

Difference: Used to determine whether to split Continuous variables with a non-zero weighting. If any minimum length subsection has a mean value that is more than this difference from the overall mean then the section will be split

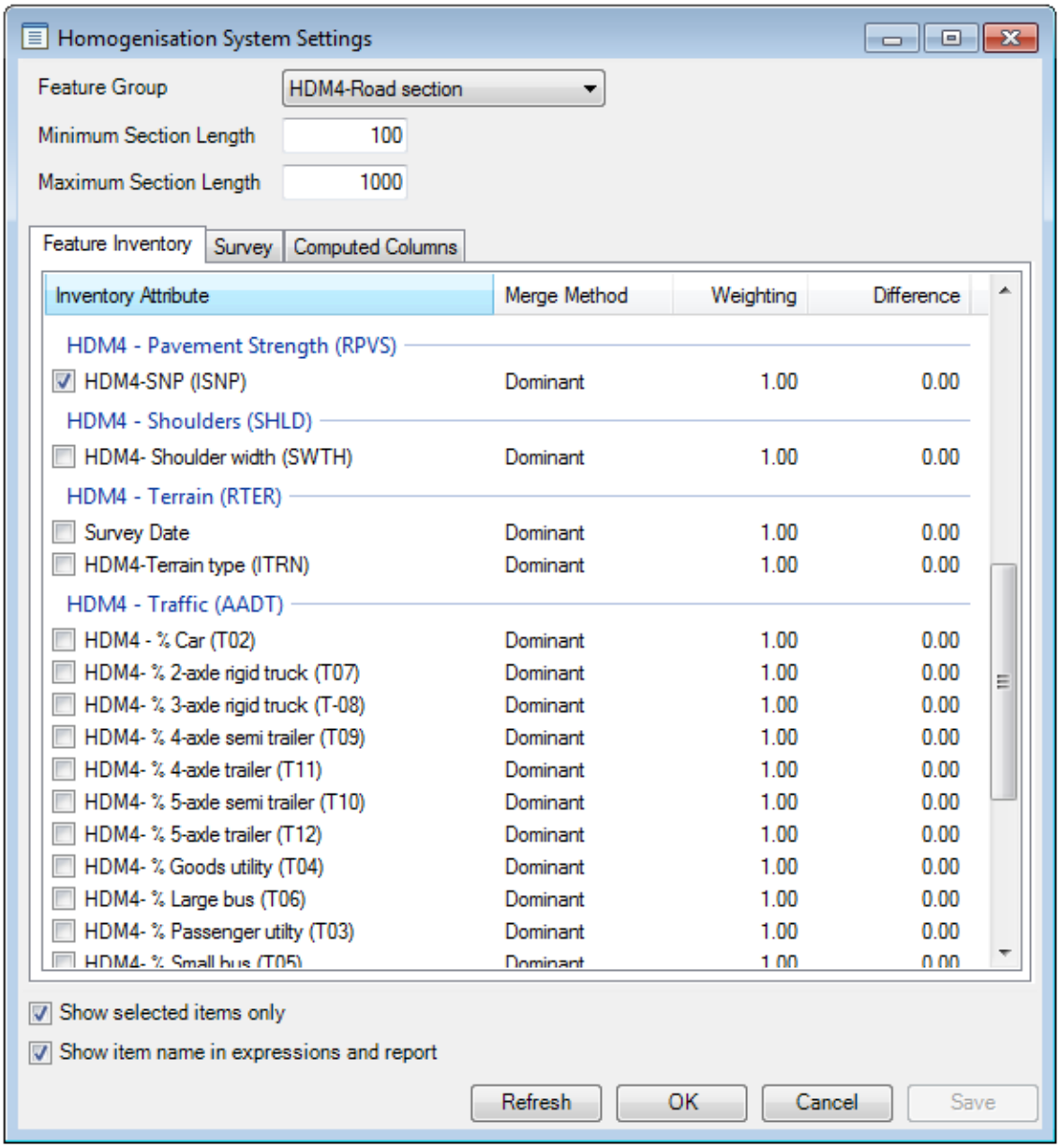
Show selected items only: If checked, only selected and saved options are displayed in Feature Inventory and Survey tab.

Show names in expression builder: If checked, 'Columns' in expression builder on **HDM-4 System Settings** screen are displayed as Inventory attribute (or Observation type) names followed by code for feature inventory and survey observations selected on Homogenisation System Settings screen. Also homogeneous data report displays names followed by code.

Note: Asset data homogenisation refers to dividing asset data in chainages such that value of an inventory attribute and an observation type selected does not change across unique chainage-cross section position in homogenised output.

Homogenisation System Settings - Feature Inventory tab

Based on Feature Group selected, feature inventory tab lists **Inventory Types** and attributes of associated **Inventory Feature Groups**. Both inventory types and attributes are displayed as name followed by code as defined in Confirm. Attributes are grouped by inventory types and are user selectable.



For example, in the screen shot above HDM-4 Pavement Strength (RPVS) is an inventory type in Confirm and HDM4-SNP (INSP) is an attribute associated with it.

Note:

1) Only those **Inventory Types** are listed that pass the following criteria:

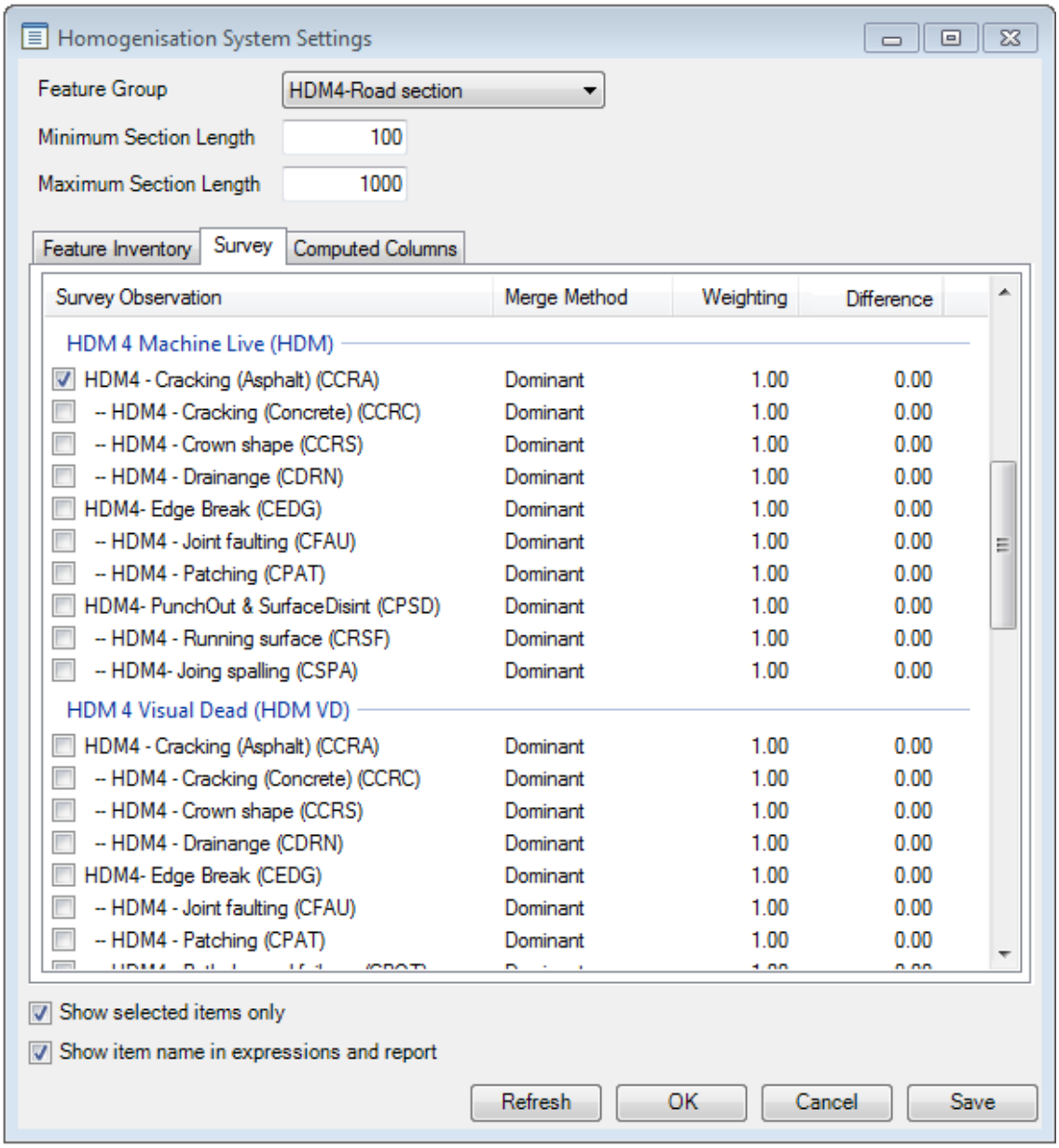
- Item Type is one of the following:*Linear (No Width), Linear (Width), Area (One Width), Area (Two Widths)*
- None of the *Allow multiples* check box is checked.
- *Vary by Attribute* is set to null or blank.

2) Average width and/or Survey Date are first inventory attribute(s) by default if Inventory Type has width and/or Show Survey Date enabled. Both These attributes do not display code because they are system defined and not user defined.

Homogenisation System Settings - Survey tab

Survey tab lists all survey types and associated parent/child observation types configured in Confirm. Child observation types are grouped by parent **Observation Type** and are displayed in tree-like structure. Further observation types are grouped by survey types and are user selectable. Selecting any child observation type will automatically select its parent observation type. Conversely, deselecting a parent will deselect all child observation types associated with it.

Both survey and observation types are displayed as name followed by code as defined in Confirm.



For example, in the screen shot above **Machine Live (HDM)** is a **Survey Type** in Confirm and **HDM4 - Cracking (Asphalt) (CCRA)** is an **Observation Type** associated with it. HDM4 - Cracking (Concrete) (CCRC) comes next prefixed by hyphen (--). This indicates that CCRC is child observation type of CCRA.

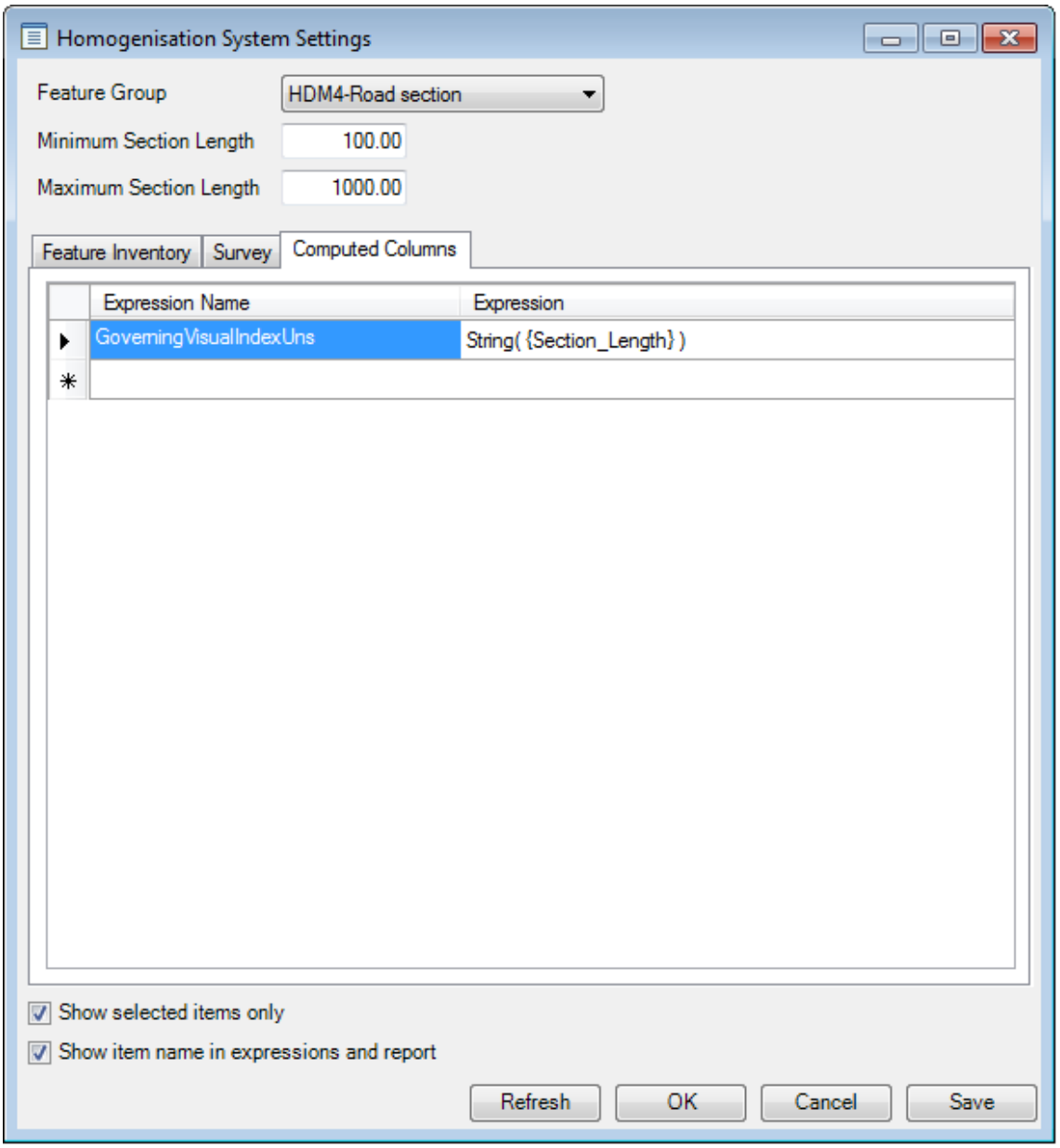
Only those Survey types are displayed which have Source Type as Visual or Machine Based. The list displays dead survey and associated observation types as well.

Only those Observation Types that are selected by the user, participate in data homogenisation.

Note: An observation type is displayed with survey type, despite being detached from it if and only if Observation type was previously selected on Homogenisation System Settings screen.

Homogenisation System Settings - Computed Columns tab

Computed Column tab provides an interface to create expressions, which can be used as intermediate expressions while creating expressions on **HDM-4 System Settings**. The evaluated values are also displayed on **Homogenous Data Report** for each row of output data.

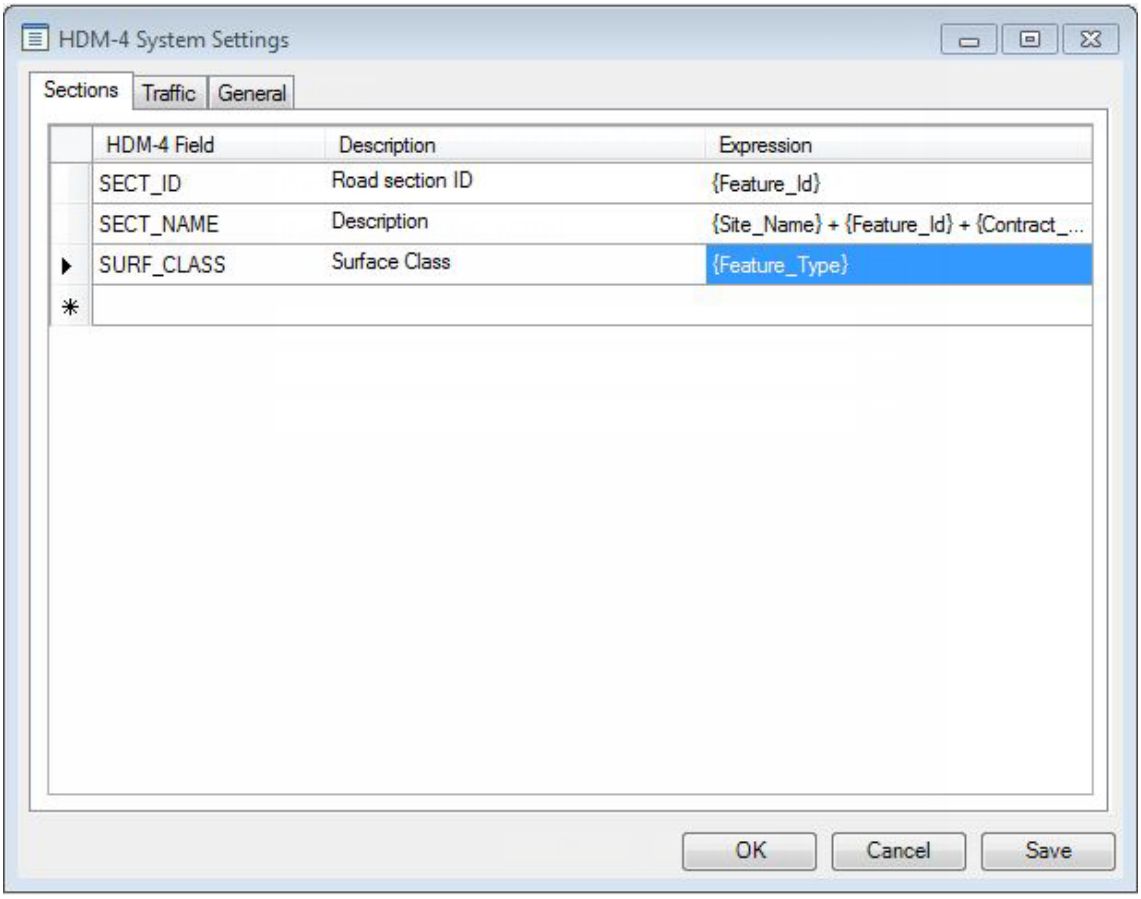


Expression Name	Name given to expression. This name is available as column in expression builder on HDM-4 System Settings screen and Homogenous Data Report. It is free text alphanumeric field allowing up to 30 characters and cannot be duplicate.
Expression	Provides expression builder to build expression around fixed columns, user defined inventory attributes and user defined survey observations.

Both fields need to exist for a valid expression.

HDM-4 System Settings

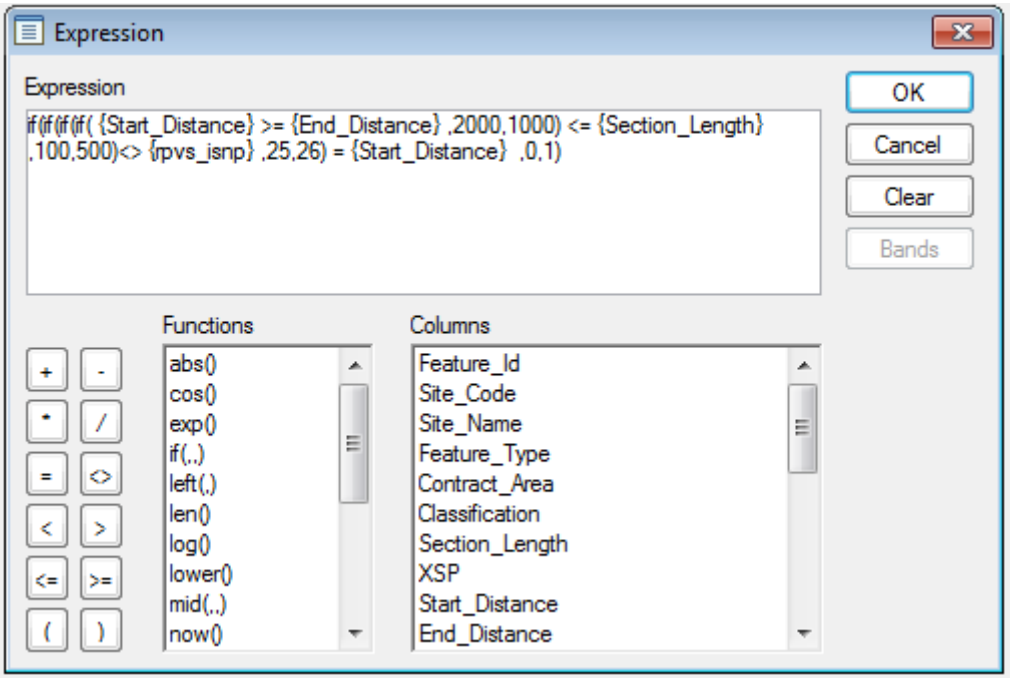
HDM-4 System Settings screen provides an interface to map HDM-4 field(s) with homogenised data output from Confirm. The mapping is through an expression builder which provides capability to write expressions on feature inventory attributes and survey observation types selected in **Homogenisation System Settings** screen. The value calculated as per expression is inserted into corresponding HDM-4 field(s) when Strategy Analysis or Program Analysis is done.



Expression builder

Expression builder provides capability to write expressions on feature inventory attributes and survey observation types selected in Homogenisation System Settings screen.

The ... button against each label will open the Confirm Expression builder screen.



Double click on Functions in the Function list, and Columns in the Columns list, to build up an Expression in the Expression field. You may also directly edit the Expression, and add operators from the buttons on the left-hand side.

Columns displayed are in following order:

- Fixed columns which are Feature_ID, XSP, Start_Distance, End_Distance, Site_Code, Site_Name, Location, Feature_Type, Contract_Area, Classification, Section_Length.
- User defined inventory attributes as selected on **Homogenisation System Settings - Inventory Tab** in {inventory type code}_{attribute type code} format. If 'Show names in expression builder' is checked on **HDM-4 System Setting - General Tab**, format is {attribute type Name}({inventory type code}_{attribute type code}).
- User defined survey observations as selected on **Homogenisation System Settings - Survey Tab** in{survey type code}_{observation type code} format. If 'Show names in expression builder' is checked on **HDM-4 System Setting - General Tab**, format is {Observation type name}({survey type code}_{observation type code}).
- Expression Names as defined on **Homogenisation System Settings – Computed Columns Tab**.

If user defined columns contain any special character other than an underscore '_', it is replaced by an underscore '_' and appended a number 1. If such replacements result in two identical codes, the next code is appended a number 2. Like:

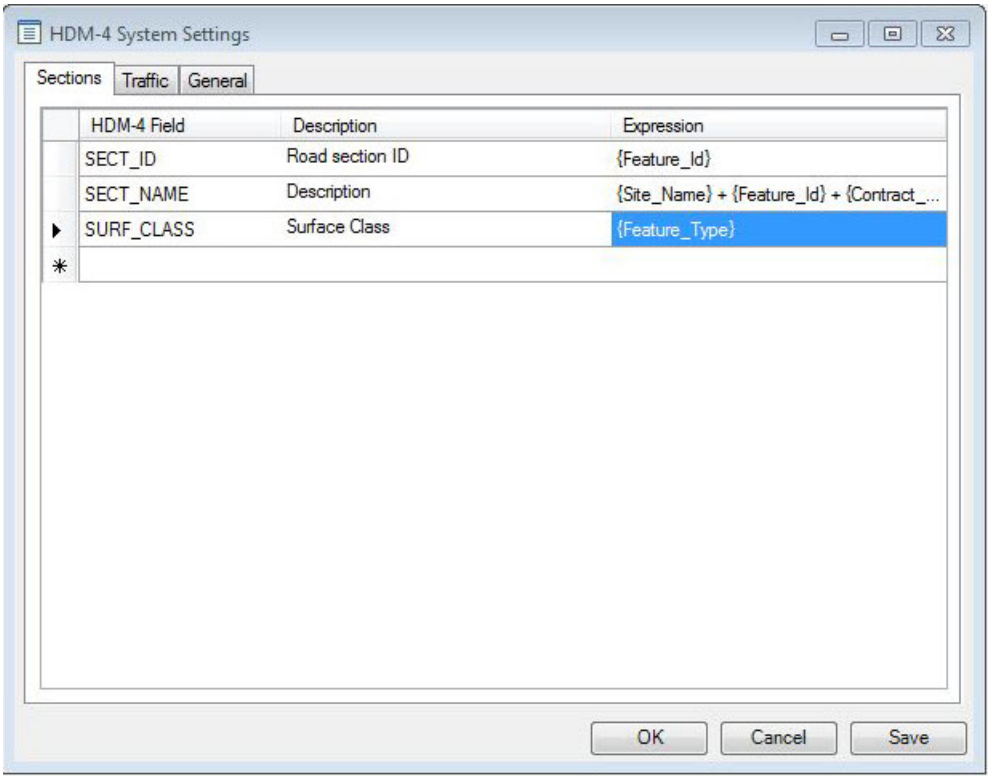
Inventory Type	Inventory Attribute	Code in Homogenisation System Settings	Code in expression builder
TY#P	AT@B	TY#P_AT#B	TY_P_AT_B1
TY#P	AT$B	TY#P_AT$B	TY_P_AT_B2

Expression builder evaluated value should match with corresponding HDM-4 mdb database acceptable data type and range. If expression against a field is null, it is considered as 'blank' for text and '0' for numeric fields. For details, refer **HDM-4 Database Mapping** in **HDM-4 Interface Reference Manual**.

HDM-4 System Settings Sections tab

Sections tab provides an interface to map homogenised data output from Confirm with HDM-4 fields as available in sections table of HDM-4 road network mdb file.

- The value calculated as per expression is inserted into corresponding HDM-4 field(s) in road network mdb file when **Programme Analysis Interface** is 'Run'.
- All HDM-4 field(s) saved on this screen also gets listed on Homogenous Data Report as columns when **Homogeneous Data Report** is run. The value calculated as per expression of each HDM-4 field is assigned to corresponding road section element in the report output.



HDM-4 field: Lists all columns contained in SECTIONS table of HDM-4 road network mdb file. User can select or search any field from drop down list and build map it to Confirm data using expression.

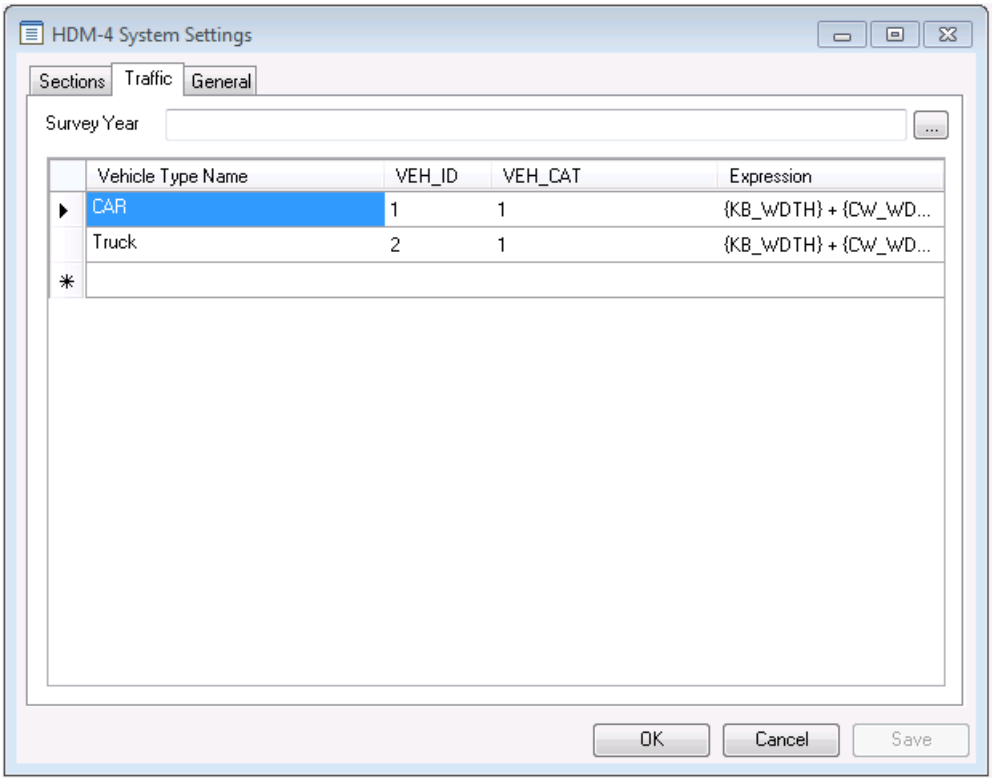
A mapping of HDM-4 field column names (with their data types) to HDM-4 UI labels is provided at **HDM-4 Road Network Database Mapping** in **HDM-4 Interface reference Manual** for commonly used fields/columns.

Description: User editable free text field to describe HDM-4 field selected.

Expression: Provides expression builder to build expression around fields of Homogenous Data Report. The value of each expression is inserted into corresponding HDM-4 field(s) in HDM-4 road network mdb file when Program Analysis Interface is 'Run'.

HDM-4 System Settings Traffic tab

Traffic tab provides an interface to map homogenised data output from Confirm with HDM-4 fields as available in Traffic table of HDM-4 road network mdb file. VEH_ID, CATEGORY and value calculated as per expression is inserted into HDM-4 Traffic table in road network mdb file when **Programme Analysis Interface** is ‘Run’.

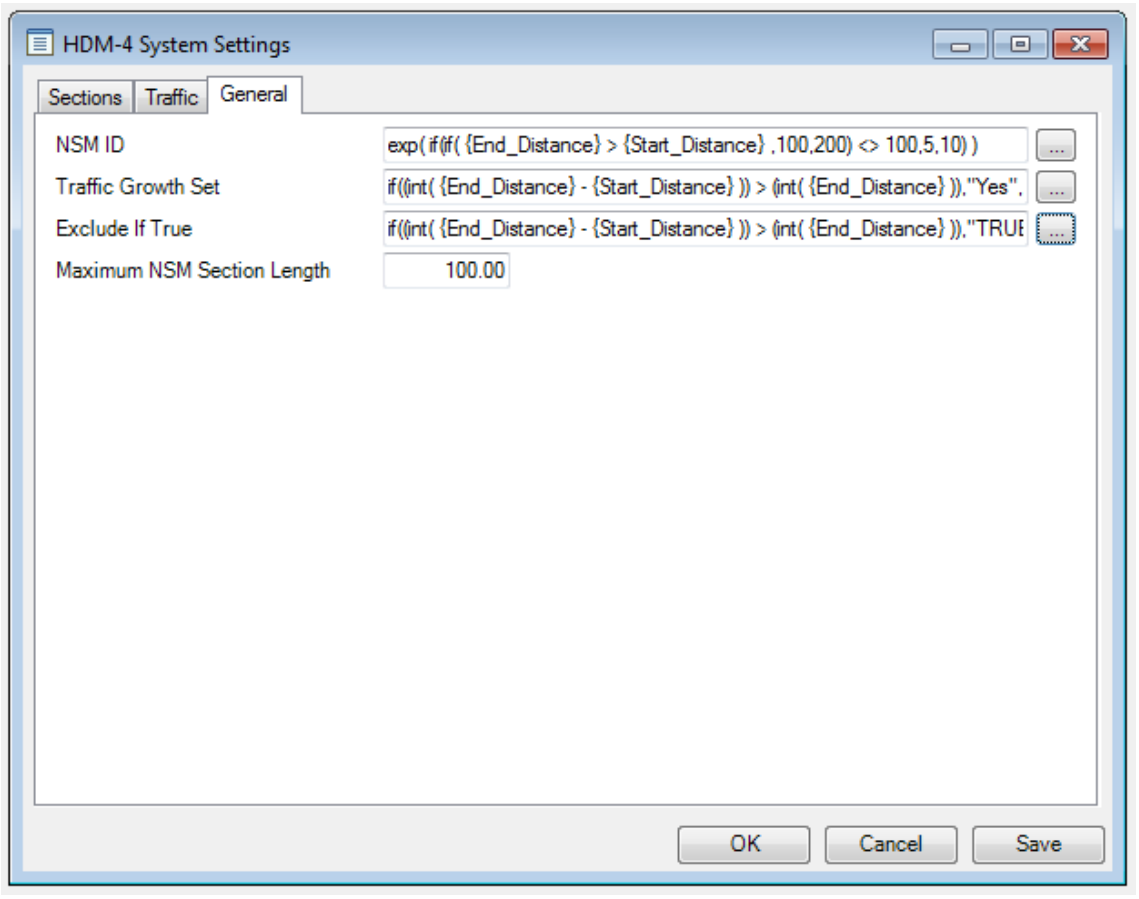


Survey Year	Mapped to YEAR column in TRAFFIC table of HDM-4 road section mdb file.
Vehicle Type Name	User editable free text field to describe VEH_ID and CATEGORY combination.
VEH_ID	User editable field to contain whole numbers. Mapped to VEH_ID column in TRAFFIC table of HDM-4 road section mdb file.
VEH_CAT	User editable field to contain whole numbers. Mapped to VEH_CAT column in TRAFFIC table of HDM-4 road section mdb file.
Expression	Provides expression builder to build expression around fields of Homogenous Data Report. Its value is mapped to AADT column in TRAFFIC table of HDM-4 road section mdb file

Combination of VEH_ID, CATEGORY has to be unique on the grid. User needs to map VEH_ID, CATEGORY to the structure defined (and intended to be used) for Vehicle fleet in HDM-4. The same can be found in Vehicle fleet mdb file (Selecting defined Vehicle fleet and using Export button in HDM-4)

The complete grid as defined on Traffic tab (VEH_ID, CATEGORY and evaluated Expression) is inserted for each road section inserted. And Survey Year as evaluated is applied to each row inserted in Traffic table of HDM-4 road section mdb file.

HDM-4 System Settings General tab



NSM ID

Maps HDM-4 NSM road sections to Confirm homogeneous road sections in HDM-4 NSM Input File (mapped to SECT_ID column of Sections table) for **Strategy Analysis Interface** and **Programme Analysis Interface**.

Note: **HDM-4 Road Network Database Mapping** for details on NSM ID.

Traffic Growth Set

Assigns Traffic Growth Set to each road section on RUN of Programme Analysis Interface. It is mapped to GRTHSET_NAME column of Prg_sec-SecVehGrthSet table in Programme output file.

Programme Analysis details affected table and columns.

Exclude if True

Evaluates the expression for each row (road section) of homogenised data output. Road sections that evaluate to true/TRUE as per Boolean or conditional expression are filtered to be excluded from Strategy Analysis (non-merged data) and Programme Analysis (merged data).

Maximum NSM Section Length

Maximum NSM length allowed by system while running Strategy Analysis Interface. Any NSM exceeding the specified length splits existing NSM ID. No value specifies is considered as no limit set. For details, refer **Strategy Analysis**.

HDM-4 Interface Reference Manual

HDM-4 Interface Reference Manual specifies the requirements, considerations and mapping of Confirm **HDM-4 Interface** and mapping with HDM-4 v2.08 databases.

Strategy Analysis

On RUN of **Strategy Analysis Interface**:

- Creates copy of NSM Input file to NSM output file location.
- Homogenise data internally based on settings in Homogenisation System Settings screen, to have absolute homogenised sections.
- Computes NSM ID as per expression in HDM- 4 System Settings screen for each row of homogenised data.
- In NSM output file (mdb), finds match of calculated NSM ID to existing NSM ID, which is stored in 'SECT_ID' column of 'SECTIONS' table.
- Updates 'LENGTH' in the 'SECTIONS' table of the NSM Output File (mdb) with total length of each matching NSM ID.
- Section in HDM-4 'SECTIONS' table which does not find an NSM ID match in Confim's homogenised data are deleted from NSM Output file.
- A warnings is logged if Confirm calculated NSM IDs does not find a match in 'SECT_ID' column of 'SECTIONS' table in NSM Output File (mdb).

If Maintenance alternatives is checked, Strategy Output file is created by copying Strategy Input File and following actions performed on it:

- STRATEGY table update

STRATEGY table column	Updated Value
START_YEAR	Start Year specified
END_YEAR	END_YEAR + Shift in original START_ YEAR
NUM_SECSEL	Count of rows in Str_SelSections table

- Correction of existing alternatives' effective year as per start year and specified.

Str_SectOptMaint table column	Updated Value
EFF_YEAR + Shift in original START_ YEAR for all base alternatives	Updated with total number of alternatives for each SEC_ID in Str_sectOptDesc
EFF_YEAR + Shift in original START_ YEAR + delay for all non- base alternatives	

- Multiplication of existing maintenance alternatives to create new alternatives as per number of budget periods, budget period length (years), delay maintenance by (years) specified and using logic described in **Maintenance Alternatives**. Tables updated are:

Str_sectAnalOptions table column	Updated Value
NUMOPTIONS	Updated with total number of alternatives for each SEC_ID in Str_sectOptDesc

Str_sectOptDesc table column	Updated Value
OPT_DESC	Updated for non –base alternatives 'maintenance standards by appending EFF_YEAR, if delay is specified
New Rows Inserted	As per **Maintenance Alternatives** logic

Str_sectOptMaint table column	Updated Value
MAINTIT_ID	Updated for non –base alternatives ' maintenance standards, if delay is specified
New Rows Inserted	As per **Maintenance Alternatives** logic

- If any NSM ID length as computed by Confirm exceeds the Maximum Section NSM Length set on **HDM-4 System Setting - General Tab**, SECTIONS table is updated in NSM output file with new NSM records and corresponding entries are made in other tables of NSM output file and Strategy Output file.

For example, following is one of the existing SECTION data in NSM input file

SECT_ID : A

SECT_NAME: Section A

It has corresponding entries in TRAFFIC table of Network file. It also has corresponding entries in Str_SelSections, Str_secSecVehGrthSet, Str_sectAnalOptions, Str_sectOptDesc and Str_sectOptMaint tables of Strategy Input file

Now, In Confirm:

Maximum NSM Section Length: 3000

NSM Length as computed by system for NSM ID 'A' = 7050

In NSM Output File:

SECTIONS table

	SECT_ID	SECT_NAME	LENGTH	ID	Other Columns
Existing NSM Section	A	Section A	3000	Existing Number	Existing values
New NSM Section	A-1	Section A-1	3000	New auto number (M)	Same values as above
New NSM Section	A-2	Section A-1	1050	New auto number (N)	Same values as above

TRAFFIC table

	ID	Other Columns
Existing Data	Existing Number	Existing values
New Data	New auto number (M)	Same values as above
New Data	New auto number (N)	Same values as above

In Strategy Output File:

Str_SelSections table

	SECTION_ID	DESC	SECT_ID	Other Columns
Existing Data	A	Section A	Existing Number	Existing values
New Data	A-1	Section A-1	New auto number (X)	Same values as above
New NSM Data	A-2	Section A-1	New auto number (Y)	Same values as above

Str_secSecVehGrthSet table

	SEC_ID	Other Columns
Existing Data	Existing Number	Existing value
New Data	New auto number (X)	Same values as above
New Data	New auto number (Y)	Same values as above

Str_sectAnalOptions, Str_sectOptDesc and Str_sectOptMaint tables

	SEC_ID	Other Columns
Existing Data	Existing Number	Existing value post multiplying alternatives
New Data	New auto number (X)	Same values as above
New Data	New auto number (Y)	Same values as above

Programme Analysis

On RUN of **Programme Analysis Interface** ,

Programme road sections (PRS) are created:

- Copy of NSM Input file is created to Network output file location.
- Generate PRS data internally based on settings in Homogenisation System Settings screen.
- Computes nsm_id for each row of PRS data as per expression in HDM-4 System Settings - General tab.
- Creates PRS sections in Network output file by matching calculated nsm_id in PRS data to existing NSM ID, which is stored in 'SECT_ID' column of 'SECTIONS' table.
- Number of PRS records created in Network Output file is same as no. of records matched.
- Updates all columns set in HDM- 4 System Settings - Sections tab in the 'SECTIONS' table of the output Network mdb file for each PRS inserted.
- The PRS data generated in Confirm which does not find its nsm_id match in 'SECTIONS' table 'SECT_ID' column is ignored and not inserted in Network Output file.
- At the end of operation, Network Output file contains only PRS data inserted from Confirm.
- A warnings is logged if Confirm calculated where a match could not found between Confirm PRS data's nsm_id and NSM ID stored 'SECT_ID' column of 'SECTIONS' table in NSM Input file.

If 'programme' is checked, Programme database is created:

- STRATEGY table contents from Strategy input file are copied to PROGRAMME table of Programme output file.
- Post insert from STRATEGY table, contents of PROGRAMME table are updated from Programme Analysis Interface as described below:

PROGRAMME table column	Updated Value
NAME	File name specified on 'Programme output file path'

PROGRAMME table column	Updated Value
NETWORK	File name of 'Network output file'
START_YEAR	Start Year specified
END_YEAR	END_YEAR + Shift in original START_ YEAR
NUM_SECSEL	Count of rows in Prg_SelSections table

- Prg_SelSections table is updated (with as many rows are there are in Network output file) as below:

Prg_SelSections table column	Updated Value
Analysis_ID	Same as PROGRAM_ID in 'Programme' table
Sec_ID	starts from 0 and increase by 1 for every row inserted
SECTION_ID	Corresponding row's SECT_ID from 'Sections' table of Network output file
DESC	Corresponding row's SECT_NAME from 'Sections' table of Network output file

- Based on expression value of Vehicle Growth Set, for each section inserted in SECTIONS table, Following are updated in Prg_secSecVehGrthSet table in Programme output file:

Prg_secSecVehGrthSet table column	Inserted Value
Analysis_ID	Same as PROGRAM_ID in 'Programme' table
Sec_ID	starts from 0 and increase by 1 for every row inserted
GRTHSET_NAME	Vehicle Growth Set expression value. For each SEC_ID, corresponds to SECT_ID from 'Sections' table of Network output file

- Existing Alternatives from Strategy Input file are Inserted in Programme Output file by mapping SECT_ID of Prg_Selsections file to the SECT_ID of Str_SelSections file using NSM_ID in homogenous data internally generated in Confirm.
- Correction of existing alternatives' effective year as per start year and specified.

Prg_SectOptMaint table column	Updated Value
EFF_YEAR	EFF_YEAR + Shift in original START_YEAR for all base alternatives EFF_YEAR + Shift in original START_YEAR + delay for all non-base alternatives

- Multiplication of existing maintenance alternatives to create new alternatives as per number of budget periods, budget period lengths (years), delay maintenance by (years) specified and using logic described in **Maintenance Alternatives** on page 120. Tables updated are:

Prg_sectAnalOptions table column	Updated Value
NUMOPTIONS	Updated with total number of alternatives for each SEC_ID in Str_sectOptDesc

Prg_sectOptDesc table column	Updated Value
OPT_DESC	Updated for non-base alternatives' maintenance standards by appending EEF_YEAR, if delay is specified.

Prg_sectOptMaint table column	Updated Value
MAINTIT_ID	Updated for non-base alternatives' maintenance standards, if delay in specified
New Rows Inserted	As per **Maintenance Alternatives** on page 120 logic

Maintenance Alternatives

This page describes the logic which corrects and multiplies maintenance alternatives for Strategy and Programme mdb file on RUN of Strategy Analysis Interface and Programme Analysis Interface.

If a strategy analysis template was set in 2010 with one set of maintenance alternatives for one road section as:

- Base Alternative:
  - 2010 – Routine Maintenance
- Alternative 1:
  - 2010 – Reconstruct
- Alternative 2:
  - 2010 – Resurface
  - 2015 – Reconstruct

And the parameters are set as:

Parameter	Value
Start year	2012
Number of Budget Periods	3
Budget Period Length (Years)	2
Delay Maintenance by (Years)	4

Then the following alternatives are available after correction and multiplying:

- Base Alternative:
  - 2012 – Routine Maintenance (original year + base year difference)
- Alternative 1 from 2016:
  - 2012 – Routine Maintenance
  - 2016 – Reconstruct (original year + base year difference + delay)
- Alternative 2 from 2016:
  - 2012 – Routine Maintenance
  - 2016 – Resurface (original year + base year difference + delay)
  - 2021 – Reconstruct (original year + base year difference + delay)
- Alternative 1 from 2018:
  - 2012 – Routine Maintenance
  - 2018 – Reconstruct (original year + base year difference + delay + 1xBudget Period Length)
- Alternative 2 from 2018:

  - 2012 – Routine Maintenance
  - 2018 – Resurface (original year + base year difference + delay + 1xBudget Period Length)
  - 2023 – Reconstruct (original year + base year difference + delay + 1xBudget Period Length)
- Alternative 1 from 2020:
  - 2012 – Routine Maintenance
  - 2020 – Reconstruct (original year + base year difference + delay + 2xBudget Period Length)
- Alternative 2 from 2020:
  - 2012 – Routine Maintenance
  - 2020 – Resurface (original year + base year difference + delay + 2xBudget Period Length)
  - 2025 – Reconstruct (original year + base year difference + delay + 2xBudget Period Length)

Note: If the “Delay Maintenance By” was set to zero then the first set of non-base alternatives would not include the Routine Maintenance from the Base Alternative.

This logic is repeated for all road sections in Strategy mdb file (or workspace) on RUN of Strategy Analysis Interface and programme mdb file (or workspace) on RUN of Programme Analysis Interface.

HDM-4 Database Mapping

HDM-4 .mdb databases schema accepts data in form of various data types. Expression builder provided on **HDM-4 system settings** screen should be configured so as to result in matching data type against HDM-4 field for which it is being mapped.

Data type, field type or range mismatch in expression builder evaluated value will result in corresponding cell value for the HDM-4 column to be skipped and value as in Input .mdb file will be retained. Similar will happen for any expression evaluating to NULL or blank. The **Homogenous Data Report** however, will still report the evaluated values.

HDM-4 : Data type	HDM-4 : field type and range	Expected value from Confirm expression builder
Text	0-255 characters	Within 255 characters limited by corresponding HDM-4 column Field Size
Number	Byte	Integer: 0 to 255
Number	Integer	Integer: -32767 to 32767
Number	Long Integer	Integer: -2147483648 to 2147483647
Number	Single	-3.4028235E+38 through -1.401298E-45 for negative values and from 1.401298E-45 through 3.4028235E+38 for positive values.
Yes/No	-1, 0	True/False

HDM-4 Road Network Database Mapping

HDM-4 System Settings – Sections tab

HDM-4 System Settings – Sections tab provides an interface to map homogenised data output from Confirm with HDM-4 fields as available in SECTIONS table of HDM-4 road network mdb file.

Following is a mapping of HDM-4 field column names (with their data types) to HDM-4 UI labels for commonly used fields/columns

SECTIONS table: HDM-4 field	SECTIONS table: Data Type	HDM-4 road network workspace UI: Location (tab)	HDM-4 road network workspace UI: Label
SECT_ID	Text	Definition	ID
SECT_NAME	Text	Definition	Name (or Description)
LINK_ID	Text	Definition	Link ID
LINK_NAME	Text	Definition	Link Name
SPEED_FLOW	Text	Definition	Speed Flow Type
TRAF_FLOW	Text	Definition	Traffic Flow Pattern
ACC_CLASS	Text	Definition	Accident Class
ROAD_CLASS	Text	Definition	Road Class
CLIM_ZONE	Text	Definition	Cimate Zone
SURF_CLASS	Number	Definition	Surface Class
LENGTH	Number	Definition	Length
CWAY_WIDTH	Number	Definition	Cway Width
SHLD_WIDTH	Number	Definition	Shoulder Width
RF	Number	Geometry	Rise + Fall (m/km)
NUM_RFS	Number	Geometry	No. of rises + falls (no./km)
SUPERELEV	Number	Geometry	Superelevation (%)
CURVATURE	Number	Geometry	Avg horiz curvature (deg/km)
SIGM_ADRAL	Number	Geometry	adral (m/ sq. s)
SPEED_LIM	Number	Geometry	Speed Limit (km/h)
ENFORCEMNT	Number	Geometry	Speed limit Enforcement
XNMT	Number	Geometry	Spped reduction Factors-XNMT
XMT	Number	Geometry	Spped reduction Factors-XMT
XFRI	Number	Geometry	Spped reduction Factors-Road side friction
HSNEW	Number	Pavement	Most recent surfacing thickness(mm)
HSOLD	Number	Pavement	Previous/old surfacing thickness(mm)
REL_COMPCT	Number	Other	Relative compaction
SN	Number	Pavement -> Strength	Structural Number
CBR	Number	Pavement -> Strength	Subgrade CBR

SECTIONS table: HDM-4 field	SECTIONS table: Data Type	HDM-4 road network workspace UI: Location (tab)	HDM-4 road network workspace UI: Label
SNP_DRY	Yes/No	Pavement -> Strength	Dry Season/ Wet Season
COND_YEAR	Number	Condition	Condition at end of year
ROUGHNESS	Number	Condition	Roughness (IRI - m/km)
CRACKS_ACA	Number	Condition	All Structural Cracks (%)
CRACKS_ACW	Number	Condition	Wide Structural Cracks (%)
CRACKS_ACT	Number	Condition	Thermal Cracks (%)
RAVEL_AREA	Number	Condition	Ravelled area (%)
PHOLE_NUM	Number	Condition	Number of Potholes (No./km)
EDGEBREAK	Number	Condition	Edge break area (sq. m/km)
RUT_DEPTH	Number	Condition	Mean rut depth (mm)
RUTDEPTH_SD	Number	Condition	Rut depth standard deviation (mm)
TEXT_DEPTH	Number	Condition	Texture depth (mm)
SKIDRESIST	Number	Condition	Skid resistance (SCRIM 50km/h)
DRAIN_COND	Number	Condition	Drainage
LAST_CONST	Number	Pavement	Last construct or new construction
LAST_SURF	Number	Pavement	Last surfacing (resealing)
LAST_PRVNT	Number	Pavement	Last preventive treatment
LAST_REHAB	Number	Pavement	Last rehabilitation
PREV_ACA	Number	Other ->Previous Surface Condition (Butiminous only)	Area of all structural cracking(%)
PREV_ACW	Number	Other ->Previous Surface Condition (Butiminous only)	Area of wide cracking(%)
PREV_NCT	Number	Other ->Previous Surface Condition (Butiminous only)	Traverse thermal cracks(no/km)
DRAIN_TYPE	Number	Other	Drainage-Drain type
ALTITUDE	Number	Geomatry	Altitude
NMT_SEPAR	Yes/No	Other	Separate NMT lanes
NMTLANES	Number	Other	Number of Separate NMT lanes

SECTIONS table: HDM-4 field	SECTIONS table: Data Type	HDM-4 road network workspace UI: Location (tab)	HDM-4 road network workspace UI: Label
ELANES	Number	Other	ELANES
CALIB_ITEM	Text	Definition	Calibration Item
REPCOST	Number	Asset Valuation	Replacement cost
CONDBASED	Yes/No	Asset valuation -> Asset Valuation method for Road Pavement layers	Condition/Product Based
INIROUGH	Number	Asset valuation -> Asset Valuation method for Road Pavement layers	Initial roughness
TERROUGH	Number	Asset valuation -> Asset Valuation method for Road Pavement layers	Terminal roughness
RDFOSBGR_PRRECO	Number	Asset valuation	Replacement cost(%)-Road formation and sub-grade
RDPVLA_PRRECO	Number	Asset valuation	Replacement cost(%)-Road pavement layers
FTCYCLE_PRRECO	Number	Asset valuation	Replacement cost(%)-FW,FP,CW(NMT lanes)
BRDGSTR_PRRECO	Number	Asset valuation	Replacement cost(%)-Bridges and structures
TRFSGN_PRRECO	Number	Asset valuation	Replacement cost(%)-Traffic facilities, signs
RDFOSBGR_RESVAL	Number	Asset valuation	Residual value(%)-Road formation and sub-grade
RDPVLA_RESVAL	Number	Asset valuation	Residual value(%)-Road pavement layers
FTCYCLE_RESVAL	Number	Asset valuation	Residual value(%)-FW,FP,CW(NMT lanes)
BRDGSTR_RESVAL	Number	Asset valuation	Residual value(%)-Bridges and structures
TRFSGN_RESVAL	Number	Asset valuation	Residual value(%)-Traffic facilities, signs
RDFOSBGR_USELFE	Number	Asset valuation	Useful life(years)-Road formation and sub-grade
RDPVLA_USELFE	Number	Asset valuation	Useful life(years)-Road pavement layers
FTCYCLE_USELFE	Number	Asset valuation	Useful life(years)-FW,FP,CW(NMT lanes)
BRDGSTR_USELFE	Number	Asset valuation	Useful life(years)-Bridges and structures

SECTIONS table: HDM-4 field	SECTIONS table: Data Type	HDM-4 road network workspace UI: Location (tab)	HDM-4 road network workspace UI: Label
TRFSGN_USELFE	Number	Asset valuation	Useful life(years)-Traffic facilities, signs
RDFOSBGR_AGE	Number	Asset valuation	Age in year 0-Road formation and sub-grade
RDPVLA_AGE	Number	Asset valuation	Age in year 0-Road pavement layers
FTCYCLE_AGE	Number	Asset valuation	Age in year 0-FW,FP,CW(NMT lanes)
BRDGSTR_AGE	Number	Asset valuation	Age in year 0-Bridges and structures
TRFSGN_AGE	Number	Asset valuation	Age in year 0-Traffic facilities, signs
COMPAGEYEAR	Number	Asset valuation	Year asset component age defined for(years)

HDM-4 System Settings – Traffic tab

HDM-4 System Settings – Traffic tab provides an interface to map homogenised data output from Confirm with HDM-4 fields as available in TRAFFIC table of HDM-4 road network mdb file.

Following is a mapping of HDM-4 field column names (with their data types) to HDM-4 UI labels for commonly used fields/columns

Confirm Traffic tab: field name	HDM-4 TRAFFIC table: column name	HDM-4 TRAFFIC table: data type
Survey Year	YEAR	Number : Long Integer
Vehicle_ID	VEH_ID	Number : Integer
Category	VEH_CAT	Number : Integer
Expression	AADT	Number : Single

YEAR_IDX column in HDM-4 TRAFFIC table is always set to '0' by Confirm.

SEC_ID column in HDM-4 TRAFFIC table corresponds to ID column of SECTIONS table and represents corresponding section for which TRAFFIC table is updated.

HDM-4 System Settings – General tab

In HDM-4 strategy analysis, a road network in HDM-4 is generally decomposed into a characteristic multi-dimensional matrix called Network State matrix (NSM). NSM matrix is stored as road network workspace in HDM-4 and is used by Confirm for **Strategy Analysis** and **Programme Analysis**.

Confirm General tab: field name	HDM-4 NSM Input file SECTIONS table: column name	HDM-4 SECTIONS table: data type
NSM ID	SECT_ID	Text : 20 chars